



Air Force Civil Engineer Center

Restoration Technology Transfer Speakers Series
October 2024

Cyclodextrin Sorbent and Electrochemical Oxidation Treatment for Per- and Polyfluoroalkyl Substances (PFAS) Separation and Destruction in Groundwater

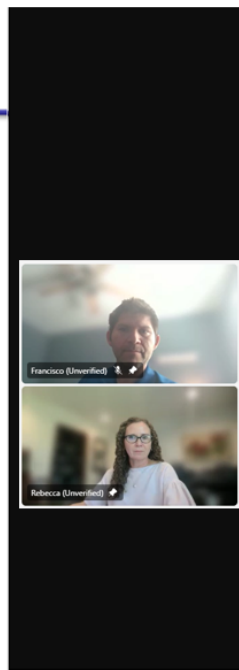
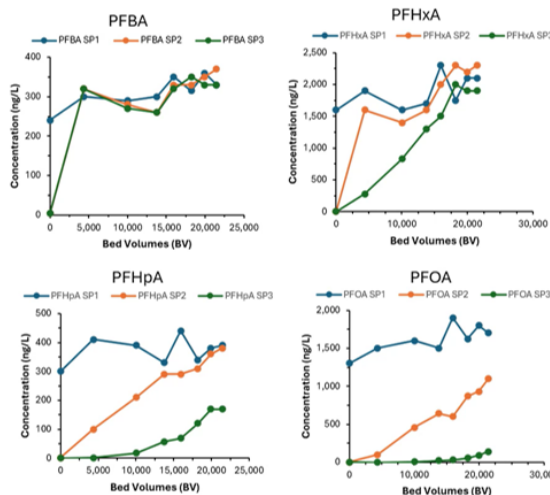
On Wednesday, 09 October 2024, CZTE and AFIT hosted the Restoration Technology Transfer Webinar via Microsoft Teams. Rebecca Mora and Dr. Francisco Barajas of AECOM presented: "Cyclodextrin Sorbent and Electrochemical Oxidation Treatment for Per- and Polyfluoroalkyl Substances (PFAS) Separation and Destruction in Groundwater." This Webinar focused on the demonstration of a novel treatment train coupling two innovative technologies: PFAS removal via a cyclodextrin sorbent (DEXSORB+®) and electrochemical oxidation for PFAS destruction (DE-FLUOROTM). The project aimed at understanding the benefits and potential areas of improvement for this treatment train. The combined results from bench-scale and field-scale demonstrations of the DEXSORB® and DE-FLUORO™ systems indicate that a treatment train combination of the technologies, including an evaporation step, with improvements in regenerant pretreatment and DE-FLUOROTM operation optimization, is feasible for further consideration and scale-up.



Results for individual PFAS



- Limited removal of PFBA as for any sorbent
- Removal increases with PFAS molecular chain length
- Lag effluent is always lower than lead effluent
- PFOA breakthrough ~ 10,000 bed volumes based on detection
- **Successfully concentrated PFAS onto media**



If you are unable to attend the broadcast, a recording as well as the presentation slides, will be posted at:

<https://www.milsuite.mil/book/docs/DOC-1340903>

This event and future events are updated and posted on the AFIT website at: <https://www.afit.edu/CE/index.cfm>.