



Pall Corporation

Rapid Deployment of Mobile Membrane Water Treatment for Mining

The Challenge

An operating mine in remote Nevada experienced a pit flood as a result of groundwater recharge. Over 40 million gallons of water flooded the open pit, bringing mine operations to a halt. The groundwater when introduced to the pit was then contaminated with numerous contaminants such as manganese (Mn), heavy metals, and sulfides in high levels. The treated water goals required the water to be suitable for agricultural irrigation meaning a high level of treatment was needed. Furthermore, the mine is not accessible in winter. An immediate, robust solution was needed to resume operations at the mine.

The Solution

Linkan Engineering, out of Elko Nevada, evaluated multiple treatment alternatives, neutralization using caustic along with an Aria™ FAST membrane filtration system was selected to treat the pit water. Caustic neutralization upstream of the Aria FAST precipitates metals and allows high solids removal via the membranes. The Pall membrane filtration system offered the most robust reliable treatment when metals coagulation was implemented upstream to remove the difficult solids.

The entire solution starting from the first phone call to Pall Corporation, to the water quality testing, though to system optimization/design, procurement, and startup to production of effluent was 30 days.



Filtration. Separation. Solution.SM

aria^{fast}
Mobile Water Treatment

The Result

The Aria FAST system resulted in the mine pit water being treated and removed in less than two months. The system operated continuously and allowed monitoring of water quality to ensure

compliance with downstream water treatment requirements. The treated pit water was used for irrigation in the local farming community adjacent to the mine site.

“Pall was instrumental in supplying the mobile Aria system for this project. Their fast response and knowledgeable application engineers assisted Linkan in meeting our client’s needs and saving the mine considerable loss of production.”

Samuel Billin, P.E., President, Linkan Engineering

Overall, the Aria FAST operation was able to meet the client’s needs including:

- Meeting environmental discharge limits
- Quick response to mobile asset deployment
- Zero capital investment was required
- Barite mine operations resumed
- Short-term rental availability



Pall Corporation

Pall Process Systems
839 NYS Route 13
Cortland, NY 13045

607.758.1774 telephone
866.475.0115 toll free

Filtration. Separation. Solution.SM

www.pall.com/mobilewater

Pall Corporation has offices and plants throughout the world. For Pall representatives in your area, please go to www.pall.com/contact. Because of technological developments related to the products, systems, and/or services described herein, the data and procedures are subject to change without notice. Please consult your Pall representative or visit www.pall.com to verify that this information remains valid.

© Copyright 2016, Pall Corporation. Pall, , and Aria are trademarks of Pall Corporation. ® indicates a trademark registered in the USA. ™ is a common law mark in the USA. **Filtration. Separation. Solution.SM** is a service mark of Pall Corporation.