

Mining[®] engineering

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South32's Hermosa Project Tailings safety

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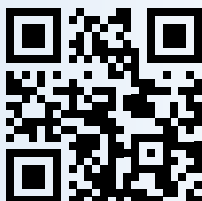
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– Ronel Kappes, Processing Director,
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In Arizona's Patagonia Mountains, South32 is developing what it calls a next-generation mine. The Hermosa Mine will produce battery-grade zinc and manganese using next-generation technology. The site includes the nation's first dry stack tailings facility and will also include a remote operating center. On page 16 *Mining Engineering* provides an in-depth look at the project. Photo Credit: South32 Hermosa Mine. Cover design by Ted Robertson.



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Reclaiming Minnesota's Mined Lands: Lessons from Minnesota's Mining Past

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IRRR: Our History and Future

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It was an honor to serve as SME President; Connections will continue to drive the mining industry forward



Marc LeVier
2023 SME President

The SME President serves a 12-month term that is enjoyed with SME members and professionals of other societies. Some of the contacts are new acquaintances, and many are renewals of friendships that bring back fond memories. Those memories are a track record of one's career over time and causes one to pause and reflect on how fortunate we all are to be in the mining industry.

Our industry is small and well connected, and there are many variations in the methods and technologies utilized, but for sure, the industry is replete with true professionals and high ethical

standards.

However, the industry we know now is not our grandfather's mining industry and our grandchildren will say the same of our generation of miners. The bar is always elevated to a higher standard, which means we will continue to innovate and advance our knowledge and understanding. However, we can always be proud of the multigenerational contributions. Our legacy continues to drive performance improvements in all aspects.

I would like to share a few memories that were invoked during my year as President.

I previously spoke about professors at Michigan Tech. One such renowned character was Duane "Dewey" Thayer. Thayer was a professor in minerals beneficiation who taught plant design, flotation and senior pilot plant operation. He had an uncanny knowledge of surface phenomena and the various reagent schemes required to accomplish froth flotation separations, regardless of the mineral system.

Thayer was quick to shed a sport coat for a laboratory apron and taught wet labs, demonstrating the importance of technique (consistent froth paddle pull and the position of the hand and paddle) and consistency. Of utmost importance was preparedness in thinking through the test and having all the equipment at the ready. His methods of hands-on teaching and getting in the middle of the plant or the middle of the testing had an impact on all he mentored.

My Master of Science advisor was George Lower. (Think American Cyanamid, *Handbook of Cyanidation* by Booth and Lower. Yep, that Lower.)

Lower was a brilliant extractive metallurgist. He had a General MacArthur-style corn cob pipe that he chewed on while he analyzed test

Safety Share: Hand tool safety is an important part of any job. It is essential to use the right tool for the right job and to inspect tools before use to make sure they are in good condition.

Always wear proper eye and hearing protection when using any hand tools. Wear gloves when handling sharp objects, and always follow the manufacturer's instructions for the tools you are using.

When working with power tools, always unplug them when not in use. Be aware of your surroundings, and never use a tool in an unsafe manner.

Additionally, it is important to inspect the power tool before each use, and to make sure the cords are in good condition. It is also important to store the power tools in a safe location and to unplug them when not in use.

Following these safety guidelines will help ensure that your home improvement projects are completed safely and without injury. Lastly, always use the right tool for the job, and never use a tool that is not intended for the job.

**Safety share courtesy of
U.S. Mine Safety and Health Administration**

data. After a thorough analysis, more tests were designed. We learned thoroughness, due diligence and patience from him.

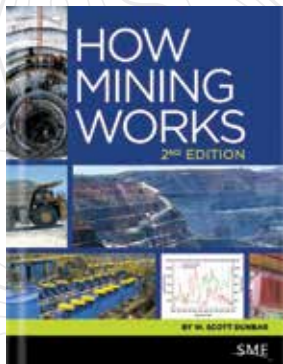
However, while reviewing my thesis, Lower would always stop and reminisce about his days in the Pacific during World War II. The Philippines was rife with malaria. Lower was stuck in the rear echelon with malaria at the MASH unit. Doctors were scarce, and Lower doubled as a doctor helping the nurses. The "greatest generation" shared his experiences. He was a provider of deep thought and reflection, a preserver of freedom.

Years later, as Newmont embarked on the need for a refractory gold ore treatment process, we found ourselves up against a giant challenge. The fundamentals provided by these professors and mentors would play a significant role.

Liberate the gold and obtain profitable gold extraction was the objective. Preg-robbing carbon and gold associated in fine-grained, arsenian pyrite would require a pyrometallurgical solution. The testing

(continued on page 14)

New Titles from the SME Bookstore

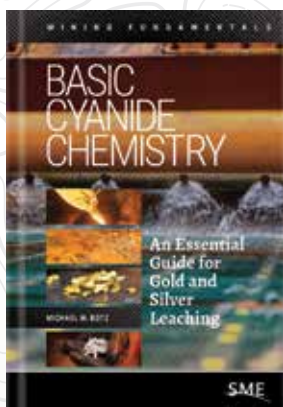


How Mining Works, 2nd edition

By W. Scott Dunbar

Delving into the evolving world of mining, the second edition of *How Mining Works* merges fundamental concepts with the latest advancements, making it an essential resource for both newcomers and seasoned professionals in the mining industry.

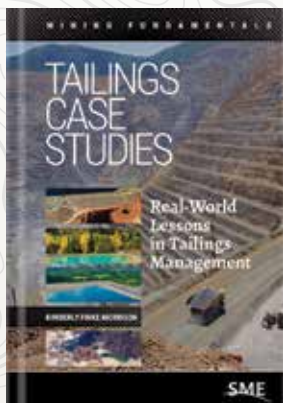
You'll find updated figures, new content, and fresh technical insight to demystify mining operations and their impacts, providing a comprehensive yet accessible overview.



Basic Cyanide Chemistry: An Essential Guide for Gold and Silver Leaching

By Michael M. Botz

Basic Cyanide Chemistry provides an introductory exploration of cyanide chemistry in relation to gold and silver leaching. It equips readers with basic knowledge about cyanide's interactions with gold, silver, and other metals, enhancing understanding of these processes and their influence on leach solutions and ore processing.



Tailings Case Studies: Real-World Lessons in Tailings Management

Edited by Kimberly Finke Morrison

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US Supreme Court will not hear Pebble Mine review

THE U.S. SUPREME Court on Jan. 8 rejected Alaska's bid to revive the Pebble Mine that was blocked by the U.S. Environmental Protection Agency (EPA).

The Associated Press reported that the justices did not comment in turning away Alaska's attempt to sue the Biden administration directly in the high court over its desire to revive the proposed Pebble Mine in the state's Bristol Bay region.

A year ago, the EPA stopped the mine proposal, citing concerns with potential impacts on a rich aquatic ecosystem that supports the world's largest sockeye salmon fishery.

Alaska Gov. Mike Dunleavy's administration appealed to the Supreme Court to hear the case in July. States can sue each other and the federal government in the Supreme Court, though the justices typically deal with appeals and hear only a few original cases each year.

Alaska still can try to reverse the decision through the more typical process, starting in a lower court and

appealing any unfavorable decisions to the Supreme Court.

Alaska argued that the EPA had "effectively confiscated" state land, damaging Alaska's sovereignty and regulatory powers.

The Pebble project is on state land about 321 km (200 miles) southwest of Anchorage, near the headwaters of Bristol Bay, home to the world's largest sockeye salmon fishery.

The Pebble deposit contains copper and gold deposits worth hundreds of billions of dollars. Pebble Ltd. says development there will support the Alaskan economy and generate up to 2,000 jobs.

The Anchorage Daily News reported that the Dunleavy administration filed a 17-page brief with the U.S. Supreme Court arguing that the court should hear the case. The state argued that the EPA has violated the Alaska Statehood Act and the 1976 Cook Inlet Land Exchange Act in which the federal government conveyed the Pebble

land to Alaska, while the state provided lands for the creation of Lake Clark National Park in the region.

"The federal government has stripped the state of its ability to manage its land, water, and natural resources — all 'matter(s) of great state concern,'" according to the brief. "The federal government has deprived the state of billions of dollars — tax revenue that Congress long ago determined was critical to funding the Alaska state and local governments. And the federal government has prevented the creation of thousands of new, high-paying jobs for Alaskans. These sovereign interests plainly warrant this court's original jurisdiction."

A collection of groups that includes the National Mining Association, the Alaska Miners Association and the Alaska Chamber joined the side of the Dunleavy administration in its petition for a Supreme Court review, filing a single friends-of-the-court brief. ■

Pentagon to submit a report on seafloor mining by March

ON JAN. 3, THE 2024 National Defense Authorization Act (NDAA) became law with the inclusion of provisions directing the U.S. Department of Defense to submit a report to the House Armed Services Committee assessing the domestic processing of seafloor polymetallic nodules by March 1, 2024.

In the language attached to the newly approved act, the committee acknowledged the imperative of establishing a secure supply chain of critical and strategic minerals and materials, and noted "that to meet national security requirements the United States must have the ability to source critical minerals in innovative arenas to decrease reliance on sources from foreign adversaries."

One of the potential areas for critical minerals is offshore mining.

The committee recognizes this and directs the Pentagon to produce a report which, among other things, outlines "a roadmap

recommending how the United States can have the ability to source and/or process critical minerals in innovative arenas, such as deep-sea mining."

Through the NDAA, the House Armed Services Committee has directed the Assistant Secretary of Defense for Industrial Base Policy to submit a report to the committee by March 1, 2024 "assessing the processing of seabed resources of polymetallic nodules domestically. The report shall include, at a minimum, the following: A review of current resources and controlling parties in securing seabed resources of polymetallic nodules; An assessment of current domestic deep-sea mining and material processing capabilities; and a roadmap recommending how the United States can have the ability to source and/or process critical minerals in innovative arenas, such as deep-sea mining, to decrease reliance on sources from foreign

adversaries and bolster domestic competencies."

The Metals Company Inc. (TMC), an explorer of the world's largest estimated undeveloped source of critical battery metals, welcomed the passage of the law.

In a press release, TMC wrote that in November 2023, a bipartisan coalition led by Sen. Lisa Murkowski (R-AK) reintroduced a resolution calling on the U.S. Senate to ratify the UN Convention on the Law of the Sea (UNCLOS), arguing that "the longer we sit out, the longer the rest of the world will continue to set the agenda of maritime domain, from seabed mining to critical subsea infrastructure."

That same month, five members of the U.S. House of Representatives from Texas urged the Department of Defense to support the use of federal resources under the NDAA toward TMC's feasibility study for nodule processing along the Texas Gulf Coast. ■

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Companies respond to slumping mineral prices; Rare earths, lithium and nickel prices see sharp downturn

AUSTRALIA'S LYNAS Rare Earths said its second-quarter revenue fell sharply, missing analysts' estimates, as prices plunged during a slowdown in construction activity in China, sending its shares to 30-month lows.

Rare earth prices during the quarter extended declines as demand in China, especially in the country's appliance sector, fell with the construction downturn, said Lynas, the world's largest producer of rare earths outside China.

The miner said its sales fell 51.7 percent to A\$112.5 million (\$74.06 million) in the three months to Dec. 31, from A\$232.7 million in the year-ago period. It missed Macquarie's estimate of A\$117.8 million.

"(The) major issue for the company at present is the commodity price trajectory and demand in China," said analyst Dan Morgan of Barrenjoey.

Lynas said it has largely completed construction at its Kalgoorlie rare earths processing plant, which will also feed mixed rare earth carbonate to the new Lynas Seadrift facility in Texas serving the U.S. Department of Defense.

Lynas has been upgrading its Malaysian processing facilities to increase separation capacity to 9.5 kt/a (10,500 stpy) for neodymium and praseodymium, used in magnets in sectors from electrified transport to defense.

A number of critical mineral commodities have experienced a sharp downturn in prices. On Jan. 18, *Reuters* reported a sharp decline in nickel prices driven by a jump in Indonesian supply that hit Australian nickel producers, leading to mine closures, production cuts and writedowns in recent months.

BHP said it was reevaluating its nickel business. Analysts said it may need to write down its \$1.2 billion West Musgrave project. Canada's First Quantum Minerals said it will cut jobs and production at its Ravensthorpe Mine in Australia due to a "significant" downturn in prices that it expects to last three years.

A downturn in lithium prices led Albemarle, the world's largest lithium producer, to cut jobs and defer spending on a U.S. refinery project as part of a wide-ranging plan to slash costs amid falling prices of the metal used to make electric-vehicle batteries.

Global supply of lithium over the past year has outpaced demand from the battery market, fueling a glut that has dragged on pricing. While lithium prices can vary by region and type, an index of prices tracked by Benchmark Mineral Intelligence, for instance, has dropped by 81 percent in the past year and nearly 11 percent in the past month alone.

Albemarle, which supplies Tesla and other automakers, sells most of its lithium on long-term contracts linked to market pricing. The company had flagged last November that a softening in lithium prices would dent 2023 sales, although executives described the market volatility as "road bumps" and not any erosion of long-term expectations for strong demand.

Albemarle said it now plans 2024 capital spending in the range of \$1.6 billion to \$1.8 billion, down from about \$2.1 billion in 2023. The company also plans to defer spending on a massive U.S. lithium refining project in South Carolina that was designed to be one of the world's largest processors of the battery metal. ■

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Letter to the Editor: The US needs the Bureau of Mines

Norway parliament votes in favor of seabed mining

NORWAY'S PARLIAMENT voted in favor of allowing Arctic seabed mineral exploration, in line with a deal reached between the government and key opposition parties last month, overcoming objections from environmental campaigners.

The decision comes as Norway hopes to become the first country to make deep-sea mining happen on a commercial scale and secure critical minerals and jobs despite concerns over the environmental impact and international calls for a moratorium.

There is as yet no set timeline for when exploration could begin, although the plan is to award companies exclusive rights to

exploration and potential extraction from specific areas after an application process.

The process will be modeled on that established for Norway's oil and gas exploration, while matters such as taxation would be debated at a later stage, a policymaker told *Reuters*.

"We're now going to see if this can be done in a sustainable manner, and that is the step we have taken now," Energy Minister Terje Aasland told parliament.

The amended version of the government's proposal sets stricter environmental survey requirements during the exploration phase than originally planned. ■

Final rule for surface mining issued by MSHA; Rule will require written safety programs

THE U.S. DEPARTMENT of Labor announced a final rule from its Mine Safety and Health Administration (MSHA) to help protect miners from accidents, injuries and fatalities related to surface mobile equipment.

The rule requires mine operators to have written safety programs for surface mobile equipment — excluding belt conveyors — at surface mines and underground mines' surface areas. The programs must include input from miners and their representatives and identify hazards and risks.

In recent years, powered haulage equipment and machinery have been the leading causes of serious and fatal mine accidents. The final rule aligns with MSHA's overall effort to improve safety in equipment use. So far in 2023, 40 mining industry workers

have suffered fatal injuries, including 16 classified as machinery and 10 classified as powered haulage fatalities.

"Given the number of serious and fatal machinery and powered haulage accidents that have occurred in recent years, the Mine Safety and Health Administration has worked hard to issue this final rule to enhance safety protections for miners working with and around surface mobile equipment," said Assistant Secretary for Mine Safety and Health Chris Williamson. "As MSHA works with the entire mining community to implement the new rule, we strongly encourage everyone to prioritize training and to identify and eliminate machinery and powered haulage hazards that can put miners' lives and livelihoods at risk."

Earlier this year, Williamson sent an open letter to the mining

community, noting MSHA will continue to use all its tools to combat the unacceptable upward trend in fatalities. The letter also announced an inaugural "Stand Down to Save Lives" event to encourage the nation's mining community to take steps to prevent injuries and illnesses.

Other MSHA initiatives to combat the number of mining accidents, injuries and fatalities in machinery, powered haulage equipment and other areas include safety and health alerts, the "Take Time, Save Lives" campaign, powered haulage equipment guidance, and an enhanced enforcement program.

District managers will discuss compliance assistance for the mining industry at stakeholder meetings beginning in January 2024.

The final rule was published in the Federal Register on Dec. 20. ■

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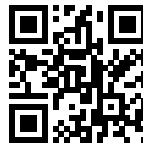
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Production commences at three US uranium mines; The permitted mines are owned by Energy Fuels

ENERGY FUELS Inc., the Colorado-based producer of uranium, rare earth elements (REE) and vanadium has commenced uranium production at three of its permitted uranium mines. The mines in Utah and Arizona will ramp up production to take advantage of high uranium prices.

The company announced that it is also preparing two additional mines in Colorado and Wyoming as well as advanced permitting on several other large-scale projects in the United States to increase uranium production in the coming years.

Spot prices of uranium have reached a 16-year high at nearly \$90/lb. Energy Fuels has more licensed uranium production capacity than any other U.S. company (more than 10 million pounds of U_3O_8 per year), the only operable conventional uranium mill in the United States, which is an in situ recovery (ISR) facility. The company also owns several permitted mines in various stages of production, development and standby, and one of the largest in-ground uranium (and vanadium) resource portfolios in the

United States.

Energy Fuels has accounted for roughly two-thirds of all U.S. uranium production over the past five years. Once production is fully ramped up at three mines (Pinyon Plain, La Sal and Pandora) by mid- to late-2024, the company said it expects to be producing uranium at a run-rate of 1.1 to 1.4 million pounds per year.

Ore mined from the three mines during 2024 will be stockpiled at the company's White Mesa Mill in Utah for processing in 2025, subject to market conditions, contract requirements and/or mill schedule.

In a statement, Energy Fuels said the decision to ramp up uranium production at this time was driven by several favorable market and policy factors, including strengthening spot and long-term uranium prices, increased buying interest from U.S. nuclear utilities, and U.S. and global government policies supporting nuclear energy to address global climate change. The company also cited the need to reduce U.S. reliance on Russian and Russian-controlled uranium and nuclear fuel.

Nuclear enjoys strong bipartisan support across the U.S. government. The current fleet of U.S. nuclear plants provides about 20 percent of all electricity in the United States and about 50 percent of all carbon-free electricity in the country. The U.S. government has acted aggressively to support the existing fleet of reactors, advance future nuclear technologies, and restore domestic nuclear fuel capabilities through the Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022. The U.S. Congress recently included the Nuclear Fuel Security Act (NFSA) in the National Defense Authorization Act (NDAA), which is a critical step in restoring U.S. uranium and nuclear fuel capabilities and leadership. On Dec. 11, 2023, the U.S. House of Representatives overwhelmingly passed a ban on the import of Russian uranium and nuclear fuel into the United States in response to Russia's unprovoked invasion of Ukraine and ongoing atrocities. The Russian uranium ban appears to enjoy overwhelming support in the U.S. Senate. ■

British Columbia study finds potential mineral projects; Proposed critical mineral projects represent \$36 billion

SIXTEEN PROPOSED critical mineral mines, representing \$36 billion in near-term investment, 300,000 person-years of employment and \$11 billion in tax revenues, are at a key juncture, based on findings of a new independent economic impact analysis conducted for the Mining Association of British Columbia (MABC).

"The realization of benefits from these critical mineral projects is dependent on BC having competitive fiscal and regulatory policies that will attract the investment necessary to grow and sustain the sector. The provincial government's forthcoming critical minerals strategy is fundamental to these efforts," said Michael Goehring, president and chief executive officer of MABC.

The study, which examined 14 potential critical mineral mines and two

mine extensions, found the long-term economic impact of operating these mines over several decades could be nearly \$800 billion.

Critical minerals are essential building blocks for clean technologies like solar panels, batteries and electric vehicles. According to the International Energy Agency, global demand for critical minerals is expected to increase six-fold by 2040.

"This is a generational opportunity which must be seized and could position BC as a leading global supplier of responsibly produced critical minerals. We want to move forward with the governments of Canada and British Columbia, First Nations, local governments and labor, to unlock critical mineral developments for the benefit of all British Columbians," said Goehring.

"The proposed critical mineral projects also create genuine opportunities for First Nations partnerships to advance economic reconciliation, prosperity and self-determination," said Goehring.

The study also assessed the economic benefits resulting from advancing five proposed precious metal mines, including gold. The long-term combined impact of the proposed precious metals mines over their lifespan exceeds \$29.5 billion, creating over 96,000 person-years of employment and generating \$5.3 billion in tax revenue.

"With the right government policy, these critical and precious mineral projects would further advance the mining and smelting sector's foundational role in BC's economy," said Goehring. ■

Endeavour Mining ousts CEO over serious misconduct; Shakeup follows investigation into irregular payments

ENDEAVOUR MINING'S board of directors announced that it had terminated its president and chief executive officer, Sébastien de Montessus, for serious misconduct with immediate effect.

The announcement follows an investigation by the board into an irregular payment instruction issued by him in relation to an asset disposal undertaken by the company. The amount of this irregular payment instruction is US\$5.9 million.

"The board recently became aware of this in the course of a review of acquisitions and disposals, which is ongoing. Sébastien de Montessus has been removed from the company's Board of Directors with immediate effect," the company wrote in a press release.

Reuters reported that de

Montessus, who was also removed as president and from the board, said in an e-mailed statement that in 2021 he had instructed a creditor of Endeavour to offset an amount owed to the company to pay for essential security equipment to "protect our partners and employees in a conflict zone."

"The decision had no additional cost to the company and did not benefit me personally in any way. I omitted to inform the board that I had arranged for this offset, which I have freely accepted was a lapse in judgement," he said.

He said he was given 48 hours' notice of the concerns and "no proper opportunity to answer them."

Separately, in October 2023 allegations were made against de Montessus through the company's confidential whistleblowing channel

relating to his personal conduct with colleagues. Following a recent external investigation, the board had received the findings and, at the point of termination, was considering the appropriate course of action.

The board has appointed Ian Cockerill (currently deputy chair of the board) as chief executive officer and executive director with immediate effect.

Cockerill has more than four decades of experience in the global natural resources industry. During his career he has held senior roles covering operational, project and executive positions around the world, having held executive roles at major international mining companies, including chief executive officer of Gold Fields and Anglo Coal, a subsidiary of Anglo American, as well as nonexecutive positions. ■

SME Tailings Portal



Photo credit: Sociedad Minera Cerro Verde S.A.A., a corporate affiliate of Freeport-McMoRan Inc.

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Letter to the Editor: The US needs the Bureau of Mines

Dear Editor,

I am writing in response to your opinion that the United States needs the Bureau of Mines. In the August 2021 issue of *Mining Engineering*, Douglas Silver initially brought this subject up in the Industry Newswatch section, “How critical are critical minerals? And how the United States can secure supplies.” This past year a government Interagency Working Group (IWG) report also suggested reconstituting the U.S. Bureau of Mines or a similar agency charged with providing mining expertise to the federal government. This is what the previous Bureau of Mines did at its own expense to politics at that time between Newt Gingrich and the Bill Clinton administration. The Republicans’ “Contract with America” and Vice President Al Gore’s “Reinventing Government” program to reduce the size and cost of government set the stage for its demise. The Republicans needed to show that they had eliminated a government agency/program. The lack of support from Clinton’s Secretary of Interior, Bruce Babbitt, who felt that the Bureau of Mines didn’t fit into his department’s primary focus of preserving national lands led to a deal to eliminate it. Two of its functions, miner health and safety research and mineral information data collection

were assigned to other agencies. Cooperative technical research programs with the mining industry on improving mining efficiency, minerals processing recovery, and secondary material recovery (recycling) were stopped. I remember the term “corporate welfare” used by some to depict these programs. More details on this can be read in J. Harrison Daniel’s article entitled, “The circumstances, events and politics leading to the closure of the U.S. Bureau of Mines — was it the correct decision?” *Mining Engineering*, April 2010, pp. 20-25.

I personally enjoyed my tenure as a mining engineer at the U.S. Bureau of Mines Pittsburgh Research Center from 1981 until its closure in 1996 under management by the late John N. Murphy (died June 13, 2023), our laboratory director. Our mission was quoted as: “The mission of the U.S. Bureau of Mines (USBM) is to help ensure that the United States has an adequate, dependable supply of minerals and materials to meet national security and economic needs at acceptable social, environmental and economic costs. The USBM is engaged in all aspects of mining and minerals processing research — coal, metal and nonmetal — as well as mineral data collection and analysis” (J. Harrison Daniel, 2010). We were expected to be forthright with our research findings by publishing our data and analysis.

Our technological research was supportive to both the mining industry and/or regulatory agencies. We had the reputation of being an honest broker of information worldwide. We also did economic cost/benefit analysis for U.S. policy interests and published a magazine called *Minerals Today* for disseminating the status of our research and mineral resources information to the U.S. mining industry.

The statutory authority should still exist for the Bureau of Mines, because Congress never voted to abolish the legislation that established the Bureau. This requires a two-thirds vote from both houses of Congress, which wasn’t obtained at that time. It was the lack of appropriations that shut down the Bureau. Its mission became an “unfunded mandate” (J. Harrison Daniel, 2010). Therefore, the previous statutory authority and mission statement for the Bureau of Mines may be a good starting point for its reestablishment, but obtaining sufficient funding and competent leadership and staffing are large hurdles given our political climate. However, we once again need a Bureau of Mines that can be forthright with its technical research, data collection and analysis of more efficient and far-sighted use of America’s mineral resources.

John Organiscak, Eighty Four, PA

Direct lithium extraction poised for production in the US; Plant would be first to commercially produce lithium

INTERNATIONAL BATTERY Metals (IBAT) said it has leased its portable direct lithium extraction (DLE) plant to a customer that aims to begin producing the metal needed for electric-vehicle batteries inside the United States within six months.

The move would make IBAT the first company to commercially produce lithium with a DLE technology, a major step forward amid ongoing efforts to revolutionize the way the ultralight metal is processed for the clean energy transition. Lithium is typically

produced using large, water-intensive evaporation ponds or openpit mines.

While DLE technologies vary, they are comparable to common household water softeners and aim to extract about 90 percent or more of the lithium from brines, compared to about 50 percent using ponds. No DLE technology has yet reached commercial production without the use of those ponds, sparking competition to be first.

The once-niche DLE sector gained global attention last year, when Chilean President Gabriel Boric outlined a

radical plan to phase out evaporation ponds and deploy DLE across his country’s vast lithium reserves.

Albemarle, Exxon Mobil, General Motors, Rio Tinto and others have made their own DLE bets, though none have yet launched.

Founded by John Burba, who helped invent an early version of DLE in the 1970s, IBAT’s DLE facility is designed to be portable after it filters lithium using an adsorption material from a brine formation, thus saving construction costs. ■

US seeks to jumpstart production of uranium; High assay low enriched uranium is currently produced in Russia

THE UNITED STATES is seeking bids from contractors to help establish a domestic supply of a uranium fuel enriched to higher levels for use in a next generation of reactors, a fuel currently only available in commercial levels from Russia, the U.S. Department of Energy (DOE) said.

The DOE is seeking contracts from enrichment service companies to produce so-called high assay low enriched uranium, or HALEU, fuel that is enriched up to 20 percent, compared with traditional uranium fuel used in today's reactors of about 5 percent.

The department has about \$500 million in funding for HALEU production from the 2022 Inflation Reduction Act, and sought proposals late last year for additional HALEU production services. The program could be expanded in coming years, depending on congressional appropriations.

HALEU is expected to be needed for a planned generation of reactors in the works by companies including X-energy and TerraPower, but output has been delayed as the reactors are not yet built.

"It's a chicken-or-egg sort of process," said Jon Carmack, the department's deputy assistant secretary for nuclear fuel cycle, in an interview. Carmack said the government needs to invest enough money to show initial demand for producers, so they will build capacity, apply for licenses and get HALEU plant design and construction projects underway.

Nuclear proliferation experts warn that an increased dependency on HALEU around the world could increase proliferation risks because the fuel is closer to fissile material for nuclear weapons than traditional fuel.

The only company currently selling commercial shipments of HALEU is TENEX, part of Russia's state-owned energy company Rosatom.

Centrus Energy, the only U.S. company with a license to produce HALEU, and which is supplying the DOE with a small amount of the fuel for demonstration purposes,

was encouraged that the request for proposals could lead to more production at its plant in Ohio. Centrus "looks forward to the opportunity to compete for the funding necessary to expand our production," said spokesperson Lindsey Geisler.

In November, Centrus Energy Corp. announced that it had made

its first delivery of HALEU to the U.S. DOE, completing phase one of its contract with the department by successfully demonstrating its HALEU production process.

European uranium enrichment company Urenco could also eventually produce U.S. HALEU but does not yet have a license to do so. ■



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President's Page: My heartfelt appreciation to members

(continued from page 4)

demonstrated the need for a lower temperature to oxidize the sulfide, while not volatilizing the arsenic. Arsenic gas removal and treatment would drive the costs upward. At the same time, the temperature had to be high enough to combust the organic carbon that stole the gold and lowered extraction.

When we examined the data, the best conditions gave less than 80 percent gold recovery. That simply was not good enough. We pored over the data, and Rene Fernandez and Goplan Ramadorai tested many parameter variations. Results were the same.

I mentally chewed on my "corn cob pipe" for many hours. Finally, I asked if the temperature settings used were too far apart, 75 degrees Celsius. What if we placed two temperature settings to better delineate the results. The results produced a previously unseen area of improved extraction. The gold extraction jumped to more than 88 percent. We had our design. The gold production through that roaster

continues today.

Persistence and thoroughness prevailed in a new patented process. The plot of data suggested the relationships were optimized but when we looked closer, we realized that we had missed the real peak. The lines drawn were just lines, not absolute results. Garbage in, garbage out.

Another breakthrough was the use of the high pressure grinding rolls (HPGR). (No, Tim Arnold, the HPGR is not going away.) Newmont had a project, and the ore was the hardest material that Steve Morrell had ever tested. The HPGR was a good candidate but HPGR wasn't generally accepted in anything but diamonds and cement. Testing was completed but this technology demanded that a demonstration plant be run with operations, project and manufacturer personnel. The results were what the project needed. The manufacturer was willing to provide the required guarantees. However, there was a general degree of uncertainty on the maintenance costs by management.

I will simply say that there was another company with an advanced project and they were also looking at HPGR. Their project had an earlier start-up date than ours. We made a deal to share data, general information and site visits in exchange for their start-up experiences. The deal was done on a handshake between engineers with

common interests and trust. This was enough to help both projects and the rest was history.

No lawyers were engaged or harmed in the process to ensure expediency, and the decisions benefited the entire industry. We took measured risks and the rewards paid dividends.

Researchers, operators and management today must return to making the "right decisions" based on scientific curiosity and the desire to do better. The best solution for the situation is always "the right thing to do," regardless if the results are not what was expected or desired. If the decision kills the project or doesn't get the next sequence of research funding, that's called life. Results are results, unbiased and objectively analyzed.

"Continuous improvement is better than instant perfection," Mark Twain said.

What a pleasure and honor I have experienced as the 2023 SME President. This has been a momentous year and my heartfelt appreciation goes out to the SME staff and you, the SME members, for your support and comments through the year. Meg and I wish you all a safe and prosperous 2024. You are members of the world's greatest mining society, SME!

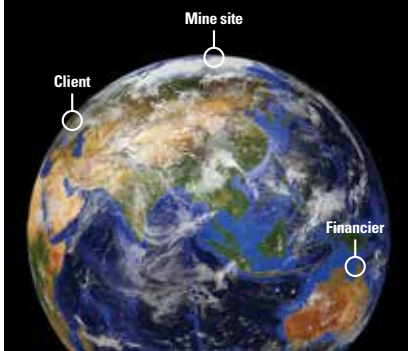
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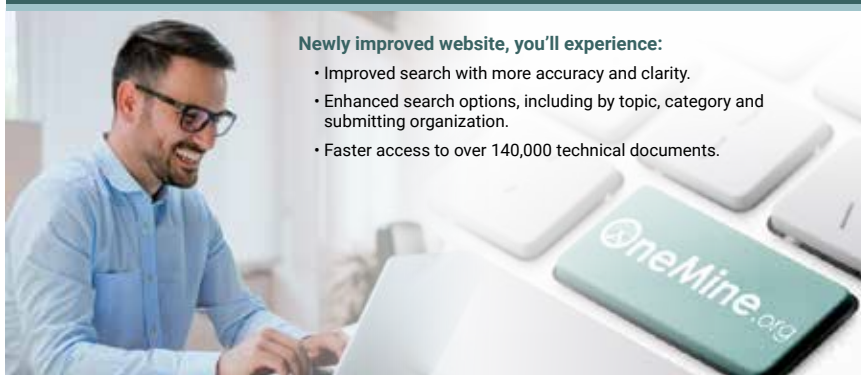
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Rio Tinto to build iron ore mine in West Africa; With consortium led by world's largest aluminum producer

RIO TINTO'S SIMANDOU project, a \$20 billion iron ore, rail and port development in West Africa is expected to begin production after a 27-year wait.

The Financial Times reported that the project has suffered a number of setbacks including two coups d'état, four heads of state and three presidential elections since the company first secured an exploration license in the Simandou mountains in southeastern Guinea, 550 km (340 miles) from the coastal capital, in 1997.

Rio Tinto has had six chief executives, lost half the license, fought drawn-out court battles with several corporate rivals, settled corruption allegations with U.S. authorities and even sought to exit the project completely, only for the sale to fall through. Finally, in 2024, once Rio Tinto's state-owned Chinese partners receive the last approval from Beijing, the company intends to proceed with the project.

"There is nothing else out there of this scale and size," Rio Tinto's Bold Baatar told the *Financial Times* in a recent interview.

The project is a partnership between Rio Tinto, the Guinean government and at least seven other companies,

including five from China. Rio Tinto will build one iron ore mine — known as the Simfer project — in partnership with a consortium led by the world's largest aluminum producer, Chinalco.

A second mine — known as the WCS project — will be built by Baowu, the world's biggest steel producer, in partnership with a consortium led by Singapore-based Winning International Group. At the same time, the parties will cofinance the construction of a 552-km (342-mile) railway that will curve through Guinea's mountainous interior to the sea and the development of a deepwater port on its Atlantic coast. Rio Tinto and the Chinalco consortium must also fund an additional 70-km (44-mile) rail spur to connect its mine with the main line.

"We are continuing to work closely with the government of Guinea, Chinalco, Baowu and WCS toward full sanction of this world-class project by all partners," Baatar said in a statement. "Simandou will deliver a significant new source of high-grade iron ore that will strengthen Rio Tinto's portfolio for the decarbonization of the steel industry, along with trans-Guinean rail and port infrastructure that can make a significant contribution to the country's economic development."

In what will be the largest greenfield integrated mine and infrastructure investment in Africa, more than 600 km (372 miles) of new multiuse rail together with port facilities will be codeveloped by the Republic of Guinea, Simfer and WCS. This will allow the export of up to 120 Mt/a (132 million stpy) of mined iron ore by Simfer and WCS from their respective Simandou mining concessions in the southeast of the country.

The Simfer joint venture's mine concession held an estimated total mineral resource Dec. 31, 2022 of 2.8 Gt (3 billion st), of which Rio Tinto is reporting the conversion of an estimated 1.5 Gt (1.65 billion st) to ore reserves that support a mine life of 26 years, with an average grade of 65.3 percent iron and low impurities. Rio Tinto is also reporting mineral resources exclusive of ore reserves of 1.4 Gt (1.54 billion st) at 66.1 percent Fe and low impurities.

First production from the Simfer mine is expected in 2025, ramping up over 30 months to an annualized capacity of 60 Mt/a (66 million stpy) (27 Mt or 29.7 million st Rio Tinto share). The mine will initially deliver a single-fines product before transitioning to a dual-fines product of blast furnace and direct-reduction-ready ore. ■

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The next generation of mining is taking place in southern Arizona

by William Gleason, Editor



All photos courtesy of South32

Hermosa is the first mining project to be added by the U.S. Federal Permitting Improvement Steering Council to the FAST-41 process.

In Arizona's Patagonia Mountains, the next generation of mining is taking shape. This is where South32 is developing the Hermosa project into an underground critical minerals mine where a highly trained, local workforce will one day operate battery-electric vehicles (BEV) from the comfort of a remote operating center in search of the minerals needed for a low-carbon future.

Hermosa will mine a singular mineralization that hosts manganese and zinc with some silver byproduct. Manganese and zinc are two of the 50 minerals deemed critical by the U.S. Geological Survey (USGS). Hermosa is the only advanced mine development project in the United States that could produce those minerals, which is one of the reasons the project was confirmed by the U.S. Federal Permitting Improvement Steering

Council (FPISC) as the first mining project to be added to the FAST-41 process (*Mining Engineering (ME)*, August 2023, p. 42).

The Fixing America's Surface Transportation Act, also known as the FAST Act, was created to streamline the permitting process for infrastructure projects. Each project must meet rigorous criteria to demonstrate how it will benefit the nation. In addition to providing critical minerals that will aid in the nation's decarbonization efforts, Hermosa plans to provide significant economic development to Santa Cruz County, a traditionally disadvantaged region in Arizona. The project is located about 80 km (50 miles) southeast of Tucson and 16 km (10 miles) north of the U.S.-Mexico border.

Pat Risner, president of the Hermosa project said the mine is expected to begin production by

2027. South32 has begun initial excavation for the main exploration shaft and the ventilation shaft to provide underground access to the zinc resource. Redpath has been contracted to sink the shafts to reach the 153 Mt (169 million st) zinc deposit. Presink activities for both shafts remain on track.

As of early January, the ventilation shaft has been excavated to 35 m (115 ft), and all concrete work for the presink to the collar elevation is complete. The main shaft has been excavated to 23 m (75 ft), and the form work and concrete at the collar is well advanced. Hoist and winch foundations for the main shaft and ventilation shaft are also well advanced, with many complete. The galloway for the ventilation shaft has commenced delivery to the site, and the crews are preparing to assemble it for installation. The total depth of the shafts will be approximately 885 m (2,900 ft).

The team is also constructing a decline to the 55 Mt (60 million st) manganese sulfide deposit, which is closer to the surface at a depth of 550 m (1,800 ft).

This activity, plus the nation's first dry stack tailings facility, which was constructed to store more than 2 Mt (2.2 million st) of legacy tailings, is taking place on a footprint of about 600 acres of private land surrounded by the Coronado National Forest. The mine's footprint is about 95 percent smaller than a typical openpit mining operation in Arizona.

When the Hermosa project begins producing battery-grade manganese and zinc it will join the likes of Rio Tinto's Gudai-Darri Mine in Australia's Pilbara Region, Resolute Mining's Syama gold mine in South Africa, and the Boliden Mine in Sweden as one of the most technologically advanced mines in the world.

Hermosa will use teleremote semiautonomous mucking for production stopes, including for development prior to production mining. This will enable operation from the remote operating center and would "engineer out" vehicle and pedestrian interactions in the production mining area.

Dry stack tailings

Mine plans call for open stope mining method with paste backfill.

"Half of the tailings that come out of the processing of the zinc deposit will go back underground," said Risner. "This, combined with the dry stack tailings and compact facilities design is how the footprint of the mine will remain small."



When South32 acquired the property in 2018, there were historic tailing piles left on the property that would leach heavy metals and sulfates into the waterways. Risner said the waterways going north from the site had been impaired for decades.

"Even before the prefeasibility stage, we entered into a voluntary remediation program with the Arizona Department of Environmental Quality," Risner said. "We committed to clean up the tailings and that allowed us to build the dry stack facility. The industry is talking about the future of tailings being dry stack rather than traditional wet deposition. We have already built the first new dry stack facility in the United States."

South32 invested \$30 million in 2020 in the voluntary cleanup, which helped to restore the natural environment and has saved taxpayers millions of dollars.

The mine is located in a historic mining district, but South32 is developing the greenfield project from the ground up. Building on lessons learned from the past, Risner told **ME** that the company is committed to creating an underground mine that will leverage leading-edge technology to provide employment opportunities to the local community for a safe, sustainable future that includes plans supporting South32's goal for a net-zero carbon emissions operation by 2050.

"This is one of the things that brought a lot of us here," Risner said. "You almost never get the opportunity to do something like this in your career. You are either taking over a site or you are expanding an existing site. To be able to come in early and build a project from the ground up is a great opportunity for all of us."

In December, **ME** visited the Hermosa project and spoke with a number of South32 employees about the project.

South32 invested \$30 million in a voluntary cleanup program to repair damage to waterways caused by historic tailings near the site.

Next-generation resources

As the world progresses toward a reduced carbon future, minerals such as manganese and zinc will be in high demand. Risner noted that manganese and zinc are among the most critical of the critical minerals. The battery chemistry for a typical lithium, nickel and manganese battery for electric vehicles (EVs) contains approximately 17 percent manganese. Advanced battery technologies are targeting manganese-rich chemistries. These chemistries are expected to help improve vehicle performance and lower costs, and manganese is the preferred metal of some leading EV producers to displace cobalt.

Because of its special properties, zinc has long been used in construction, particularly to

pharmaceuticals and as a semiconductor.

In addition to the manganese and zinc, South32 has acquired a larger land package and has developed 15 exploration prospects or targets through a combination of mapping, surface geophysics and soil testing.

“The team has done a significant data integration exercise,” said Dave Bertuch, Hermosa project general manager of exploration and geology. “We have taken mine maps from the historic mining areas from back in 1910-1912, and we digitized a lot of that information. Then, we do soils, we do surface mapping and surface geophysics, and then bring it all together through data integration.”

From this work, Bertuch said a copper prospect with high potential has been identified. Additional exploration work will continue on that prospect as well as continued underground exploration to further define the zinc and manganese deposits.

Community engagement

Earning a social license to operate is as crucial to the success of any mining project as the deposit itself. Without the license to operate, the ore, no matter how rich in critical minerals, will remain in the ground. There are many examples of this in the United States and specifically in Southern Arizona, where some mining projects have remained stalled in the permitting phase for 10 years or longer. The Hermosa project is largely on private land although there will be a need for federal

permitting for an access road that crosses federal lands and for a second dry stack tailings storage facility in the future.

Despite the advantage of being on private land, South32 made the decision early on to engage all stakeholders, including Native American Tribes early in the process.

“We wanted to start doing that work before we were in prefeasibility because that’s the phase where you can still make changes in how you are doing things,” said Risner. “We wanted to have community input and understand community concerns from the very beginning.”

In this proactive approach, one of the first things South32 did was to conduct a cultural resources inventory on more than 30,000 acres around the site to learn where the prehistoric and cultural resources were before the design phase of the mine began.



The South32 Hermosa team volunteering at an annual bicycle race (top) and hosting tours for the public (right).



galvanize other metals. Zinc compounds are also used in a range of other applications including zinc oxide coatings that help solar panels achieve higher energy conversion. Zinc oxide is used in paints and inks, cosmetics, plastics,



“Typically, that activity would be later in the process or when you needed to do it for permitting, but we had a shift in our mindset and said ‘yeah, it’s going to be important for permitting,’ but we really want to understand the cultural landscape, just like we need to understand the biological landscape,” said Risner.

There has not been any active mining in the area since the 1950s and a portion of the population of Santa Cruz County and the neighboring Tribes do not always have a favorable view of mining.

“The most common view of mining, especially in Santa Cruz County, is what they see around them, which is historic operations that really tie back to the legacy of Arizona,” Skylic Estep, director of human resources, North America at South32 said. “It’s something that we need to pay respect to, and there is a lot that we can learn from in the way those operations have developed. But we also have the opportunity to do something different at Hermosa.”

Estep said the historical boom-and-bust nature of copper mining in Arizona is a legacy issue that South32 has taken into consideration. Like many other concerns on the project, the company will turn to technology for a solution.

“We are able to utilize technology to be really mindful about our work and how our mine plan is being developed to avoid that boom-bust cycle people have in their minds. We’re developing long-term sustainable operations,” Estep said. “We already have it built into our programs and our systems.”

“We have been engaged with the community and with the Tribes informally for four years,” Risner said. “The Tribes are familiar with the project and the work that we have done on cultural resources. When we think about where the industry needs to go in the future, if we are going to get a social license to operate projects like this, then building those relationships before you even conceive the mine is going to be an important step.”

South32 has set up a community advisory panel consisting of community leaders with diverse perspectives and strong networks to advise the company on aspects of their project development that impact communities and to

identify goals and priorities that could benefit both the larger community and South32.

The donor-advised South32 Hermosa Community Fund provides support for nonprofits based in Santa Cruz County. Supported areas include education, art, culture and history, environment, health and welfare, recreation and civic enhancement. The company has invested nearly \$1 million in the county via grants since the fund’s inception.

South32 has also invested more than \$2 million in key infrastructure and social service improvements in Hermosa’s neighboring communities, including road upgrades and support for STEM education programs for school-age children.

Technology

At the heart of next-generation mining is leading-edge technology. Autonomous equipment, a remote operating center and battery-electric vehicles have been built into the mine plan. These technologies will help address environmental and workforce issues, and each played a part in the Hermosa project receiving FAST-41 status.

“There’s the holistic approach to technology and how it is applied to the mine and getting us prepared for operations. That includes adding autonomous vehicles in the underground mine and mill,” said Todd Pereira, manager, project technology. “We are now working on how we will utilize and integrate all that technology and how it will apply to the remote operating center.”

The location of the remote operating center has not yet been determined, but South32 anticipates it will be placed in a local community in Santa Cruz County where employees will work from the comfort of an office building and not have to commute through the town of Patagonia or through the Coronado National Forest.

The remote operations center will be a high-tech work environment where operators will be in simulators rather than actual cabs of heavy equipment.

“Working in the mining industry does not necessarily mean being underground with a pick axe,” Pereira said. “It is a different industry now, and you can work successfully

The Hermosa project is located about 80 km (50 miles) southeast of Tucson and 16 km (10 miles) north of the U.S.-Mexico border.



The Hermosa operations center will likely look like an operations center in Silicon Valley, with high-tech simulators that resemble gaming chairs.

from an office environment.”

A digital mine plan has been developed that shows how the stopes will access the deposit. At various points along the way the map indicates bays that will house batteries for the underground equipment. Although no contracts have been formalized, input from various original equipment manufacturers has been integrated to inform the mine plan.

“Our feasibility studies are based on commercially available technology,” said Andy Thompson, Hermosa project vice president, project delivery. “And we think there will be more opportunities that we will be able to capitalize on as we move forward.

“The way our mine is designed is production mining goes to ore passes and the ore passes go to bins, and we have a haulage loop that will be fully autonomous,” said Thompson. “People will not be allowed on that loop so we can run it 24 hours a day, seven days a week. Those are the opportunities that we are aware of today. By the time that we go into full production, we expect there will be future opportunities in our ability to leverage technology to make things safer and more productive.

“Our infrastructure is designed for a full battery-electric fleet,” said Thompson. “We have sized the electric cables and the power ... we are ready for 100 percent battery electric.”

When the equipment is deployed underground, the operations center will likely look more like an operations center in Silicon Valley with high-tech simulators that resemble gaming chairs.

“That provides us a very exciting opportunity from an employment value standpoint because a lot of those jobs will be a 20-minute commute to a temperature-controlled

office,” said Thompson. “And it opens up the job to a wider group of people. It’s a really exciting opportunity for us to open up opportunities to people that might not fit the typical image of an underground miner.”

The workforce will be trained to operate the equipment and will be trained to a high level, Thompson said, comparing the role of the equipment operator to that of a commercial pilot.

“A pilot is a highly skilled equipment operator with very precious cargo,” said Thompson. “We trust that the pilot will do a pre-operation inspection on that airplane and will safely operate that airplane while it is under their control. We will treat our operators, maintenance people and technicians no differently. They will

be highly trained professionals and that is the basis from which we will get the value from our technology.”

When in production, the Hermosa project is committed to having a workforce that will consist of 80 percent of people from Santa Cruz County. These will be well-paying jobs for people who will be trained for the positions.

Thompson said South32 will turn to a range of prospective employees, from university-educated engineers to recent high school graduates, and the company will provide the necessary training.

“Our focus for Hermosa more broadly is centered around workforce development and that requires planning and commitment. If we don’t make the investment it won’t happen. Our commitment is to grow this so that we are competitive with any industry,” said Thompson. “Simply put, we have to change the way we do things in this industry. There is not enough talent in mining to deliver what we need, so we have to think differently about how we build our workforce.”

Estep said the company is focused on the future of its workforce as well as current needs. “We could run the operation by tapping into experienced operators and doing things like contract mining, but that’s not setting up sustainable systems that can live on in the community. The way we are looking at our workforce and how we develop our workforce isn’t necessarily the traditional underground miner that you would have seen a decade ago or even five years ago. The individuals that we will develop to work in operations are really technology professionals in an underrepresented area. It really uplifts an entire community where there is not a lot of diversified opportunities.” ■

Automating electric valve actuators for tailings distribution networks

by Nick Farrand and Daniel Quintero

Tailings disposal is one of the more difficult aspects of a mining operation. The dense and abrasive material is thick and difficult to pump, and it must be efficiently transported over long distances to the disposal areas (Fig. 1). This is accomplished using strong pumps, a lengthy network of pipes, and many automated valves to divert the material to different areas in the tailings pond.

Normally, these tailings network valves take the brunt of the wear, and they can be expensive to keep working and operating. This article focuses on those automated valves and discusses design choices and technical features for new and existing tailings network applications.

Dewatering increases challenges

Composed of the unused components of mining ore, tailings are typically a highly abrasive mix of gravel, pulverized rock and dirt. Tailings used to be transported in a slurry, created using large quantities of water, but environmental recovery efforts at virtually every mine for dewatering have resulted in much more erosive and viscous tailings.

The gooeey, abrasive mix must be pumped over significant distances through a network of pipes to reach the tailings disposal areas, where it is diverted by automated valves to evenly spread the tailings across scattered storage locations.

The application was never easy, but the dewatered tailings slurry is now much more difficult to pump and transport because it is even more viscous. Pressures at the head of the tailings network are significantly elevated, and the thickened material is much more punishing on the diversion valves. Government entities are also highly focused on effluent treatment and management, so valve status and remote monitoring are becoming increasingly necessary.

Figure 1

Tailings networks must transport dense, abrasive and sometimes hazardous material from processing areas to remote disposal areas. Proper automated valve selection for this application is crucial for success.



All figures courtesy of Emerson

Valve selection

Knife gate valves are best suited for tailings valve applications (Fig. 2), but there are significant design differences among valve models. To ensure best operational performance, any valve selected for tailings service should have the following design features:

- High-pressure-class flange ratings — Water removal has significantly raised the pressures required to transport the material, and these pressures are further elevated when long-distance transport is involved. Typical applications require full American National Standards Institute (ANSI) class 150 flange ratings, and some applications may require class 300

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Tailings Safety

Figure 2

This Clarkson KS1 valve with electric actuator is installed in a tailings application. It includes a bidirectional, full port design, advanced long-life seals, zero-leakage environmental seals, and reversible and rotatable wear rings.



- flanges near the head of the network.
- Full port design — Any valve in slurry service should incorporate a full port design because any reduction or change in inside pipe diameter will create higher velocity areas that accelerate damage.
- Adjustable wear rings — Erosive slurries tend to wear the valve at the six o'clock position. Hardened wear rings on the face of the valve can extend service life, and rings that can be easily rotated and/or moved to the opposite side of the valve will last significantly longer.
- Advanced valve seal designs — Valve seals that utilize broad, soft seats will seal better and last longer, provided those seats are protected from erosion. Single O-ring seals tend to fail quickly, but larger, specialty polymer seals will perform much better, especially if they are located below the lip of the valve, where they are better protected.
- Advanced and adjustable gate seals — Recent gate seal improvements incorporate transverse seals that lock into the seat sealing surface to create a gate-edge seal, minimizing leakage from the gate edges. These seals also allow for field adjustment of the packing material while the valve is installed and in service.

Proper valve selection is paramount to minimize operating cost. Poorly selected valves

have been known to wear out in days and even hours in harsh tailings service, so it is typically wise to invest more initially for the right valve.

Selecting an actuator

Historically, the remote location of tailings diverting valves severely limited the options for valve actuation. Hydraulic actuators were often employed, and the mine operators drove to each valve and used a local hydraulic pump or hand jack to adjust the valve. This worked well for remote valves requiring only infrequent adjustment, but it created operator exposure concerns when dealing with hazardous tailings applications. It also provided no means for remote monitoring and operation.

Valve actuators are generally limited to hydraulic, pneumatic or electric operators. Hydraulic actuators have traditionally been the preferred option for high torque applications,

though they are prone to oil leaks and require significant maintenance to keep the hydraulic actuating system operational. Pneumatic actuators are ubiquitous and inexpensive, but running the required instrument air to remote locations is expensive, and maintaining a pressurized air system in the dusty and arid environments common to mines can be very challenging. The last choice, electric actuation, has generally not been utilized due to their expense, limited torque and maintenance problems, but newer designs are addressing these and other issues.

While hydraulic and pneumatic actuator designs have remained largely the same for decades, electric actuators have seen dramatic improvements in design and equipment features (Fig. 3).

Stronger, smaller motors with lifetime lubricated gear boxes have allowed electric actuators to achieve much higher torques, and with less required maintenance. The motors are also much more efficient, allowing smaller electric actuators to run on the power provided by solar panel/battery installations.

Tailings piping systems use larger line sizes and valves upstream, and smaller line sizes and valves downstream. The upstream electric valve actuators can often be supplied with line power as they are close to the main mine areas, and this level of power is often needed due to the high torque and power requirements of large actuators. Downstream valves are smaller, as

Figure 3

The latest generation of electric actuators (Bettis XTE3000 with rising gearbox from Emerson shown) are smaller, more reliable and generate far greater torque than older models, yet require far less power.



are their electric actuators, and these can often be operated with the reduced power available from a solar panel/battery installation.

Wired and wireless digital communication protocols allow electric actuators to be controlled and monitored from remote locations, and modern electric actuators provide a host of diagnostic information that can be used to predict failures and speed troubleshooting. If a wired protocol is used, only a single pair of wires is needed, so the amount of conduit and wiring required from each electric actuator to a host, such as a distributed control and/or an asset management system, is minimal. In most installations, a wireless communication protocol can be used, eliminating the need for wiring to a host.

Diagnostics ease maintenance, and less of it is required because newer electric actuators are much more reliable. Though initially more expensive, electric actuators usually have a significantly lower life cycle cost than other valve actuation options, especially in greenfield applications.

All these improvements have altered the economic landscape for tailings network valve actuation. Depending on the size, location and criticality of the valve, an electric actuator is often the best choice for many tailings applications. This is especially true if valve monitoring and/or remote control is necessary. Advanced diagnostic and control software paired with a wireless network provides remote monitoring and control of the valve. Low power applications can employ a “sleep mode” to minimize power use when the valve is not in operation.

Electric actuators in action

The following use case shows how electric actuators installed on knife gate valves in a tailings system improve operation.

Coal mine. A large coal mine in Australia uses a combination of open-cut and underground mining. A new project will extend its life by expanding the mining area, allowing overall production rates to be maintained, with mine life extended to 2039. The new mining area will need to extend through the existing tailings storage facility (TSF), which holds approximately 30 million m³ (39 million cu yd) of tailings. To enable continuity of mining, the mine operator will need to relocate these tailings to a new TSF. A tailings relocation system and water management system modifications have been designed to provide the

infrastructure required for the relocation of this material.

The piping distribution system for the new TSF will include four electrically actuated and 30 manually operated DN500 Clarkson KS1 knife gate valves, with the electrically actuated valves using a BIFFI ICON3000 actuator running from line power. The electrically actuated valves will be operated up to 100 times per week, and the mine operator is confident the selected valves and actuators will perform as required during this difficult operation. The valves were selected based on the company’s existing relationship with Emerson and its ability to provide a total solution.

Conclusion

Automated valves installed in tailings systems are subject to punishing conditions, and in many installations they are required to operate frequently, often hundreds of times a month. These valves are often installed in locations that are difficult to access for maintenance, so they must operate as designed for long periods of time without failure.

When maintenance is required, it needs to be scheduled proactively, instead of running to failure, to minimize repair costs and maximize production. Electric actuators with remote connectivity provide the information required to monitor valve conditions and inform staff of required maintenance, increasing uptime.

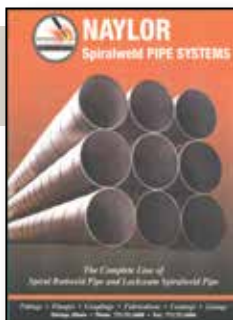
Mine operators should evaluate these valves carefully, consulting with local vendor experts whenever possible to make sure the right type and model is selected to meet the specific requirements of their tailings systems. ■



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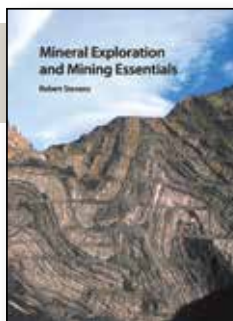
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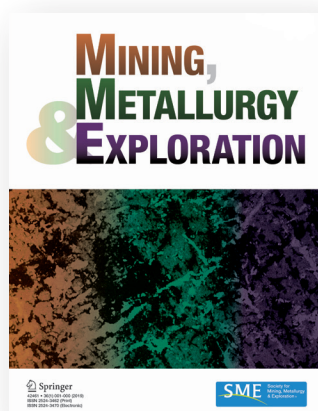
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Invited Extended Abstracts

Collection in Honor of Dr. Patrick Taylor: All About Metallurgy

Recycling for the recovery of critical metals from LiCoO_2 cathode material through methanesulfonic acid-citric acid organic leaching system

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Full-text paper:

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Keywords: Hydrometallurgy, Leaching, Organic acid, Spent lithium-ion batteries, Recycling

The surge in demand for battery materials, coupled with environmental challenges linked to battery disposal, underscores the need to recycle spent lithium-ion batteries (LIBs). Green recycling approaches, in particular, have garnered attention for battery recycling. In this study, a hydrometallurgical method using a synergetic organic lixiviant combining methanesulfonic acid (MSA) and citric acid (CA) as an alternative to inorganic mineral acids was introduced as a green approach to recycle cathode materials of LIBs. The condi-

tions for leaching and recovery processes were optimized. Cathode materials were regenerated using the recovered materials. Moreover, the leaching performance and economic feasibility of this leaching system were compared with those of various other organic acids.

Introduction

Pyrometallurgical, hydrometallurgical and biometallurgical approaches have been explored to recycle valuable

metals from spent LIBs. Among these, the hydrometallurgical method is widely applied because it allows for the recovery of high-purity critical metals and offers better energy efficiency and environmental friendliness compared to the other two methods. Among the hydrometallurgical processes for LIB recycling, leaching processes are predominantly conducted using sulfuric acid (H_2SO_4) due to its cost-effectiveness and low corrosive effect on industrial equipment.

In recent years, organic acids have attracted attention as environmentally friendly alternatives to mineral acids. Mineral acids of hydrochloric acid (HCl), nitric acid (HNO_3) and H_2SO_4 inevitably produced toxic byproducts such as Cl_2 , NO_x and SO_x in the leaching processes. In contrast, various organic acids exhibit lower toxicity than mineral acids for several reasons: (1) their mild acidity relative to mineral acids, (2) their biodegradability characteristics, and (3) they mainly consist of carbon (C), hydrogen (H) and oxygen (O) atoms, thus toxic byproducts are not produced during the leaching.

Generally, in the organic leaching system, valuable metals for cathode materials are leached through acidolysis and/or complexolysis phenomena. However, most organic acids have either low acidity or poor complexing ability. Thus, an

extended leaching time with an elevated leaching temperature and a low solid/liquid (S/L) ratio of organic leaching systems has limited their industrial applications.

To overcome those disadvantages of organic acids, mixed organic acids have been of particular interest. Mixed organic acids consist of organic acids with either strong acidity or good complexing ability. Although it has been reported that mixed organic acids are effective for the leaching of cathode materials by acting synergistically, their reagent cost is still more expensive compared to conventional mineral acids.

In this study, a mixed organic acid consisting of MSA with a strong acidity and CA with a good complexing ability among various organic acids was investigated as a new lixiviant. The leaching performance and economic feasibility of this leaching system were compared with those of various organic acids. Furthermore, the subsequent recycling processes, including a precipitation process for cobalt (Co) and lithium (Li) recovery, and a resynthesis process of cathode materials were optimized.

Method

LiCoO_2 , NMC622, NMC811 and NCO powders were used as recycling cathode materials. The leaching test was

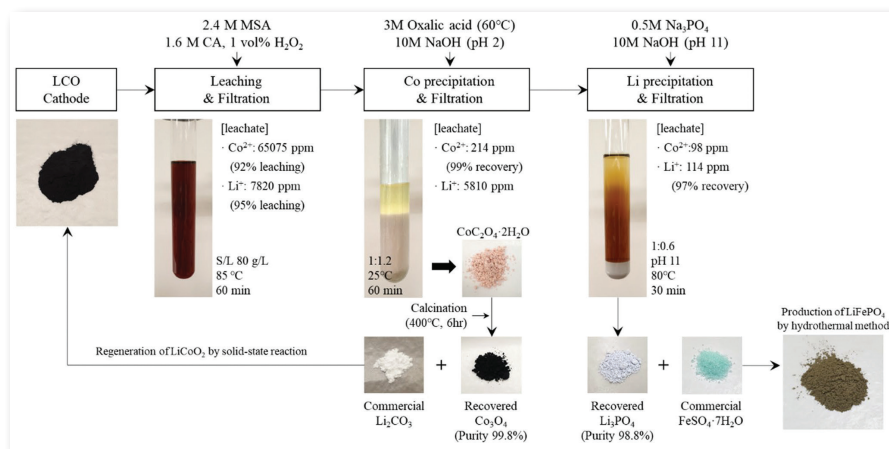


Fig. 1 Flowchart of the recycling process of LiCoO_2 proposed in this study.

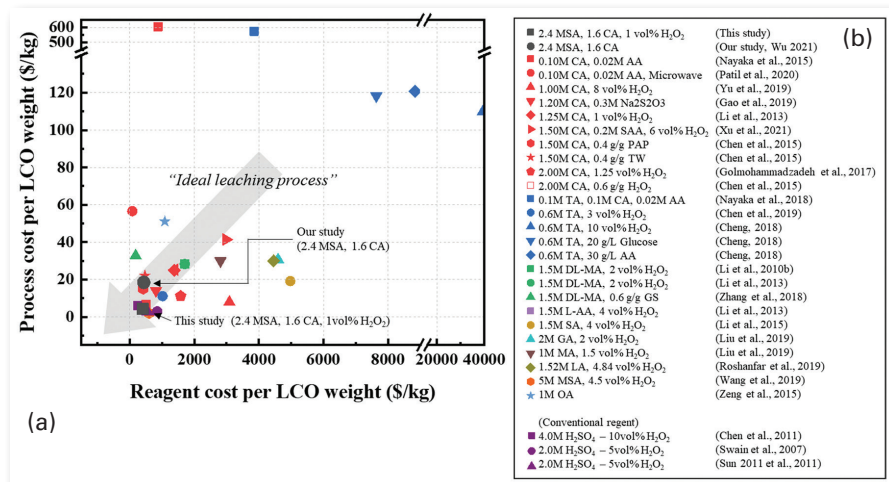


Fig. 2 (a) Reagent cost per extracted LiCoO_2 weight (\$/kg), and (b) leaching process cost per extracted LiCoO_2 weight (\$/kg) of various organic acid-based leaching processes.

conducted with a lixiviant with concentrations of 2.4 M MSA and 1.6 M CA at 85 °C. Hydrogen peroxide (H_2O_2) was added to the leaching solution as a reductant. Kinetic samples were taken, and the concentrations of dissolved elements were analyzed through atomic absorption spectrometry.

After the leaching process of LiCoO_2 , cobalt in the leachate was recovered into pink-colored cobalt oxalate (CoC_2O_4) by a precipitation process using oxalic acid. The CoC_2O_4 precipitates were calcinated in a muffle furnace at 400 °C for six hours to generate the Co_3O_4 compound. The LiCoO_2 was regenerated using the recovered Co_3O_4 and commercial Li_2CO_3 through a solid-state reaction. The Li ions that remained in the leachate after the Co precipitation process were recovered into the Li_3PO_4 compound through a precipitation process using sodium phosphate. The recovered Li_3PO_4 and commercial $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ were used to synthesize LiFePO_4 cathode materials through the hydrothermal method.

Results

The hydrometallurgical process proposed in this study consists of three pivotal processes: (1) a leaching process using the synergistic organic lixiviant, (2) a metal recovery process and (3) a resynthesis process of cathode materials. Figure 1 shows a detailed flowchart illustrating the recycling procedure of LiCoO_2 in the MSA-CA- H_2O_2 system.

In the leaching process, cobalt extraction of 92 percent and lithium extraction of 95 percent were achieved in the optimized conditions of 2.4 M MSA, 1.6 M CA, 1.0 volume percent H_2O_2 , S/L ratio of 80 g/L, temperature of 85 °C and time of one hour. The optimal leaching conditions of the MSA-CA mixed leaching system exhibited good applicability to various cathode scraps, such as LiCoO_2 , NMC and NCO, as presented in Table 1. After the leaching process, the dissolved Co and Li ions were selectively recovered with high recovery efficiencies of 99 and 97 percent as Co_3O_4 and Li_3PO_4 , respectively. The recovered Co_3O_4 and Li_3PO_4 were used to regenerate cathode materials. LiCoO_2 and LiFePO_4 were successfully resynthesized through solid-state reaction and the hydrothermal method.

Figure 2 shows the leaching reagent cost per extracted LiCoO_2 weight (\$/kg) and the electricity cost of the leaching process per extracted LiCoO_2 weight (\$/kg) for various organic leaching systems. The MSA-CA- H_2O_2 leaching system investigated in this study is one of the most effective organic leaching systems from an economic perspective.

Conclusion

A novel, green hydrometallurgical process for LiCoO_2 recycling using an MSA-CA- H_2O_2 mixed organic leaching system was investigated in this study. The results show that 98 percent Co and 97 percent Li were leached in the optimized conditions of 2.4 M MSA, 1.6 M CA, 1.0 volume percent H_2O_2 , S/L ratio of 80 g/L, temperature of 85 °C and time of one hour. The MSA-CA- H_2O_2 mixed leaching system exhibited excellent adaptability to LiCoO_2 scrap, synthetic NMC622, NMC scrap and NCO scrap. The dissolved Co and

Table 1 — Extraction efficiencies with two types of LiCoO_2 scrap, synthetic NMC622, NMC811 scrap and NCO scrap in the optimized leaching conditions of 2.4 M MSA, 1.6 M CA, 1.0 volume percent H_2O_2 , S/L ratio of 80 g/L, temperature of 85 °C and time of one hour.

Type of material	Extraction (percent)			
	Li	Co	Ni	Mn
Synthetic LiCoO_2	97.5	98.1	–	–
Scrap LiCoO_2 (1)	99.5	98.0	–	–
Scrap LiCoO_2 (2)	94.0	91.2	–	–
Synthetic NMC622	99.5	96.2	94.6	86.7
Scrap NMC811	100	92.7	89.8	100
Scrap NCO	97.6	88.9	97.2	–

Li ions in the MSA-CA leachate were selectively recovered with high recovery efficiencies of 99 and 97 percent as Co_3O_4 and Li_3PO_4 , respectively. The LiCoO_2 and LiFePO_4 were successfully reproduced using the recovered Co_3O_4 and Li_3PO_4 through solid-state reaction and hydrothermal method. In a comparative analysis with other organic leaching systems, the MSA-CA- H_2O_2 leaching system demonstrated superior performance in terms of both extraction efficiency and economic feasibility. ■

References

A list of all references is available in the full paper.

Collection on Ground Control in Mining II

Distinct element analysis for the effectiveness of preliminary coal pillar rib support systems based on the strength-reduction method using coal mass constitutive model

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Full-text paper:

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Keywords: Coal pillar, Rib support, DEM, RDR, RibFOS, Numerical modeling

In this study, various rib bolting scenarios were investigated to better understand the effectiveness of the support systems. A coal mass constitutive model is implemented to a distinct element method (DEM) code, and rib factor-of-safety (RibFOS) analyses were performed by applying strength reduction for the coal matrix and explicitly modeled face cleats. Ribs with various overburden depths and mining heights composed of solid banded bright coal were considered. Different scenarios such as rib bolt length and number of bolts

were studied to quantify the effect of primary rib support density on rib stability. As a result of the unsupported coal rib analyses, a decaying exponential relationship is proposed between the mining height-overburden depth and the RibFOS. The developed coal rib models clearly show the coal-rib bolt interaction and illustrate how the addition of rib bolts restricts the movement of the coal rib. The results reveal that the strength-reduction method in DEM code with the coal-mass model can aid in the development of practical primary sup-

port charts, which can help in the rib support design process.

Background

The presence of a large number of factors makes rib stability problems complex and limits our ability to analyze them by empirical and/or analytical methods alone. Thus, with the continued development of computing power, numerical analysis tools that employ physics-based modeling of rock structures are increasingly being used to investigate rib stability problems.

In contrast to empirical/analytical methods, calibrated and verified numerical modeling techniques can explicitly represent stress redistribution, support performance and deformations in the vicinity of an excavation. Discontinuum-based modeling tools have become more widely used, especially for field-scale research focusing on the coal mass fracturing process and coal seam-support interaction. In contrast to continuum models, discontinuum approaches can explicitly simulate the yielding and failure stages of a coal pillar rib by allowing detachment, rotation and separation along the joints. Thus, researchers agree that continuum mechanics-based models of rock support structures are less accurate for modeling the complete complex interaction between support elements and the rock material.

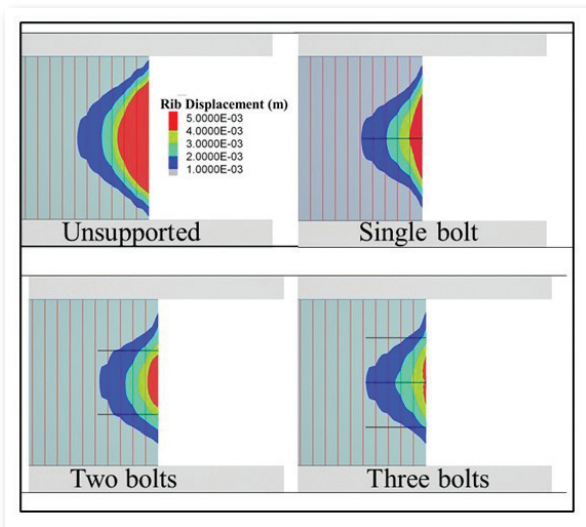


Fig. 1 Effect of support density on rib deformation.

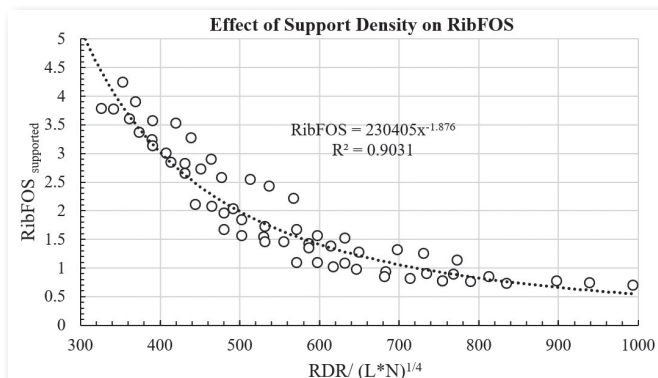


Fig. 2 Combining all supported model results.

Method

In this study, a recently developed coal mass constitutive model was implemented in DEM code to simulate the coal rib and analyze the performance under unsupported and supported conditions. The input data used for the roof-floor contacts and cleat sets are based on a well-established calibration process using a coal mass model developed by the National Institute for Occupational Safety and Health (NIOSH). At the beginning of our comprehensive research, the primary objective was to implement a coal mass constitutive model, initially developed for a continuum-based solution, into a discontinuum-based code. This approach allowed for the simulation of coal ribs and analysis of their performance under both unsupported and various supported conditions, leveraging the benefits of more precise simulation capabilities. The main purpose of this study was to analyze the coal rib performance for different support scenarios. For this purpose, unsupported and supported RibFOS results were estimated using the strength-reduction method. Analyses were carried out for the banded bright coal lithotype (BBC), the most abundant coal type found in eastern North America (the Central Appalachian Basin).

Results

To quantitatively analyze the effect of primary rib supports, the unsupported rib models were initially studied for three overburden depths (600, 800 and 1,050 ft) and three mining heights (7, 9 and 11 ft), then supported rib models with the various number of bolts and bolt lengths were analyzed. Figure 1 shows the typical rib deformation responses for various support densities at 180 m overburden depth and mining height of 11 ft. As seen in the rib displacement plots in Fig. 1, the rib dilation was halted by introducing a single support. The support elements tend to limit the rib from relaxation by increasing confinement.

For the analyses on the effect of bolt length and number of bolts on rib stability, we proposed a relationship between the supported RibFOS and parameters considered in this work. All model results are combined to propose a generic relationship (Fig. 2), and it is given as the following equation with a regression coefficient over 0.90 (it should be noted that the proposed equation is only applicable to the solid coal rib of BBC):

$$RibFOS_{supported} = 230405 \times \left[\frac{RDR}{(L \cdot N)^{0.25}} \right]^{-1.876} \quad (1)$$

where RDR is the rib deformation rating (mining height \times overburden depth, in meters), and L and N are the length of the rib bolt (in meters) and the number of rib bolts per row, respectively. This equation needs to be further updated by including the anchorage capacity, spacing parameters of rib bolts, and strength of the coal mass. From the field application point of view, if $RibFOS$ of 1.5 is assumed to be a stable limit, a BBC solid coal rib at 305 m (1,000 ft) depth and having 2.4 m (8 ft) mining height can be stabilized with 2×1.5 m (2×5 ft) fully grouted bolts having 10 tonnes (22,000 lb) of anchorage capacity.

Conclusions

The critical RDR for the primary support requirement is around 580 (mining height \times overburden depth, in meters).

The effect of increasing bolt number is much more noticeable with lower RDR values. In addition to primary rib bolts, external rib support devices — such as props, meshes, spray membranes — and pillar banding may be required if the RDR for solid BBC coal exceeds 950.

It should be noted that the quality of the rib, one of the crucial factors for rib stability, was not considered in the

RDR approach. Further research is recommended for this subject, especially implementing three-dimensional rib models to analyze the condition of the rib corners and incorporate the bolt spacing parameter. ■

References

A list of all references is available in the full-text paper.

Collection in Honor of Dr. Patrick Taylor: All About Metallurgy

Phosphorus – A circular journey from the ground to the recycling line

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Full-text paper:

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Keywords: Phosphate rock, Beneficiation, Phosphoric acid, Wet process, Thermal process lithium ferro phosphate

This work reviews and describes the circular journey of phosphorus through its value chain from the mining operation of phosphate ore through beneficiation into downstream chemicals production and finally into the electric-vehicle (EV) battery cathode production space. There have been technical review papers that cover portions of the phosphorus value chain but none to the authors' knowledge that attempts to discuss the full value chain.

Introduction

The phosphorus journey begins with the extraction of primary phosphorus in the form of phosphate in apatite through openpit mining and, in some rare cases, underground mining methods. The ores are processed in beneficiation plants to remove impurities before the phosphate rock concentrate is either sold on the open market or converted into phosphoric acid in downstream chemical production facilities by the wet acid process or thermal phosphorus routes. These can in turn be converted into fertilizers, as well as used in the food and electronic industries.

The advent of the EV battery has given rise to a new use for purified phosphoric acid in the production of lithium ferro phosphorus (LFP) cathode material for EV battery cathode assemblies. The production of LFP relies on raw materials such as lithium carbonate, lithium hydroxides, iron salts and purified phosphoric acid.

Mining and beneficiation

The beneficiation of phosphate ore typically follows a dry crushing and screening operation where ore is prepared for the downstream wet beneficiation circuits. The milled slurry is classified using hydro cyclones or hydraulic classifiers. For igneous phosphate ore processing, the classifier overflow is passed over a low-intensity magnetic separator to remove iron-rich magnetic materials prior to flotation.

The sedimentary phosphate classifier overflow is sent to a second set of classifiers for removal of ultrafine slimes prior to flotation. Once the phosphate concentrate has been dewatered to a suitable moisture content, the material is sent to a dryer circuit where the excess moisture is removed.

The residues from phosphate beneficiation are collected in thickeners. The thickener underflow streams are either pumped directly to wet stack tailings storage facilities or they can be dewatered using vacuum-belt or pressure filters before the filter cake is conveyed to engineered dry stack storage pads.

Phosphoric acid

Phosphoric acid is used as a major raw material for fertilizers, chemicals and LFP battery cathode material. The basic premise of phosphoric acid as raw material for each of these downstream applications is the concentration of the acid and required purity. Required purity levels for battery and electronic application would require the highest purity compared to fertilizers.

