FilmTec™ NF270-400 Element Helps National Park Service Improve Water Quality

The Challenge
From the Denver Service of the National Park Service
- **Raw Water:** 570 ppm TDS and conductivity of 880 µmho/cm
- **Treatment Goals:**
  - Rejection of TDS, Sulfates and Hardness to meet EPA Secondary standards
  - High rejection of organic carbon to meet EPA standards
  - Moderate removal of Calcium and Low Removal of Alkalinity (HCO₃⁻) to maintain corrosion protection and taste (at least 400 µmho/cm in the permeate)
- **Other Objectives:**
  - Retain desired hardness without excessive blending of Microfiltration and Nanofiltration permeate
  - Maximize energy efficiency for lowest operating expense

The System
- Microfiltration: USFilter’s MEMCOR® CMF
- Nanofiltration: 2 x 2 x 1 Array of 8-inch, 4-element vessels
- 100,000 gpd (380 m³/d) of potable water
- Design: Denver Service Center, National Park Service

The Results
- Selective rejection
- Increased mineral passage
- Eliminated the need for blending
- Achieved high rejection of TOC
- Improved energy efficiency
- High productivity at low pressure

FilmTec™ NF270-400 Element selected for future installations at Lake Mead.
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