

AN EXPEDITED ULTRAFILTRATION SYSTEM RETROFIT FOR CHALLENGING INDUSTRIAL WASTEWATER



Overview

An industrial mining operation faced challenges with an aging and underperforming spiral-wound ultrafiltration (UF) system. The existing system required significant maintenance, costly and frequent UF membrane replacements, and excessive cleaning of the downstream reverse osmosis system.

For this project, WesTech completed the design, fabrication, retrofit, and installation of a new hollow-fiber UF system in just 16 weeks. This included a complete redesign of plant piping and ancillary equipment, and an overhaul of plant control systems. The updated system included a custom-design in a 6 x 25% configuration with site-specific features such as cross-flow, feed antiscalant dosing, and a clean-in-place system capable of simultaneously treating two units to reduce downtime. WesTech designed this system to fit within an existing footprint.

The new system's state-of-the-art hollow fiber technology has dramatically improved the overall throughput of the UF system and the performance of the downstream RO system. ■

RESULTS

16 Weeks

For Design, Fabrication, and Installation

SDI <3

For Improved RO Performance

N+2 Redundancy

In Existing Footprint

Project Summary

Industrial Mining Application

Location:

Elko, Nevada, USA

Application:

Reverse Osmosis Pretreatment

Process:

Media Filtration ► Ultrafiltration
► Reverse Osmosis

Size:

4,000 gpm/5.8 MGD

Design Flux:

40.3 gfd

Highlights

- **Large, custom retrofit system**
- **Unique design features for a variable, scaling water source**
- **Extremely expedited schedule**
- **Full plant design, demolition, installation, and SCADA integration**