Production. Phosphoric acid is produced by two processes: wet process and thermal process. The majority is produced by the wet process, of which approximately 90 percent is converted to fertilizers. The thermal process constitutes a smaller portion of phosphoric acid production.

Wet process route. The wet process typically uses sulfuric acid to release the phosphorus from the rock to produce phosphoric acid (Fig. 1).

The output from the process is phosphoric acid and waste material in the form of phosphogypsum. The phosphogypsum formed is in either the dihydrate or hemihydrate form. As such, the common technologies in the production of wet process phosphoric acid are the dihydrate or the hemihy-

drate technologies. The conditions in the reactor govern the type of phosphogypsum produced.

Thermal process route. The thermal process uses thermal energy to release phosphorus and subsequently for the production of phosphoric acid. The units are divided into two major facilities (Fig. 2):

- **Yellow phosphorus (YP) plant:** Phosphate rock, silica and metallurgical coke are delivered to the YP plant where they are sized and proportionally fed to the top of the electric submerged arc furnace within the YP area. The electric furnace operates at reaction temperatures of between 1,400 and 1,600 °C. The furnace produces molten slag and ferro phosphorus alloy as byproducts. The phosphorus-rich gas stream leaves the furnace by an off-gas duct through an electrostatic precipitator to condensers. The phosphorus gas in the condensers condenses to liquid phase by water sprays. The liquid phosphorus and the spray water from the condensers are gravity-fed into a collection sump where they are separated by density difference. The clean YP is pumped from the storage tanks to the thermal phosphoric acid plant.
- **Thermal phosphoric acid (TPA) plant:** The liquid YP is pumped to a combustion tower to produce P_2O_5 gas in the presence of dried air. The P_2O_5 gas is condensed in a hydration tower by contact with recirculating phosphoric acid to produce thermal-grade phosphoric acid (TGA). To meet the specifications of downstream users for high-purity acid that could be used for specialty chemicals, battery materials and electronics, it is critical that the TPA meets the required industry quality. Purification of TGA to TPA will involve a dearsenification process, which will also reduce other heavy metals.

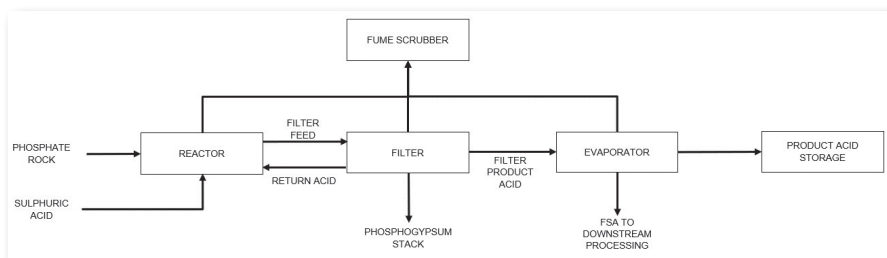


Fig. 1 Wet process phosphoric acid flow scheme.

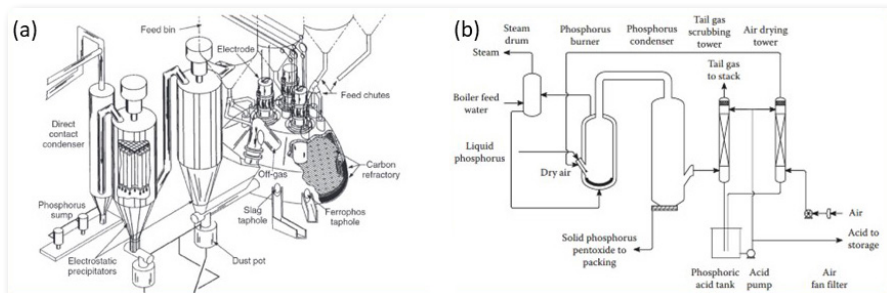


Fig. 2 Typical arrangement of (a) a YP plant and (b) a TGA plant.

Other phosphate derivatives

The downstream uses for the wet process and thermal process are as shown in Fig. 3. These two phosphate derivatives have small and specialized markets. It must be stated that all the producers of these two compounds have integrated downstream facilities. Phosphorus trichloride is made by the reaction of yellow phosphorus with chlorine. Phosphorus pentasulfide is manufactured by reacting yellow phosphorus and molten sulfur in a reactor in an inert gas atmosphere.

The phosphate value chain and circular economy

The phosphate value chain depicted in Fig. 3 shows the possible routes for the flow of phosphorus from the ground to the end user. The objective of a circular economy is to enable redesigning, reusing and recycling resources, materials and products, which will enable the continuous use of phosphorus units while avoiding waste. Phosphoric acid plays a critical role in energy transition and the climate. The demand for phosphorus in the battery industry has seen a surge recently with each producer looking for means of improving battery performance. One such material is the lithium iron phosphate (LFP) used in battery cathodes.

Pathway from phosphate ore to LFP production. LFP batteries are one of the earliest types of lithium-ion batteries. With the increased demand for EV batteries, LFP material is rapidly gaining popularity due to its cost and safety advantages versus the ternary cathode material. It has been forecasted that LFP will be the most used cathode materials in passenger-car and commercial-vehicle batteries by 2050. The production of LFP requires a lithium source, iron source and phosphorus source.

Phosphate mining companies are showing increasing interest in developing vertically integrated value chains from phosphate ore mining to LFP production. The production of LFP is subject to stringent process control and quality control to achieve the satisfied product specifications in terms of stoichiometric ratio chemistry, particle size distribution, particle morphology and electrochemical attributes. It is essential that the product quality is consistent and meets the downstream customer's requirements.

LFP recycling. Concerns are growing that the waste batteries that are retired from the EV and energy storage system (ESS) sectors would eventually contribute to environmental pollution. LFP battery recycling have been extensively investigated in recent years and typically use hydrometallurgical or solid-state regeneration routes. LFP batteries contain fewer valuable metals, which means applying conventional pyrometallurgical recycling methods, such as smelting, is not economically feasible.

The first big challenge to recycling LFP materials is economic feasibility. Unlike lithium nickel cobalt manganese

(NMC) material, which contain high-value metals such as nickel, cobalt and lithium, LFP cathode material consists of relatively abundant and cheap iron and phosphorus. Developing green and low-cost recycling technology for battery recycling will be the key focus. Secondly, the lack of recyclable spent LFP batteries will limit the development of the battery recycling industry. Finally, fire safety in the battery recycling facilities needs to be particularly addressed during engineering design and operation, where the spent battery, leaching reagent, aluminium foil scraps storage as well as carbon and so on, all expose risks of fire or even explosion.

Conclusion

Phosphorus is a highly important element with many applications ranging from fertilizers and specialty chemicals to components in batteries. Regardless of its application, the phosphorus journey begins at the mine. This work has attempted to describe this phosphorus journey from its mining to its processing to intermediate products as well as selected final products, and the recycling of an essential commodity — the LFP batteries. ■

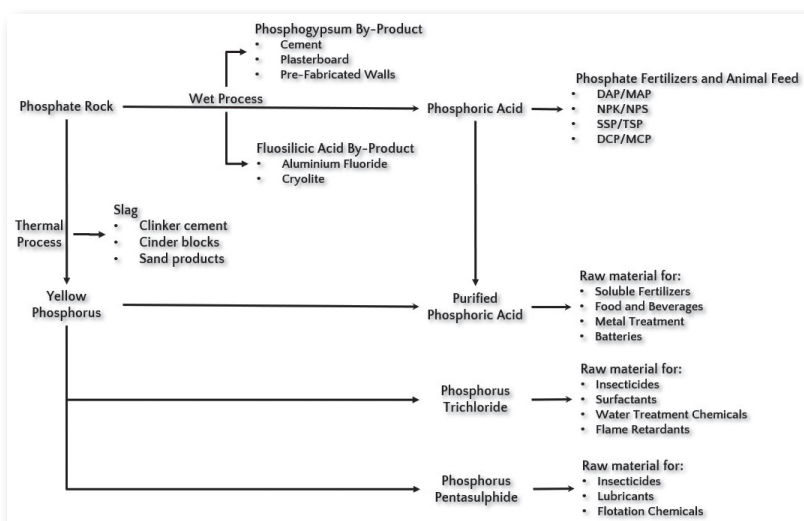


Fig. 3 Simplified phosphorus value chain.

References

A list of all references is available in the full paper.

Investigation of occupational accidents in mining with survival analysis

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Full-text paper:

Mining, Metallurgy & Exploration (2023) 40:1827–1838, <https://doi.org/10.1007/s42461-023-00810-5>

Keywords: Occupational accident, Survival analysis, Survival time, Life-table method, Kaplan-Meier method

In mining, which is one of the industries with the highest risk of occupational accidents, a primary goal is to enhance safety through the thorough investigation of accidents using reliable methodologies. In this research, the data from 13,653 accidents reported in the Karadon Hard Coal Enterprise between 2000 and 2011 were analyzed and compared using the life-table and Kaplan-Meier methods. Accident records were classified and analyzed into four categories: environment-related, equipment-related, person-related and other accidents. Findings in terms of survival time indicate that environment-related and person-related accidents had the highest risk in Karadon, with equipment-related accidents having the lowest. This study established the reliability of using survival analysis methods to investigate occupational accidents in the mining sector. Given that environment-related and person-related accidents occur in a relatively short period, such as one year after starting work, it is recommended that research be done to improve workplace and occupational safety measures and broaden the training given to miners. Additionally, it is determined that increasing the use of automation and mechaniza-

tion in underground coal mines, combined with developing a thorough equipment safety training program to raise awareness of the danger, can help prevent person-related occupational accidents caused by the interaction between equipment.

Summary

The term “survival analysis” should not only be understood from the concept of life and death. Survival analysis is a statistical method used to study the progression from a defined starting point to a particular outcome, aiming to identify the factors that impact this process. In survival analysis, the observation start time should be the same for all subjects. In other words, after the observation begins, new subjects cannot be added to the analysis.

The most important variable in survival analysis is survival time, which refers to the period of time from the start of the observation until any participant fails or reaches the specific point which is the subject of the study. Censored data is also an important concept in survival analysis: it refers to situations in which the survival time cannot be pre-

dicted with certainty. For some subjects, data on survival time may not always be available, or the case investigation may be ended for various reasons in the case of some participants. These are identified as censored data.

Survival analysis is defined as “failure time analysis” in the engineering context. From this point of view, an employee’s involvement in more than one accident at the same workplace over the years, with each of these records being considered as failure, is not suitable for analysis of the data with survival analysis. However, the first time the employee gets involved in an accident in the establishment can be considered a failure. When the accident records were examined with this approach, it was determined that the total number of accidents involving employees who started working in 2000 was 4,925, and only 1,094 of them were found to be the first occupational accidents experienced by the employees.

Because the observation start time should be the same for all subjects, the survival analysis was applied only to 1,243 employees who started working at the enterprise in 2000. In other words, out of the 1,243 employees, 1,094 were involved in an accident between 2000 and 2011, and the remaining 149 were not recorded in an accident between these dates. Sixty-one of these 149 employees left the establishment due to administrative and personal reasons (censored data), and the other 88 employees did not get involved in any accidents. The first accidents involving employees who started work in 2000 were defined as failures.

In this respect, a data set consisting of 1,094 accident records was obtained by filtering 13,653 accident records. The data set was classified as person-related (human), equipment-related (machinery) and environment-related (workplace), and this classification was decided according to the way of accident by making use of the life-table and Kaplan-Meier methods. Accidents that do not have an explanation for the cause in the records were classified as “other” (Table 1).

In the study, with the life-table and Kaplan-Meier survival methods, it was aimed to determine how long employees worked from the beginning without getting involved in any accident. For this purpose, the time unit determined in the analysis was chosen as day.

Table 1 — Definitions and examples in accident classification.

Categories	Definition	Example accidents
Person-related	Due to the unsafe acts of the employees because of their personalities and personal relations	Accidents that occur because of the employees’ physical and mental state, and personal relations at the workplace
Equipment-related	Due to the machinery, tools and equipment that assist employees in performing their duties	Security vulnerabilities (misuse of equipment and not performing their maintenance and repairs, defective protective equipment, insufficient control, inadequate standardization, etc.) during the use of electrical devices, excavation machines, transport and lifting vehicles, fortification units, stairs, scaffolding, etc.
Environment-related	Environmental factors affecting the system and/or people	Accidents caused by inadequate lighting, heat, noise, vibrations, mine fires, dust, and poisonous gas explosions and discharges
Others	Insufficient data on the cause of the accident	Accidents that cannot be classified

Results and discussion

Life-table and Kaplan-Meier methods were used in this study within the scope of survival analysis. Comprehensive findings and discussion of the entire study can be found in the full article.

To briefly summarize the results and compare these two methods, censored data is not considered in the life-table method but conversely, it is taken into account in the Kaplan-Meier method, and while the analysis is done according to predetermined time intervals in the life-table method, the occupational accident occurrence time is used in the Kaplan-Meier method. However, those differences derived values from both methods that are close to each other. Survival time estimations for accident categories calculated with both techniques are given in Table 2.

Conclusions

Workplace accidents leading to fatalities or disabilities necessitate robust preventive measures. Despite updated occupational health and safety regulations, their inadequate implementation persists, and this is particularly evident in the mining sector, especially in underground coal mining, where the numbers of accidents and fatalities remain high. Addressing workforce qualifications and challenging working conditions is essential, emphasizing the importance of improved training and professional qualifications. Human factors play a significant role in accidents, underscoring the need for effective occupational health and safety training. Prioritizing education, enforcing strict rules for professional qualification training and considering the establishment of vocational institutions are crucial for enhancing safety in the mining sector. Swift implementation of regulations ensuring certified personnel for specific underground mining tasks is recommended. ■

References

A list of all references is available in the full-text paper.

Table 2 — Comparison of survival time estimations.

		Survival time (day) (accident-free duration)	
		Life-table method	Kaplan-Meier method
Categories	Environment-related	339	327
	Equipment-related	2,790	2,636
	Person-related	356	352
	Other	517	503

Selected Abstracts

Implications of shale gas well integrity failure near a longwall mine under shallow cover

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Full-text paper:

Mining, Metallurgy & Exploration (2023) 40:543–553, <https://doi.org/10.1007/s42461-023-00740-2>

Keywords: Shale gas well, Longwall mine, Shallow cover

This study simulates the impact of a shale gas well casing breach near a longwall mine. Field studies are conducted to measure mining-induced permeability changes over the abutment pillar of a longwall mine, and a geomechanical model is developed in 3DEC, a three-dimensional numerical modeling code, to predict the aperture of fractures in the overburden at the study site. The predicted aperture values are used to determine mining-induced permeabilities, and the results are compared with the field measurements. These aperture values are provided as inputs into fracture flow code (FFC), which generates a stochastic discrete fracture network (DFN) model for the study site and predicts the potential shale gas flow to the mine. Results from 100 DFN realizations are statistically analyzed using the bootstrapping method to compensate for notable variation in fracture geometry. The results show a sig-

nificant difference between the gas inflow for nearby panels due to increase in the induced permeability during mining of the second panel. The average gas flow to the mine was calculated as $4.72 \times 10^{-2} \text{ m}^3/\text{s}$ (49 cfm) for a hypothetical breach at the Sewickley horizon during the first panel mining, $8.97 \times 10^{-3} \text{ m}^3/\text{s}$ (19 cfm) for a hypothetical breach at the Uniontown horizon during the first panel mining, $2.16 \times 10^{-1} \text{ m}^3/\text{s}$ (458 cfm) for a hypothetical breach at the Sewickley horizon during the second panel mining, and $8.07 \times 10^{-2} \text{ m}^3/\text{s}$ (171 cfm) for a hypothetical breach at the Uniontown horizon during the second panel mining. Depending on the mine ventilation system, this could result in methane concentrations exceeding regulatory limits. Hence, these findings provide insights into the potential risk of an unconventional gas well casing breach near a longwall mine under shallow cover. ■

Large-scale underground mine positioning and mapping with LiDAR-based semantic intersection detection

Min Chen, Weishan Yan, Yuan Feng, Shigang Wang and Qinghua Liang*

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*Corresponding author email: qhliang@sjtu.edu.cn

Full-text paper:

Mining, Metallurgy & Exploration (2023) 40:2007–2021, <https://doi.org/10.1007/s42461-023-00791-5>

Keywords: Intersection detection, LiDAR-based position, Complex mine

Various coal mine robots (CMRs) and unmanned aerial vehicles (UAVs) are implemented to explore unknown mines for improving the safety and efficiency of mining. It is challenging for CMRs and UAVs to achieve accurate positioning due to the absence of the Global Positioning System (GPS), poor lighting conditions, and similar geometric features in complex mine scenes. LiDAR-based localization and mapping methods are more accurate than others, while long-time running in large-scale scenarios will introduce nonnegligible cumulative errors. This study presents a semantic-aided LiDAR simultaneous localization and mapping (SLAM) with loop closure, which leverages the uniqueness of mine intersection structure to establish stable semantic loop closure.

Specifically, we propose a semantic intersection descriptor of translation and rotation invariance, which encodes 3D point clouds of the same intersection from different positions and viewpoints into a unified image. By using the semantic descriptor, we can construct a constant loop constraint when the same intersection is revisited from different directions to reduce cumulative drift. We provide experimental validation using large data sets collected in two large underground mines, namely, a simulated Edgar mine deployed in ROS Gazebo and a public underground mine data set provided by ETH. Experimental results show that the proposed method has higher localization accuracy and outperforms the existing LiDAR-based SLAM strategies. ■

SME Young Leaders invite you to an exciting slate of events at MINEXCHANGE 2024

by Rahel Dean-Pelikan, mining engineer, Northern Star Resources and YLC Annual Conference Events Subcommittee Vice Chair

The MINEXCHANGE 2024 SME Annual Conference & Expo is fast approaching. The Young Leaders Committee (YLC) would like to inform you of the great events we have organized and hope to see you there:

- Feb. 24: YLC Member Saturday Social (sign-up required).
- Feb. 25: YLC meeting.
- Feb. 26: YLC Professional Development Luncheon for Young Professionals (ticketed).
- Feb. 26: Monday Night Social hosted by YLC (ticketed).
- Feb. 29: YLC field trip opportunities (registration required).
- YLC technical sessions (refer to the MINEXCHANGE conference app, website or onsite program for the abstracts):
 1. A Day in the Life of a Mining Professional.
 2. Professional Development for Emerging Industry Professionals.

Unofficial Saturday social

The YLC is hosting an informal Saturday social for all YLC members on Feb. 24. The social will take place at Copper Blues at 6:30 p.m., and sign-up is required. This will be a fun, lively event to relax and network among fellow Young Leaders.

For more information, keep an eye out for emails from the YLC.

Young Leaders Committee meeting

Join us for the Young Leaders Committee meeting on Feb. 25, from noon to 2 p.m. at the Sheraton. Hear what the YLC accomplished in 2023 and what we aim to accomplish this year.

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Professional development luncheon

The YLC is hosting a Professional Development Luncheon for Young Professionals on Feb. 26, from 11:30 a.m. to 1:30 p.m. Purchase your ticket during your MINEXCHANGE registration. This year's professional development topic is "Navigating one's

career." Jill Nelson, owner of Brooks & Nelson LLC will provide guidance on seeking and taking on new opportunities, and these opportunities may alter your career goals.

Monday night social

The YLC is hosting a social for all conference attendees on Feb. 26 at La Palma. La Palma features indoor/outdoor seating in a relaxed environment. The event will include food, drinks, yard games and more. Tickets are \$25 each during conference registration. This will be a great event to relax, network and have a fun time. You must be at least 21 years old with a valid ID to purchase drink tickets.

Field trips

YLC members have two field trip opportunities this year: Sierrita Mine (Freeport-McMoRan) and ASARCO Ray Mine. The Sierrita Mine field trip will be from 7:30 a.m. to 5 p.m. The ASARCO Ray Mine field trip will be from 7 a.m. to 3:30 p.m. There are 20 seats available to YLC members on each field trip. To secure your seat, you must register by Feb. 1.

Technical sessions

The YLC is excited about this year's technical sessions. The YLC Annual Conference Events Subcommittee is hosting a session titled "A Day in the Life of a Mining Professional" on Feb. 26 starting at 2 p.m. The aim of this technical session is to highlight the various roles held within the mining industry. The second session is titled "Professional Development for Emerging Industry Professionals" and will be start at 9 a.m. on Feb. 27. These sessions aim to inform young professionals and students about the possibilities within the mining industry and how to advance in one's career.

Thank you to sponsors

We thank our sponsors Nevada Gold, RioTinto and Brooks & Nelson for sponsoring the Monday Night Social and Professional Development Luncheon for Young Professionals, and RioTinto for sponsoring the two technical sessions.

Invitation to join

The YLC is seeking active and ambitious SME members to join the committee next year. If you are interested in learning more about the Young Leaders Committee and meeting us, please join us at any one of these events.

For questions, comments or concerns regarding any of the events during MINEXCHANGE, please reach out to the YLC Executive Team or SME liaison Raven Refuerzo at refuerzo@smenet.org. ■

How to make the most of your MINEXCHANGE 2024 attendance

by Jenessa Haarala, Haarala Mining, M&E Division 2024 Program Chair

How do you get the most out of your experience while attending the MINEXCHANGE 2024 SME Annual Conference & Expo? There is so much happening at the conference that it is impossible to attend everything. Planning ahead and considering your goals for the conference can go a long way toward providing value to your conference experience.

Before attending the conference, take some time to consider the most important aspects of the conference for you. Are you looking to log some educational hours to maintain a professional certification? Or perhaps excited to hear about new technology and looking for new suppliers? Your goal may be to network with new and existing clients, look for a new job or increase your involvement in SME. Thinking about these goals ahead of time will greatly help your planning for the conference.

Professional development

Many professional certifications, such as professional engineer, professional geologist and SME registered membership, require you to log professional development hours. Attending an SME short course that is applicable to your job can be a great way to earn credits. The short courses are held during the weekend prior to the conference and require additional registration. Another option for logging credits is to sign up for professional-development-hour (PDH) tracking at the conference. The system helps you log all the technical sessions you attend and generates a summary of your earned hours at the end of the conference. Earning PDHs can be a way to justify attending the conference to your employer, especially if your employer expects you to maintain a professional certification as part of your job.

Technical sessions

Those of us involved in putting together the technical programming for the conference take great pride in what we do. We are intentional with covering a wide range of topics that are important and relevant to the mining industry. You can find talks about new products and innovations, new mines, important industry subjects like parental flexibility or mental health, student research, financing, experiences of other people in the industry,

sustainability initiatives, and much more. The program for the conference is available online several months ahead of time. Spend some time looking through it, planning out which presentations you want to attend, and use that as a basis for your conference schedule. Remember to peruse the talks across all divisions, you never know when one might spark your interest. It can also be useful to have some backups in mind as some last-minute cancellations are inevitable. And of course, make sure to track which sessions you attend and log them if you are using PDH tracking.

Presenting at the conference offers many benefits, but also requires early planning. SME sends out a call for abstracts during the summer before the conference and abstracts are due at the beginning of August. Writing and submitting an abstract is a fairly simple process, but many companies will expect you to have permission to attend the conference prior to submitting an abstract, and that can be difficult to obtain the year before the conference. Start the process early, and keep after your supervisor.

Presenting at the conference is an excellent way to justify attending, and it also comes with other benefits. You get practice at building a presentation and speaking in front of an audience, you get an opportunity to showcase the cool stuff you are working on, there are often good networking opportunities at your session, and it is a way to start getting more involved in SME. While you are at the conference, give some thought to what you could add to next year's technical program.

SME involvement, new products and networking

Attending meetings and events within your division or committees that you are interested in is one of the best ways to increase your SME involvement. Most division and committee meetings are open to anyone interested. They are also held the weekend before the start of the conference, which is important to keep in mind when arranging your travel. Division luncheons are held throughout the conference and can be added to your registration. Showing up at the division business meeting and/or the luncheon is one of the best ways to network and become more involved in your division. The Mining & Exploration (M&E) division holds a silent auction at the annual luncheon and all proceeds from the auction go straight to the M&E scholarship fund. While attending the luncheon you can bid on some exciting items and support students. The M&E division awards are also given at the luncheon, and attendance is a tremendous way to show your support to those recipients.

Walking through the exhibit hall is a great way to learn about new industry products and suppliers. Make an effort to talk to vendors and see what they have to offer. Booth

Rock in the Box serves as a forum for the presentation and discussion of facts, ideas and opinions pertaining to the interests and technology of the Mining & Exploration Division. Accordingly, all material published herein is signed and reflects the individual view of the authors. It is not an official position of SME or the division. Comments by readers will be referred to that division for response. The division chair in 2023 is Bradley M. Dunn.

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Reflections from a “musical alchemist”

by David G. Meadows, 2023-2024 MPD Executive Committee Chair

Looking back as the year 2023 came to an end, the minerals industry has had past challenges in terms of its perception but the future drive toward the energy transition and net-zero requirements is seen as an opportunity to rehabilitate it. The Mineral & Metallurgical Processing Division (MPD) will provide an invaluable contribution to this future need.

It has been a real privilege to serve as Chair of the 2023-2024 MPD Executive Committee. As we progressively moved back to the “normal world” (post-COVID-19), we have seen the importance of critical minerals demand in our headlines, an upsurge in SME activities, and people enjoying in-person meetings and events that for a period seemed like only a dream during the challenges of the pandemic. The MPD executive team has worked conscientiously throughout the year and has been greatly supportive to me, going the “extra mile” on many occasions.

For this Fine Grind article, I have reflected on my continued engagement in the SME and MPD, and my collaboration and contribution to the global mining industry.

My time in the minerals industry started back in the early 1980s with an initial interest in chemistry and geology. As a teenager, my early encounters in mining included a unique underground visit to the Six Bells colliery in Wales, a mine that was operating at about 460 m (1,500 ft) below the surface. From an early age, I was a rock-hound, or avid mineral collector, and later that meaning had more than one.

I attended the Camborne School of Mines in Cornwall in southwest England, which at the time had a combined mining and mineral processing first-year course followed by specialization degrees in mining engineering or mineral processing technology. Camborne School of Mines was founded in 1888 and was established to meet industry demands for future prospecting miners. Cornwall itself is entrenched in mining industry history that dates to the Bronze Age and the early discovery of cassiterite — the important tin mineral. In addition, copper and other minerals and metals were processed for a number of years in Cornwall. More recently, there has been a great deal of work in lithium, and a number of development projects are underway for recovering lithium from brines.

After graduation, the mining industry was in one of its down cycles and so I left England and ventured



Meadows (fourth from left) in the Bass Metals band.

to the South Africa gold mining industry. This was my first major overseas move — it gave me a chance to learn gold processing back to front, and work through multiple operational and plant management roles. To me this was such a tremendous work period, being able to see the practical side and relate this to all the theory I had learned. I also got to see many things that could go wrong on back shifts, and it gave me expansive knowledge and appreciation of the shift-to-shift running of a plant. I continued my time in southern Africa with work in diamonds, platinum and industrial minerals, with projects in Namibia, Mozambique and Zimbabwe.

The next part of my career resulted in joining Bechtel Mining and Metals (M&M) in San Francisco, CA, followed by offshore assignments in Chile, Brazil and Australia. I recall joining the group in San Francisco with an average employee age of 57 and some of the most highly rated technical specialists in the world. Bechtel has a second-to-none reputation in successfully executing copper concentrator projects and delivering many extraordinarily complex projects. I then worked for Phelps Dodge and FLSmidth, giving me the opportunity to work with some of the best in the industry, including John Marsden, Jim Vanderbeek, Nick Hazen, Tim Robinson, Phil Thompson and Wolfgang Baum. Developing the FLSmidth technology center and mineralogical capability was a definite highlight.

Returning to Bechtel M&M almost nine years ago, I am now the chief technology officer and am responsible for a number of centers of excellence based in the Americas, Middle East and Australia. Our focus is on projects in copper, gold, aluminium and alumina, molybdenum and, more recently, lithium. Due to the remote locations of new projects, infrastructure requirements are taking on

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Fine Grind serves as a forum for the presentation and discussion of facts, ideas and opinions pertaining to the interests and technology of the Mineral & Metallurgical Processing Division. Accordingly, all material published herein is signed and reflects the individual view of the authors. It is not an official position of SME or the division. Comments by readers will be referred to that division for response. The division chair in 2023 is David G. Meadows.

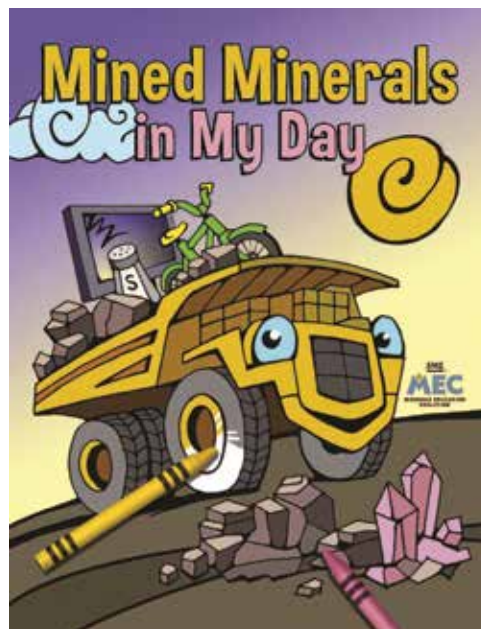
MEC releases new coloring and activity book for kids

by Rebecca Smith, curriculum coordinator, Minerals Education Coalition

The new *Mined Minerals in My Day* coloring and activity book will be available for sale at the SME Bookstore during the MINEXCHANGE 2024 SME Annual Conference & Expo. The 16-page coloring book is designed for children grades K-2 (ages 5-8). It provides a fun, hands-on way for young children to learn more about the importance of mined minerals in their daily lives. Children can color pages about mined minerals in their meals, homes and communities. They can color a surface and an underground mine, and enjoy a word search, a word scramble and more.

QR codes lead to more K-2 activities and information on the Minerals Education Coalition (MEC) website. This is a fun opportunity for young students to observe mineral shapes, understand simple mining-related concepts and explore the importance of mined minerals in all of our lives. Be sure to get one for the child in your life when you are at MINEXCHANGE 2024. The book will also be available online starting March 1 in the SME and MEC stores. ■

The 16-page coloring book is a fun, hands-on way for young children to learn more about the importance of mined minerals in their daily lives.



Not too late to donate items to the SMEF Annual Gala Dinner silent auction

by Megan Martin, manager, SME Foundation

There is still time to contribute items to the 2024 SME Foundation (SMEF) silent auction. Cash donations are greatly appreciated as this helps to purchase additional items for the auction. As an auction contributor, donors receive recognition in the April issue of *Mining Engineering* magazine as well as on the SMEF website. All donations are tax deductible.

The money raised from the auction will support SMEF programs. If you and/or your company would like to make

a tax-deductible donation (items or cash) or learn about auction sponsorship opportunities, please contact Michelle Holmes at smefoundation@smenet.org.

The auction will take place on Feb. 25 at the SMEF Annual Gala Dinner during the MINEXCHANGE 2024 SME Annual Conference & Expo. Tickets to this event are available through the MINEXCHANGE registration process on SME's website. We look forward to seeing you there. ■

Upcoming SME Events

North American Tunneling Conference
June 23-26, 2024
Nashville, TN

MINEXCHANGE 2024 SME Annual Conference & Expo
February 25-28, 2024
Phoenix, AZ

XXXI IMPC-International Mineral Processing Congress
September 29-October 3, 2024
National Harbor | Washington, DC

For additional information, contact: Meetings Dept., SME
Phone 800-763-3132 • 303-948-4200 • Fax 303-979-3461 • email sme@smenet.org • www.smenet.org

Fine Grind

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greater significance, which allows us to work across our broader Bechtel multiple global business units (of which our water group is a highly important part). Looking back, I have been fortunate to work in mining companies, the engineering, procurement and construction management (EPCM) side and equipment/technology development. I have also been lucky to combine work and travel and now have visited around 115 countries in all corners of the world.

My entrance into SME was around 23 years ago, when I was introduced to it by some of my Denver work colleagues. I have continually found SME to be enticing for the networking opportunities and keeping up to date with industry activities and events. Early on in my membership and for a few years I joined the Comminution Unit Committee of the MPD and then moved on to the Plant Design Unit Committee. I was chair of that latter group for several years, including contributing various technical presentations, papers and a few panel sessions along the way. Around this time, I received the Arthur. F. Taggart Award for a paper with Peter Amelunxen titled “Not Another HPGR Tradeoff.”

Finally, from here I joined the MPD Executive Committee thanks to Erik Spiller. The past several years seem to have flown by, and it has been most rewarding to give back time to this important committee and the industry as a whole. In many ways, the SME MPD is like a large extended family, and the connections and networks continue to be remarkable.

The MPD Division continues to grow, and we have seen an uptick in volunteers and level of interest for this important part of the SME.

Summarizing some of the key highlights and achievements for the year:

- The MINEXCHANGE 2024 SME Annual Conference & Expo to be held in Phoenix, AZ will have 20 MPD technical sessions including chemical processing, comminution, flotation, physical

separations, plant design, and innovation in copper processing I and II, with around 145 abstracts submitted.

- The MPD Calendar scholarship fundraising activity has been well supported this year.
- The MPD Scotch Nightcap tradition continues in Phoenix with the Bass Metals band providing the music. I formed the Bass Metals band in 2017 after my musical interest was brought to light in the old town of Quebec City, Canada (with Corby Anderson and Spiller sparking it all off and motivating me). The event’s support has grown significantly in attendance and sponsorship dollars in the past years, and we were lucky to have Jason Tomasino step in and really add a great dimension to the band as singer and guitarist.
- This year we had record sponsorship for the Scotch Nightcap with a final sponsorship of \$62,500. We expect ticket sales to reach the cap level of around 400 attendees for the event.
- Fine Grind articles for *Mining Engineering* have been prepared and submitted on time.
- This year, we donated \$11,000 to the SME Foundation. This amount reflects the MPD Division’s continued support of the Foundation’s efforts.
- A \$30,000 transfer from the MPD General Fund to the MPD Scholarship Fund was made this year.

My final closing comments is to thank all the 2023-2024 MPD Executive Committee members with whom I have had the pleasure of working in this past year, and to encourage each and every one of us to mentor and develop our new graduates and young engineers who will be the future face of our industry.

Of course, a final special thanks goes to Chee Theng (SME staff liaison) for keeping us on track, and all the members of the SME event organizing teams, including Tara Davis, Emma Salditt and Cori Knasinski. ■

Rock in the Box

(Continued from page 35)

duty can be a bit lonely at times, and you never know what you might learn. Walking the exhibit hall is also an effective way to network or simply catch up with old friends. There are two designated exhibit-hall socials and exhibit-hall lunches. Attending any of these is almost a guarantee of running into someone you know.

Another opportunity for networking is the SME Foundation Gala Dinner held on Sunday night, which also helps support the SME Foundation and all the wonderful work they do for our industry.

Most of the mining schools hold alumni events on Tuesday night, which provide a nice chance to catch up with

old friends, meet and mentor some of the current students, and get to know the faculty at your alma mater.

There are many activities at MINEXCHANGE. It is likely that your schedule will book up quickly. If there are specific people you want to see at the conference, make plans with them in advance.

My best advice, however, is to take time to think about what you are hoping to accomplish and put some planning into your conference attendance. This will help you get more benefits from attending, keep you excited about our industry, and help justify your attendance at future conferences. ■

SME Division Awards

Coal & Energy Division Awards

Coal & Energy Division Distinguished Service Award to Robert P. Kudlawiec

The Coal & Energy Division Distinguished Service Award is presented to Robert P. Kudlawiec, P.E. with the citation: "For your distinguished service and achievements in the coal mining industry."

Kudlawiec is a mining expert recognized by industry, academia and professional societies. He has demonstrated sustained contributions to the mining industry for more than 48 years. Over this time, he has functioned at the project management level through to key senior level positions at several companies. He participated and directed numerous mining operations nationally and internationally. Kudlawiec holds a Bachelor of Science degree in mining engineering from Pennsylvania State University and an MBA from Wheeling College. He is a registered professional engineer in eight states and vice president of the Pennsylvania Board of Professional Engineers, Geologists and Surveyors. He is also a certified mine manager in three states. He is a 48-year member of SME and is active in the Society, holding various positions of note. Kudlawiec is an SME registered member and a distinguished fellow of SME and the Pittsburgh Section.



Robert P. Kudlawiec

J.W. Woomer Young Engineer Award to Michael Keener

The J.W. Woomer Young Engineer Award is presented to Michael Keener "in recognition of his exceptional determination, dedication, and hard work as a successful young mining engineer within the mining industry and SME."



Michael Keener

Keener is a graduate of the University of Pittsburgh with a master's degree in civil engineering, and from Missouri University of Science and Technology, he earned a master's degree in mining engineering and a certificate in explosives engineering. Keener has more than 12 years of experience in the mining industry in the fields of mapping, reclamation, process improvement, subsidence,

abandoned mine pools and abandoned mine support. He currently works for CONSOL Energy as a mine engineer at Harvey Mine and has worked on projects involving surveying, construction, blasting and ventilation. Keener is a registered professional engineer in Pennsylvania, West Virginia, Ohio and Kentucky.

Rock Mechanics Award to Matthew E. Pierce

The Rock Mechanics Award is presented to Matthew E. Pierce "for his international leadership in development of rock mass material models and specialized tools to solve important underground mining problems including rock mass failure, fragmentation, gravity flow and tunnel support."

Pierce is a geotechnical and mining engineer specializing in the geomechanical analysis and design of underground and openpit mines. Over the past 25 years he has worked with many of the world's leading cave mining operations on characterization, design, cave management and the associated forecasting of caveability, fragmentation, recovery, subsidence, seismicity and inrush susceptibility. He has developed a number of specialized methodologies and tools for measuring and estimating rock properties and analyzing rock mass performance. Pierce became an independent consultant in 2016 after 18 years with Itasca Consulting Group and three years as co-director of the Rio Tinto Center for Underground Mine Construction. He holds degrees in geological engineering and mining engineering from Queen's University and a Ph.D. in mining engineering from the University of Queensland, for which he was awarded the Rocha Medal for outstanding doctoral thesis by the International Society of Rock Mechanics.



Matthew E. Pierce

Stefanko Best Paper Award to Wei Tang, Liming Yuan, Richard Thomas and John Soles

The Stefanko Best Paper Award is presented to Wei Tang, Liming Yuan, Richard Thomas and John Soles for their paper titled "Comparison of Fire Suppression Techniques on Lithium-ion Battery Pack Fires," presented at the MINEXCHANGE 2023 SME Annual Conference & Expo, held in Denver, CO.

Tang is a fire protection engineer at the Pittsburgh Mining Research Division (PMRD), National Institute for Occupational Safety and Health (NIOSH). He holds



Wei Tang



Liming Yuan



Richard Thomas



John Soles

a Ph.D. in mechanical engineering from the University of Maryland, College Park, where he studied heat and mass transfer in fire. He joined NIOSH in 2019 and his research includes battery thermal stability and fire/explosion-related issues. Prior to that, Tang worked as a guest researcher at the National Institute of Standards and Technology.

Yuan is a lead research general engineer at the Mining Systems Safety Branch of the PMRD. He has been conducting mine fire-related research at NIOSH since 2002, serving as principal investigator for different research projects and as team leader for the fire prevention team. His research focuses on the characterization of mine fires using real-time atmospheric monitoring data, engineering design of mine fire protection and atmospheric monitoring systems, spontaneous combustion of coals, equipment fire prevention and suppression, and smoke control and management in

underground mine fires.

Thomas has been a lead technician with Fires and Explosions at NIOSH since 1991. He has designed and conducted experiments for full-scale mine-seal safety using hydrostatic pressure and gas explosions. He eventually moved to fire safety, which included designing and conducting full-scale conveyor belt fires that included various types of fire suppression systems.

Soles is a physical science technician at the Mining Systems Safety Branch of the PMRD. He has been conducting mine fire-related research at NIOSH since 2006, serving as a technician for different research projects for the fire prevention team. He played a major role in the designing and instrumentation of the unique fire testing facility in the PMRD, which has been used to conduct different fire experiments.

Environmental Division Awards

Environmental Division Stewardship Distinguished Service Award to Robert A. Mongrain

The Environmental Division Stewardship Distinguished Service Award is presented to Robert A. Mongrain “for being a contributing leader in various roles of the Division, connecting people through mentorship of members to serve, and engaging student involvement.”



Robert A. Mongrain

Mongrain has more than 30 years of experience in the mining industry including projects related to geological and environmental services. He has extensive experience managing remedial investigation and/or removal action projects at state and federal superfund sites. Mongrain’s experience

in this area includes managing and conducting subsurface investigations and surface water/groundwater studies in support of mine permitting, expansion, reclamation and closure projects. He is also experienced in interaction with regulatory agencies at the local, state and federal levels. Mongrain has served on numerous committees and as an officer for the Environmental Division of SME, and is currently serving on the board of directors for SME’s Arizona Section.

Environmental Division Benefactor Award to Jackie Dorr

The Environmental Division Benefactor Award is presented to Jackie Dorr “for her outstanding dedication and exceptional coordination of the silent auction benefiting the Environmental Division scholarship fund.”

Dorr was the manager of communications for SME from 2014 to 2023. She was responsible for press releases to media and industry contacts, electronic newsletters, producing and hosting live webinars, email announcements of meetings and events, and management of the press room

during MINEXCHANGE SME annual conferences.

Dorr also served as staff liaison to the Responsible Mining & Underground Construction Strategic Committee, SME Environmental Division, Education Sustainability Committee, Academic Grants Selection Committee, Sustainable Development Committee, and numerous ad hoc committees as assigned.

Prior to this role, she was the manager of SME Mineral Information Institute (Mii) from 2008 to 2012, where she was responsible for the development and distribution of K-12 teaching materials about the importance of mining and minerals. She also coordinated the development and production of sales products. Dorr oversaw content management and supervision of maintenance for the Mii

website and organized exhibits and displays. She coordinated fundraising efforts with the Foundation manager of development. Dorr received a number of awards including the Augusta Tabor Award for Leadership from the Women in Mining (WIM) Denver chapter; Colorado on Working Women Award; the Distinguished Service Award from WIM National, and the Hall of Fame WIM Denver chapter.



Jackie Dorr

Health & Safety Division Awards

Research and Educational Excellence Award to Kamran Esmaeili

The Research and Educational Excellence Award is presented to Kamran Esmaeili “for his innovative contributions to enhancing operational efficiency and safety of mine operations through the development of integrated remote sensing and computer vision techniques applied in mapping and process monitoring.”

Esmaeili is an associate professor at the University of Toronto, Department of Civil & Mineral Engineering, Lassonde Institute of Mining. He is the director of the Mine Modeling and Analytics research laboratory and currently holds the Robert Smith Chair in Mine Design and Analysis. He has more than 20 years of industrial work experience and academic research. Esmaeili’s research and consulting activities are in the area of geomechanical mine design and mine-to-mill process optimization. He has contributed to several important fields, such as surface and underground mine design, numerical modeling in geomechanics, UAV application in mining, data analytics and machine learning applied in mining and geosciences, and remote sensing techniques applied in mine operations.



Kamran Esmaeili

Operational Excellence Award to Freeport-McMoran

The Operational Excellence Award is presented to Freeport-McMoRan “for their use of advanced analytics via a haul truck operator scorecard that has put haul truck drivers in the “driver’s seat” of safe production and operational excellence.”

Freeport-McMoRan’s Haul Truck Operator Scorecard

(HTOS) is a digital tool that uses advanced analytics to provide Freeport-McMoRan’s Mine Operations’ teams (haul truck drivers, supervisors, trainers, etc.) with timely and accurate data-driven feedback on haulage best operating practices. HTOS pairs sensor technology that already existed on the Caterpillar and Komatsu trucks with big data technology and sophisticated algorithms to deliver the data directly into the hands of the person in the truck cab, the haul truck driver. This data helps drivers operate haul trucks more safely and efficiently, improving the cycle times, reducing fuel consumption, and saving maintenance and repair costs.

Individual Excellence Award to Robert J. Spears

The Individual Excellence Award is presented to Robert J. Spears with the citation: “Robert Spears has advanced the mine safety culture to focus on people first, supporting a significant reduction in accidents at their operations.”

Spears is health and safety manager at Hycroft Resources & Development LLC. He has a background rooted in mining and a dedication to safety.

He began his career at Rio Tinto Boron Operations after serving in the U.S. Marine Corps. At Rio Tinto, Spears progressed from security guard to process supervisor. He is deeply committed to safety, evident through certifications and experience in mine rescue.

Spears served as safety/security technician at SSR Mining’s Marigold Mine and later joined OceanaGold as a process supervisor at Haile Gold Mine. Joining Hycroft in 2020, he rose to health and safety manager in 2022. His approach emphasizes strong relationships and has helped Hycroft achieve a total recordable injury frequency rate (TRIFR) of 0.00, showcasing the power of a robust safety culture.



Robert J. Spears

Industrial Minerals & Aggregates Division Awards

Industrial Minerals & Aggregates Outstanding Young Scientist Award to Sachin Urade

The Industrial Minerals & Aggregates Division Outstanding Young Scientist Award is presented to Sachin Urade “for his contributions to novel-technology development of lithium clay for sustainable sourcing and advanced particle separation to enable lunar mining.”

Urade is a first-generation metallurgical engineer. He believes and understands that humans must reuse potentially recyclable minerals and metals and gradually make the mining and mineral industry more sustainable and carbon neutral. His career goal is to process base minerals and create robust processes for extracting economic minerals and metals from human trash using environmentally friendly technology. He completed

bachelor’s and master’s degrees in mineral processing from IIT(ISM), Dhanbad, India, and a master’s in metallurgical engineering from the University of Nevada, Reno.

His interests other than metallurgy and mineral processing are also in different fields of science, which enables him to do interdisciplinary work. Urade’s background in the old Indian caste system has driven him to make a social impact on those who are suffering from discrimination, such as race, gender, caste and ethnicity.



Sachin Urade

Mineral & Metallurgical Processing Division Awards

Antoine M. Gaudin Award to Peter Amelunxen

The Antoine M. Gaudin Award is presented to Peter Amelunxen “for developing flotation kinetics test procedures that furthered the understanding of flotation systems, improved kinetic modeling and simulation, and collaborating with faculty and students to enhance real-world learning.”



Peter Amelunxen

Amelunxen earned a B.S. in mining engineering from the University of Arizona (1998) and a master’s degree in engineering with a focus on mineral processing from McGill University (2004). He has worked for more than 25 years in roles in grinding and flotation,

circuit modeling, plant operations, engineering, plant design and laboratory testing, and in senior management and consulting. He is an author or co-author of more than 35 technical papers and is listed as an inventor or co-inventor on more than 10 patents. He co-founded Aminpro Chile, an engineering and metallurgical testing facility in Santiago, Chile, and has served as a technical consultant to most of the major mining companies in the Americas.

Amelunxen was the recipient of the 2007 SME Young Engineer Award, the 2011 SME Arthur F. Taggart Award and the 2011 MEI Young Persons Award. He joined Capstone Copper Corp. in April 2022 and is currently senior vice president of Technical Services.

Milton E. Wadsworth Award to Gus Van Weert

The Milton E. Wadsworth Award is presented to Gus Van Weert “for his globally recognized lasting contributions to metallurgical education, engineering, and the profession.”

Born in Rotterdam as the second son of a custom officer in 1933, Van Weert became interested in chemistry through examining the samples his father had to collect. He graduated with a degree in industrial chemistry at the Delft University of Technology in 1958. Newly married, he moved to Toronto to study under Lloyd Pidgeon, the inventor of the World War II magnesium process.

His professional engineering career started in the INCO Sudbury smelter and continued with a 15-year stretch at the

Falconbridge Nickel Metallurgical Laboratories near Toronto, Ontario, during which he invented metal oxide vapo-production from chlorides, in fluidized beds, still widely used to regenerate hydrochloric acid (HCl) from steel pickle liquor. After further experience with ilmenite smelting, nitric acid leaching and agitated flotation columns, he was offered to submit an off-campus doctoral thesis at Delft University of Technology, which led to his appointment as head of Delft University of Technology’s Mining Department in the mining faculty in the 1990s.



Gus Van Weert

MPD Outstanding Young Engineer Award to Wencai Zhang

The MPD Outstanding Young Engineer Award is presented to Wencai Zhang with the citation: "For your contributions to the development of advanced methods and technologies for the extraction of critical elements from conventional and non-conventional sources."

Zhang joined Virginia Tech (VT) in August 2019 as an assistant professor in the Department of Mining and Minerals Engineering. His research is dedicated to the sustainable extraction of critical elements from various sources, such as coal-based materials, bauxite residue and municipal solid waste incineration ash. He has led or co-led more than 20 externally funded research projects.



Wencai Zhang

Zhang has developed several innovative process technologies and circuits that have contributed to pilot testing of critical element recovery. His research has been published in more than 60 peer-reviewed journal articles and many conference papers and abstracts.

He holds one U.S. patent, two Chinese patents, multiple U.S. patent applications, and several intellectual property disclosures. He has received several awards, including the Outstanding New Assistant Professor Award (VT), the Minerals Best Paper Award (*Minerals* journal) and the By Example Award (VT).

Arthur F. Taggart Award to Veerendra Singh

The Arthur F. Taggart Award is presented to Veerendra Singh for his paper titled "Development of Low-cost Smelting Reduction Process Using Cupola Furnace for Efficient Use of Inferior Grade Manganese Ores and Rejects," published in *Mining, Metallurgy & Exploration* (2022) Vol. 39, No. 3.



Veerendra Singh

Singh is a principal scientist at Raw Materials Research Group, R&D, Tata Steel Ltd, India. He obtained his Ph.D. in minerals engineering from the Indian School of Mines, Dhanbad (2015). He has 20 years of research experience in the mining, beneficiation and metallurgical processing of manganese, iron ore, chromite and coal. He has completed more than 27 research projects, published 78 research papers, and filed 20 patents. He has been awarded the National Geoscientist Award by the government of India (2022) and has won various other awards (KD Memorial Award, MEAI; RP Bhatnagar Award, MGMI; and Tata Innovista). Singh's notable research assignments are development of the roasting technology for low-grade ferruginous manganese ores, agglomeration of ferro-alloy fines for steelmaking, and geometallurgical characterization and smart blending of ore. Currently, he is working on the fluidized-bed reactor processing of low-grade iron ores, plasma processing of mineral matters, and paste backfilling of underground coal mines.

Mining & Exploration Division Awards

Ben F. Dickerson III Award to Dean R. Gehring

The Ben F. Dickerson III Award is presented to Dean R. Gehring "for his professionalism, leadership, and contribution to the mining industry through project development, technology and innovation, advancing inclusion and diversity objectives, and his passion for developing people."

Gehring currently serves as executive vice president and chief technical officer for Newmont Corp. Over his 33-year career, he has worked for a number of mining companies including Rio Tinto, Freeport McMoRan



Dean R. Gehring

and BHP, holding a variety of executive roles including chief development officer and chief integration officer for Newmont, and president and chief executive officer of Rio Tinto Minerals. His career provided the opportunity to live and work in multiple countries including the United States, Canada, Indonesia and Peru.

Gehring earned a B.S. in mining engineering degree from the University of Idaho and a master's of science in project management from the University of Aberdeen, Scotland. He has served on university advisory boards and as co-chair of the SME Foundation Corporate Giving Committee.

Mining & Exploration Division Distinguished Service Award to Peter M. Haarala

The Mining & Exploration Division Distinguished Service Award is presented to Peter M. Haarala with the citation: "For your tireless dedication to the ongoing



Peter M. Haarala

success of the Mining & Exploration Division and Society for Mining, Metallurgy & Exploration.”

Haarala is an internationally experienced mining engineer with a diverse background in surface and underground mining, currently employed with Coeur Mining Inc. as director, mine engineering. He has extensive experience in underground mine engineering, operations planning, capital project management, technical

group leadership, environmental permitting, mine plan optimization, mine technology and budgeting/forecasting. Haarala has led technical and operations groups of up to 110 people and has a track record for safely delivering growth and cost reductions at his operations. He is an active SME member, participating in multiple committees; an SME Foundation trustee, a registered member of SME, and a professional mining engineer in Nevada.

Harry M. Parker Excellence Award to David M. Abbott Jr.

The Harry M. Parker Excellence Award is presented to David M. Abbott Jr. “for his leadership and contributions to drafting editions of the SME Guide and the new SME Guidance about mineral deposit disclosures and for contributions to geoscience ethics.”

Abbott is a consulting mining geologist specializing in the due diligence review of mineral reserve and resource estimates, in the review of disclosures about natural resources, and the review of mineral exploration and development programs for precious and base metals and industrial minerals.



David M. Abbott Jr.

He has been writing about geoscience professional ethics and practices since 1989 and has published 187 Professional Ethics & Practices columns in the American Institute of Professional Geologists’ *The Professional Geologist* magazine. He was the American Association of Petroleum Geologists’ Distinguished

Lecturer for Ethics from July 2018 to June 2019. He has served as a member of the SME Reserves and Resources Committee since 1989, working on additions to the SME Guide. Abbott was a geologist for the U.S. Securities and Exchange Commission for 21 years, where he investigated and helped prosecute mining and oil and gas frauds. He has been a consultant since 1996.

Outstanding Young Professional Award to Angelina K. Anani

The Outstanding Young Professional Award is presented to Angelina Anani “for her contributions conducting cutting-edge research in artificial intelligence (AI) and various topics to improve mining sustainability, successfully advising dozens of students, and serving as a role model to future generations in mining.”

Anani is currently an associate professor at the University of Arizona. She holds a B.S. (summa cum laude) and a Ph.D. from the Missouri University of Science and Technology in mining engineering. She has more than 11 years of research and teaching experience in multiple countries, including Chile and the United States. Anani has extensive expertise in the modeling and optimization of mining systems, specifically the use of operations research and AI technologies to develop tools for decision support in the mining industry. She is also passionate about diversity, equity and inclusion in teaching, the academy and the mining industry. She has published more than 30 papers in peer-reviewed journals and conferences. Anani is an active member of SME, the Society of Mining Professors, and Women in Mining.



Angelina K. Anani

Miner of the Year Award to Rodney A. Sample

The Miner of the Year Award is presented to Rodney A. Sample “for his dedication to being a strong leader who cares for his employees and operates in a responsible manner.”

Following graduation from high school in Castleford, ID Sample worked as a farm hand. He first joined the mining industry with the Rayrock Mining Co. at Pinson Mine in 1995, where he worked as an equipment operator and lead. Rayrock was the owner of four small mines at that time including Pinson, Dee, Marigold and Daisy. Rayrock shortly sold the Pinson property to Homestake Barrick and then closed in 1998. Sample went on to help reclaim and finish the Dee Mine, where he was then transferred to Marigold Mine in 1999 where he has been since. Marigold has since gone under several owners including



Rodney A. Sample

Rayrock, Glamis, Goldcorp and SSR. During his time at Marigold, Sample has been an equipment operator, lead, crew supervisor and became the general supervisor of operations in 2017.

During his time at Marigold he has received multiple awards including the Social Excellence Award of the OE Project and is a two-time safety award winner of the Nevada Mining Association.

Robert M. Peele Memorial Award to Matthew V. Deutsch

The Robert M. Peele Memorial Award is presented to Matthew V. Deutsch for "Open Pit Mine Optimization with Maximum Satisfiability," presented at the MINEXCHANGE 2019 SME Annual Conference & Expo (preprint 19-074), February 2019, Denver, CO.

Deutsch specializes in mine planning optimization for openpit and underground operations. He has more than 10 years of experience writing mine optimization, geostatistical and other mining software. Currently, he works at Maptek, where he develops decision support systems and mine design tools for the Vulcan software package. Deutsch holds a B.S. in mining engineering from the University of Alberta and a Doctor of Philosophy degree from the Colorado School of Mines.



Matthew V. Deutsch

WAAIME Division Award

WAAIME Founders Award to Blanche Blattner

The WAAIME Founders Award is presented to Blanche Blattner. Her citation reads: "In recognition of her exemplary service to WAAIME, especially to its International Sections and Executive Committee, along with her remarkable dedication to encouraging membership, tireless efforts to promotion, tremendous commitment of time and talents, incredible generosity of personal assets, vital mentoring of new members, and dogged determination to restore WAAIME's scholarship funds for Peruvian students, we commend and award her this Founders Award."

Blattner was born in Mexico to American parents and raised in Peru. Her father worked for International Harvester and after that with Atlas Copco for many years. Blattner met her husband in Lima, Peru who at the time was also working for an international mining company. The couple moved to Denver, CO where she started working side-by-side with her husband until he decided to start his own company and started Stu Blattner Inc., known as SBI, a raise-boring equipment company, which has been very successful. The business expanded, opening

a sister company in Peru, TUMI Contratistas Mineros 25 years ago. The couple moved back to Lima and worked closely with the underground mines in Peru. During this time, Blattner was able to visit most of the underground mines and see the work done firsthand and truly get involved in the education of young men and women.

She was introduced to the WAAIME association by her sister Elizabeth Armendariz who was at the time Chair Lady of the Lima section, and it was then that she joined WAAIME. Since then, she has had the privilege of being Chair Lady of the Cajamarca section, the Chair Lady of the Lima section, the international representative, and eventually Chair Lady in the United States. She remains passionately involved in the Lima and Cajamarca sections, especially in the scholarship and WAAIME promotional areas. Blattner looks forward to working with the scholarship committee and learning about the process in the United States. ■



Blanche Blattner



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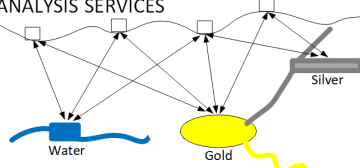
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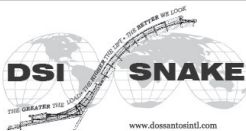
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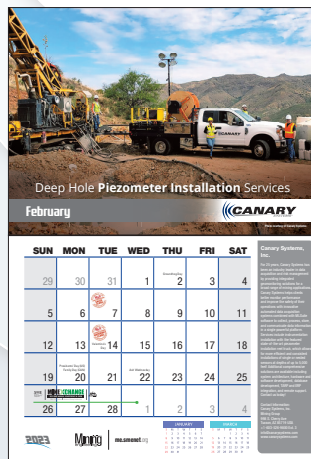
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The future of fossil fuels to take center stage



William Gleason
Editor

Thanks to many technological advancements along with societal and investment pressure there have been significant strides made in the global energy transition. Nations and corporations have set ambitious decarbonization goals with plans to shift away from fossil fuels in favor of renewable energy sources. The International Energy Agency forecasts that the world's total renewable-based power capacity will increase to about 50 percent by 2024.

Because of this, there has been tremendous growth in some sectors of the global mining industry. This issue of *Mining Engineering* includes a feature article about the Hermosa Mine in Arizona that will produce manganese and zinc to supply minerals for a lower carbon future.

In the December issue, we featured exploration efforts in the United States and how the focus has turned to finding critical minerals such as lithium and cobalt to feed the transition.

But are we getting ahead of ourselves in the move to a carbon-free future?

Despite all of the pressure to go green, much of the world remains energy poor. According Alex Epstein, a philosopher and energy expert who will present the keynote talk at the MINEXCHANGE 2024 SME Annual Conference & Expo in Phoenix, AZ on Feb. 25 there are six billion people in the world who have inadequate access to energy and three billion people who use less electricity than a typical American refrigerator. A third of the world still uses wood and dung for heating and cooking.

Epstein, author of the book *Fossil Future: Why Global Human Flourishing Requires More Oil, Coal, and Natural Gas—Not Less* said emerging economies, in particular, have a desperate need for low-cost, reliable energy to lift themselves out of poverty and improve their standard of living. “Every prosperous country thus far has developed using fossil fuels, and no poor country thus far has been able to develop to the point of prosperity without massive fossil fuel use.

“Development requires energy, and fossil fuels are a uniquely cost-effective and scalable source of energy. Emerging economies should embrace rapid growth in fossil fuel use so they can develop and prosper, like every currently prosperous country did in the past,” Epstein told me.

SME's incoming president, Marc Herpfer agrees. “Without abundant and cost-effective

energy sources we cannot grow and sustain a vibrant society.”

During the keynote address Epstein will share his perspectives on how coal and other fossil fuels can continue to provide improved energy delivery systems for developing nations as well as the role of fossil fuels in the overall global energy mix.

“I am excited to hear Alex speak on the value of fossil fuels and the unintended consequences that will occur if these resources are eliminated,” said 2023 SME President Marc LeVier.

Epstein told *Mining Engineering* that his view is based on three principles for thinking about fossil fuels that he follows as a philosopher and energy expert. However, Epstein said, many other “experts” don't follow the same principles.

Those principles are: factor in fossil fuels' benefits, factor in fossil fuels' “climate mastery benefits,” and factor in fossil fuels' negative and positive climate side effects with precision.

“When we are evaluating what to do about any technology we must factor in not only its negative side effects but also its benefits,” said Epstein. “For example, oil-powered equipment and natural gas fertilizer are crucial to feeding eight billion people.”

Epstein contends that fossil fuels have both negative and positive side effects that should be factored in with precision.

“With rising CO₂, we must consider both negatives (more heatwaves) and positives (fewer cold deaths). And we must be precise, not equating some impact with huge impact. Any negatives will continue to be masterable — and there will be benefits such as warming in cold places and continued global greening,” Epstein said. “Following my three irrefutable principles for thinking about fossil fuels, the facts show that we clearly need more fossil fuels, not less.”

Epstein will be joined on stage by Bradford Crabtree, Assistant Secretary for the U.S. Department of Energy's Office of Fossil Energy and Carbon Management; Joseph Craft III, president and chief executive officer, Alliance Resource Partners LP; Jimmy Brock, president and chief executive officer, CONSOL Energy and Jimmy Staton, president and chief executive officer, Santee Cooper for a panel discussion.

“The objective of the keynote is to provide a broad discussion about energy and to hear comments based on multiple points of view in a technical and well-rounded discussion that can provide insights to solutions and perspectives that may not have been envisioned by many of the attendees,” said LeVier. ■



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FLSmidth is a full flowsheet technology and service supplier to the global mining industry. Our products range from crushing, screening, conveying, separation, pumps and tailing to digital solutions for process performance. Our equipment is designed to provide up to decades of productive capacity. We help our customers to improve performance, lower operating costs and reduce environmental impact. With our MissionZero program, we have set a target of providing solutions for zero-emission mining by 2030, supporting a green transition built upon sustainable materials.

Black & Veatch

SME Foundation Gala Wine Sponsor

Black & Veatch is a 100-percent employee-owned global engineering, procurement, consulting and construction company with a more than 100-year track record of innovation in sustainable infrastructure. Since 1915, we have helped our clients improve the lives of people around the world by addressing the resilience and reliability of their most important infrastructure assets. Black & Veatch delivers all elements of project execution throughout the full mine lifecycle. We work with clients to convert their sustainability goals into real solutions starting from project inception to mine site closures. We are focused on integrated infrastructure and decarbonization.

First Majestic

SME Foundation Gala VIP Table Sponsor, SME Foundation Gala Title Sponsor

First Majestic is a publicly traded mining company focused on silver and gold production in Mexico and the United States and is aggressively pursuing the development of its existing mineral property assets. The Company presently owns and operates the San Dimas Silver/Gold Mine, the Santa Elena Silver/Gold Mine, the La Encantada Silver Mine and the Jerritt Canyon Gold Mine. Production from these mines is projected to be between 11.2 to 11.9 million silver ounces or 32.6 to 34.6 million silver equivalent ounces in 2022. With annualized production of 45 million silver equivalent ounces by the end of 2024.



Nalco Water, an Ecolab Company

Women of SME Breakfast Sponsor

A global leader in water and process management solutions, Nalco Water, an Ecolab company, works with customers across the mining and mineral processing industries to help maximize outcomes and minimize water and climate impacts at an optimized total cost. Leveraging a global network of technical experts, research and development laboratories, and world-class training programs, we deliver unparalleled service to our customers.

J.H. Fletcher

SME Foundation Gala VIP Table Sponsor, SME Foundation Gala Door Prize Sponsorship

Since 1937, Fletcher has been engineering and manufacturing custom solutions for underground mining. Today, Fletcher products expand into a variety of industries. Through the decades, Fletcher has operated with a singular vision: to work with a vigilant focus on finding ways to improve mining and industrial processes and reducing risk for the people who work in those industries.

SPONSOR LISTING

WSP

Mining & Exploration Division Lunch Supporting Sponsor, Environmental Division Luncheon Supporting Sponsor

WSP has a global mining consultancy with the people and expertise to drive positive change in the industry. With over 5,200 professionals focused on the mining sector, our multi-disciplinary team partners with clients to deliver strategic value at every stage in a mine's life cycle. Solving the challenges of today and preparing for the future, WSP proudly champions sustainable practices to guide the industry to where it needs to go next. WSP in Mining. Grounded in tomorrow.

Burns & McDonnell

Mining & Exploration Division Lunch Title Sponsor

Burns & McDonnell is a full-service engineering, architecture, construction, environmental and consulting firm. Our over 10,000 employee-owners are comprised of engineers, architects, construction experts, planners, estimators, technicians and scientists. We plan, design, permit, construct and manage facilities all over the world, with one mission in mind: Make our clients successful.

Granite Construction

SME/NSSGA Student Design Competition Title Sponsor

Granite is America's Infrastructure Company™. Incorporated since 1922, Granite (NYSE:GVA) is one of the largest diversified construction and construction materials companies in the U.S. We produce a wide range of construction materials, including aggregates and asphalt, and we are actively investing in our materials business for growth. Granite is an industry leader in safety and an award-winning firm in quality and sustainability. Granite's Code of Conduct and strong Core Values guide the company and its employees to uphold the highest ethical standards. Building tomorrow starts with you—please visit us at graniteconstruction.com, and connect with us on LinkedIn, X, Facebook, and Instagram.

National Stone, Sand, & Gravel Association (NSSGA)

SME/NSSGA Student Design Competition Title Sponsor

NSSGA is the leading voice and advocate for the aggregates industry. Our members are stone, sand and gravel producers and the equipment manufacturers and service providers who support them. NSSGA advances public policies that protect and expand the safe, environmentally responsible use of aggregates that build America's infrastructure and economy. NSSGA advocates for members' interests on health, safety and environmental issues. In addition, NSSGA offers its members many opportunities to participate in education, tradeshow and conferences that include CONEXPO-CON/AGG, AGG1 Academy & Expo, Young Leaders, the NSSGA Annual Convention, Leadership Summit and a Legislative & Policy Forum.

Luck Stone

SME/NSSGA Student Design Competition Title Sponsor

Through three generations of family leadership, Luck Stone has been building strong communities for 100 years. Luck Stone, a division of Luck Companies, is the nation's largest family-owned and operated producer of crushed stone, sand, and gravel. A partner to the construction, civil engineering and environmental industries, Luck Stone provides consistent, quality aggregate materials and services that serve as the foundation of roads, bridges, and buildings. With 29 operating locations and over 900 associates, Luck Companies is headquartered in Richmond, Virginia, where it was founded by Charles Luck Jr. in 1923. Charlie Luck IV leads the company today.

Copper State Bolt & Nut Co.

EXPO IdeaXchange Stage Sponsor
MINING IS AT OUR CORE!

Our Manufacturing Division was specifically established to support mining and heavy industrial customers with capabilities to produce large diameter and specialty products. Our newest innovative Load Monitoring Fastener+ is a wireless, accurate, and real-time load monitoring fastener system made for mining, heavy industrial and wind industries. Automated alerts will notify you if tension deviates from desired values. Our distribution, manufacturing, and VMI service operations ensure continuous uptime and support of your critical care equipment. We proudly offer fasteners, construction products, industrial supplies, safety products, cutting tools & abrasives, kits & assortments, and fluid sealing products.

Flottweg Separation Technology, Inc

Mineral Processing Division Lunch Title Sponsor

Flottweg provides liquid solid separation equipment for mining applications. Their 2 and 3 phase decanter centrifuges and separator centrifuges are used in CRUD separation, gravel washing, drilling mud recovery, solvent extraction, oily water solids separation, solids sorting, and wastewater treatment. Skid mounted and containerized systems are also available. Contact us today for a trial.

Tucson Cathodes and Tankhouse Services

Expo IdeaXchange Stage Sponsor

TCT (Tucson Cathodes and Tankhouse Services) offers the best cathode plates at a lower price and faster delivery. We prioritise precision, efficiency, and cost-effectiveness. We manufacture high-quality cathode plates and provide expert repair services in our advanced Tucson facilities.

TCT started with ICL, a Chilean company founded in 1999; TCT expanded our facilities in 2023 in Tucson, Arizona. Tucson Cathodes and Tankhouse Services partnered with Glencore Technology's ISAKIDD™ to provide the best fit-for-purpose plates and services for your operation.

ARCADIS

Environmental Division Poster Contest Sponsor, Women of SME Breakfast Student Ticket Sponsor, Technical Session Sponsor

Arcadis is the leading global natural and built asset design and consultancy firm. Our deep knowledge of the unique and multifaceted mining industry, combined with our extensive global network and decades of experience, uniquely position us to help you manage your asset portfolio while minimizing your operational costs, bringing world-class expertise to support local teams who understand your concerns. Our expertise includes environmental studies, mitigation strategies, planning, engineering, procurement, project and construction management, operations support and improvement. We offer unique services tailored to all areas and disciplines from Pit to Port for the entire mine and project life cycles.

Paterson & Cooke USA

Mineral Processing Division Scotch Nightcap Supporting Sponsorship, SME Foundation Gala VIP Table Sponsor

Paterson & Cooke is an independent company renowned and trusted for its expertise in a wide range of areas that include slurry pipelines, tailings and mine backfill, and mineral processing with experience in detailed engineering and execution of multi-disciplinary projects. We pride ourselves on the quality of our work and on being able to offer innovative solutions supported through years of experience backed up by our offices and comprehensive mineral processing laboratory facilities in Australia, Canada, Chile, South Africa, United Kingdom, and the USA.

Bosch Rexroth - Hägglunds Drives

Mining & Exploration Division Title Sponsor

Hägglunds hydraulic direct drive systems from Bosch Rexroth make a powerful difference in mining and material handling applications. With their remarkable torque and reliable performance, they maximize the efficiency and uptime of conveyors, feeders, crushers, drums, bucket wheel reclaimers, kilns and more. Visit our booth to discover why industry-leading Hägglunds drive systems mean productivity throughout your equipment's life cycle. Hägglunds is a brand of Bosch Rexroth, a leading global supplier of drive and control technologies. To learn more about Hägglunds solutions, visit our website.





Diemme Filtration + A brand of Aqseptence Group

Mineral Processing Division Scotch Nightcap Supporting Sponsorship

In the solid-liquid separation segment Diemme Filtration has succeeded in conquering a notable portion of the market thanks to its skill in extreme customization of plants, designed to specific customers needs. With our brand Diemme® Filtration we are one of the leading specialists in solid/liquid separation for industrial processes and offer the widest range of filter presses and thickeners currently available in the global market.

Polydeck

Mineral Processing Division Scotch Nightcap Supporting Sponsorship

Since 1978, Polydeck has been the leading provider of the most dependable synthetic screen media in the aggregate, energy & industrial, and mining industries across North and South America. We are pioneers, inventors and we take pride in putting our customers first and providing custom solutions for any of your screening needs. We love the work but your success is our reward. To know that you have the screens you need to keep your plant running, producing faster and producing more, is what we call Together Strong.

Syenesqo

Mineral Processing Division Scotch Nightcap Supporting Sponsorship

Formerly part of the Solvay Group, Syenesqo Mining Solutions is a leading reagent-solutions provider to the mining industry. The business serves a diverse range of markets, including copper, alumina, gold, moly, lithium, nickel, cobalt and phosphate, among others. Constantly adapting to changing markets and customer needs, Syenesqo pushes the boundaries of science to deliver ever-more innovative, sustainable solutions.

Hatch

Mineral Processing Division Scotch Nightcap Supporting Sponsorship

"Whatever our clients envision, our engineers can design and build. With over six decades of business and technical experience in the mining, energy, and infrastructure sectors, we know your business and understand that your challenges are changing rapidly. We respond quickly with solutions that are smarter, more efficient, and innovative. We draw upon our 10,000 staff with experience in over 150 countries to challenge the status quo to create positive change. Our exceptional, diverse teams combine engineering and business knowledge to develop market strategies, optimize production, develop game-changing technologies, and deliver complex capital projects."

P&C Recruiting

Mineral Processing Division Lunch Supporting Sponsorship

The P&C Recruiting and HR team, founded by Dana Pray and Rhonda Zuraff, has over a dozen full-time and part-time employees located throughout North America who bring experience and knowledge within the mining and alternative energy sectors.

P&C, formerly known as Pray & Company, has diversified and grown; now providing the following services throughout the America's - in mining (precious metals, base metals, industrial minerals) and alternative energy:

- Technical and Professional Recruiting
- Executive / C-suite Recruiting
- Human Resources Consulting

Many of our client employers and placed candidates are thrilled to offer references to you!

Contact Information:
www.pandcrecruiting.com
toll-free: 833-775-7729

Ausenco

Mineral Processing Division Lunch Supporting Sponsorship

Ausenco is a global company providing innovative consulting, project delivery and engineering solutions to the minerals & metals sectors. We combine deep technical expertise and efficient design with a focus on sustainability. We are redefining what's possible.

Martin Engineering

Health & Safety 5k Run/Walk Supporting Sponsor

Martin Engineering, founded in 1944, manufactures products and provides services to make bulk material handling cleaner, safer, and more productive. Specializing in conveyor products and flow aids, Martin Engineering aims to reduce carryback, properly seal, align, and support conveyor belts, improve material flow, reduce dust, and improve safety. Whether new construction or conveyor redesigns, Martin's Engineered Projects Sales and Support team provides comprehensive, full service assistance. This highly experienced group focuses on design consultation, sharing extensive system level knowledge and experience to ensure deadlines are met throughout your entire project.

Orla Mining Ltd.

Mining & Exploration Division Lunch Supporting Sponsorship

Orla Mining is a Canadian company focused on creating stakeholder value by responsibly finding, building, and operating high-quality mines. Currently developing the South Railroad project, located 16 miles south of Carlin, Orla is committed to Nevada and Elko County and looks forward to building Nevada's next operating gold mine, creating new jobs and benefits for Elko and its surrounding communities.

New Enterprise Stone & Lime Co., Inc.

SME/NSSGA Student Design Competition Supporting Sponsor

NESL was founded in 1924 as a partnership by J.S. Detwiler and his son, Paul I. Detwiler. The initial operations consisted of a quarry and facilities to crush stone and burn lime, products used in highway construction. Today, NESL continues to be a family owned business and has grown into one of the top 15 aggregate producers in the US, one of the largest aggregate producers in Pennsylvania and one of the largest employers in the region, with construction material locations throughout Pennsylvania and western New York.

Carter Machinery

SME/NSSGA Student Design Competition Supporting Sponsor

Caterpillar has been present in Virginia since 1928 through the Virginia Tractor Company. The ever increasing activity in western Virginia demanded a greater focus thanks to infrastructure developments and coal mining. As a result, Carter Machinery was formed to serve customers in southwestern Virginia. The 1950's were a pivotal point in our country's history, highlighted by a sharp rise in the economy for the first time in more than 30 years. We now serve as the main Caterpillar sales and servicing dealer for Maryland, Delaware, Virginia, and parts of WV.

GeoTeam

2024 SME Media Contest Sponsor

GeoTeam #GT, with 65+ years in mining support, excels in manufacturing instruments, remote sensing and services, scaling operations, and innovative analytics. They specialize in enhancing operations, geotechnical roles, and project management.

Encardio Rite has set the industry standard in Geotechnical and Infrastructure Health Monitoring. Through Metasensing for Megastructures, they help asset owners gain assurance about the safety and stability of their assets and resources.

Proqio, the infrastructure data intelligence platform, brings simplicity, data integration, visualizations, and flexible customization

AssetAssurance Monitoring serves the mining, civil, and geohazard sectors with RiskReduction Monitoring-SM, and affordable, innovative analytics.

Consol Energy

SME Foundation Gala VIP Table Sponsor

Since the origins of our company in 1860 and our first active mining operations in 1864, CONSOL has powered the nation with affordable, redundant, reliable domestic energy. Today, CONSOL's employees help generate the fuel that accounts for nearly one-third of the nation's power supply. Our energy supports the American way of life by helping deliver electricity 24/7/365, while creating family-sustaining jobs and keeping our nation competitive in the global marketplace.



