Reservoir Water
Reverse Osmosis Pre-filtration, USA

porvair filtration group

Reservoir Water

Reverse Osmosis Pre-filtration, USA

Customer / Project:	Southern American Reservoir
Industry Sector:	Water
Application:	Reverse Osmosis Pre-filtration
Products:	NanoKey™
Primary Motive:	System Improvement
Location:	CO, USA
Project Date:	2015
Division:	Ashland, USA

Customer Overview:

The municipality consists of land from three counties, and its Reservation has a land area of 1,058.785 sq miles. The Reservation is very environmentally conscious and accesses real-time information on air quality conditions.

The Reservation is also very conscious of its carbon footprint. They have several eco-friendly solutions for daily life, to encourage a value system regarding pollution.

Customer's Problem:

The customer's challenge was the treatment of reservoir potable water in front of reverse osmosis (RO) membranes going to several outdoor buildings.

The customer was looking to reduce contamination in its reservoir water supply, including viruses, bacteria, cysts and endotoxins, save costs, and protect their RO membranes.

Porvair Solution:

Porvair provided the NanoKey™ filter to be used as a pre-filter for a reverse osmosis application.

The construction of the Nano-Key filter exceeds the standard pre-filter solution, ensuring the removal of small organic and microbial macro-molecules not captured by conventional pre-filters.

Project Overview:

The Nanokey™ filters were tested in place of nominally rated standard pleated filters, and the results were outstanding. Increased performance, compatibility, efficiency, cost-saving on upstream RO membranes and reduced viruses, bacteria, cysts and endotoxins were noted. Unlike using a standard filter the Nanakey™ filter was used ahead of a larger more costly RO membrane.

The solution has a low environmental impact; longer operation of RO membrane's change out-time has improved with higher quality of output.

Product and System Information:

NanoKey™ cartridge filters are manufactured from nano-alumina fibers on glass fiber, with a polypropylene core support, meaning that every 1m² of filter media has a surface area of more than 42,000m².

The NanoKey™ is also available as a carbon option, which has the ability to remove humic and total organic compounds (TOCs). Efficiency greater than or equal to polymeric ultra-filtration/microfiltration membranes with higher flow and lower cost and pressure drop.

- Mean pore size 1.25µm
- Cartridge pressure drop < 0.1 bar

The NanoKey™ solution exceeded customer expectations and has been in operation since 2015, saving the customer significant cost whilst proving to be more efficient in this application. There was a total cost saving in excess of 50% over the prior solution.

Other Opportunities:

- Industrial and residential distribution
- Beverage bottling
- Agriculture
- Industrial water
- Pharmaceutical
- Wastewater

Porvair Filtration Group Ltd.
Tel: +44 (0)1489 864330
Email: info@porvairfiltration.com
www.porvairfiltration.com

Porvair Filtration Group Inc.
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com

World Class Filtration Solutions