

Oxy USA Case Study

Critical Water Treatment Challenges and Culligan's High-Efficiency Solution

At a glance

Culligan's customized solution provided Oxy with a highly efficient and reliable water treatment system, enabling them to overcome their critical water quality challenges and achieve their operational goals.

CHALLENGES



Oxy, experiencing significant growth and expanding production capacity at their Permian Mallet Plant, Willard Separation Plant, and Denver Unit CO2 Recovery Plant, faced a critical challenge: their existing water sources were severely compromised. The raw water at these locations exhibited extremely high levels of total dissolved solids (TDS), hardness, sulfates, and chlorides, rendering it unsuitable for feeding their emission systems and boilers. Specifically:

- **High TDS:** Raw water contained approximately 1500 ppm TDS.
- **Extreme Hardness:** Hardness levels reached 30 grains per gallon (gpg).
- **Elevated Sulfates:** Sulfate concentrations exceeded 500 ppm.
- **High Chlorides:** Chloride concentrations surpassed 700 ppm.

This heavily contaminated water posed a severe threat to Oxy's operations. The emissions system required water with TDS levels below 25 ppm. Furthermore, the high mineral content threatened to damage the boiler systems, leading to costly repairs and downtime. Oxy needed a reliable and efficient water treatment solution to meet both regulatory compliance and operational requirements.

SOLUTIONS



To address Oxy's complex water treatment needs, Culligan conducted a thorough on-site evaluation and designed a comprehensive, multi-stage filtration system. This system was tailored to effectively remove the high levels of contaminants and deliver the required water quality. The installed system consisted of:

- **Two Hi-Flo 50 Softeners:** To significantly reduce the high hardness levels.
- **One Hi-Flo 50 Depth Filter:** To remove suspended solids and particulate matter.
- **One 100 gpm G3 Reverse Osmosis (RO) System:** To effectively reduce the TDS, sulfates, and chlorides to the required levels.



Superior service with every order.

Every customer is important. And every customer is different. With a partner like Culligan® Commercial, you can expect a water treatment plan as original as you are. And like you and your business, we pride ourselves on supporting our solutions with ongoing expert service.

RESULTS



Following the installation of Culligan's advanced water treatment system, Oxy achieved remarkable results:

- **Regulatory Compliance:** Oxy successfully met all regulatory emissions requirements by consistently producing water with TDS levels below 25 ppm, allowing that system to run at maximum efficiency.
- **Increased Production Capacity:** The reliable water supply enabled Oxy to meet their new, elevated production demands without interruptions.
- **Boiler Protection:** The treated water eliminated the risk of damage to the boiler systems, ensuring their longevity and operational efficiency.
- **Reliable operations:** The customer gained a reliable water source that they could depend on.



THE RESULTS:



Meet Regulatory Compliance Requirements



Improved Water Quality



Boiler Unit Protection



Increased Production

THE CULLIGAN ADVANTAGE



1

Industry-Leading Technology

Products with patented technology, designed to outperform the competition.

2

Expert Trained Technicians

In-house, expertly trained service technicians with years of experience with these systems.

3

Certified Quality

Regularly scheduled water quality and system performance checks ensuring water quality meets the EPA, FDA, USDA and state guidelines.

4

The Culligan Guarantee

Trusted name for clear, clean and delicious water that customers depend on, appreciate and even avidly promote due to their overall satisfaction.



For over 80 years, Culligan® has made better water. Our global network, comprised of 800+ dealers and international licensees in over 90 countries, is dedicated to addressing your water-related problems. As a worldwide leader in water treatment, our sales representatives and service technicians are familiar with the local water conditions in your area. Being global and local position us to deliver customized solutions to commercial and industrial water issues that affect your business and your bottom line.