**Exhibitor
Lounge**

**SME
Exhibit Sales Office**

Student Posters

Restaurant

**Idea
Xchange**

**SME
Connection**

Lounge

148

20'
142

20'
134

126
124

118
116

112
110

20'
100

145 244
20' 242
141 240
139 20'
137 236

133 20'
131 230
129 20'
127 226
125 224

121 220
119 218
117 20'
115 214

111 210
109 208

105 204
103 202
101 200

245 ●

229 328
20' ●
225 324

211 310
209 ●
207 306
205 304
20' 20'
201 300

345 444

329 20'
327 426
325 424

311 410
20' 408
307 406
20' 20'
301

20' 20'
461 20'
457 556
20' 554
453 552
451 550
449 548

445 544
20' 542
441 540
439 538
437 536

433 20'
530
30' 528
427 20'
425 524

30' 20'
508
407 20'
405 504
403 20'
401 500

563 ●
561 20'
20' 658
557 656
555 654
553 652
551 650
549 648

545 ●
543 20'
640
30' 20'
537 636

533 632
531 20'
529 628
527 ●
525 624

521 20'
519 618
20' 20'
513 20'

509 ●
20' 606
505 604
20' 602
501 600

20' 20'
661 20'
657 756
655 754
653 752
651 750
649 748

645 20'
643 742
641 740
20' 738
637 736

633 732
631 730
629 728
627 726
625 724

621 720
619 718
617 716
615 714
20' 20'
611 710
20' 708
607 706
605 20'
603 702
601 700

20' 20'
763 20'
20' 858
757 856
20' 755
753 852
751 850
749 848

745 844
20' 842
741 20'
20' 838
737 836

733 832
731 830
729 828
20' 826
725 824

20' 820
719 818
717 816
20' 40'
707
20' 20'
703 20'
701 800

865 ●
863 ●
861 960
859 958
857 956
855 954
20' 20'
851 950
849 948

845 ●
843 942
839 20'
837 936

833 932
831 930
20' ●
825 924

821 920
819 918
815
813 912
20' ●
807 20'
20' 904
803 902

959 20'
957 1056
955 1054
20' 20'
949

20' 20'
943 1042

927 1026
925 1024

921 1020
919 1018
917 1016
915 1014
20' 1012
911 1010
909 1008

20' 20'
903

1059 1158
1057 1156
1055 1154

1051
1049 1148

20' 1144
1043 1142

20' 20'
1025

20' 20'
1019

1015 1114
1013 1112
1011 1110
1009 1108
1007 1106
20' 20'
1005
1003 1102

Office

Freeman
Service Desk

Restaurant

Idea
Xchange
1932

Restaurant

Entrance ↑

1159	1258
1157	20'
1155	1254
1153	1252
20'	1250
1149	1248

1259	1358
1257	20'
1255	1354
20'	20'
1251	1350
1249	1348

1359	20'
1357	1456
1355	1454
1353	1452
1351	1450
1349	1448

20'
20'
1455

20'	1550
1449	1548

1565	20'
1563	1662
1561	1660
1559	1658
20'	1656
1555	1654

1551	1650
1549	1648

20'	20'
1663	1762
1661	1760
1659	1758
1657	1756
1655	1754
1653	1752
1651	1750
1649	1748

1765	1864
1763	20'
1761	20'
1759	1858
1757	1856
1755	1854
1753	30'
1751	30'
1749	1848

1853	30'
1851	30'
1849	1948

20'	2052
1951	2050
1949	2048

2053
2051
2049
2047
30'
2041
2039
2037

20'	
1143	1242

1245	20'
1243	1342
1241	1340
1239	20'
1237	1336

1345	1444
1343	1442
1341	1440
20'	1438
1337	1436

1445	20'
1443	20'
1441	1540
20'	1538
1437	1536

1545	1644
1543	20'
1541	1640
20'	20'
1537	1636

20'
20
1643

1639	1738
1637	1736

1745	20'
1743	1842
1741	1840
20'	1838
1737	1836

1845	1944
1843	1942

1945	2044
1943	2042

20'	20'
1231	

20'	
1225	20'

20'	
	40'
1325	

20'	20'
1431	1530
1528	30'
1425	1524

1533	20'
20'	1630
1529	20'
20'	1626
1525	1624

1633	1732
1631	1730
1629	20'
1627	1726
1625	1724

20'	20'
1731	1830
1729	1828
1727	20'
1725	1824

20'	20'
1825	1924

1927	2026
1925	2024

20'	20'
1119	

20'	
	30'
1217	

20'	
	30'
1317	

20'	20'
1419	

1521	1620
1519	1618
1517	1616
1515	1614
1513	1612
1511	1610
1509	1608
20'	1606
1505	1604
1503	1602

1621	1720
1619	1718

20'	
	40'
1609	

20'	20'
1719	1707
	1806
	1705
	1804
	1703
	1802
	1701
	1800

20'	1920
1819	1918

1921	2020
1919	2018

20'	1214
1113	20'
20'	1210
1109	20'

20'	
	40'
1207	

20'	
	40'
1307	

20'	30'
1413	20'
1510	20'
1409	20'

20'	20'
1403	

20'	1814
1713	20'
20'	1810
1709	20'
1707	1806
1705	1804
1703	1802
1701	1800

20'	20'
1801	

20'	20'
1901	20'

20'
2031
20'
2027
2025
20'
2021
2019
2017
2015
2013
2011
2009
2007
2005
2003
2001

EXHIBITOR LISTING

& BOOTH NUMBER

3D-P Powered by Epiroc	948	Betts Drilling, Inc	2037
5DT (Fifth Dimension Technologies)	1942	BEUMER Group	1455
6Harmonics	218	BICO Inc	1533
A.W. Chesterton Company	2024	Binder+Co USA Inc	1614
ABB	949	Blair Rubber Company	504
ABC Ventilation Systems	1257	Blue Coast Research	1729
Abel Pumps	100	Boart Longyear	1425
Accutron Instruments Inc	2053	Bosch Rexroth - H&A-gglunds Drives	1148
Ackcio	2042	Bowman Consulting Group	1756
Acrow Corp. of America (Acrow Bridge)	1012	Bradken	1924
Actenum	756	Bray Controls	621
ACZ Laboratories Inc	1624	BreatheSafe - AireSafe International	129
Adhesive Services Company	1752	Brelko Conveyor Products, Inc	1662
Advanced Research Projects Agency - Energy (ARPA-E)	1009	Bridgestone Americas Tire Operations	1252
Advanced Terra Testing Inc	1444	Brookville Equipment Corp	1224
AECOM	1210	Bruker	205
Aecon	844	Brunel Corp	1644
Aerix Industries	1524	Bunting	406
Agapito Associates Inc	1237	Burns & McDonnell Engineering Company, Inc	763
AGRU America, Inc	920	Byrnes Group	1452
AGUDIO Ropeways	1144	CAB	1536
AIL Mining	1343	CAID Industries	1154
AIMC	229	Call & Nicholas Inc. - Call & Nicholas Instruments	701
airth.io	1828	Cambelt International	245
Aletek	865	Canadian Institute of Mining, Metallurgy & Petroleum (CIM)	1108
Alfa Laval	244	Canadian Mining Journal	1112
Allonnia	1754	Canary Systems, Inc	425
American Consolidated Natural Resources	2026	CANTY	1637
American Exploration & Mining Association	820	Carlson Software	1510
American Institute of Professional Geologists	1248	Carrier Process Equipment Group (CEPG)	1856
American Mining Services LLC	2020	Carroll Technologies Group	658
American Rock Mechanics Association (ARMA)	752	Cascade Drilling L.P.	1639
American Water Chemicals	863	Caterpillar	1419
Ames Construction	1454	CCC Group, Inc	1836
AMPS	2015	Cementation USA Inc	1350
ANDRITZ	1643	CETCO	1517
Antraquip Corporation	1348	ChemGrout, Inc	1633
Apollo Valves	1945	Chevron Phillips Chemical	924
APS Lighting & Safety	1763	CiDRA Minerals Processing Inc	1249
Aquatech	1838	Civil & Environmental Consultants, Inc (CEC)	1548
ARCADIS	1043	Clariant Corporation	637
Arch Resources, Inc	121	ClearSpan Structures	917
Arsenal Tire Performance Tech	1927	Climatech	1254
ASC Engineered Solutions	825	COGEP Maintenance Software	726
ASGCO Complete Conveyor Solutions	845	Colorado Mining Association (CMA)	830
ASI Mining	710	Colorado School of Mines - Department of Mining Engineering	1018
AtkinsR&A	1726	Concrete Canvas US	1049
Atlas Electric, Inc	401	ConeTec Inc	1629
Aumund Corporation	751	Conifer Systems	505
Austin Powder	1555	Conspec Controls	1158
Avanti International	724	Contech Engineered Solutions	1718
Axter Coletanche Inc	444	Continental	1019
Barnard Construction Company, Inc	631	Coolon USA, Inc	134
Baroid Industrial Drilling Products	836	Copper State Bolt & Nut Co	911
Barr Engineering Co	800	Cornell Pump Co	618
Bauer Foundation Corp	718	Costmine	1114
beadedstream inc	2003	Cowin & Company/Raisebor	1920
Beijing Honest Technology Co, Ltd	327	Coyne Chemical	325
Bekaert	1016	CR Powered by Epiroc	611
Belt Conveyor Guarding	932	Crow Industries	856
Bentley Systems	714		



EXHIBITOR LISTING

& BOOTH NUMBER

Custom Linings, Inc	536	Gai-tronics / Austdac	1853
Datamine Software	1719	GANZHOU BAUSDE MACHINERY CO.,LTD	606
DEA Incorporated	1055	Garmin International	563
DELLNER BUBENZER	2025	GEA Group	645
Derrick Corporation	1413	General Kinematics	720
Desert Mountain Corporation	2019	Geobrug North America, LLC	1627
Deswik	549	GEO-Instruments	1519
DeWind One Pass Trenching LLC	1159	GEOKON	1015
Diemme Filtration SRL	601	GeoLog, LLC	127
Diesel Laptops	1858	Geo-Logic Associates	1255
Disa Technologies, Inc	954	Geopyörä	345
Dodge Industrial, Inc	629	GeoStabilization International	615
Drill Tech Drilling & Shoring Inc	1636	Geosyntec Consultants	617
Driver Industrial Safety	310	Geotech Environmental Equipment, Inc	816
Dyno Nobel	1125	GHD	225
Dyson Corp	142	Global Mining Guidelines Group	1616
Eagle Mine	858	Global Mining Review	919
easyXAFS, LLC	1864	GMS Mine Repair & Maintenance	1014
Eclipse Mining Technologies	441	GNB Global Inc	304
ECN Automation	956	Gonar-Bis Sp. z o.o.	1658
Eco-Goldex Inc	531	GPM Inc	2027
EcoMister Evaporator	328	Graybar Electric	1605
Eirich Machines, Inc	1713	Graymont	561
Emerson	1609	Great Basin College	529
EMSL Analytical, Inc	109	Great Basin Industrial, LLC	1604
Endurance Belting	1626	GroundProbe NA LLC	640
Englo, Inc	1005	Grupo Mexico - ASARCO	1659
ENTACT, LLC	1442	Guardian Traxol Chemicals Inc	1653
Enterprise Automation, A Tetra Tech Company	141	Guideline Geo Americas - Reutech	1732
Envirocon, Inc	1340	H2E Inc	1351
Environmental Products & Applications, Inc	1448	H2O Innovation	657
Epiroc	1119	Harrison Western Construction Corporation, Inc	1727
Equinox Gold	557	Hatch	1243
ERIEZ	1437	Haver & Boecker Niagara	349
Erisco	1758	Hawk Measurement	1661
Esri	214	Hayward Gordon Group	1804
ExcelSense Technologies	861	Heat Tech Industrial	1606
Exyn Technologies	230	Heath & Sherwood (1964) Limited	604
FC Mill Liners, Inc	1842	HEICO Fastening Systems	1743
Federal Screen Products, Inc	538	Hepburn Engineering Inc	700
FEECO International, Inc	2049	Herding Filtration LLC	251
FGX SepTech Global LLC	1705	Herrenknecht Tunneling Systems	1214
Fischerchem Pte Ltd	1753	Hexagon's Mining divison	1307
Fisher Co	1565	Hexion Inc	439
Fisher Tank Company	125	Hilfiker Retaining Walls	1511
FKC-Lake Shore	1819	Hilliard Brake Systems	1449
FLANDERS, Inc	208	Hoffman Manufacturing, Inc	501
Flender Corporation	427	Honeywell	813
Flexco	524	Hose Solutions Inc	625
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James, Cooke & Hobson, Inc	1854	Micromine	1540
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Johnson Industries Ltd	1513	Miller Sales & Engineering Inc	741
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AGUDIO Ropeways

Booth 1144

AGUDIO, founded in Italy in 1861, is the brand of Leitner S.p.A., leader in engineering and construction of conventional and non-conventional transportation systems on ropes for bulk material handling, such as Flyingbelt (conveyor belt suspended on ropes), hybrid conveyors, ropeways and cablecranes.

Agudio is active in North America through its parent company LPoA (Leitner Poma of America)

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

Via Tommaso Agudio 8
Leini 10040 Italy
Phone: +390110721200
www.agudio.com

AIL Mining

Booth 1343

AIL Mining designs and supplies value-engineered structural plate solutions for haul road arches, portals, canopies, stockpile and conveyor tunnels, escape ways, shaft liners, vent raises, drainage culverts; and more. We also provide temporary or permanent prefabricated steel bridges, crusher walls, ramps and abutments.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Pipes
Steel Pipe
Temporary Structures
Tunnel Lining and Support Materials
Underground - Construction and Structures

Main Office

32 York St
Sackville, NB E4L 4R4 Canada
Phone: (604) 671 8754
Email: dworsley@ailmining.com
www.ailmining.com

AIMC

Booth 229

The AIMC is an association of professionals from the mining sector in Colombia, to exercise their representation, aiming for the updating of their skills and the ethical exercise of their professions. It acts as a promoter of best mining practices and as a consultant and advisor

on mining issues before the competent authorities, the productive sector, territorial entities and other actors in the mining industry.

Products & Services

Professional Society or Association
Training Services

Main Office

Carrera 80 65-223 Bloque M6 Oficina 101
Edificio Dos Maderos Apto 1001
Medellin 13114 Colombia
Phone: +57 3014358022
www.aimcolombia.org

airth.io

Booth 1828

Airth.io is a customer focused global mining technology company that provides solutions for miners by miners. The vendor-agnostic ecosystem of data-driven products connects planning, operations, mineral processing and finance on an integrated easy-to-use platform. Execute a profitable mine plan, reconcile against operational KPIs, leverage predictive intelligence with machine learning for improved forecasting, minimize operational variance through short interval control, and understand the financial impacts before it is too late. Airth.io solutions improve the business value chain by closing the gap between planned and actual.

Products & Services

Aerial Mapping and Surveying
Automation
Computer - Software and Services
Consulting - Design and Planning
Consulting - Engineering
Consulting - Financial Services
Consulting - Management
Measurement and Monitoring Systems
Mine Evaluations - Surface and Underground
Sensors

Main Office

PO Box 35242
Tucson, AZ 85740 United States of America
Phone: (520) 497-2780
www.airth.io/

Aletek

Booth 865

Our mission is to increase your mobile mining fleets' safety, reliability, and productivity. Mining fleets across the globe depend on us for a suite of highly specialized products including thermal insulation blankets, exhaust systems, diesel particulate filters, and sound suppression solutions. Our thermal blankets offer unmatched performance for fire mitigation and safety around hot exhaust parts. With Aletek OEM replacement exhaust you will get a lower TCO and longer life. Our DPFs provide the highest performance in the industry and are fully OEM-compatible. The hallmark of Aletek products is quality, unsurpassed performance, and long-term value.

Products & Services

Diesel Particulate Control Systems
Emissions Control
Fire Protection

EXHIBITORS

Maintenance Equipment and Supplies
Parts - Mining Machinery
Pollution Control Equipment
Safety Equipment

Main Office

2285 Davis Ct
Hayward, CA 94545 United States of America
Phone: (833) 232-2073
www.alettek.com

Alfa Laval

Booth 244

Alfa Laval offers the most extensive range of equipment and expertise to help you with tailings dewatering and optimizing key processes in mineral beneficiation and extraction. Our robustly designed solid-bowl decanter centrifuges are an effective, high capacity solution for dewatering tailings and mine wastewater.

The goal is to help you avoid tailings dams, produce stackable solids, recover process water and ensure operational safety – all while reducing your total cost. Stop by our booth to learn more about the new era in tailings management ushered in by Alfa Laval for the Mining industry. Please visit our website for more information.

Products & Services

Centrifuges
Dewatering Equipment
Dust and Fume Control Technology
Reclamation Equipment and Services
Remediation
Separators and Concentrators
Thickeners
Tunnel Boring Equipment
Water Clarification and Treatment

Main Office

5400 International Trade Dr
Richmond, VA 23231 United States of America
Phone: (804) 536-0869
www.alfalaval.us/industries/mining-minerals-and-pigment/base-minerals-and-mining/

Allonnia

Booth 1754

We are Allonnia, a bio-ingenuity company™ dedicated to extracting value where others see waste. We believe that elegant solutions to the world's biggest problems will be found in the world's smallest organisms. So, we're pioneering novel approaches and imaginative combinations in biotechnology and engineering to solve waste challenges in nature, using nature.

Products & Services

Consulting - Research
Reagents - Chemical and Flocculants
Remediation
Solvents - Extraction, Mixer and Settlers

Main Office

6 Tide St, Ste 300
Boston, MA 02210 United States of America
Phone: (833) 927-8300
Email: info@allonnia.com
allonnia.com/contact-us/

American Consolidated Natural Resources

Booth 2026

Main Office

46226 National Rd
St Clairsville, OH 43950 United States of America
Phone: (740) 338-3100
www.acnrinc.com

American Exploration & Mining Association

Booth 820

The American Exploration & Mining Association (AEMA) is an effective and proactive advocate for the North American mining community, successfully influencing the outcome of political dialogue, building effective working strategies with key elected officials, developing and coordinating industry's response to legislative and regulatory issues, and galvanizing the grassroots. AEMA's Annual Meeting and Exposition, held the first week of December, is the second-largest annual mining convention in the U.S. The convention includes short courses, technical sessions, and a 250-booth trade exposition.

Products & Services

Professional Society or Association

Main Office

16201 E Indiana Ave, Ste 3280
Spokane Valley, WA 99216 United States of America
Phone: (509) 624-1158
Email: info@miningamerica.org
www.miningamerica.org

American Institute of Professional Geologists

Booth 1248

The American Institute of Professional Geologists was founded in 1963 to promote the profession of geology and to provide a framework for establishing standards of excellence. AIPG emphasizes competency, integrity and ethics. Its advocacy efforts are focused on the promotion of the role of geology and geologists in society.

Products & Services

Educational
Professional Society or Association

Main Office

1333 W 120th Ave, Ste 211
Westminster, CO 80234 United States of America
Phone: (303) 412-6205
www.aipg.org

American Mining Services LLC

Booth 2020

American Mining Services supplies drilling and blasting consumable products and services to the mining industry. We are committed to only offering industry-leading product quality, innovation and most importantly, excellent customer service.

Products & Services

Drill Bits - Rock

Main Office

263 River Bend Way, Ste 100
North Salt Lake, UT 84054 United States of America
Phone: (801) 683-8225
www.americanminingservices.com

American Rock Mechanics Association (ARMA)

Booth 752

The American Rock Mechanics Association (ARMA) is a professional and international engineering and scientific society, which promotes interaction among specialists, practitioners, scholars, and educators in rock mechanics and geomechanics. We advocate for individuals and firms in all aspects of rock mechanics and geomechanics, including multi-disciplinary rock physics and rock engineering technology advancement and technological applications for civil engineering, mining engineering and tunneling, oil and gas recovery, and geo-related socioeconomic problem-solving.

Products & Services

Professional Society or Association

Main Office

600 Woodland Ter
Alexandria, VA 22302 United States of America
Phone: (703) 683-1808
armarocks.org

American Water Chemicals

Booth 863

AWC is a chemical and technical service provider for membrane applications. With over 30 years of RO/NF and MF/UF chemicals expertise, AWC helps membrane systems worldwide to achieve the next level of performance.

Products & Services

Water Clarification and Treatment

Main Office

1802 Corporate Center Ln
Plant City, FL 33563 United States of America
Phone: (813) 246-5448
Email: info@membranechemicals.com
www.membranechemicals.com



Ames Construction

Ames Construction

Booth 1454

Ames' proven history of successfully executing complex mining projects under demanding schedules has placed us at the forefront of the mining industry for more than 35 years.



Working for some of the world's largest mining companies, we've built an arsenal of experience across the mining lifecycle. Our capabilities include pre-production stripping, turnkey mine development, contract mining, mine closure and reclamation, detailed structural and mechanical modifications, leach pads, tailings dams, major renovations to existing processing facilities, and aggregate processing.

Products & Services

Mining Contractors

Main Office

8333 E Hartford Dr
Scottsdale, AZ 85255 United States of America
Phone: (602) 431-2111
Email: GrantChild@amesco.com
www.amesconstruction.com

AMPS

Booth 2015

Since 2011, AMPS has been an industry leader in mining technical services optimisations, systems, and training with significant experience in operational engineering and geology. We are a team of over 70 resource professionals providing world-class support to mining technical service teams. With a passion for education, training and production systems, we help build the capabilities within organisations to future-proof technical services departments and unlock value in mining operations globally.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Management
Mine Evaluations - Surface and Underground
Training Services

Main Office

Level 2, 25 Cantonment St
Fremantle, WA 6160 Australia
Phone: +1300 885 404
Email: admin@advancedmps.com
www.advancedminingproduction.com/

ANDRITZ

Booth 1643

ANDRITZ Automation: is a leading supplier of machine and plant control systems with 110 company locations worldwide. ANDRITZ provides automation services and tools for a wide range of process industries, including pulp and paper, mining, lime and cement, power, and oil and gas.

As a technology leader with extensive and over 30 years of experience in supplying industrial measurement, control, and optimization solutions for various industries, ANDRITZ is combining its process and equipment expertise with the latest advancements in the digital era. The result of this powerful combination is Metris: a portfolio of ANDRITZ Digital Solutions.

Products & Services

Automation
Filters, Filter Cloth and Accessories
Furnaces - Industrial Process
Mine Operators
Process Controls and Instruments

Pumps
Separators and Concentrators
Training Services
Water Clarification and Treatment

Main Office

13560 Morris Rd, Ste 1250
Alpharetta, GA 30004 United States of America
Phone: (604) 214-9248
www.andritz.com

Antraquip Corporation

See our ad on p. 13

Booth 1348

Antraquip, continues to be a leading manufacturer of specialized mining/construction equipment and tunnel support products worldwide. With 40+ year history of supplying roadheaders, hydraulic rock cutters (drum cutters) and saw attachments as well as mine/tunnel support systems, Antraquip's products have become synonymous for quality, reliability and durability for the most challenging underground mining/tunneling projects. Whether it's the AQ roadheader line, which is used predominantly for mine development and tunneling operations, the hydraulic cutters which are used for almost unlimited rock cutting operations or the innovative tunnel/mine support products (lattice girders, steel sets, props, etc.), Antraquip Corp is your reliable partner.

Products & Services

Boring Equipment
Concrete Reinforcement and Equipment
Continuous Mining Machines
Remediation
Roadheaders
Roof - Ground Supports
Tunnel Boring Equipment
Tunnel Lining and Support Materials
Underground - Construction and Structures
Underground Excavation Services and Equipment

Main Office

758 Bowman Ave
Hagerstown, MD 21740 United States of America
Phone: (301) 665-1165
www.antraquip.net

Apollo Valves

Booth 1945

Apollo Valves provide integrated piping systems and valves for industrial, utilities and commercial applications for regulation of gases and liquids in key vertical markets. Domestic manufactured valves include, standard, full port, threaded, solder, flanged and top entry valves in CS, SST, duplex, super duplex, alloy 20, hastelloy C and Monel. We also provide pneumatic and electric actuators as well as high performance butterfly valves.

Products & Services

Automation
Valves

Main Office

7913 S Datura Cir E
Littleton, CO 80120 United States of America
Phone: (720) 312-0384
Email: ky.kulesa@aalberts-ips.com
www.apollovalves.com

APS Lighting & Safety

Booth 1763

APS is a leading lighting and safety product specialist that provides consulting services, training, and local product support.

Our team is fully committed to doing what it takes to understand your project and your required lighting and safety standards. We understand that each customer has different needs, which is why our team does not take a one solution or one product fits all approach.

Your company will have access to a wealth of international experience. APS has more than 20 years' experience in the lighting and safety markets in North America, South America, Southeast Asia, and Australia.

Products & Services

Lighting Systems and Lamps

Main Office

610 Gateway Ctr Way, Ste J & K
San Diego, CA 92102 United States of America
Phone: (619) 263-4164
www.aps-supply.com/

Aquatech

Booth 1838

Aquatech is a recognized global leader in end-to-end process solutions to produce technical and battery grades of lithium carbonate, lithium hydroxide, and lithium salts. Leveraging its experience and know-how, Aquatech offers holistic solutions to produce critical mineral-based chemicals and salts for EV batteries and from battery recycling, providing applied development and testing with demonstration-scale process units to engineering and design, project management and execution, through post-installation operations and maintenance. Aquatech has delivered over 2,000 facilities across 60 countries and helps the world's most recognized companies reduce their water, carbon, and environmental footprint, helping them achieve and sustain their sustainability goals.

Products & Services

Consulting - Engineering
Environmental Control Equipment and Supplies
Ion Exchange Equipment and Resins
Pollution Control Equipment
Thickeners
Water Clarification and Treatment

Main Office

1 Four Coins Dr
Canonsburg, PA 15317 United States of America
Phone: (724) 746-5300
Email: aic@aquatech.com
www.aquatech.com/

EXHIBITORS

ARCADIS

Booth 1043

Arcadis is the leading global natural and built asset design and consultancy firm. Our deep knowledge of the unique and multifaceted mining industry, combined with our extensive global network and decades of experience, uniquely position us to help you manage your asset portfolio while minimizing your operational costs, bringing world-class expertise to support local teams who understand your concerns. Our expertise includes environmental studies, mitigation strategies, planning, engineering, procurement, project and construction management, operations support and improvement. We offer unique services tailored to all areas and disciplines from Pit to Port for the entire mine and project life cycles.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Management
Remediation
Water Clarification and Treatment

Main Office

630 Plaza Dr, Ste 200
Highlands Ranch, CO 80129 United States of America
Phone: (720) 344-3500
www.arcadis.com

Arch Resources, Inc

Booth 121

Products & Services

Mine Operators

Main Office

21550 Barbour County Hwy
Philippi, WV 26416 United States of America
Phone: (304) 314-5136

Arsenal Tire Performance Tech

Booth 1927

With our Arsenal Tires & Tire Air and Anti-theft Sensors, we help BOLD professionals to #GoBeyond safely with fewer tires.

Products & Services

Automation
Maintenance Equipment and Supplies
Measurement and Monitoring Systems
Parts - Mining Machinery
Sensors
Transportation
Underground Excavation Services and Equipment

Main Office

5900 Balcones Dr, Ste 100
Austin, TX 78731 United States of America
Phone: (956) 662-9652
www.arsenal.mx

ASC Engineered Solutions

Booth 825

ASC Engineered Solutions is defined by quality—in its products, services and support. With more than 1,400 employees, the company's portfolio of precision-engineered piping support, valves and connections provides products to more than 4,000 customers across industries, such as mechanical, industrial, fire protection, oil and gas, and commercial and residential construction. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Anvil Services, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Gruvlok®, J.B. Smith, Merit®, North Alabama Pipe, Quadrant®, SCI®, Sharpe®, SlideLOK®, SPF® and SprinkFLEX® with headquarters in Oak Brook, IL.

Products & Services

Castings
Consulting - Design and Planning
Couplings - Mechanical, Flexible and Rigid
Fire Protection
Pipes
Training Services
Valves
Welding Equipment and Supplies

Main Office

2001 Spring Rd, Ste 300
Oak Brook, IL 60523 United States of America
Phone: (800) 301-2701
Email: customerservice@asc-es.com
www.asc-es.com

ASGCO Complete Conveyor Solutions

Booth 845

ASGCO "Complete Conveyor Solutions"
Since 1971, we have used engineered products and services to provide our customers with the best solutions to their conveyor material handling applications by eliminating carry-back, material spillage and dust in the transfer points and insuring proper conveyor belt tracking throughout the conveyor system. Combined with our national network of distributors, we can provide you with custom engineering and design to meet your specific conveyor needs, along with installation and maintenance programs that will streamline your operation by increasing production up time and lowering costs.

Need solutions to improve efficiency, safety and productivity? Ask ASGCO.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems
Dust and Fume Control Technology
Fasteners - Industrial
Safety Equipment

Main Office

730 Bangor Rd
Nazareth, PA 18064 United States of America
Phone: (610) 821-0216
www.asgco.com

ASI Mining

Booth 710

ASI Mining is the leader in OEM agnostic autonomous solutions for surface mining. In conjunction with Epiroc, its authorized dealer, ASI Mining offers autonomous haulage systems using its agnostic autonomous integration platform called Mobius. ASI Mining also offers semi-autonomous solutions in blasting, dozers, loaders, and integrates with autonomous drills from Epiroc.

Products & Services

Automation
Autonomous Vehicles
Computer - Hardware and Services
Computer - Software and Services
Information Technology Products

Main Office

990 N 8000 W
Petersboro, UT 84325 United States of America
Phone: (435) 755-2980
www.asirobots.com/mining/

AtkinsRéalis

Booth 1726

Engineering a better future for our planet and its people. We are one of the world's leading professional services and project management organizations, dedicated to engineering a better future for our planet and its people. We create sustainable solutions that connect people, data and technology to design, deliver and operate the most complex projects across the world. Our mining & metallurgy business is focused on pit-to-port solutions built on a net-zero vision. By combining our global expertise with the capabilities and efficiency of local and remote resources, we offer unrivalled and sustainability-focused services, technologies and solutions for all projects.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental

Main Office

7604 Technology Way #400
Denver, CO 80237 United States of America
Phone: (713) 576-8561
www.atkinsrealis.com

Atlas Electric, Inc

Booth 401

Products & Services

Electrical Equipment and Supplies
Feeder Breakers
Hoists - Controls and Accessories
Maintenance Equipment and Supplies
Parts - Mining Machinery
Shortwall Mining Equipment
Temporary Structures
Tunnel Boring Equipment

Main Office

1203 N Havana St
Spokane, WA 99202 United States of America
Phone: (509) 534-8389
atlaselectricinc.com/



AUMUNDGROUP

Aumund Corporation

Booth 751

AUMUND Group excels in global expertise for conveying and storing abrasive or cohesive bulk materials in minerals and raw materials extraction. Their diverse product range matches the wide spectrum of minerals. AUMUND is the preferred equipment for conveying or storing challenging bulk materials. SCHADE machines are renowned in mineral storage, especially for top-tier coal storage and blending beds. Originating as a specialist company, SAMSON delivers mobile solutions for bulk materials handling, specializing in reliable and dust-controlled reception and transfer of materials between conveyors, trucks, rail wagons, or ships.

Products & Services

Bins, Hoppers, Silos and Storage
Blending Systems
Consulting - Engineering
Conveyor Systems
Feeders

Main Office

250 Chastain Rd NW, 150
Kennesaw, GA 30144 United States of America
Phone: (678) 488-4979
Email: wallen@aumundusa.com
www.aumundusa.com

Austin Powder

Booth 1555

Austin Powder is renowned for its unsurpassed customer service and its broad range of engineered solutions – from bulk trucks to underground units, emulsion technologies to electronic initiation systems, and predictive vibration modeling software to optimized blast design. All solutions are developed to advance the safety, reliability, and efficiency of breaking rock. Find out how the Austin Advantage can help your organization.

Products & Services

Explosive Materials and Services

Main Office

25800 Science Park Dr
Beachwood, OH 44122 United States of America
Phone: (216) 464-2400
www.austinpowder.com



Avanti International

Booth 724

Avanti International is an American owned and operated injection grout producer located near Houston, TX. Avanti's injection grouts are used in municipal, industrial and geotechnical applications to stop leaks, stabilize soil and rock, and control groundwater - permanently. We have a comprehensive product line of acrylics, polyurethanes, cements, epoxies, pump, injectors, and more. Visit our website or call for more information.

Products & Services

Grouting Services, Equipment and Materials
Pumps
Sediment & Erosion Control

Main Office

822 Bay Star Blvd
Webster, TX 77598 United States of America
Phone: (800) 877-2570
www.avantigrout.com

Axter Coletanche Inc

Booth 444

Coletanche BGM is a waterproofing composite geosynthetic lining system made with a long-fiber unwoven polyester geotextile as reinforcement, impregnated with an elastomeric bitumen compound that provides the waterproofing properties and ensuring the geomembrane's longevity by fully impregnating the geotextile. For over 40 years, Bituminous Geomembranes (BGM) has been a practical solution for protecting the environment in Mining, Hydroelectric, Irrigation, Oil and Gas and many other civil engineering applications.

Products & Services

Consulting - Engineering
Consulting - Environmental
Mining Contractors
Reclamation Equipment and Services
Remediation

Main Office

7991 Frobisher Dr
Richmond, BC V7C4M6 Canada
Phone: (778) 938-6917
Email: taguirre@axtercoletanche.com
www.coletanche.com



Barnard Construction Company, Inc

Booth 631

Founded in 1975, Barnard Construction Company, Inc. (Barnard) is a privately held, debt-free heavy civil contractor headquartered in Bozeman, Montana. Over the last 48 years, Barnard has built a respected résumé, tackling some of the most complex, logistically challenging construction projects in North America. Barnard specializes in tunneling; oil, gas, utility, sewer, and water pipeline projects; dam, reservoir, and hydropower construction and rehabilitation; and power transmission. Our respected tunneling and underground construction experts set the standard for safety and excellence, whether they are building an intake tunnel in remote British Columbia or a gravity pipeline in urban Redwood City, California.

Products & Services

Construction - Contracting Services

Main Office

701 Gold Ave
Bozeman, MT 59715 United States of America
Phone: (406) 586-1995
www.barnard-inc.com

Baroid Industrial Drilling Products

Booth 836

Products & Services

Drilling Equipment
Exploration Equipment and Services
Water Clarification and Treatment

Main Office

3000 N Sam Houston Pkwy E
Houston, TX 77032 United States of America
Phone: (605) 892-5253
www.baroiddp.com

Barr Engineering Co

Booth 800

For 50 over years, Barr has been assisting national and international mining clients with complex, large-scale projects. We offer a single source for the technical and regulatory services needed to take projects from conceptual studies and environmental assessments through facility construction, operations, and closure. Barr's services include environmental review, permitting, and compliance; reserve estimation and resource reporting; mine planning; mineral processing; facility and site design; electrical and process controls; tailings and water management; and mine-site remediation and reclamation. Headquartered in Minneapolis, MN, Barr also has offices in Colorado, Minnesota, Michigan, Missouri, Nevada, North Dakota, Utah, Alberta, and Saskatchewan.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental

Main Office

4300 MarketPoint Dr, Ste 200
Minneapolis, MN 55435 United States of America
Phone: (952) 832-2600
www.barr.com

Bauer Foundation Corp

Booth 718

BAUER Foundation Corp. as part of the BAUER construction division, is a leader in the execution of complex excavation pits, ground improvement, deep foundations and vertical seals, utilizing the most up to date equipment and installation techniques. BAUER Foundation Corp. provides all types of foundation solutions and services for industrial, commercial, residential and governmental construction projects. BAUER Foundation Corp. promotes Bauer services and technology throughout the entire United States.

EXHIBITORS

Main Office

13203 Byrd Legg
Odessa, FL 33556 United States of America
Phone: (813) 792-3366
www.bauerfoundations.com/en/

beadedstream inc

Booth 2003

beadedstream is enabling easy real-time sensor data collection anywhere on the planet.

beadedstream specializes in real-time acquisition and delivery of critical data for a range of applications world-wide. Our innovative multi-point, temperature monitoring systems utilize the latest low-powered, digital technology and are fully configurable and optimized for a variety of applications such as tailings seepage, acid rock drainage, frozen dams and artificial ground freezing.

Collect, analyze and download data from remote monitoring sites equipped with beadedstream loggers with our beadedcloud web app. Or use your beadedstream thermistor cables with any major third-party logger using SDI-12 or Modbus RS-485.

Products & Services

Communications Equipment
Computer - Software and Services
Geological-Physical-Technical Services and Equip
Ground Freezing
Measurement and Monitoring Systems
Sensors

Main Office

PO Box 190311
Anchorage, AK 99519 United States of America
Phone: (844) 488-4880
Email: contact@beadedstream.com
beadedstream.com

Beijing Honest Technology Co, Ltd

Booth 327

Beijing Honest Technology Co., Ltd, was founded in 2010, the founding team is from the Department of Precision Instruments of Tsinghua University and the National Brain Computing Research Center, we independently developed the intelligent separation for mining. by 2022, the stable operation accumulated more than 200 units, in non-ferrous metal mines, black metal mines, non-metallic mines, coal mines and other industrial field production applications. Its customers include China Minmetals, National Energy, Zijin Mining other large-scale central enterprises and industry leaders. In addition, the equipment is exported to Europe, Africa, America, Central Asia and other places.

Products & Services

Classifiers

Main Office

No.2 Shengfang Road, Daxing District
Beijing 102600 China
Phone: +86-10-80257312
Email: duanjunjun@xndt.com.cn
www.xndt.com.cn/



Bekaert

See our ad on p. 23

Booth 1016

Bekaert, your global partner for smart fiber reinforcement of concrete for your Mining operations. We offer a high quality and value adding service with both our steel & synthetic fiber products. We have professionals on staff, to offer solutions for your commercial & technical needs. Safety & production are critically important in the mining industry & requires a continuous effort to optimize the mining process safely without loss of production. We specialize in temporary & permanent support applications, such as shotcrete and shaft lining applications.

Products & Services

Concrete Reinforcement and Equipment
Shotcrete Equipment, Supplies and Services
Steel Wire Ropes/Cables
Tunnel Lining and Support Materials
Underground - Construction and Structures

Main Office

1395 S Marietta Pkwy, Bldg 500, Ste 120
Marietta, GA 30067 United States of America
Phone: (800) 241-4126
Email: harley.smith@bekaert.com
www.bekaert.com/underground

Belt Conveyor Guarding

Booth 932

Manufacturing of premium safety guarding for existing bulk material handling equipment is our business. For 30 years BCG helps companies all over North America to keep their workers safe by providing compliant, ergonomic and user-friendly guarding!

Products & Services

Safety Equipment

Main Office

3478 Penetanguishene Rd
Barrie, ON L4M 4Y8 Canada
Phone: (866) 300-6668
Email: safety@conveyorguarding.com
www.conveyorguarding.com

Bentley Systems

Booth 714

Bentley Systems (Nasdaq: BSY) is the infrastructure engineering software company. We provide innovative software to advance the world's infrastructure – sustaining both the global economy and environment. Our industry-leading software solutions are used by professionals, and organizations of every size, for the design, construction, and operation of roads and bridges, rail and transit, water and wastewater, public works and utilities, buildings and campuses, and mining. Our Infrastructure IoT platform provides secure and scalable tools for cost-effective condition monitoring of critical

assets, providing operational insights that inform owners and operators, and power connected workflows leveraging our infrastructure digital twin platform, iTwin.

Products & Services

Computer - Software and Services

Main Office

685 Stockton Dr
Exton, PA 19341 United States of America
Phone: (800) 236-8539
www.infrastructureiot.com

Betts Drilling, Inc

Booth 2037

Products & Services

Drilling Contractors

Main Office

7120 Atlanta Hwy
Rutledge, GA 30663 United States of America
Phone: (229) 561-3272
www.bettsenv.com

BEUMER Group

Booth 1455

Together with FAM Minerals & Mining, BEUMER Group is a leading global supplier for bulk materials, processing and conveying systems for open-cast mining, stockyards, and ports. A comprehensive and global customer support portfolio offering completes the portfolio. The entire BEUMER Group employs 5,400 people and achieves a turnover of 1 billion.

Products & Services

Blending Systems
Consulting - Design and Planning
Consulting - Engineering
Continuous Mining Machines
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Crushers and Pulverizers
Dewatering Equipment
Excavators
Transportation

Main Office

6430 S Fiddlers Green Cir, Ste 250
Greenwood village, CO 80111 United States of America
Phone: (816) 284-9230
www.beumergroup.com

BICO Inc

Booth 1533

Sample prep equipment has been our focus since 1888. Known worldwide as an industry leader of laboratory sized Jaw Crushers and Pulverizers, we will be showcasing some of our top models used in the fields of geosciences and sample preparation.

Products & Services

Assay Equipment
Crushers and Pulverizers
Furnaces - Industrial Process
Grinding Mills
Laboratory Equipment and Supplies
Pollution Control Equipment

steel fiber reinforced shotcrete

 Bekaert

Dramix®

Improved performance and safety in mining

Work faster and safer

Cost effective reinforcement

Onsite-expertise support



EXHIBITORS

Main Office

3116 W Valhalla Dr
Burbank, CA 91505 United States of America
Phone: (818) 842-7170
www.bicoinc.com

Binder+Co USA Inc

Booth 1614

Binder+Co USA is the US based subsidiary of Binder+Co AG out of Austria. We are providing processing equipment in the areas of screening, drying/cooling and sensor-based sorting for a variety of materials in mining, minerals and aggregates as well as recycling.

Products & Services

Coolers
Dryers
Screens
Sensors
Separators and Concentrators

Main Office

357 S McCaslin Blvd, Ste 200
Louisville, CO 80027 United States of America
Phone: (720) 725-4557
www.binder-co.com

Blair Rubber Company

Booth 504

Products & Services

Linings and Claddings
Rail Systems and Supplies

Main Office

5020 Enterprise Pkwy
Seville, OH 44273 United States of America
Phone: (330) 769-5583
www.blairrubber.com

Blue Coast Research

Booth 1729

Blue Coast Research Ltd. (BCR) is a growing consultancy and metallurgical testwork laboratory located in Parksville, British Columbia. BCR is focused on providing high quality metallurgical testwork, data and interpretation to the global minerals industry.

Products & Services

Consulting - Research
Laboratory and Scientific Services

Main Office

1020 Herring Gull Way, Ste 2
Parksville, BC V9P1R2 Canada
Phone: (250) 586-0600
bluecoastresearch.ca/



Boart Longyear

See our ad on p. 25

Booth 1425

Established in 1890, Boart Longyear is the world's

leading provider of drilling services, drilling equipment and performance tooling for mining and drilling companies. It also has a substantial presence in aftermarket parts and service, energy, mine de-watering, oil sands exploration, production drilling, and down-hole instrumentation.

The Global Drilling Services division operates for a diverse mining customer base spanning a wide range of commodities, including copper, gold, nickel, zinc, uranium, and other metals and minerals. The Global Products division designs, manufactures and sells drilling equipment, performance tooling, down-hole instrumentation and parts and services.

Products & Services

Dewatering Equipment
Drill Bits - Rock
Drilling Contractors
Drilling Equipment
Exploration Equipment and Services
Mining Contractors
Pumps

Main Office

2455 S 3600 W
West Valley City, UT 84119 United States of America
Phone: (775) 748 1929
www.boartlongyear.com



Bosch Rexroth - Häggblunds Drives

Booth 1148

Häggblunds hydraulic direct drive systems from Bosch Rexroth make a powerful difference in mining and material handling applications. With their remarkable torque and reliable performance, they maximize the efficiency and uptime of conveyors, feeders, crushers, drums, bucket wheel reclaimers, kilns and more. Visit our booth to discover why industry-leading Häggblunds drive systems mean productivity throughout your equipment's life cycle.

Häggblunds is a brand of Bosch Rexroth, a leading global supplier of drive and control technologies. To learn more about Häggblunds solutions, visit our website.

Products & Services

Controls - Hydraulic and Pneumatic
Conveyor Belting - Accessories and Equipment
Drives - Belt, Chain, Fluid and Gear
Hydraulic System Components
Maintenance Services
Power Transmission Equipment

Main Office

3940 Gantz Rd
Grove City, OH 43123 United States of America
Phone: (614) 305-4999
www.boschrexroth-us.com

Bowman Consulting Group

Booth 1756

Bowman has a well networked and highly collaborative team of more than 1700 engineering, land survey

and geoscience professionals that provide exceptional mining services, which include Mineral Process Plant, Mine Facility and Mine Infrastructure design, Survey, Capital Project Controls and Mine Water & Environment services. In 2020, Bowman was ranked #9 by ENR for Mining. In every aspect of a mining project's lifecycle, Bowman is committed to delivering "fit for purpose" solutions with a sense of urgency and a strong commitment to client service and quality.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental

Main Office

3275 West Ina Road, Ste 220
Tucson, AZ 85741 United States of America
Phone: (602) 738-3709
bowman.com

Bradken

Booth 1924

Bradken is a leading heavy engineering company, specialising in the design, manufacture and supply of parts and equipment to the mining and mineral processing industry.

We also serve highly complex specialist industries with our technical knowledge and custom metal casting and fabrication capabilities, ensuring all of our customers get the right solution.

Our engineering and design expertise is backed by a global network of sales and service teams, foundries, and workshops, meaning our aftermarket service is regionally focused, efficient and places our customers at the heart of everything we do.

Products & Services

Castings
Excavators
Feeders
Grinding Media and Liners
Grinding Mills
Grizzlies - Feeding, Moving and Stationary
Linings and Claddings
Maintenance Equipment and Supplies
Parts - Mining Machinery
Pipes

Main Office

90 Richmond St E, Ste 400
Toronto, ON M5C 1P1 Canada
www.bradken.com

Bray Controls

Booth 621

Products & Services

Valves

Main Office

13333 Westland E Blvd
Houston, TX 77041 United States of America
Phone: (281) 894-5454
www.bray.com

BreatheSafe - AireSafe International

Booth 129

BreatheSafe is a leading supplier of air purification equipment to clean the air in mobile mining equipment, control rooms and electronic cabinets. We protect the operator from harmful dust exposure and also improves the reliability of HVAC systems and electronic cabinets in Heavy Mining Equipment.

Products & Services

Dust and Fume Control Technology
Environmental Control Equipment and Supplies
Filters, Filter Cloth and Accessories
HealthCare
Maintenance Equipment and Supplies
Safety Equipment

Main Office

122 S River St
Janesville, WI 53548 United States of America
Phone: (520) 903-7672
www.Breathe-Safe.com

Brelko Conveyor Products, Inc

Booth 1662

Manufacturer and supplier of conveyor belt spillage control equipment, and associated services provider.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

5311 Western Ave, Ste 165
Boulder, CO 80301 United States of America
Phone: (303) 544-0817
Email: sales@brelko.us
www.brelko.com

Bridgestone Americas Tire Operations

Booth 1252

Bridgestone Americas, Inc. is the U.S. subsidiary of Bridgestone Corporation, a global leader in tires and rubber which is building on its expertise to provide solutions for safe and sustainable mobility. Headquartered in Nashville, Tennessee, Bridgestone Americas has approximately 50 production facilities including 5 Research & Development (R&D) Centers. Bridgestone Americas has 50,000 employees including manufacturing and sales subsidiaries located in Canada, Argentina, Brazil, Chile, Colombia, Costa Rica, and Mexico, with additional offices throughout Latin America, the Caribbean and Liberia.

Products & Services

Transportation

Main Office

200 4th Ave S
Nashville, TN 37201 United States of America
Phone: (615) 937-1000
www.bridgestoneamericas.com/en/index



Brookville Equipment Corp

See our ad on p. 25

Booth 1224

Brookville Equipment Corporation is the leading manufacturer of specialized vehicles used in underground mining and tunneling construction for transporting materials and personnel. Producing rail-mounted and rubber-tired vehicles, each designed to meet the demanding specifications of a customer's unique application. BROOKVILLE units come in battery, diesel, or overhead wire.

BROOKVILLE's underground equipment is currently being used worldwide in the mining of coal, hard rock, precious metals, as well as tunnel construction projects.

Committed to leading the mining industry, BROOKVILLE manufactures innovative, cost effective, productive, reliable, and safe solutions to transporting materials and personnel.

Visit our website for information.

EXPERIENCE, QUALITY & COMMITMENT

SONIC DRILLING SERVICES

- GEOTECHNICAL
- ENVIRONMENTAL
- HYDROGEOLOGICAL



For decades, Boart Longyear has lead the industry in sonic technology and driller expertise.



For more information, contact our sonic specialists:

Fred Hafner & Rob Sawrey
+1 (623) 889-7538

www.boartlongyear.com/contact

EXHIBITORS

Products & Services

Diesel Mining Equipment Manufacturers
Maintenance Equipment and Supplies
Transportation
Trucks and Haulage Units
Underground Excavation Services and Equipment

Main Office

175 Evans St
Brookville, PA 15825 United States of America
Phone: (814) 849-2000
www.brookvillecorp.com

Bruker

Booth 205

Bruker is dedicated to supporting the scientists and engineers who investigate our natural world and deliver the raw materials that fuel economies. We take a solutions-first approach to matching scientific problems in the geosciences, mining, and oil and gas to analytical solutions. Bruker is your whole-workflow solution partner producing tools to investigate rocks, minerals, and materials from the nanometer to the planetary scale. We provide timely global support and actively partner in building inclusive communities supporting cross-disciplinary scientific discovery.

Products & Services

Analyzers

Main Office

5465 E Cheryl Pkwy
Madison, WI 53711 United States of America
Phone: (608) 276-3000
www.bruker.com

Brunel Corp

Booth 1644

World Leader for Torque Limiters. Specifically engineered and designed for the harsh mining environment. Gone are the problems associated with slow reaction electrical overloads, shear pins and friction style clutches which give a wide torque variation and rapidly overheating slip clutches. Provides years of trouble-free service, removes overload problems, +/-5% repeatability, virtually no maintenance, all metal and totally enclosed. Brunel Torque Limiters are an investment that will save you money by preventing costly repairs of equipment, down-time and lost production.

Products & Services

Brakes - Dynamic, Friction Disk - Block, Magnetic
Clutches - Fluid, Friction and Magnetic
Couplings - Mechanical, Flexible and Rigid
Parts - Mining Machinery
Power Transmission Equipment
Tunnel Boring Equipment

Main Office

1304 Twin Oaks St
Wichita Falls, TX 76302 United States of America
Phone: (940) 723-7800
www.brunelcorp.com

Bunting

Booth 406

Bunting has magnetic separation equipment to detect and remove metal contaminants from your product stream. The broad selection includes suspended magnets, magnetic pulleys, crossbelts, metal detectors, and more. Don't allow ferrous and non-ferrous metal hazards sneak through. Bunting's equipment is customizable for your space and designed to be low-maintenance and operator friendly to increase efficiency and decrease downtime in your production. For a complete list of our products, visit our website.

Products & Services

Gravity Separators
Magnetic Separators

Main Office

500 S Spencer Rd
Newton, KS 67114 United States of America
Phone: (316) 284-2020
Email: newton@buntingmagnetics.com
buntingmagnetics.com

Burns & McDonnell Engineering Company, Inc

Booth 763

Burns & McDonnell is a full-service engineering, architecture, construction, environmental and consulting firm. Our over 10,000 employee-owners are comprised of engineers, architects, construction experts, planners, estimators, technicians and scientists. We plan, design, permit, construct and manage facilities all over the world, with one mission in mind: Make our clients successful.

Products & Services

Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Financial Services
Consulting - Management

Main Office

1850 N Central Ave, Ste 800
Phoenix, AZ 85004 United States of America
Phone: (602) 977-2623
www.burnsmcd.com/

Byrncut Group

Booth 1452

The Byrncut Group has grown over the past 34 years to provide diverse services to the mining industry and beyond. Starting as an underground mining contractor, the group has taken its cues from the changing requirements of the industry to expand to offer specialized and tailored solutions to its clients. The Byrncut Group includes: Byrncut - Underground Contract Mining; Jetcrete - Shotcrete Specialists; Raising Australia - Raise Drilling; Mining Plus - Consultancy; Quattro - Project Engineering; Murray Engineering - Electrical & Mechanical Engineering; FUZE - Composite Solutions; BOAB - Indigenous Training; Sano Health - Health & Injury Prevention

Products & Services

Construction - Contracting Services
Mine Operators
Shotcrete Equipment, Supplies and Services
Underground - Construction and Structures

Main Office

1810 E Sahara Ave, Ste 100
Las Vegas, NV 89104 United States of America
Phone: +61 8 9270 1000
www.byrmecut.com



CAB

See our ad on p. 30

Booth 1536

Strong, durable CAB Hooks and Hangers are used to safely organize and support cables, wires, pipes and hoses in mines and tunnels. Also specified in above-ground applications where exceptional strength, corrosion resistance and long service life are required. CAB's high-quality manufacturing, innovative designs and many safety features have attracted loyal customers worldwide. CAB (Cambria County Association for the Blind and Handicapped) is a private non-profit dedicated to providing employment and rehabilitation services to persons with severe disabilities. Our goal is to provide independence and dignity for our employees while providing our valued customers world class products.

Products & Services

Coal Preparation Plants
Electrical Equipment and Supplies
Longwall Mining Equipment
Maintenance Equipment and Supplies
Roof - Ground Supports
Safety Equipment
Tunnel Boring Equipment
Tunnel Lining and Support Materials
Underground - Construction and Structures
Ventilation Systems, Materials and Equipment

Main Office

211 Central Ave
Johnstown, PA 15902 United States of America
Phone: (814) 536-3531
www.cabproducts.com

CAID Industries

Booth 1154

Main Office

2275 E Ganley Rd
Tucson, AZ 85706 United States of America
Phone: (520) 309-5101
www.caid.com

Call & Nicholas Inc. - Call & Nicholas Instruments

Booth 701

Call & Nicholas Inc., an internationally recognized geotechnical engineering consulting firm, has been

providing a wide range of engineering services to the mining industry since 1980. Today, a full staff of dedicated geotechnical engineers, engineering geologists and technicians with experience in both open-pit and underground mining, provide expertise in all aspects of a comprehensive ground control program. The Instrument division of CNI, are instruments designed, developed and marketed by CNI to assist mines in monitoring real-time ground control. SlideMinder has been in service since 2003 and have had many improvements. A full service rock mechanics lab is available as well.

Products & Services

Aerial Mapping and Surveying
Consulting - Design and Planning
Consulting - Engineering
Geological-Physical-Technical Services and Equip
Laboratory and Scientific Services
Measurement and Monitoring Systems

Main Office

2475 N Coyote Dr
Tucson, AZ 85745 United States of America
Phone: (520) 670-9774
www.cnitucson.com

Cambelt International

Booth 245

At the core of Cambelt International's conveyor solutions is our proprietary one-piece flexible sidewall belting which achieves ultimate adhesion strength. Cambelt has set the standard for durability as all our belts are on a monolithic homogenous cured product – no gluing or vulcanizing. This proprietary technology is at the heart of all our conveyor systems which transport horizontally, vertical, and horizontally in a single enclosed system. Our designs reduce transfer points and rotating equipment, while providing an industry leading footprint.

Cambelt PROUDLY designs, engineers, manufactures, and assembles all our products in the USA.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

2820 W Directors Row
Salt Lake City, UT 84102 United States of America
Phone: (801) 972-5511
www.cambelt.com

Canadian Institute of Mining, Metallurgy & Petroleum (CIM)

Booth 1108

The Canadian Institute of Mining, Metallurgy and Petroleum (CIM) is the leading not-for-profit technical society of professionals in the Canadian minerals, metals, materials and energy industries.

Products & Services

Educational
Professional Society or Association
Publishers

Main Office

3500 de Maisonneuve W, Ste 1040
Montreal, QC H3Z 3C1 Canada
Phone: (514) 939-2710
www.cim.org

Canadian Mining Journal

Booth 1112

Magazine, website and Daily News that covers Canadian mining and mineral processing.

Products & Services

Publishers

Main Office

69 Yonge St, Ste 200
Toronto, VT M5E1K3 Canada
Phone: (416) 510-6891
Email: rseagraves@canadianminingjournal.com
www.canadianminingjournal.com

Canary Systems, Inc

See our ad on p. 31

Booth 425

The team of experts at Canary Systems has been providing integrated geomonitoring solutions as the industry leader for over 25 years. Applications include a mining applications from tailings monitoring to surface mining, heap leach, underground, operations, closure, and post-closure monitoring. Canary Systems helps clients improve risk management, monitor performance, and increase safety measures of operations by providing customized total solutions including the hardware and software for automated data acquisition. MLWeb provides a means to collect, process, store, visualize, and communicate data information from a wide range of sources in a single powerful but efficient platform.

Products & Services

Computer - Software and Services
Consulting - Engineering
Geological-Physical-Technical Services and Equip
Information Technology Products
Measurement and Monitoring Systems
Meters and Gauges
Sensors

Main Office

998 S Cherry Ave
Tucson, AZ 85719 United States of America
Phone: (603) 526-9800
Email: info@canarysystems.com
canarysystems.com

BROOKVILLE

Come see us at booth #1224 during SME
MINEXCHANGE in Phoenix, AZ!
Ask us about our newest flat car design!



Brookville Equipment Corporation is a custom solutions manufacturer, specializing in rubber tired and rail mining equipment.

Brookville Equipment Corporation
175 Evans Street • Brookville, PA 15825

www.BROOKVILLECORP.COM
P: 814.849.2000 F: 814.849.2010

EXHIBITORS

CANTY

Booth 1637

Canty manufactures vision-based process control equipment for the mining industry. Our camera-based systems and machine vision software can be used in almost every mining applicable including froth control, chute plug detection, and kiln monitoring. Particle size and shape analysis for dry solids from a crusher or ball mill as well as liquid slurry analysis in a hydrocyclone, clarifier, or thickener. Real time view and analysis of the process is provided. Additionally, the 2D particle size measurements can be correlated to sieve analysis and provide particle shape analysis sieves cannot provide. Canty has locations in Buffalo NY, Dublin, Ireland & Thailand.

Products & Services

Analyzers
Centrifuges
Filters, Filter Cloth and Accessories
Flotation Machines and Equipment
Furnaces - Industrial Process
Kilns
Laboratory Equipment and Supplies
Measurement and Monitoring Systems
Quality Improvement
Water Clarification and Treatment

Main Office

6100 Donner Rd
Buffalo, NY 14094 United States of America
Phone: (716) 625-4227
Email: sales@jmcanty.com
www.jmcanty.com



Carlson Software

See our ad on p. 33

Booth 1510

Carlson Software, established in 1983, is a privately owned technology and software solutions provider with the a focus on user-led features and in-the-field functionality. Combining best-in-class products with award-winning support for its products worldwide, Carlson offers CAD software solutions for mining, machine control, and precision laser measurement systems.

Carlson Mining CAD software features Underground, Surface, and Geology modules. Carlson Machine Control provides on-machine, GPS guidance for operators as well as Carlson Command for fleet management and supervisor project planning. The Laser Measurement Devices (Carlson LMD) offers a line of precision measurement systems like the all-new Boretrak®, C-ALS®, FIX1, and more.

Products & Services

Aerial Mapping and Surveying
Blasting Accessories, Equipment and Agents
Boring Equipment
Computer - Software and Services
Drilling Equipment
Exploration Equipment and Services
Measurement and Monitoring Systems

Quality Improvement
Reclamation Equipment and Services
Surveying Equipment and Supplies

Main Office

33 E Second St
Maysville, KY 41056 United States of America
Phone: (606) 564-5028
www.carlsonsw.com



Carrier Process Equipment Group (CPEG)

See our ad on p. 32

Booth 1856

Products & Services

Blending Systems
Conveyor Systems
Coolers
Dewatering Equipment
Dryers
Feeders
Furnaces - Industrial Process
Grizzlies - Feeding, Moving and Stationary
Kilns
Screens

Main Office

3400 Fern Valley Rd
Louisville, KY 40213 United States of America
Phone: (502) 969-3171
carriervibrating.com

Carroll Technologies Group

Booth 658

Carroll Technologies Group offers sales and service of hundreds of manufacturers products which include the major categories of safety, communication, and electronics. From products workers need everyday such as cap lights, rescuers, and safety PPE to electrical power centers, communication systems, and collision avoidance systems, Carroll Technologies Group has the knowledge, the products, and the expertise to help you make the right decision on what meets your needs. For over 40 years some of the biggest names in the industry have trusted Carroll for their needs.

Products & Services

Communications Equipment
Drives - Magnetic and Variable
Electrical Equipment and Supplies
Feeder Breakers
Hoists - Controls and Accessories
Lighting Systems and Lamps
Pumps
Safety Equipment
Steel Wire Ropes/Cables
Ventilation Systems, Materials and Equipment

Main Office

6822 Barger Pond Way
Knoxville, TN 37912 United States of America
Phone: (865) 771-4074
Email: support@carrolltechnologiesgroup.com
www.carrolltechnologiesgroup.com

Cascade Drilling L.P.

Booth 1639

Cascade is a full service company that specializes in drilling for mining, geotechnical, environmental, water and infrastructure projects. Cascade has 35 office locations across the United States and provides sonic, rotary, coring, auger and large casing advance drill systems for most any type of project.

Products & Services

Drilling Contractors

Main Office

7773 W Seldon Ln
Peoria, AZ 85345 United States of America
Phone: (623) 935-0124
www.cascade-env.com

Caterpillar

Booth 1419

Caterpillar Mining is dedicated to meeting our customers' needs with customized solutions. We are evolving to address their challenges with the right products, services, and technology. Together with our dealers, we have one goal: help mining customers get the most from their machines and mine sites. Together, We're Mining Better.

Products & Services

Automation
Autonomous Vehicles
Draglines
Drilling Equipment
Excavators
Loaders
Parts - Mining Machinery
Rail Systems and Supplies
Trucks and Haulage Units
Underground Excavation Services and Equipment

Main Office

875 W Cushing St
Tucson, AZ 85745 United States of America
Phone: (309) 675-1000
www.cat.com/mining

CCC Group, Inc

Booth 1836

CCC Group offers a combination of industrial construction capabilities to a spectrum of industries. Services include construction, fabrication, electrical and maintenance with expertise in civil, concrete, structural, mechanical, process piping and E&I disciplines. Our clients are leaders in heavy industrial processes, alternative fuels, general manufacturing, marine, metals, minerals processing, mining equipment, oil and gas, power, alternative energy, fertilizer and petrochemical.

Products & Services

Construction - Contracting Services
Conveyor Systems
Draglines
Maintenance Services
Mining Contractors

Main Office

5797 Dietrich Rd
San Antonio, TX 78219 United States of America
Phone: (210) 661-4251
Email: ccc@cccgrouppinc.com
www.cccgrouppinc.com



Cementation Americas

Cementation USA Inc*See our ad on p. 34***Booth 1350****Products & Services**

Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Mining Contractors
Underground - Construction and Structures
Underground Excavation Services and Equipment

Main Office

10150 S Centennial Pkwy, Ste 400
Sandy, UT 84070 United States of America
Phone: (801) 937-4120
www.cementation.com

CETCO**Booth 1517**

CETCO offers solutions for commercial, industrial and infrastructure construction challenges worldwide. We provide expertise in transforming minerals and polymers into technologies that improve productivity and performance. From technical problem-solving to on-site supervision, CETCO consults with customers to develop long-term solutions.

Products & Services

Linings and Claddings
Remediation
Tunnel Lining and Support Materials

Main Office

2870 Forbs Ave
Hoffman Estates, IL 60192 United States of America
Phone: (940) 435-1321
cetco.com

ChemGrout, Inc**Booth 1633**

With more than 60 years of experience, ChemGrout's Underground Series offers exceptional productivity for the grouting of water cut-offs, cable stays and rock bolts. Their patented pumps are industry standards offering reliability and durability, along with unique features simplifying clean-up and maintenance. Outputs range up to 52 GPM and pressures to 2000 PSI. Complete integrated mixing and pumping units are avail-

able in a variety of power options, including air, electric, electric/hydraulic, gasoline and diesel/hydraulic. Offering many unique and innovative features, ChemGrout has remained an industry leader in grouting equipment since 1963.

Products & Services

Grouting Services, Equipment and Materials
Pumps
Remediation

Main Office

805 E 31st St
LaGrange Park, IL 60526 United States of America
Phone: (708) 354-7112
Email: cginfo@chemgrout.com
www.chemgrout.com

Chevron Phillips Chemical**Booth 924**

Chevron Phillips Chemical - Mining Chemicals division provides a complete range of Orfom® solvent extraction diluents, Orfom® collectors for copper-molybdenum-gold/silver sulfide mineral flotation, Orfom® D8 depressant as a complete replacement for NaSH in copper-molybdenum separation, and Philflo® flotation oils for fertilizer minerals.

Products & Services

Reagents - Chemical and Flocculants
Solvents - Extraction, Mixer and Settlers

Main Office

10001 Six Pines Dr
The Woodlands, TX 77380 United States of America
Phone: (800) 858-4327
www.cpchem.com

CiDRA Minerals Processing Inc*See our ad on p. 35***Booth 1249**

For over 20 years, CiDRA Minerals Processing has been creating reliable and innovative technologies designed to address the most difficult challenges in the mining industry. CiDRA's CYCLONetrac™ Particle Size Tracking System and SONARtrac® Flow Monitoring Systems provide customers the ability to convert data into actionable information.

The CYCLONetrac™ PST System provides real-time particle size measurement of individual hydrocyclones. The SONARtrac® technology is an industry standard for flow and entrained air measurements. CiDRA has become a strategic partner for major mining companies around the world with installations in more than 700 sites in 58 countries.

Products & Services

Flotation Machines and Equipment
Grinding Mills
Measurement and Monitoring Systems
Meters and Gauges
Mineral Prospecting
Process Controls and Instruments
Sensors

Main Office

50 Barnes Park N
Wallingford, CT 06492 United States of America
Phone: (203) 265-0035
www.cidra.com

Civil & Environmental Consultants, Inc (CEC)**Booth 1548**

CEC provides innovative design solutions and integrated expertise to all sectors of the mining industry. We strategically focus on the industry's business drivers and challenges, offering solutions related to air quality, civil engineering, ecological sciences, environmental engineering and sciences, manufacturing infrastructure services, survey/geospatial, waste management, and water resources needs. With deep bench strength to tackle tough problems, CEC has successfully completed projects for the mining industry ranging from the design and permitting of coal refuse disposal areas, to water treatment projects, to large-scale post-mining land-use changes, to ecological resource impact assessments, and to mine reclamation/closure.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Emissions Control
Reclamation Equipment and Services
Remediation
Sediment & Erosion Control

Main Office

700 Cherrington Pkwy
Moon Township, PA 15108 United States of America
Phone: (800) 365-2324
www.cecinc.com/mining

Clariant Corporation**Booth 637**

Clariant Mining Solutions is a trusted provider of specialty chemicals to improve the sustainability and metallurgical performance of mines with our flotation collectors, frothers, and depressants. Our global network of local application and development centers coupled with our rapid response to customer requirements allow us to deliver customized high performing products. We have programs and products dedicated to improving sustainability: Tailings Management Program, lower toxicity replacements for xanthates and NaSH, advanced pelletizing technology to reduce energy consumption, and our Decarbonization Minerals Program, which focuses on reagents to process the main decarbonization minerals, including lithium, nickel, cobalt, rare earths, and alumina.

Products & Services

Reagents - Chemical and Flocculants
Remediation
Solvents - Extraction, Mixer and Settlers

Main Office

2730 Technology Forest Blvd
The Woodlands, TX 77381 United States of America
www.clariant.com/mining



Cambria County Association for the Blind and Handicapped

*Serving the mining industry
since 1977.*

CAB® Products are proudly
Manufactured in the USA
by Persons with Disabilities.



Visit us at Booth #1536
2024 SME Annual Conference & Expo



www.cabproducts.com

EXHIBITORS

ClearSpan Structures

Booth 917

ClearSpan Structures has been providing custom and turnkey fabric and metal buildings to businesses for over 40 years. ClearSpan's structures can be built almost anywhere and can be highly customized to meet the needs of any operation.

Products & Services

Temporary Structures

Main Office

1395 John Fitch Blvd
South Windsor, CT 06074 United States of America
Phone: (866) 643-1010
www.clearspan.com

Climatech

Booth 1254

Products & Services

Refinery Equipment

Main Office

1650 E Riverview Dr
Phoenix, AZ 85034 United States of America
Phone: (480) 299-3386
www.clim-a-tech.com

COGEP Maintenance Software

Booth 726

COGEP is a rapidly growing leader in Computerized Maintenance Management Systems. Since 1989, COGEP has been developing and implementing Guide Ti, a powerful world-class CMMS/EAM and procurement software. Our tools and expertise have been helping private and public organizations to plan, organize and control maintenance activities involving their strategic assets.

Products & Services

Computer - Software and Services
Information Technology Products
Maintenance Equipment and Supplies
Maintenance Services
Measurement and Monitoring Systems

Main Office

825 boul Lebourgneuf, Ste 400
Quebec City, QC G2J 0B9 Canada
Phone: (418) 626-2503
guideti.com/

Colorado Mining Association (CMA)

Booth 830

The Colorado Mining Association (CMA), established in 1876, is the oldest professional mining industry trade association in the U.S. The CMA membership is comprised of companies who are actively engaged in the exploration, production, and refining of metals, coal and industrial minerals. Membership also includes businesses and individuals that offer services and supplies to the mining industry.

Products & Services

Educational
Professional Society or Association

Main Office

8156-E S Wadsworth Blvd #330
Littleton, CO 80128 United States of America
Phone: (303) 575-9199
www.coloradomining.org

Colorado School of Mines - Department of Mining Engineering

Booth 1018

Ranked as the #1 mineral & mining school in the world since 2016 by the QS World University Rankings, the Mining Engineering Department at Colorado School of Mines has distinguished itself by developing curriculum and research programs geared toward responsible stewardship of the earth and its resources.

Through collaborations with other Mines departments, academic institutions, government agencies, and industry, we are committed to expanding the international reputation of the department for excellence in education, research, industry service, and community outreach.

Products & Services

Consulting - Engineering
Consulting - Research
Educational

Main Office

1610 Illinois St, Brown Bldg 239
Golden, CO 80401 United States of America
Phone: (303) 273-3700
mining.mines.edu/

Concrete Canvas US

Booth 1049

Main Office

1350 Nasa Rd 1, Ste 120
Houston, TX 77058 United States of America
Phone: (832) 864-2946

ConeTec Inc

Booth 1629

ConeTec is an international full-service mining, geoenvironmental, and geotechnical site investigation contractor. ConeTec offers clients superior project management and site investigation services across the globe, with a large presence in North and South America.

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All field investigations are performed by specially trained personnel and supported by experienced site investigation professionals in order to provide the highest quality site investigation. This is the ConeTec difference—better information, better decisions.

Products & Services

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Drilling Contractors
Geological-Physical-Technical Services and Equip
Measurement and Monitoring Systems
Remediation

Main Office

PO Box 22082
Salt Lake City, UT 84122 United States of America
Phone: (801) 973-3801
www.conetec.com

Conifer Systems

Booth 505

Conifer Systems provides innovative emissions control systems that enable companies to meet regulatory emissions standards, maximize uptime and minimize cost. Through reliable environmental solutions, our commitment to clean energy and creating industrial efficiencies, we strive to be the partner you can rely on for years to come.

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Products & Services

Emissions Control
Environmental Control Equipment and Supplies
Pollution Control Equipment
Ventilation Systems, Materials and Equipment

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EXHIBITORS

Conspec Controls

Booth 1158

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Products & Services

Controls - Electrical and Electronic
Electrical Equipment and Supplies
Environmental Control Equipment and Supplies
Measurement and Monitoring Systems
Safety Equipment
Sensors

Main Office

6 Guttman Blvd
Charlertoi, PA 15022 United States of America
Phone: (724) 489-8450
www.conspec-controls.com

Contech Engineered Solutions

Booth 1718

Contech® Engineered Solutions LLC is a leading civil engineering site solutions products and services company. Contech is the only company that can provide bridge, drainage, erosion control, retaining wall, sanitary, soil stabilization, and stormwater solutions on a national scale. Our product offering includes corrugated metal and plastic pipe; steel truss, metal plate and concrete arch bridges and structures; hard armor, geogrid, geotextiles, block and retaining wall systems;

and stormwater detention/retention, filtration and treatment systems. Our product portfolio is based on more than a century of research and practical field experience serving the highway, drainage, sewage and site-improvement markets.

Products & Services

Consulting - Engineering
Pipes
Steel Pipe
Tunnel Lining and Support Materials
Underground - Construction and Structures
Water Clarification and Treatment

Main Office

9100 Centre Pointe Dr, Ste 400
West Chester, OH 45069 United States of America
Phone: (800) 338-1122
www.conteches.com

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Booth 1019

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nology company offers safe, efficient, intelligent and affordable solutions for vehicles, machines, traffic and transportation. In 2022, Continental generated sales of €39.4 billion and currently employs around 200,000 people in 57 countries and markets.

Products & Services

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Conveyor Belting - Accessories and Equipment
Hoses - Valves and Fittings
Hydraulic System Components

Main Office

703 S Cleveland-Massillon Rd
Fairlawn, OH 44333 United States of America
Phone: (330) 664-7000
www.continental-industry.com

Coolon USA, Inc

Booth 134

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Diesel Equipment Lighting Systems
Electrical Equipment and Supplies
Information Technology Products
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Safety Equipment
Sensors

Main Office

410 Main St
Racine, WI 53403 United States of America
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coolon.com.au

Copper State Bolt & Nut Co

Booth 911

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Products & Services

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Grinding Media and Liners
Grinding Mills
Hoses - Valves and Fittings
Linings and Claddings
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Parts - Mining Machinery
Safety Equipment
Training Services

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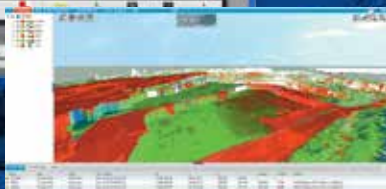


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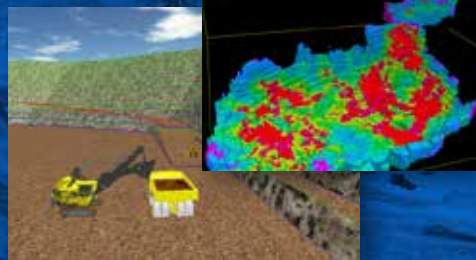
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EXHIBITORS

Main Office

3637 N 34th Ave
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Cornell Pump Co

Booth 618

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Products & Services

Continuous Mining Machines
Dewatering Equipment
Pumps

Main Office

16261 SE 130th Ave
Clackamas, OR 97015 United States of America
Phone: (503) 653-0330
Email: info@cornellpump.com
www.cornellpump.com

Costmine

Booth 1114

Costmine Intelligence provides up-to-date mine cost estimating tools for feasibility studies, exploration decisions and economic analysis. Mining Cost Service and Mine & Mill Equipment Costs Guide have been a trusted source for cost estimating data for over 40 years. Our Sherpa software suite of engineering-based cost estimating tools can help you to quickly and accurately determine capital and operating costs. Our Mining Intelligence database offers detailed global information on 18K+ mining companies, 41K+ mining and exploration properties and over 23 million documents. Costmine Intelligence is a valuable resource for investors, geologists, engineers, financiers, teachers, consultants and suppliers.

Products & Services

Computer - Software and Services
Consulting - Engineering
Educational
Geological-Physical-Technical Services and Equip
Information Technology Products
Mine Evaluations - Surface and Underground
Publishers
Reclamation Equipment and Services

Main Office

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Cowin & Company/Raisebor

Booth 1920

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Main Office

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Booth 325

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Remediation
Solvents - Extraction, Mixer and Settlers
Water Clarification and Treatment

Main Office

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Excavators
Loaders
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Parts - Mining Machinery
Safety Equipment
Underground Excavation Services and Equipment

Main Office

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www.crmining.com

Crow Industries

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Booth 856

Crow Industries provides advanced mapping, geomatics, and autonomy solutions, using cutting edge robotics and AI to collect data faster and provide better insights into your mines.

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Aerial Mapping and Surveying
Automation
Autonomous Vehicles

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Mining Contractors
Reclamation Equipment and Services
Remediation
Shotcrete Equipment, Supplies and Services
Tunnel Lining and Support Materials

Main Office

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Products & Services

Computer - Software and Services
Consulting - Design and Planning
Exploration Equipment and Services
Information Technology Products
Laboratory and Scientific Services
Training Services

Main Office

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Phone: (303) 985-7713
www.dataminesoftware.com

DEA Incorporated

Booth 1055

Experts in Mine Power Distribution & Industrial Control Systems. Founded in 1984 by an Electrical Engineer with extensive mining experience, DEA Incorporated understands heavy industrial conditions. We continue to design & manufacture a complete line of rugged electrical distribution equipment specially created for the harsh mining environment. DEA Inc is an experienced UL508A Industrial Control Panel builder that offers engineering support, design, programming and commissioning for various projects throughout many industries. Proudly built Rugged Tough in the USA. Veteran Owned Business.

