Customer Success Story

Location: Mexico

AMI system transforms Mexico City groundwater

Groundwater contamination poses risks to public health and the environment, requiring industries and municipalities to remediate.

Challenge

Mexico City faced challenges with groundwater contamination from discharge of various pollutants like heavy metals and organic compounds in the groundwater system.

In addition to rapid expansion and industrial activities, several wells had been damaged from earthquakes.

Geological studies showed increasing levels of turbidity, sulfates, nitrates, arsenic, manganese, lead, and iron.

A municipality in Mexico City had to address groundwater contamination, particularly with high nitrate levels that posed health risks to residents and the environment.

Applied Membranes was selected for this project.

Solution

Applied Membranes built and commissioned a custom-engineered groundwater remediation Reverse Osmosis (RO) and media filtration system treating **1.5 million gallons of water per day (MGD) (5700 m3/d)**.

Applied Membranes worked with environmental engineers and the client to install the groundwater remediation RO system.

Groundwater extracted from contaminated wells underwent initial filtration through media beds to remove suspended solids and organic matter. Subsequently, the water was fed through the AMI reverse osmosis system to produce high-quality water.

Key Components:

- Antiscalant
- Clean-in-place system
- Media filtration
- Programmable Logic Controller (PLC)

Results

With AMI system, significant improvements in water quality were observed.

AMI system consistently produces high quality water. Nitrate levels consistently measure **below 0.5 ppm** in the treated water.

By effectively removing contaminants and reducing nitrate, the AMI system helps remediate groundwater contamination, safeguard public health, and improve the environment.

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