



INTRODUCTION

A demonstration project was conducted in Midland, Texas, to evaluate the performance of hydrolyzed powder membrane technology. This test was designed to validate the technology's effectiveness in treating produced water in oilfield operations.

OBJECTIVE

Demonstrate the Powder Membrane's ability to meet stringent treatment requirements for produced water, providing proof-of-concept to secure financial support for broader deployment.

PROBLEM

The produced water contained high levels of:

- Total Suspended Solids (TSS).
- Turbidity.
- Oil.

These contaminants rendered the water unsuitable for reuse in hydraulic fracturing or disposal without additional treatment.

CONTACT

✉ info@hydrousmgmt.com

🌐 <https://hydrousmgmt.com/>

🌐 <http://www.linkedin.com/company/hydrousmanagementgroup>

✉ @HydrousGroup

📍 10700 Rockley Road, Houston, TX, 77099

PRODUCED WATER CLARIFICATION AND OIL RECOVERY

MIDLAND, TEXAS



SOLUTION

A Powder Membrane unit with a capacity of 10 m³/hr (800 bbl/day) was deployed from November 2021 to February 2022. Operating continuously for four months, the system treated water directly from produced water storage, achieving:

- TSS reduction to <1 mg/L.
- Turbidity consistently <1 NTU.
- Oil content reduction to <1 ppm.

RESULTS

The trial successfully demonstrated the Powder Membrane's capability to:

- Remove contaminants effectively.
- Produce high-quality water suitable for reuse or disposal.

The positive results secured \$9 million in funding from financial stakeholders, paving the way for broader deployment of the technology.



BENEFITS

The cost to operate the powder membranes is significantly less than the closest competing technology, commonly known as DAF (Dissolved Air Flotation Technology). DAF which is widely used by the us petroleum industry and global off shore oil and gas production platforms.

CONCLUSION

In this 10 m³/h installation at an operating oilfield, powder membrane technology demonstrated its ability to simultaneously remove colloidal solids and residual oil from produced water. The treated effluent consistently achieved crystal-clear quality (<1 NTU), while the separated oil was recovered and solids were efficiently managed, thereby improving both reuse potential and operational sustainability.