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Maintenance Services
Power Transmission Equipment
Process Controls and Instruments

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Phone: (509) 214-1498
www.deainc.net

DELLNER BUBENZER

Booth 2025

Dellner Bubenzer is a global supplier and manufacturer of mining and steel mill duty industrial braking systems and brake components for mining and material handling applications within the mining equipment, overhead traveling crane, container handling, steel, shipboard equipment, movable bridge, and wind power industries. Dellner Bubenzer's products include hydraulic cylinders, disc, drum, band, and storm brakes, as well as monitoring systems for braking applications.

With nearly 80 years of experience and production in four global facilities, Dellner Bubenzer has developed a expertise in the design, testing and implementation of braking systems worldwide.

Products & Services

Brakes - Dynamic, Friction Disk - Block, Magnetic
Clutches - Fluid, Friction and Magnetic
Controls - Hydraulic and Pneumatic
Conveyor Belting - Accessories and Equipment
Couplings - Mechanical, Flexible and Rigid

Main Office

20026 Hickory Twig Wy
Spring, TX 77388 United States of America
Phone: (832) 482-4830
www.dellnerbubenzer.com

Derrick Corporation

Booth 1413

Derrick has pioneered the development of wet and dry fine screening solutions to serve diverse industries throughout the world for more than 70 years. Derrick offers its clients leading-edge solutions to maximize separation efficiency. Using this patented equipment and innovative screen surface technology, offers unmatched performance – increased product recovery and reduced power consumption. Derrick equipment symbolizes rugged reliability, and remains committed to providing the latest technological enhancements that evolve alongside industry best practices and market developments. Derrick's latest patented products – the SuperStack® 8-Deck fine wet screening machine, and G-Vault® urethane interstage screen coupled Trilogy™ Surface Technology.

Products & Services

Centrifuges
Classifiers
Cyanide Process Equipment
Dewatering Equipment
Screens
Separators and Concentrators

Main Office

590 Duke Rd
Buffalo, NY 14225 United States of America
Phone: (716) 683-9010
Email: info@derrick.com
www.derrick.com

Desert Mountain Corporation

Booth 2019

Desert Mountain Corporation provides dust control, ice melting, road stabilization, soil stabilization, and high-performance pothole patch solutions for the mining industry throughout the Western United States.

Products & Services

Coatings (does not include Linings and Claddings)
Consulting - Environmental
Dust and Fume Control Technology
Emissions Control
Environmental Control Equipment and Supplies
Maintenance Equipment and Supplies
Reagents - Chemical and Flocculants
Reclamation Equipment and Services
Sediment & Erosion Control
Transportation

Main Office

1930 S Alma School Rd, Ste B-219
Mesa, AZ 85210 United States of America
Phone: (480) 588-6327
www.desertmtncorp.com

Deswik

Booth 549

Products & Services

Computer - Software and Services
Consulting - Engineering

Main Office

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Denver, CO 80264 United States of America
Phone: (720) 344-4920
www.deswik.com

DeWind One Pass Trenching LLC

Booth 1159

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Products & Services

Construction - Contracting Services
Dewatering Equipment
Reclamation Equipment and Services
Remediation
Sediment & Erosion Control
Underground - Construction and Structures

Main Office

9150 96th Ave
Zeeland, MI 49464 United States of America
Phone: (616) 875-7580
www.dewindonepass.com

Diemme Filtration SRL

Booth 601

In the solid-liquid separation segment Diemme Filtration has succeeded in conquering a notable portion of the market thanks to its skill in extreme customization of plants, designed to specific customers needs. With our brand Diemme® Filtration we are one of the leading specialists in solid/liquid separation for industrial processes and offer the widest range of filter presses and thickeners currently available in the global market.

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Filters, Filter Cloth and Accessories
Pumps
Remediation
Thickeners
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EXHIBITORS

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Diesel Laptops

Booth 1858

Diesel Laptops provides diagnostic tools, training, and parts/repair information

Products & Services

Computer - Hardware and Services
Computer - Software and Services
Information Technology Products

Main Office

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Irmo, SC 29063 United States of America
Phone: (888) 983-1975
www.DieselLaptops.com

Disa Technologies, Inc

Booth 954

Disa is an innovative materials liberation company providing solutions that optimize the world's use of resources and radically disrupt best practices in the mining and reclamation industries. Disa utilizes patented liberation technology and other equipment to isolate targeted materials in order to deliver efficiencies, reduce costs, and mitigate environmental impacts to its users. Disa platforms isolate a vast array of geologic material ranging from precious and industrial metals, to hydrocarbons and abandoned uranium mine material.

Products & Services

Grinding Mills
Laboratory and Scientific Services

Main Office

1653 English Ave
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Dodge Industrial, Inc

Booth 629

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Products & Services

Belts - Power Transmission
Conveyor Belting - Accessories and Equipment
Couplings - Mechanical, Flexible and Rigid
Drives - Belt, Chain, Fluid and Gear
Gears - Pullers, Reducers and Pinions

Main Office

1061 Holland Rd
Simpsonville, SC 29681 United States of America
Phone: (864) 297-4800
dodgeindustrial.com/

Drill Tech Drilling & Shoring Inc

Booth 1636

Products & Services

Construction - Contracting Services

Main Office

2200 Wymore Wy
Antioch, CA 94509 United States of America
Phone: (925) 978-2060
www.drilltechdrilling.com

Driver Industrial Safety

Booth 310

Driver Industrial Safety™ is a quality manufacturer of market-driven Safety Products for industrial and commercial industries. We are headquartered in Phoenix, Arizona (USA) with manufacturing and warehouse facilities in the US & Canada and sell through our global distribution channels. We were originally founded in 2004 under our former recognized name SafetyWhips®. Driver was founded on the basis that there is a critical need for well-engineered and dependable products for work site safety. Clients depend on us to keep their worksite safe. Our combined 100+ years in LED and electronics manufacturing provides the best engineered products available for worksite safety.

Products & Services

Loaders
Maintenance Equipment and Supplies
Mine Operators
Mining Contractors
Safety Equipment
Trucks and Haulage Units

Main Office

2115 W Mountain View Rd
Phoenix, AZ 85021 United States of America
Phone: (602) 424-2500
Email:sales@driverindustrial.com
www.driverindustrialsafety.com



Dyno Nobel

See our ad on p. 41

Booth 1125

Customers in the mining industry choose Dyno Nobel for quality products, reliable service and technical expertise. Dyno Nobel is the market leader in North America with facilities in Australia, Canada, the United States, Indonesia, Mexico, South America and Papua New Guinea. With a customer driven focus, Dyno Nobel

develops practical products that will benefit customers in real time. Customers can count on real solutions to their pain points of today, helping them to reduce costs and increase production. Renowned for excellent safety performance and innovative explosive products and services, Dyno Nobel continuously delivers groundbreaking performance through practical innovation.

Products & Services

Blasting Accessories, Equipment and Agents
Consulting - Design and Planning
Consulting - Engineering
Explosive Materials and Services
Laboratory and Scientific Services
Mine Evaluations - Surface and Underground

Main Office

6440 S Millrock Dr, Ste 150
Salt Lake City, UT 84121 United States of America
Phone: (385) 347-2679
www.dynonobel.com

Dyson Corp

Booth 142

Dyson Corp. was founded in 1884 as a small forge shop in Cleveland, Ohio. We have grown to become a leading manufacturer of critical fasteners ranging from 1½" up to 20" in diameter and custom forgings ranging in size from 1/2 to 10,000 lbs. We have built an infrastructure that enables us to provide our customers with 100% American-made fasteners and other industrial parts according to spec at a price that fits your budget. We provide industrial parts to industries that include Wind Energy, Locks and Dams, Marine and Military, Infrastructure and Construction, Oil and Gas, Mining, and Bridges.

Products & Services

Fasteners - Industrial

Main Office

53 Freedom Rd
Painesville, OH 44077 United States of America
Phone: (800) 680-3600
Email:sales@dysoncorp.com
www.dysoncorp.com

Eagle Mine

Booth 858

Operating since 2014, Eagle Mine is an underground, high-grade nickel and copper mine located in western Marquette County of Michigan's Upper Peninsula. It is the first mine to be permitted under Michigan's Part 632 Non-Ferrous Mineral Mining Law. The mine is expected to produce 440 million pounds of nickel, 429 million pounds of copper, and trace amounts of other minerals over its estimated mine life.

Products & Services

Mine Operators

Main Office

4547 County Rd
Champion, MI 49814 United States of America
www.eaglemine.com/



easyXAFS, LLC**Booth 1864**

easyXAFS is the global leader in laboratory XAFS and XES instrumentation. This bulk sensitive, element specific measurement can show changes in oxidation state and local structure. Imagine what you can do with reliable, every day access to advanced x-ray spectroscopy. Our proven laboratory x-ray spectrometers give synchrotron-quality spectra and game-changing scientific freedom.

Products & Services

Laboratory Equipment and Supplies

Main Office

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Phone: (253) 347-4480
easyxafs.com

Eclipse Mining Technologies**Booth 441**

SourceOne® Enterprise Knowledge Performance System (EKPS) is a knowledge system (not a platform) with the power to harness the wealth of complex data generated by mines, leading to next-level informed decision-making and operational efficiencies. By using an ontology framework and knowledge graphs, Source-

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Products & Services

Automation
Computer - Software and Services
Information Technology Products

Main Office

3602 E Fort Lowell Rd
Tucson, AZ 85716 United States of America
Phone: (520) 372-7345
Email: info@eclipsemining.com
www.eclipsemining.com

ECN Automation**Booth 956**

Mining process instrumentation, automation, and optimization solutions

Products & Services

Automation

Main Office

1797 W University Dr, Ste 174
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Phone: (480) 717-8876

Eco-Goldex Inc**Booth 531**

Eco-Goldex develops and supplies its innovative Eco-Goldex® products for precious metal (Au, Ag, Pd, Pt, Rh...) recovery from both hard rock and E-scrap materials.

Eco-Goldex offers Au-Ag-PGM resource developers with its simple, high-performance and eco-friendly product to global clients with a full-service approach. In addition to these unique technology and services, Eco-Goldex also a large zinc dust product supplier for mining operations worldwide.

Products & Services

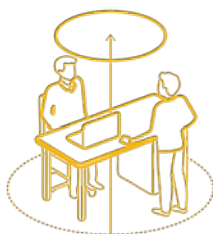
Solvents - Extraction, Mixer and Settlers

Main Office

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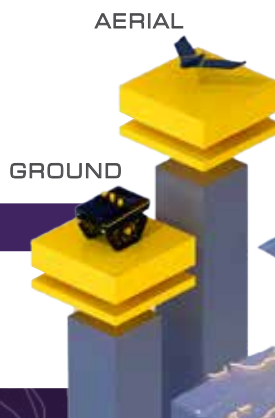
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EXHIBITORS

EcoMister Evaporator

Booth 328

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Dust and Fume Control Technology
Environmental Control Equipment and Supplies
Fans and Blowers
Pollution Control Equipment
Reclamation Equipment and Services
Remediation
Water Clarification and Treatment

Main Office

559 Okanagan Ave E
Penticton, BC V2A 3K4 Canada
Phone: (778) 476-8432
www.ecomister.ca

Eirich Machines, Inc

Booth 1713

Eirich Machines, part of worldwide Eirich Group, is an international supplier of innovative material processing technology and solutions. Our EIRICH product line includes grinders and mixers with peripheral equipment for complete systems. EIRICH's cost- and energy effective grinding mills are for dry and wet grinding of brittle materials. You can reduce power consumption by 30-35% and have media consumption rates that are 45% of what conventional mills do. Visit our booth to learn more!

Products & Services

Agitators, Vibrators and Mixers
Dryers
Grinding Mills
Reduction Technologies - Iron Ore, Steel, Mineral

Main Office

4033 Ryan Rd
Gurnee, IL 60031 United States of America
Phone: (847) 336-2444
Email: eirich@eirichusa.com
www.eirichusa.com

Emerson

Booth 1609

Emerson is a global solutions provider focused on helping Miners exceed key performance indicators: Safety, Production, Cybersecurity, Environmental Stewardship, and Sustainability. A long-time supplier of valves, instrumentation, and control systems, today's Emerson leverages OT expertise into enterprise-wide data solutions which leverage machine learning to manage asset performance, optimize mineral recovery, and provide autonomous control solutions.

Products & Services

Analyzers
Automation
Consulting - Engineering
Controls - Electrical and Electronic
Information Technology Products
Measurement and Monitoring Systems
Process Controls and Instruments
Sensors
Training Services
Valves

Main Office

8200 Market Blvd
Chanhassen, MN 55317 United States of America
Phone: (952) 949-7126
www.emerson.com/mining

EMSL Analytical, Inc

Booth 109

EMSL Analytical, Inc., a national network of fifty laboratories located throughout the U.S. and Canada. Established in 1981, EMSL is a nationally recognized and locally focused provider specializing in fast laboratory results for Allergens, Asbestos, Chemistry, Fire and Smoke, Indoor Air Quality, Industrial Hygiene, Lead, Material Science, Metals, Microbiology, PCR/DNA, Radio Chemistry, Radon, Silica, and Water Quality. EMSL also carries sampling pumps, media, and investigative equipment.

Products & Services

Laboratory and Scientific Services
Laboratory Equipment and Supplies

Main Office

200 Route 130 North
Cinnaminson, NJ 08077 United States of America
Phone: (800) 220-3675
Email: info@emsl.com
www.emsl.com

Endurance Belting

Booth 1626

Endurance Belting is a leading supplier of heavy-duty conveyor belting to the mining industry around the globe. Our success is a result of taking practical real-world insights from the field, translating them into belt design and building a high-quality product. We offer a wide range of belting options and innovative belting solutions that can address the material handling needs of your next project. We encourage you to visit our booth (1626) to learn more about the Endurance Belting approach and the successes we have had supplying heavy-duty belting to the mining sector.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

828 Ritson Rd S
Oshawa, ON L1H 5L4 Canada
Phone: (905) 443-0150
www.endurancebelting.com

Englo, Inc

Booth 1005

Products & Services

Consulting - Engineering
Dust and Fume Control Technology
Environmental Control Equipment and Supplies
Fans and Blowers
Fire Protection
Ventilation Systems, Materials and Equipment

Main Office

PO Box 1124
Beckley, WV 25802 United States of America
Phone: (304) 253-0777
www.engloinc.com

ENTACT, LLC

Booth 1442

ENTACT provides industry-leading environmental remediation and geotechnical construction services for our mining Clients. We have performed remediation, demolition, restoration, and improved dams or similar water control structures to help our Clients transform an impacted site into a sustainable environment. ENTACT takes pride in self-performing the work, providing Clients with value, reliability, and accountability for costs and schedule control for their projects. Safety is core to our company culture and is demonstrated by being a 5-time National Safety Council (NSC) industry leader award recipient. ENTACT provides innovative, successful solutions for our customers.

Products & Services

Construction - Contracting Services
Dredges
Excavators
Reclamation Equipment and Services
Remediation
Sediment & Erosion Control

Main Office

63 Inverness Dr E, Ste 101
Englewood, CO 80112 United States of America
Phone: (630) 986-2900
www.entact.com

Enterprise Automation, A Tetra Tech Company

Booth 141

Enterprise Automation is a full-service integration and automation consulting firm serving a variety of process-driven industries, including water and wastewater, oil and gas, life sciences, materials handling, and traditional and renewable energy.

Products & Services

Automation

Main Office

9050 Irvine Center Dr, Ste 200
Irvine, CA 92618 United States of America
Phone: (949) 769-6000
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EXHIBITORS

Envirocon, Inc

Booth 1340

Envirocon safely and reliably delivers projects that protect, remediate, and restore our environment for commercial and government clients nationwide. Helping our clients meet their goals and objectives with innovative approaches in environmental remediation, ecological restoration, and decommissioning & demolition is what we do. Envirocon offers proven safety performance, project delivery, and financial strength and stability unmatched in our industry. We serve our clients with integrity and provide reliable, safe, and high-quality results.

Products & Services

Construction - Contracting Services
Dewatering Equipment
Excavators
Loaders
Reclamation Equipment and Services
Remediation
Sediment & Erosion Control

Main Office

101 International Dr
Missoula, MT 59808 United States of America
Phone: (406) 523-1150
www.envirocon.com

Environmental Products & Applications, Inc

Booth 1448

Environmental Products and Applications has been supplying and applying dust control polymers for over 30 years. Our line of dust suppressants are a cost effective way to eliminate fugitive dust from your site. We provide dust control products for the mining, solar, military and construction industries. We also provide dust control for airstrips, parking lots and mine haul roads.

Products & Services

Dust and Fume Control Technology

Main Office

78-900 Ave 47, Ste 106
La Quinta, CA 92253 United States of America
Phone: (760) 777-8035
www.eparhino.com

Epiroc

Booth 1119

Epiroc is a leading productivity partner for the mining, infrastructure and natural resources industries. With cutting-edge technology, Epiroc develops and produces innovative drill rigs, rock excavation and construction equipment, and provides world-class service and consumables. The company was founded in Stockholm, Sweden, and has passionate people supporting and collaborating with customers in more than 150 countries.

Products & Services

Automation
Autonomous Vehicles
Drill Bits - Rock
Drilling Equipment
Loaders

Parts - Mining Machinery
Roof - Ground Supports
Trucks and Haulage Units

Main Office

8001 Arista Pl, Ste 400
Broomfield, CO 80021 United States of America
Phone: (844) 437-4762
www.epiroc.com

Equinox Gold

Booth 557

Equinox Gold is a growth-focused gold producer with seven operating mines and a clear plan to increase production by advancing a pipeline of growth projects. Our team of proven and experienced mining professionals identifies promising assets and develops them into world-class mines that operate to the highest environmental, social, and safety standards. We are looking for individuals who want to be part of this high-functioning team and are committed to the Company's success. Stop by our booth today to explore career opportunities open to join the team at Castle Mountain Mine / Equinox Gold.

Products & Services

Mine Evaluations - Surface and Underground
Mine Operators
Mineral Prospecting
Mining Contractors

Main Office

980 American Pacific Dr, Ste 102
Henderson, NV 89014 United States of America
Phone: (702) 763-9313
www.equinoxgold.com



ERIEZ

See our ad on p. 43

Booth 1437

Eriez offers magnetic separation, magnetic purification and vibratory conveying solutions for the mining industry. Founded in 1942, Eriez' metal removal, wet and dry mineral processing technologies protect downstream equipment, product purity and the efficiencies of mineral processing and mining operations.

Eriez Flotation is a global leader in advanced flotation technology and is a wholly owned subsidiary of Eriez Manufacturing Co. Eriez Flotation provides advanced testing and engineering services, sparging and column flotation equipment, and game changing innovations in process technology such as HydroFloat® and Stack-Cell® for the mining and mineral processing industries.

Products & Services

Feeders
Flotation Machines and Equipment
Gravity Separators
Heavy Media Recovery Units
Magnetic Separators

Main Office

2200 Asbury Rd
Erie, PA 16506 United States of America
Phone: (814) 835-6000
www.eriez.com

Erisco

Booth 1758

Erisco designs and manufactures battery less, offline electronic padlocks for lock out / tag out, trade lock and security applications.

Products & Services

Safety Equipment

Main Office

6837 Berry Bush Ln
Evergreen, CO 80439 United States of America
Phone: (385) 282-9639
www.erisco.net

Esri

Booth 214

Esri, the global leader in GIS software and location intelligence, helps customers unlock the full potential of data to improve operational and business results. Esri software is deployed in more than 350,000 organizations globally and in over 200,000 institutions in the Americas, Asia and the Pacific, Europe, Africa, and the Middle East, including Fortune 500 companies, government agencies, nonprofits, and universities. Esri has regional offices, international distributors, and partners providing local support in over 100 countries on six continents. Esri engineers the most innovative solutions for digital transformation, the Internet of Things (IoT), and advanced analytics. Visit our website.

Products & Services

Aerial Mapping and Surveying
Autonomous Vehicles
Computer - Software and Services
Consulting - Environmental
Exploration Equipment and Services
Geological-Physical-Technical Services and Equipment
Information Technology Products
Mine Operators
Mineral Prospecting
Surveying Equipment and Supplies

Main Office

380 New York St
Redlands, CA 92374 United States of America
Phone: (909) 369-2953
www.esri.com/en-us/industries/mining/overview

ExcelSense Technologies

Booth 861

ExcelSense Technologies designs and manufactures rugged, maintenance-free, self-cleaning cameras and lidars for equipment situational awareness, auton-



Eriez Concentration & Separation Equipment for Minerals Processing



Eriez offers wet and dry, low-, medium- and high-intensity magnetic separators to concentrate magnetic ores or remove metallic contaminants and industrial minerals.

- High Intensity Magnetic Filters
- Magnetic Flocculators
- LIMS and MIMS Wet Drum Separators
- WHIMS Wet High Intensity Magnetic Separator
- Dry Vibrating Magnetic Filters
- Cross Belt Magnetic Separators
- Magnetic Mill Liner
- Trunnion Magnet System
- Demagnetizing Coils

Eriez designs and manufactures specialty flotation equipment, with more than 1,000 flotation column systems installed worldwide for cleaning, roughing and scavenging applications in base metals, gold, industrial minerals, coal and oil sands, phosphate and potash. Eriez also offers hydraulic separators, slurry distributors, spargers and an array of laboratory and pilot-scale equipment.

- HydroFloat® Coarse Particle Flotation
- StackCell® Small Footprint Flotation
- Column Flotation
- CrossFlow Classifier
- SlamJet™ Spargers
- CavTube Sparging

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EXHIBITORS

mous mining, and remote material process monitoring in dirty and harsh industrial environments.

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Continuous Mining Machines
Conveyor Systems
Crushers and Pulverizers
Drilling Equipment
Electrical Equipment and Supplies
Excavators
Flotation Machines and Equipment
Safety Equipment
Trucks and Haulage Units

Main Office

109-3231 No.6 Rd
Richmond, BC V6V 1Z1 Canada
Phone: (800) 914-3193
www.excelsensetechnologies.com

Exyn Technologies

Booth 230

Exyn Technologies is pioneering multi-platform robotic autonomy for complex, GPS-denied environments. For the first time, industries like mining, logistics, and construction can benefit from a single, integrated solution to capture critical and time-sensitive data in a safer, more affordable, and more efficient way. Exyn is powered by a team of experts in autonomous systems, robotics, and industrial engineering, and has drawn talent from Penn's world-renowned GRASP Laboratory as well as other storied research institutions. The company is VC-backed and privately held, with headquarters in Philadelphia.

Products & Services

Aerial Mapping and Surveying
Autonomous Vehicles
Computer - Software and Services
Mine Evaluations - Surface and Underground
Safety Equipment
Surveying Equipment and Supplies

Main Office

2118 Washington Ave, Ste 1000
Philadelphia, PA 19146 United States of America
Phone: (215) 999-0200
Email: hello@exyntechologies.com
www.exyn.com



FC Mill Liners, Inc

See our ad on p. 46

Booth 1842

FC Mill Liners, Inc. applies 50+ years of industry expertise to provide an excellent supplier experience. Highly knowledgeable account representatives and

engineers will collaborate with you to define, design, and manufacture high quality liners that deliver the performance you need, specific to the size and application of your grinding mills. As a reliable partner, we deliver consistent lead times you can count on. And we can help maximize your up-time by engaging expedited response capabilities to quickly resolve unplanned liner issues so you can keep your operation running. Visit fcmillliners.com to learn how our expertise and capabilities can benefit you.

Products & Services

Castings
Grinding Media and Liners
Grinding Mills

Main Office

4729 E Sunrise Dr, #502
Tucson, AZ 85718 United States of America
Phone: (480) 622-1263
www.fcmillliners.com



Federal Screen Products, Inc

See our ad on p. 47

Booth 538

Federal Screen is a custom manufacturer and fabricator of wedge wire screens, delivering high-quality products and unmatched customer service. With over 25 years of experience, we provide filtration solutions that help lower operational costs and maximize systems efficiency for mineral processors. Through advanced manufacturing capabilities and exceptional engineering, we produce screens in a variety of configurations and slot sizes to meet your specific application needs. We specialize in media retention nozzles, vessel internals, strainer baskets, support grids, resin traps, intake screens, flat panels, sieve bends, wastewater screens, MBBR system screens as well as custom designs.

Products & Services

Screens

Main Office

7524 Bath Rd
Mississauga, ON L4T 1L2 Canada
Phone: (905) 677-4171
Email: info@federalscreen.com
federalscreen.com

FEECO International, Inc

Booth 2049

FEECO International, Inc. was founded in 1951 as an engineering and equipment manufacturer. Today, we provide an array of process solutions, equipment, and services to companies looking to solve material problems, develop advanced processes, and streamline production.

We've built a reputation on custom, quality work that has allowed us to serve thousands of companies around the world with the best in agglomeration, thermal processing, and material handling equipment.

Products & Services

Blending Systems
Conveyor Systems
Coolers
Dryers
Kilns
Maintenance Services
Parts - Mining Machinery

Main Office

3913 Algoma Rd
Green Bay, WI 54311 United States of America
Phone: (920) 468-1000
FEECO.com

FGX SepTech Global LLC

Booth 1705

FGX Septech Global LLC is the world leader in supplying the dry coal (pneumatic) separators. The FGX technology uses air rather than water to beneficiate the run-of-mine coal, as well as other minerals. There are more than 2200 FGX pneumatic coal processing units operating through out the world. FGX have machines capable of processing from 10tph to 500tph of the ROM coal. Pilot-scale testing provided free of charge, at the client site for feasibility study. Currently there are three commercial scale units operating in the USA. It is one of the most economical and environment friendly Green technology.

Products & Services

Coal Preparation Plants
Gravity Separators
Mineral Prospecting

Main Office

289 Blue Sky Pkwy
Lexington, KY 40509 United States of America
Phone: (859) 263-8300
Email: sun@fgxseptechnllc.com
www.fgxseptechnllc.com

Fischerchem Pte Ltd

Booth 1753

Providing information regarding the Fischerchem range of speciality sulfide flotation reagents for the global mineral processing industry.

Products & Services

Reagents - Chemical and Flocculants

Main Office

23 Cove Way
Cape Royale 10-16
Singapore 098208 Singapore
Phone: +6591433393
www.fischerchem.com.au

Fisher Co

Booth 1565

Products & Services

Linings and Claddings



Main Office

955 N Main St
North Salt Lake, UT 84054 United States of America
Phone: (801) 298-2570
www.fisherutah.com

Fisher Tank Company**Booth 125**

Fisher Tank Company provides design, fabrication and field erection for welded stainless and carbon steel storage tanks per API 650, API 620, AWWA D-100 and NFPA 22 standards. Fisher Tank also provides tank repair, maintenance and modification per API 653. Fisher Tank has been providing field erected welded steel tanks since 1948, and serves a variety of industries, including mining, renewables, oil & gas, power, chemicals, water & wastewater, aviation & rail, manufacturing, pharmaceuticals, food & beverage, and more.

Products & Services

Bins, Hoppers, Silos and Storage

Main Office

7305 Morro Rd, Ste 200
Atascadero, CA 93422 United States of America
Phone: (805) 275-3611
fishertank.com/

**FKC-Lake Shore**

See our ad on p. 51

Booth 1819

FKC-Lake Shore offers design-build-install services for innovative hoisting and vertical conveyance systems used to transport personnel and material. Our Field Services Division provides 24/7 emergency repair of electrical and mechanical systems. Products & Services: Vertical Conveyors, Skips, Hoists, Sheaves, Cages, Headframes, Brakeman Cars, Controls, Field Services, and Wire Rope NDT. FKC's Mine Development Division provides comprehensive, mine development services to our owners and partners with techniques such as Blind Drilling, Raise Boring, Conventional Shaft Sinking, and Slope/Decline Tunnel Construction. Frontier-Kemper also provides services for shaft repair and grouting for ground stability and water control as well as full-service production mining.

Products & Services

Construction - Contracting Services
Controls - Electrical and Electronic
Conveyor Systems
Drilling Contractors
Hoists - Controls and Accessories
Maintenance Services
Underground - Construction and Structures

Main Office

1695 Allen Rd
Evansville, IN 47710 United States of America
Phone: (812) 426-2741
www.fkc-lakeshore.com

FLANDERS, Inc**Booth 208**

FLANDERS stands at the forefront of the industry as the world leader, catering to the largest and most complex applications. Our expertise lies in the distribution, servicing, repair, design, and manufacturing of electric rotating machines. In addition, we proudly provide state-of-the-art AI-powered condition-based monitoring, tailored controls, seamless systems integration, & cutting-edge automation solutions.

Our ultimate mission revolves around maximizing machine uptime and minimizing the total cost of ownership for our clients. We achieve this by incorporating elements such as safety, quality, reliability, and productivity.

Products & Services

Automation
Electric Motors and Generators

Main Office

8101 Baumgardt Rd
Evansville, IN 47225 United States of America
Phone: (812) 867-7421
Email: info@flandersinc.com
www.flandersinc.com

Flender Corporation**Booth 427**

Flender is a leading global supplier of mechanical drive systems for mining applications and has earned a reputation for the highest performance, innovation, quality, and reliability of mechanical components for more than 120 years.

The new Flender One helical gear unit offers the perfect balance between thermal capacity and efficiency, ease of use and technological sophistication, and torque and transmission range, allowing it to meet customer requirements precisely.

Flender One is an example of leveraging our acquired product knowledge and industry expertise to develop innovative products to deliver optimal value and customer experience for a sustainability future. Booth 425.

Products & Services

Brakes - Dynamic, Friction Disk - Block, Magnetic
Clutches - Fluid, Friction and Magnetic
Conveyor Systems
Couplings - Mechanical, Flexible and Rigid
Drives - Belt, Chain, Fluid and Gear
Gears - Pullers, Reducers and Pinions
Grinding Mills
Maintenance Equipment and Supplies
Power Transmission Equipment

Main Office

1401 Madeline Lane
Woodstock
Elgin, IL 60124 United States of America
Phone: 12245175604
Email: roger.thomas@flender.com
www.flender.com

Flexco**Booth 524**

Whether you are a small farm in the Midwestern United States, or a large mine in eastern Europe, or a global parcel handling operation with facilities around the world, we are focused on becoming your number one resource for products and services that maximize your belt conveyor uptime, productivity, and safety. Visit our booth to learn more!

Products & Services

Parts - Mining Machinery
Safety Equipment

Main Office

2525 Wisconsin Ave
Downers Grove, IL 60515 United States of America
Phone: (800) 541-8028
www.flexco.com

**Flottweg Separation Technology, Inc****Booth 1731**

Flottweg provides liquid solid separation equipment for mining applications. Their 2 and 3 phase decanter centrifuges and separator centrifuges are used in CRUD separation, gravel washing, drilling mud recovery, solvent extraction, oily water solids separation, solids sorting, and wastewater treatment. Skid mounted and containerized systems are also available. Contact us today for a trial.

Products & Services

Centrifuges
Dewatering Equipment
Environmental Control Equipment and Supplies
Pollution Control Equipment
Separators and Concentrators
Solvents - Extraction, Mixer and Settlers

Main Office

10700 Toebben Dr
Independence, KY 41051 United States of America
Phone: (859) 448-2300
www.flottweg.com

FLS**Booth 1207**

FLSmidth is a full flowsheet technology and service supplier to the global mining industry. Our products range from crushing, screening, conveying, separation, pumps and tailing to digital solutions for process performance. Our equipment is designed to provide up to decades of productive capacity. We help our customers to improve performance, lower operating costs and reduce environmental impact.

With our MissionZero program, we have set a target of providing solutions for zero-emission mining by 2030, supporting a green transition built upon sustainable materials.

EXHIBITORS

Products & Services

Conveyor Systems
Dewatering Equipment
Flotation Machines and Equipment
Grinding Mills
Pumps
Separators and Concentrators
Thickeners

Main Office

7158 S FLSmidth Dr
Midvale, UT 84047 United States of America
Phone: (801) 871-7000
www.flsmidth.com

Foam Concepts LLC

Booth 842

Products & Services

Reclamation Equipment and Services

Main Office

4255 S Eagleson Rd
Boise, ID 83705 United States of America
Phone: (800) 556-9641
www.foamconceptsllc.com

Force Control Industries, Inc

Booth 545

Force Control Industries, Inc. manufactures superior quality, uniquely designed industrial clutches and brakes. Based on oil shear technology, our industrial clutch and brake products provide superior life, as well as smooth operation and quicker response.

Force Control clutch and brake products are used on many types of machinery in the manufacturing of steel, coal, paper, concrete, brick, lumber, fiberglass, tires, automotive, wire, and many more. Please see our list of application bulletins for more information.

Products & Services

Automation
Brakes - Dynamic, Friction Disk - Block, Magnetic
Clutches - Fluid, Friction and Magnetic
Power Transmission Equipment

Main Office

3660 Dixie Hwy
Fairfield, OH 45014 United States of America
Phone: (513) 868-0900
www.forcecontrol.com

Foretellix Inc

Booth 1654

Foretellix provides a test management platform for creating and analyzing millions of test scenarios to verify and validate autonomous machinery and full-site systems properly. Our agnostic toolchain solution accelerates the development of high-quality, safe, and productive autonomous solutions and enables informative decision-making on deployment readiness.

Over the past 30 years, Foretellix has been specializing in verification and validation of complex digital systems. Starting with the semiconductor chip design industry, followed by the automotive industry, where Foretellix developed the industry standard for testing and verifying autonomous vehicles (OPEN SCENARIO 2.0), and now in the mining and construction industries.

Products & Services

Autonomous Vehicles
Computer - Software and Services

Main Office

1575 Kennewick
Sunnyvale, CA 94087 United States of America
Phone: 0523636488
www.foretellix.com

Forgen

Booth 457

At Forgen, we deliver even the most complex mine reclamation and remediation projects. We've successfully delivered large, multi-disciplinary projects for public and private sector clients across the nation for more than a decade, safely resolving complex challenges for the mining industry.

Our services include mine reclamation and remediation, in situ/ex situ soil stabilization, cutoff wall construction, pond closure/construction, site development and mass grading, dam and levee rehabilitation, habitat/wetland restoration, waste repository construction and capping, and other large environmental, geotechnical, and civil earthwork services.

Products & Services

Construction - Contracting Services
Reclamation Equipment and Services
Remediation

Main Office

6025 S Quebec St, Ste 300
Centennial, CO 80111 United States of America
Phone: (720) 221-1119
www.forgen.com

Foth Infrastructure & Environment, LLC

Booth 1438

Foth brings a big picture mindset to our partnerships with our clients and helps to unlock the full potential of your mining projects. Our team of mining professionals offers a combination of expertise to help guide projects from concept, through sustainable operations, to closure. Our approach includes maintaining awareness of the external factors driving future decisions and linking long-term objectives to today's next steps. Since 1938 the firm has thrived in a dynamic and demanding marketplace by solving our clients' toughest science and



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OUR UNIQUE CAPABILITIES . . .

- Expert Design
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- Industry-Best Lead Times
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- Collaborative Engineering
- Exceptional Performance
- Short, Reliable Supply Chain
- Lower Grinding Costs

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Booth 1842 or at **FCMillLiners.com**

engineering challenges. Our 650-member, employee-owned firm operates out of 28 locations across the United States and Canada.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Management

Main Office

2121 Innovation Ct, Ste 100
De Pere, WI 54115 United States of America
Phone: (920) 497-2500
www.foth.com

Freeport-McMoRan Inc

Booth 737

Freeport-McMoRan is an international mining company that operates large, long-lived, geographically diverse assets with significant proven and probable reserves of copper, gold and molybdenum. One of the world's largest publicly traded copper producers.

Freeport-McMoRan's portfolio of assets includes the Grasberg minerals district in Indonesia, one of the world's largest copper and gold deposits; and significant mining operations in North America and South America, including the large-scale Morenci minerals district in Arizona and the Cerro Verde operation in Peru.

By supplying responsibly produced copper, the company is proud to be a positive contributor to the world well beyond its operational boundaries.

Products & Services

Mine Operators
Mineral Prospecting
Recruiting/Staffing

Main Office

333 N Central Ave
Phoenix, AZ 85004 United States of America
Phone: (602) 366-8100
www.fcx.com



Frontier Precision Geospatial/Unmanned

See our ad on p. 53

Booth 2041

Frontier Precision is a distributor of geospatial survey and mapping products, unmanned aerial and ROV products, as well high precision satellite imagery and software - we have over 34+ years of experience working in mining environments.

Products & Services

Aerial Mapping and Surveying
Autonomous Vehicles
Information Technology Products
Measurement and Monitoring Systems
Surveying Equipment and Supplies

Main Office

1713 Burlington Dr
Bismarck, ND 58554 United States of America
Phone: (701) 222-2030
www.frontierprecision.com



Federal Screen Products is a custom manufacturer and fabricator of wedge wire screen that believes in strict quality assurance practices.

CIP/CIL SOLUTIONS



DIRECT LITHIUM EXTRACTION SOLUTIONS



Hubs & Laterals



Headers



Resin Traps



Baskets

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F: 905.677.8959

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EXHIBITORS

FTE Drilling

Booth 111

Products & Services

Drilling Contractors

Main Office

5055 Boulevard Industrial
Sherbrooke, QC J1R 0P4 Canada
Phone: (819) 345-8013
ftedrilling.com

FUCHS LUBRICANTS CO

Booth 2048

Products & Services

Lubricants and Equipment
Maintenance Equipment and Supplies

Main Office

17050 Lathrop Ave
Harvey, IL 60426 United States of America
Phone: (708) 333-8900
www.fuchs.com/us



G+ Plastics

Booth 2005

G+ Plastics is a family-owned business founded in 1995 in Rouyn-Noranda, Canada, in the heart of the Abitibi Gold Belt. We have pioneered the use of heavy-duty and long-lasting plastic products in the mining industry; our unique expertise of industrial polymers eventually helped to create the G+ Speed Air Duct, a complete product line designed to meet all auxiliary ventilation needs. It is a nearly frictionless plastic duct with airtight junctions that can forward airflow farther with up to 50% less fan power.

Products & Services

Ventilation Systems, Materials and Equipment

Main Office

180 rue d'Évain
Rouyn-Noranda, QC J0Z 1Y0 Canada
Phone: (819) 768-8888
plasticminer.com

Gai-tronics / Austdac

Booth 1853

Gai-tronics and Austdac design, build and sell conveyor monitoring and control products along with Communication products for above or Below ground. Products carry Global standards; UL/CSA, SIL2, MSHA, IECEx, AUSEX. Global support for both product availability and technical support. Specialty products such as SIL-BUS for Hazardous location conveyor monitoring and HUBBUS for extremely long(15M) Overland conveyor monitoring, powered at only one end. Other products include: IS Power supplies, IS lighting, Pulcord switch-

es, Drift Switches, RIP detection Switches, Tilt switches and Digital displays for status indication. System support includes: Design, Drawings, Functional Safety compliance and Commissioning and servicing.

Products & Services

Automation
Communications Equipment
Controls - Electrical and Electronic
Conveyor Systems
Electrical Equipment and Supplies
Lighting Systems and Lamps
Longwall Mining Equipment
Measurement and Monitoring Systems
Process Controls and Instruments
Safety Equipment

Main Office

455 Lowries Run Rd
Pittsburgh, PA 15237 United States of America
Phone: (519) 868-7008
Email: mining@hubbell.com
www.austdac.com.au

GANZHOU BAUSDE MACHINERY CO.,LTD

Booth 606

Ganzhou Bausde Machinery Co.,Ltd can provide customers with product design, mold design, forging molding, precision machining, and wear-resistant solutions. This allows our customers to customize tools and wear-resistant tools to uniquely suit a target market. Grinding accessories can help customers build brand products in the target market and gain more loyal users. Therefore, we have everything you need hence a one-stop solution for all your cutting and wear parts needs. Our Products are applied to Forestry Mulcher, Flail Mower, Rock Crusher, Stump Grinder, Foundation Drilling, Road Milling, Coal Mining, Trencher, Tub and horizontal Grinder, Wood Shredder and Wood Chipper

Products & Services

Drill Bits - Rock

Main Office

No. 10 Taiyangping Rd, Ganxian District
Ganzhou 341100 China
Phone: +86-797-2046900
Email: 495115379@qq.com
www.bausde.com

Garmin International

Booth 563

Engineered on the inside for life on the outside, Garmin products have revolutionized life for adventurers, athletes, and outdoor enthusiasts everywhere. Committed to developing products and services that enhance experiences and provide peace of mind, Garmin believes every day is an opportunity to innovate and a chance to beat yesterday. For more information, visit Garmin's virtual Newsroom, email our press team, connect with @garminoutdoor on social media.

Products & Services

Safety Equipment

Main Office

1200 E 151st St
Olathe, KS 66062 United States of America
Phone: (913) 440-5356
www.garmin.com

GEA Group

Booth 645

Products & Services

Blending Systems
Centrifuges

Main Office

100 Fairway Ct
Northvale, NJ 07647 United States of America
Phone: (201) 784-4318
www.gea.com



General Kinematics

See our ad on p. 55

Booth 720

For more than sixty years, General Kinematics has led the Mining industry to innovate vibratory process equipment.

General Kinematics is one of the world's largest suppliers of vibratory processing equipment. GK is a significant contributor to the technical advancement of equipment design and application in the mining industry. GK serves a worldwide customer base through engineering-oriented sales representatives who cover industrial markets throughout the United States. International markets are serviced from subsidiary operations and through a combination of representatives, manufacturers, and strategic alliances with industry-specific organizations in other strategic locations. Today, over 50,000 General Kinematics units have been installed.

Products & Services

Classifiers
Conveyor Systems
Dewatering Equipment
Feeders
Grinding Mills
Screens

Main Office

5050 Rickert Rd
Crystal Lake, IL 60014 United States of America
Phone: (815) 455-3222
www.gkmining.com

Geobrugg North America, LLC

Booth 1627

Geobrugg manufactures tested and proven steel wire meshes and protection systems for ground support, rockfall protection and slope stabilization to improve safety and productivity for mining operations. Systems include rolled mesh from high-tensile strength steel wire, the MESH@ mesh-unrolling device for bolting machines, rockfall barriers and attenuators, slope



EXHIBITORS

drapes, and anchored mesh for slopes. With representatives throughout the USA, Canada, Mexico and the world, and manufacturing at our Algodones, New Mexico factory, we provide solutions and support tailored to the needs of today's open pit and underground mines in a fast and dependable manner.

Products & Services

Roof - Ground Supports
Safety Equipment
Sediment & Erosion Control
Tunnel Lining and Support Materials

Main Office

22 Centro Algodones
Algodones, NM 87001 United States of America
Phone: (505) 771-4080
www.geobrugg.com

GEO-Instruments

Booth 1519

GEO-Instruments provides automated solutions for monitoring the safety and stability of buildings, excavations, bridges, railways, roads, tunnels, dams, embankments, and slopes. We help clients manage risk by installing advanced monitoring systems and automating the collection, processing, and delivery of alarms, data, and reports. Established in 2003, GEO-Instruments has acquired a reputation for getting results and providing excellent customer service. Our team has extensive experience in instrumentation, information technology, civil engineering, and construction. GEO-Instruments also maintains a large inventory of rental equipment and specializes in sales, rentals, calibrations, and repair of Instantel vibration monitors and seismographs.

Products & Services

Dust and Fume Control Technology
Measurement and Monitoring Systems
Sensors
Surveying Equipment and Supplies

Main Office

24 Celestial Dr
Narragansett, RI 02882 United States of America
Phone: (800) 477-2506
www.geo-instruments.com

GEOKON

Booth 1015

GEOKON is a recognized world leader in the manufacture of structural and geotechnical instrumentation. Founded in 1979, GEOKON has grown to more than 130 associates and offers a full complement of instrumentation for a wide range of industries including tunnels, dams, mines, piles, bridges, pipelines, landfills, embankments, transportation and wind turbines. GEOKON incorporates state-of-the-art manufacturing processes and equipment to produce the highest quality and performing products on the market. Mechanical, electrical and software engineering teams collaborate to develop the most innovative, accurate and reliable instrumentation in the industry. For more information, visit our website, email or call.

Products & Services

Geological-Physical-Technical Services and Equip
Measurement and Monitoring Systems
Sensors

Main Office

48 Spencer St
Lebanon, NH 03766 United States of America
Phone: (603) 448-1562
Email: teamsales@geokon.com
www.geokon.com

GeoLog, LLC

Booth 127

GeoLog, LLC
Borehole Logging

Products & Services

Consulting - Design and Planning
Consulting - Research

Main Office

PO Box 2571
Cottonwood, AZ 86326 United States of America
Phone: (928) 899-6491

Geo-Logic Associates

Booth 1255

Products & Services

Consulting - Engineering
Consulting - Environmental

Main Office

2777 E Guasti Rd, Ste 1
Ontario, CA 91761 United States of America
Phone: (909) 626-2282
www.geo-logic.com



Geopyörä

Booth 345

Geopyörä is a start-up company on a mission to bring mining into a new era of big data. Our state-of-the-art rock breakage characterization technology allows mining companies to rapidly test several samples at low cost and generate a large amount of high quality data, which can be used to better assess the ore hardness variability, reduce risks and add value to projects.

Products & Services

Laboratory and Scientific Services

Main Office

Toppilansaarentie 3 B39
Oulu 90510 Finland
Phone: +358505011458
www.geopyora.com

GeoStabilization International

Booth 615

Our passion is to develop and install innovative solutions that protect people and infrastructure from the dangers of geohazards. We specialize in emergency landslide repairs, rockfall mitigation, and grouting using design/build and design/build/warranty contracting.

GeoStabilization's team includes some of the brightest and most dedicated professionals in the geohazard mitigation industry. Our expertise, proprietary tools, and worldwide partnerships allow us to repair virtually any slope stability or foundation problem in any geologic setting.

Products & Services

Consulting - Engineering

Main Office

4475 E 74th Ave, Ste 100
Commerce City, CO 80222 United States of America
Phone: (855) 579-0536
www.geostabilization.com

Geosyntec Consultants

Booth 617

Products & Services

Consulting - Engineering
Consulting - Environmental
Mine Evaluations - Surface and Underground
Remediation
Sediment & Erosion Control
Water Clarification and Treatment

Main Office

215 South St, Ste 500
Salt Lake City, UT 84111 United States of America
Phone: (786) 312-6015
www.geosyntec.com/

Geotech Environmental Equipment, Inc

Booth 816

Geotech Environmental Equipment offers performance-driven environmental monitoring solutions for the mining industry. Our advanced equipment helps mining companies meet regulatory compliance requirements, while improving operational efficiencies and reducing environmental risks. Our product portfolio includes gas analyzers, water quality and level meters, pump systems, and more. With over 45 years of experience, we provide reliable and easy-to-use solutions that enable informed decision-making for our customers. We are committed to helping our customers achieve their environmental goals while maximizing profitability. Contact us to learn how we can help you succeed in mining operations.

Products & Services

Controls - Electrical and Electronic
Controls - Hydraulic and Pneumatic
Drilling Equipment
Measurement and Monitoring Systems
Pumps
Remediation

Main Office

2650 E 40th Ave
Denver, CO 80205 United States of America
Phone: (303) 320-4764
www.geotechenv.com

EXHIBITORS

GHD

Booth 225

GHD is a global professional services company committed to solving the world's biggest challenges in the areas of water, energy and urbanization. As a global company leading through engineering, construction and architectural expertise, our innovative approaches connect and sustain communities. Delivering extraordinary social and economic outcomes, our focus is building lasting relationships with our partners and clients.

Products & Services

Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Geological-Physical-Technical Services and Equip
Laboratory and Scientific Services
Remediation
Water Clarification and Treatment

Main Office

4747 N 22nd St, Ste 200
Phoenix, AZ 85016 United States of America
Phone: (602) 216-7200
www.ghd.com

Global Mining Guidelines Group

Booth 1616

The Global Mining Guidelines Group (GMG) is a network of representatives from mining companies, original equipment manufacturers (OEMs), original technology manufacturers (OTMs), research organizations, academia, regulatory agencies, consultancies, and industry associations who collaborate to tackle the challenges facing our industry. GMG aims to accelerate the improvement of mining performance, safety and sustainability by creating guidelines and white papers that address common industry challenges, facilitating collaboration and expanding the industry's knowledge base. GMG also hosts and supports events that bring mining stakeholders together along with external industries to address the industry's challenges, successes and innovations. Visit our website to learn more.

Products & Services

Educational
Professional Society or Association

Main Office

72 Roy St
Ormsdown, QC J0S 1K0 Canada
Phone: (450) 829-9000
Email: info@gmggroup.org
www.GMGgroup.org

Global Mining Review

Booth 919

A premier source of technical and analytical information, Global Mining Review is essential reading for all mining professionals. Each issue provides unparalleled coverage of the mining industry – including regional and special commodity reports, as well as detailed technical articles and case studies.

Products & Services

Publishers

Main Office

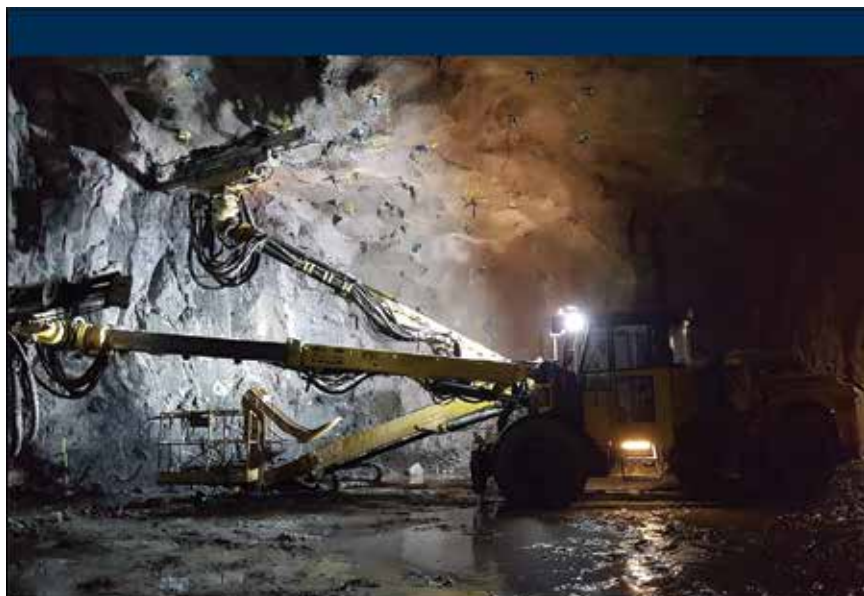
15 South St
Farnham GU9 7QU United Kingdom
Phone: +44 1252 718999
www.globalminingreview.com



GMS Mine Repair & Maintenance

Booth 1014

We are GMS and we've been serving the Mining Industry for nearly 40 Years. Our deep experience and broad range of specialized services and products allow us to serve the customer with unmatched efficiency and scale as we continue to grow and adapt to constantly



Shaft Construction

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 - Exceeding Depths of 2,000 ft.
 - Underground Raise Boring
 - Raise/Slash Excavation
 - Concrete, Steel, or Composite Shaft Lining
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 - 6-20-ft. Diameter
 - Exceeding Depths of 2,000 ft.
- CONVENTIONAL SHAFT SINKING
- SHAFT REPAIR

Mine Development

- DRILL/BLAST
- MECHANICAL EXCAVATION
- MATERIAL HANDLING INSTALLATIONS
- UNDERGROUND SHOTCRETE AND CONCRETE PLACEMENT
- EXPANSION AND REFURBISHMENTS

Contract Mining

- FULL SERVICE PRODUCTION MINING

Decline/Tunnel Development

- SEQUENTIAL EXCAVATION METHOD (SEM)/MATM
- DRILL/BLAST
- MECHANICAL (ROADHEADER)
- TUNNEL BORING METHOD
- HOIST-ASSISTED SLOPE CONSTRUCTION

Grouting

- GROUND STABILITY
- WATER CONTROL
- CONTACT GROUTING
- CHEMICAL AND CEMENTITIOUS CAPABILITIES

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Consulting - Engineering
Conveyor Systems
Explosive Materials and Services
Grouting Services, Equipment and Materials
Maintenance Services
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Shotcrete Equipment, Supplies and Services
Underground - Construction and Structures

Main Office

32 Enterprise Dr
Oakland, MD 21550 United States of America
Phone: (301) 334-8186
www.gmsminerepair.com

GNB Global Inc

Booth 304

Complete building site services for any project you need!

Products & Services

Temporary Structures

Main Office

160 IXL Crescent
Selkirk, MB R1A 2A8 Canada
Phone: (204) 541-0300
www.gnb.group

Gonar-Bis Sp. z o.o.

Booth 1658

Gonar - leading manufacturer of drilling consumables established in 1974, nearly 50 years of experience guarantees high quality of drilling tools - both Top Hammer and DTH, Gonar currently export its products to 100 countries world-wide, competitive price, quality product and best lead times allowed Gonar to develop network of trusted distributors, Gonar is now seeking distributors in North America

Products & Services

Drill Bits - Rock
Drilling Contractors
Drilling Equipment
Mining Contractors

Main Office

Obroki 109
Katowice 40-833 Poland
Phone: +48322071299
www.gonar.com.pl



GPM Inc

Booth 2027

Founded in 1978 GPM manufactures and distributes the toughest, most reliable submersible, slurry, and dewatering pumps and systems. The GPM-Eliminator™ survives in applications other pumps don't. Pumping up to 70% solids, it is safe to say the Eliminator is Made Tough™. These pumps are ready to take on just about any application with horsepower ranging anywhere between 5HP to 600HP. Additionally, discharging solids 2" to 4.5" in diameter. With GPM's engineered fabrication abilities, we can custom design a solution for all your pumping problems. From floating barges, to pump houses we will provide a solution to your unique pumping applications.

Products & Services

Consulting - Engineering
Dewatering Equipment
Pumps

COMPLETE HOISTING & VERTICAL CONVEYING SYSTEMS

LIFTING YOUR PROFITS

DESIGN / BUILD / INSTALL / SERVICE

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A DIVISION OF FRONTIER-KEMPER CONSTRUCTIONS, INC.

www.fkc-lakeshore.com // information@frontierkemper.com



EXHIBITORS

Main Office

4432 Venture Ave
Duluth, MN 55811 United States of America
Phone: (218) 722-9904
www.gpmco.com

Graybar Electric

Booth 1605

Products & Services

Automation
Communications Equipment
Controls - Electrical and Electronic
Drives - Magnetic and Variable
Electric Motors and Generators
Electric Wire and Cable
Electrical Equipment and Supplies
Lighting Systems and Lamps
Power Transmission Equipment
Process Controls and Instruments

Main Office

2401 W Peoria Ave
Phoenix, AZ 85029 United States of America
Phone: (602) 269-4900
www.graybar.com

Graymont

Booth 561

Graymont is a global leader in lime and limestone solutions. Our products are essential in addressing today's most pressing environmental issues while supporting vital industrial processes. Headquartered in Canada, Graymont serves markets throughout North America and Asia-Pacific. Graymont is also the strategic partner of Mexican-based Grupo Calidra, the largest lime producer in Latin America.

Professionally managed and family owned, the company has been in operation for over 70 years. Graymont aims to be the preferred supplier, employer, and partner of choice wherever we operate.

Products & Services

Reagents - Chemical and Flocculants

Main Office

10991 Shellbridge Way, #200
Richmond, BC V6X3C6 Canada
Phone: (403) 462-9909
www.graymont.com

Great Basin College

Booth 529

I have a new position at GBC but start in January so my e mail will change (in the interim ajsspearing@yahoo.com will work if UNR stops then). We offer CTE and mining training in Nevada.

Products & Services

Educational

Main Office

1500 College Pkwy
Elko, NV 89801 United States of America
Phone: (865) 333-1023
www.gbcb.edu

Great Basin Industrial, LLC

Booth 1604

Products & Services

Bins, Hoppers, Silos and Storage

Main Office

1284 W Flint Meadow Dr
Kaysville, UT 84037 United States of America
Phone: (307) 321-5599
www.mygbi.com

GroundProbe NA LLC

Booth 640

Products & Services

Measurement and Monitoring Systems

Main Office

2470 W Majestic Park Way
Tucson, AZ 85705 United States of America
Phone: (520) 393-8287
www.groundprobe.com



Grupo Mexico - ASARCO

Booth 1659

Products & Services

Mine Operators

Main Office

1365 W Pima Mine Rd
Sahuarita, AZ 85629 United States of America
Phone: (520) 431-1053

Guardian Traxol Chemicals Inc

Booth 1653

Guardian Chemicals Inc has been formulating and manufacturing specialty chemicals for over 50 years and is well known and respected world wide in the mining industry for providing the fastest, safest, and most cost efficient solution to Gear cleaning. Their proprietary formulations of Traxol EP3 and HiTrax gear clean on the fly products, along with other specialty chemicals for a variety of heavy industry applications provide leading edge, constantly improving technology. Our USA distributors, Copper State Specialties and Jasper Engineering provide on site Gear cleaning services as well as products and support to clients across the USA.

Products & Services

Coatings (does not include Linings and Claddings)
Coolers
Fire Protection
Gears - Pullers, Reducers and Pinions
Grinding Mills
Kilns
Lubricants and Equipment
Maintenance Equipment and Supplies
Maintenance Services
Solvents - Extraction, Mixer and Settlers

Main Office

155 55202 SH825
Sturgeon county, AB T8L5C1 Canada
Phone: (403) 318-6592
www.guardianchem.com

Guideline Geo Americas – Reutech

Booth 1732

Products & Services

Mine Operators

Main Office

1270 Drop Off Dr
Summerville, SC 29486 United States of America
Phone: (843) 852-5021
www.guidelinegeo.com/

H2E Inc

Booth 1351

Products & Services

Consulting - Engineering

Main Office

23305 E Knox Ave
Liberty Lake, WA 99019 United States of America
Phone: (509) 927-2424
www.h2einc.com

H2O Innovation

Booth 657

H2O Innovation is a complete water solutions company focused on providing best-in-class technologies and services to our customers. i) Water Technologies & Services (WTS) ii) Specialty Products (SP) and iii) Operations & Maintenance (O&M).

Toray has extensive experience treating multiple types of tailings ponds with our Toray UF and Toray RO membranes. Toray's product portfolio consists of state-of-the-art cross-linked polyamide spiral-wound reverse osmosis and nanofiltration membrane elements (Toray RO and CSM™), pressurized and submerged PVDF hollow-fiber ultrafiltration membrane modules (Toray UF), and flat-sheet membrane bioreactor modules (Toray MBR).

Products & Services

Water Clarification and Treatment

Main Office

13435 Danielson St
Poway, CA 92064 United States of America
Phone: (858) 218-2360
www.water.toray // www.h2oinnovation.com

Harrison Western Construction Corporation, Inc

Booth 1727

Harrison Western is an American owned and operated Heavy Civil, Tunneling and Mining Contractor, in operation since 1968. In that time, our firm has consistently delivered in some of the most complex, challenging environments, while prioritizing safety, performance and



Frontier Precision has the latest LiDAR, Photogrammetry, & Remote Dock innovations to fit your job or application.

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emesent

Emesent automates the collection and analysis of data in challenging GPS-denied environments, delivering revolutionary efficiency, safety, and operational insights for the industry.

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dji ENTERPRISE

WATTS INNOVATIONS

CENSYS TECHNOLOGIES

AUTEL ROBOTICS

FREEFLY

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EXHIBITORS

effectiveness. Our work includes development mining, portal construction, underground utilities, ventilation, drill & blast operations, ground support design and construction, grouting & shotcrete application, conventional shaft sinking, hoist infrastructure, crusher & conveyors, bulkheads, highwall stabilization, rockfall mitigation, and a variety of other surface and underground geotechnical services.

Products & Services

Construction - Contracting Services
Explosive Materials and Services
Grouting Services, Equipment and Materials
Mining Contractors
Reclamation Equipment and Services
Remediation
Roof - Ground Supports
Shotcrete Equipment, Supplies and Services
Underground - Construction and Structures
Underground Excavation Services and Equipment

Main Office

1208 Quail St
Lakewood, CO 80215 United States of America
Phone: (303) 234-0273
www.harrisonwestern.com

HATCH

Hatch

Booth 1243

Whatever our clients envision, our engineers can design and build. With over six decades of business and technical experience in the mining, energy, and infrastructure sectors, we know your business and understand that your challenges are changing rapidly. We respond quickly with solutions that are smarter, more efficient, and innovative. We draw upon our 9,000 staff with experience in over 150 countries to challenge the status quo and create positive change for our clients, our employees, and the communities we serve.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Management
Maintenance Services
Mine Evaluations - Surface and Underground
Mining Contractors
Training Services
Underground - Construction and Structures
Underground Excavation Services and Equipment

Main Office

170 S Main St, Ste 150
Salt Lake City, UT 84101 United States of America
Phone: (385) 500-3226
www.hatch.com

Haver & Boecker Niagara

Booth 349

Haver & Boecker Niagara is a leading provider in screening, pelletizing and mineral processing plants and systems. The company's mission is to deliver the best of these technologies to customers in the mining,

minerals, aggregates, cement, building products, fertilizer and salt industries.

Products & Services

Dewatering Equipment
Grizzlies - Feeding, Moving and Stationary
Laboratory Equipment and Supplies
Measurement and Monitoring Systems
Screens
Urethane Cast Parts
Washing Plants

Main Office

225 Ontario St
St Catharines, ON L2R 7B6 Canada
Phone: (905) 688-2644
www.haverniagara.com

Hawk Measurement

Booth 1661

Products & Services

Bins, Hoppers, Silos and Storage
Conveyor Belting - Accessories and Equipment
Flotation Machines and Equipment
Liquid Level Indicators and Switches
Measurement and Monitoring Systems
Meters and Gauges
Process Controls and Instruments
Sensors

Main Office

5010 Gateway Dr, Ste 100B
Medina, OH 44256 United States of America
Phone: (888) 429-5538
www.hawkmeasurement.com



Hayward Gordon Group

See our ad on p. 59

Booth 1804

The mining and mineral processing industries are among the most demanding in the world. With mine sites typically located in remote locations, we have gained the reputation of providing heavy-duty equipment built to last. With over 60 years of partnering with our clients, we can offer unparalleled technical expertise for your applications.

The Hayward Gordon Group designs, develops, and delivers durable, reliable pumps and mixers ideal for the mining industry. Our pumps effortlessly move thick, heavy slurries and withstand corrosive and toxic chemicals. Our mixers and agitator systems efficiently help separate metal from ore and handle backfill and wastewater.

Products & Services

Aerators
Agitators, Vibrators and Mixers
Blending Systems
Flotation Machines and Equipment
Gears - Pullers, Reducers and Pinions
Pumps
Solvents - Extraction, Mixer and Settlers

Main Office

5 Bridgen Gate
Halton Hills, ON L7G 0A3 Canada
Phone: (905) 693-8595
Email: info@haywardgordon.com
www.haywardgordon.com

Heat Tech Industrial

Booth 1606

Main Office

5792 Ideal Dr Unit 100
Frederick, CO 80516 United States of America
Phone: (970) 397-5560

Heath & Sherwood (1964) Limited

Booth 604

In 2023 Heath & Sherwood was acquired by Consep PTY Limited based in Sydney Australia. In 2023, Consep also acquired Sisetec Screens based in Canton, Ohio, and Harrison Cooper Sampling Systems based in Salt Lake City. Products include Automatic Sampling Stations, Sisetec Screens, the Acacia Intensive Leach Reactor, Rod Chargers for Rod Mills and Tuyere Line equipment used in Cu & Ni Smelters.

Products & Services

Pyrometallurgical Processing
Sampling Devices
Screens

Main Office

PO Box 340
512 Government Rd W
Kirkland Lake, ON P2N3J2 Canada
Phone: (705) 567-5313
Email: sales@heathandsherwood.com
www.heathandsherwood64.com

HEICO Fastening Systems

Booth 1743

HEICO is a 120-year-old, family-owned cold-forming fastener manufacturer that produces HEICO-LOCK® wedge lock washers and HEICO-TEC® mechanical tensioners for critical bolted joints commonly found throughout the mining industry in both machinery and moving stock.

We firmly believe that the most expensive bolted joint is the one that fails! Our engineering, quality manufacturing processes and customer service can help your organization prevent issues with any bolted joint. In the US we are based in Hickory, NC with sales engineers throughout North America.

Products & Services

Continuous Mining Machines
Crushers and Pulverizers
Drilling Equipment
Excavators
Fasteners - Industrial
Grinding Mills
Parts - Mining Machinery
Pumps
Safety Equipment
Tunnel Boring Equipment



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Society for
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& Exploration

MINE>XCHANGE

2024 SME Annual Conference & EXPO

FEBRUARY 25-28, 2024 | PHOENIX, AZ

GENERAL

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WWW.GKMINING.COM

EXHIBITORS

Main Office

PO Box 2905
Hickory, NC 28603 United States of America
Phone: (828) 261-0184
www.heico-lock.us



Hepburn Engineering Inc

See our ad on p. 56

Booth 700

Hepburn Engineering designs and supplies complete mine hoisting systems with fully integrated electrical controls, digital drives, including our state of the art Hepburn Hoist Manager software and digital safety monitors. Our mechanical hoist designs range from shaft sinking up to the largest production requirements: single and double drum, Blair and friction (Koepe) hoisting plants. HEI provides efficient and robust designs and fully integrated hoisting solutions with single source responsibility. Additional services include the design and supply of stage winches, sheaves, automated weighing systems, new braking systems, hoist rebuilding & electrical refits including drives, motors and hoist operator consoles.

Products & Services

Controls - Electrical and Electronic
Controls - Hydraulic and Pneumatic
Hoists - Controls and Accessories
Hydraulic System Components

Main Office

73 Six Point Rd
Toronto, ON M8Z 2X3 Canada
Phone: (416) 638-4425
www.hepeng.com

Herding Filtration LLC

Booth 251

For over forty (40) years Herding has been known for its durable, high efficiency, sinter plate dust collection systems for all types of industrial applications. Herding technology provides safe and efficient solutions for dusts/powders/fumes for disposal or product reclamation without contamination.

Our customers also realize the benefits of: • Rigid filters provide HEPA quality filtration with an extended filter life even with abrasive dusts. • The system provides a stable operating pressure over high loading conditions. This minimizes production downtime and handling. • The media is washable and need not be disposed of if wetted like paper/cloth media.

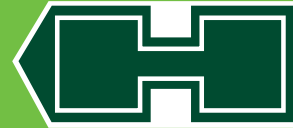
Products & Services

Dust and Fume Control Technology

Main Office

1391 Wheaton Dr, Ste 100
Troy, MI 48083 United States of America
Phone: (248) 673-4514
www.herding.us

HERRENKNECHT



Tunnelling Systems

Herrenknecht Tunneling Systems

Booth 1214

Herrenknecht is a technology and market leader in the area of mechanized tunnelling systems. As the only company worldwide, Herrenknecht delivers cutting-edge tunnel boring machines for all ground conditions and in all diameters – ranging from 0.10 to 19 meters. Herrenknecht develops innovative technical



Mine Hoist Systems



Turnkey hoisting systems - design/build

Robust, reliable and proven designs, state of the art control systems

Global aftermarket support network – parts/service/compliance

Hoist Modernization - Repairs and upgrades

Over 1500 installations supported worldwide



www.hepeng.com



sales@hepeng.com



solutions to sink vertical shafts down to great depths as well as to successfully excavate sloping shafts. The company also produces state-of-the-art deep drilling rigs that drill down to depths of 8,000 meters.

Products & Services

Boring Equipment
Conveyor Systems
Drilling Equipment
Tunnel Boring Equipment

Main Office

1613 132nd Ave E, Ste 200
Sumner, WA 98390 United States of America
Phone: (253) 447-2300
www.herrenknecht.com



HEXAGON

Hexagon's Mining division

Booth 1307

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications. Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future. Hexagon's Mining division solves surface and underground mine challenges with proven technologies for planning, operations and safety. Hexagon (Nasdaq Stockholm: HEXA B) has 21,000 employees in 50 countries and net sales of approximately 4.6bn USD. Visit our website to learn more.

Products & Services

Aerial Mapping and Surveying
Autonomous Vehicles
Blasting Accessories, Equipment and Agents
Computer - Software and Services
Consulting - Design and Planning
Drilling Equipment
Explosive Materials and Services
Flotation Machines and Equipment
Measurement and Monitoring Systems

Main Office

40 E Congress St, Ste 150
Tucson, AZ 85701 United States of America
Phone: (520) 795-3891
www.hexagon.com

Hexion Inc

Booth 439

Hexion is a specialty chemical company that has been in business for over 100 years and offers products for the mining industry. Hexion's Hexafloat is a low viscosity, anionic collector for froth flotation/mineral separation. Hexion's Convirj is low viscosity, water soluble depressants for ash and iron sulfide minerals.

Products & Services

Reagents - Chemical and Flocculants

Main Office

6144 Exeter Rd
League City, TX 77573 United States of America
Phone: (281) 796-7964
www.hexion.com/

Hilfiker Retaining Walls

Booth 1511

Hilfiker Retaining Walls is a fourth-generation, family-owned business operating in Eureka, California since 1902, and produces a full line of high quality retaining wall systems that have been utilized in projects worldwide. The Welded Wire Wall system is the industry leader for wire-faced MSE walls, used for crusher or truck dump applications and haul road support, regardless of height and loading. Spiralnails are the latest innovations and used to extend the life of existing structures, accommodate emergency situations, construction shoring, and foundation improvement. The company also offers engineering services and on-site technical assistance to aid in construction.

Products & Services

Consulting - Design and Planning
Conveyor Systems
Geological-Physical-Technical Services and Equip
Rail Systems and Supplies
Temporary Structures
Trucks and Haulage Units
Underground - Construction and Structures

Main Office

1902 Hilfiker Ln
Eureka, CA 95503 United States of America
Phone: (800) 762-8962
www.hilfiker.com

Hilliard Brake Systems

Booth 1449

Founded in 1905, The Hilliard Corp. has evolved from a one-product business into a special applications engineering company serving customers worldwide. Independently owned for four generations, the company has grown and prospered for nearly a century. Hilliard offers a broad line of motion control products including caliper brakes for conveyors, brake systems for draglines, as well as the New Brake Boss brake control system. Additionally, it manufactures filtration systems, reclaiming equipment, and cartridges under the Hilco brand name. Hilliard products are designed, manufactured, and sold according to the customers' applications. Hilliard Braking Systems, Made in America, Built for the World.

Products & Services

Brakes - Dynamic, Friction Disk - Block, Magnetic

Main Office

100 W Fourth St
Elmira, NY 14901 United States of America
Phone: (607) 733-7121
Email:sales@hilliardcorp.com
www.hilliardcorp.com

Hoffman Manufacturing, Inc

Booth 501

HMFG manufactures versatile Mine Door & Bulkhead Systems for mining companies, contractors, & engineering firms around the world. Superior quality, robust design elements, and integrated safety features make our Mine Door & Bulkhead Systems Better, Stronger, & Safer than any others on the market. Additionally, HMFG provides design/build fabrication solutions with industry leading quality & lead times. All of our products are designed and manufactured in-house in the USA!

Products & Services

Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Controls - Hydraulic and Pneumatic
Conveyor Systems
Fans and Blowers
Hydraulic System Components
Mining Contractors
Underground - Construction and Structures
Ventilation Systems, Materials and Equipment

Main Office

382477 Highway 95
Tensed, ID 83870 United States of America
Phone: (208) 686-2103
Email:justin@hoffman-mfg.com
www.hoffman-mfg.com

Honeywell

Booth 813

Honeywell is a Fortune 500 company that delivers industry specific solutions that include control technologies, products and services for buildings and industrial sites. Our technologies help mines and mills, supply chains, and workers become more connected to make our world smarter, safer, and more sustainable. Honeywell provides solutions for digital transformation of operations, including a mix of software products and enabling services that help mining and minerals companies use operational data to drive insights that improve processes and empower workers. We help to profitably improve safety, sustainability and productivity with intelligent, autonomous operations advancing digital transformation to the next level.

Products & Services

Alarm Systems
Analyzers
Automation
Computer - Software and Services
Information Technology Products
Measurement and Monitoring Systems
Process Controls and Instruments

Main Office

715 Peachtree St
Atlanta, GA 30308 United States of America
Phone: (470) 760-7795
www.honeywellforge.ai

EXHIBITORS

Hose Solutions Inc

Booth 625

Products & Services

Dewatering Equipment
Hoses - Valves and Fittings
Pipes

Main Office

9419 E San Salvador Dr, #104
Scottsdale, AZ 85258 United States of America
Phone: (480) 607-1507
www.HoseSolutions.com

Howden Canada Inc

Booth 719

For more than a century, Howden has supplied ventilation fans and equipment to every major mining company in the world. Today, Howden's Total Mine Ventilation Solutions (TMVS) is a fully integrated approach to mine ventilation and air quality control. By reducing blast-clearing downtime, Howden can improve energy savings by up to 50%. Howden is able to provide all necessary equipment, services, and Ventsim solutions mine sites require in a fully customizable and integrated product offering: Main and Auxiliary Fans, Mine Heaters, Mine Cooling, VOD, and Turnkey solutions.

Products & Services

Automation
Computer - Software and Services
Construction - Contracting Services
Consulting - Engineering
Controls - Electrical and Electronic
Coolers
Environmental Control Equipment and Supplies
Fans and Blowers
Sensors
Ventilation Systems, Materials and Equipment

Main Office

1381 Rue Hocquart
Howden Simsmart
Saint-Bruno-de-Montarville, QC J3V 6B5 Canada
Phone: (450) 500-5947
www.howden.com/en-us/industries/mining/mine-ventilation

HUESKER Inc

Booth 648

HUESKER is a global leader in geosynthetics engineering, providing innovative solutions to the mining sector. With a comprehensive product line of geogrids, geocomposites, and geotextiles, these geosynthetics are engineered to maximize safety, production, and sustainability for mine operators worldwide.

Specially designed for underground coal mining applications, HUESKER Minegrid® was developed to achieve more efficient longwall recoveries with stronger and more workable grids for rib- and roof mesh and high-wall support.

HUESKER also provides solutions for soil reinforcement with Stablenka® woven geotextiles and Fortrac® Geogrids; dewatering and stabilization with geotextile tubes as Soiltain® or Environmental Remediation with Tektoseal® active geocomposites.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Dewatering Equipment
Longwall Mining Equipment
Roof - Ground Supports

Main Office

3071 Arco Corporate Dr
Charlotte, NC 28273 United States of America
Phone: (704) 588-5500
www.huesker.us

hydroGEOPHYSICS Inc

Booth 1738

HGI is an innovative, solutions oriented geophysical consulting and service provider to the environmental, engineering, groundwater, mining, oil & gas, and natural resource exploration industries. We specialize in the application of 3D geophysical methods for time lapse subsurface characterization and monitoring of fluid flow through geological materials. Additionally, HGI is a leader in providing Leak Location and Leak Detection & Monitoring in geosynthetic lined ponds, landfills, and heap leaches using electrical methods.

Products & Services

Consulting - Engineering
Consulting - Environmental
Consulting - Research
Geological-Physical-Technical Services and Equip
Laboratory and Scientific Services
Linings and Claddings

Main Office

3450 S Broadmont Dr, Ste 100
Tucson, AZ 85713 United States of America
Phone: (520) 647-3315
www.hgiworld.com/

HydroTech Mining

Booth 513

Hydrotech Mining is clearly distinguishable in the mining market. The focus of our operations and expertise is based specifically for moving water.

The great versatility of our company lies in the fact that we can offer solutions for pumping dirty water as well as for clean water, unlike others that provide only pumping solutions for clean water. HTM is therefore not limited by the type of mining operations.

Products & Services

Dewatering Equipment
Pumps
Water Clarification and Treatment

Main Office

297, 7e Rue
Val-d'Or, QC J9P 0G5 Canada
Phone: (819) 874-4499
www.hydrotechmining.com

HYTORC, Division of UNEX Corp

Booth 1921

HYTORC makes industrial bolting safer and simpler. With 50 years of experience focused entirely on developing the highest quality industrial bolting systems, HYTORC is the most trusted name in the industry. From steel mills and mining equipment to refineries, power plants, wind turbines, and transportation vehicles; we have developed solutions for every bolting application imaginable. For custom projects, our highly experienced engineering team is at your service to design the most efficient solution for your job with simple operation and economical pricing in mind.

