water treatment solutions for the mining industry
For more than a century, SUEZ has provided sustainable solutions to help customers around the globe address some of the world’s most pressing challenges. And today, the Water & Technology Solutions business of SUEZ continues that commitment. We are a forward-thinking and thoughtful leader in developing water reuse, wastewater treatment, and water process solutions our customers need to operate more efficiently and profitably while reducing their environmental footprint. Our goal is to help industries thrive and communities prosper.

addressing today’s challenges
As the global business climate continues to evolve, we are experiencing an environment ripe with challenges yet equally rich with opportunities. The mining industry is no exception.

Water scarcity and wastewater quality remain critical issues. Meanwhile, environmental policies have never been more stringent—or as influential. Industry standards heighten while discharge regulations tighten, demanding mining operations’ action and compliance. The industry’s economic landscape continues to shift as well. Billions of dollars of global investment in mining infrastructure is helping to support—and spur—demand in developing countries. Process improvements are fundamental to compete successfully in a growing international mining marketplace where developed countries must compete with lower costs in other parts of the world.

**driving financial and environmental performance**
We understand the challenges and recognize the opportunities of today’s global mining industry. As a strategic business partner, SUEZ can provide a complete set of chemical and equipment solutions to help manage and improve water resources. From reduced water usage to increased productivity, we deliver the results to drive your performance—financially and environmentally.

**mining technology and solutions from SUEZ**

- **Discharge water management and reuse** provides integrated solutions for water recovery, treatment, and recycling.
- **Dust control programs** including underground, service and haul road treatments help reduce water usage and operating costs. A range of chemical treatment solutions control dust emissions while achieving water reductions of up to 90 percent.
- SUEZ’s **mobile water fleet**—the largest in the world—meets demand for on-site water treatments through emergency and short-term leases, and long-term outsourcing.
- **Complete range of membrane and filtration technologies** provide influent treatment of a diverse variety of non-potable water sources.
- **ZLD systems** using advanced evaporation and crystallization technologies eliminate wastewater discharge and enable recovery of valuable byproducts.
- **Chemical solutions**—including boiler, cooling and industrial process chemicals and monitoring, improve plant productivity and water systems while safeguarding assets and ensuring environmental protection.
- **Range of biological filtration and coagulation technologies** enable heavy metal removal to improve wastewater quality.
- **Water treatment** provides deposit and corrosion control in mining process systems.
- **Digital tools** to optimize operations and prevent unplanned downtime for boilers and cooling towers – including TrueSense® Online for chemical dosing and measurement; Boiler Precision System for precise calculation and dosing; chemical analyzers, monitors and sensors; silt density index [SDI] measurement; and laboratory services.
**case study**

**dust suppression strategy reduces water use by 90 percent**

Significant dust was a challenge for the Nevada operations of Newmont Mining Corporation, one of the oldest and largest gold mining companies in the world. Severe dust levels on the heavily trafficked mine roads were causing respiratory issues, reduced visibility, and environmental runoff concerns.

The dust was being controlled with a magnesium chloride solution that required roads to be treated by water trucks up to 18 times per day, seven days per week, during a seven-month period—amounting to more than 100 million gallons (380,000 m³) of water used in the process.

In partnership with Newmont, SUEZ developed a long-term dust suppression strategy centered on SUEZ’s DusTreat® DC9112 organic binding agent. Once the binding agent is applied and cured, it hardens the road surfaces to make them dust-free for an extended period. By reducing the frequency of road treatments, the dust suppression strategy helped Newmont reduce its water usage by 90 percent and decrease fuel consumption by 48,000 gallons (182,000 L) annually—saving $378,000 in operating costs per year.

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**case study**

**CONSOL Energy and SUEZ treat mine water, enable reuse of 99 percent in other operations**

The Buchanan No. 1 coal mine of CONSOL Energy, the largest producer of high-Btu bituminous coal in the U.S., will be using SUEZ’s advanced filtration membranes and thermal water treatment technology to treat mine water, enabling about 99 percent of the water to be reused in other mining operations throughout the Oakwood, Virginia, plant.

The system incorporates SUEZ’s ZeeWeed® ultrafiltration technology, which employs hollow-fiber membranes to separate particulates from water, and SUEZ’s reverse osmosis technology, which removes dissolved impurities from water through the use of a semi-permeable membrane. The concentrated brine is then treated by SUEZ’s thermal evaporation, crystallization and drying technologies, achieving zero liquid discharge. The remaining solids are further purified into a saleable road salt.

The benefits and resource savings from the new system will significantly reduce the volume of mine water that must be managed, and reduce the company’s freshwater demand, as the processed water coming out of the system can be reused at the mine’s preparation plant facility.
a trusted business partner

A name synonymous with quality around the world, SUEZ is a trusted global partner for mining companies large and small. With a broad range of products and services for each step of the mining process, SUEZ’s integrated solutions and unique expertise help manage and overcome important challenges in an ever-evolving industry, while ensuring the responsible and sustainable resource savings our customers across the globe have come to expect. Through innovation, breakthrough technology, and dedicated teams of global experts, we help you successfully compete—and win—in today’s mining industry.

We can help mining customers to:

• Meet environmental compliance
• Provide safe, healthy workplaces
• Optimize production
• Maximize yield
• Ensure asset protection
• Drive down product costs
Find a contact near you by visiting www.suezwatertechnologies.com and clicking on "Contact Us."

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