

Ion Exchange PFAS Treatment Train Successfully Used at Legacy Textile Site in Southeast to Achieve Below State Mandated Discharge Levels: 70 ppt



Ground Water Gallons Treated

100 M



Treatment System

**Single Use IX + GAC
+ Sand Filtration**



Treatment Objective

< 70 ppt



Treatment Outcome
Achieved

OPPORTUNITY

A textile manufacturing company located in the southeastern part of the United States produced coated textiles using PFAS as a water and oil repellent. As a consequence of the PFAS application process, approximately 100 million gallons of PFAS-laden wastewater was discharged into a series of on-site unlined wastewater lagoons. As the site is no longer used, it is being decommissioned and remediated. Montrose was brought in to treat the wastewater present in the lagoons, and to achieve PFOS and PFOA levels below 70 ppt, prior to discharging the treated water to a nearby river.



Your PFAS problem Solved.



CHALLENGE

The wastewater lagoon has a complicated water chemistry including elevated Total Dissolved Solids (TDS) and Total Suspended Solids (TSS). This in part with the facility's remote location, led to complications for the initial deployment. The active organisms in the lagoons added further complications with the pretreatment strategy. Nonetheless, our focus on commissioning, startup, and remote support has led to a successful deployment and remediation strategy at the site.



SOLUTION

Despite the identified challenges, our robust pretreatment of granular activated carbon (to remove co-contaminants) and a backwashable sand filter (to remove solids) relieved the challenges from the co-contaminants and TSS.

The pretreatment was followed by Montrose's SORBIX™ PURE Ion Exchange Resin which provided the best total solution for the client. From concept to commissioning, the team was able to provide onsite services to help optimize flow and treatment efficiency. Through national standard testing for PFAS, our applied solution was accurately measured. Compliance to the 70 ppt state-mandated discharge goals was met for all 100 million treated gallons.

Montrose's SORBIX™ PURE ion exchange resin has a dual mechanism of adsorption resulting in smaller treatment vessels and more cost-effective treatment. The tail of a PFAS molecule adsorbs to the resin's backbone (adsorption), and the head of the PFAS molecule is attracted to the resin's ion exchange site (ion exchange). This combination of adsorption and ion exchange produces the rapid removal of PFAS while generating minimal waste.

As an ongoing project, our team is continuing to work with textile firms in the southeast to clean up their legacy impacts with sustainability in mind.