Products & Services

Fasteners - Industrial
Maintenance Equipment and Supplies
Transportation

Main Office

333 Route 17 N
Mahwah, NJ 07430 United States of America
Phone: (201) 512-9500
Email: info@hytorc.com
www.hytorc.com

Immersive Technologies

Booth 1918

As a global technology leader in the mining industry, Immersive Technologies' mission is to increase your site's profitability by optimizing the safety and productivity of your operators through our workforce optimization strategy - aligning People, Process & Technology. With the largest deployment of mining simulators in surface and underground, a global customer base, industry endorsement, proven real results and engineering expertise, Immersive Technologies is the recognized and trusted leader in mining training solutions. We are the only worldwide equipment simulator supplier with a proven track record of delivering significant and measurable in pit cost reductions, productivity gains and safety improvements.

Products & Services

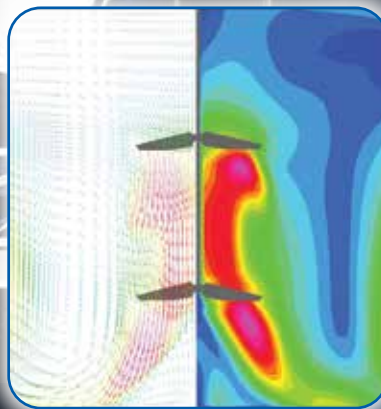
Autonomous Vehicles
Draglines
Excavators
Information Technology Products
Loaders
Mine Evaluations - Surface and Underground
Mine Operators
Safety Equipment
Training Services
Trucks and Haulage Units

Main Office

1486 S Distribution Dr
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www.haywardgordon.com

EXHIBITORS



Independent Mining Consultants, Inc

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Booth 1431

Since 1983 IMC has earned and gained the reputation as one of the most reliable and cost effective sources of consulting services for the base and precious metals, and battery metals marketplaces. IMC not only authors mine feasibility studies but mining studies of all levels with experience in NI 43-101, JORC, and Regulation S-K 1300/ SEC 10K documents. Our Clients include major and minor commodity producers, junior exploration firms, public sector entities, and financial institutions. IMC has served the mining industry by working for more than 250+ Mining Companies on 500+ Mining Projects across the globe.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Financial Services
Consulting - Management
Exploration Equipment and Services
Geological-Physical-Technical Services and Equip

Mine Evaluations - Surface and Underground
Mine Operators
Quality Improvement

Main Office

3560 E Gas Rd
Tucson, AZ 85714 United States of America
Phone: (520) 294-9861
www.imctucson.com

InduMar Products Inc

Booth 731

For 38 years, InduMar has provided problem-solving solutions to the oil & gas industry through use of advanced materials, composites, and technologies. Installed on piping, tanks, pressure vessels and infrastructure in both upstream and downstream production, innovative repair solutions address leak sealing, mechanical reinforcement, wear resistance, chemical resistance and corrosion control needs. Our products include the Stop It® Pipe Repair System, Gas Riser Rescue™, the BoreShield™ line of abrasion resistant outerwraps (AROs), the XCorr suite of epoxy repair products, and the StopCorr™ line of polyolefinic wraps, pastes, and sealants. Contact us to learn more.

Products & Services

Coatings (does not include Linings and Claddings)
Maintenance Equipment and Supplies

Main Office

2230 W Governors Cir
Houston, TX 77092 United States of America
Phone: (713) 977-4100
www.indumar.com

indurad

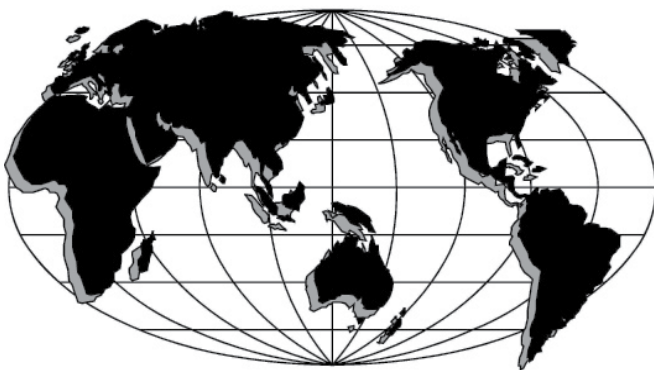
Booth 1259

indurad has over 10 years of experience in mining. We implement automation and productivity solutions to increase safety and throughput capacity from mine to port. Our next generation radar-based solutions, perform in environments where other technologies fail (dust, fog, snow, rain, etc.). For example, we increase the productivity of crushers, conveyors, stockpiles, railcar loaders, shiploaders, stackers/reclaimers, and other complex material handling systems. We enhance operational safety with collision avoidance for large machines and personnel tracking around mobile equipment. All solutions are developed to withstand the harshest environments to enable operations to achieve their nameplate capacity with minimal intervention.

Products & Services

Automation
Autonomous Vehicles
Bins, Hoppers, Silos and Storage
Crushers and Pulverizers
Process Controls and Instruments

INDEPENDENT MINING CONSULTANTS, INC.



*Serving the Mining Industry
Since 1983*

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- Mine Design, Mine Planning and Scheduling
- Mining Feasibility Studies and Technical Reporting
Documents: (S-K 1300, NI 43-101, JORC)
- Exploration Guidance
- Contract Mine Engineering & Management
- Resource Modeling / Reserve Estimation
- Due Diligence & Technical Advisory
- Surface and Underground Mine Evaluation
- Production Scheduling and Strategic Planning



Main Office

1200 McGill College Ave, Ste 1100
Montreal, QC H3B4G7 Canada
Phone: (617) 602-0961
www.indurad.com

Information Alignment Pty Ltd**Booth 1631**

Information alignment has been a major developer and supplier of software for the mining industry since the early 2000's. Recognised as a market leader in this key area of software for mining operations and our products are installed at operations across Australia, North America, South America, Africa and Asia and more recently licensed to Caterpillar globally as their reporting platform. We continue to invest heavily in research and development activities, to meet new requirements in the mining and extractive industries including functionality to support autonomous haulage, autonomous drilling, underground fleet systems, Processing Plant data flow and geo-spatial intelligence and visualization.

Products & Services

Computer - Software and Services
Consulting - Management
Information Technology Products
Measurement and Monitoring Systems

Main Office

1/7 Gympie Way
Willetton 6155 Australia
Phone: +61407464357
www.inapl.com

Inland Tarp & Liner**Booth 553**

Founded 40 years ago, Inland Tarp & Liner grew primarily from the manufacture, sale, and installation of agriculture covers. By 2005, Inland Tarp & Liner ventured into the oil and gas industries becoming a recognized leader in geomembrane fabrication and anti-slip geotextile surfaces with the 40X and 40XGL (both trademarked) product lines in 2014. More recently in 2020, Inland Tarp & Liner rolled out the ITL Reinforced Concrete Roll®, a disruptive new technology reinventing concrete for erosion control, channel, and pond lining. Follow us on Facebook, LinkedIn, and Twitter to learn more about the #ITLAdvantage.

Products & Services

Concrete Reinforcement and Equipment
Linings and Claddings
Sediment & Erosion Control
Tunnel Lining and Support Materials
Underground - Construction and Structures
Well Completion Equipment

Main Office

4172 N Frontage Rd E
Moses Lake, WA 98837 United States of America
Phone: (800) 346-7744
www.itlrcr.com

Instituto de Ingenieros de Minas del Peru (IIMP)**Booth 554**

The Peruvian Institute of Mining Engineers-IIMP, a private non-profit association created in 1943, that stands as one of the most important organizations of the Peruvian mining sector, building its success and prestige on the technical contribution offered throughout more than seven decades.

The IIMP integrates best mining professionals in order to meet the great challenges faced by the industry in an environment of constant changes and its key aim is to promote competitive and innovative development in/of the Peruvian mining sector.

Organizes PERUMIN Mining Convention, the International Congress of Prospectors and Explorers-ProEXP-LO, the Congress of Mining Competitiveness and Social Sustainability.

Products & Services

Educational

Main Office

Los Canarios 155 - 157, Urb San Cesar
La Molina
Lima Lima-12 Peru
Phone: (511) 313-4160
www.iimp.org.pe/

Integrated Power Services**Booth 950****Products & Services**

Electric Motors and Generators
Maintenance Services
Pumps

Main Office

250 Executive Center Dr, Ste 201
Greenville, SC 29615 United States of America
Phone: (864) 451-4500
www.ips.us

International Mining**Booth 749**

International Mining (IM) is the leading global technical publication for mining industry technology and equipment management. It covers the full spectrum of the world's extractive industries, from exploration through mining and processing to metallurgy and the finished products. It covers the techniques and technologies required to recover all metals, coal, diamonds and industrial minerals. With this technical focus it brings readers important news of new technologies, methods and thinking. The magazine also provides a global overview of which mining company - large or small - is doing what and where.

Products & Services

Publishers

Main Office

2 Claridge Ct, Lower Kings Rd
Berkhamsted HP4 2AF United Kingdom
Phone: +44 144 287 0829
www.im-mining.com

IoT Automation**Booth 448**

The FireFly and DragonFly Smart Lighting Systems by IoT Automation address safety and productivity requirements in underground mining and tunnelling operations. These systems enable Real-Time Situational Awareness and offer mine- and tunnel-wide emergency communications through their customisable colour options and multiple modes of operation.

FireFly and DragonFly feature Wi-Fi and Bluetooth Smart Connectivity and can be integrated with environmental monitoring systems and programmable devices for vehicle awareness along underground declines. Enhancing productivity and safety, the FireFly and DragonFly Smart Lighting Systems are low-cost and easy-to-deploy solutions for asset tracking, communications and primary, emergency and evacuation lighting—in just one system.

Products & Services

Alarm Systems
Automation
Communications Equipment
Controls - Electrical and Electronic
Environmental Control Equipment and Supplies
Geological-Physical-Technical Services and Equip
Lighting Systems and Lamps
Measurement and Monitoring Systems
Safety Equipment

Main Office

4777 Leyden St, Unit B2
Denver, CO 80216 United States of America
Phone: (720) 446-6603
www.iotautomation.com.au

IPI Packers**Booth 742**

IPI is the global market leader in the provision of inflatable packers for rock burst mitigation, block caving hydrofracture, remote or deep permeability testing, rock-stress testing and custom made solutions. Major mines and leading consultants, contractors and drilling companies around the world rely on IPI for solutions, either through purchase or via one of our rental programs.

Products & Services

Dewatering Equipment
Exploration Equipment and Services
Geological-Physical-Technical Services and Equip
Grouting Services, Equipment and Materials
Inflatable and Mechanical Packers
Underground - Construction and Structures
Well Completion Equipment

Main Office

18 Pepsi Dr
Red Lodge, MT 59068 United States of America
Phone: (406) 446-9940
www.ipipackers.com

Iracore/Irathane Systems Inc**Booth 819**

Leading the custom Wear Materials Industry since 1957, Iracore International LLC has been designing, manufacturing and providing custom wear materials to solve abrasion and corrosion issues.

EXHIBITORS

Across the markets we serve, our clients get more from their assets. They are realizing the results of better reliability and significantly increasing their equipment lifecycle.

Field-Proven Results:

The 3+ million feet of pipe installed with Iracore linings, custom rubber projects, and hundreds of thousands of molded and cast parts have been proven across the globe.

Our up-time rate stands at more than 99.99%, and we have had no major warranty claims.

Products & Services

Classifiers
Flotation Machines and Equipment
Pipes
Pumps
Screens
Urethane Cast Parts

Main Office

3516 E 13th Ave
Hibbing, MN 55746 United States of America
Phone: (218) 969-4411
www.iracore.com

Irwin Car and Equipment

Booth 201

Irwin Car and Equipment is the heavy-duty material handling equipment leader, known around the world for delivering exceptional quality and customized precision in the metals, mining, tunneling, energy, transportation and industrial industries. Our corporate offices, machine shops, production facilities, warehouses, and distribution arms span up and down the east coast into the mid-west. We also have exclusive distribution partners in Alabama, Utah, and Wyoming. With over 120 years in business, there is nothing we haven't seen.

Products & Services

Air Compressors
Bins, Hoppers, Silos and Storage
Conveyor Belting - Accessories and Equipment
Diesel Mining Equipment Manufacturers
Fans and Blowers
Filters, Filter Cloth and Accessories
Gears - Pullers, Reducers and Pinions
Parts - Mining Machinery

Main Office

9953 Broadway St
Irwin, PA 15642 United States of America
Phone: (724) 515-2406
www.irwincar.com

ISCO Industries, Inc

Booth 2007

Products & Services

Pipes
Pumps
Welding Equipment and Supplies

Main Office

100 Witherspoon St 2W
Louisville, KY 40202 United States of America
Phone: (800) 345-4726
www.isco-pipe.com

Ishigaki USA Ltd

Booth 548

Ishigaki develops and manufactures a comprehensive and innovative range of excellent solid/liquid separation equipment. Used in Mine Tailings, Mineral Concentrates, Water Reclamation, industrial, Rare Earths and Lithium applications. Ishigaki's LASTA Filter Press is Fully Automatic, provides High Production Capacity due to Short Cycle Times, Excellent Performance, and the robust and simple design leads to Easy Maintenance. In business for more than 60 years and thousands of installations world wide!

Products & Services

Filters, Filter Cloth and Accessories
Parts - Mining Machinery

Main Office

280 Heritage Ave, Unit J
Portsmouth, NH 03801 United States of America
Phone: (603) 433-3334
www.ishigakiusa.com

Itasca International, Inc

See our ad on p. 65

Booth 624

Itasca is a global, employee-owned, engineering consulting and software firm, focusing on geomechanical and hydrogeological projects. Our consultants solve complex problems in the fields of mining, civil, and energy. Itasca combines practical engineering and field experience with expert knowledge of numerical simulation and analysis. Itasca's software (3DEC, FLAC2D, FLAC3D, Griddle, KATS, MassFlow, MINEDW, PFC, UDEC, and XSite) are the software of choice for solving complex geotechnical problems where the only limitation is your imagination. Our consulting and research activities focus on analyzing the behavior of excavations and engineered structures in soil and rock, including groundwater, thermal, creep, and dynamic effects.

Products & Services

Computer - Software and Services
Consulting - Engineering
Consulting - Environmental
Consulting - Research

Main Office

111 3rd Avenue S, Ste 450
Minneapolis, MN 55401 United States of America
Phone: (612) 371-4711
www.itscainternational.com



IWT

See our ad on p. 63

Booth 1630

Innovative Wireless Technologies (IWT) is the leading supplier of underground wireless networks for communication, tracking, and sensor data. Our revolutionary high-data rate protocol fixes the data retrieval issues facing underground operations today, bringing reliable, real-time data from working areas to the people who

need it -- wirelessly. IWT provides cohesive, integrated, scalable solutions for enhanced safety, increased productivity, and low maintenance for the lowest total cost of ownership solutions available.

Products & Services

Communications Equipment
Environmental Control Equipment and Supplies
Measurement and Monitoring Systems
Safety Equipment

Main Office

1100 Main St
Lynchburg, VA 24504 United States of America
Phone: (434) 316-5230
www.iwtwireless.com

J. Rettenmaier USA LP

Booth 1656

J. Rettenmaier is the global leader in natural fibers production servicing a broad range of industries with an extensive product portfolio. JRS manufactures a variety of filtration media from natural renewable raw materials for the mining and lithium processing industries. Cellulose filter aids are used in place of diatomaceous earth and perlite to optimize cake filtration systems on a wide variety of filter systems. Our products are specifically designed to improve filtration performance, extend filter cycle times, reduce maintenance requirements, and cellulose aids impart less ionic contamination to the process.

Products & Services

Filters, Filter Cloth and Accessories

Main Office

16369 US 131 Highway
Schoolcraft, MI 49087 United States of America
Phone: (269) 679-2340
Email: info@jrsusa.com
www.jrsusa.com



J.H. Fletcher & Co

See our ad on p. 67

Booth 453

Since 1937, Fletcher has been engineering and manufacturing custom solutions for underground mining. Today, Fletcher products expand into a variety of industries. Through the decades, Fletcher has operated with a singular vision: to work with a vigilant focus on finding ways to improve mining and industrial processes and reducing risk for the people who work in those industries.

Products & Services

Diesel Mining Equipment Manufacturers
Drilling Equipment
Longwall Mining Equipment
Roof - Ground Supports
Shortwall Mining Equipment
Training Services



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and tomorrow
and the next day
and next year
and the year after that....



Clear voice communication that you can actually HEAR in a noisy environment is just one of the many capabilities of an IWT *SENTINEL*™ System.

And, because IWT is a trusted partner to the mining industry, we are committed to providing innovative solutions both today and well into the future.



SME MINEXCHANGE Booth 1630 iwtwireless.com

EXHIBITORS

Main Office

402 High St
Huntington, WV 25705 United States of America
Phone: (304) 525-7811
www.jhfletcher.com

Jacobi Group

Booth 1851

Jacobi Carbons, a division of Jacobi Group, is the largest manufacturer of coconut-shell activated GAC & PAC and carries a full line of coal & wood-based activated carbons. Jacobi Group also has a division of Resins which offers a complete portfolio of high quality ion exchange resins. This includes many different ion exchange, adsorbent, and catalyst type products for a variety of applications. Jacobi Services is available for small and large scale changeouts.

Products & Services

Ion Exchange Equipment and Resins
Remediation
Water Clarification and Treatment

Main Office

432 McCormick Blvd
Columbus, OH 43213 United States of America
Phone: (412) 260-1012
www.jacobi.net

JADCO Manufacturing Inc

Booth 607

JADCO Manufacturing, Inc., an ISO certified, leading provider of proven wear protection to combat even the toughest impact and abrasion challenges. Since 1980, JADCO continues to deliver unmatched technical expertise, quality, and customer service. JADCO offers an unparalleled array of wear-fighting products, particularly wear steel, to optimize a user's operations with brands including QT-PLUS® and CHROMEWEELD. Our QT-PLUS® wear steel outlasts commodity AR400 wear steel 3-5 times. While our CHROMEWEELD, chromium-carbide overlay plate (offered in multiple chemistries), stands up to the toughest abrasion wear conditions.

Products & Services

Bins, Hoppers, Silos and Storage
Castings
Feeder Breakers
Feeders
Linings and Claddings
Pipes
Screens
Steel Pipe
Welding Equipment and Supplies

Main Office

PO Box 465
Zelienople, PA 15642 United States of America
Phone: (724) 452-5252
Email:sales@jadcomfg.com
www.jadcomfg.com

James, Cooke & Hobson, Inc

Booth 1854

Products & Services

Pumps

Main Office

3501 E Broadway Rd
Phoenix, AZ 85040 United States of America
Phone: (602) 399-3795

JBW Consulting Engineers

Booth 209

JBW provides responsive engineering for our Mining, Industrial, Energy, and Infrastructure partners. Our engineering staff members have decades of experience in mining and industrial process design. JBW provides mechanical, structural, civil, electrical/controls, and process engineering disciplines to our clients. Our staff removes your barriers by focusing on your problems and including all project stakeholders in the solution.

Products & Services

Consulting - Engineering
Dust and Fume Control Technology

Main Office

4140 Richard Ave, Ste 650
Duluth, MN 55811 United States of America
Phone: (218) 491-6059
jbwconsult.com

Jenike & Johanson

Booth 716

Jenike & Johanson is the world's leading company in powder and bulk solids handling, processing, and storage technology. Over the past 57+ years, we've tested over 19,000 unique powders and bulk solids. We have a combined team experience of nearly 1,000 person-years in the field, and worked on more than 9,000 projects, giving our team the broadest real-world and in-depth experience in the industry to address a wide variety of bulk material handling and engineering needs.

Products & Services

Bins, Hoppers, Silos and Storage
Blending Systems
Consulting - Design and Planning
Consulting - Engineering
Conveyor Systems
Educational
Feeders
Laboratory and Scientific Services
Training Services

Main Office

400 Business Park Dr
Tyngsboro, MA 01879 United States of America
Phone: (978) 649-3300
www.jenike.com



JENNMAR

See our ad on p. 69 & Inside Back Cover

Booth 1217

We are diversified manufacturer and services provider for above and below ground infrastructure that sets the standards in terms of quality and safety for our stakeholders. Our mission is total customer support and satisfaction. Our portfolio of brands are rebuilding America's infrastructure. Because we understand the ever changing and demanding conditions above and below ground we have built the richest portfolio of diverse and complementary brands. From engineering to resin manufacturing, rolled-steel and drill-steel manufacturing, custom steel fabrication, precision wear parts, tools and bits, chemical roof support and sealing products, staffing solutions, transportation and more.

Products & Services

Conveyor Systems
Hydraulic System Components
Inflatable and Mechanical Packers
Longwall Mining Equipment
Pumps
Rail Systems and Supplies
Roof - Ground Supports
Seals
Shotcrete Equipment, Supplies and Services
Ventilation Systems, Materials and Equipment

Main Office

258 Kappa Dr
Pittsburgh, PA 15238 United States of America
Phone: (412) 963-9071
www.jennmar.com

JHL Constructors

Booth 650

JHL Constructors is a 100% employee-owned builder with over 35 years in business. We are a fully integrated, Colorado-based and Colorado-focused construction firm, serving our clients in the markets of Infrastructure and Vertical Building. Within Infrastructure, JHL's Mining work program specializes in: Reclamation, Expansion, Decommissioning, and Environmental Controls.

Products & Services

Construction - Contracting Services
Mining Contractors

Main Office

9100 E Panorama Dr, Ste 300
Englewood, CO 80112 United States of America
Phone: (303) 741-6116
www.jhlconstructors.com

Joest Inc

Booth 449

Joest Inc, a US company, is part of the Germany headquartered Joest Global group, an OEM with 100+ years' experience with the design, manufacturing and deploying of vibratory screens, feeders, conveyors, fluidized bed dryers/coolers. Joest provides precision engineered reliability centric robust machines that are engineered, manufactured and factory tested in for example the USA or Australia depending on the project location.

Products & Services

Agitators, Vibrators and Mixers
Classifiers
Dewatering Equipment
Drives - Magnetic and Variable
Dryers
Feeders
Gravity Separators
Grizzlies - Feeding, Moving and Stationary
Screens
Separators and Concentrators

Main Office

800 Roosevelt Rd, Unit B400
Glen Ellyn, IL 60137 United States of America
Phone: (630) 469-0900
www.joest-us.com

Johnson Industries Ltd

Booth 1513

Johnson designs and manufactures a range hydraulic, pneumatic, spring set and manually applied caliper and drum brakes systems for use on hoists, conveyors, SAG and Ball Mills, ship loaders, and other rotating equipment. Johnson also produces electro-magnetic and electro-hydraulic thruster drum and disc brakes, which are in service around the world on cranes, hoists, and other material handling and power transmission equipment. We also designs and manufactures storm brakes and systems, including; automatic and manual rail clamps, rail brakes, and wheel clamps for use on cranes, stacker-reclaimers, trippers, and other rail mounted equipment.

Products & Services

Brakes - Dynamic, Friction Disk - Block, Magnetic
Controls - Hydraulic and Pneumatic
Hydraulic System Components

Main Office

6500 Dennett Pl
Delta, BC V4G 1N4 Canada
Phone: (604) 940-4555
www.brakes.ca

Johnson Screens

Booth 603

Mineral processors have discovered dramatic cost-per-ton reductions using Johnson Screens' products in particle separating, reducing, sizing, washing, and dewatering processes. These screening products are standards for processing coal, gold, lithium, phosphate, copper, bauxite, and gravel processes. Johnson Screens also provides guidance and support to ensure the customer's specification is met.

Products & Services

Filters, Filter Cloth and Accessories

Main Office

1950 Old Hwy 8 NW
New Brighton, MN 55112 United States of America
Phone: (651) 636-3900
www.johnsonscreens.com

Jord International

Booth 300

"Ideas Engineered", Jord's mantra for more than 50 years. Delivering performance, efficiency and sustainability to modern miners with disruptive minerals processing technologies.

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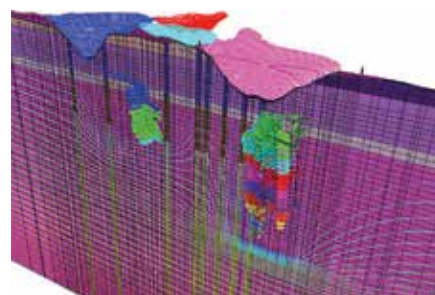
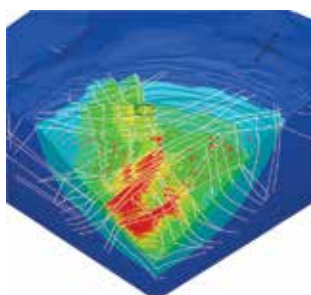
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EXHIBITORS

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Products & Services

Flotation Machines and Equipment

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Denver, CO 80206 United States of America
Phone: (720) 869-7610
Email: owhatnall@jord.com.au
www.jord.com.au

Juniper Systems

Booth 118

Juniper Systems, Inc. is a leading manufacturer of ultra-rugged tablets, handheld computers, GPS receivers, mapping software, and field computing solutions. Communicate anywhere with rock-solid, field-ready results. Professionals utilize Juniper Systems' innovative mobile computers in food and manufacturing, natural resources, utilities, public services, geospatial, mining, industrial, and military markets. In addition, the company's HarvestMaster brand makes solutions for agricultural applications. Juniper's solution offers easy-to-use data collection, communication, and mapping tools, including the Mesa Rugged Tablets, Geode GNSS Receiver, and our Uinta Mapping Software. Bring your office wherever you need to go.

Products & Services

Computer - Hardware and Services
Computer - Software and Services
Surveying Equipment and Supplies

Main Office

1132 W 1700 N
Logan, UT 84321 United States of America
Phone: (435) 753-1881
Email: sales@junipersys.com
www.junipersys.com

Just Refiners USA, Inc

Booth 1650

The total and complete solution for the treatment and processing of by-products generated by the mining community. Just Refiners excels in providing a service to the mining industry by receiving, preparing, sampling, and processing by-products. Here at Just Refiners USA, Inc., we take our customer service seriously and our objective is to surpass our customers' expectations. Our mission is to develop mutually long-lasting and dedicated relationships with our customers, which are beneficial to both parties. JRI has a current AML program in place to eliminate any risk of breaking the law.

Products & Services

Mining Contractors

Main Office

350 Greg St
Sparks, NV 89431 United States of America
Phone: (775) 331-1663
www.justrefiners.com

K&M Industrial Valve Supply

Booth 2018

K&M is family owned business that re-manufactures Clarkson knife gate valves. K&M buys used core valves and then sandblasts and paints them prior to installing new OEM parts. K&M offers a 12 month warranty.

Products & Services

Valves

Main Office

8259 Virginia Ely Rd
Babbitt, MN 55706 United States of America
Phone: (218) 428-5352
Email: info@kandmvalves.com
www.kandmvalves.com

K2fly

Booth 958

K2fly is a technology provider of enterprise-level Resource Governance solutions to asset-intensive and extractive industries. Our solutions drive towards 'net positive impact' in ESG compliance, disclosure and technical assurance, through platform-based SaaS cloud solutions.

K2fly's software operationalises business processes to be compliant with standards, regulations and codes, facilitating robust, auditable disclosures. This software is embedded into some of the world's largest companies. They have 10 solutions across the natural and mineral resource governance domains: resource disclosure, model manager, mine reconciliation, ore blocker, mine geology, land access, heritage management, ground disturbance, tailings management and land rehabilitation.

Products & Services

Computer - Software and Services

Main Office

Level 4, 502 Hay St
6018 Australia
Phone: 0432401318
k2fly.com



Kalenborn Abresist Corporation

See our ad on p. 71

Booth 1529

Kalenborn Abresist USA is a leader in wear solution engineering. Kalenborn supports its claim to be a total piping solution provider. With 3D scanning capability and full line of ceramic and metal solutions it can solve all wear and corrosion challenges related to mining.

Products & Services

Pipes
Steel Pipe

Main Office

5541 N State Rd 13
Urbana, IN 46990 United States of America
Phone: (800) 348-0717
Email: info@abresist.com
www.kalenborn.us

Kamengo

Booth 527

Kamengo specializes in the design and supply of storage bins and feeders for handling difficult flowing sticky and cohesive bulk materials.

Products & Services

Bins, Hoppers, Silos and Storage
Feeders

Main Office

275 West 6th Ave
Vancouver, BC V5Y 1K7 Canada
Phone: (604) 2709995
www.kamengo.com



Keller

See our ad on p. 73

Booth 1521

Keller develops innovative, practical, and cost-effective solutions to geotechnical challenges including deep foundations, ground improvement, groundwater control, liquefaction mitigation, releveling structures, slope stabilization, support of excavation, underpinning, and instrumentation and monitoring. Keller is the largest geotechnical specialty contractor in the world with over 60 offices throughout the US and Canada.

Products & Services

Construction - Contracting Services
Drilling Contractors
Grouting Services, Equipment and Materials
Remediation
Underground - Construction and Structures

Main Office

7550 Teague Rd, Ste 300
Hanover, MD 21076 United States of America
Phone: (410) 551-8200
www.keller-na.com

Kemira

Booth 1760

Kemira is a global chemicals company serving customers in water-intensive industries. We are global leaders in Inorganic Coagulants. Our full product portfolio also includes polymers, organic coagulants, antiscalants, biocides, and defoamers. Kemira has been in business for over 100 years and

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EXHIBITORS

has the technical expertise and field experience to support product selection and process optimization. We have multiple manufacturing plants in the United States and Canada, with a reliable and cost-efficient supply chain throughout the Americas. We are currently developing a new portfolio of biobased, sustainable polymers. Chemistry with a purpose. Better every day.

Products & Services

Sediment & Erosion Control
Water Clarification and Treatment

Main Office

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Phone: (678) 819-4693
www.kemira.com

Kiewit

See our ad on p. 75

Booth 1025

Kiewit specializes in mine management, production, infrastructure construction, maintenance and contract mining ventures, offering some of the most highly-skilled and experienced professionals in the industry.

Products & Services

Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Consulting - Management
Furnaces - Industrial Process
Mine Operators
Mining Contractors
Pyrometallurgical Processing
Reduction Technologies - Iron Ore, Steel, Mineral
Underground Excavation Services and Equipment

Main Office

10055 Trainstation Cir
Lone Tree, CO 80124 United States of America
Phone: (612) 741-0130
www.kiewit.com

Knight Piésold and Co

Booth 1008

Knight Piésold is an employee-owned, global consulting firm providing specialist services to businesses operating in the mining, power, water resources, and infrastructure industries. We are engineers, environmental scientists, geoscientists, and technologists, focusing on what we do best to create value for clients at every stage of a project.

Products & Services

Consulting - Engineering
Consulting - Environmental
Laboratory and Scientific Services
Remediation

Main Office

1999 Broadway, Ste 900
Denver, CO 80202 United States of America
Phone: (303) 629-8788
Email: denver@knightpiesold.com
www.knightpiesold.com

Kobelt Manufacturing Co Ltd

Booth 728

Products & Services

Brakes - Dynamic, Friction Disk - Block, Magnetic Castings
Controls - Electrical and Electronic
Controls - Hydraulic and Pneumatic
Hydraulic System Components

Main Office

8238 129th St
Surrey, BC V3W 0A6 Canada
Phone: (604) 572-3935
www.kobelt.com

Koeppern Group

Booth 551

Specializing in briquetting, compaction, and comminution, the Koeppern Group in the US consists of Kopperrn Equipment and Komarek which are owned by Maschinenfabrik Koeppern GmbH in Germany. With the combined force of these industry pioneers, we offer cutting-edge solutions to the chemical, mineral, metal, agricultural, waste, energy, recycling, cement, and mining industries, from small-scale pilot machines to large-scale production systems. At the forefront of briquetting and compaction for over a century, Komarek and Kopperrn Equipment operate out of Wood Dale, IL, where the main manufacturing and full-scale research and testing labs are located.

Products & Services

Briquetters
Compactors
Grinding Mills

Main Office

548 Clayton Ct
Wood Dale, IL 60191 United States of America
Phone: (847) 956-0060
www.koeppern-international.com

KOMATSU

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See our ad on p. 77

Booth 757

Mining operations need collaborative partners they can trust who will empower them with quality, innovative insights and offerings that leverage automation and electrification while providing the freedom of interoperability on an open platform. Komatsu is here to partner with you to deliver the equipment, technologies and solutions needed to help you reach their goals and help position the mining industry to meet the world's need for minerals in increasingly sustainable ways. Learn how we can work with you to create lasting value for your operation by visiting our website.

Products & Services

Automation
Autonomous Vehicles

Continuous Mining Machines
Drilling Equipment
Excavators
Feeder Breakers
Loaders
Longwall Mining Equipment
Parts - Mining Machinery
Trucks and Haulage Units

Main Office

401 E Greenfield Ave
Milwaukee, WI 53204 United States of America
Phone: (414) 670-7802
www.komatsu.com

KP Exploration

Booth 405

Mineral exploration and water well drilling performed since 1997. KP Ventures is licensed in 8 states of the Southwestern US. We perform R/C drilling and sampling, dewatering well construction, in-situ injection & extraction well construction, vertical turbine pump installation and pump repair. We are based in Northern Arizona to cover the entire Southwestern US.

Products & Services

Drilling Contractors

Main Office

PO Box 2411
Cottonwood, AZ 86326 United States of America
Phone: (928) 639-1709
www.kpventureswelldrilling.com

KPI Mining Solutions

Booth 1649

KPI Mining Solutions provides significant value by developing and commercializing cutting-edge software and services to the mining industry. Our suite of software solutions starts with KPI-COSMO Stochastic Mining Optimizer, the first stochastic and simultaneous optimization software for mineral value chains. Our solution optimizes production schedules, recovered reserves and increases the life-of-asset net present value (NPV) by up to 40%.

Products & Services

Computer - Software and Services

Main Office

201-2600 Alfred Nobel
St-laurent, QC H4S 0A9 Canada
Phone: (514) 244-3981
Email: lori.cohen@kpimining.com
kpimining.com/

Kraft Power Corp

Booth 632

Kraft Power's Power Transmission Division has a diverse product offering including gear couplings, clutches & brakes, fluid couplings, precision motors, automation solutions, linear systems, engineered gear drives, power generation, VFDs, soft-starts and various mechanical and electrical components.

We partner with world class manufacturers including Ameridrives, Bauer Gear Motor, Bibby Turboplex, Boston Gear, ESCO Couplings, Formsprag Clutch, Guardian



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JENNMAR sets the bar in every industry we serve and as we continue to grow, our focus will always be on the customer. Our products are made in the U.S.A. and backed by experienced engineers and technicians who are with you every step of the way, from initial consultation to qualified instruction and on-going technical support. We support and are dedicated to rebuilding infrastructure worldwide.



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For more information, visit www.jennmar.com
or email us at info@jennmar.com

EXHIBITORS

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Products & Services

Clutches - Fluid, Friction and Magnetic
Controls - Electrical and Electronic
Controls - Hydraulic and Pneumatic
Couplings - Mechanical, Flexible and Rigid
Drives - Belt, Chain, Fluid and Gear
Drives - Magnetic and Variable
Electric Motors and Generators
Gears - Pullers, Reducers and Pinions
Hydraulic System Components
Power Transmission Equipment

Main Office

1000B Northbrook Pkwy
Suwanee, GA 30024 United States of America
Phone: (800) 394-0078
www.kraftpower.com

Kyte Centrifuge, LLC

Booth 211

Kyte Centrifuge, in partnership with GreySun Centrifuge, specializes in sales of new and reconditioned centrifuges used in dewatering, classification, yellow cake, phosphoric acid, liquid ion exchange, leaching, solvent extraction, hydrometallurgy, and DAF wastewater applications. Repair and parts supply services are offered through our world-class ISO 9001 certified repair facility located in Houston, TX. Additional services include pilot testing, process optimization, trouble-shooting, and retro-fitting of modern control systems.

Products & Services

Centrifuges

Main Office

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Phone: (832) 368-2667
www.kytecentrifuge.com

Layfield Geosynthetics

Booth 1949

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Products & Services

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Reclamation Equipment and Services
Remediation
Sediment & Erosion Control

Main Office

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Lakeside, CA 92040 United States of America
Phone: (619) 562-1200
Email: geosynthetics@layfieldgroup.com
www.LayfieldGeo.com

LIEBHERR

Liebherr

See our ad on p. 79

Booth 1042

Liebherr Mining offers a full line of products for the mining industry including mining excavators, trucks, and dozers, as well as personal assistance to customer specific projects and site requirements. Quality, reliability, and innovative technologies ensure that mining operations are safe and efficient at all times. Liebherr also offers aftermarket support for components and a remanufacturing program that enables customers to significantly reduce the total lifecycle cost of Liebherr mining equipment.

Products & Services

Diesel Mining Equipment Manufacturers
Excavators
Trucks and Haulage Units

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Phone: (307) 686-0948
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Line Power Manufacturing

Booth 902

Custom electrical power distribution and control products for mining, tunneling and dredging applications including portable substations, power centers, vacuum circuit breaker switch houses, longwall controls, belt and pump starters and mine-duty transformers.

Products & Services

Electrical Equipment and Supplies
Longwall Mining Equipment
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Main Office

115 Norfolk Ave
Bristol, VA 24201 United States of America
Phone: (276) 645-8825
www.linepower.com

Linkan Engineering

Booth 1353

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Water Clarification and Treatment

Main Office

2720 Ruby Vista Dr, Ste 101
Elko, NV 89801 United States of America
Phone: (775) 777-8003
www.linkan.biz

LIVEMINE

Booth 2013

A tablet-based daily data capture and reporting software that has been designed to efficiently solve data-driven issues. Created by mining engineers and experienced operators, LiveMine will seamlessly integrate with existing operations to eliminate inaccurate reporting and wasted time. LiveMine eradicates hours of paperwork, unreliable spreadsheets, and uncertainty in data accuracy. Our innovative software can be used online or offline, meaning you can collect crucial operational data directly at the source in real-time.

Products & Services

Computer - Software and Services

Main Office

Level 2 682 Murray St West Perth
Western Australia 6005 Australia
Phone: 08 6158 6777
Email: info@livemine.com.au
www.livemine.com.au/



Lorbrand

Booth 859

Manufacturer of Conveyor idlers, pulleys and smart remote monitoring Sensor Seals for idler rolls.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

6 Hennopsriver St
Centurion 2021 South Africa
Phone: +27824537041
www.lorbrand.com

Louisville Dryer Company

Booth 1843

Louisville Dryer Company is the world-leading provider of high quality rotary processing equipment with over 100 years of experience in mechanical design, process design, manufacture, application, and service. Our engineering staff is qualified in a number of disciplines and has extensive practical application experience. LDC is a qualified ASME Division I design and manufacturing center. We have completed thousands of installations and pioneered many of the technologies applied to today's direct and indirect heat dryers, coolers, calciners, steam tube dryers, and water tube coolers. Materials processed include organic and inorganic chemicals, petrochemicals, grains, metals, aggregates, and waste byproducts.

Products & Services

Coolers
Dryers
Kilns





WEAR SOLUTIONS

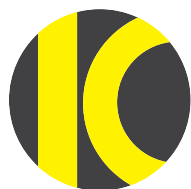
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- › Consistent Reliability?
- › Erosion or Corrosion?
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- › Innovative Custom Solutions
- › Reduced Life Cycle Costs
- › Wear Evaluations and Audits



Kalenborn
Wear Protection Solutions

Visit our "Wear Experts" at 2024 SME/MINEXCHANGE Conference Phoenix, AZ Booth #1529

EXHIBITORS

Main Office

1100 Industrial Blvd
Louisville, KY 40219 United States of America
Phone: (502) 969-3163
Email: mail@LouisvilleDryer.com
LouisvilleDryer.com

Luff Industries Ltd

Booth 1725

Luff Industries manufactures quality conveyor components, including idlers with patented polymer end caps and pulleys with an industry leading rim thickness to an international market. Using Luff components, companies have been increasing the performance of their conveyor systems for over 43 years. Recognized for innovative products, quick turnaround times and industry leading warranty, Luff products can be found in a variety of heavy industrial material handling applications. These industries include aggregate, mining, forestry, original equipment manufacturers, construction and recycling. Luff manufactures one of the most complete product lines due to these different application requirements.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

235010 Wrangler Rd
Rocky View, AB T1X 0K3 Canada
Phone: (403) 279-3555
Email: info@luffindustries.com
www.luffindustries.com

Maccaferri, Inc

Booth 1441

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Dredges
Reclamation Equipment and Services
Remediation
Sediment & Erosion Control

Main Office

10303 Governor Lane Blvd
Williamsport, MD 21795 United States of America
Phone: (301) 223-6910
www.maccaferri.com/us

Mackay School of Earth Sciences and Engineering

Booth 736

Internationally renowned for its academic programs in the earth, mineral and engineering sciences, and for its diverse research activities, Mackay has earned its reputation for excellence by providing the mining, engineering and minerals industries with highly trained graduates, by conducting cutting-edge research and its continuous offering of public service to Nevada and the nation.

Products & Services

Educational

Main Office

1664 N Virginia St
Univ of NV, College of Science
Reno, NV 89557 United States of America
Phone: (775) 784-6987
www.unr.edu/mackay/

Maestro Digital Mine

Booth 426

Maestro Digital Mine manufactures IIoT devices and last mile digital networks for the underground mine, enhancing miners lives by the pursuit of safety excellence and productivity.

Our cleantech, Industry 4.0 products and solutions deliver worker safety and productivity improvements while reducing energy and GHG footprint, aiding in corporate decarbonization efforts.

Maestro provides significant capex and opex savings to the mines project delivery, technology (IT/OT), ventilation, energy, and OHS professionals.

Products & Services

Automation
Communications Equipment
Measurement and Monitoring Systems
Sensors
Ventilation Systems, Materials and Equipment

Main Office

87 Magill St
Sudbury, ON P3Y 1K6 Canada
Phone: (705) 805-6918
www.maestrodigitalmine.com

Magotteaux

Booth 833

Magotteaux is the world leader in process optimization solutions for abrasive and impact applications in mining, cement, aggregates, quarrying and power stations. Magotteaux is part of Sigdo Koppers, listed in Santiago, Chile. We are present in more than 150 countries and have a work force of more than 3,000 qualified and experienced individuals who can help our customers with much more than grinding optimization and milling efficiency. Our technical innovations have changed and will continue to change the industry in the future. We are continuously reducing our environmental impact and provide solutions helping all our customers to do the same.

Products & Services

Castings
Grinding Media and Liners

Main Office

725 Cool Springs Blvd, Ste 200
Franklin, TN 37067 United States of America
Phone: (615) 385-3055
Email: info.nam@magotteaux.com
www.magotteaux.com

Maintenance Technology Systems, LLC (MTS)

Booth 200

At Maintenance Technology Solutions we are making predictive maintenance solutions available to every business through innovative machine health monitor-

ing. Any change to the internal workings of a machine will result in a change to its vibrational behavior. These subtle changes can be detected and used to determine what maintenance should be performed and when it should be completed.

Products & Services

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Main Office

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Major Drilling

Booth 1943

Major Drilling is one of the world's largest drilling services companies primarily serving the mining industry. We maintain field operations and offices in Canada, the United States, Mexico, South America, Africa and Australasia. Our specialized global teams provide a complete suite of drilling services for both surface and underground projects.

Products & Services

Drilling Contractors

Main Office

2200 S 4000 W
Salt Lake City, UT 84120 United States of America
Phone: (480) 522-9210
Email: Joel.Campbell@majordrilling.com
www.majordrilling.com

Malvern Panalytical

Booth 708

Malvern Panalytical creates innovative, customer-focused solutions and services to enhance efficiency and deliver tangible economic impact through chemical, physical and structural analysis of materials for all steps of your mining process. Our mining solutions provide highly reliable, robust elemental, morphological and structural information that can help you confidently explore new materials, design and test materials, and efficiently produce high quality products. Our portable and on-line solutions identify pathfinder minerals, determine quality of ore, and provide certified analysis of your beneficiated material. Ask us how we can optimize your mining process.

Products & Services

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Laboratory Equipment and Supplies
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- Slope stabilization
- Support of excavation
- Underpinning
- Design-build

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EXHIBITORS

Main Office

2400 Computer Dr, Ste 2100
Westborough, MA 01581 United States of America
Phone: (508) 768-6400
www.malvernpanalytical.com

Mantis Conveyor Products

Booth 1456

MANTIS provides patented, high-performance, long-lasting CEMA-rated steel roll idlers, and light-weight, durable troughing assemblies for use in the aggregate industry, agriculture, frac sand, mining, terminals, and other applications. Designed and manufactured in the USA, MANTIS Conveyor Products are built to provide superior uptime and efficiency for maximized ROI, with better designs to protect bearings, minimize belt damage, and reduce and reject debris and contamination under a wide variety of conditions. MANTIS is backed by the support and expertise of NHI, an American manufacturer of mechanical power transfer solutions for more than 60 years. ISO-9001:2015 certified, NHI has in-house custom product

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

35 Connecticut Riverbend Pl
Claremont, NH 03743 United States of America
Phone: (802) 258-0860

MAPEI Corporation

Booth 904

Tunneling, underground construction and mining projects have unique and challenging characteristics due to their complexity. MAPEI's UTT (Underground Technology Team) engineers and experts understand these challenges and focus on providing a broad range of products and technologies along with expertise and know-how for the tunneling, underground construction and mining industries. These solutions include chemicals for shotcrete, mechanized tunneling, injection and waterproofing technologies. These products are manufactured by MAPEI with the goal of completely satisfying every technical requirement of our customers, from applicator to the contractor to the client.

Products & Services

Consulting - Design and Planning
Lubricants and Equipment
Sediment & Erosion Control
Shotcrete Equipment, Supplies and Services
Tunnel Lining and Support Materials
Underground Excavation Services and Equipment

Main Office

1144 E Newport Center Dr
Deerfield Beach, FL 33442 United States of America
Phone: (888) 365-0614
utt.mapei.com/

Maptek

Booth 1103

Maptek™ is a global provider of innovative software, hardware and services. Founded 40 years ago to service the mining industry, Maptek offers a unique combination of domain knowledge, technical expertise

and engineering resources. We incorporate automated workflows and optimised algorithms to collect, analyse and circulate critical information within the operational cycle, closing the loop between planning, production and results. With our digital mine solutions, operations can add value to projects. Maptek continually looks for new ways to extend the capability of the mining industry and develops reliable solutions that allow customers to improve safety, productivity and profitability.

Products & Services

Aerial Mapping and Surveying
Computer - Software and Services
Consulting - Design and Planning
Consulting - Engineering
Explosive Materials and Services
Geological-Physical-Technical Services and Equip
Measurement and Monitoring Systems
Reclamation Equipment and Services
Surveying Equipment and Supplies
Training Services

Main Office

14143 Denver W Pkwy, Ste 200
Golden, CO 80401 United States of America
Phone: (303) 763-4919
www.maptek.com

Marietta Silos, LLC

Booth 1730

MARIETTA SILOS and our sister company USA SILO SERVICE work in tandem to complete bulk storage cleaning, inspections, repairs, and new silo construction. The combined companies have over 130 years industry specific experience to ensure your bulk storage systems operate efficiently, economically, and safely for the longevity of your operations. Email us directly at askmrsilo.com to see how our companies can benefit your organization.

Products & Services

Bins, Hoppers, Silos and Storage

Main Office

2417 Waterford Rd
Marietta, OH 45750 United States of America
Phone: (740) 373-2822
www.mariettasilos.com

Marmon Industrial Energy & Infrastructure

Booth 103

Main Office

20 Bradley Park Rd
East Granby, CT 06026 United States of America
Phone: (860) 713-3522

Masaba Inc

Booth 1707

Masaba, Inc. was formed with a mission to design and build rugged equipment to withstand the demanding environments of the mining and aggregate industries. Masaba's wide range of products includes conveying and material handling equipment like the patented Magnum Telescoping Conveyor and Low-Profile Truck Unloader, portable and modular systems for crushing,

screening and washing, and a variety of custom engineered solutions – all designed and manufactured specifically to the customer's needs. Masaba is committed to providing their customers with the best products and product support in the market today.

Products & Services

Conveyor Systems
Crushers and Pulverizers
Screens
Washing Plants

Main Office

1617 317th St
Vermillion, SD 57069 United States of America
Phone: (605) 624-9555
www.masabainc.com



Master Builders Solutions

See our ad on p. 81

Booth 1409

Master Builders Solutions is a leading supplier of underground solutions. By connecting our MasterRoc products with our Mining customers, we provide solutions that help them to become more successful, even in highly challenging ground conditions. Master Builders Solutions has the largest range of products and services available to meet needs and solve problems in mining applications, in both soft ground or hard rock conditions.

Products & Services

Backfilling
Grouting Services, Equipment and Materials
Roof - Ground Supports
Shotcrete Equipment, Supplies and Services
Tunnel Lining and Support Materials

Main Office

23700 Chagrin Blvd
Beachwood, OH 44122 United States of America
Phone: (216) 839-7500
www.master-builders-solutions.com/EN-US

Matec America Inc

Booth 717

Matec America is the US branch of Matec Industries. Matec Industries S.p.A. designs and manufactures complete plants for crushing, screening & washing of aggregates and wastewater purification & filtration solutions in many sectors, the most important of which are: coal, iron-ore, aggregates, gravel, sand, stone, concrete, ceramic, glass.

Products & Services

Crushers and Pulverizers
Pumps
Screens
Scrubbers
Water Clarification and Treatment



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BOOTH #1025

VISIT US AT MINEXCHANGE 2024

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EXHIBITORS

Main Office

206 Villa Ave
High Point, NC 27260 United States of America
Phone: (336) 880-9036
www.matecindustries.com

Matrix Design Group

Booth 1825

Matrix Design Group LLC is a safety and productivity technology leader for mining and industrial applications. We provide a hardware, software and analytics platform that delivers leading-edge products and actionable insights to our operators.

Our innovative product line includes systems data networking, communication and tracking systems, mining proximity detection systems, industrial collision avoidance systems and data & analytics software.

Matrix's innovation has been demonstrated by winning the NIOSH Mine Safety & Health Technology Innovation Awards in 2020 for OmniPro® and 2021 for an enhanced IntelliZone® proximity detection system for underground haulage.

Products & Services

Communications Equipment
Computer - Software and Services
Hoists - Controls and Accessories
Information Technology Products
Safety Equipment
Sensors

Main Office

3299 Tower Dr
Newburgh, IN 47630 United States of America
Phone: (859) 967-1712
matrixteam.com/

Matrix Service Company

Booth 748

Matrix Service Company is a leader in the design and construction of industrial infrastructure serving the mining and minerals markets across North America. Matrix also provides on-site maintenance, repair, and industrial cleaning services.

Matrix has twice been named by Forbes as one of America's Most Trustworthy Companies, consistently ranks among ENR's Top 100 contractors, and is certified as a Great Place to Work®.

Products & Services

Automation
Bins, Hoppers, Silos and Storage
Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Consulting - Management
Conveyor Systems
Maintenance Services
Mining Contractors

Main Office

15 E 5th St, Ste 1100
Tulsa, OK 74103 United States of America
Email: marketing@matrixservicecompany.com
www.matrixservicecompany.com

Mavrik

Booth 1443

Products & Services

Exploration Equipment and Services

Main Office

1441 Wazee St, Ste 104
Denver, CO 80202 United States of America
Phone: (303) 220-8545

McCrometer, Inc

Booth 451

With 65+ years of flow expertise, McCrometer is an innovative industry leader providing metering technology to customers worldwide. McCrometer manufactures propeller, electromagnetic, and differential pressure flow meters at their headquarters in Hemet, California. McCrometer's high-performance products and systems are found in thousands of installations worldwide, proudly exceeding many of the world's most demanding industrial, safety and quality standards. McCrometer's flow measurement solutions are backed by a team of engineering experts dedicated to partnering with customers on the most challenging flow projects. For more information on how a McCrometer can bring value to your flow measurement application, visit our website.

Products & Services

Measurement and Monitoring Systems

Main Office

3255 W Stetson Ave
Hemet, CA 92545 United States of America
Phone: (800) 220-2279
www.mccrometer.com



McLanahan Corporation

See our ad on p. 83

Booth 1143

McLanahan Corporation is an ISO 9001:2015 certified company that manufactures equipment that helps producers do more than ever in today's tough marketplace. From crushing to water management, McLanahan custom engineers processing solutions to help you be more efficient, more productive and more profitable. Sales, engineering and customer service personnel are constantly working together to improve standard designs to help producers do more with their resources.

Products & Services

Crushers and Pulverizers
Feeder Breakers
Feeders
Sampling Devices
Screens
Scrubbers
Thickeners
Washing Plants
Water Clarification and Treatment

Main Office

200 Wall St
Hollidaysburg, PA 16648 United States of America
Phone: (814) 695-9807
Email: sales@mclanahan.com
www.mclanahan.com

ME Elecmetal

Booth 903

ME Elecmetal offers more than mill liners, grinding media, and crusher wear parts. We provide a comprehensive package of innovation, support, custom designs, and essential tools to deliver a tailored milling and comminution solution that precisely matches your requirements. As your trusted partner throughout the optimization journey, we leverage our extensive experience and cutting-edge technologies to provide invaluable insights. Our aim is to help you fine-tune your processes, minimize downtime, and boost productivity, ultimately leading to increased profitability. Products: mill liners, grinding media, crusher wear parts, ladles, slag pots, 3D laser scanning, reline simulation, and 2D/3D simulation services.

Products & Services

Castings
Crushers and Pulverizers
Fasteners - Industrial
Grinding Media and Liners
Grinding Mills
Linings and Claddings
Parts - Mining Machinery
Safety Equipment

Main Office

4500 S Lakeshore Dr, Ste 150
Tempe, AZ 85282 United States of America
Phone: (480) 730-7500
Email: marketing@meglobal.com
www.me-elecmetal.com

Mechanical & Ceramic Solutions, Inc

Booth 1840

MCS is a leader in abrasion resistant liners and coatings including ceramics, hardened steel, chromium carbide overlay, tungsten carbide, plastics, rubber and wear compounds. MCS is a turnkey fabricator taking projects from new design thru fabrication and installation. MCS has MSHA trained crews offering field installation and repairs of abrasion resistant lining with safety-first attitude. MCS can provide field measuring and design services. MCS serves an expansive number of material handling industries including a vast array of mining operations.

Products & Services

Bins, Hoppers, Silos and Storage
Coal Preparation Plants
Conveyor Systems
Crushers and Pulverizers
Fans and Blowers
Linings and Claddings
Maintenance Services
Pipes
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730 Superior St, Bldg 16
Carnegie, PA 15106 United States of America
Phone: (412) 429-8991
www.mcs-pa.com

MEGA-Drain by EnviroCon Systems

Booth 1153

EnviroCon Systems is an environmental containment company that supplies and installs geosynthetics and HDPE piping and custom fabricates metals and plastics. We serve all industrial markets, including mining. We are licensed partners of MEGA-Drain™, a press-less dry-stack tailings and water management system that significantly reduces the footprint requirements, complexity, and capital and operating costs of dry-stacking. The MEGA-Drain™ process is passive, gravity-driven, and removes more moisture faster from work-in-progress and tailings. Mining operators can eliminate material rehandling, reduce fuel consumption/carbon footprint, increase production rates, recycle collected water, and increase EBITDA with measurable ROI with an asset they can maintain.

Products & Services

Construction - Contracting Services
Dewatering Equipment
Filters, Filter Cloth and Accessories
Linings and Claddings
Pipes
Sediment & Erosion Control

Main Office

1910 Rankin Rd
Houston, TX 77073 United States of America
Phone: (281) 443-2592
www.enviroconsystems.com

MES Mining

Booth 955

Products & Services

Construction - Contracting Services
Consulting - Engineering
Mining Contractors
Underground - Construction and Structures
Underground Excavation Services and Equipment

Main Office

9125 S Monroe Plaza, Unit D
Sandy, UT 84070 United States of America
Phone: (303) 567-4174
www.minenv.com

Metcom Technologies Inc

Booth 1010

Products & Services

Consulting - Research
Laboratory and Scientific Services
Training Services

Main Office

501 S Pokegama Ave, Ste 6
Grand Rapids, MN 55744 United States of America

Phone: (218) 212-4350
www.metcomtech.com

Metsim International

Booth 351

Metsim International (MSI) was formed in July, 2018 from the core group that has owned and operated the METSIM software since its first version was offered commercially in the early 1980s. Boasting a diverse team in ownership and management, MSI and METSIM are prepared for longevity despite fluctuating world markets. Our focus is to continue to build upon an already sturdy foundation, providing industry-leading software solutions and professional support from our international process engineering team.

Products & Services

Computer - Software and Services
Consulting - Engineering
Consulting - Management
Training Services

Main Office

201 Milwaukee St, Ste 200
Denver, CO 80206 United States of America
Phone: (404) 368-8313
www.metsim.com

Metso

Booth 1403

Metso is a frontrunner in sustainable technologies, end-to-end solutions and services for mining, metals refining, aggregates production, and recycling. We help our customers improve efficiency, increase productivity and reduce environmental and economic risks. Metso Outotec has a complete portfolio of process solutions, equipment and services, as well as plant delivery capability for mining operations.

Products & Services

Crushers and Pulverizers
Dewatering Equipment
Filters, Filter Cloth and Accessories
Flotation Machines and Equipment
Grinding Media and Liners
Grinding Mills
Kilns
Maintenance Services
Parts - Mining Machinery
Pumps

Main Office

275 N Corporate Dr
Brookfield, WI 53045 United States of America
Phone: (262) 717-2500
www.metso.com

Micromine

Booth 1540

Join Micromine at this year's MineExchange and discover how our innovative software can transform your mining operations. With over 36 years of experience and solutions used at more than 2,000 sites, Micromine is a leading provider of software for the mining industry. Our portfolio of products spans the mining lifecycle, from geological exploration to mine design, planning and production control. This year our team is showcasing Micromine Alastri, our visually stunning

and user-friendly mine scheduling software, specifically created to model complex open pit mines. Don't miss this opportunity to see the power of Micromine Alastri in action.

Products & Services

Automation
Communications Equipment
Computer - Hardware and Services
Computer - Software and Services
Exploration Equipment and Services
Geological-Physical-Technical Services and Equip
Information Technology Products
Mine Evaluations - Surface and Underground
Mine Operators
Trucks and Haulage Units

Main Office

430 Indiana St
Golden, CO 80401 United States of America
Phone: (303) 996-6270
www.micromine.com

Micronics Engineered Filtration Group

Booth 839

Products & Services

Consulting - Environmental
Dewatering Equipment
Dust and Fume Control Technology
Emissions Control
Environmental Control Equipment and Supplies
Filters, Filter Cloth and Accessories
Laboratory and Scientific Services
Maintenance Services
Pollution Control Equipment
Training Services

Main Office

1201 Riverfront Pkwy
Chattanooga, TN 37402 United States of America
Phone: (866) 749-6144
micronicsinc.com

Midwest Industrial Supply, Inc

Booth 1620

Midwest lives, manufactures, and delivers Earth-conscious solutions around the world to clients in the quarry, mining, construction, iron & steel, rail and mass transit and dozens of other industries whose success depends on overcoming dust, erosion, ice, or unstable soil conditions.

Products & Services

Conveyor Belting - Accessories and Equipment
Dust and Fume Control Technology
Environmental Control Equipment and Supplies
Lubricants and Equipment
Mine Evaluations - Surface and Underground

Main Office

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EXHIBITORS

Mill Man Steel, Inc

Booth 1445

Products & Services

Steel Pipe

Main Office

1441 Wazee St, Ste 104
Denver, CO 80202 United States of America
Phone: (303) 220-8545
www.millmansteel.com

Millcreek Engineering Co

Booth 1749

Our engineering group is a full-service engineering company with a complete menu of engineering capabilities and extensive expertise. We take Hands-On, On-site responsibility for the entire facility delivery process, from conceptual design through detailed engineering, construction management, commissioning, and operator training. With our understanding of our client's needs coupled with effective management corporate structure, allows us to provide an excellent and highly competitive service to the mining and heavy industrial sectors. We are highly skilled in a variety of areas, extending these skills to solving, Mechanical Engineering, Conveyor Design, Structural/Civil Engineering, Electrical and Instrumentation, Process Engineering, Rail and Track Engineering.

Products & Services

Consulting - Design and Planning
Consulting - Engineering

Main Office

1011 Murray-Holladay Rd, Ste 200
Salt Lake City, UT 84117 United States of America
Phone: (801) 456-8163
www.millcreekeng.com

MILLER

Booth 1737

Products & Services

Boring Equipment
Construction - Contracting Services
Hoists - Controls and Accessories
Underground - Construction and Structures

Main Office

5905 Walnut Grove Rd
Carrier Mills, IL 62917 United States of America
Phone: (618) 994-4616
www.millercontracting.us

Miller Sales & Engineering Inc

Booth 741

Products & Services

Dewatering Equipment
Pumps

Main Office

1641 W Commerce Ct, Ste 151
Tucson, AZ 85746 United States of America
Phone: (520) 888-4101
www.msenc.net

Mine Vision Systems

Booth 1054

Mine Vision Systems (MVS) is a global leader in mobile LiDAR and Visual odometry mapping and localized solutions for underground mines worldwide. As a leader in the mining industry, we specialize in automation, robotics, computer vision, and image processing for developing the next generation of advanced workflow solutions. FaceCapture™-MappingSystem.

An advanced, next-generation 3D mine scanning solution for simplified real-time data collection and real-time creation of geospatially aligned geology meshes and drift maps of production and development areas with no post-processing required or interruptions in production.

Products & Services

Automation
Computer - Software and Services
Consulting - Design and Planning
Continuous Mining Machines
Measurement and Monitoring Systems
Mine Evaluations - Surface and Underground
Sensors
Surveying Equipment and Supplies
Underground - Construction and Structures
Underground Excavation Services and Equipment

Main Office

5877 Commerce St, Ste #118
Pittsburgh, PA 15206 United States of America
Phone: (412) 404-7481
www.minevisionsystems.com

MineARC Systems

Booth 1157

MineARC Systems is the global leader in refuge chambers and safety technologies for the underground mining industry. We specialize in the manufacture and supply of emergency refuge chambers, safe havens, disaster shelters and grow chambers, as well as a range of remote monitoring, tracking and communications technologies that allow full integration in heavy industrial applications.

Products & Services

Safety Equipment

Main Office

2135 Industrial St
Lancaster, TX 75134 United States of America
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Miner Elastomer

Booth 530

EU-ROLLER® idlers use high quality bearings chosen

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Products & Services

Continuous Mining Machines
Conveyor Systems
Drilling Equipment
Parts - Mining Machinery
Trucks and Haulage Units
Underground Excavation Services and Equipment

Main Office

1200 E State St
Geneva, IL 60134 United States of America
Phone: (630) 232-3129
www.minerelastomer.com

Mineral Technologies

Booth 619

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Continuous Mining Machines
Gravity Separators
Grinding Mills
Laboratory and Scientific Services
Magnetic Separators
Separators and Concentrators

Main Office

24 Cathedral Pl, Ste 208
St Augustine, FL 32084 United States of America
Phone: (904) 342-8354
www.mineraltechnologies.com



MineSense

Booth 936

MineSense is a pioneer in digital mining solutions, supplying real-time, sensor-based ore sorting for mines. Our signature solution is ShovelSense, a robust sensor installed on mining equipment to scan and measure the grade of the material in every shovel and bucket. The increased real-time visibility of your orebody provided by ShovelSense drives improvements in your mine's efficiency, profitability and sustainability.



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ugc@masterbuilders.com

EXHIBITORS

Products & Services

Information Technology Products

Main Office

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Phone: +1 (604) 449-3780
Email: info@minesense.com
www.minesense.com

Mining & Metallurgical Society of America (MMSA)

Booth 1608

MMSA is a non-profit association of mineral resources professionals whose members represent all facets of mining and metallurgical interests, both domestic and globally. We are a flexible organization able to respond quickly to opportunities to support and promote the industry. MMSA is dedicated to supporting regulatory and public awareness through webinars, seminars and other advisory activities, and active collaboration with other minerals industry organizations.

Products & Services

Professional Society or Association

Main Office

PO Box 271794
Littleton, CO 80127 United States of America
Phone: (720) 203-2380
www.mmsa.net/

Mining & Metals - Information Sharing and Analysis Centre

Booth 1618

The Mining and Metals ISAC (MM-ISAC) is a non-profit, industry-owned corporation established to improve the cyber security of metals and mining companies. Its goal is to protect members against incidents that could impact safety, environmental sustainability, or operational productivity. This will be achieved by sharing threat and vulnerability information, managing industry contingency planning, providing opportunities for training security staff and incident response teams.

Products & Services

Educational
Professional Society or Association

Main Office

#142-757 W Hasting St
Vancouver, BC V6C 1A1 Canada
Phone: (514) 216-4545
www.mmisac.org

Mining Equipment, Ltd

Booth 1342

Products & Services

Fans and Blowers
Underground Excavation Services and Equipment
Ventilation Systems, Materials and Equipment

Main Office

484 Turner Dr, Ste 201C
Durango, CO 81303 United States of America

Phone: (970) 259-0412
www.miningequipmentltd.com

Mining Magazine

Booth 1349

As part of the Aspermont group (the largest publisher of mining-related titles globally), Mining Magazine is mining's global source of operational and technology news. Founded in 1909 by Herbert Hoover, it is the industry's oldest and most respected title. Mining Magazine is published 10 times a year. It offers in-depth, technical insight into all operational aspects of mining.

In addition to the magazine, we also offer a full line of digital options, including targeted eBlasts and lead generation.

Other titles/brands in the Aspermont stable include Future of Mining, Mining Journal, Australia's Mining Monthly and GeoDrilling International.

Products & Services

Publishers

Main Office

WeWork, 1 Poultry
London EC2R 8EJ United Kingdom
Phone: +44 207 216 6060
www.MiningMagazine.com

Mining Media International

Booth 1509

Mining Media International (MMI) publishes Engineering & Mining Journal (E&MJ), Coal Age and Equipo Minero. E&MJ is the gold standard among trade journals for the mining and mineral processing sector. Coal Age is the voice of authority throughout the coalfields. Equipo Minero, E&MJ's Spanish language quarterly, is a respected source for technical information throughout Latin America. MMI also publishes a free weekly e-Newsletter. Through its print and digital products, which includes Email campaigns and webinars, MMI provides a means for suppliers to market to decision makers in the mining business.

Products & Services

Publishers

Main Office

11655 Central Pkwy, Ste 306
Jacksonville, FL 32224 United States of America
Phone: (904) 721-2925
www.mining-media.com

Mining People Magazine

Booth 1660

Mining People Magazine reports on People, Places, and Products related to all mining sectors, including aggregates.

Whether you want to kick up your feet and read a relaxing article, or be updated on the latest news and innovations, Mining People is your magazine! Available in-print and on-line to suit any reader's preference.

Our format is unique, informative and entertaining, focusing on personalities and news, highlighting present issues and events, business profile articles, future forecasts, new product and service technology, and historical articles and human interest features.

Products & Services

Publishers

Main Office

PO Box 6247
Charleston, WV 25362 United States of America
Phone: (864) 278-8227
www.miningpeople.org

Minova

Booth 1149

137 years of development and innovation Minova is known for high quality products, technical expertise and problem solving. Unstable and changing environments is one of the greatest challenges. Our expert technical services teams work to find the perfect solution. Minova has over 200 patents but our work is far from over. Our laboratories and manufacturing plants work tirelessly to develop new chemical formulations and bolting technologies to help improve safety, cost savings and increase efficiencies. Our engineers and chemists, use their vast expertise and experience to provide you the best solutions.

Products & Services

Concrete Reinforcement and Equipment
Consulting - Engineering
Roof - Ground Supports
Seals
Sediment & Erosion Control
Shotcrete Equipment, Supplies and Services
Steel Wire Ropes/Cables
Training Services
Tunnel Lining and Support Materials
Underground - Construction and Structures

Main Office

150 Summer Ct
Georgetown, KY 40324 United States of America
Phone: (502) 868-6251
www.minovaglobal.com

MinTech

Booth 1359

MinTech is a full-service mineral handling solution provider specializing in process application systems, surface application programs, and specialty chemical treatments. From start to finish, our team of experts provide on-site assessments, conceptualize, design, and install application equipment, apply products, and provide on-going service and maintenance to custom tailor our services to exceed our customer's expectations.

Main Office

1830 Ellsworth Industrial Dr NW
Atlanta, GA 30318 United States of America
Phone: (404) 355-4580
mintech.com

Missouri S&T

Booth 942

Missouri University of Science and Technology (S&T) is a STEM-focused research university of over 7,200 students and is part of the four-campus University of Missouri System. Located in Rolla, Missouri, Missouri



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Montana Technological University - School of Mines & Engineering
Booth 732

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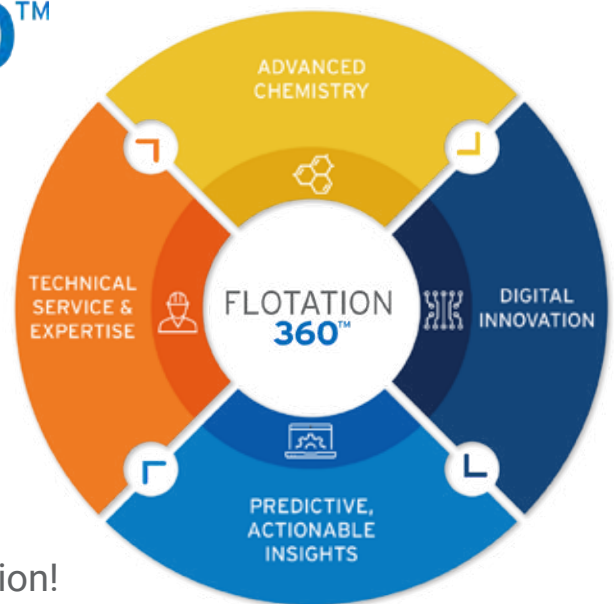
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Nalco Water, an Ecolab Company

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Booth 508

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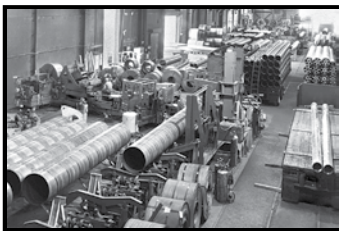
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National Institute for Occupational Safety & Health*Booth 1325*

The NIOSH Mining Program's mission is to eliminate mining fatalities, injuries, and illnesses through relevant research and impactful solutions. In our current research, we are working hard to reduce miner overexposure to hazardous dust and diesel contaminants, reduce miner overexposure to noise, remediate risk factors for musculoskeletal disorders, eliminate fatalities and injuries caused by mobile and stationary equipment, eliminate fatalities and injuries caused by rock falls and damaged ribs, and reduce the risk of mine disasters. We value relevance, impact, excellence, integrity, innovation, and collaboration as we join our stakeholders in fostering an industry of safe mines and healthy workers.

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Government Agency - Entity

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National Stone, Sand & Gravel Association (NSSGA)*Booth 148*

NSSGA is the leading voice and advocate for the aggregates industry. Our members include crushed stone, sand & gravel producers, industrial sand producers and the equipment manufacturers & service providers who support them.

NSSGA advances public policies that protect and expand the safe, environmentally responsible use of aggregates that build America's infrastructure and economy. NSSGA advocates for members' interests on health, safety and environmental issues. In addition, NSSGA offers its members opportunities to participate in education and trade-shows that include CONEX-PO-CON/AGG, AGG1 Academy & Expo, Young Leaders and the NSSGA Annual Convention.

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Main Office

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Booth 521

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Main Office

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Booth 636

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New Mexico Institute of Mining & Technology

Booth 1239

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Educational

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www.nmt.edu

New York Blower Company

See our ad on p. 89

Booth 556

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NewFields

Booth 1013

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Booth 145

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Mine Operators

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www.nsrtd.com/

Northwest Instruments and Controls

Booth 115

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Products & Services

Analyzers
Centrifuges
Process Controls and Instruments
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Consulting - Design and Planning
Consulting - Engineering
Controls - Electrical and Electronic
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www.novaflex.com

NSS Canada

Booth 329

NSS Canada is a cutting-edge leader in the underground mining technology sector, dedicated to revolutionizing the way mining operations are conducted. We are committed to providing innovative solutions that enhance safety, efficiency, and sustainability in the mining industry.

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Odin Construction Solutions

Booth 543

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Remediation
Underground - Construction and Structures

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**Open Loop Energy, Inc**

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Booth 424

Open Loop Energy, Inc. was founded in 1992 as an Arizona corporation. It began operations in Safford, Arizona to serve the Southwestern mining and construction industries. Our core business is centered on hydraulic component repair and reclamation. Open Loop expanded its capabilities to Winnemucca, Nevada in 1998, Cedar Fort, Utah in 2012, and Farmington, New Mexico in 2016. Open Loop is now positioned far beyond any other hydraulic repair facility in the West and is known for providing solutions to customers' problems with quality customer care.

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Pumps

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EXHIBITORS

eral industry. The program is housed in the John and Willie Leone Family Department of Energy and Mineral Engineering, which offers a range of degree programs addressing the effective production, conversion, use and management of mineral resources. Its mission is to educate engineers, scientists, and professionals who will help provide society with an affordable supply of energy and minerals; work to ensure human health and safety; and protect and maintain the quality of the environment.

Products & Services

Educational

Main Office

110 Hosler Bldg
University Park, PA 16802 United States of America
Phone: (814) 865-3437
www.eme.psu.edu

PETRA Data Science

Booth 837

General staffed booth with information on products and serviced. AI empowering smart mine decision-making.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Geological-Physical-Technical Services and Equip

Main Office

PO Box 2178
Toowong 4066 Australia
Phone: +61409287650
www.petradata-science.com/

Experts in Mining & Mineral Processing Technology

Tailings & Mine Waste

Slurry Pipeline Systems

Mine Backfill

Mineral Processing

Mine Services

Marine Pipeline Systems

Laboratory Services

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CANADA (Sudbury)

CHILE (Santiago)

SOUTH AFRICA (Cape Town, Johannesburg)

SPAIN (Madrid)

SWEDEN (Stockholm)

UNITED KINGDOM (Cornwall)

USA (Denver)

www.patersoncooke.com



Paterson & Cooke

KNOWLEDGE | EXPERIENCE | PASSION

Petroleum Solids Control, Inc

Booth 1751

Products & Services

Centrifuges

Main Office

1320 E Hill St
Signal Hill, CA 90755 United States of America
Phone: (562) 424-0254
www.petroleumsolids.com

Pexgol

Booth 224

Pexgol is a heavy duty cross-linked polyethylene (PE-Xa) pipe for mining and other industries. Available in sizes up to 28" diameter and in long spool lengths, Pexgol has some unique benefits for the mining industry including corrosion resistance, excellent abrasion resistance, high and low temperature capabilities, outstanding anti-scaling properties, exceptional durability and resistance to impact, scratching & point loads. It can be used for transportation of slurries, brine transfer, de-watering, water supply, compressed air and other mine applications, as well as for mineral processing.

Products & Services

Pipes

Main Office

Kibbutz Shaar HaGolan
Kibbutz Shaar HaGolan 1514500 Israel
Phone: +972525589455
Email: contact@pexgol.com
www.pexgol.com

Philippi-Hagenbuch, Inc

Booth 850

We make haul trucks for mines better. By adding our HiVol® truck bodies, bodies, water tanks, bottom dump trailers, and lowboy trailers to your off-highway haul trucks, we help your fleet achieve the greatest efficiency possible. At PHIL, you don't work with a mindless corporation, you work with the team that's led by the Hagenbuch family. PHIL's innovative commitment to meeting our clients exacting needs is what has set us apart since 1969. Our engineering and manufacturing capabilities, along with our global product support, reinforce our commitment to quality products. Visit our website for more information.

Products & Services

Dust and Fume Control Technology
Explosive Materials and Services
Grizzlies - Feeding, Moving and Stationary
Transportation
Trucks and Haulage Units

Main Office

7424 W Plank Rd
Peoria, IL 61604 United States of America
Phone: (309) 697-9200
Email: sales@philsystems.com
www.philsystems.com

Phillips & Jordan, Inc

Booth 627

Phillips & Jordan, Inc. (P&J) is a woman-owned, heavy civil and infrastructure contractor established in 1952. Our Core Values and Priorities – Integrity, Safety, Quality, and Production – guide our daily business practices. We hold safety as imperative above all other objectives. P&J works closely with mine owners, developers, engineers, and designers to deliver turnkey site development packages for a variety of mining project types that have included new dam and tailings construction and expansions; commercial and industrial; rail and roadway construction; HDPE pipe and liner construction; unloading & loading facilities; contract mining; and reclamation and remediation.

