

ABSTRACT

A SUSTAINABLE SYSTEM AND METHOD FOR REMOVING AND CONCENTRATING PER-AND POLYFLUOROALKYL SUBSTANCES (PFAS) FROM WATER

A sustainable system for removing and concentrating per- and polyfluoroalkyl substances (PFAS) from water. The system includes an anion exchange vessel having a selected anion exchange resin therein configured to remove PFAS from the water. A line coupled to the vessel introduces a flow of water contaminated with PFAS such that the PFAS bind to the selected anion exchange resin and are thereby removed from the water. A regenerant solution line is coupled to the anion exchange vessel to introduce an optimized regenerant solution to the anion exchange vessel to remove the PFAS from the anion exchange resin, thereby regenerating the anion exchange resin and generating a spent regenerant solution comprised of the removed PFAS and the optimized regenerant solution. A separation and recovery subsystem recovers the optimized regenerant solution for reuse and separates and concentrates the removed PFAS.

(FIG. 3)