



Endeavor Case Study

Overcoming Extreme Water Challenges in Lenore, TX

At a glance

Culligan's custom-designed solution successfully addressed Endeavor's complex water treatment challenges in a remote location. By delivering a highly efficient and reliable system, Culligan ensured the provision of safe drinking water while significantly reducing wastewater disposal, demonstrating its commitment to both customer needs and environmental sustainability.

CHALLENGES



Endeavor, operating multiple field offices near the remote location of Lenore, TX, faced severe water quality challenges compounded by limited infrastructure. Specifically:

- **Remote Location Constraints:** The isolated location restricted access to reliable fresh water sources and wastewater disposal options.
- **Hazardous Arsenic Levels:** The groundwater exhibited dangerously high arsenic concentrations, exceeding legal limits and reaching levels over 2000 times the Environmental Working Group's (EWG) recommended limits.
- **Poor Water Quality:** The water was characterized by:
 - Total Dissolved Solids (TDS) of 2300 ppm.
 - Hardness of 70 grains per gallon (gpg).
 - Arsenic concentration of 10.5 parts per billion (ppb).
 - Sulfate levels exceeding 500 ppm.

These conditions posed significant health risks to Endeavor's employees and necessitated a robust and efficient water treatment solution.

SOLUTIONS



Endeavor engaged Culligan to design and implement a comprehensive water treatment system tailored to their unique needs. Culligan's rapid response and expert design team delivered a multi-stage solution, including:

- **Chlorination System:** A legally mandated system for well water applications intended for human consumption, ensuring disinfection.
- **High-Capacity Supply Pump with Variable Frequency Drive (VFD):** A 480V, 3-phase pump with a VFD for efficient and controlled water delivery.
- **Backwashable Depth Filter:** Removal of large particulate matter.
- **Backwashable Carbon Filter:** Elimination of residual chlorine from the chlorination process, protecting downstream Reverse Osmosis (RO) membranes.
- **Chemical Injection System:** Prevention of scaling within the RO system, minimizing maintenance and extending system lifespan.
- **6 Gallons Per Minute (GPM) Reverse Osmosis (RO) System:** Primary purification, effectively removing dissolved solids and contaminants.
- **Arsenic Filtration System:** Targeted removal of the hazardous arsenic.
- **Corrosion Control System:** Protection of plumbing and equipment from corrosion.
- **3 GPM Secondary RO System:** A crucial component for wastewater recycling, significantly reducing overall water disposal.

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



The implemented Culligan system delivered exceptional results, providing Endeavor with:

- **High-Quality Water:** The system effectively reduced contaminants to non-detectable levels for hardness, arsenic, and sulfates, and lowered TDS to 48 ppm.
- **Significant Wastewater Reduction:** The secondary RO system enabled 50% wastewater recycling, minimizing environmental impact and disposal costs.
- **Reliable and Efficient Operation:** The system provided a consistent and dependable source of clean, safe water for Endeavor's employees.



THE RESULTS:



Improved Water Quality



Elimination of Downtime



Optimized Water Usage

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.