Products & Services

Construction - Contracting Services

Main Office

10901 W 120th Ave, Ste 300
Broomfield, CO 80021 United States of America
Phone: (865) 228-2722
www.pandj.com

Phoenix Industrial

Booth 1806

Phoenix Industrial is a heavy industrial general contractor headquartered in Vancouver, WA and is a wholly – owned subsidiary of MasTec, Inc., a minority controlled \$13 billion Fortune 500 Company. Our well-trained, motivated employees are our greatest asset, allowing us to excel at self-performing complex projects. Within the industrial industry we are known for our excellent safety record and ability to complete tough jobs in remote locations. Each project receives the full attention of everyone on our team, from the skilled craftsmen on the ground all the way up to the company president.

Products & Services

Construction - Contracting Services
Mining Contractors

Main Office

2111 SE Columbia Wy, Bldg 7, Ste 120
Vancouver, WA 98661 United States of America
Phone: (360) 601-7143
www.phxind.com

Phoenix Lighting

Booth 324

Phoenix Lighting designs and manufactures heavy-duty lighting for the mining industry's harshest environments. The US-based company provides innovative, durable products that are built to last and supports them with technical expertise and outstanding customer service. Mine operators take advantage of Phoenix's 78 years of industry experience to decrease maintenance costs, extend safety initiatives and achieve greater productivity. Phoenix offers OEM partner programs for equipment manufacturers and engineering firms. Phoenix's new technologies for better visibility are made for the entire mine site. You'll find Phoenix lights on large AC equipment, mobile DC equipment, hazardous locations, haul roads, conveyor belts and infrastructure.

Products & Services

Blasting Accessories, Equipment and Agents
 Conveyor Belting - Accessories and Equipment
 DC Power
 Diesel Equipment Lighting Systems
 Electrical Equipment and Supplies
 Lighting Systems and Lamps
 Parts - Mining Machinery
 Safety Equipment
 Underground Excavation Services and Equipment

Main Office

8711 W Port Ave
 Milwaukee, WI 53224 United States of America
 Phone: (414) 973-3330
www.phoenixlighting.com/mining

PHOENIX Process Equipment*Booth 1736*

PHOENIX provides systems for sand and mining minerals classification; fines slurry separation, thickening, and dewatering; separating lightweight, deleterious materials from aggregate and minerals products; and for dewatering tailings slurries from aggregate and minerals processing plants. Equipment includes: HS HYDROSORT™ hindered settling classifiers for sand classification and/or deleterious material separation, PHOENIX/KISA Bucket Wheels for sand classification and dewatering, HiFlo™ and AltaFlo™ Thickeners for slurry thickening, volume reduction, and water clarification, Paste Thickeners for high density dry stack tailings disposal and PHOENIX Belt Filter Presses, Recessed Chamber Filter Presses and Membrane Filter Press for tailings dewatering and water recovery.

Products & Services

Centrifuges
 Classifiers
 Dewatering Equipment
 Filters, Filter Cloth and Accessories
 Laboratory and Scientific Services
 Screens
 Separators and Concentrators
 Thickeners
 Washing Plants
 Water Clarification and Treatment

Main Office

2402 Watterson Trl
 Louisville, KY 40299 United States of America
 Phone: (502) 499-6198
www.dewater.com

Phoenix Pumps, Inc.*Booth 552*

Having our customers' backs — providing you with fluid handling solutions specifically engineered for efficiency and profitability — has always been our focus. We work with the world's top fluid technology manufacturers so our customers get innovative equipment that makes a real difference in performance and help reduce total cost of ownership.

Products & Services

Pumps

Main Office

5100 S. 36th St.
 Phoenix, AZ 85040
 (602) 232-2994
www.phoenixpumps.com

PhotoSat*Booth 602*

Founded in 1993, PhotoSat is a technology company committed to providing better data for better decisions. Using deep learning algorithms, we produce engineering grade surveys from satellite imagery. Each elevation survey is equivalent to a DTM/DEM and produced without site access. With PhotoSat, engineers get quality elevation data that can be used for development, tailings management, mine site operations, and more. We work with operating mines, exploration companies, and engineering consultants around the world and have delivered more than 1,300 mine site surveys in over 75 countries.

Products & Services

Aerial Mapping and Surveying

Main Office

1188 W Georgia St, Ste #580
 Vancouver, BC V6E 4A2 Canada
 Phone: (604) 681-9770
www.photosat.ca/

Piinsa Construction and Mining Supplies*Booth 133*

We are suppliers of wear parts and spare parts for the heavy mobile equipment in the mining and aggregate industries. Committed to service and offering comprehensive solutions. Our focus is to earn our customer's trust by maximizing product performance and durability as we provide quality parts backed by field support

Products & Services

Parts - Mining Machinery

Main Office

3418 S 48th St
 Phoenix, AZ 85040 United States of America
 Phone: (602) 781-8224
www.piinsausa.com



PITEAU ASSOCIATES
 GEOTECHNICAL AND WATER MANAGEMENT CONSULTANTS
 A TETRA TECH COMPANY

Piteau Associates Engineering Ltd

See our ad on p. 95

Booth 740

Piteau Associates strives to cultivate and sustain long-term relationships with a diverse range of clients around the globe. As trusted strategic advisors to our clients, our committed team of professionals and technical experts provide state-of-practice, cost-effective, sustainable geotechnical and water management solutions

Products & Services

Consulting - Engineering

Main Office

9090 Double Diamond Pkwy
 Reno, NV 89521 United States of America
 Phone: (520) 355-2559
www.piteau.com

Pocock Industrial, Inc*Booth 832***Products & Services**

Centrifuges
 Consulting - Engineering
 Consulting - Research
 Dewatering Equipment
 Filters, Filter Cloth and Accessories
 Ion Exchange Equipment and Resins
 Laboratory and Scientific Services
 Reagents - Chemical and Flocculants
 Thickeners
 Water Clarification and Treatment

Main Office

6188 S 300 W
 Salt Lake City, UT 84107 United States of America
 Phone: (801) 703-8055
www.pocockindustrial.com

Polydeck*Booth 1545*

Since 1978, Polydeck has been the leading provider of the most dependable synthetic screen media in the aggregate, energy & industrial, and mining industries across North and South America. We are pioneers, inventors and we take pride in putting our customers first and providing custom solutions for any of your screening needs.

We love the work but your success is our reward. To know that you have the screens you need to keep your plant running, producing faster and producing more, is what we call Together Strong.

Products & Services

Screens

Main Office

1790 Dewberry Rd
 Spartanburg, SC 29307 United States of America
 Phone: (864) 579-4594
www.polydeck.com

**Precision Pulley & Idler***Booth 821***Products & Services**

Conveyor Belting - Accessories and Equipment

EXHIBITORS

Main Office

300 SE 14th St
Pella, IA 50219 United States of America
Phone: (641) 628-3115
www.ppi-global.com



Premier Drilling Co

See our ad on p. Outside Back Cover

Booth 1250

Premier Drilling Co. is a company that provides mineral exploration and water well drilling services. The company is comprised of experienced drillers and driller assistants who prioritize safety, cleanliness, and productivity in their core and rotary drilling services. If you need help with large-diameter dewatering wells, water supply wells, well deepening, piezometers, monitoring wells, or water and mineral exploration needs, you can rely on Premier Drilling Co. They have a boots-on-the-ground management team and a safety record exceeding industry standards, so you can trust them to do your job safely and effectively.

Products & Services

Drilling Contractors

Main Office

2021 Meadows Ridge Drive
Elko, NV 89801
(480) 200-8300
www.premierdrilling.com

Premier Pressure Control

Booth 2050

We specialize in lightweight drilling equipment including blowout preventers, diverter systems, valves and dewatering systems. Our equipment is rated to 3,000 psi working pressure and is available in 3" to 13" bore. All equipment is manufactured in The United States in Oklahoma City, OK.

Products & Services

Dewatering Equipment
Drilling Equipment
Exploration Equipment and Services
Grouting Services, Equipment and Materials
Pumps
Safety Equipment
Tunnel Boring Equipment
Well Completion Equipment

Main Office

1715 Lowry Ave
Oklahoma City, OK 73129 United States of America
Phone: (405) 370-0659
www.premierpressurecontrol.com

Presto Geosystems

Booth 848

Presto Geosystems, inventor of the original geocell and a leader in geosynthetics since the 1970s, manufactures the GEOWEB® geocells to address diverse soil

stabilization needs across industries, including mining. Our solutions enhance site access efficiency, storm-water management, and geomembrane protection, thereby improving safety and sustainability in mining operations. By enabling the use of on-site materials, the GEOWEB Soil Stabilization System helps reduce costs and boost operational efficiency. We are committed to prioritizing our customers' needs, as well as delivering practical and cost-effective solutions to meet the unique challenges of the mining sector.

Products & Services

Consulting - Environmental
Environmental Control Equipment and Supplies
Geological-Physical-Technical Services and Equip
Linings and Claddings
Pollution Control Equipment
Rail Systems and Supplies
Reclamation Equipment and Services
Remediation
Sediment & Erosion Control
Underground - Construction and Structures

Main Office

670 N Perkins St
Appleton, WI 54914 United States of America
Phone: (920) 738-1328
Email: RCPPrestoGeolInformation@prestogeo.com
www.prestogeo.com

Process Technology, Inc

Booth 210

PTI (Process Technology, Inc.) and PLA (Precision Light & Air) will demo the SmartDiver MudDiver. An automatic Mud-Diver, Tank Profiling & interface Detection System for clarifiers, thickeners & CCD's for the mining industry.

Contact our Mining Instrumentation Specialists, Matt Smith, PLA and Greg Martin, PTI. PLA has a good story to tell with bed level measurements being able to help with control of both concentrate and tailings thickeners. PTI in conjunction with PLA will be showcasing SmartDiver, automatic bed level measurement in thickeners, clarifiers and CCD's. SmartDiver also provides tank profiling (suspended solids vs depth).

Products & Services

Automation
Measurement and Monitoring Systems
Sediment & Erosion Control
Sensors
Solvents - Extraction, Mixer and Settlers
Thickeners

Main Office

1955 West Industrial Cir
Salt Lake City, UT 84104 United States of America
Phone: (801) 264-1114
Email: process@process-tech.com
www.process-tech.com

Propeller

Booth 348

Propeller is an easy-to-use platform that combines the best GIS and survey technologies. We empower users to map, measure and manage their worksites like never before, powering more than 85,000 users across 47,000 worksites in over 88 countries.

Propeller's realistic 3D map is the place where collaboration happens. One map means one team. It's a one-stop hub for communication and transparency between teams and businesses. And, with just a few clicks, project teams access critical insights that make their jobs simpler, faster, and smarter. Revolutionizing the way they work, from the ground up.

Products & Services

Aerial Mapping and Surveying
Computer - Hardware and Services
Computer - Software and Services
Mine Operators
Surveying Equipment and Supplies

Main Office

3360 Walnut St
Denver, CO 80205 United States of America
Phone: (720) 336-9927
Email: hello@propelleraero.com
propelleraero.com

PROVIX

Booth 410

PROVIX is well recognized for Vision Enhancement and Collision Avoidance Solutions in surface and underground mining. Provix supplies and installs Remote Control systems with IP and analog Video Systems on mobile and stationary equipment for remote operations and process monitoring that offer increased safety and productivity.

Provix supplies LVL 9 EMERST collision avoidance and safety systems. Provix cameras are deployed on bolters, jumbos, drills, scoops, haul trucks, loading chutes, breakers, bin, stope, borehole inspection, raised bore, ITH drills, back/paste fill, and more. Contact Provix for Cost-Effective custom video solutions for any application.

Products & Services

Alarm Systems
Automation
Communications Equipment
Lighting Systems and Lamps
Maintenance Equipment and Supplies
Process Controls and Instruments
Rail Systems and Supplies
Safety Equipment
Sensors
Tunnel Boring Equipment

Main Office

3 Greengage Rd
New Lowell, ON L0M 1N0 Canada
Phone: (519) 803-5805
Email: sales@provix.net
www.provix.net

PumpEng

Booth 2044

PumpEng is an independent Australian company that designs, manufactures and services dewatering pumps for mining companies worldwide. With a 20-year track record, PumpEng uses state-of-the-art pump designs and materials to support modern mines and conditions.





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ENGINEERING GEOLOGY & ROCK MECHANICS

ROCK STORAGE DESIGN & MANAGEMENT

FULL SERVICE MINE WATER MANAGEMENT

DEWATERING SYSTEM DESIGN

OPEN PIT MINE DESIGN



www.piteau.com

info@piteau.com

EXHIBITORS

Products & Services

Dewatering Equipment
Pumps

Main Office

PO Box 86
Buhl, ID 83316 United States of America
Phone: (208) 749-7636
www.pumpeng.com.au/

Purolite, An Ecolab Company

Booth 849

Purolite has supplied ion exchange and chelating resins to the hydrometallurgy industry for over 30 years. Advanced ion exchange technology is used for the primary recovery of metal or the removal of impurities to increase the value and purity of the final product

Products & Services

Filters, Filter Cloth and Accessories
Ion Exchange Equipment and Resins
Quality Improvement
Water Clarification and Treatment

Main Office

2201 Renaissance Blvd, Ste 400
King Of Prussia, PA 19406 United States of America
Phone: (610) 668-9090
www.purolite.com/index/core-technologies/industry/hydrometallurgy

Putzmeister Shotcrete Technology

See our ad on p. 97

Booth 843

Products & Services

Grouting Services, Equipment and Materials
Pumps
Shotcrete Equipment, Supplies and Services
Steel Pipe
Tunnel Lining and Support Materials
Underground - Construction and Structures

Main Office

1733 90th St
Sturtevant, WI 53177 United States of America
Phone: (262) 886-3200
www.putzmeister.com

Quadra Chemicals Inc

Booth 220

Products & Services

Reagents - Chemical and Flocculants
Training Services
Water Clarification and Treatment

Main Office

21 Waterway Ave, Ste 200
The Woodlands, TX 77380 United States of America
Phone: (800) 681 2313
www.quadrausa.com



Quinn Process Equipment Co

See our ad on p. 98

Booth 824

Quinn Process Equipment Company specializes in the design and manufacture of the free-standing FRP QPEC SX Mixer-Settler systems for a broad range of applications and sizes and are available in a wide range of FRP resins to cover just about any situation involving corrosives or temperature or both. Flowrates from a few liters per minute to 7.5 cubic meters per minute are within our range with simplex, duplex and even triplex mixers available. We ship all systems all over the world.

Products & Services

Solvents - Extraction, Mixer and Settlers

Main Office

PO Box 2589
Littleton, CO 80161 United States of America
Phone: (303) 295-2872
www.quinnprocess.com



Radom Corp

Booth 105

MICAP - Spectrometer is:

- 1- Next generation inductively coupled plasma optical emission spectrometer.
- 2- Microwave induced nitrogen plasma source coupled to research grade spectrometer for simultaneous measurement of periodic table.
- 3- No chiller or argon required.
- 4- Small, lightweight design goes from box to bench installation in less than an hour.

Products & Services

Laboratory Equipment and Supplies

Main Office

N27W23676 Paul Rd
Pewaukee, WI 53027 United States of America
Phone: (877) 977-2366
radomcorp.com

Rail-Veyor Technologies Global Inc

Booth 1549

Railveyor is a safe, clean and profitable material haulage system for the smarter, Net Zero mine of the future. Rail-veyor Technologies Global Inc. (RVTG) offers the low emission, fully-electric, battery-free and TrulyAutonomous solution to the mining and industrial materials sectors and more. The unique light rail system results in high energy efficiency, industry-leading OPEX and enhanced worker safety. The RVTG interna-

tional headquarters and John McCall Testing Facilities are located in Sudbury, Ontario. The Technology Center and United States regional office is located in Houghton, Michigan. Railveyor has installed eight systems globally.

Products & Services

Autonomous Vehicles
Conveyor Systems
Rail Systems and Supplies
Transportation
Trucks and Haulage Units

Main Office

40 Larch St, Unit 201
Sudbury, ON P3E 5M7 Canada
Phone: (844) 288-0450
www.railveyor.com

Rain for Rent

Booth 1701

Rain for Rent is a leading provider of temporary liquid handling solutions including pumps, tanks, filtration and spill containment. Projects range from flood relief to construction site dewatering, sewer bypasses and industrial plant turnarounds.

The company is known for its systems engineering expertise and its ability to tackle complex jobs cost effectively, providing an exceptionally high value.

Family owned and operated since 1934, it serves all 50 states and Canada from over 60 locations.

Products & Services

Dewatering Equipment
Pipes
Pumps
Refinery Equipment
Safety Equipment

Main Office

5101 Office Park Dr, Ste 100
Bakersfield, CA 93309 United States of America
Phone: (800) 742-7246
www.rainforrent.com

Ram Alloys

Booth 1142

Products & Services

Castings
Couplings - Mechanical, Flexible and Rigid
Fans and Blowers
Fasteners - Industrial
Gears - Pullers, Reducers and Pinions
Pumps
Seals
Valves
Washing Plants
Water Clarification and Treatment

Main Office

18250 Kieth Harrow Blvd
Houston, TX 77084 United States of America
Phone: (713) 466-1890
www.ramalloys.com



RAM Enterprise, Inc*Booth 807*

RAM Enterprise provides specialized industrial services as well as manufactures and distributes products to the bulk material handling industry. Those specialized services include turn-key general contracting solutions, underground services, process piping, concrete foundations and flat work, structural steel erection, complete conveyor installation and commissioning, coatings and rubber lining, process equipment installation and commissioning, and electrical services. With hundreds of customers worldwide, RAM is the safest and most trusted material handling company in the industry.

Products & Services

Coatings (does not include Linings and Claddings)
Construction - Contracting Services
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Crushers and Pulverizers
Feeders
Linings and Claddings
Parts - Mining Machinery
Pipes
Underground - Construction and Structures

Main Office

1225 W Main St
Elko, NV 89801 United States of America
Phone: (775) 738-3997
Email: customerservice@ram-enterprise.com
www.ram-enterprise.com

Ramboll*Booth 1849*

Ramboll is a global architecture, engineering and consultancy company, employing more than 18,000 experts. We work across the markets of Buildings, Transport, Energy, Environment & Health, Water, Management Consulting and Architecture & Landscape. We leverage local experience with a global knowledgebase to deliver sustainable, integrated solutions.

Our globally recognized Environment & Health practice has earned a reputation for technical and scientific excellence and innovation. We are trusted by clients to manage their most challenging environmental, health and social issues, and continually strive to achieve inspiring and exacting solutions that make a genuine difference to our clients, the environment and society.

Products & Services

Consulting - Engineering
Consulting - Environmental
Remediation

Main Office

1999 Broadway, Ste 2225
Denver, CO 80202 United States of America
Phone: (303) 382-5460
Email: dheinke@ramboll.com
www.ramboll.com/

Rango Inc*Booth 1759***Products & Services**

Mining Contractors

Main Office

4215 E McDowell Rd, Ste 201
Mesa, AZ 85215 United States of America
Phone: (480) 729-6537
rangoinc.com

Rapat Corporation*Booth 706*

Rapat offers a full line of material handling equipment, including structural steel trussed, structural steel channel, and enclosed frame belt conveyors, bucket elevators, corrugated sidewall belt conveyors, chain conveyors, and distributors. These individual pieces of equipment can be customized and integrated into a material handling system with all the necessary structural steel support bents, towers, service platforms, stairs, ladders, and interconnecting chute work required for your specific application.

Products & Services

Conveyor Systems



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EXHIBITORS

Main Office

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Phone: (218) 483-3344
www.rapat.com

RCT

Booth 1056

RCT is the world's trusted technology partner, offering an array of genuinely interoperable machine solutions to revolutionise the mining and industrial sectors, reducing operational costs and improving bottom-line profit.

Our objective is to advance businesses by integrating our state-of-the-art automation, information and protection systems designed for any machine make or model.

An industry leader since 1972 and with clients in over 70 countries worldwide, RCT are continually evolving – investing heavily in research and development to remain at the forefront of the technologies of the future.

Products & Services

Alarm Systems
Automation
Autonomous Vehicles
Communications Equipment
Computer - Software and Services
Electrical Equipment and Supplies
Fire Protection

Information Technology Products
Safety Equipment
Training Services

Main Office

7174 S, 400 W, Ste 1 Midvale
Salt Lake City, UT 84047 United States of America
Phone: +61 8 6272 4112
rct-global.com

RDO Equipment Company

Booth 1948

RDO Equipment Company is the exclusive dealer for Carlson Machine Control for mining in the United States. We are also the dealer for Grydale Industrial Dust collection, industry-leading Wingtra UAS/UAV dealer, master Topcon dealer of GPS, lasers, survey, mobile mapping, GIS, Emesent LiDar equipment, iVolve fleet management, as well as Rajant Wireless MESH.

Products & Services

Aerial Mapping and Surveying
Communications Equipment
Consulting - Engineering
Controls - Electrical and Electronic
Drilling Equipment
Information Technology Products
Maintenance Services
Process Controls and Instruments
Surveying Equipment and Supplies

Main Office

5221 Midland Rd
Billings, MT 59101 United States of America
Phone: (406) 259-5536
RD01C.com

RECO Mining Solutions

Booth 461

RECO is a family owned company that has been in business since 1995. We have an extensive inventory of parts and services that we are able to provide to our customers, and pride ourselves in the high quality of everything that we design, engineer and construct.

Our goal is to help our customers achieve their maximum productivity with minimum cost through the highest quality material and products we provide. With our state of the art technology and engineering equipment, we are able to reverse engineer and redesign products to solve problems in order to fit the needs of our customers.

Products & Services

Construction - Contracting Services
Conveyor Systems
Crushers and Pulverizers
Excavators
Feeders
Hydraulic System Components
Lubricants and Equipment
Maintenance Services
Parts - Mining Machinery
Water Clarification and Treatment

Main Office

4120 N Flowing Wells Rd
Tucson, AZ 85705 United States of America
Phone: (520) 887-2292
recoparts.com

REDCO Mining Consultants

Booth 1051

Boutique consulting firm in mining engineering with more than 18 years in the market, more than 400 studies, with presence in Chile, Peru, Brazil, USA, Eastern Europe, which have allowed us to provide our clients with value contribution to their projects and studies through the incorporation of flexibility, technology, optimization of reserves consumption strategy, innovation in mining methods and metallurgical processes, insertion of management processes of high performance mining-metallurgical plans.

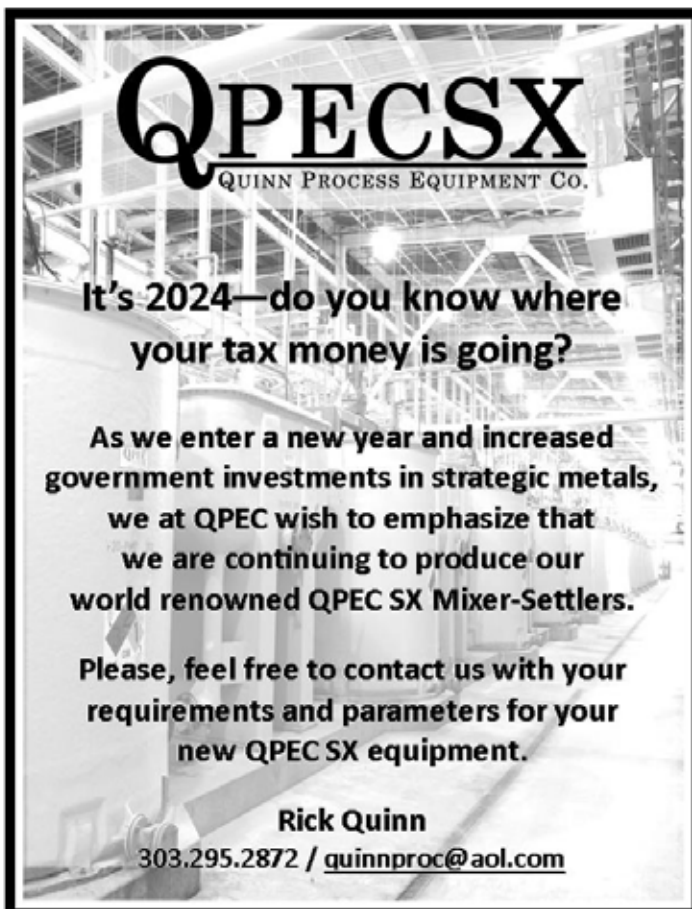
REDCO has over 75 geological, mining and metallurgical professionals, more than 10 partnerships with engineering and services companies that allow it to offer solutions and studies from mine to plant.

Products & Services

Consulting - Design and Planning

Main Office

Av. Presidente Kennedy 5454, of. 1302
Vitacura 7630586 Chile
Phone: +(56 2) 23769840
redcoglobal.com



QPECSX
QUINN PROCESS EQUIPMENT CO.

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**As we enter a new year and increased
government investments in strategic metals,
we at QPEC wish to emphasize that
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world renowned QPEC SX Mixer-Settlers.**

**Please, feel free to contact us with your
requirements and parameters for your
new QPEC SX equipment.**

Rick Quinn
303.295.2872 / quinnproc@aol.com





Redwave Solutions US LLC

Booth 101

Products & Services

Analyzers
Classifiers
Sensors
Separators and Concentrators

Main Office

4080 McGinnis Ferry Rd, Ste 802
Alpharetta, GA 30005 United States of America
Phone: (470) 699-1666
www.redwave.com

REESCO

Booth 1762

Reesco is a full-service provider of portable crushing services, screening plants, turnkey plants, and custom steel fabrication for mining, construction, and industrial projects.

In addition to designing and building much of the equipment we use in the field ourselves, we're able to manufacture equipment for our customers to meet the custom needs of a project. Our capabilities include equipment such as conveyors, feeders, fuel containers, generators, jetways, observation towers, rotors, screens, tunnels, and more. Whether you're looking to purchase or rent a piece of equipment for your upcoming job, we've got you covered.

Products & Services

Belts - Power Transmission
Bins, Hoppers, Silos and Storage
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Crushers and Pulverizers
Feeders
Maintenance Equipment and Supplies
Mining Contractors
Screens
Washing Plants

Main Office

1045 S Hoytsville Rd
Coalville, UT 84017 United States of America
Phone: (435) 336-5345
www.reescoms.com

Regal Rexnord

Booth 925

The industry-leading global brands of Regal Rexnord provide rugged power transmission components to meet the most demanding challenges of mining applications. Regal Rexnord offers a full range of drive-train solutions including heavy-duty clutches & brakes, engineered couplings, holdbacks & backstopping clutches, heavy-duty speed reducers, gear motors, overload clutches, belted and synchronous drives, and torque-limiting devices.

Our highly engineered products provide exceptional performance in a wide range of applications including

inclined & overland conveyors, ball & sag mills, crushers, sizers, shovels & draglines, and winders & hoists.

Products & Services

Belts - Power Transmission
Brakes - Dynamic, Friction Disk - Block, Magnetic
Clutches - Fluid, Friction and Magnetic
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Couplings - Mechanical, Flexible and Rigid
Drives - Belt, Chain, Fluid and Gear
Fans and Blowers
Power Transmission Equipment

Main Office

111 W Michigan St
Milwaukee, WI 53203 United States of America
Phone: (414) 643-3000
www.regalrexnord.com

REI Drilling, Inc

Booth 519

REI Drilling, Inc. contracts a fleet of drills for various mining and civil applications, on the surface or from underground, including directional drilling for geologic exploration, water drainage or transfer, methane drainage, abandoned mine verification, solution mining, remediation, utilities installation, and gravity drainage of oil.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Dewatering Equipment
Drill Bits - Rock
Drilling Contractors
Drilling Equipment
Exploration Equipment and Services
Remediation
Steel Pipe

Main Office

250 W Berger Ln
Salt Lake City, UT 84107 United States of America
Phone: (801) 270-2140
www.reidrilling.com

Rema Tip Top

Booth 500

We help our customers prevent, reduce or repair wear caused by abrasion, corrosion or impact. REMA TIP TOP is the leading manufacturer of rubber adhesives, conveyor belt repair materials, vulcanizing equipment, sheet rubber linings, skirt rubber, chute linings, rubber, ceramic pulley lagging and high quality protective coatings and industrial rubber products for wear and corrosion protection. REMA TIP TOP provides expert factory and field installation of rubber linings, tankage corrosion linings, coating systems (including secondary containment) and wear linings.

Products & Services

Belts - Power Transmission
Coatings (does not include Linings and Claddings)
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Fasteners - Industrial
Linings and Claddings

Maintenance Equipment and Supplies
Maintenance Services

Main Office

300 Tice Blvd, Ste 250
Woodcliff Lake, NJ 07677 United States of America
Phone: (503) 577-3652
www.rematiptop.com

RESPEC

Booth 1242

Explore. Develop. Operate. Close & Reclaim. RESPEC's integrated solutions mean clients, worldwide, trust us to partner with them and propel their mines forward with innovative, clear vision. RESPEC unites applied sciences with technology to solve any challenge in any market. Metals. Salt. Potash. Aggregates. Storage. Oil & Gas. RESPEC does it all. We study, test, and report. We plan and permit. We design roads and facilities. We monitor stability, creep, and water quality. We move data to dashboards. With RESPEC, clients get cutting-edge outcomes. RESPEC. Solving the Impossible.

Products & Services

Computer - Software and Services
Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Research
Geological-Physical-Technical Services and Equip
Information Technology Products
Laboratory and Scientific Services
Measurement and Monitoring Systems
Mine Evaluations - Surface and Underground

Main Office

3824 Jet Dr
Rapid City, SD 57703 United States of America
Phone: (605) 394-6400
www.respec.com

Richard Goettle, Inc (Goettle)

Booth 550

Richard Goettle, Inc. is a Design-Build, Deep Foundations, Earth Retention, Marine Construction, Grouting, and Ground Improvement Engineering and Construction Company. Since 1956, we have provided our clients with rock-solid engineering, state of the art equipment, innovative construction techniques, and creative problem solving.

Products & Services

Drilling Contractors
Shotcrete Equipment, Supplies and Services
Underground - Construction and Structures

Main Office

12071 Hamilton Ave
Cincinnati, OH 45231 United States of America
Phone: (513) 674-5469
Email: info@goettle.com
www.goettle.com

EXHIBITORS

Richwood

Booth 1663

Richwood designs innovative solutions for the worldwide bulk material handling industry. For over 40 years the busiest mines in the world have put their confidence in our problem solving expertise. Clean conveyors and sealed and protected load zones for site specific solutions mean lowered maintenance costs, safer work areas and more productive operations. Rely on Richwood for dependable conveyor accessories.

Products & Services

Conveyor Systems

Main Office

707 7th St W
Huntington, WV 25704 United States of America
Phone: (304) 525-5436
www.richwood.com

RIGID Industries

Booth 2011

RIGID LED lights are meticulously crafted at our cutting-edge ISO 9001:2015 facility in Phoenix, Arizona. Our dedicated team, driven by passion and expertise, designs, engineers, and rigorously tests each RIGID LED light. This dedication to quality is underscored by an industry-leading 10-year warranty on our mining products. With innovative technologies and exceptional customer service, RIGID delivers the forefront of lighting experiences. SafetyMining.com is an official mining distributor for RIGID LED lights.

Products & Services

Lighting Systems and Lamps
Safety Equipment

Main Office

779 N Colorado St
Gilbert, AZ 85233 United States of America
Phone: (781) 929-4631
Email: info@safetymining.com
www.safetymining.com

RioTinto

Rio Tinto

See our ad on p. 101

Booth 661

We're a leading global mining group focusing on finding, mining, and processing the Earth's mineral resources. Finding better ways to provide materials the world needs is at the core of everything we do. For more than 150 years, we've been looking for new and innovative ways of doing things. Today, you'll find our teams around the world doing just that: seeking opportunities to reduce carbon footprint, partnering to develop new technologies to decarbonize steel and aluminum production, and creating new products from waste. Visit our booth to learn about what we do, how we do it, and possible career opportunities.

Products & Services

Mine Operators

Main Office

4700 W Daybreak Pkwy
South Jordan, UT 84009 United States of America
Phone: (801) 204-2000
www.riotinto.com/en

r.m. wilson co

See our ad on p. 102

Booth 729

R.M. WILSON CO., founded in 1966 by Richard M. Wilson, is a product specialist and partners with many of the leading longwall machinery and equipment manufacturers around the world to offer engineered optimum solutions to the special requirements of the customer. Headquartered in Wheeling, West Virginia and with locations throughout the United States, we not only supply our customers with the equipment they need when they need it, but also provide unparalleled service and product knowledge that sets us apart from other longwall machinery distributors.

Products & Services

Longwall Mining Equipment

Main Office

3434 Market St, POB 6274
Wheeling, WV 26003 United States of America
Phone: (304) 232-5860
www.rmwilson.com

Robit Inc

Booth 1709

Robit is publicly listed growth company servicing global customers with drilling consumables for applications in underground and surface mining, construction, geotechnical and well drilling. The company's offering is divided into three product groups: Top Hammer, Down the Hole and Geotechnical.

Robit products are well known for exceptional value; i.e. high quality at competitive price. Let us create you a test plan to see it yourself!

Products & Services

Couplings - Mechanical, Flexible and Rigid
Drill Bits - Rock
Drilling Equipment
Longwall Mining Equipment
Parts - Mining Machinery
Tunnel Lining and Support Materials
Underground - Construction and Structures

Main Office

1522 Baker Rd
Sherman, TX 75090 United States of America
Phone: (903) 893-2300
www.robitgroup.com

RockMass Technologies

Booth 124

Using LiDAR, RockMass' hardware and software technology allows geologists and geotechnical engineers to easily gather and analyze data. Their platform simplifies 3D point cloud data collection and processing, offering a faster and safer alternative to traditional methods. Using handheld and mobile mapping technology with flash LiDAR and software, the company provides engineers and geologists with highly accurate data, in-

cluding joint set orientations and geological measurements, in minutes.

Products & Services

Computer - Hardware and Services
Computer - Software and Services

Main Office

111 Queen St E
Toronto M5G 1S2 Canada
Phone: (647) 270-2333
Email: sales@rockmasstech.com
www.rockmasstech.com/

Rockmore International

Booth 1655

Rockmore International is a leading global manufacturer of quality percussive rock drilling tools. Our high-performance products include threaded and tapered drill bits, DTH bits and hammers, extension and tunneling rods, integral and tapered rods, shank adapters and other drill tool accessories. With manufacturing centers in two hemispheres and distribution centers on nearly every continent, Rockmore International provides a wide range of quality tools serving the mining, construction, tunneling, quarrying, exploration, geothermal and water well sectors worldwide for 75 years.

Products & Services

Drill Bits - Rock
Drilling Equipment

Main Office

10065 SW Commerce Cir
Wilsonville, OR 97070 United States of America
Phone: (503) 682-1001
www.rockmore-intl.com

RockTech USA, Inc

Booth 1800

RockTech USA exploration products, formerly Hagby USA, is a supplier of Sunny Corner surface and underground core drills.

We also offer: Inertial Sensing survey tools; Slim gyro, Twin gyro, and magnetic survey instruments. Hayden Diamond Products, Alignment instruments for underground and surface equipment, CoreWise high performance automatic core saws, Wax impregnated and plastic core boxes, service, maintenance & spare parts.

Products & Services

Drill Bits - Rock
Drilling Equipment
Exploration Equipment and Services
Parts - Mining Machinery
Surveying Equipment and Supplies

Main Office

4164 W Industrial Loop
Coeur d'Alene, ID 83815 United States of America
Phone: (208) 765-4231
Email: info@rocktechusa.com
www.rocktechusa.com



RioTinto

We mine it.

America depends on it.

In North America we're developing advanced technologies to deliver the critical minerals needed for a low-carbon future.



Visit us at booth #661 or scan
the QR code to learn more.

EXHIBITORS

Rocky Mining Consultants Inc

Booth 960

Rocky Mining Consultants Inc was incorporated in Ontario Canada in 2018. It is an extensively experienced consulting practice that provides specialized geomechanics and mining consulting services to the mining engineering in Canada, USA and across the world. Our mission is to assist the mines to improve their safety and productivity through sharing our exceptional knowledge, expertise and best practices of industries.

Products & Services

Consulting - Engineering

Main Office

38 Paperbark Ave
Vaughan, ON L6A 0Y1 Canada
Phone: (416) 315-1423
Email: rocky.wu@rockymining.ca
www.rockymining.ca

Rocvent Inc

Booth 1612

Products & Services

Automation
Consulting - Engineering
Diesel Equipment Lighting Systems
Dust and Fume Control Technology
Electrical Equipment and Supplies
Fans and Blowers
Process Controls and Instruments
Scrubbers

Tunnel Lining and Support Materials
Ventilation Systems, Materials and Equipment

Main Office

3696 Industrial Rd
Chelmsford, ON POM1L0 Canada
Phone: (705) 692-5854
www.rocvent.com

ROSTA USA

Booth 1559

Rosta is the world's leading manufacturer of rubber spring and damping systems. Our Rubber Suspension Elements, Oscillating Mountings, Vibration Dampers, Tensioner Devices and Motorbases have been instrumental in increasing productivity for many industries, including; Mining, Aggregate, Agriculture, Energy, Transport, Food, and Forestry. As well as providing numerous industrial solutions. In addition to standard components, we have the ability to develop custom solutions in cooperation with our customers.

Products & Services

Belts - Power Transmission
Compactors
Conveyor Belting - Accessories and Equipment
Crushers and Pulverizers
Drives - Belt, Chain, Fluid and Gear
Electric Motors and Generators
Feeders
Parts - Mining Machinery
Power Transmission Equipment
Screens

Main Office

797 Ferguson Dr
Benton Harbor, MI 49022 United States of America
Phone: (269) 841-5448
Email: info.us@rosta.com
www.rosta.com

Roxia Inc

See our ad on p. 103

Booth 754

Roxia is a manufacturer of advanced dewatering technologies. Our portfolio consists of tower filters, smart filter presses and high-efficiency ceramic disc vacuum filters. We specialize in mining, minerals & metallurgical industries and our team delivers best performing solutions for each need. In beneficiation, our strength is concentrate dewatering with our tower press and ceramic disc filter. Our pressure filter technologies are also utilized in hydrometallurgical applications, such as PLS recovery. Roxia offers service and support to our customers globally. We provide these services and high-quality spare parts for our filter technologies as well as competitor tower press and ceramic filters.

Products & Services

Automation
Dewatering Equipment
Filters, Filter Cloth and Accessories
Separators and Concentrators

Main Office

3700 O'Donnell St, Ste 200
Baltimore, MD 21224 United States of America
Phone: (667) 500-2591
Email: sales-us@roxia.com
www.roxia.com

Roxsyle Systems LLC

Booth 1357

Roxsyle Systems is focused on designing and implementing electrical control systems for the mining industry. We are made up of professionals who have spent 22 years in the mining industry. We have extensive experience with multiple PLC, HMI, and Drive systems and can determine what fits the application. Roxsyle has the expertise to design control systems for many systems including: Mine Hoists, Conveyor Systems, Feeder Systems, Processing Plants, Loadouts, Ventilation Fans, E-Houses, and Power Distribution.

Products & Services

Automation
Consulting - Design and Planning
Consulting - Engineering
Controls - Electrical and Electronic
Electrical Equipment and Supplies
Parts - Mining Machinery

Main Office

11590 Black Forest Rd, Ste 20
Colorado Springs, CO 80908 United States of America
Phone: (844) 476-9795
Roxsyle.com



ENGINEERED PRODUCTS FOR THE ENERGY INDUSTRY

R.M. WILSON CO. is a product specialist and partners with many of the leading longwall machinery and equipment manufacturers around the world to offer engineered optimum solutions to the special requirements of the customer.

Headquartered in Wheeling, West Virginia and with locations throughout the United States, we not only supply our customers with the equipment they need when they need it, but also provide unparalleled service and product knowledge that sets us apart from other longwall machinery distributors.

- Gearboxes
- Sprockets
- Longwall Chain
- Brakes
- Couplings
- Shearer Drums
- Fasteners
- Bits
- Cable Handler



3434 MARKET ST, WHEELING, WV 26003 • 800-624-5460 • WWW.RMWILSON.COM

Roxtec*Booth 137***Products & Services**
Seals**Main Office**

1140 N 129th E Ave
Tulsa, OK 74116 United States of America
Phone: (800) 520-4769
www.roxtec.com/us

Roytec Global (Pty) Ltd*Booth 1761*

Roytec Global is an international company specializing in liquid / solid and mineral separation technologies for the Mining and Industrial sectors. We are LEADERS in thickening, filtration and mineral flotation technologies for the mining industry. Roytec is privately owned by our Directors and Managers ensuring accountability and we are PASSIONATE ABOUT EXCELLENCE IN OUR SERVICES and we pride ourselves in delivering to our promises.

Products & Services

Flotation Machines and Equipment
Ion Exchange Equipment and Resins
Magnetic Separators
Reagents - Chemical and Flocculants
Screens
Separators and Concentrators
Thickeners

Main Office

45 Sheppard Ave E, Ste 703
Toronto, ON M2N 5W9 Canada
Phone: (438) 465-2114
Email: sales.ca@roytecglobal.com
www.roytecglobal.com

RtTech Software*Booth 240*

RtTech Software is dedicated to the development of RtDUET – Our flagship application for tracking downtime events and production loss accounting. From automated downtime tracking to calculating the efficiency of your processes we provide you with the crucial metrics that allow you to make informed decisions. RtDUET helps you eliminate bottlenecks, identify opportunities for process improvement, and streamline your operational reporting.

Products & Services

Computer - Software and Services
Consulting - Engineering
Information Technology Products

Main Office

1180 St George Blvd
Moncton, NB E1E4K7 Canada
Phone: (506) 229-3819
Email: matthew.lindsay@rttechsoftware.com
www.rtechsoftware.com

RubberSource Inc*Booth 1750*

RubberSource Inc. designs and manufactures natural and synthetic protective rubber linings for the protection of capital equipment in mining. With Rubber Technologists, Chemists, state-of-the-art laboratory, in house mixing and calendaring, we are equipped to handle any requirement.

RubberSource has set a new standard of partnering with Rubber Applicators, and Engineering Firms by being involved in the inception and early stages of projects by lending advice, technical experience, and expertise in the form of material recommendations and applicator qualification and training.

Products & Services

Coatings (does not include Linings and Claddings)
Linings and Claddings

Main Office

1-380 Sheldon Dr
Cambridge, ON N1T2C2 Canada
Phone: (519) 620-4440
www.rubbersource.ca

Ruen Drilling, Inc*Booth 1436***Products & Services**

Drilling Contractors

Main Office

2320 River Rd
Clark Fork, ID 83811 United States of America
Phone: (208) 266-1151
www.ruendrilling.com/

Rulmeca Corporation*Booth 1814*

Located in Wilmington, NC, Rulmeca Corporation is the designated Motorized Pulley Center of Excellence for Rulmeca Group. Rulmeca Corporation is responsible for sales, assembly and service of Rulmeca Motorized Pulleys for North and South America. Rulmeca Motorized Pulleys were first produced in 1953 to offer conveyor belt operators and designers a compact, hermetically sealed, highly efficient conveyor belt drive. The Rulmeca Motorized Pulley is quick and simple to install and requires almost no maintenance. This conveyor belt drive resists the effects of abrasive dust, water, oil, grease, and many other harmful substances.

Products & Services

Conveyor Systems
Drives - Belt, Chain, Fluid and Gear
Electric Motors and Generators
Gears - Pullers, Reducers and Pinions

Main Office

3200 Corporate Dr, Ste D
Wilmington, NC 28411 United States of America
Phone: (910) 794-9294
Email: sales-us@rulmeca.com
www.rulmecacorp.com

Rulmeca Limited*Booth 1810*

Rulmeca is the forefront of technology, design and construction of a vast array of conveyor components. Rulmeca stands alone in its commitment to supply only the most robust conveyor products on the market today. From our engineering and quality control, to our technical sales and field service staff, Rulmeca's dedication to our clients remains as strong today as it did over 60 years ago.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems
Drives - Belt, Chain, Fluid and Gear
Parts - Mining Machinery

Main Office

75 Mason St
Wallaceburg, ON N8A 4L7 Canada
Phone: (519) 627-2277
www.rulmeca.ca

RWI Enhanced Evaporation Services*Booth 943*

RWI designs and manufactures wastewater evaporator systems. We engineer our systems to evaporate all types of impacted water including wastewater, produced water, storm water, and much more. We offer trajectory evaporators and downdraft floating evaporators. Our PittBoss evaporator doesn't require



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Reinventing Tower Press Technology

Roxia Tower Press TP16™

Roxia Tower Press TP60™

Get in Contact +1 667 500-2591
sales@roxia.com
www.roxia.com

EXHIBITORS

a pump or nozzles making it essentially maintenance free. The RWI 2.0 series evaporators are the most efficient on the market. Leading the industry with the lowest energy consumption available, the 2.0 evaporation series evaporates water much more efficiently and in a more environmentally safe manner than all other higher horsepower evaporators.

Products & Services

Consulting - Engineering
Dewatering Equipment
Dust and Fume Control Technology
Environmental Control Equipment and Supplies
Pollution Control Equipment
Reclamation Equipment and Services
Remediation
Water Clarification and Treatment

Main Office

2245 Colex Dr
Grand Junction, CO 81505 United States of America
Phone: (970) 245-7104
www.resourcewest.com

Salem-Republic Rubber Co

Booth 915

Products & Services

Dredges
Hoses - Valves and Fittings
Linings and Claddings
Pumps

Main Office

475 W California Ave
Sebring, OH 44672 United States of America
Phone: (800) 686-4199
www.salem-republic.com

Samuel Engineering, Inc

Booth 1830

Samuel Engineering, Inc. (Samuel) is a full service, multi-discipline engineering, procurement, fabrication, and construction (management) company (EPFC). Samuel's mining team provides solutions anywhere from studies/reports, to engineering, to project management.

Products & Services

Automation
Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Consulting - Management
Controls - Electrical and Electronic
Mine Evaluations - Surface and Underground
Quality Improvement

Main Office

8450 E Crescent Pkwy, Ste 200
Greenwood Village, CO 80111 United States of America
Phone: (303) 714-4840
Email: marketing@samuelengineering.com
www.samuelengineering.com

Sandvik

Booth 1317

Sandvik is a global, high-tech engineering group providing solutions that enhance productivity, profitability and sustainability for the manufacturing, mining and infrastructure industries. We are at the forefront of digitalization and focus on optimizing our customers' processes. Our world-leading offering includes equipment, tools, services and digital solutions for machining, mining, rock excavation and rock processing.

Products & Services

Automation
Continuous Mining Machines
Crushers and Pulverizers
Drill Bits - Rock
Drilling Equipment
Loaders
Screens
Trucks and Haulage Units
Tunnel Lining and Support Materials
Underground Excavation Services and Equipment

Main Office

3200 Highlands Pkwy SE, Ste 200
Smyrna, GA 30082 United States of America
Phone: (470) 271-1000
home.sandvik

Saskatchewan Trade and Export Partnership

Booth 1355

STEP is a non-profit that promotes and provides trade development services for Saskatchewan exporters. Our members are world-class providers of products and services to mines around the world. Stop by our booth to learn about which of our members can supply your mine or project with what you are looking for.

Products & Services

Automation
Centrifuges
Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Fans and Blowers
Laboratory and Scientific Services
Remediation
Tunnel Lining and Support Materials
Ventilation Systems, Materials and Equipment

Main Office

#400 - 402 21st St E
Saskatoon, SK S7K 0C3 Canada
Phone: (306) 229-0604
www.sasktrade.sk.ca

Scantech International Pty Ltd

Booth 1919

Scantech International is the leading supplier of high specification analyzers to the global minerals market for real time, representative, elemental and moisture analysis of conveyed flows. GEOSCAN GOLD is the only analyzer that representatively measures gold ore grade in primary crushed ore in plant feed. TBM 200 series

moisture analyzers consistently outperform other systems and are used by leading resource companies. Scantech has over 35 years experience in bulk ore sorting where proven measurement precision provides unmatched outcomes. SizeScan, COALSCAN and GEOSCAN are our main brands. They provide high quality real time data for improved quality management and process control.

Products & Services

Analyzers
Blending Systems
Coal Preparation Plants
Measurement and Monitoring Systems
Process Controls and Instruments
Sampling Devices

Main Office

Unit 14 / 2994 Logan Rd
Underwood 4119 Australia
Phone: +61 400 076 090
www.scantech.com.au

Schlam

Booth 930

Main Office

1 S Church Ave, Ste 1720
Tucson, AZ 85701 United States of America
Phone: (520) 904-0081

Schurco Slurry

Booth 1156

Schurco Slurry has remained a family owned and operated slurry pump company since 1975. Our primary focus is the manufacturing and development of the Schurco Slurry Pump line. We take pride in offering customers product availability and cost savings, while delivering the same or better quality than OEM competitors. Schurco Slurry offers the low life cycle cost through competitively priced capital pump equipment, spare parts, and material options that provide lasting wear life in all operating environments. This commitment allows Schurco Slurry to form lasting and valued partnerships. Be safe, be productive, be Schur!

Products & Services

Pumps

Main Office

9410 Florida Mining Blvd E
Jacksonville, FL 32257 United States of America
Phone: (904) 356-6840
Email: sales@schurco.com
www.schurcoslurry.com

Seametrics

Booth 1944

Main Office

19026 72nd Ave S
Kent, WA 98032 United States of America
Phone: (253) 872-0284
seametrics.com

Seequent

Booth 1059

SSeequent is the Bentley subsurface software company. Together, we're helping build a more resilient future by connecting the built world above ground with the hidden world below it.

Main Office

685 Stockton Dr
Exton, PA 19341 United States of America
Phone: (604) 209-0134
www.seequent.com

Sefar Inc

Booth 1550

Products & Services

Belts - Power Transmission
Centrifuges
Consulting - Engineering
Filters, Filter Cloth and Accessories

Main Office

111 Calumet St
Depew, NY 14043 United States of America
Phone: (716) 601-3118
www.sefar.us

SEMCO Publishing

Booth 1106

Publishers of North American Mining magazine, The Asia Miner, Concrete Products, Cement Products, and Rock Products, SEMCO Publishing has a powerful history of serving the mining, aggregates, and construction materials industries with exceptional editorial, insight, and coverage of technology and events. Contact us today to subscribe or to let us help you develop a customized marketing plan.

Products & Services

Publishers

Main Office

8751 E Hampden Ave, Ste B-1
Denver, CO 80231 United States of America
Phone: (303) 283-0640
www.semcpublishing.com

Sempertrans

Booth 633

Sempertrans, a member of the Semperit Group, has been developing, manufacturing and installing a broad range of high-performance conveyor belts for applications in the mining, cement and steel industries, ports, power plants, quarries and chemical industries for more than 50 years. Our knowledge, experience and quality products make us one of the world's leading conveyor belt companies. Contact us today at customerservice.americas@semperitgroup.com to learn more about products, services and solutions that can help your company accelerate your operational performance.

Products & Services

Conveyor Belting - Accessories and Equipment
Conveyor Systems

Main Office

755 Coweta Industrial Pkwy
Newnan, GA 30265 United States of America
Phone: (800) 631-2566
www.semperitgroup.com

SGS Minerals Services

Booth 1003

Whatever the industry or market, anywhere in the world, SGS is your global partner for excellence in business. SGS works with you to develop innovative services and technologies customized to your needs. SGS enhanced quality ensure compliance and reduce risk, helping its clients to invest time and effort where it benefits your business the most. SGS is recognized as the world leader in the development and demonstration of bankable flowsheets, pilot plant programs, advanced systems, in-plant services, uranium services, mineralogy, technical audits and geometallurgy.

Products & Services

Laboratory and Scientific Services

Main Office

185 Concession St
P.O. Box 4300
Lakefield, ON K0L 2H0 United States of America
Phone: (705) 652-2000
www.sgs.com

Shaft Drillers International

Booth 1528

Products & Services

Drilling Contractors

Main Office

130 Meadow Ridge Rd
Mt Morris, PA 15349 United States of America
Phone: (304) 291-0175
www.shaftdrillers.com/

SIBRE Siegerland Bremsen GmbH

Booth 2047

SIBRE – Siegerland Bremsen designs, manufactures and distributes industrial brake systems and drive components. The customers of our industrial brakes (e.g. hoist brakes) are Consultants, OEMs and Operators in heavy duty industries such as but not limited to ports, steel mills, mining and regenerative energies. All our products and processes are characterised by safety, reliability, sustainability and high quality certified acc. to ISO 9001.

We support your business processes with over sixty years of know how and experience in an optimal way – right from product development through brake manufacturing to commissioning and worldwide service with specific maintenance agreements.

Products & Services

Brakes - Dynamic, Friction Disk - Block, Magnetic
Couplings - Mechanical, Flexible and Rigid

Main Office

Auf der Stuecke 1-5
Haiger 35708 Germany
Phone: 02773940017
Email: info@sibre.de
www.sibre.de

Simem Underground Solutions, Inc

Booth 921

SIMEM Underground Solutions has been designing and manufacturing machinery and plants for the mining and civil industries for over 50 years, employing some 280 people worldwide of which 1/3 are in engineering. SIMEM offers a wide range of products and plants that are specifically designed to produce concrete, shotcrete, cemented rock fill (CRF) and paste fill. With over 50 mixers already supplied into mining backfill operations globally, SIMEM has the experience and expertise required to deliver heavy duty, reliable products and packages. SIMEM Underground Solutions, based in Abbotsford, BC, Canada, specializes in CRF and pastefill applications for the SIMEM Group.

Products & Services

Automation
Backfilling
Bins, Hoppers, Silos and Storage
Consulting - Engineering
Conveyor Systems
Grouting Services, Equipment and Materials
Pumps
Shotcrete Equipment, Supplies and Services
Tunnel Boring Equipment
Water Clarification and Treatment

Main Office

1A-30528 Great Northern Ave
Abbotsford, BC V2T 6H4 Canada
Phone: (604) 288-2500
simemug.com

SITECH Southwest

Booth 226

Construction/Mining Technology & Drones

Products & Services

Aerial Mapping and Surveying
Measurement and Monitoring Systems
Surveying Equipment and Supplies
Training Services

Main Office

555 W Iron Ave, Ste #103
Mesa, AZ 85210 United States of America
Phone: (602) 437-0410

SKAPS Industries

Booth 555

SKAPS Industries is a leading manufacturer and supplier of various geosynthetic products & technical textiles. SKAPS holds a strong market presence in over 60 countries by offering our clients a wide array of products such as Geomembranes, Biaxial Geogrids, Drainage Geonets and Geocomposites, Woven and Non – Woven Geotextiles.

EXHIBITORS

Products & Services

Concrete Reinforcement and Equipment
Geological-Physical-Technical Services and Equip
Grinding Media and Liners
Linings and Claddings
Reclamation Equipment and Services
Remediation
Sediment & Erosion Control
Tunnel Lining and Support Materials

Main Office

335 Athena Dr
Athens, GA 30601 United States of America
Phone: (706) 354-3700
www.skaps.com

Skyline Assayers & Laboratories

Booth 656

Skyline is a 130-year-old assay laboratory, serving mining operations throughout the Americas. We're ISO 17025-2017 & ABS/ANSI ISO 9001-2015 accredited.

Products & Services

Laboratory and Scientific Services

Main Office

7960 S Kolb Rd
Tucson, AZ 85756 United States of America
Phone: (520) 622-4836
www.skylinelabs.com/

Skyward Specialty Insurance

Booth 1011

Skyward Specialty Insurance Group, Energy Division specializes in providing insurance protection to the Mining industry...either above or below ground and in quarries as well. We underwrite all types of Mining and Quarry operations and the various servicing contractors that work with those operations. We have four P & C carriers that are A Rated with two being admitted that offer all lines of coverage. These include Workers' Comp, General Liability, Excess Liability, Business Auto, Property and Inland Marine. Mining and Quarry insurance is our specialty and the only thing we do...so it is what we do best!

Products & Services

Insurance

Main Office

500 Corporate Dr, Ste G300
Birmingham, AL 35242 United States of America
Phone: (205) 332-8118
Email: jgodfrey@skywardinsurance.com
www.skywardinsurance.com

SLR International Corporation

Booth 1745

SLR is a global leader in environmental, engineering, and advisory solutions: helping clients achieve their sustainability goals.

We partner with clients throughout their project life-cycle from strategy and design, through compliance and operations, to end-of-life and remediation.

Since 1994, we have built 'One Team' of talented environmental and business consultants, engineers and scientists.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Financial Services
Consulting - Management
Consulting - Research

Main Office

1658 Cole Blvd, Ste 100
Lakewood, CO 80401 United States of America
Phone: (480) 627-9541
www.slrconsulting.com

SOILWORKS® Soil Stabilization & Dust Control

Soilworks - Dust Control

Booth 126

Soilworks provides leading-edge solutions for dust suppression and soil stabilization, serving open pit and underground mines worldwide. Renowned for its effective products like Soiltac, Gorilla-Snot, and Durasoil, Soilworks enhances mine profitability and safety. Its innovative approach addresses critical challenges—from tailings management and dam erosion to drift dust control—ensuring air quality compliance and protecting miners' health. With Soilworks, operations gain stability, efficiency, and environmental stewardship, cementing its reputation as the definitive choice for mining companies aiming to mitigate operational risks and achieve sustainable productivity.

Products & Services

Dust and Fume Control Technology
Environmental Control Equipment and Supplies
Pollution Control Equipment
Remediation
Sediment & Erosion Control

Main Office

7150 E Camelback Rd, Ste 444
Scottsdale, AZ 85251 United States of America
Phone: (800) 545-5420
Email: info@soilworks.com
www.soilworks.com

SOLMAX

Booth 1251

Solmax is the world's leading geosynthetics manufacturer. Solmax products contain and drain, shielding the soil, water and air from toxins and pollutants in applications as critical as the landfills of the world's most populated cities and mines operating in fragile ecosystems. Our products are sold in over 60 countries, trusted by some of the biggest names in mining; oil and gas; water and waste management; and civil engineering. Our leadership is built on over 40 years of product innovation and excellence.

Products & Services

Consulting - Environmental
Grinding Media and Liners
Linings and Claddings
Remediation
Tunnel Lining and Support Materials

Main Office

19103 Gundle Rd
Houston, TX 77073 United States of America
Phone: (800) 435-2008
www.solmax.com

Somerset International

See our ad on p. 107

Booth 306

Products & Services

Centrifuges
Coal Preparation Plants
Dewatering Equipment
Quality Improvement
Separators and Concentrators
Water Clarification and Treatment

Main Office

1606 Carmody Court, Ste 201A
Sewickley, PA 15143 United States of America
Phone: (724) 473-3515
somerseinternational.com

South Dakota School of Mines

Booth 738

With over 60 undergraduate and 30 graduate students, the Mining Engineering and Management Department at South Dakota Mines offers bachelor and master of science degrees in mining engineering. The MS program is offered fully online, but can also be completed on-campus. The department has seven faculty with expertise in rock mechanics, mine planning and optimization, mineral economics, ventilation, underground and surface mining operations, geology, permitting and reclamation, reliability and maintenance, automation, and mine management. The job placement for graduates has been >98% for the past several years and we are focused on continued growth of opportunities for our graduates.

Products & Services

Educational

Main Office

501 E St Joseph St
Rapid City, SD 57701 United States of America
Phone: (605) 394-1973
www.sdsmt.edu

Southwest Irrigation LLC

Booth 1765

Mining Line card, Mining information, mining products, pictures and displays, SWI merchandise, leaching products information,

Products & Services

Couplings - Mechanical, Flexible and Rigid
Dust and Fume Control Technology
Hoses - Valves and Fittings



Leaching Sprinklers
Maintenance Equipment and Supplies
Meters and Gauges
Pipes
Safety Equipment
Steel Pipe
Valves

Main Office

401 E Maley St
Willcox, AZ 85643 United States of America
Phone: (520) 384-9223
www.southwest-irrigation.com

Southwestern Scale Co, Inc

Booth 605

Southwestern Scale Co, is a comprehensive, full service, vertically integrated weighing systems and services provider of its kind. We offer and help service a immense array of weighing products, including Rail Scales, Truck Scales, Tank, Silo Hopper Scales, Belt Scales, and Mining Haul Truck Scales. We're also experienced in Weight Studies, and can provide Scale Rentals, Scale Calibration, Systems Integration, and Unattended Weighing Kiosks.

Products & Services

Automation
Controls - Electrical and Electronic
Scales

Main Office

2535 W Broadway Rd
Phoenix, AZ 85041 United States of America
Phone: (602) 243-3951
www.swscale.com



Spartakus Technologies

Booth 1757

Since 2016, we've been helping businesses thrive through the implementation of digital asset tracking solutions and business-friendly reliability consulting and training. To date, in 2023, we support over 2000 plants and over 3000 people. Our reliability experts, with years of experience in the field, and our team of in-house developers will be at your disposal to improve your manufacturing processes.

Products & Services

Computer - Software and Services
Consulting - Engineering
Information Technology Products
Training Services

Main Office

18000 TransCanada Hwy
Kirkland, QC H9J 4A1 Canada
Phone: (514) 459-3050
Email: contact@spartakustech.com
apm.spartakustech.com/admin_interface/landing/index.html

Spendrup Fan Co

Booth 1505

Since 1968, Spendrup Fan Co. has designed and manufactured quality vane axial fans and accessories for all types of mining and industrial applications. Spendrup fans are designed to withstand the harshest environments. Fan casings are made of 5/16" steel. Impeller hubs are fabricated from mild steel. Impeller blades are 356-T6 hardness, to resist highly abrasive conditions. Spendrup Fan Co. designs fans to meet client specifications. Spendrup Fan can meet client needs, from MSHA Sch. 2-G, U/L approved explosion proof, marine duty, to fans that provide trouble-free service in high-temperature or corrosive environments.

Products & Services

Dust and Fume Control Technology
Fans and Blowers
Scrubbers
Tunnel Boring Equipment
Ventilation Systems, Materials and Equipment

Main Office

PO Box 4308
Grand Junction, CO 81502 United States of America
Phone: (970) 243-3429
www.spendrupfanco.com

Sprung Structures

Booth 733

Sprung structures are ideal for mining camps and mining processing facilities in remote locations, under

rigid timelines or with limited foundation requirements. Sprung's mining buildings can be set up immediately and are designed to last for the entire life of a mine. Our optional premium insulation package provides comfortable, liveable spaces for a wide variety of mining infrastructure. Despite being engineered as permanent structures, Sprung's relocatable and its ability to be crane-lifted into place allow it to adapt to virtually any mining facility application, including mine production enclosures, ancillary buildings, mining processing facilities, haul truck maintenance facilities, and much more.

Products & Services

Construction - Contracting Services

Main Office

5711 W Dannon Wy
West Jordan, UT 84081 United States of America
Phone: (801) 280-1555
www.sprung.com

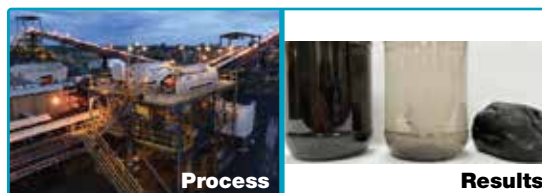


SRK Consulting (US), Inc

See our ad on p. 109

Booth 1621

SRK Consulting is an independent, international consulting practice that provides focused advice and solutions to clients, mainly in the earth and water resource industries. For mining projects, SRK offers services from exploration to mine closure, including feasibility



YOUR TAILINGS DEWATERING AND VALORIZATION SOLUTION

contact

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724-473-3515

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Somersetinternational.com

1606 Carmody Court, Suite 201A
Sewickley, PA 15143
412-576-4000

EXHIBITORS

studies, due diligence reviews, and production optimization. Established in 1974, SRK now employs more than 1,700 professionals internationally in over 40 offices on 6 continents.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Financial Services
Consulting - Management
Consulting - Research
Exploration Equipment and Services
Reclamation Equipment and Services
Ventilation Systems, Materials and Equipment
Water Clarification and Treatment

Main Office

999 17th St, Ste 400
Denver, CO 80202 United States of America
Phone: (303) 985-1333
www.srk.com

CRISAFULLI

Sludge Removal Systems

SRS Crisafulli, Inc

See our ad on p. 108

Booth 1845

Manufacturer of pumps and dredge systems for tailings pond maintenance with liner protection.

Products & Services

Dewatering Equipment
Dredges
Environmental Control Equipment and Supplies
Flotation Machines and Equipment
Pumps

Reclamation Equipment and Services
Sediment & Erosion Control
Water Clarification and Treatment

Main Office

1610 Crisafulli Dr, PO Box 1051
Glendive, MT 59330 United States of America
Phone: (406) 365-3393
www.crisafullipumps.com

Stantec Consulting

Booth 1337

At Stantec, we offer engineering and environmental services so mining companies can access resources safely and in an environmentally sustainable way. From front-end studies to mine closure and reclamation, we keep clients at the forefront of a rapidly changing industry. Along with our core services of mine planning, operations, and closure, we help miners reach their net zero goals by reducing energy consumption and replacing conventional energy with cleaner sources. With over 30 years of providing solutions around the world, our approach is defined by a commitment to communities, creativity, and client relationships.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Management

Main Office

3133 W Frye Rd, Ste 300
Chandler, AZ 85226 United States of America
Phone: (480) 687-6100
Email: askStantec@stantec.com
www.stantec.com/en/ideas/spotlight/conference/sme

Stewart Brothers Drilling Co

Booth 1341

Products & Services

Construction - Contracting Services
Drilling Contractors
Exploration Equipment and Services
Mineral Prospecting
Mining Contractors

Main Office

PO Box 2067, 306 Airport Rd
Milan, NM 87021 United States of America
Phone: (505) 287-2986
www.stewartbrothers.com/

Strata Products Worldwide, LLC

Booth 1530

Strata is a global provider of versatile underground networks that facilitate communications, tracking, and IoT. Strata offers both wired and wireless network options that are tailored to meet the individual needs of each mine. The digitized leaky feeder technology allows the use of Ethernet devices such as Wi-Fi access points, cameras, tracking, telemetry, and more on a standard leaky feeder network. In mine safety, Strata offers emergency refuge products as well as level 9 proximity detection and collision avoidance systems. As the newest addition to the company's portfolio, Strata specializes in Artificial Intelligence safety systems for accident prevention.

Products & Services

Automation
Communications Equipment
Concrete Reinforcement and Equipment
Grouting Services, Equipment and Materials
Measurement and Monitoring Systems

Pivot System - Always move forward
Hydraulic Auger Cutterhead
Remote Controlled



50 HP Electric
FLUMP
SME Booth 1845

CRISAFULLI
Sludge Removal Systems

Come to our booth to learn more about the FLUMP, and how Crisafulli's high-powered product line can help solve your dredging needs.

888-817-7011 www.crisafullipumps.com

Pumps
Roof - Ground Supports
Safety Equipment
Ventilation Systems, Materials and Equipment

Main Office

8800 Roswell Rd, Ste 145
Sandy Springs, GA 30350 United States of America
Phone: (770) 321-2500
www.strataworldwide.com/

Stratom Inc

Booth 1551

Stratom develops unmanned ground vehicles and autonomous robotic systems for commercial and defense applications. Specializing in unmanned cargo movement, autonomous mobile robots (AMR) and robotic refueling, the company's military-proven tools, methods, technologies and strategic services meet customers' unique needs while solving their most difficult logistics and operational challenges.

Products & Services

Automation
Autonomous Vehicles
Diesel Mining Equipment Manufacturers

Main Office

331 S 104th St, Ste 235
Louisville, CO 80027 United States of America
Phone: (720) 565-9609
Email: info@stratom.com
www.stratom.com/

Strayos

Booth 207

Strayos is a mine-to-mill AI platform that provides machine vision sensing and software solutions to optimize the Drilling, Blasting, and Crushing process to drive improvements in your mine's efficiency, profitability, and sustainability.

Products & Services

Aerial Mapping and Surveying
Information Technology Products

Main Office

1 W Seneca St, 24th Fl
Buffalo, NY 14203 United States of America
Phone: (314) 960-8706
www.strayos.com

Structural Steel & Plate Fabrication

Booth 542

For over 45 years SS&PF has supported the Mining industry by providing high-quality steel fabrication with exceptional turnaround times. We specialize in exotic metals, structural steel, tanks, vessels, chutes / hoppers, penstocks, custom fabrication and repair. We currently carry our R, S, U, PP, NB stamps and are AISC certified in building fabrication (BU), major bridge (IBR), component (CPT) and sophisticated paint endorsements (SPE-P1 to P3).

Products & Services

Bins, Hoppers, Silos and Storage
Coal Preparation Plants
Coatings (does not include Linings and Claddings)
Feeders
Flotation Machines and Equipment
Grizzlies - Feeding, Moving and Stationary
Maintenance Services
Pipes
Refinery Equipment
Steel Pipe

Main Office

125 W 500 N
North Salt Lake, UT 84054 United States of America
Phone: (801) 292-8484
www.ssandpf.com

Subterranean Boring Inc

Booth 1563

SBI provides turnkey raisebore contracting services and manufactures replacement raisebore machine parts and consumables.

Products & Services

Boring Equipment

Main Office

15000 W 44th Ave, Ste C
Golden, CO 80403 United States of America
Phone: (303) 233-2856
www.subterraneanboring.com

Sulzer

Booth 445

Sulzer is a global leader in fluid engineering. We specialize in pumping, agitation, mixing, and separation technologies of all types. Pumps ranging from chemical process to solids handling to submersible dewatering to vertical turbine and vertical cantilever pumps, to high pressure high head mine dewatering pumps to sulfuric acid pumps to handle acid in smelters, mixers and agitators and aeration solutions including state of art blowers and compressors applied in waste water aeration systems. Sulzer also supports industry with global Service Repair Centers servicing rotating equipment including pumps, turbines, compressors and motors.

Products & Services

Pumps

Main Office

155 Ahlstrom Wy
Easley, SC 29640 United States of America
Phone: (303) 524-0625
Sulzer.com

Sun Corridor Inc

Booth 1561

Products & Services

Government Agency - Entity

Main Office

1985 E River Rd, Ste 101
Tucson, AZ 85718 United States of America
Phone: (520) 243-1900
suncorridorinc.com

Sunset Manufacturing

Booth 1801

Products & Services

Assay Equipment
Exploration Equipment and Services
Laboratory Equipment and Supplies
Safety Equipment
Sampling Devices
Surveying Equipment and Supplies

Main Office

1620 S Empire Rd
Salt Lake City, UT 84104 United States of America
Phone: (801) 236-2136
www.sunsetmfg.com

Superior Industries

Booth 1703

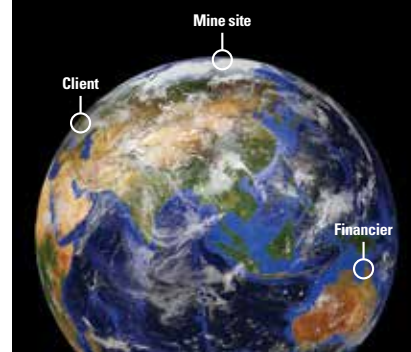
From Rock Face to Load Out®, Superior Industries designs and manufactures crushing, screening, washing and heap leach conveying solutions to support the world's mining operations.

Financier, client, and mine site each on different continents?

We're your common ground.

Integrated solutions at every phase of your project.

 **srk.com**



EXHIBITORS

Products & Services

Conveyor Systems
Crushers and Pulverizers
Dewatering Equipment
Feeders
Grizzlies - Feeding, Moving and Stationary
Screens
Washing Plants

Main Office

315 E Hwy 28
Morris, MN 56267 United States of America
Phone: (320) 589-2406
www.superior-ind.com

Supreme Manufacturing, Inc

Booth 2001

Supreme Manufacturing is a custom designer and builder of high quality conveyor systems, storage tanks and hoppers, and a wide variety of specialized equipment for use in many industries. From sand and gravel to talc, coal to steel, cement to agriculture, if it needs to be stored, conveyed, loaded, or dredged, Supreme Manufacturing can design and fabricate the equipment necessary to get the job done. Because your equipment is being built by people who know what it is to use it on a daily basis, you can rest assured that when our crews walk away from a job, you'll be

Products & Services

Dredges

Main Office

327 Billy Boyd Rd
Stoneboro, PA 16153 United States of America
Phone: (406) 498-2318
suprememfg.net

Syensqo

Booth 1109

Formerly part of the Solvay Group, Syensqo Mining Solutions is a leading reagent-solutions provider to the mining industry. The business serves a diverse range of markets, including copper, alumina, gold, moly, lithium, nickel, cobalt and phosphate, among others. Constantly adapting to changing markets and customer needs, Syensqo pushes the boundaries of science to deliver ever-more innovative, sustainable solutions.

Products & Services

Reagents - Chemical and Flocculants
Solvents - Extraction, Mixer and Settlers

Main Office

504 Carnegie Center
Princeton, NJ 08540 United States of America
Phone: (609) 860-4000
www.syensqo.com

Symboticware

Booth 855

Established in Canada's mining heartland, Symboticware is a leading innovator in the industrial Internet of Things (IIoT), delivering real-time, actionable, data-driven insights and smart analytics to streamline remote management of fixed and mobile assets in the natural resources sector. For over a decade, we've been

helping customers reduce greenhouse gas emissions, minimize machine downtime, improve safety and optimize productivity. Our intelligent platform, 4-Sight.ai, empowers operations and helps drive better efficiencies with live dashboards and maps, advanced reporting and alerts, AI insights, as well as an ecosystem of integrated, industry-leading third-party technologies.

Products & Services

Computer - Hardware and Services
Computer - Software and Services
Consulting - Engineering
Consulting - Research

Main Office

1545 Maley Dr
Sudbury, ON P3A 4R7 Canada
Phone: (800) 519-5496
www.symboticware.com

Sympatec

Booth 1748

Sympatec develops, manufactures, sells, services and supports an innovative range of modular instruments for particle size and shape analysis in laboratory and process for customers worldwide.

Products & Services

Analyzers
Measurement and Monitoring Systems
Process Controls and Instruments
Sensors

Main Office

1600 Reed Rd, Ste C
Pennington, NJ 08534 United States of America
Phone: (609) 303-0066
www.sympatec.com

Sync Mine Safety

Booth 350

Sync Mine Safety has been providing comprehensive digital Safety Training Management software to leading mines since 2017:

Instant digital access to all Training Certificates; Paperless Training delivered in the field (Underground); Streamlined Classroom training for Refresher and MSHA Miner Training; Syncing up your history with Paper Records Digitization tools and assistance bringing your existing records into the Sync system in great order; Field Training with Progressions for Open Pit mines; Notifications and Visibility to all Activity; Manage partner records on-line through SyncLinked; Safety Procedures Campaigns for SOPs; Annual Recertifications easily accomplished; Software with Services providing responsive assistance every time needed

Products & Services

Computer - Software and Services
Mining Contractors
Safety Equipment

Main Office

14611 SE 246th Pl
Kent, WA 98042 United States of America
Phone: (206) 947-1854
www.syncminesafety.com

Syntron Material Handling

Booth 1625

Syntron Material Handling has a long history of providing bulk material handling solutions in a variety of markets including mining, aggregates, chemicals, packaging, and food. Our equipment, systems, and services help producers and processors improve their bottom line through increased bulk material handling productivity. The equipment line includes Link-Belt conveyor idlers, underground mining and terminal equipment, screw conveyors, and bucket elevators; and Syntron vibrating feeders, screens, bin vibrators, flow valves, paper joggers, and shaft seals. We also design and manufacture engineered products and systems for customer-specific applications.

Products & Services

Controls - Electrical and Electronic
Conveyor Systems
Feeders
Underground - Construction and Structures

Main Office

2730 Hwy 145
Saltito, MS 38866 United States of America
Phone: (800) 356-4898
www.syntrnmh.com

talpasolutions GmbH

Booth 1610

TALPA provides predictive analytics solutions for both fixed and mobile assets, covering machinery and equipment in heavy industries. Our predictive analytics platform uses both real-time and historical data from machinery and equipment to optimize operations for equipment operators and managers. TALPA's end-to-end solution also serves as a bridge between asset/component manufacturers and fleet owners by fostering a community for industrial intelligence.

Products & Services

Information Technology Products

Main Office

Bismarckstraße 57
Essen 45128 Germany
Phone: +4917631288114
talpasolutions.com

Tank Connection

Booth 1648

Tank Connection is the international leading manufacturer of bolted storage tanks and aluminum covers for liquid and dry bulk storage applications.

