



Beneficial Reuse from Produced Water

FTS H2O's RecovOAR™ enabled reduced freshwater consumption by recovering drilling wastewater in Texas' Eagle Ford Shale region.

FTS H2O, an Aquatech company, enabled oil and gas operators in Texas' Eagle Ford Shale to reduce freshwater consumption by recovering and reusing drilling wastewater with RecovOAR™. The high-recovery membrane process enabled produced water to be treated and recycled as completion fluid, supporting sustainable operations while reducing wastewater disposal requirements. Since 2010, the solution has been deployed across dozens of projects, helping operators maximize water recovery and improve resource efficiency.

At A Glance

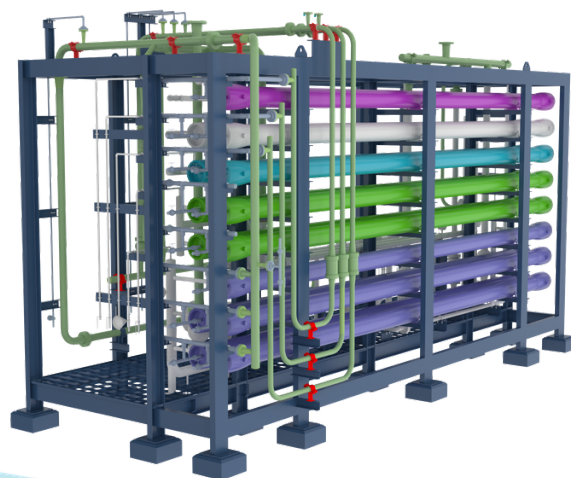
	Location:	Texas, United States
	Industry:	Critical Minerals & Mining
	Solution:	RecovOAR™
	End-Users:	Oil & Gas Producers

Challenge

Oil and gas production in the Eagle Ford Shale requires substantial volumes of freshwater for drilling and completion operations while generating large quantities of high-salinity produced water and drilling wastewater. Growing pressure on regional water resources, increasing disposal costs, and stricter environmental regulations have made conventional water management practices more difficult and expensive. Operators needed a reliable solution to reduce freshwater consumption, minimize wastewater volumes, and improve the sustainability of field operations. By recovering and reusing water from challenging wastewater streams, producers can lower disposal requirements, reduce operating costs, and create a more resilient water management strategy that supports long-term production growth.

Solution

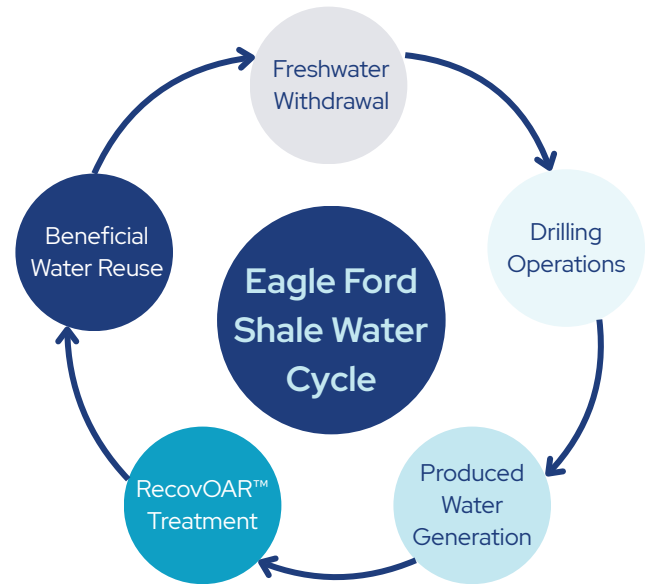
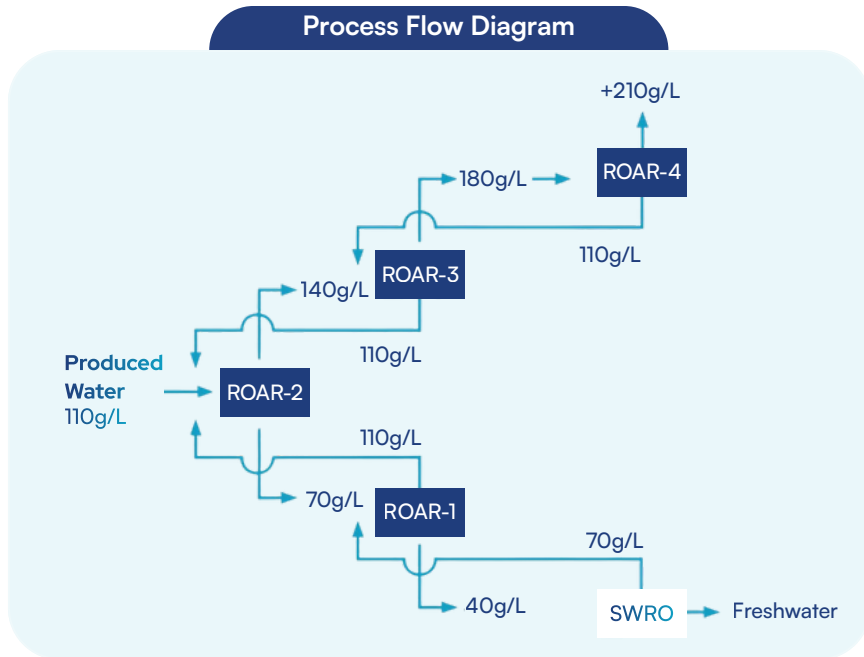
To address these challenges, operators selected FTS H2O's RecovOAR™ system to recover valuable water from drilling wastewater. The advanced membrane-based process was designed to treat challenging oilfield streams and produce water suitable for reuse as completion fluid, enabling a circular water management strategy that reduces freshwater withdrawals and wastewater disposal volumes.



Process

Drilling wastewater generated during oil and gas operations is first collected and conditioned for treatment. The feed stream enters the RecovOAR™ system, where a series of osmotically assisted reverse osmosis (OARO) stages progressively separate water from dissolved salts and contaminants. As water is recovered through each stage, the brine is concentrated from approximately 110 g/L TDS to more than 210 g/L TDS, significantly reducing the volume requiring downstream management or disposal.

The recovered water is further polished through reverse osmosis to produce high-quality water suitable for reuse as completion fluid and other field operations. By combining high water recovery with advanced brine concentration, RecovOAR™ minimizes freshwater demand, reduces wastewater disposal volumes, and lowers overall water management costs. This membrane-based approach provides operators with a more sustainable and economical alternative to conventional thermal concentration technologies while maximizing beneficial reuse of water resources.



Result

Dozens of projects in Texas' Eagle Ford Shale region were completed since 2010. Recovery ranged from 2,000 to 37,000 barrels of freshwater produced from a single drilling site.

RecovOAR™ recovers valuable freshwater from drilling and produced water streams, enabling beneficial reuse as completion fluid within oil and gas operations. By reducing reliance on freshwater sources and minimizing wastewater disposal volumes, the system supports more sustainable water management while providing a compact, scalable solution for water recovery in water-stressed regions.