



# 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 Water 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 Water, to the water quality testing, though to system optimization / design, procurement, and startup, to production of effluent was 30 days.

## THE RESULTS

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

“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**

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

## THE BENEFITS

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



# aria<sup>fast</sup>

Aria FAST mobile water treatment solutions provide water on demand, when and where you need it most.

- Rapid deployment
- Easy installation
- Robust design
- Temporary or long-term solutions



Americas: +1 (866) 475.0115  
EMEA: +49 (0) 671 79610 325  
APAC: +61 (0)2 4340 8900

 @Pall\_Water |  company/pallwater |  info@pallwater.com

[pallwater.com](http://pallwater.com)

Pall Water has installations all over the globe. To speak to a Pall Water representative in your area, please go to [www.pallwater.com](http://www.pallwater.com).

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 local representative to verify that this information remains valid.

© Copyright 2017, 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 and is a service mark of Pall Corporation. Document ID: PWNEVADAMINEFASTCSb.