Products & Services

Bins, Hoppers, Silos and Storage

Main Office

3609 N 16th St
Parsons, KS 67357 United States of America
Phone: (620) 423-3010
www.tankconnection.com/



Tecera International Co, Ltd

Booth 1802

Tecera is professional manufacturer of alumina ceramics. The main product include ceramic liner tile, grinding media, cylinder, mosaic as well as rubber ceramic panel, ceramic rubber hose for wear protection of various equipments like chute, hopper, cyclone as well as pipeline.

Products & Services

Grinding Media and Liners
Hoses - Valves and Fittings
Linings and Claddings

Main Office

Shuang yang Town
Rm 620, Century Business Center, Liuquan Rd
Zibo 255185 China
Phone: +8613953397731
Email: amy@tecera.com.cn
www.tecera.com.cn/



Tech-Flow

Booth 202

Tech-Flow is the exclusive distributor for premier lines of industrial pumps, valves and process equipment in Utah, Nevada, Arizona, Idaho, Montana and Wyoming.

Products & Services

Classifiers
Dewatering Equipment
Drives - Magnetic and Variable
Electric Motors and Generators
Flotation Machines and Equipment
Grinding Media and Liners
Hoses - Valves and Fittings
Maintenance Services
Pumps
Thickeners

Main Office

55 N Sunway Dr
Gilbert, AZ 85233 United States of America
Phone: (480) 608-0000
www.tech-flow.com

Technogenia Lasercarb Oklahoma Inc

Booth 1541

Technogenia, the innovators of laser cladding process technology Lasercarb®, are strategically applying Technolase® powders with Spherotene®, a spherical cast tungsten carbide, to the OD and ID of critical components to extend wear life against abrasion, corrosion and erosion.

Technogenia's Torch Applied Welding products, Technosphere and Technodur rope and Technopowders, are the leading wear protection products available for abrasion, erosion, impact and corrosion. Applications in-

clude drill bits, wear pads, stabilizers, conveyor screws, mixing blades, construction equipment parts and any non-martensitic steels and weldable stainless steels.

Products & Services

Coatings (does not include Linings and Claddings)
Consulting - Engineering
Crushers and Pulverizers
Dredges
Drill Bits - Rock
Excavators
Parts - Mining Machinery
Pumps
Underground Excavation Services and Equipment
Welding Equipment and Supplies

Main Office

41 South Cooley Dr
Oklahoma City, OK 73127 United States of America
Phone: (405) 470-3350
Email: sales-usa@technogenia.com
www.technogeniaUSA.com

TechStar

Booth 2031

With over 20 years in process controls and industrial automation, TechStar has everything needed to help get your measurement and process challenges solved and running in their optimal performance and output. Experience, innovative solutions, training and service are the foundation of what TechStar offers to customers. Backed by our world class manufacturing strategic partners, our team is well equipped to see you through every step of the toughest applications and challenges.

Products & Services

Analyzers
Automation
Liquid Level Indicators and Switches
Measurement and Monitoring Systems
Meters and Gauges
Process Controls and Instruments
Valves

Main Office

802 W 13th St
Deer Park, TX 77536 United States of America
Phone: (281) 542-0205
techstar.com

Telemark Energy Services

Booth 1155

Telemark Energy Services provides geophysical field operations, data collection, and support across the full geophysical spectrum.

Products & Services

Geological-Physical-Technical Services and Equip

Main Office

4054 Saint Lucia St
Boulder, CO 80301 United States of America
Phone: (281) 799-8853
www.telenrg.com

TEMA ISENMANN Inc

Booth 600

TEMA Isenmann, Inc. manufactures the complete line of polyurethane screen media. Complete with 1 x 1' pin and sleeve, WS 85, Tension screens, bolt in screens, and the patented WS 2.10 wear liners. Our Lexington Kentucky factory is the largest of its kind in North or South America and can custom mold screens to your particular service or duty.

Products & Services

Screens
Urethane Cast Parts

Main Office

2107 Sandersville Rd
Lexington, KY 40511 United States of America
Phone: (859) 252-0613
www.temaisenmann.com



TerraSource Global

See our ad on p. 113

Booth 2021

Whether it's mining of gypsum, potash, salt, limestone, coal, or potash, the three flagship brands of TerraSource Global are high-performing and tough. Their rugged design and ability to maximize the necessary product yield is why they are heavily relied upon all over the globe. The Gundlach Crushers, Jeffrey Rader, Pennsylvania Crusher, and Elgin Separation Solutions equipment brands are extensively used in mining, and process a variety of materials, regardless of type, abrasiveness, or grade. We help facilities handle crushing and feeding needs. Major coal companies like Arch Coal, Peabody, Drummond, Consol, and Teck use our equipment.

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Crushers and Pulverizers
Feeders
Grinding Mills
Maintenance Services
Parts - Mining Machinery
Reduction Technologies - Iron Ore, Steel, Mineral

Main Office

200 N Broadway, Ste 1735
St Louis, MO 63102 United States of America
Phone: (855) 483-7721
www.terraresource.com

Terra Insights

Booth 643

Products & Services

Automation
Blasting Accessories, Equipment and Agents
Geological-Physical-Technical Services and Equip
Measurement and Monitoring Systems
Meters and Gauges
Mine Evaluations - Surface and Underground
Sensors

EXHIBITORS

Main Office

11545 Kingston St
Maple Ridge, BC V2X 0Z5 Canada
(604) 540-1100
www.rstinstruments.com

Tessenderlo Kerley, Inc. – moleko

Booth 818

Moleko is a business unit of Tessenderlo Kerley, Inc. and offers customer focused solutions to the global industrial and mining markets, backed by experienced technical service.

Tessenderlo Kerley, headquartered in Phoenix, Arizona, is a leading manufacturer and marketer of specialty Sulfur based derivative chemistry.

Tessenderlo Kerley operates 13 manufacturing facilities in North America, in addition to an extensive supply chain network and is part of Tessenderlo Group.

Products & Services

Reagents - Chemical and Flocculants

Main Office

2910 N 44th St, Ste 100
Phoenix, AZ 85018 United States of America
Phone: (602) 889-8372
www.moleko.com

Tetra Tech

Booth 1720

Tetra Tech is a leading, global provider of consulting and engineering services. We are differentiated by?Leading with Science@?to provide innovative technical solutions to our clients. We support global commercial and government clients focused on water, environment, sustainable infrastructure, renewable energy, and international development. With 27,000 associates worldwide, Tetra Tech provides clear solutions to complex problems.?

Products & Services

Consulting - Design and Planning
Consulting - Engineering
Consulting - Environmental
Consulting - Management
Remediation

Main Office

390 Union Blvd., Suite 400
Lakewood, CO 80228 United States of America
Phone: (303) 217-5700
www.tetrattech.com/mining

The Mineral Lab, Inc

Booth 1110

The Mineral Lab has been providing the domestic and international mining, production and environmental industries with quick, accurate analyses at competitive prices since 1987. We provide chemical, mineralogical and structural analytical data to aid in mineral exploration, process development, product quality control, failure analysis and environmental control.

The lab is staffed by a group of professionals with ex-

perience in x-ray spectroscopy (XRF, XRD, SEM), mineralogy, chemistry, and biology.

Products & Services

Laboratory and Scientific Services

Main Office

12929 W 26th, Ste 100
Golden, CO 80401 United States of America
Phone: (303) 232-8708
www.themineralab.com

The Mining Record

Booth 1336

The Mining Record has been in continuous publication for 135 years and is recognized as the industry's leading newspaper. The Mining Record has an international readership. It focuses on timely and credible news reporting on exploration, discovery, development, production, joint ventures, acquisitions, operating results, legislation, government reports and metals prices. Its readership is concentrated in the mining industry proper - mining companies, engineers, geologists, mine supervisory personnel, company officers and individuals engaged in exploration and large or small mine production. Every year, The Mining Record devotes an issue to the major conventions for the industry.

Products & Services

Publishers

Main Office

PO Box 1630
Castle Rock, CO 80104 United States of America
Phone: (303) 663-7820
www.miningrecord.com

The Quikrete Companies

Booth 204

Quikrete will provide personnel and literature for display along with a 8x8 pop up banner display.

Products & Services

Shotcrete Equipment, Supplies and Services

Main Office

2660 W 64th Ave
Denver, CO 80221 United States of America
Phone: (303) 319-1697
www.quikrete.com



Thermo Fisher Scientific

See our ad on p. 115

Booth 1113

Thermo Fisher Scientific is the world leader in serving science, with annual revenue over \$40 billion. Our Mission is to enable our customers to make the world healthier, cleaner and safer. Whether our customers

are accelerating life sciences research, solving complex analytical challenges, increasing productivity in their laboratories, improving patient health through diagnostics or the development and manufacture of life-changing therapies, we are here to support them. Our global team delivers an unrivaled combination of innovative technologies, purchasing convenience and pharmaceutical services through our industry-leading brands, including Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific, Unity Lab Services, Patheon and PPD.

Products & Services

Analyzers
Assay Equipment
Automation
Flotation Machines and Equipment
Laboratory and Scientific Services
Laboratory Equipment and Supplies
Measurement and Monitoring Systems
Meters and Gauges
Process Controls and Instruments

Main Office

5225-1 Verona Rd
Madison, WI 53711 United States of America
Phone: (608) 276-6100
www.thermofisher.com/elemental

THIESS Mining USA Inc

Booth 1354

Thiess is a global mining services provider. We work with our clients to deliver mining excellence in Australia, Asia and the Americas. For more than 85 years, we've operated in diverse commodities, geologies, environments and cultures. Our people channel that global experience and insight to create advantages for each project. A mine plan that optimizes operations. A smarter fleet. A sharper operations culture. An upskilled and mobile team. A community engaged and empowered.

Products & Services

Mining Contractors

Main Office

6415 S 3000 E, Ste 110
Salt Lake City, UT 84121 United States of America
Phone: (801) 300-1909
www.thiess.com

Thomas Broadbent & Sons Ltd, Industrial Process Division

Booth 2017

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- Committed to Client Profitability.

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With globally located manufacture and service centers, Thomas Broadbent & Sons is the oldest privately held manufacturer of batch and continuous centrifuges for mining, chemical, pharmaceutical, and food applications. Broadbent also custom manufactures large test centrifuges for mining and aerospace research.

Broadbent offers the largest commercial production centrifuges for tailings, process dewatering and process classification.

Lab and on-site pilot testing available.



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OEM parts are always a better choice than third-party offerings: better value, better performance, better safety and better service and engineering support with every purchase.



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Performance”
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Shorter Lead Times, Superior Availability!**



EXHIBITORS

We look forward to meeting you at the SME MINEX-CHANGE!

Products & Services

Centrifuges
Classifiers
Dewatering Equipment
Laboratory Equipment and Supplies
Separators and Concentrators
Thickeners
Water Clarification and Treatment

Main Office

2509 Gravel Dr
Ft Worth, TX 76118 United States of America
Phone: (817) 595-2411
broadbent.co.uk

Thyssen Mining Group of Companies

Booth 750

Thyssen Mining Inc is a leading full-service underground development and mining contractor providing a comprehensive range of services across North America and around the globe. As a subsidiary of Thyssen Schachtbau International B.V. and as part of a world-wide team, Thyssen Mining offers shaft sinking, tunneling, civil construction, ground freezing, raise boring, mine development, grouting and contract mining.

Products & Services

Drilling Equipment
Ground Freezing
Grouting Services, Equipment and Materials
Mining Contractors
Shotcrete Equipment, Supplies and Services
Tunnel Boring Equipment
Tunnel Lining and Support Materials
Underground - Construction and Structures
Underground Excavation Services and Equipment
Ventilation Systems, Materials and Equipment

Main Office

2409 Albert St N
Regina, SK S4P 3E1 Canada
Phone: (306) 949-6606
www.thyssenmining.com



Timberland Equipment Limited

Booth 957

OEM supplier of Hoists, Winches, Sheaves, Mine Rescue Hoists and cages, Mine Jack Underground Mobile Equipment.

Products & Services

Diesel Mining Equipment Manufacturers
Hoists - Controls and Accessories
Maintenance Equipment and Supplies

Main Office

459 Industrial Ave
Woodstock, ON N4S 7Z2 Canada

Phone: (519) 537-6262
Email:sales@tewinch.com
www.timberlandequipment.com

Timberline Drilling, Inc

Booth 1704

Products & Services

Drilling Contractors

Main Office

PO Box 3784
Coeur d Alene, ID 83816 United States of America
Phone: (208) 665-7211
www.timberline-drilling.com

Titan Environmental

Booth 959

Based out of Houston, Texas, Titan Environmental USA supplies geosynthetics and specialty construction products used in civil, environmental, and geotechnical construction projects across the United States, and abroad. With a focus on geosynthetics fabrication, we operate a 36,000 SF fabrication facility that specializes in custom-order prefabricated geomembrane and geotextile panels for environmental applications and civil projects. We translate our product mix and expertise in reliable and environmentally sound solutions for construction projects in sectors that support essential infrastructure, community, and economic growth.

Products & Services

Construction - Contracting Services

Main Office

18900 Ceila Way
New Caney, TX 77357 United States of America
Phone: (306) 519-1773
www.titanenviro.com

TLT-Turbo, Inc

Booth 1925

TLT-Turbo North America supplies ventilation solutions & equipment for a wide range of applications including, Main Mine Ventilation, Auxiliary & Booster Fans and Silencers.

Products & Services

Fans and Blowers
Ventilation Systems, Materials and Equipment

Main Office

2693 Wingate Ave, PO Box 3830
Akron, OH 44314 United States of America
Phone: (330) 776-5115
www.tlt-turbo.com

TOMRA Sorting

Booth 544

Sensor-based ore sorting technology for the mineral processing industry. A more efficient way to process global resources. TOMRA Sorting Mining provides proven sensor-based sorting technology for efficient material separation in various mineral and ore applications such as in the processing of gold, polymetallic ores, lithium, diamonds,

industrial minerals, and metal recovery from slag. World-wide, numerous sorting systems are already contributing to more energy-efficient and cost effective pre-concentrations as well as material recovery. TOMRA's sensor-based solutions help to extend the life of mining operations and increase the value of the deposit.

Products & Services

Sensors
Separators and Concentrators

Main Office

1536 Cole Blvd, Ste 225
Lakewood, CO 80401 United States of America
Phone: (720) 361-9033
www.tomra.com/mining



TopVu

See our ad on p. 117

Booth 2051

TopVu manufactures Tracking Systems for mining. Ore-Tracking, Personnel Tracking, Property Access Control, Emergency Assembly Point Monitoring, LHD & Payload Tracking TopVu's Iot software integrates the smart eTagBoard with active/passive personnel tracking & RFID Turnstiles to ensure tagboard accuracy, detect human error, and notify workers when they are out of compliance with "tag-in/tag-out procedures" Production & Geology can optimize their throughput by deploying TopVu's Ore Tracking system to analyze the muck's origin, type, grade, retention time and shipped location. Live monitoring, configurable alerts & historical reporting help geologists with mineral reconciliation, waste dilution monitoring, blending, and more....

Products & Services

Automation
Communications Equipment
Computer - Software and Services
Geological-Physical-Technical Services and Equip
Information Technology Products
Measurement and Monitoring Systems
Safety Equipment

Main Office

11 Mary St, Unit T
Sudbury, ON P3C 1B4 Canada
Phone: (705) 419-2555
Email:sales@topvu.ca
www.topvu.ca

Townley Engineering & Manufacturing, Co Inc

Booth 2009

The Townley Company strives to be the industry leader in abrasion and corrosion wear solutions for mining, power, and dredging. Also, at the same time, advancing the development, design, manufacturing, and application of creative, high quality, cost-saving wear-resistant material technologies and products.

Products & Services

Flotation Machines and Equipment
Pipes
Pumps
Urethane Cast Parts
Valves

Main Office

10551 SE 110th St Rd
Candler, FL 32111 United States of America
Phone: (352) 687-3001
www.townley.net

TPSX**Booth 1440**

TPSX is an industry leader in electrical/automation solutions. We focus on manufacturing custom electrical products and integrated solutions for our clients needs. Our Automation & Digital Applications group provides expertise on traditional instrumentation/ process automation in addition to applying machine learning, computer vision and robotic applications. We also have a strong Electrical Services team and working with our extensive resource network, we can meet your needs from maintenance, commissioning, startup and also design. Our experienced team of professional engineers, technologists, project managers and product specialists deliver a full range of services to commercial and industrial customers across North America.

Products & Services

Automation
Controls - Electrical and Electronic
Electrical Equipment and Supplies
Maintenance Equipment and Supplies
Maintenance Services
Measurement and Monitoring Systems
Mine Evaluations - Surface and Underground
Power Transmission Equipment
Process Controls and Instruments
Solar Electric Power System

Main Office

315 1st St
Templeton, IA 51463 United States of America
Phone: (515) 461-5101
www.tpsx.us/

Trencor**Booth 131****Products & Services**

Boring Equipment
Underground - Construction and Structures

Main Office

1959 W Fir Ave
PO Box 66
Perry, OK 73077 United States of America
Phone: (918) 510-6207

Tsurumi Pump**Booth 1525**

Tsurumi Pump is a submersible pump manufacturer that supplies pumps worldwide for underground and open pit mine operations. Tsurumi pumps are capable of handling flows from 50 to 5000 gpm @ heads up to

750 feet. Parts are made of wear resistant materials capable of handling entrained solids commonly found in run of mine dewatering applications. Pump features such as dual inside mechanical seals (which do not require cooling from or come in contact with the abrasive liquid being pumped) is just one of the reasons Tsurumi Pump has become the pump of choice in mines throughout the world.

Products & Services

Pumps

Main Office

1625 Fullerton Ct
Glendale Heights, IL 60139 United States of America
Phone: (630) 793-0127

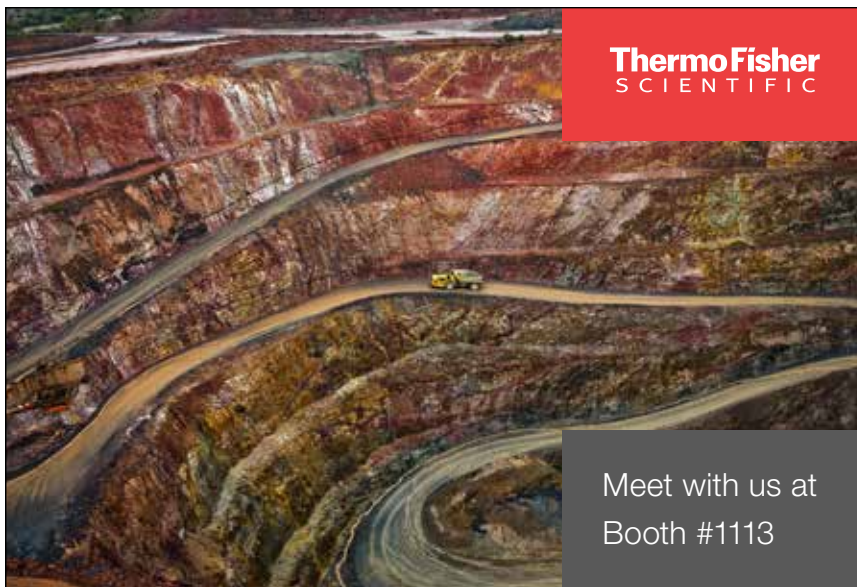
Email: info@tsurumi-america.com
www.tsurumipump.com

Tunnel Radio**Booth 1755**

Tunnel Radio of America is an ISO 9001:2015-certified manufacturer and Women-Owned Small Business, headquartered in Corvallis, Oregon. Tunnel Radio has distinguished itself as a trusted designer, manufacturer and installer of specialized radiating-cable antenna systems ("leaky-feeder") for underground or unreachable areas.

Products & Services

Communications Equipment
Safety Equipment



Optimize mining & processing operations

Keep mining and mineral operations running efficiently, safely, and profitably with applied technology and proven solutions. As your industry partner, we offer a complete line of instruments, equipment, and software from exploration to mineral processing to ore delivery, that helps mining operators and mineral processors improve product quality, boost efficiency, lower production costs, and create safer, cleaner working environments. Meet with our specialists at Booth #1113 to learn more.



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or email us at info.spectrometry@thermofisher.com

thermoscientific

EXHIBITORS

Main Office

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Corvallis, OR 97330 United States of America
Phone: (541) 760-2995
www.tunnelradio.com

Turner Mining Group

Booth 1057

Turner Mining Group is a full-service provider to the mining sector with operations throughout the United States. A people company performing mining services, Turner finds success with turnkey solutions for enterprise clients and a values-based culture. The company supplies innovative fleet solutions, continuous engineering services, and sustainable mining practices through final reclamation. Headquartered in Utah and Indiana, Turner Mining Group is a true mining partner.

Products & Services

Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Mining Contractors

Main Office

304 W Kirkwood Ave, Ste 100
Bloomington, IN 47404 United States of America
Phone: (812) 277-9077
www.turnermining.com

U.S. Geological Survey (USGS), Mineral Resources Program (MRP)

Booth 828

Products & Services

Educational
Government Agency - Entity
Information Technology Products

Main Office

12201 Sunrise Valley Dr, MS 913
Reston, VA 20192 United States of America
Phone: (703) 648-6312
www.usgs.gov/energy-and-minerals/mineral-resources-program

UCC Environmental

Booth 851

UCC Environmental is a global leader in environmental solutions for solids handling, wastewater treatment and pollution control technologies in power generation and heavy industrial markets. Since 1920, UCC has been committed to the design, supply, construction, and maintenance of world class systems precisely engineered to better serve heavy industry providers. UCC maintains a robust team of research & development engineers, designers, and supply chain personnel to ensure the highest degree of performance, quality and timely delivery of manufactured components and replacement parts. The company offers a global network of sales and service representatives serving customers and installations spanning six continents.

Products & Services

Classifiers
Conveyor Systems
Crushers and Pulverizers
Dewatering Equipment
Grinding Mills
Parts - Mining Machinery
Pollution Control Equipment
Reagents - Chemical and Flocculants
Valves
Water Clarification and Treatment

Main Office

2100 Norman Dr
Waukegan, IL 60085 United States of America
Phone: (847) 672-1354
www.uccenvironmental.com

Ultra Tech Pipe

Booth 1824

A global leader in the design, manufacture, distribution, and service of safe, quality abrasion resistant piping systems and accessories. Ultra Tech offers complete piping products and solutions for both standard and specialized high-abrasion applications, such as mining, coal-fired power generation, pneumatic conveyance, foundries, steel mills, and a variety of other applications.

Products & Services

Castings
Dredges
Hoses - Valves and Fittings
Pipes
Steel Pipe
Valves

Main Office

777 Maritime Dr
Port Washington, WI 53074 United States of America
Phone: (262) 312-4503
www.ultratechpipe.com

Union Tech

Booth 641

Union Tech valves are installed worldwide in critical service applications such as autoclave isolation and slurry transport. In addition to mining applications, Union Tech valves are used throughout the entire energy supply chain – upstream, midstream, downstream, and power generation.

Union Tech's world-scale manufacturing facilities encompass a global footprint of more than 250,000 square feet of dedicated manufacturing space, housing hundreds of CNC machines capable of 50,000 hours of monthly machining capacity. Union Tech's unique approach to engineering and production, whereby substantial components are machined internally, and critical manufacturing processes are performed in-house, differentiates Union Tech from the industry.

Products & Services

Valves

Main Office

11727 Veterans Memorial Drive
Houston, TX 77067 United States of America

Phone: (281) 300-0894
www.uniontechmfg.com

United Central Industrial Supply

Booth 1245

Through hard work and dedication since 1974, United Central Industrial Supply has been providing mine operators throughout North America with the highest quality supplies, regional rebuild and repair services, instrument repair and cable/cable repair services. We deliver the products that customers need when they need them, service our customers with unmatched efficiency, leveraging exclusive relationships with leading manufacturers. Our ability to lower a mine's cost per ton comes from the wide range of products and technical support we offer. This blend of products supplied by 1,100+ manufacturers along with our unmatched customer service, have been the cornerstone of our success.

Products & Services

Conveyor Belting - Accessories and Equipment
Filters, Filter Cloth and Accessories
Hoses - Valves and Fittings
Lighting Systems and Lamps
Longwall Mining Equipment
Meters and Gauges
Pumps
Roof - Ground Supports
Safety Equipment
Ventilation Systems, Materials and Equipment

Main Office

1241 Volunteer Pkwy, Ste 1000
Bristol, TN 37620 United States of America
Phone: (423) 573-7306
www.unitedcentral.net

Univar Solutions

Booth 826

Largest North American chemical distribution company supplying specialty and commodity chemicals to the mining industry including Gold, Copper, Nickel, Cobalt, Zinc, Coal, Lithium, etc. Also includes chemical supply to the explosives industry. Univar Solutions has the supplier relationships, global scale and local support to provide best in class service and security of supply.

Products & Services

Blending Systems
Classifiers
Emissions Control
Grinding Media and Liners
Ion Exchange Equipment and Resins
Reagents - Chemical and Flocculants
Solvents - Extraction, Mixer and Settlers

Main Office

50 S 45th Ave
Phoenix, AZ 85043 United States of America
Phone: (602) 525-9874
www.univarsolutions.com/



University of Arizona Mining and Geological Engineering

See our ad on p. 119

Booth 1602

The University of Arizona is the new face of mining. The School of Mining and Mineral Resources and the Department of Mining and Geological Engineering represent the largest interdisciplinary mineral resources research group in the US. Our students have diverse backgrounds that demonstrate cultural competency; they are adept at creative problem solving, leadership, communication, with strong fundamentals in engineering and science. Our innovative research emphasizes leading technologies that solve tomorrow's problems. Graduate programs are offered both on-campus and online.

Products & Services

Educational

Main Office

1235 E James E Rogers Wy, Rm 229
Tucson, AZ 85721 United States of America
Phone: (520) 621-6063
www.mge.engineering.arizona.edu

University of Kentucky Department of Mining Engineering

Booth 651

Products & Services

Educational

Main Office

310 Columbia Ave, 230 MMRB
Lexington, KY 40506 United States of America
Phone: (859) 257-8026
www.engr.uky.edu/mng/

University of Utah, Mining Engineering Department

Booth 533

Products & Services

Educational

Main Office

135 S 1460 E, #313
Salt Lake City, UT 84112 United States of America
Phone: (801) 585-5176
www.mining.utah.edu

Unmanned Aerial Services Inc

Booth 110

Unmanned Aerial Services Inc. is an underground mining focused remote vehicle, LiDAR mapping and visual inspection service company with a proven track record of safe, efficient onsite work and quality data deliverables.

Our team consists of highly skilled geospatial data specialists, drone pilots and field technicians, with strong mine site backgrounds and extensive knowledge of the mobile scanner and drone industry.

We are pleased to have Flyability join us at our booth. Flyability makes safe drones for inaccessible places. They just launched the Elios 3, a LiDAR-equipped collision tolerant drone.

Products & Services

Aerial Mapping and Surveying
Autonomous Vehicles
Safety Equipment

Main Office

160 Bluebird Trail
Butte, MT 59701 United States of America
Phone: (406) 299-0414
www.uasmining.com



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TopVu RFID SOLUTIONS

Integrated Solutions For Mining

SME · Booth 2051
PDAC · N. Ontario Pavilion

EXHIBITORS



Valley Forge & Bolt Mfg Co

See our ad on p. 121

Booth 1619

VF is a domestic manufacturer of fasteners supplying the mining industry for the last 45+ years with innovative products that save installation time, downtime, and help achieve near perfect loading on a customer's fasteners in any application. Our line of mill fasteners include the Ridgeback®, Sealing Ridgeback®, and regular liner bolts. Our line of Load Indicating fasteners will let you track bolt load data visually with our Maxbolt®, electronically with our SPC4® fasteners or wirelessly with our 700 series of probes using Wi-Fi or Radio Frequency to transmit bolt load data while in service.

Products & Services

Fasteners - Industrial
Meters and Gauges
Parts - Mining Machinery

Main Office

4410 W Jefferson St
Phoenix, AZ 85043 United States of America
Phone: (602) 269-5748
www.vfbolts.com

Valmet Flow Control

Booth 1537

Flowrox pumps and valves are recognized for their robust and reliable performance in demanding mining, metal and steel industry applications. We now have a fresh look that has been aligned with the rest of Valmet's industry leading offering.

Products & Services

Aerators
Automation
Controls - Hydraulic and Pneumatic
Environmental Control Equipment and Supplies
Pumps
Transportation
Valves
Water Clarification and Treatment

Main Office

808 Barkwood Ct, Ste N
Linthicum, MD 21090 United States of America
Phone: (410) 636-2250
www.valmet.com

Vantage Point

Booth 1657

Improve quarry operations with Vantage Point. Gain seamless access to crucial data 24/7, pinpoint ineffi-

ciencies, monitor cost per ton, track cycle times, and keep tabs on load and dump counts along with other critical metrics. Stay ahead as our platform adapts to your ever-changing quarry environment, ensuring your data is always relevant and actionable. Move beyond outdated field studies and harness the power of real-time data. Secure an unparalleled competitive edge with Vantage Point Today!

Products & Services

Computer - Software and Services

Main Office

1771 Post Rd E, Westport
Westport, CT 06880 United States of America
Phone: (888) 997-5161
www.vantagepointquarry.com



VDG (Van der Graaf)

Booth 707

VDG is the leader in the design and manufacturing of drum motors for all types of belt conveyor applications, including mining and aggregate, ship loading, and power generation. GrizzlyDrive® Series Drum Motors are designed specifically to operate in harsh, dusty, abrasive, and extreme environments where performance and durability matter most. With 39 years of experience, continuous investments in research and development, and in-house manufacturing in the USA and Canada using cutting-edge production technology, VDG ensures product quality, fast delivery, and exceptional customer support.

Products & Services

Belts - Power Transmission
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Drives - Belt, Chain, Fluid and Gear
Drives - Magnetic and Variable
Electric Motors and Generators

Main Office

13771 Cavaliere Dr
Shelby Township, MI 48315 United States of America
Phone: (888) 326-1476
www.vandergraaf.com



VEGA Americas, Inc

See our ad on p. 123

Booth 1640

VEGA's full product line of level, pressure, density, and weight measurement solutions allows us to provide one of the most complete ranges of measurement solutions in the industry. We are proud to apply our products and solutions to serve a wide variety of industries, including energy, petrochemical, chemical, oil and gas, pulp and paper, pharmaceutical, mining, plastics, food and bev-

erage, bulk solids, and water and wastewater. We believe the future of instrumentation lies in the ability to produce high quality, innovative products that keep pace with technology, and provide service and value to our customers.

Products & Services

Process Controls and Instruments

Main Office

3877 Mason Research Pkwy
Cincinnati, OH 45306 United States of America
Phone: (513) 515-6465
www.vega.com

Veolia Water Technologies

Booth 803

Veolia Water Technologies partners with exploration, engineering, and mining companies to solve even the most difficult mine water challenges. We provide a full range of mine water treatment services including preliminary and detailed engineering, standard and custom water treatment equipment, maintenance support and mobile water treatment options. We understand the unique requirements of mining operations and our worldwide expertise in mine water issues allows us to offer specialized water treatment solutions that treat water and efficiently remove a wide range of contaminants in order to help comply with discharge requirements and stringent regulations.

Products & Services

Filters, Filter Cloth and Accessories
Ion Exchange Equipment and Resins
Remediation
Water Clarification and Treatment

Main Office

4001 Weston Pkwy
Cary, NC 27513 United States of America
Phone: (919) 653-4544
www.veoliawatertech.com

Veracio

See our ad on p. 125

Booth 301

Our mission is simple. At Veracio, we're building and deploying a new wave of technologies that will redefine the way the world mines. Leveraging artificial intelligence and advanced analytics to generate powerful, differentiated data about what lies beneath us. Where believe more is less. And when you know more, you work better, you search less and waste less.

Products & Services

Automation
Consulting - Research
Exploration Equipment and Services
Laboratory Equipment and Supplies
Measurement and Monitoring Systems

Main Office

2455 3600 W
Salt Lake City, UT 84104 United States of America
Phone: (435) 233-4586
veracio.com



THE UNIVERSITY OF ARIZONA

School of Mining
& Mineral Resources

Driving Mining
Innovation

Closing
Workforce
Gaps

mining.arizona.edu



Scan to learn why
Southern Arizona
is the Silicon Valley
of Mining



EXHIBITORS



Vermeer Corp

Booth 1538

Vermeer Corporation delivers a real impact on the way important work gets done through the design, manufacture and support of high-quality industrial and agricultural equipment that helps connect people to the necessities of life, manage natural resources and fuel communities. With a reputation for being built tough and built a better way, that equipment is backed by localized customer service and support provided by independent dealers around the world. To learn about Vermeer Corporation, products, the dealer network, financing options and careers, visit our website.

Products & Services

Dewatering Equipment
Diesel Mining Equipment Manufacturers
Drilling Equipment
Environmental Control Equipment and Supplies

Main Office

1210 Vermeer Rd East
Pella, IA 50219 United States of America
Phone: (641) 621-7541
www.vermeer.com

Victaulic

Booth 628

Products & Services

Backfilling
Coal Preparation Plants
Couplings - Mechanical, Flexible and Rigid
Dewatering Equipment
Fire Protection
Pipes
Valves

Main Office

4901 Kesslersville Rd
Easton, PA 18040 United States of America
Phone: (610) 559-3546
www.victaulic.com



COLLEGE OF ENGINEERING
MINING AND MINERALS
ENGINEERING
VIRGINIA TECH

Virginia Tech Department of Mining & Minerals Engineering

See our ad on p. 120

Booth 525

The Virginia Tech Department of Mining and Minerals Engineering is one of the largest minerals and energy related programs in North America, with a strong international reputation for its academic (undergraduate and graduate), research, and public service programs. Housed within a nationally ranked College of Engineering at Virginia's public land-grant research university, the department engages in broad research efforts, to include sustainable mineral and energy resource development, occupational health and safety, optimized separation processes, and coalbed methane recovery. It is home to two research centers: the Virginia Center for Coal and Energy Research and the Center for Advanced Separation Technologies.

Products & Services

Consulting - Research
Educational

Main Office

445 Old Turner St, Ste 378 Holden Hall
Blacksburg, VA 24061 United States of America
Phone: (540) 231-6671
www.mining.vt.edu

Virta Inc

Booth 753

Virta designs and supplies capital efficient, innovative and complete systems for bulk material handling, including overland conveyors, plant conveyors, feeders, stockpile and reclaim systems and complete integrated projects. Our design and execution expertise runs deep in mining, minerals processing, bulk handling terminals, power plants and chemical facilities. We offer our expertise worldwide with strategically located supply chain.

Products & Services

Bins, Hoppers, Silos and Storage
Consulting - Design and Planning
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Feeders

Main Office

5909 Sea Lion Pl, Ste B
Carlsbad, CA 92010 United States of America
Phone: (949) 349-7070
www.virtainc.com

Vision X USA

Booth 236

Established in 1997, Vision X Lighting's products have consistently astounded customers with their lighting's ability to perform in harsh environments and unbeatable light output. The engineering, product development, and marketing are conducted from the Vision X USA office, while Vision X Asia is home to the manufacturing, testing, and inventory logistics departments of Vision X Global Lighting. Today, Vision X Lighting has strong partnerships spanning across the globe where they continue to develop the most advanced lighting products in the world.

Products & Services

Lighting Systems and Lamps
Safety Equipment

Main Office

1601 Boundary Blvd
Auburn, WA 98001 United States of America
Phone: (888) 489-9820
www.visionxusa.com

Voith Group

Booth 909

With over 150 years of experience, Voith has proven products and technologies to meet the toughest drive system challenges. Whether it be our newest - TPXL fill controlled coupling, Elin Motors, Engineered class pulleys or complete drive packages, Voith's reputation for well-engineered, reliable solutions will ensure your mining equipment is up to the task. Voith will display our latest Safeset torque limiting coupling technology used on crushers and AFC's for overload protection. Come see and download our mobile app Turbo-Guide to simplify your filling and technical questions for turbo couplings.

Products & Services

Clutches - Fluid, Friction and Magnetic
Consulting - Engineering
Conveyor Systems
Couplings - Mechanical, Flexible and Rigid
Drives - Belt, Chain, Fluid and Gear
Drives - Magnetic and Variable
Electric Motors and Generators
Longwall Mining Equipment
Power Transmission Equipment

Main Office

25 Winship Rd
York, PA 17406 United States of America
Phone: (717) 767-3200
voith.com/corp-en/industry-solutions.html



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Engineering would like to invite alumni
and students to attend our annual

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& Expo in Phoenix, Arizona

Tuesday February 27, 2024
5:30-7:30 p.m.

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Sheraton Phoenix Downtown

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EXHIBITORS

WAAIME

Booth 838

For over 100 years, WAAIME volunteers have been rendering service to the USA and the World itself, by focusing on the professions of Mining, Metallurgical, Petroleum Engineering and related Earth Sciences, and maintaining a scholarship fund to assist young men and women obtain a technical college education in these fields, as well as promoting the interchange of ideas/work among our members. WAAIME proudly has spent millions throughout the years assisting students, and is a division of SME with 13 Sections throughout the USA, Peru, Mexico, and Chile.

Products & Services

Educational

Main Office

12999 E Adam Aircraft Cir
Englewood, CO 80112 United States of America
Phone: (303) 948-4211
www.waaime.org

Waites Sensor Technologies

See our ad on p. 126

Booth 831

Waites eliminates downtime by blending advanced machine learning with hands-on human insight for industry-leading equipment management. By utilizing wireless sensors and big data analytics, Waites makes maintenance more efficient and reliable. Beyond its technological capabilities, Waites' dedicated team of analysts is available 24/7. They provide timely, expert responses to maintenance queries, minimizing downtime and extending equipment life. The Waites approach typically delivers a proven ROI in just 3-6 months. Distinctive for its compact sensor size, comprehensive API, and adaptable solutions, Waites provides a practical and efficient maintenance solution, delivering significant cost savings to its clients.

Products & Services

Analyzers
Automation
Information Technology Products
Maintenance Services
Measurement and Monitoring Systems
Sensors

Main Office

20 W 11th St #200
Covington, KY 41011 United States of America
Phone: (602) 525-4792
www.waites.net

Watershed Geo

Booth 918

Watershed Geo provides technical solutions for ongoing problematic environmental, civil and renewable energy infrastructure. These widely-recognized innovations challenge traditional solutions with systems that are sustainable, low-cost and engineered for extreme performance. Watershed's products solve an array of issues in industries such as geotechnical engineering, waste management, erosion control, and renewable energy. Watershed's branded technologies include ClosureTurf® for municipal, industrial and coal combustion residual landfill/impoundment final closures. HydroTurf® advanced revetment technology for high hydraulic shear protections. VersaCap® for intermediate landfill odor prevention, emission control and leach-

ate reduction. PowerCap™ solar system for beneficial reuse. For more information visit our website.

Products & Services

Construction - Contracting Services
Environmental Control Equipment and Supplies
Mining Contractors
Sediment & Erosion Control
Solar Electric Power System
Water Clarification and Treatment

Main Office

11400 Atlantis Pl, Ste 200
Alpharetta, GA 30022 United States of America
Phone: (770) 777-0386
Email:info@watershedgeo.com
watershedgeo.com

WearPro Inc

Booth 609

WearPro employs the latest technology with custom manufacturing processes to make the finest replacement parts available. We specialize in manufacturing new and rebuilt mining equipment including undercarriage and drilling components as well as rebuilt buckets and blades. When dealing with customers, suppliers and fellow team members we will be honest, respectful and have integrity.

Products & Services

Castings
Drilling Equipment
Excavators
Linings and Claddings
Loaders
Lubricants and Equipment
Maintenance Equipment and Supplies
Parts - Mining Machinery
Pumps

Main Office

3260 E 36th St
Tucson, AZ 85713 United States of America
Phone: (520) 888-0706
Email:info@wearpro-inc.com
www.wearpro-inc.com/

WEG

Booth 703

WEG's purpose is to develop technologies and solutions that contribute to a more efficient and sustainable world for everyone. WEG is one of the largest manufacturers of electric motors in the world producing more than 10 million units annually. Committed to growth on a global scale, WEG continually invests in state-of-the-art manufacturing facilities and processes, and the development of reliable and more efficient industrial electrical solutions. WEG offers a diverse and integrated product line that includes motors, drives, soft starters, controls, gearing, panels, transformers, alternators, generators, turbines, and custom solutions.

Products & Services

Automation
Controls - Electrical and Electronic
Drives - Magnetic and Variable
Electric Motors and Generators
Gears - Pullers, Reducers and Pinions

Main Office

6655 Sugarloaf Pkwy
Duluth, GA 30097 United States of America
Phone: (678) 249-2000
Email:info-us@weg.net
www.weg.net/us

Weir

Booth 1225

Weir is a global engineering firm specializing in mining. Since 1871, Weir has been well-known for its innovative solutions in equipment and services. Weir is dedicated to providing essential technology and services for efficient resource extraction and processing. Weir Minerals' extensive portfolio encompasses pumps, valves, and processing equipment. Through strategic acquisitions like ESCO® branded products for mine extraction and Motion Metrics™ AI visioning products, Weir actively works towards becoming a leading authority in mining technology. Utilizing its engineering and materials science expertise, Weir plays a crucial role in optimizing industrial processes, promoting sustainability, and contributing to advancing vital industries globally.

Products & Services

Automation
Excavators
Grinding Mills
Information Technology Products
Measurement and Monitoring Systems
Pumps
Sensors
Valves

Main Office

The Weir Group PLC, 1 W Regent St
Glasgow G2 1RW Scotland
www.global.weir/brands/

Wenco International Mining Systems

Booth 437

For over 30 years, Wenco International Mining Systems has partnered with mining companies to extract unrealized value from their sites and equipment. With this focus, Wenco has developed an integrated suite of solutions to support the digital transformation of the mining industry. Proven fleet management, machine guidance, safety solutions, and asset health technologies join industry-leading open autonomy and machine learning to raise mine productivity, and lower costs, to establish a safe and effective mining operation. Wenco is a wholly owned subsidiary of Hitachi Construction Machinery headquartered in Vancouver, Canada.

Products & Services

Automation
Autonomous Vehicles
Computer - Hardware and Services
Computer - Software and Services
Safety Equipment
Trucks and Haulage Units

Main Office

100-13777 Commerce Pkwy
Richmond, BC V6V 2X3 Canada
Phone: (604) 270-8277
www.wencomine.com



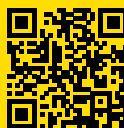


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EXHIBITORS

West River Conveyors

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Booth 649

West River Conveyors manufactures underground and overland conveyor systems including head drives, tail sections, take up units, belt storage units, winches, discharge/transfer stations, chutes, starters, power packs and their own line of both underground and above ground conveyor structure. In addition to new conveyors, West River also sells conveyor belt, conveyor components and new and used conveyor parts. West River has surplus new inventory that can be used in many ways to suit your budgetary needs from parts to complete conveyors.

Products & Services

Belts - Power Transmission
Conveyor Belting - Accessories and Equipment
Conveyor Systems
Drives - Belt, Chain, Fluid and Gear
Gears - Pullers, Reducers and Pinions
Parts - Mining Machinery

Main Office

8936 Dismal River Rd
Oakwood, VA 24631 United States of America
Phone: (276) 991-4450
www.westriverconveyors.com

West Virginia Univ Dept of Mining Engineering

Booth 139

Products & Services

Educational

Main Office

1374 Evansdale Dr, 365 Mineral Resources Bldg
Morgantown, WV 26506 United States of America
Phone: (304) 293-7680
www.mine.cemr.wvu.edu/

West Virginia University - Mining Extension

Booth 528

Products & Services

Educational

Main Office

PO Box 6070, Mineral Resources Bldg
Morgantown, WV 26506 United States of America
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mindest.statler.wvu.edu

WesTech Engineering, LLC

Booth 1102

WesTech Engineering is an ISO 9001-certified company with half a century of experience in renewing water resources to help communities thrive. We provide industry expertise and liquid-solids separation solutions for mine, municipal, and industrial process applications – including product concentration, tailings disposal, acid mine drainage, and CCD circuit washing. We specialize in retrofits, replacements, and upgrades of water treatment equipment. Many of our systems are available for temporary mobile/rental applications.

Products & Services

Coal Preparation Plants
Dewatering Equipment
Filters, Filter Cloth and Accessories
Gravity Separators
Liquid Level Indicators and Switches
Pollution Control Equipment
Screens
Separators and Concentrators
Thickeners
Water Clarification and Treatment

Main Office

3665 S W Temple
Salt Lake City, UT 84115 United States of America
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www.westech-inc.com

Western Environmental Testing Lab (WETLAB)

Booth 745

Products & Services

Laboratory and Scientific Services

Main Office

475 E Greg St, Ste 119
Sparks, NV 89431 United States of America
Phone: (775) 355-0202
www.wetlaboratory.com

WestLand Engineering and Environmental Services

Booth 311

WestLand was established in 1997 to provide an innovative and collaborative approach to engineering and environmental consulting services. Our work is based on sound scientific and engineering principals that are characterized by integrity and quality. Our multi-disciplinary teams are experts in biology, cultural resources, water and waste-water engineering, and landscape architecture. Westland works with federal, state, county, municipal, and tribal regulatory partners to monitor and ensure compliance with the Clean Water Act, Endangered Species Act, National Environmental Policy Act, National Historic Preservation Act, and related regulations and statutes.

Products & Services

Consulting - Engineering
Consulting - Environmental

Main Office

4001 E Paradise Falls Dr
Tucson, AZ 85712 United States of America
Phone: (520) 206-9585
WestLandResources.com

Westpro Machinery Inc

Booth 1702

Westpro Machinery Inc. is an innovative Canadian company with an experienced engineering team that designs and manufactures mineral processing equipment. We have a global presence and over 38 years of experience in the mining industry, with worldwide manufacturing capabilities and equipment installations

in over 25 countries. We are an industry leader with the latest technologies, best prices, quickest deliveries, and unmatched service.

Products & Services

Bins, Hoppers, Silos and Storage
Crushers and Pulverizers
Dryers
Flotation Machines and Equipment
Grinding Mills
Reagents - Chemical and Flocculants
Scrubbers
Separators and Concentrators
Thickeners
Washing Plants

Main Office

910 - 1111 W Hastings St
Vancouver, BC V6E 2J3 Canada
Phone: (250) 549-6710
www.westpromachinery.com

Westward

Booth 730

Westward, a versatile consulting company, has been delivering mining support services since 1996. Our expertise spans project initiation, including exploration and ecological assessments, to multi-level permitting/modeling, operational compliance, and closure/reclamation plans/activities. Headquartered near San Antonio, Texas, we have licensed engineers and geologists in 14 states, along with a team of biologists, ecologists, environmental specialists, and an industrial meteorologist, ready to meet your project requirements.

Products & Services

Consulting - Engineering
Consulting - Environmental

Main Office

4 Shooting Club Rd
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Phone: (830) 249-8284
www.westwardenv.com

Williams Form Engineering Corp

Booth 1515

Williams Form Engineering Corporation has been providing threaded steel bars and accessories for rock, soil and concrete anchors, post-tensioning systems, and concrete forming hardware systems in the construction industry for over 100 years. Our rock and soil anchor product line includes our Spin-Lock mechanical rock anchors, polyester resin anchors, multiple corrosion protection anchors, soil nails, strand anchors, Manta Ray soil anchors, Geo-Drill Hollow-Bar anchors, and micropiles. For concrete anchoring we offer Spin-Lock anchors, undercut anchors, reusable anchors and cast-in-place anchors. We also have a full line of All-Thread Rebar for tiebacks, micropiles and post-tensioning.

Products & Services

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Drill Bits - Rock
Fasteners - Industrial
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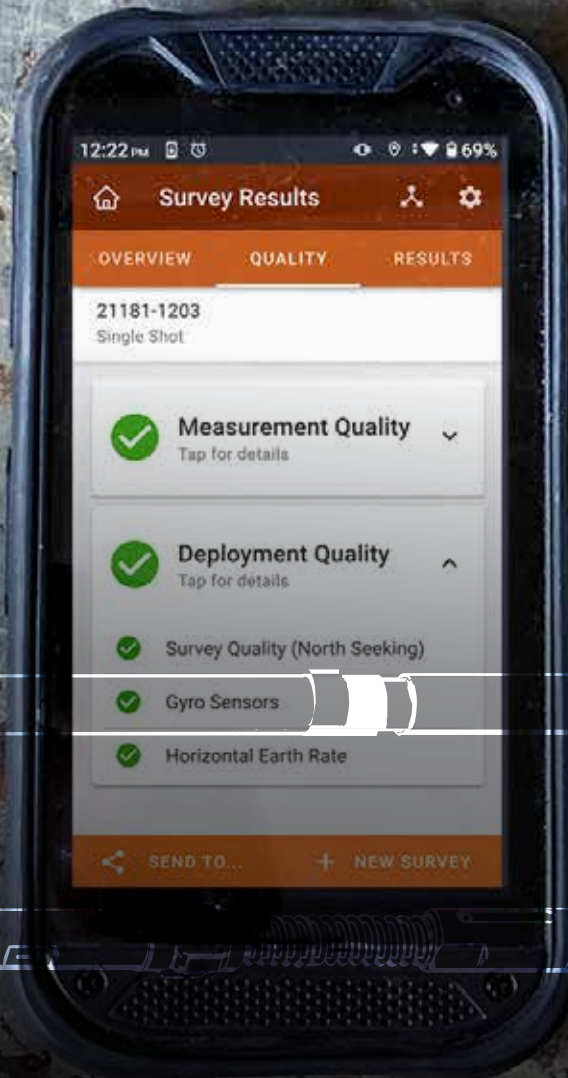
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www.williamsform.com

Willowstick Technologies LLC

Booth 654

Willowstick specializes in the identification and characterization of groundwater flow paths and patterns in three dimensions. We provide quick and nonintrusive geophysics techniques that identify the exact location and depth of groundwater flow paths. Mining clients have used our geophysics techniques for mapping and modeling preferential groundwater flow paths at tailings impoundments, pits, dams, waste rock dumps, etc. In 20 years, the Willowstick method has been successful in over 500 projects around the world.

Products & Services

Consulting - Engineering

Main Office

P.O. Box 754
Spanish Fork, UT 84660 United States of America
Phone: (801) 984-9850
Email: info@willowstick.com
www.willowstick.com

Wingfield Scale & Measure

Booth 407

Wingfield Scale & Measure provides inventory and measurement services across four departments. We design, install, maintain, calibrate, and certify scales for trucks, conveyors, rail, and labs. Our rental fleet includes the largest inventory of portable truck and rail scales. Using LiDAR and UAVs, we safely map and measure stockpiles, quarries, and underground mines. Real-time LiDAR systems track material moved by conveyor, haul truck, and rail to optimize production. Our technology brings accurate, actionable data to help manage site inventories and operations.

Products & Services

Aerial Mapping and Surveying
Automation
Computer - Hardware and Services
Computer - Software and Services
Consulting - Engineering

Conveyor Belting - Accessories and Equipment
Measurement and Monitoring Systems
Rail Systems and Supplies
Scales
Surveying Equipment and Supplies

Main Office

2205 S Holtzclaw Ave
Chattanooga, TN 37404 United States of America
Phone: (423) 698-0100
www.wingfieldscale.com



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WireCo

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Booth 307

WireCo is the market, manufacturing and technical leader in wire and synthetic rope manufacturing, providing a consultative approach to offer customers a single, reliable source for solutions that fit their specific application and budget needs.

Products & Services

Parts - Mining Machinery

Main Office

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Prairie Village, KS 66208 United States of America
Phone: (816) 270-4700
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www.wireco.com



WIRTGEN GROUP

Wirtgen America

See our ad on p. 129

Booth 1724

The Wirtgen Group is a group of companies active in the global construction machinery industry that encompasses the products brands WIRTGEN, VÖGELE, HAMM, KLEEMANN, and BENNINGHOVEN, each with their own

unique history. As the technology leader, we offer our customers machines for road construction and rehabilitation, systems for mining and processing recycled materials, and for asphalt production.

Products & Services

Continuous Mining Machines

Main Office

6030 Dana Wy
Antioch, TN 37013 United States of America
Phone: (615) 501-0600
www.wirtgenamerica.com

Withum

Booth 119

Withum is a top-25 nationally ranked advisory and public accounting firm with locations nationwide and over 2,200 employees. Withum's Valuation group provides comprehensive Real Estate, Machinery and Equipment, and Business Valuation services for accountants, attorneys, government agencies, lenders, and more. Our team of qualified experts has delivered real estate appraisal, review and property valuation services throughout the country and internationally with the highest quality of service, practice and comprehensible due diligence. Our appraisal development and reporting process is in full compliance with all state and federal regulations.

Products & Services

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Consulting - Management
Consulting - Research

Main Office

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WireCo will be at MINEXCHANGE 2024 in Booth **307**. Come by to discuss what's behind WireCo's hard-working mining rope products. We will have experts on hand to discuss critical solutions for your specific application needs.

Find out more at www.gladiatormining.com



EXHIBITORS

Wolf Point Engineers & Contractors / North Alabama Fabricating Company, Inc

Booth 702

Wolf Point Engineers & Contractors is an EPC firm specializing in the design, supply and installation of bulk material handling facilities for a wide variety of industries. NAFCO is a leading structural steel & platework fabricator with over 350,000 square feet of shop space. WPE is a division of NAFCO.

Products & Services

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Blending Systems
Coal Preparation Plants
Construction - Contracting Services
Consulting - Design and Planning
Consulting - Engineering
Conveyor Systems

Main Office

One North LaSalle St, Ste 4000
Chicago, IL 60602 United States of America
Phone: (312) 508-5550
Email: bwilliams@wpengrs.com
www.wolfpointengineers.com

Women's Mining Coalition

Booth 1241

Since 1993, the Womens Mining Coalition (WMC) has advocated for today's modern domestic mining industry which is essential to our Nation. WMC communicates that US jobs depend on mining, and that today's industry uses effective environmental and safety protection. We are an organization with nationwide representation, with members working as scientists, engineers, miners, and administrators. WMC members work in all sectors, including industrial minerals, metals, and coal mining; energy generation and distribution; manufacturing and transportation; and in the service industries.

Products & Services

Educational
Professional Society or Association

Main Office

PO Box 10101
Reno, NV 89510 United States of America
Phone: (307) 281-0148
Email: wearewmc@wmc-usa.org
www.wmc-usa.org

Working Athlete

Booth 403

Main Office

16851 E Parkview Ave
Fountain Hills, AZ 85268 United States of America
Phone: (775) 781-5281
workingathlete.com

Worldsensing SL

Booth 117

Worldsensing is a global IoT pioneer. We are experts in monitoring large-scale and civil infrastructure through IoT remote technology. Together with a global partner network, we serve engineering customers in 70+ countries across mining, construction, rail and structural health.

Products & Services

Measurement and Monitoring Systems

Main Office

Carrer Viriat 47, 10th floor
Barcelona 08014 Spain
Phone: +34 93 418 05 85
www.worldsensing.com/



WSP

See our ad on p. 130

Booth 1345

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Products & Services

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Consulting - Engineering
Consulting - Environmental
Consulting - Management
Grouting Services, Equipment and Materials
Laboratory and Scientific Services
Mine Evaluations - Surface and Underground
Remediation
Transportation

Main Office

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EXHIBITORS

x-Glo North America Inc

Booth 408

x-Glo North America Inc, distributor of industrial grade LED lighting solutions and is committed to developing and supplying high quality x-Glo LED lighting products and systems that are purpose built for mining, tunneling, oil & gas and other industrial applications.

Products & Services

Alarm Systems
Communications Equipment
Controls - Electrical and Electronic
Lighting Systems and Lamps
Safety Equipment

Main Office

15 Rita St
Markstay, ON P0M 2G0 Canada
Phone: (705) 698-0441
www.x-glo-na.com

Xylem Inc

Booth 1231

Xylem Service Solutions provides the largest portfolio of self-priming and submersible pumping solutions for purchase or rent in the mining industry enabling total project customization. In addition to the quality reputation of the Godwin and Flygt brands, Xylem offers advanced monitoring and controls technologies and

24/7/365 mechanical, engineering and onsite services ranging from minor repairs to complete system rebuild. Serving mine operations across the United States and Canada from 60+ Xylem Service Centers, Xylem can handle any water management needs, including world-class water treatment, odor and corrosion control capabilities from our newly combined Evoqua Services business.

Products & Services

Consulting - Engineering
Controls - Electrical and Electronic
Measurement and Monitoring Systems
Pumps
Water Clarification and Treatment

Main Office

235 E Pima St
Phoenix, AZ 85004 United States of America
Phone: (480) 253-6716
Email: paul.yost@xylem.com
www.xylem.com

Yellow Jacket Drilling Services

Booth 1258

With 25 years of experience, Yellow Jacket Drilling stands as a leading provider in the drilling and well services industry throughout the Western United States. Our expertise and services span the Environmental, Geotechnical, Water Supply, and Mining market sec-

tors. We currently operate more than 40 rigs across 15 states. Our dedicated team brings an unparalleled level of knowledge spanning a wide range of drilling methods and installations. A safe, high quality and cost-effective project is our top priority. We guarantee our ability to best meet our customers' diverse drilling needs and ensure the highest quality results.

Products & Services

Drilling Contractors

Main Office

3922 E University Dr, Ste 1
Phoenix, AZ 85034 United States of America
Phone: (602) 453-3252
www.yjdrilling.com

ZF Industrial Drives

Booth 755

Products & Services

Gears - Pullers, Reducers and Pinions
Parts - Mining Machinery
Power Transmission Equipment
Tunnel Boring Equipment

Main Office

15351 SW 29th, Ste 300
Miramar, FL 33027 United States of America
Phone: (954) 441-4040
www.zf.com/industrial-gearboxes

Zitron USA, LLC

Booth 1007

Products & Services

Ventilation Systems, Materials and Equipment

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Aerators

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Hayward Gordon Group–Booth 1804
Valmet Flow Control–Booth 1537

Aerial Mapping and Surveying

airth.io–Booth 1828
Call & Nicholas Inc. - Call & Nicholas Instruments–Booth 701
Carlson Software–Booth 1510
Crow Industries–Booth 856
Esri–Booth 214
Exyn Technologies–Booth 230
Frontier Precision Geospatial/Unmanned–Booth 2041
Hexagon's Mining division–Booth 1307
Maptek–Booth 1103
PhotoSat–Booth 602
Propeller–Booth 348
RDO Equipment Company–Booth 1948
SITECH Southwest–Booth 226
Strayos–Booth 207
Unmanned Aerial Services Inc–Booth 110
Wingfield Scale & Measure–Booth 407

Agitators, Vibrators and Mixers

Eirich Machines, Inc–Booth 1713
Hayward Gordon Group–Booth 1804
Joest Inc–Booth 449
Mixtec North America–Booth 537
MOGAS Industries, Inc–Booth 1951

Air Compressors

Adhesive Services Company–Booth 1752
Irwin Car and Equipment–Booth 201

Alarm Systems

Honeywell–Booth 813
IoT Automation–Booth 448
PROVIX–Booth 410
RCT–Booth 1056
x-Glo North America Inc–Booth 408

Analyzers

Bruker–Booth 205
CANTY–Booth 1637
Emerson–Booth 1609
Honeywell–Booth 813
Maintenance Technology Systems, LLC (MTS)–Booth 200
Malvern Panalytical–Booth 708
Northwest Instruments and Controls–Booth 115
Redwave Solutions US LLC–Booth 101
Scantech International Pty Ltd–Booth 1919
Sympatec–Booth 1748
TechStar–Booth 2031
Thermo Fisher Scientific–Booth 1113
Waites Sensor Technologies–Booth 831

Assay Equipment

BICO Inc–Booth 1533
Sunset Manufacturing–Booth 1801
Thermo Fisher Scientific–Booth 1113

Automation

Ackcio–Booth 2042
airth.io–Booth 1828
ANDRITZ–Booth 1643
Apollo Valves–Booth 1945
Arsenal Tire Performance Tech–Booth 1927
ASI Mining–Booth 710
Caterpillar–Booth 1419
Crow Industries–Booth 856
Eclipse Mining Technologies–Booth 441
ECN Automation–Booth 956
EcoMister Evaporator–Booth 328
Emerson–Booth 1609
Enterprise Automation, A Tetra Tech Company–Booth 141
Epiroc–Booth 1119
FLANDERS, Inc–Booth 208
Force Control Industries, Inc–Booth 545
Gai-tronics / Austdac–Booth 1853
Graybar Electric–Booth 1605
Honeywell–Booth 813
Howden Canada Inc–Booth 719
indurad–Booth 1259
IoT Automation–Booth 448
Komatsu–Booth 757
Maestro Digital Mine–Booth 426
Malvern Panalytical–Booth 708
Matrix Service Company–Booth 748
Micromine–Booth 1540
Mine Vision Systems–Booth 1054
Nalco Water, an Ecolab Company–Booth 508
Northwest Towers–Booth 1901
Process Technology, Inc–Booth 210
PROVIX–Booth 410
RCT–Booth 1056
Rocvent Inc–Booth 1612
Roxia Inc–Booth 754
Roxsyle Systems LLC–Booth 1357
Samuel Engineering, Inc–Booth 1830
Sandvik–Booth 1317
Saskatchewan Trade and Export Partnership–Booth 1355
Simem Underground Solutions, Inc–Booth 921
Southwestern Scale Co, Inc–Booth 605
Strata Products Worldwide, LLC–Booth 1530
Stratom Inc–Booth 1551
TechStar–Booth 2031
Terra Insights–Booth 643
Thermo Fisher Scientific–Booth 1113
TopVu–Booth 2051
TPSX–Booth 1440
Valmet Flow Control–Booth 1537
Veracio–Booth 301
Waites Sensor Technologies–Booth 831

WEG–Booth 703
Weir–Booth 1225
Wenco International Mining Systems–Booth 437
Wingfield Scale & Measure–Booth 407

Autonomous Vehicles

ASI Mining–Booth 710
Caterpillar–Booth 1419
Crow Industries–Booth 856
Epiroc–Booth 1119
Esri–Booth 214
ExcelSense Technologies–Booth 861
Exyn Technologies–Booth 230
Foretellix Inc–Booth 1654
Frontier Precision Geospatial/Unmanned–Booth 2041
Hexagon's Mining division–Booth 1307
Immersive Technologies–Booth 1918
indurad–Booth 1259
Komatsu–Booth 757
Rail-Veyor Technologies Global Inc–Booth 1549
RCT–Booth 1056
Stratom Inc–Booth 1551
Unmanned Aerial Services Inc–Booth 110
Wenco International Mining Systems–Booth 437

Backfilling

Aerix Industries–Booth 1524
GMS Mine Repair & Maintenance–Booth 1014
Master Builders Solutions–Booth 1409
Odin Construction Solutions–Booth 543
Paterson & Cooke USA, Ltd–Booth 1741
Simem Underground Solutions, Inc–Booth 921
Victaulic–Booth 628
WSP–Booth 1345

Belts - Power Transmission

Continental–Booth 1019
Dodge Industrial, Inc–Booth 629
REESCO–Booth 1762
Regal Rexnord–Booth 925
Rema Tip Top–Booth 500
ROSTA USA–Booth 1559
Sefar Inc–Booth 1550
VDG (Van der Graaf)–Booth 707
West River Conveyors–Booth 649

Bins, Hoppers, Silos and Storage

Aumund Corporation–Booth 751
Fisher Tank Company–Booth 125
Great Basin Industrial, LLC–Booth 1604
Hawk Measurement–Booth 1661
indurad–Booth 1259
Irwin Car and Equipment–Booth 201
JADCO Manufacturing Inc–Booth 607
Jenike & Johanson–Booth 716
Kamengo–Booth 527

PRODUCTS & SERVICES

Marietta Silos, LLC–Booth 1730
Matrix Service Company–Booth 748
Mechanical & Ceramic Solutions, Inc–Booth 1840
REESCO–Booth 1762
Simem Underground Solutions, Inc–Booth 921
Structural Steel & Plate Fabrication–Booth 542
Tank Connection–Booth 1648
Virta Inc–Booth 753
Westpro Machinery Inc–Booth 1702
Wolf Point Engineers & Contractors / North Alabama Fabricating Company, Inc–Booth 702

Blasting Accessories, Equipment and Agents

Carlson Software–Booth 1510
Dyno Nobel–Booth 1125
Hexagon's Mining division–Booth 1307
Orica USA–Booth 249
Phoenix Lighting–Booth 324
Terra Insights–Booth 643

Blending Systems

Aumund Corporation–Booth 751
BEUMER Group–Booth 1455
Carrier Process Equipment Group (CPEG)–Booth 1856
FEECO International, Inc–Booth 2049
GEA Group–Booth 645
Hayward Gordon Group–Booth 1804
Jenike & Johanson–Booth 716
Scantech International Pty Ltd–Booth 1919
Univar Solutions–Booth 826
Wolf Point Engineers & Contractors / North Alabama Fabricating Company, Inc–Booth 702

Boring Equipment

Antraquip Corporation–Booth 1348
Carlson Software–Booth 1510
Herrenknecht Tunneling Systems–Booth 1214
MILLER–Booth 1737
Subterranean Boring Inc–Booth 1563
Trencor–Booth 131

Brakes - Dynamic, Friction Disk - Block, Magnetic

Brunel Corp–Booth 1644
DELLNER BUBENZER–Booth 2025
Flender Corporation–Booth 427
Force Control Industries, Inc–Booth 545
Hilliard Brake Systems–Booth 1449
Johnson Industries Ltd–Booth 1513
Kobelt Manufacturing Co Ltd–Booth 728
Regal Rexnord–Booth 925
SIBRE Siegerland Bremsen GmbH–Booth 2047

Briquetters

Koeppern Group–Booth 551

Castings

ASC Engineered Solutions–Booth 825
Bradken–Booth 1924
CR Powered by Epiroc–Booth 611
FC Mill Liners, Inc–Booth 1842
JADCO Manufacturing Inc–Booth 607
Kobelt Manufacturing Co Ltd–Booth 728
Magotteaux–Booth 833
ME Elecmetal–Booth 903
Ram Alloys–Booth 1142
Ultra Tech Pipe–Booth 1824
WearPro Inc–Booth 609

Centrifuges

Alfa Laval–Booth 244
CANTY–Booth 1637
Derrick Corporation–Booth 1413
Flottweg Separation Technology, Inc–Booth 1731
GEA Group–Booth 645
Kyte Centrifuge, LLC–Booth 211
Northwest Instruments and Controls–Booth 115
Petroleum Solids Control, Inc–Booth 1751
PHOENIX Process Equipment–Booth 1736
Pocock Industrial, Inc–Booth 832
Saskatchewan Trade and Export Partnership–Booth 1355
Sefar Inc–Booth 1550
Somerset International–Booth 306
Thomas Broadbent & Sons Ltd, Industrial Process Division–Booth 2017

Classifiers

Beijing Honest Technology Co, Ltd–Booth 327
Derrick Corporation–Booth 1413
General Kinematics–Booth 720
Iracore/Irathane Systems Inc–Booth 819
Joest Inc–Booth 449
PHOENIX Process Equipment–Booth 1736
Redwave Solutions US LLC–Booth 101
Tech-Flow–Booth 202
Thomas Broadbent & Sons Ltd, Industrial Process Division–Booth 2017
UCC Environmental–Booth 851
Univar Solutions–Booth 826

Clutches - Fluid, Friction and Magnetic

Brunel Corp–Booth 1644
DELLNER BUBENZER–Booth 2025
Flender Corporation–Booth 427
Force Control Industries, Inc–Booth 545
Kraft Power Corp–Booth 632
Regal Rexnord–Booth 925
Voith Group–Booth 909

Coal Preparation Plants

CAB–Booth 1536
FGX SepTech Global LLC–Booth 1705
Mechanical & Ceramic Solutions, Inc–Booth 1840

Scantech International Pty Ltd–Booth 1919
Somerset International–Booth 306
Structural Steel & Plate Fabrication–Booth 542
Vitaulic–Booth 628
WesTech Engineering, LLC–Booth 1102
Wolf Point Engineers & Contractors / North Alabama Fabricating Company, Inc–Booth 702

Coatings (does not include Linings and Claddings)

A.W. Chesterton Company–Booth 2024
Custom Linings, Inc–Booth 536
Desert Mountain Corporation–Booth 2019
Guardian Traxol Chemicals Inc–Booth 1653
InduMar Products Inc–Booth 731
MOGAS Industries, Inc–Booth 1951
RAM Enterprise, Inc–Booth 807
Rema Tip Top–Booth 500
RubberSource Inc–Booth 1750
Structural Steel & Plate Fabrication–Booth 542
Technogenia Lasercarb Oklahoma Inc–Booth 1541

Communications Equipment

3D-P Powered by Epiroc–Booth 948
Ackcio–Booth 2042
beadedstream inc–Booth 2003
Carroll Technologies Group–Booth 658
Gai-tronics / Austdac–Booth 1853
Graybar Electric–Booth 1605
IoT Automation–Booth 448
IWT–Booth 1630
Maestro Digital Mine–Booth 426
Matrix Design Group–Booth 1825
Micromine–Booth 1540
Monico Monitoring, Inc–Booth 1450
MST Global–Booth 116
Northwest Towers–Booth 1901
PROVIX–Booth 410
RCT–Booth 1056
RDO Equipment Company–Booth 1948
Strata Products Worldwide, LLC–Booth 1530
TopVu–Booth 2051
Tunnel Radio–Booth 1755
x-Glo North America Inc–Booth 408

Compactors

Koeppern Group–Booth 551
ROSTA USA–Booth 1559

Computer - Hardware and Services

3D-P Powered by Epiroc–Booth 948
ASI Mining–Booth 710
Diesel Laptops–Booth 1858
Juniper Systems–Booth 118
Maintenance Technology Systems, LLC (MTS)–Booth 200
Micromine–Booth 1540
Northwest Towers–Booth 1901
Propeller–Booth 348



RockMass Technologies–Booth 124
 Symbolicware–Booth 855
 Wenco International Mining Systems–Booth 437
 Wingfield Scale & Measure–Booth 407

Computer - Software and Services

3D-P Powered by Epiroc–Booth 948
 Actenum–Booth 756
 airth.io–Booth 1828
 ASI Mining–Booth 710
 beadedstream inc–Booth 2003
 Bentley Systems–Booth 714
 Canary Systems, Inc–Booth 425
 Carlson Software–Booth 1510
 COGEP Maintenance Software–Booth 726
 Costmine–Booth 1114
 Datamine Software–Booth 1719
 Deswik–Booth 549
 Diesel Laptops–Booth 1858
 Eclipse Mining Technologies–Booth 441
 Esri–Booth 214
 Exyn Technologies–Booth 230
 Foretellix Inc–Booth 1654
 Hexagon's Mining division–Booth 1307
 Honeywell–Booth 813
 Howden Canada Inc–Booth 719
 Information Alignment Pty Ltd–Booth 1631
 Itasca International, Inc–Booth 624
 Juniper Systems–Booth 118
 K2fly–Booth 958
 KPI Mining Solutions–Booth 1649
 LIVEMINE–Booth 2013
 Maintenance Technology Systems, LLC (MTS)–Booth 200
 Maptek–Booth 1103
 Matrix Design Group–Booth 1825
 Metsim International–Booth 351
 Micromine–Booth 1540
 Mine Vision Systems–Booth 1054
 MOSIMTEC LLC–Booth 2039
 Northwest Towers–Booth 1901
 Orica USA–Booth 249
 Propeller–Booth 348
 RCT–Booth 1056
 RESPEC–Booth 1242
 RockMass Technologies–Booth 124
 RtTech Software–Booth 240
 Spartakus Technologies–Booth 1757
 Symbolicware–Booth 855
 Sync Mine Safety–Booth 350
 TopVu–Booth 2051
 Vantage Point–Booth 1657
 Wenco International Mining Systems–Booth 437
 Wingfield Scale & Measure–Booth 407

Concrete Reinforcement and Equipment

Adhesive Services Company–Booth 1752
 Aerix Industries–Booth 1524

AGRU America, Inc–Booth 920
 Antraquip Corporation–Booth 1348
 Bekaert–Booth 1016
 Inland Tarp & Liner–Booth 553
 Minova–Booth 1149
 SKAPS Industries–Booth 555
 Strata Products Worldwide, LLC–Booth 1530
 Williams Form Engineering Corp–Booth 1515

Construction - Contracting Services

Adhesive Services Company–Booth 1752
 AECOM–Booth 1210
 Aecon–Booth 844
 Barnard Construction Company, Inc–Booth 631
 Burns & McDonnell Engineering Company, Inc–Booth 763
 Byrnes Group–Booth 1452
 CCC Group, Inc–Booth 1836
 Cementation USA Inc–Booth 1350
 Cowin & Company/Raisebor–Booth 1920
 DeWind One Pass Trenching LLC–Booth 1159
 Drill Tech Drilling & Shoring Inc–Booth 1636
 ENTACT, LLC–Booth 1442
 Envirocon, Inc–Booth 1340
 FKC-Lake Shore–Booth 1819
 Forgen–Booth 457
 GHD–Booth 225
 GMS Mine Repair & Maintenance–Booth 1014
 Harrison Western Construction Corporation, Inc–Booth 1727
 Hoffman Manufacturing, Inc–Booth 501
 Howden Canada Inc–Booth 719
 JHL Constructors–Booth 650
 Keller–Booth 1521
 Kiewit–Booth 1025
 Matrix Service Company–Booth 748
 MEGA-Drain by EnviroCon Systems–Booth 1153
 MES Mining–Booth 955
 MILLER–Booth 1737
 NewFields–Booth 1013
 Northwest Towers–Booth 1901
 Phillips & Jordan, Inc–Booth 627
 Phoenix Industrial–Booth 1806
 RAM Enterprise, Inc–Booth 807
 RECO Mining Solutions–Booth 461
 Samuel Engineering, Inc–Booth 1830
 Sprung Structures–Booth 733
 Stewart Brothers Drilling Co–Booth 1341
 Titan Environmental–Booth 959
 Turner Mining Group–Booth 1057
 Watershed Geo–Booth 918
 Wolf Point Engineers & Contractors / North Alabama Fabricating Company, Inc–Booth 702

Consulting - Design and Planning

3D-P Powered by Epiroc–Booth 948
 AECOM–Booth 1210
 Agapito Associates Inc–Booth 1237
 AIL Mining–Booth 1343
 airth.io–Booth 1828
 AMPS–Booth 2015
 ARCADIS–Booth 1043
 ASC Engineered Solutions–Booth 825
 AtkinsRéalis–Booth 1726
 Barr Engineering Co–Booth 800
 BEUMER Group–Booth 1455
 Bowman Consulting Group–Booth 1756
 Burns & McDonnell Engineering Company, Inc–Booth 763
 Call & Nicholas Inc. - Call & Nicholas Instruments–Booth 701
 Cementation USA Inc–Booth 1350
 Civil & Environmental Consultants, Inc (CEC)–Booth 1548
 Datamine Software–Booth 1719
 Dyno Nobel–Booth 1125
 Foth Infrastructure & Environment, LLC–Booth 1438
 GeoLog, LLC–Booth 127
 GHD–Booth 225
 Hatch–Booth 1243
 Hexagon's Mining division–Booth 1307
 Hilfiker Retaining Walls–Booth 1511
 Hoffman Manufacturing, Inc–Booth 501
 HUESKER Inc–Booth 648
 Independent Mining Consultants, Inc–Booth 1431
 Jenike & Johanson–Booth 716
 Kiewit–Booth 1025
 Linkan Engineering–Booth 1353
 Maccaferri, Inc–Booth 1441
 MAPEI Corporation–Booth 904
 Maptek–Booth 1103
 Matrix Service Company–Booth 748
 Millcreek Engineering Co–Booth 1749
 Mine Vision Systems–Booth 1054
 Mineral Technologies–Booth 619
 MOGAS Industries, Inc–Booth 1951
 Montgomery & Associates–Booth 1543
 MOSIMTEC LLC–Booth 2039
 NewFields–Booth 1013
 Northwest Towers–Booth 1901
 ORE-MAX–Booth 1603
 Orica USA–Booth 249
 PETRA Data Science–Booth 837
 REDCO Mining Consultants–Booth 1051
 REI Drilling, Inc–Booth 519
 RESPEC–Booth 1242
 Roxsyle Systems LLC–Booth 1357
 Samuel Engineering, Inc–Booth 1830
 Saskatchewan Trade and Export Partnership–Booth 1355
 SLR International Corporation–Booth 1745
 SRK Consulting (US), Inc–Booth 1621

