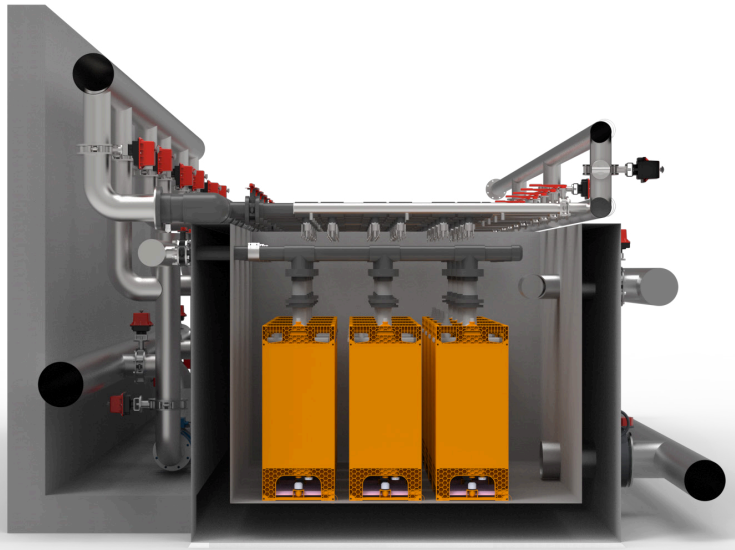
clearBLOX™

PRODUCT PROFILE

SiC | Drinking Water

RETROFIT OF A GROUNDWATER PLANT



MADE IN USA
THE ONLY BABA COMPLIANT UF/MF MEMBRANE

NSF

Certified to NSF/ANSI 419

Certified to NSF/ANSI 61

A utility in Sweden was faced with the challenge of upgrading their existing ground water treatment plant. With high concentrations of iron and manganese as well as a concern over bacteria, the plant needed a treatment solution that could fit within the footprint of their existing plant while providing a high level of treatment.

The key to upgrading a conventional treatment plant is to utilize as much existing infrastructure as possible in order to minimize construction costs and shorten project schedules. Unfortunately, not many membrane technologies are able to upgrade existing gravity filters due to space constraints.

OVIVO

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PRODUCT PROFILE

THE SOLUTION

Silicon Carbide (SiC) ultrafiltration membranes are extremely compact upgrade solution for existing gravity filter plants. As an extremely porous and hydrophilic material, SiC generates an extremely small hydraulic footprint enabling it to retrofit existing gravity filter plants. Due to its compact nature, SiC can increase the flow capacity as much 2-3X in the same footprint as a gravity filter plant. The microscopic 0.1 micron pores also provide a very high level of treatment, producing permeate that is free of bacteria, heavy metals, and turbidity.

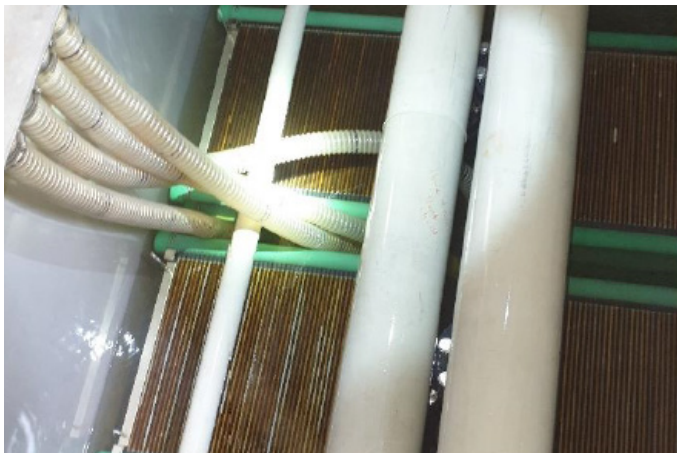
The SiC membranes at the Lysegarden facility have been in operation since 2017, providing stable membrane permeability and treatment performance since Day 1. Iron and manganese levels in the permeate have both been consistently <0.02 ppm. After 3 years of operation, a set of SiC membrane plates were evaluated to see if there was any change in both material properties as well as membrane performance. The forensic tests showed that membrane permeability, hardness, and mechanical strength all were within original membrane specifications. A lack of degradation in material properties ensures long and stable operation.

RAW WATER QUALITY

Water Temperature	2 – 12 °C
Turbidity	5.0 NTU
Fe	0.05 ppm
Mn	0.15 ppm
Raw Water pH	7.2-7.6
TDS	175.0 ppm

PLANT DESIGN PARAMETERS

Plant Commissioning	2017
No. Trains	1
Plant Capacity	1.32 MGD (5,000 m^3/day)
Design Flux	338 gfd (575 lmh)



THE OVIVO DIFFERENCE

Many existing water treatment facilities need upgrades to either increase capacity or improve water quality but have limited budgets to do so. Ovivo's SiC technology, due to it's small footprint, allowed the Lysegarden plant to upgrade their facility without any new construction requirements by fitting into their existing filter cells, saving the plant significant amounts of money.

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