PRODUCTS & SERVICES

Stantec Consulting–Booth 1337
TerraSource Global–Booth 2021
Tetra Tech–Booth 1720
Turner Mining Group–Booth 1057
Virta Inc–Booth 753
Wolf Point Engineers & Contractors / North
Alabama Fabricating Company, Inc–Booth
702
WSP–Booth 1345

Consulting - Engineering

3D-P Powered by Epiroc–Booth 948
AECOM–Booth 1210
Agapito Associates Inc–Booth 1237
AIL Mining–Booth 1343
airth.io–Booth 1828
AMPS–Booth 2015
Aquatech–Booth 1838
ARCADIS–Booth 1043
AtkinsRéalis–Booth 1726
Aumund Corporation–Booth 751
Axter Coletanche Inc–Booth 444
Barr Engineering Co–Booth 800
BEUMER Group–Booth 1455
Bowman Consulting Group–Booth 1756
Burns & McDonnell Engineering Company,
Inc–Booth 763
Call & Nicholas Inc. - Call & Nicholas Instru-
ments–Booth 701
Canary Systems, Inc–Booth 425
Cementation USA Inc–Booth 1350
Civil & Environmental Consultants, Inc
(CEC)–Booth 1548
Colorado School of Mines - Department of
Mining Engineering–Booth 1018
Contech Engineered Solutions–Booth 1718
Costmine–Booth 1114
Deswik–Booth 549
Dyno Nobel–Booth 1125
Emerson–Booth 1609
Englo, Inc–Booth 1005
Foth Infrastructure & Environment, LLC–
Booth 1438
Geo-Logic Associates–Booth 1255
GeoStabilization International–Booth 615
Geosyntec Consultants–Booth 617
GHD–Booth 225
GMS Mine Repair & Maintenance–Booth
1014
GPM Inc–Booth 2027
H2E Inc–Booth 1351
Hatch–Booth 1243
Hoffman Manufacturing, Inc–Booth 501
Howden Canada Inc–Booth 719
HUESKER Inc–Booth 648
hydroGEOPHYSICS Inc–Booth 1738
Independent Mining Consultants, Inc–Booth
1431
Itasca International, Inc–Booth 624
JBW Consulting Engineers–Booth 209
Jenike & Johanson–Booth 716
Kiewit–Booth 1025

Knight Piésold and Co–Booth 1008
Linkan Engineering–Booth 1353
Maccaferri, Inc–Booth 1441
Maintenance Technology Systems, LLC
(MTS)–Booth 200
Maptek–Booth 1103
Matrix Service Company–Booth 748
MES Mining–Booth 955
Metsim International–Booth 351
Millcreek Engineering Co–Booth 1749
Mineral Technologies–Booth 619
Minova–Booth 1149
MOGAS Industries, Inc–Booth 1951
NewFields–Booth 1013
Northwest Towers–Booth 1901
ORE-MAX–Booth 1603
Orica USA–Booth 249
Paterson & Cooke USA, Ltd–Booth 1741
PETRA Data Science–Booth 837
Piteau Associates Engineering Ltd–Booth 740
Pocock Industrial, Inc–Booth 832
Ramboll–Booth 1849
RDO Equipment Company–Booth 1948
REI Drilling, Inc–Booth 519
RESPEC–Booth 1242
Rocky Mining Consultants Inc–Booth 960
Rocvent Inc–Booth 1612
Roxsyle Systems LLC–Booth 1357
RtTech Software–Booth 240
RWI Enhanced Evaporation Services–Booth
943
Samuel Engineering, Inc–Booth 1830
Saskatchewan Trade and Export Partnership–
Booth 1355
Sefar Inc–Booth 1550
Simem Underground Solutions, Inc–Booth
921
SLR International Corporation–Booth 1745
Spartakus Technologies–Booth 1757
SRK Consulting (US), Inc–Booth 1621
Stantec Consulting–Booth 1337
Symboticware–Booth 855
Technogenia Lasercarb Oklahoma Inc–Booth
1541
TerraSource Global–Booth 2021
Tetra Tech–Booth 1720
Turner Mining Group–Booth 1057
Voith Group–Booth 909
WestLand Engineering and Environmental
Services–Booth 311
Westward–Booth 730
Willowstick Technologies LLC–Booth 654
Wingfield Scale & Measure–Booth 407
Wolf Point Engineers & Contractors / North
Alabama Fabricating Company, Inc–Booth
702
WSP–Booth 1345
Xylem Inc–Booth 1231

Consulting - Environmental

AECOM–Booth 1210
ARCADIS–Booth 1043

AtkinsRéalis–Booth 1726
Axter Coletanche Inc–Booth 444
Barr Engineering Co–Booth 800
Bowman Consulting Group–Booth 1756
Burns & McDonnell Engineering Company,
Inc–Booth 763
Civil & Environmental Consultants, Inc
(CEC)–Booth 1548
ConeTec Inc–Booth 1629
Desert Mountain Corporation–Booth 2019
Esri–Booth 214
Foth Infrastructure & Environment, LLC–
Booth 1438
Geo-Logic Associates–Booth 1255
Geosyntec Consultants–Booth 617
GHD–Booth 225
HUESKER Inc–Booth 648
hydroGEOPHYSICS Inc–Booth 1738
Itasca International, Inc–Booth 624
Knight Piésold and Co–Booth 1008
Linkan Engineering–Booth 1353
Micronics Engineered Filtration Group–Booth
839
Montgomery & Associates–Booth 1543
NewFields–Booth 1013
Presto Geosystems–Booth 848
Ramboll–Booth 1849
RESPEC–Booth 1242
Saskatchewan Trade and Export Partnership–
Booth 1355
SLR International Corporation–Booth 1745
SOLMAX–Booth 1251
SRK Consulting (US), Inc–Booth 1621
Stantec Consulting–Booth 1337
Tetra Tech–Booth 1720
WestLand Engineering and Environmental
Services–Booth 311
Westward–Booth 730
WSP–Booth 1345

Consulting - Financial Services

airth.io–Booth 1828
Burns & McDonnell Engineering Company,
Inc–Booth 763
Independent Mining Consultants, Inc–Booth
1431
SLR International Corporation–Booth 1745
SRK Consulting (US), Inc–Booth 1621
Withum–Booth 119

Consulting - Management

5DT (Fifth Dimension Technologies)–Booth 1942
airth.io–Booth 1828
AMPS–Booth 2015
ARCADIS–Booth 1043
Burns & McDonnell Engineering Company,
Inc–Booth 763
Foth Infrastructure & Environment, LLC–
Booth 1438
Hatch–Booth 1243
Independent Mining Consultants, Inc–Booth
1431



Information Alignment Pty Ltd-Booth 1631
Kiewit-Booth 1025
Matrix Service Company-Booth 748
Metsim International-Booth 351
MOSIMTEC LLC-Booth 2039
NewFields-Booth 1013
Samuel Engineering, Inc-Booth 1830
SLR International Corporation-Booth 1745
SRK Consulting (US), Inc-Booth 1621
Stantec Consulting-Booth 1337
Tetra Tech-Booth 1720
Withum-Booth 119
WSP-Booth 1345

Consulting - Research

Advanced Research Projects Agency - Energy (ARPA-E)-Booth 1009
Allonnia-Booth 1754
Blue Coast Research-Booth 1729
Colorado School of Mines - Department of Mining Engineering-Booth 1018
GeoLog, LLC-Booth 127
hydroGEOPHYSICS Inc-Booth 1738
Itasca International, Inc-Booth 624
Metcom Technologies Inc-Booth 1010
Pocock Industrial, Inc-Booth 832
RESPEC-Booth 1242
SLR International Corporation-Booth 1745
SRK Consulting (US), Inc-Booth 1621
Symbolicware-Booth 855
Veracio-Booth 301
Virginia Tech Department of Mining & Minerals Engineering-Booth 525
Withum-Booth 119

Continuous Mining Machines

5DT (Fifth Dimension Technologies)-Booth 1942
Antraquip Corporation-Booth 1348
BEUMER Group-Booth 1455
Cornell Pump Co-Booth 618
ExcelSense Technologies-Booth 861
HEICO Fastening Systems-Booth 1743
Komatsu-Booth 757
Mine Vision Systems-Booth 1054
Miner Elastomer-Booth 530
Mineral Technologies-Booth 619
Sandvik-Booth 1317
Wirtgen America-Booth 1724

Controls - Electrical and Electronic

ABB-Booth 949
Conspec Controls-Booth 1158
Coolon USA, Inc-Booth 134
DEA Incorporated-Booth 1055
Emerson-Booth 1609
FKC-Lake Shore-Booth 1819
Gai-tronics / Austdac-Booth 1853
Geotech Environmental Equipment, Inc-Booth 816
Graybar Electric-Booth 1605
Hepburn Engineering Inc-Booth 700

Howden Canada Inc-Booth 719
IoT Automation-Booth 448
Kobelt Manufacturing Co Ltd-Booth 728
Kraft Power Corp-Booth 632
Northwest Towers-Booth 1901
RDO Equipment Company-Booth 1948
Roxsyle Systems LLC-Booth 1357
Samuel Engineering, Inc-Booth 1830
Southwestern Scale Co, Inc-Booth 605
Syntron Material Handling-Booth 1625
TPSX-Booth 1440
WEG-Booth 703
x-Glo North America Inc-Booth 408
Xylem Inc-Booth 1231

Controls - Hydraulic and Pneumatic

Bosch Rexroth - Hägglunds Drives-Booth 1148
DELLNER BUBENZER-Booth 2025
Geotech Environmental Equipment, Inc-Booth 816
Hepburn Engineering Inc-Booth 700
Hoffman Manufacturing, Inc-Booth 501
Johnson Industries Ltd-Booth 1513
Kobelt Manufacturing Co Ltd-Booth 728
Kraft Power Corp-Booth 632
Valmet Flow Control-Booth 1537

Conveyor Belting - Accessories and Equipment

AGUDIO Ropeways-Booth 1144
ASGCO Complete Conveyor Solutions-Booth 845
BEUMER Group-Booth 1455
Bosch Rexroth - Hägglunds Drives-Booth 1148
Brelko Conveyor Products, Inc-Booth 1662
Cambelt International-Booth 245
Continental-Booth 1019
DELLNER BUBENZER-Booth 2025
Dodge Industrial, Inc-Booth 629
Endurance Belting-Booth 1626
Hawk Measurement-Booth 1661
Irwin Car and Equipment-Booth 201
Lorbrand-Booth 859
Luff Industries Ltd-Booth 1725
Mantis Conveyor Products-Booth 1456
Midwest Industrial Supply, Inc-Booth 1620
Orica USA-Booth 249
Phoenix Lighting-Booth 324
Precision Pulley & Idler-Booth 821
RAM Enterprise, Inc-Booth 807
REESCO-Booth 1762
Regal Rexnord-Booth 925
Rema Tip Top-Booth 500
ROSTA USA-Booth 1559
Rulmeca Limited-Booth 1810
Sempertrans-Booth 633
United Central Industrial Supply-Booth 1245
VDG (Van der Graaf)-Booth 707

Virta Inc-Booth 753
West River Conveyors-Booth 649
Wingfield Scale & Measure-Booth 407

Conveyor Systems

AGUDIO Ropeways-Booth 1144
ASGCO Complete Conveyor Solutions-Booth 845
Aumund Corporation-Booth 751
BEUMER Group-Booth 1455
Brelko Conveyor Products, Inc-Booth 1662
Cambelt International-Booth 245
Carrier Process Equipment Group (CPEG)-Booth 1856
CCC Group, Inc-Booth 1836
Coolon USA, Inc-Booth 134
Endurance Belting-Booth 1626
ExcelSense Technologies-Booth 861
FEECO International, Inc-Booth 2049
FKC-Lake Shore-Booth 1819
Flender Corporation-Booth 427
FLS-Booth 1207
Gai-tronics / Austdac-Booth 1853
General Kinematics-Booth 720
GMS Mine Repair & Maintenance-Booth 1014
Herrenknecht Tunneling Systems-Booth 1214
Hilfiker Retaining Walls-Booth 1511
Hoffman Manufacturing, Inc-Booth 501
Jenike & Johanson-Booth 716
JENNMAR-Booth 1217
Lorbrand-Booth 859
Luff Industries Ltd-Booth 1725
Mantis Conveyor Products-Booth 1456
Masaba Inc-Booth 1707
Matrix Service Company-Booth 748
Mechanical & Ceramic Solutions, Inc-Booth 1840
Miner Elastomer-Booth 530
Rail-Veyor Technologies Global Inc-Booth 1549
RAM Enterprise, Inc-Booth 807
Rapat Corporation-Booth 706
RECO Mining Solutions-Booth 461
REESCO-Booth 1762
Regal Rexnord-Booth 925
Rema Tip Top-Booth 500
Richwood-Booth 1663
Rulmeca Corporation-Booth 1814
Rulmeca Limited-Booth 1810
Sempertrans-Booth 633
Simem Underground Solutions, Inc-Booth 921
Superior Industries-Booth 1703
Syntron Material Handling-Booth 1625
UCC Environmental-Booth 851
VDG (Van der Graaf)-Booth 707
Virta Inc-Booth 753
Voith Group-Booth 909
West River Conveyors-Booth 649

PRODUCTS & SERVICES

Wolf Point Engineers & Contractors / North
Alabama Fabricating Company, Inc-Booth
702

Coolers

Binder+Co USA Inc-Booth 1614
Carrier Process Equipment Group (CPEG)-
Booth 1856
FEECO International, Inc-Booth 2049
Guardian Traxol Chemicals Inc-Booth 1653
Howden Canada Inc-Booth 719
Louisville Dryer Company-Booth 1843

Couplings - Mechanical, Flexible and Rigid

ASC Engineered Solutions-Booth 825
Brunel Corp-Booth 1644
DELLNER BUBENZER-Booth 2025
Dodge Industrial, Inc-Booth 629
Flender Corporation-Booth 427
Kraft Power Corp-Booth 632
Naylor Pipe Company-Booth 1503
Netafim USA-Booth 521
Ram Alloys-Booth 1142
Regal Rexnord-Booth 925
Robit Inc-Booth 1709
SIBRE Siegerland Bremsen GmbH-Booth
2047
Southwest Irrigation LLC-Booth 1765
Victaulic-Booth 628
Voith Group-Booth 909
Williams Form Engineering Corp-Booth 1515

Crushers and Pulverizers

Adhesive Services Company-Booth 1752
BEUMER Group-Booth 1455
BICO Inc-Booth 1533
ExcelSense Technologies-Booth 861
HEICO Fastening Systems-Booth 1743
indurad-Booth 1259
Masaba Inc-Booth 1707
Matec America Inc-Booth 717
McLanahan Corporation-Booth 1143
ME Elecmetal-Booth 903
Mechanical & Ceramic Solutions, Inc-Booth
1840
Metso-Booth 1403
MMD Mineral Sizing (America) Inc-Booth
725
RAM Enterprise, Inc-Booth 807
RECO Mining Solutions-Booth 461
REESCO-Booth 1762
ROSTA USA-Booth 1559
Sandvik-Booth 1317
Superior Industries-Booth 1703
Technogenia Lasercarb Oklahoma Inc-Booth
1541
TerraSource Global-Booth 2021
UCC Environmental-Booth 851
Westpro Machinery Inc-Booth 1702

Cyanide Process Equipment

Derrick Corporation-Booth 1413
ORE-MAX-Booth 1603

DC Power

Phoenix Lighting-Booth 324

Dewatering Equipment

Abel Pumps-Booth 100
Alfa Laval-Booth 244
BEUMER Group-Booth 1455
Boart Longyear-Booth 1425
Carrier Process Equipment Group (CPEG)-
Booth 1856
Cornell Pump Co-Booth 618
Derrick Corporation-Booth 1413
DeWind One Pass Trenching LLC-Booth 1159
Diemme Filtration SRL-Booth 601
EcoMister Evaporator-Booth 328
Envirocon, Inc-Booth 1340
Flottweg Separation Technology, Inc-Booth
1731
FLS-Booth 1207
General Kinematics-Booth 720
GPM Inc-Booth 2027
Haver & Boecker Niagara-Booth 349
Hose Solutions Inc-Booth 625
HUESKER Inc-Booth 648
HydroTech Mining-Booth 513
IPI Packers-Booth 742
Joest Inc-Booth 449
MEGA-Drain by EnviroCon Systems-Booth
1153
Metso-Booth 1403
Micronics Engineered Filtration Group-Booth
839
Miller Sales & Engineering Inc-Booth 741
Nalco Water, an Ecolab Company-Booth 508
Naylor Pipe Company-Booth 1503
Netafim USA-Booth 521
PHOENIX Process Equipment-Booth 1736
Pocock Industrial, Inc-Booth 832
Premier Pressure Control-Booth 2050
PumpEng-Booth 2044
Rain for Rent-Booth 1701
REI Drilling, Inc-Booth 519
Roxia Inc-Booth 754
RWI Enhanced Evaporation Services-Booth
943
Somerset International-Booth 306
SRS Crisafulli, Inc-Booth 1845
Superior Industries-Booth 1703
Tech-Flow-Booth 202
Thomas Broadbent & Sons Ltd, Industrial
Process Division-Booth 2017
UCC Environmental-Booth 851
Vermeer Corp-Booth 1538
Victaulic-Booth 628
WesTech Engineering, LLC-Booth 1102

Diesel Equipment Lighting Systems

Coolon USA, Inc-Booth 134
Phoenix Lighting-Booth 324
Rocvent Inc-Booth 1612

Diesel Mining Equipment Manufacturers

Brookville Equipment Corp-Booth 1224
Irwin Car and Equipment-Booth 201
J.H. Fletcher & Co-Booth 453
Liebherr-Booth 1042
Normet Americas, Inc-Booth 433
Stratom Inc-Booth 1551
Timberland Equipment Limited-Booth 957
Vermeer Corp-Booth 1538

Diesel Particulate Control Systems

Accutron Instruments Inc-Booth 2053
Aletek-Booth 865

Draglines

5DT (Fifth Dimension Technologies)-Booth 1942
Caterpillar-Booth 1419
CCC Group, Inc-Booth 1836
Immersive Technologies-Booth 1918

Dredges

ENTACT, LLC-Booth 1442
Maccaferri, Inc-Booth 1441
Salem-Republic Rubber Co-Booth 915
SRS Crisafulli, Inc-Booth 1845
Supreme Manufacturing, Inc-Booth 2001
Technogenia Lasercarb Oklahoma Inc-Booth
1541
Ultra Tech Pipe-Booth 1824

Drill Bits - Rock

American Mining Services LLC-Booth 2020
Boart Longyear-Booth 1425
Epiroc-Booth 1119
GANZHOU BAUSDE MACHINERY
CO.,LTD-Booth 606
Gonar-Bis Sp. z o.o.-Booth 1658
Mitsubishi Materials USA Corp-Booth 1358
REI Drilling, Inc-Booth 519
Robit Inc-Booth 1709
Rockmore International-Booth 1655
RockTech USA, Inc-Booth 1800
Sandvik-Booth 1317
Technogenia Lasercarb Oklahoma Inc-Booth
1541
Williams Form Engineering Corp-Booth 1515

Drilling Contractors

Betts Drilling, Inc-Booth 2037
Boart Longyear-Booth 1425
Cascade Drilling L.P.-Booth 1639
ConeTec Inc-Booth 1629
Cowin & Company/Raisebor-Booth 1920



FKC-Lake Shore-Booth 1819
FTE Drilling-Booth 111
Gonar-Bis Sp. z o.o.-Booth 1658
Keller-Booth 1521
KP Exploration-Booth 405
Major Drilling-Booth 1943
National EWP-Booth 655
Premier Drilling-Booth 1250
REI Drilling, Inc-Booth 519
Richard Goettle, Inc (Goettle)-Booth 550
Ruen Drilling, Inc-Booth 1436
Shaft Drillers International-Booth 1528
Stewart Brothers Drilling Co-Booth 1341
Timberline Drilling, Inc-Booth 1704
Yellow Jacket Drilling Services-Booth 1258

Drilling Equipment

5DT (Fifth Dimension Technologies)-Booth 1942
Baroid Industrial Drilling Products-Booth 836
Boart Longyear-Booth 1425
Carlson Software-Booth 1510
Caterpillar-Booth 1419
CR Powered by Epiroc-Booth 611
Epiroc-Booth 1119
ExcelSense Technologies-Booth 861
Geotech Environmental Equipment, Inc-Booth 816
Gonar-Bis Sp. z o.o.-Booth 1658
HEICO Fastening Systems-Booth 1743
Herrenknecht Tunneling Systems-Booth 1214
Hexagon's Mining division-Booth 1307
J.H. Fletcher & Co-Booth 453
Komatsu-Booth 757
Miner Elastomer-Booth 530
Mitsubishi Materials USA Corp-Booth 1358
Premier Pressure Control-Booth 2050
RDO Equipment Company-Booth 1948
REI Drilling, Inc-Booth 519
Robit Inc-Booth 1709
Rockmore International-Booth 1655
RockTech USA, Inc-Booth 1800
Sandvik-Booth 1317
Thyssen Mining Group of Companies-Booth 750
Vermeer Corp-Booth 1538
WearPro Inc-Booth 609

Drives - Belt, Chain, Fluid and Gear

Bosch Rexroth - Hågglunds Drives-Booth 1148
Dodge Industrial, Inc-Booth 629
Flender Corporation-Booth 427
Kraft Power Corp-Booth 632
Regal Rexnord-Booth 925
ROSTA USA-Booth 1559
Rulmeca Corporation-Booth 1814
Rulmeca Limited-Booth 1810
VDG (Van der Graaf)-Booth 707
Voith Group-Booth 909
West River Conveyors-Booth 649

Drives - Magnetic and Variable

ABB-Booth 949
Carroll Technologies Group-Booth 658
Graybar Electric-Booth 1605
Joest Inc-Booth 449
Kraft Power Corp-Booth 632
Tech-Flow-Booth 202
VDG (Van der Graaf)-Booth 707
Voith Group-Booth 909
WEG-Booth 703

Dryers

Binder+Co USA Inc-Booth 1614
Carrier Process Equipment Group (CPEG)-Booth 1856
Eirich Machines, Inc-Booth 1713
FEECO International, Inc-Booth 2049
Joest Inc-Booth 449
Louisville Dryer Company-Booth 1843
Westpro Machinery Inc-Booth 1702

Dust and Fume Control Technology

ABC Ventilation Systems-Booth 1257
Accutron Instruments Inc-Booth 2053
Alfa Laval-Booth 244
ASGCO Complete Conveyor Solutions-Booth 845
BreatheSafe - AireSafe International-Booth 129
Desert Mountain Corporation-Booth 2019
EcoMister Evaporator-Booth 328
Englo, Inc-Booth 1005
Environmental Products & Applications, Inc-Booth 1448
GEO-Instruments-Booth 1519
Herding Filtration LLC-Booth 251
JBW Consulting Engineers-Booth 209
Micronics Engineered Filtration Group-Booth 839
Midwest Industrial Supply, Inc-Booth 1620
Open Loop Energy, Inc-Booth 424
Philippi-Hagenbuch, Inc-Booth 850
Rocvent Inc-Booth 1612
RWI Enhanced Evaporation Services-Booth 943
Soilworks - Dust Control-Booth 126
Southwest Irrigation LLC-Booth 1765
Spendrup Fan Co-Booth 1505

Educational

5DT (Fifth Dimension Technologies)-Booth 1942
American Institute of Professional Geologists-Booth 1248
Canadian Institute of Mining, Metallurgy & Petroleum (CIM)-Booth 1108
Colorado Mining Association (CMA)-Booth 830
Colorado School of Mines - Department of Mining Engineering-Booth 1018
Costmine-Booth 1114
Global Mining Guidelines Group-Booth 1616

Great Basin College-Booth 529
Instituto de Ingenieros de Minas del Peru (IIMP)-Booth 554
Jenike & Johanson-Booth 716
Mackay School of Earth Sciences and Engineering-Booth 736
Mining & Metals - Information Sharing and Analysis Centre-Booth 1618
Missouri S&T-Booth 942
Montana Technological University - School of Mines & Engineering-Booth 732
New Mexico Institute of Mining & Technology-Booth 1239
Penn State University-Booth 857
South Dakota School of Mines-Booth 738
U.S. Geological Survey (USGS), Mineral Resources Program (MRP)-Booth 828
University of Arizona Mining and Geological Engineering-Booth 1602
University of Kentucky Department of Mining Engineering-Booth 651
University of Utah, Mining Engineering Department-Booth 533
Virginia Tech Department of Mining & Minerals Engineering-Booth 525
WAAIME-Booth 838
West Virginia Univ Dept of Mining Engineering-Booth 139
West Virginia University - Mining Extension-Booth 528
Women's Mining Coalition-Booth 1241

Electric Motors and Generators

ABB-Booth 949
FLANDERS, Inc-Booth 208
Graybar Electric-Booth 1605
Integrated Power Services-Booth 950
Kraft Power Corp-Booth 632
ROSTA USA-Booth 1559
Rulmeca Corporation-Booth 1814
Tech-Flow-Booth 202
VDG (Van der Graaf)-Booth 707
Voith Group-Booth 909
WEG-Booth 703

Electric Wire and Cable

Graybar Electric-Booth 1605

Electrical Equipment and Supplies

Atlas Electric, Inc-Booth 401
CAB-Booth 1536
Carroll Technologies Group-Booth 658
Conspc Controls-Booth 1158
Coolon USA, Inc-Booth 134
DEA Incorporated-Booth 1055
ExcelSense Technologies-Booth 861
Gai-tronics / Austdac-Booth 1853
Graybar Electric-Booth 1605
Line Power Manufacturing-Booth 902
Monico Monitoring, Inc-Booth 1450
Phoenix Lighting-Booth 324

PRODUCTS & SERVICES

RCT-Booth 1056
Rocvent Inc-Booth 1612
Roxsyle Systems LLC-Booth 1357
TPSX-Booth 1440

Emissions Control

Advanced Research Projects Agency – Energy (ARPA-E)-Booth 1009
Aletek-Booth 865
Civil & Environmental Consultants, Inc (CEC)-Booth 1548
Conifer Systems-Booth 505
Desert Mountain Corporation-Booth 2019
Micronics Engineered Filtration Group-Booth 839
Univar Solutions-Booth 826

Environmental Control Equipment and Supplies

Accutron Instruments Inc-Booth 2053
Ackcio-Booth 2042
Advanced Research Projects Agency – Energy (ARPA-E)-Booth 1009
Aquatech-Booth 1838
BreatheSafe - AireSafe International-Booth 129
Conifer Systems-Booth 505
Conspec Controls-Booth 1158
Desert Mountain Corporation-Booth 2019
Diemme Filtration SRL-Booth 601
EcoMister Evaporator-Booth 328
Englo, Inc-Booth 1005
Flottweg Separation Technology, Inc-Booth 1731
Howden Canada Inc-Booth 719
IoT Automation-Booth 448
IWT-Booth 1630
Micronics Engineered Filtration Group-Booth 839
Midwest Industrial Supply, Inc-Booth 1620
Open Loop Energy, Inc-Booth 424
Presto Geosystems-Booth 848
RWI Enhanced Evaporation Services-Booth 943
Soilworks - Dust Control-Booth 126
SRS Crisafulli, Inc-Booth 1845
Valmet Flow Control-Booth 1537
Vermeer Corp-Booth 1538
Watershed Geo-Booth 918

Excavators

5DT (Fifth Dimension Technologies)-Booth 1942
BEUMER Group-Booth 1455
Bradken-Booth 1924
Caterpillar-Booth 1419
CR Powered by Epiroc-Booth 611
ENTACT, LLC-Booth 1442
Envirocon, Inc-Booth 1340
ExcelSense Technologies-Booth 861
HEICO Fastening Systems-Booth 1743
Immersive Technologies-Booth 1918
Komatsu-Booth 757

Liebherr-Booth 1042
RECO Mining Solutions-Booth 461
Technogenia Lasercarb Oklahoma Inc-Booth 1541
WearPro Inc-Booth 609
Weir-Booth 1225

Exploration Equipment and Services

Agapito Associates Inc-Booth 1237
Baroid Industrial Drilling Products-Booth 836
Boart Longyear-Booth 1425
Carlson Software-Booth 1510
Datamine Software-Booth 1719
Esri-Booth 214
Independent Mining Consultants, Inc-Booth 1431
IPI Packers-Booth 742
Mavrik-Booth 1443
Micromine-Booth 1540
Premier Pressure Control-Booth 2050
REI Drilling, Inc-Booth 519
RockTech USA, Inc-Booth 1800
SRK Consulting (US), Inc-Booth 1621
Stewart Brothers Drilling Co-Booth 1341
Sunset Manufacturing-Booth 1801
Veracio-Booth 301

Explosive Materials and Services

Austin Powder-Booth 1555
Dyno Nobel-Booth 1125
GMS Mine Repair & Maintenance-Booth 1014
Harrison Western Construction Corporation, Inc-Booth 1727
Hexagon's Mining division-Booth 1307
Maptek-Booth 1103
Orica USA-Booth 249
Philippi-Hagenbuch, Inc-Booth 850

Fans and Blowers

ABC Ventilation Systems-Booth 1257
Adhesive Services Company-Booth 1752
EcoMister Evaporator-Booth 328
Englo, Inc-Booth 1005
Hoffman Manufacturing, Inc-Booth 501
Howden Canada Inc-Booth 719
Irwin Car and Equipment-Booth 201
Mechanical & Ceramic Solutions, Inc-Booth 1840
Mining Equipment, Ltd-Booth 1342
New York Blower Company-Booth 556
Ram Alloys-Booth 1142
Regal Rexnord-Booth 925
Rocvent Inc-Booth 1612
Saskatchewan Trade and Export Partnership-Booth 1355
Spendrup Fan Co-Booth 1505
TLT-Turbo, Inc-Booth 1925

Fasteners - Industrial

ASGCO Complete Conveyor Solutions-Booth 845
Copper State Bolt & Nut Co-Booth 911
Dyson Corp-Booth 142
HEICO Fastening Systems-Booth 1743
HYTORC, Division of UNEX Corp-Booth 1921
ME Elecmetal-Booth 903
Ram Alloys-Booth 1142
Rema Tip Top-Booth 500
Valley Forge & Bolt Mfg Co-Booth 1619
Williams Form Engineering Corp-Booth 1515

Feeder Breakers

Atlas Electric, Inc-Booth 401
Carroll Technologies Group-Booth 658
JADCO Manufacturing Inc-Booth 607
Komatsu-Booth 757
McLanahan Corporation-Booth 1143

Feeders

Aumund Corporation-Booth 751
Bradken-Booth 1924
Carrier Process Equipment Group (CPEG)-Booth 1856
ERIEZ-Booth 1437
General Kinematics-Booth 720
JADCO Manufacturing Inc-Booth 607
Jenike & Johanson-Booth 716
Joest Inc-Booth 449
Kamengo-Booth 527
McLanahan Corporation-Booth 1143
MMD Mineral Sizing (America) Inc-Booth 725
RAM Enterprise, Inc-Booth 807
RECO Mining Solutions-Booth 461
REESCO-Booth 1762
ROSTA USA-Booth 1559
Structural Steel & Plate Fabrication-Booth 542
Superior Industries-Booth 1703
Syntron Material Handling-Booth 1625
TerraSource Global-Booth 2021
Virta Inc-Booth 753

Filters, Filter Cloth and Accessories

ANDRITZ-Booth 1643
BreatheSafe - AireSafe International-Booth 129
CANTY-Booth 1637
Diemme Filtration SRL-Booth 601
Irwin Car and Equipment-Booth 201
Ishigaki USA Ltd-Booth 548
J. Rettenmaier USA LP-Booth 1656
Johnson Screens-Booth 603
MEGA-Drain by EnviroCon Systems-Booth 1153
Metso-Booth 1403
Micronics Engineered Filtration Group-Booth 839
Netafim USA-Booth 521

ORE-MAX-Booth 1603
 PHOENIX Process Equipment-Booth 1736
 Pocock Industrial, Inc-Booth 832
 Purolite, An Ecolab Company-Booth 849
 Roxia Inc-Booth 754
 Sefar Inc-Booth 1550
 United Central Industrial Supply-Booth 1245
 Veolia Water Technologies-Booth 803
 WesTech Engineering, LLC-Booth 1102

Fire Protection

Aletek-Booth 865
 ASC Engineered Solutions-Booth 825
 Englo, Inc-Booth 1005
 Guardian Traxol Chemicals Inc-Booth 1653
 RCT-Booth 1056
 Victaulic-Booth 628

Flotation Machines and Equipment

CANTY-Booth 1637
 CiDRA Minerals Processing Inc-Booth 1249
 ERIEZ-Booth 1437
 ExcelSense Technologies-Booth 861
 FLS-Booth 1207
 Hawk Measurement-Booth 1661
 Hayward Gordon Group-Booth 1804
 Hexagon's Mining division-Booth 1307
 Iracore/Irathane Systems Inc-Booth 819
 Jord International-Booth 300
 Metso-Booth 1403
 Nalco Water, an Ecolab Company-Booth 508
 Roytec Global (Pty) Ltd-Booth 1761
 SRS Crisafulli, Inc-Booth 1845
 Structural Steel & Plate Fabrication-Booth 542
 Tech-Flow-Booth 202
 Thermo Fisher Scientific-Booth 1113
 Townley Engineering & Manufacturing, Co Inc-Booth 2009
 Westpro Machinery Inc-Booth 1702

Furnaces - Industrial Process

ANDRITZ-Booth 1643
 BICO Inc-Booth 1533
 CANTY-Booth 1637
 Carrier Process Equipment Group (CPEG)-Booth 1856
 Kiewit-Booth 1025

Gears - Pullers, Reducers and Pinions

Dodge Industrial, Inc-Booth 629
 Flender Corporation-Booth 427
 Guardian Traxol Chemicals Inc-Booth 1653
 Hayward Gordon Group-Booth 1804
 Irwin Car and Equipment-Booth 201
 Kraft Power Corp-Booth 632
 Ram Alloys-Booth 1142
 Rulmeca Corporation-Booth 1814
 WEG-Booth 703
 West River Conveyors-Booth 649
 ZF Industrial Drives-Booth 755

Geological-Physical-Technical Services and Equip

Ackcio-Booth 2042
 Agapito Associates Inc-Booth 1237
 AGRU America, Inc-Booth 920
 beadedstream inc-Booth 2003
 Call & Nicholas Inc. - Call & Nicholas Instruments-Booth 701
 Canary Systems, Inc-Booth 425
 ConeTec Inc-Booth 1629
 Costmine-Booth 1114
 Esri-Booth 214
 GEOKON-Booth 1015
 GHD-Booth 225
 Hilfiker Retaining Walls-Booth 1511
 hydroGEOPHYSICS Inc-Booth 1738
 Independent Mining Consultants, Inc-Booth 1431
 IoT Automation-Booth 448
 IPI Packers-Booth 742
 Maptek-Booth 1103
 Micromine-Booth 1540
 Montgomery & Associates-Booth 1543
 NewFields-Booth 1013
 PETRA Data Science-Booth 837
 Presto Geosystems-Booth 848
 RESPEC-Booth 1242
 SKAPS Industries-Booth 555
 Telemark Energy Services-Booth 1155
 Terra Insights-Booth 643
 TopVu-Booth 2051

Government Agency - Entity

National Institute for Occupational Safety & Health-Booth 1325
 Sun Corridor Inc-Booth 1561
 U.S. Geological Survey (USGS), Mineral Resources Program (MRP)-Booth 828

Gravity Separators

Bunting-Booth 406
 ERIEZ-Booth 1437
 FGX SepTech Global LLC-Booth 1705
 Joest Inc-Booth 449
 Mineral Technologies-Booth 619
 WesTech Engineering, LLC-Booth 1102

Grinding Media and Liners

AGRU America, Inc-Booth 920
 Bradken-Booth 1924
 Copper State Bolt & Nut Co-Booth 911
 FC Mill Liners, Inc-Booth 1842
 Magotteaux-Booth 833
 ME Elecmetal-Booth 903
 Metso-Booth 1403
 SKAPS Industries-Booth 555
 SOLMAX-Booth 1251
 Tecera International Co, Ltd-Booth 1802
 Tech-Flow-Booth 202
 Univar Solutions-Booth 826

Grinding Mills

BICO Inc-Booth 1533
 Bradken-Booth 1924
 CiDRA Minerals Processing Inc-Booth 1249
 Copper State Bolt & Nut Co-Booth 911
 Disa Technologies, Inc-Booth 954
 Eirich Machines, Inc-Booth 1713
 FC Mill Liners, Inc-Booth 1842
 Flender Corporation-Booth 427
 FLS-Booth 1207
 General Kinematics-Booth 720
 Guardian Traxol Chemicals Inc-Booth 1653
 HEICO Fastening Systems-Booth 1743
 Koeppern Group-Booth 551
 ME Elecmetal-Booth 903
 Metso-Booth 1403
 Mineral Technologies-Booth 619
 TerraSource Global-Booth 2021
 UCC Environmental-Booth 851
 Weir-Booth 1225
 Westpro Machinery Inc-Booth 1702

Grizzlies - Feeding, Moving and Stationary

Bradken-Booth 1924
 Carrier Process Equipment Group (CPEG)-Booth 1856
 Haver & Boecker Niagara-Booth 349
 Joest Inc-Booth 449
 Philippi-Hagenbuch, Inc-Booth 850
 Structural Steel & Plate Fabrication-Booth 542
 Superior Industries-Booth 1703

Ground Freezing

beadedstream inc-Booth 2003
 Thyssen Mining Group of Companies-Booth 750

Grouting Services, Equipment and Materials

Adhesive Services Company-Booth 1752
 Aerix Industries-Booth 1524
 Avanti International-Booth 724
 ChemGrout, Inc-Booth 1633
 GMS Mine Repair & Maintenance-Booth 1014
 Harrison Western Construction Corporation, Inc-Booth 1727
 IPI Packers-Booth 742
 Keller-Booth 1521
 Master Builders Solutions-Booth 1409
 Premier Pressure Control-Booth 2050
 Putzmeister Shotcrete Technology-Booth 843
 Simem Underground Solutions, Inc-Booth 921
 Strata Products Worldwide, LLC-Booth 1530
 Thyssen Mining Group of Companies-Booth 750
 WSP-Booth 1345

PRODUCTS & SERVICES

HealthCare

BreatheSafe - AireSafe International-Booth 129

Heavy Media Recovery Units

ERIEZ-Booth 1437

Hoists - Controls and Accessories

Atlas Electric, Inc-Booth 401
Carroll Technologies Group-Booth 658
FKC-Lake Shore-Booth 1819
Hepburn Engineering Inc-Booth 700
Matrix Design Group-Booth 1825
MILLER-Booth 1737
Timberland Equipment Limited-Booth 957

Hoses - Valves and Fittings

Continental-Booth 1019
Copper State Bolt & Nut Co-Booth 911
Hose Solutions Inc-Booth 625
Netafim USA-Booth 521
Novaflex Hose-Booth 112
ORE-MAX-Booth 1603
Salem-Republic Rubber Co-Booth 915
Southwest Irrigation LLC-Booth 1765
Tecera International Co, Ltd-Booth 1802
Tech-Flow-Booth 202
Ultra Tech Pipe-Booth 1824
United Central Industrial Supply-Booth 1245

Hydraulic System Components

Bosch Rexroth - Hägglunds Drives-Booth 1148
Continental-Booth 1019
Hepburn Engineering Inc-Booth 700
Hoffman Manufacturing, Inc-Booth 501
JENNMAR-Booth 1217
Johnson Industries Ltd-Booth 1513
Kobelt Manufacturing Co Ltd-Booth 728
Kraft Power Corp-Booth 632
Open Loop Energy, Inc-Booth 424
RECO Mining Solutions-Booth 461

Inflatable and Mechanical Packers

IPI Packers-Booth 742
JENNMAR-Booth 1217

Information Technology Products

3D-P Powered by Epiroc-Booth 948
6Harmonics-Booth 218
Actenum-Booth 756
ASI Mining-Booth 710
Canary Systems, Inc-Booth 425
COGEP Maintenance Software-Booth 726
Coolon USA, Inc-Booth 134
Costmine-Booth 1114
Datamine Software-Booth 1719
Diesel Laptops-Booth 1858
Eclipse Mining Technologies-Booth 441

Emerson-Booth 1609
Esri-Booth 214
Frontier Precision Geospatial/Unmanned-Booth 2041
Honeywell-Booth 813
Immersive Technologies-Booth 1918
Information Alignment Pty Ltd-Booth 1631
Maintenance Technology Systems, LLC (MTS)-Booth 200
Matrix Design Group-Booth 1825
Micromine-Booth 1540
MineSense-Booth 936
Monico Monitoring, Inc-Booth 1450
MST Global-Booth 116
Orica USA-Booth 249
RCT-Booth 1056
RDO Equipment Company-Booth 1948
RESPEC-Booth 1242
RtTech Software-Booth 240
Spartakus Technologies-Booth 1757
Strayos-Booth 207
talpasolutions GmbH-Booth 1610
TopVu-Booth 2051
U.S. Geological Survey (USGS), Mineral Resources Program (MRP)-Booth 828
Waites Sensor Technologies-Booth 831
Weir-Booth 1225

Insurance

Skyward Specialty Insurance-Booth 1011

Ion Exchange Equipment and Resins

Aquatech-Booth 1838
Jacobi Group-Booth 1851
Pocock Industrial, Inc-Booth 832
Puro-lite, An Ecolab Company-Booth 849
Roytec Global (Pty) Ltd-Booth 1761
Univar Solutions-Booth 826
Veolia Water Technologies-Booth 803

Kilns

Adhesive Services Company-Booth 1752
CANTY-Booth 1637
Carrier Process Equipment Group (CPEG)-Booth 1856
FEECO International, Inc-Booth 2049
Guardian Traxol Chemicals Inc-Booth 1653
Louisville Dryer Company-Booth 1843
Metso-Booth 1403

Laboratory and Scientific Services

ACZ Laboratories Inc-Booth 1624
Advanced Terra Testing Inc-Booth 1444
Agapito Associates Inc-Booth 1237
Blue Coast Research-Booth 1729
Call & Nicholas Inc. - Call & Nicholas Instruments-Booth 701
Datamine Software-Booth 1719
Disa Technologies, Inc-Booth 954
Dyno Nobel-Booth 1125

EMSL Analytical, Inc-Booth 109
Geopyröä-Booth 345
GHD-Booth 225
hydroGEOPHYSICS Inc-Booth 1738
Jenike & Johanson-Booth 716
Knight Piésold and Co-Booth 1008
Metcom Technologies Inc-Booth 1010
Micronics Engineered Filtration Group-Booth 839
Mineral Technologies-Booth 619
NewFields-Booth 1013
Paterson & Cooke USA, Ltd-Booth 1741
PHOENIX Process Equipment-Booth 1736
Pocock Industrial, Inc-Booth 832
RESPEC-Booth 1242
Saskatchewan Trade and Export Partnership-Booth 1355
SGS Minerals Services-Booth 1003
Skyline Assayers & Laboratories-Booth 656
The Mineral Lab, Inc-Booth 1110
Thermo Fisher Scientific-Booth 1113
Western Environmental Testing Lab (WET-LAB)-Booth 745
WSP-Booth 1345

Laboratory Equipment and Supplies

BICO Inc-Booth 1533
CANTY-Booth 1637
easyXAFS, LLC-Booth 1864
EMSL Analytical, Inc-Booth 109
Haver & Boecker Niagara-Booth 349
Malvern Panalytical-Booth 708
Radom Corp-Booth 105
Sunset Manufacturing-Booth 1801
Thermo Fisher Scientific-Booth 1113
Thomas Broadbent & Sons Ltd, Industrial Process Division-Booth 2017
Veracio-Booth 301

Leaching Sprinklers

Netafim USA-Booth 521
ORE-MAX-Booth 1603
Southwest Irrigation LLC-Booth 1765

Lighting Systems and Lamps

APS Lighting & Safety-Booth 1763
Carroll Technologies Group-Booth 658
Coolon USA, Inc-Booth 134
Gai-tronics / Austdac-Booth 1853
Graybar Electric-Booth 1605
IoT Automation-Booth 448
Nordic Lights-Booth 1651
Phoenix Lighting-Booth 324
PROVIX-Booth 410
RIGID Industries-Booth 2011
United Central Industrial Supply-Booth 1245
Vision X USA-Booth 236
x-Glo North America Inc-Booth 408

Linings and Claddings

AGRU America, Inc-Booth 920



Blair Rubber Company–Booth 504
 Bradken–Booth 1924
 CETCO–Booth 1517
 Copper State Bolt & Nut Co–Booth 911
 Custom Linings, Inc–Booth 536
 Fisher Co–Booth 1565
 hydroGEOPHYSICS Inc–Booth 1738
 Inland Tarp & Liner–Booth 553
 JADCO Manufacturing Inc–Booth 607
 Layfield Geosynthetics–Booth 1949
 ME Elecmetal–Booth 903
 Mechanical & Ceramic Solutions, Inc–Booth 1840
 MEGA-Drain by EnviroCon Systems–Booth 1153
 MOGAS Industries, Inc–Booth 1951
 Norseman Structures–Booth 509
 Presto Geosystems–Booth 848
 RAM Enterprise, Inc–Booth 807
 Rema Tip Top–Booth 500
 RubberSource Inc–Booth 1750
 Salem-Republic Rubber Co–Booth 915
 SKAPS Industries–Booth 555
 SOLMAX–Booth 1251
 Tecera International Co, Ltd–Booth 1802
 WearPro Inc–Booth 609

Liquid Level Indicators and Switches

Hawk Measurement–Booth 1661
 TechStar–Booth 2031
 WesTech Engineering, LLC–Booth 1102

Loaders

5DT (Fifth Dimension Technologies)–Booth 1942
 Caterpillar–Booth 1419
 CR Powered by Epiroc–Booth 611
 Driver Industrial Safety–Booth 310
 Envirocon, Inc–Booth 1340
 Epiroc–Booth 1119
 Immersive Technologies–Booth 1918
 Komatsu–Booth 757
 Sandvik–Booth 1317
 WearPro Inc–Booth 609

Longwall Mining Equipment

5DT (Fifth Dimension Technologies)–Booth 1942
 CAB–Booth 1536
 Gai-tronics / Austdac–Booth 1853
 HUESKER Inc–Booth 648
 J.H. Fletcher & Co–Booth 453
 JENNMAR–Booth 1217
 Komatsu–Booth 757
 Line Power Manufacturing–Booth 902
 rm wilson co–Booth 729
 Robit Inc–Booth 1709
 United Central Industrial Supply–Booth 1245
 Voith Group–Booth 909

Lubricants and Equipment

A.W. Chesterton Company–Booth 2024
 FUCHS LUBRICANTS CO–Booth 2048

Guardian Traxol Chemicals Inc–Booth 1653
 MAPEI Corporation–Booth 904
 Midwest Industrial Supply, Inc–Booth 1620
 RECO Mining Solutions–Booth 461
 WearPro Inc–Booth 609

Magnetic Separators

Bunting–Booth 406
 ERIEZ–Booth 1437
 Mineral Technologies–Booth 619
 Roytec Global (Pty) Ltd–Booth 1761

Maintenance Equipment and Supplies

Ackcio–Booth 2042
 Aletek–Booth 865
 Arsenal Tire Performance Tech–Booth 1927
 Atlas Electric, Inc–Booth 401
 Bradken–Booth 1924
 BreatheSafe - AireSafe International–Booth 129
 Brookville Equipment Corp–Booth 1224
 CAB–Booth 1536
 COGEP Maintenance Software–Booth 726
 Copper State Bolt & Nut Co–Booth 911
 Desert Mountain Corporation–Booth 2019
 Driver Industrial Safety–Booth 310
 Flender Corporation–Booth 427
 FUCHS LUBRICANTS CO–Booth 2048
 Guardian Traxol Chemicals Inc–Booth 1653
 HYTORC, Division of UNEX Corp–Booth 1921
 InduMar Products Inc–Booth 731
 PROVIX–Booth 410
 REESCO–Booth 1762
 Rema Tip Top–Booth 500
 Southwest Irrigation LLC–Booth 1765
 Timberland Equipment Limited–Booth 957
 TPSX–Booth 1440
 WearPro Inc–Booth 609

Maintenance Services

Actenum–Booth 756
 Adhesive Services Company–Booth 1752
 Bosch Rexroth - Häggglunds Drives–Booth 1148
 CCC Group, Inc–Booth 1836
 COGEP Maintenance Software–Booth 726
 Custom Linings, Inc–Booth 536
 DEA Incorporated–Booth 1055
 FEECO International, Inc–Booth 2049
 FKC-Lake Shore–Booth 1819
 GMS Mine Repair & Maintenance–Booth 1014
 Guardian Traxol Chemicals Inc–Booth 1653
 Hatch–Booth 1243
 Integrated Power Services–Booth 950
 Maintenance Technology Systems, LLC (MTS)–Booth 200
 Matrix Service Company–Booth 748
 Mechanical & Ceramic Solutions, Inc–Booth 1840

Metso–Booth 1403
 Micronics Engineered Filtration Group–Booth 839
 MOGAS Industries, Inc–Booth 1951
 Normet Americas, Inc–Booth 433
 Northwest Towers–Booth 1901
 RDO Equipment Company–Booth 1948
 RECO Mining Solutions–Booth 461
 Rema Tip Top–Booth 500
 Structural Steel & Plate Fabrication–Booth 542
 Tech-Flow–Booth 202
 TerraSource Global–Booth 2021
 TPSX–Booth 1440
 Waites Sensor Technologies–Booth 831

Measurement and Monitoring Systems

3D-P Powered by Epiroc–Booth 948
 ABB–Booth 949
 Accutron Instruments Inc–Booth 2053
 Ackcio–Booth 2042
 airth.io–Booth 1828
 Arsenal Tire Performance Tech–Booth 1927
 beadedstream inc–Booth 2003
 Call & Nicholas Inc. - Call & Nicholas Instruments–Booth 701
 Canary Systems, Inc–Booth 425
 CANTY–Booth 1637
 Carlson Software–Booth 1510
 CiDRA Minerals Processing Inc–Booth 1249
 COGEP Maintenance Software–Booth 726
 ConeTec Inc–Booth 1629
 Conspec Controls–Booth 1158
 CR Powered by Epiroc–Booth 611
 Emerson–Booth 1609
 Frontier Precision Geospatial/Unmanned–Booth 2041
 Gai-tronics / Austdac–Booth 1853
 GEO-Instruments–Booth 1519
 GEOKON–Booth 1015
 Geotech Environmental Equipment, Inc–Booth 816
 GroundProbe NA LLC–Booth 640
 Haver & Boecker Niagara–Booth 349
 Hawk Measurement–Booth 1661
 Hexagon's Mining division–Booth 1307
 Honeywell–Booth 813
 Information Alignment Pty Ltd–Booth 1631
 IoT Automation–Booth 448
 IWT–Booth 1630
 Maestro Digital Mine–Booth 426
 Maintenance Technology Systems, LLC (MTS)–Booth 200
 Malvern Panalytical–Booth 708
 Maptek–Booth 1103
 McCrometer, Inc–Booth 451
 Mine Vision Systems–Booth 1054
 MOGAS Industries, Inc–Booth 1951
 Monico Monitoring, Inc–Booth 1450
 Orica USA–Booth 249
 Process Technology, Inc–Booth 210
 RESPEC–Booth 1242

PRODUCTS & SERVICES

Scantech International Pty Ltd–Booth 1919
SITECH Southwest–Booth 226
Strata Products Worldwide, LLC–Booth 1530
Sympatec–Booth 1748
TechStar–Booth 2031
Terra Insights–Booth 643
Thermo Fisher Scientific–Booth 1113
TopVu–Booth 2051
TPSX–Booth 1440
Veracio–Booth 301
Waites Sensor Technologies–Booth 831
Weir–Booth 1225
Wingfield Scale & Measure–Booth 407
Worldsensing SL–Booth 117
Xylem Inc–Booth 1231

Meters and Gauges

Canary Systems, Inc–Booth 425
CiDRA Minerals Processing Inc–Booth 1249
Hawk Measurement–Booth 1661
Netafim USA–Booth 521
ORE-MAX–Booth 1603
Southwest Irrigation LLC–Booth 1765
TechStar–Booth 2031
Terra Insights–Booth 643
Thermo Fisher Scientific–Booth 1113
United Central Industrial Supply–Booth 1245
Valley Forge & Bolt Mfg Co–Booth 1619

Mine Evaluations - Surface and Underground

Agapito Associates Inc–Booth 1237
airth.io–Booth 1828
AMPS–Booth 2015
Costmine–Booth 1114
Dyno Nobel–Booth 1125
Equinox Gold–Booth 557
Exyn Technologies–Booth 230
Geosyntec Consultants–Booth 617
Hatch–Booth 1243
Immersive Technologies–Booth 1918
Independent Mining Consultants, Inc–Booth 1431
Micromine–Booth 1540
Midwest Industrial Supply, Inc–Booth 1620
Mine Vision Systems–Booth 1054
NewFields–Booth 1013
RESPEC–Booth 1242
Samuel Engineering, Inc–Booth 1830
Terra Insights–Booth 643
TPSX–Booth 1440
WSP–Booth 1345

Mine Operators

Acrow Corp. of America (Acrow Bridge)–Booth 1012
AECOM–Booth 1210
ANDRITZ–Booth 1643
Arch Resources, Inc–Booth 121
Byrncut Group–Booth 1452
Driver Industrial Safety–Booth 310
Eagle Mine–Booth 858

Equinox Gold–Booth 557
Esri–Booth 214
Freeport-McMoRan Inc–Booth 737
Grupo Mexico - ASARCO–Booth 1659
Guideline Geo Americas – Reutech–Booth 1732
Immersive Technologies–Booth 1918
Independent Mining Consultants, Inc–Booth 1431
Kiewit–Booth 1025
Micromine–Booth 1540
MP Materials–Booth 1020
Nevada Gold Mines–Booth 636
Northern Star Resources–Booth 145
Open Loop Energy, Inc–Booth 424
Propeller–Booth 348
Rio Tinto–Booth 661

Mineral Prospecting

Agapito Associates Inc–Booth 1237
CiDRA Minerals Processing Inc–Booth 1249
Equinox Gold–Booth 557
Esri–Booth 214
FGX SepTech Global LLC–Booth 1705
Freeport-McMoRan Inc–Booth 737
Stewart Brothers Drilling Co–Booth 1341

Mining Contractors

Acrow Corp. of America (Acrow Bridge)–Booth 1012
AECOM–Booth 1210
Ames Construction–Booth 1454
Axter Coletanche Inc–Booth 444
Boart Longyear–Booth 1425
CCC Group, Inc–Booth 1836
Cementation USA Inc–Booth 1350
Cowin & Company/Raisebor–Booth 1920
Custom Linings, Inc–Booth 536
Driver Industrial Safety–Booth 310
Equinox Gold–Booth 557
GMS Mine Repair & Maintenance–Booth 1014
Gonar-Bis Sp. z o.o.–Booth 1658
Harrison Western Construction Corporation, Inc–Booth 1727
Hatch–Booth 1243
Hoffman Manufacturing, Inc–Booth 501
JHL Constructors–Booth 650
Just Refiners USA, Inc–Booth 1650
Kiewit–Booth 1025
Maintenance Technology Systems, LLC (MTS)–Booth 200
Matrix Service Company–Booth 748
MES Mining–Booth 955
NSS Canada–Booth 329
Odin Construction Solutions–Booth 543
Phoenix Industrial–Booth 1806
Rango Inc–Booth 1759
REESCO–Booth 1762
Stewart Brothers Drilling Co–Booth 1341
Sync Mine Safety–Booth 350
THIESS Mining USA Inc–Booth 1354

Thyssen Mining Group of Companies–Booth 750
Turner Mining Group–Booth 1057
Watershed Geo–Booth 918

Oxygen - Gas Equipment and Suppliers

Accutron Instruments Inc–Booth 2053

Parts - Mining Machinery

Aletek–Booth 865
Arsenal Tire Performance Tech–Booth 1927
Atlas Electric, Inc–Booth 401
Bradken–Booth 1924
Brunel Corp–Booth 1644
Caterpillar–Booth 1419
Copper State Bolt & Nut Co–Booth 911
CR Powered by Epiroc–Booth 611
Epiroc–Booth 1119
FEECO International, Inc–Booth 2049
Flexco–Booth 524
HEICO Fastening Systems–Booth 1743
Irwin Car and Equipment–Booth 201
Ishigaki USA Ltd–Booth 548
Komatsu–Booth 757
ME Elecmetal–Booth 903
Metso–Booth 1403
Miner Elastomer–Booth 530
Normet Americas, Inc–Booth 433
Phoenix Lighting–Booth 324
Piinsa Construction and Mining Supplies–Booth 133
RAM Enterprise, Inc–Booth 807
RECO Mining Solutions–Booth 461
Robit Inc–Booth 1709
RockTech USA, Inc–Booth 1800
ROSTA USA–Booth 1559
Roxsyle Systems LLC–Booth 1357
Rulmeca Limited–Booth 1810
Technogenia Lasercarb Oklahoma Inc–Booth 1541
TerraSource Global–Booth 2021
UCC Environmental–Booth 851
Valley Forge & Bolt Mfg Co–Booth 1619
WearPro Inc–Booth 609
West River Conveyors–Booth 649
WireCo–Booth 307
ZF Industrial Drives–Booth 755

Pipes

AGRU America, Inc–Booth 920
AIL Mining–Booth 1343
ASC Engineered Solutions–Booth 825
Bradken–Booth 1924
Contech Engineered Solutions–Booth 1718
Hose Solutions Inc–Booth 625
Iracore/Irathane Systems Inc–Booth 819
ISCO Industries, Inc–Booth 2007
JADCO Manufacturing Inc–Booth 607
Kalenborn Abresist Corporation–Booth 1529
Mechanical & Ceramic Solutions, Inc–Booth 1840



MEGA-Drain by EnviroCon Systems–Booth 1153
 Naylor Pipe Company–Booth 1503
 Netafim USA–Booth 521
 ORE-MAX–Booth 1603
 Pexgol–Booth 224
 Rain for Rent–Booth 1701
 RAM Enterprise, Inc.–Booth 807
 Southwest Irrigation LLC–Booth 1765
 Structural Steel & Plate Fabrication–Booth 542
 Townley Engineering & Manufacturing, Co Inc–Booth 2009
 Ultra Tech Pipe–Booth 1824
 Victaulic–Booth 628

Pollution Control Equipment

Advanced Research Projects Agency – Energy (ARPA-E)–Booth 1009
 Aletek–Booth 865
 Aquatech–Booth 1838
 BICO Inc–Booth 1533
 Conifer Systems–Booth 505
 EcoMister Evaporator–Booth 328
 Flottweg Separation Technology, Inc–Booth 1731
 Micronics Engineered Filtration Group–Booth 839
 New York Blower Company–Booth 556
 Presto Geosystems–Booth 848
 RWI Enhanced Evaporation Services–Booth 943
 Soilworks - Dust Control–Booth 126
 UCC Environmental–Booth 851
 WesTech Engineering, LLC–Booth 1102

Power Transmission Equipment

Bosch Rexroth - Häggblunds Drives–Booth 1148
 Brunel Corp–Booth 1644
 DEA Incorporated–Booth 1055
 Flender Corporation–Booth 427
 Force Control Industries, Inc–Booth 545
 Graybar Electric–Booth 1605
 Kraft Power Corp–Booth 632
 Regal Rexnord–Booth 925
 ROSTA USA–Booth 1559
 TPSX–Booth 1440
 Voith Group–Booth 909
 ZF Industrial Drives–Booth 755

Process Controls and Instruments

Accutron Instruments Inc–Booth 2053
 ANDRITZ–Booth 1643
 CiDRA Minerals Processing Inc–Booth 1249
 DEA Incorporated–Booth 1055
 Emerson–Booth 1609
 Gai-tronics / Austdac–Booth 1853
 Graybar Electric–Booth 1605
 Hawk Measurement–Booth 1661
 Honeywell–Booth 813
 indurad–Booth 1259

Malvern Panalytical–Booth 708
 Northwest Instruments and Controls–Booth 115
 PROVIX–Booth 410
 RDO Equipment Company–Booth 1948
 Rocvent Inc–Booth 1612
 Scantech International Pty Ltd–Booth 1919
 Sympatec–Booth 1748
 TechStar–Booth 2031
 Thermo Fisher Scientific–Booth 1113
 TPSX–Booth 1440
 VEGA Americas, Inc–Booth 1640

Professional Society or Association

AIMC–Booth 229
 American Exploration & Mining Association–Booth 820
 American Institute of Professional Geologists–Booth 1248
 American Rock Mechanics Association (ARMA)–Booth 752
 Canadian Institute of Mining, Metallurgy & Petroleum (CIM)–Booth 1108
 Colorado Mining Association (CMA)–Booth 830
 Global Mining Guidelines Group–Booth 1616
 Mining & Metallurgical Society of America (MMSA)–Booth 1608
 Mining & Metals - Information Sharing and Analysis Centre–Booth 1618
 National Stone, Sand & Gravel Association (NSSGA)–Booth 148
 Women's Mining Coalition–Booth 1241

Publishers

Canadian Institute of Mining, Metallurgy & Petroleum (CIM)–Booth 1108
 Canadian Mining Journal–Booth 1112
 Costmine–Booth 1114
 Global Mining Review–Booth 919
 International Mining–Booth 749
 Mining Magazine–Booth 1349
 Mining Media International–Booth 1509
 Mining People Magazine–Booth 1660
 SEMCO Publishing–Booth 1106
 The Mining Record–Booth 1336

Pumps

A.W. Chesterton Company–Booth 2024
 Abel Pumps–Booth 100
 ANDRITZ–Booth 1643
 Avanti International–Booth 724
 Boart Longyear–Booth 1425
 Carroll Technologies Group–Booth 658
 ChemGrout, Inc–Booth 1633
 Cornell Pump Co–Booth 618
 Diemme Filtration SRL–Booth 601
 FLS–Booth 1207
 Geotech Environmental Equipment, Inc–Booth 816
 GPM Inc–Booth 2027

Hayward Gordon Group–Booth 1804
 HEICO Fastening Systems–Booth 1743
 HydroTech Mining–Booth 513
 Integrated Power Services–Booth 950
 Iracore/Irathane Systems Inc–Booth 819
 ISCO Industries, Inc–Booth 2007
 James, Cooke & Hobson, Inc–Booth 1854
 JENNMAR–Booth 1217
 Matec America Inc–Booth 717
 Metso–Booth 1403
 Miller Sales & Engineering Inc–Booth 741
 NETZSCH Pumps USA–Booth 1848
 Phoenix Pumps, Inc–Booth 552
 PEMO Pumps–Booth 242
 Premier Pressure Control–Booth 2050
 PumpEng–Booth 2044
 Putzmeister Shotcrete Technology–Booth 843
 Rain for Rent–Booth 1701
 Ram Alloys–Booth 1142
 Salem-Republic Rubber Co–Booth 915
 Schurco Slurry–Booth 1156
 Simem Underground Solutions, Inc–Booth 921
 SRS Crisafulli, Inc–Booth 1845
 Strata Products Worldwide, LLC–Booth 1530
 Sulzer–Booth 445
 Tech-Flow–Booth 202
 Technogenia Lasercarb Oklahoma Inc–Booth 1541
 Townley Engineering & Manufacturing, Co Inc–Booth 2009
 Tsurumi Pump–Booth 1525
 United Central Industrial Supply–Booth 1245
 Valmet Flow Control–Booth 1537
 WearPro Inc–Booth 609
 Weir–Booth 1225
 Xylem Inc–Booth 1231

Pyrometallurgical Processing

Heath & Sherwood (1964) Limited–Booth 604
 Kiewit–Booth 1025

Quality Improvement

CANTY–Booth 1637
 Carlson Software–Booth 1510
 Independent Mining Consultants, Inc–Booth 1431
 MOGAS Industries, Inc–Booth 1951
 Purolite, An Ecolab Company–Booth 849
 Samuel Engineering, Inc–Booth 1830
 Somerset International–Booth 306

Rail Systems and Supplies

Ackcio–Booth 2042
 Blair Rubber Company–Booth 504
 Caterpillar–Booth 1419
 Hilfiker Retaining Walls–Booth 1511
 JENNMAR–Booth 1217
 Presto Geosystems–Booth 848
 PROVIX–Booth 410

PRODUCTS & SERVICES

Rail-Veyor Technologies Global Inc-Booth 1549

Wingfield Scale & Measure-Booth 407

Reagents - Chemical and Flocculants

Allonnia-Booth 1754

Chevron Phillips Chemical-Booth 924

Clariant Corporation-Booth 637

Coyne Chemical-Booth 325

Desert Mountain Corporation-Booth 2019

Fischerchem Pte Ltd-Booth 1753

Graymont-Booth 561

Hexion Inc-Booth 439

Nalco Water, an Ecolab Company-Booth 508

Neo Solutions Inc-Booth 540

Pocock Industrial, Inc-Booth 832

Quadra Chemicals Inc-Booth 220

Roytec Global (Pty) Ltd-Booth 1761

Syensqo-Booth 1109

Tessenderlo Kerley, Inc. - moleko-Booth 818

UCC Environmental-Booth 851

Univar Solutions-Booth 826

Westpro Machinery Inc-Booth 1702

Reclamation Equipment and Services

Acrow Corp. of America (Acrow Bridge)-Booth 1012

Aerix Industries-Booth 1524

AGRU America, Inc-Booth 920

Alfa Laval-Booth 244

Axter Coletanche Inc-Booth 444

Carlson Software-Booth 1510

Civil & Environmental Consultants, Inc

(CEC)-Booth 1548

Costmine-Booth 1114

Custom Linings, Inc-Booth 536

Desert Mountain Corporation-Booth 2019

DeWind One Pass Trenching LLC-Booth 1159

EcoMister Evaporator-Booth 328

ENTACT, LLC-Booth 1442

Envirocon, Inc-Booth 1340

Foam Concepts LLC-Booth 842

Forgen-Booth 457

Harrison Western Construction Corporation, Inc-Booth 1727

Layfield Geosynthetics-Booth 1949

Maccaferri, Inc-Booth 1441

Maptek-Booth 1103

Odin Construction Solutions-Booth 543

Presto Geosystems-Booth 848

RWI Enhanced Evaporation Services-Booth 943

SKAPS Industries-Booth 555

SRK Consulting (US), Inc-Booth 1621

SRS Crisafulli, Inc-Booth 1845

Recruiting/Staffing

Freeport-McMoRan Inc-Booth 737

Reduction Technologies - Iron Ore, Steel, Mineral

Eirich Machines, Inc-Booth 1713

Kiewit-Booth 1025

TerraSource Global-Booth 2021

Refinery Equipment

Climatech-Booth 1254

Rain for Rent-Booth 1701

Structural Steel & Plate Fabrication-Booth 542

Remediation

Abel Pumps-Booth 100

AGRU America, Inc-Booth 920

Alfa Laval-Booth 244

Allonnia-Booth 1754

Antraquip Corporation-Booth 1348

ARCADIS-Booth 1043

Axter Coletanche Inc-Booth 444

CETCO-Booth 1517

ChemGrout, Inc-Booth 1633

Civil & Environmental Consultants, Inc

(CEC)-Booth 1548

Clariant Corporation-Booth 637

ConeTec Inc-Booth 1629

Coyne Chemical-Booth 325

Custom Linings, Inc-Booth 536

DeWind One Pass Trenching LLC-Booth 1159

Diemme Filtration SRL-Booth 601

EcoMister Evaporator-Booth 328

ENTACT, LLC-Booth 1442

Envirocon, Inc-Booth 1340

Forgen-Booth 457

Geosyntec Consultants-Booth 617

Geotech Environmental Equipment, Inc-

Booth 816

GHD-Booth 225

Harrison Western Construction Corporation,

Inc-Booth 1727

Jacobi Group-Booth 1851

Keller-Booth 1521

Knight Piésold and Co-Booth 1008

Layfield Geosynthetics-Booth 1949

Maccaferri, Inc-Booth 1441

Mitigation Resources of North America-

Booth 653

Odin Construction Solutions-Booth 543

Presto Geosystems-Booth 848

Ramboll-Booth 1849

REI Drilling, Inc-Booth 519

RWI Enhanced Evaporation Services-Booth 943

Saskatchewan Trade and Export Partnership-Booth 1355

SKAPS Industries-Booth 555

Soilworks - Dust Control-Booth 126

SOLMAX-Booth 1251

Tetra Tech-Booth 1720

Veolia Water Technologies-Booth 803

WSP-Booth 1345

Roadheaders

Antraquip Corporation-Booth 1348

Roof - Ground Supports

Agapito Associates Inc-Booth 1237

Antraquip Corporation-Booth 1348

CAB-Booth 1536

Epiroc-Booth 1119

Geobruigg North America, LLC-Booth 1627

Harrison Western Construction Corporation, Inc-Booth 1727

HUESKER Inc-Booth 648

J.H. Fletcher & Co-Booth 453

JENNMAR-Booth 1217

Master Builders Solutions-Booth 1409

Minova-Booth 1149

Strata Products Worldwide, LLC-Booth 1530

United Central Industrial Supply-Booth 1245

Williams Form Engineering Corp-Booth 1515

Safety Equipment

Accutron Instruments Inc-Booth 2053

Aletek-Booth 865

ASGCO Complete Conveyor Solutions-Booth 845

Belt Conveyor Guarding-Booth 932

BreatheSafe - AireSafe International-Booth 129

CAB-Booth 1536

Carroll Technologies Group-Booth 658

Conspec Controls-Booth 1158

Coolon USA, Inc-Booth 134

Copper State Bolt & Nut Co-Booth 911

CR Powered by Epiroc-Booth 611

Driver Industrial Safety-Booth 310

Erisco-Booth 1758

ExcelSense Technologies-Booth 861

Exyn Technologies-Booth 230

Flexco-Booth 524

Gai-tronics / Austdac-Booth 1853

Garmin International-Booth 563

Geobruigg North America, LLC-Booth 1627

HEICO Fastening Systems-Booth 1743

Immersive Technologies-Booth 1918

IoT Automation-Booth 448

IWT-Booth 1630

Matrix Design Group-Booth 1825

ME Elecmetal-Booth 903

MineARC Systems-Booth 1157

Phoenix Lighting-Booth 324

Premier Pressure Control-Booth 2050

PROVIX-Booth 410

Rain for Rent-Booth 1701

RCT-Booth 1056

RIGID Industries-Booth 2011

Southwest Irrigation LLC-Booth 1765

Strata Products Worldwide, LLC-Booth 1530

Sunset Manufacturing-Booth 1801

Sync Mine Safety-Booth 350

TopVu-Booth 2051

Tunnel Radio-Booth 1755

United Central Industrial Supply-Booth 1245



Unmanned Aerial Services Inc–Booth 110
Vision X USA–Booth 236
Wenco International Mining Systems–Booth 437
x-Glo North America Inc–Booth 408

Sampling Devices

Heath & Sherwood (1964) Limited–Booth 604
McLanahan Corporation–Booth 1143
Scantech International Pty Ltd–Booth 1919
Sunset Manufacturing–Booth 1801

Scales

Southwestern Scale Co, Inc–Booth 605
Wingfield Scale & Measure–Booth 407

Screens

Binder+Co USA Inc–Booth 1614
Carrier Process Equipment Group (CPEG)–Booth 1856
Derrick Corporation–Booth 1413
Federal Screen Products, Inc–Booth 538
General Kinematics–Booth 720
Haver & Boecker Niagara–Booth 349
Heath & Sherwood (1964) Limited–Booth 604
Iracore/Irathane Systems Inc–Booth 819
JADCO Manufacturing Inc–Booth 607
Joest Inc–Booth 449
Masaba Inc–Booth 1707
Matec America Inc–Booth 717
McLanahan Corporation–Booth 1143
PHOENIX Process Equipment–Booth 1736
Polydeck–Booth 1545
REESCO–Booth 1762
ROSTA USA–Booth 1559
Roytec Global (Pty) Ltd–Booth 1761
Sandvik–Booth 1317
Superior Industries–Booth 1703
TEMA ISENMANN Inc–Booth 600
WesTech Engineering, LLC–Booth 1102

Scrubbers

Adhesive Services Company–Booth 1752
Matec America Inc–Booth 717
McLanahan Corporation–Booth 1143
Rocvent Inc–Booth 1612
Spendrup Fan Co–Booth 1505
Westpro Machinery Inc–Booth 1702

Seals

A.W. Chesterton Company–Booth 2024
JENNMAR–Booth 1217
Minova–Booth 1149
Ram Alloys–Booth 1142
Roxtec–Booth 137

Sediment & Erosion Control

AGRU America, Inc–Booth 920
Avanti International–Booth 724
Civil & Environmental Consultants, Inc (CEC)–Booth 1548
Desert Mountain Corporation–Booth 2019
DeWind One Pass Trenching LLC–Booth 1159

ENTACT, LLC–Booth 1442
Envirocon, Inc–Booth 1340
Geobruigg North America, LLC–Booth 1627
Geosyntec Consultants–Booth 617
Inland Tarp & Liner–Booth 553
Kemira–Booth 1760
Layfield Geosynthetics–Booth 1949
Maccaferri, Inc–Booth 1441
MAPEI Corporation–Booth 904
MEGA-Drain by EnviroCon Systems–Booth 1153
Minova–Booth 1149
NewFields–Booth 1013
Presto Geosystems–Booth 848
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Waites Sensor Technologies–Booth 831
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Richard Goettle, Inc (Goettle)–Booth 550
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Thyssen Mining Group of Companies–Booth 750

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AIL Mining–Booth 1343
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ClearSpan Structures–Booth 917
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Hilfiker Retaining Walls–Booth 1511
Norseman Structures–Booth 509

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Valmet Flow Control–Booth 1537
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Immersive Technologies–Booth 1918
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Liebherr–Booth 1042
Micromine–Booth 1540
Miner Elastomer–Booth 530
Philippi-Hagenbuch, Inc–Booth 850
Rail-Veyor Technologies Global Inc–Booth 1549
Sandvik–Booth 1317
Wenco International Mining Systems–Booth 437

Tunnel Boring Equipment

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Atlas Electric, Inc–Booth 401
Brunel Corp–Booth 1644
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Thyssen Mining Group of Companies–Booth 750
ZF Industrial Drives–Booth 755

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CAB–Booth 1536
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Custom Linings, Inc–Booth 536
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 Inland Tarp & Liner-Booth 553
 IPI Packers-Booth 742
 Keller-Booth 1521
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 MILLER-Booth 1737
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 Minova-Booth 1149
 Mitsubishi Materials USA Corp-Booth 1358
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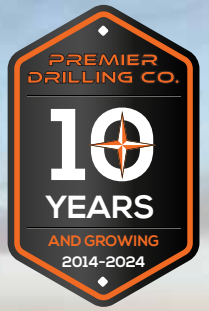
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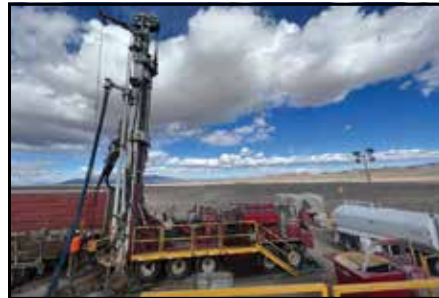
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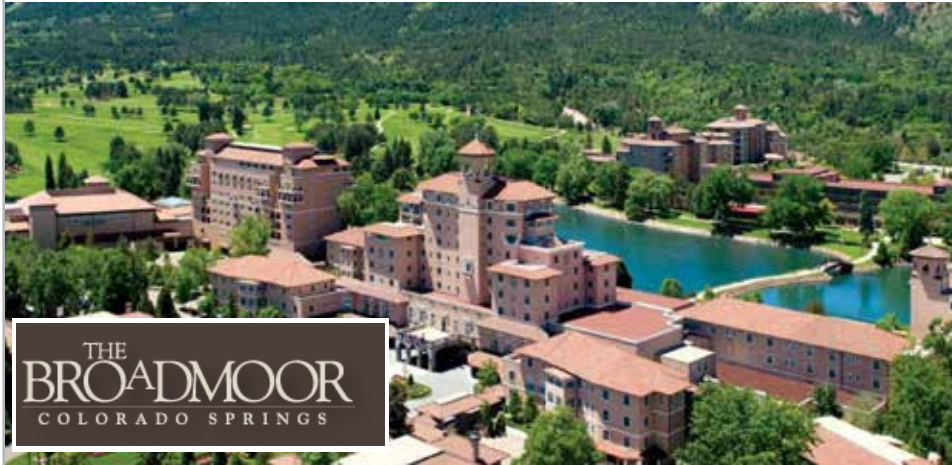
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