

TECHNOLOGY TRANSFER (T2) UPDATE FOR ENVIRONMENTAL RESTORATION

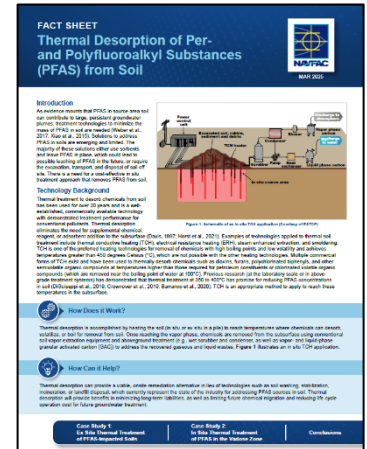
Issue 245: March 2025

NAVFAC Fact Sheet on Thermal Desorption of Per- and Polyfluoroalkyl Substances (PFAS) from Soil

As evidence mounts that PFAS in source area soil can contribute to large, persistent groundwater plumes, treatment technologies to minimize the mass of PFAS in soil are needed. Thermal desorption is a promising treatment technology for PFAS-impacted soil. Thermal desorption of PFAS can be accomplished by heating the soil (in situ or ex situ in a pile) to reach temperatures where chemicals can desorb, volatilize, or boil for removal from soil. Once reaching the vapor phase, chemicals are removed from the subsurface using conventional soil vapor extraction equipment and aboveground treatment to address the recovered gaseous and liquid wastes. Thermal desorption can provide a viable, onsite remediation alternative in lieu of transport and offsite treatment. The results from two demonstration studies are included, detailing successful PFAS soil remediation using both ex situ and in situ thermal treatment as conducted under the Department of Defense (DoD) Environmental Security Technology Certification Program (ESTCP).

View the fact sheet at the link below:

https://exwc.navfac.navy.mil/Portals/88/Documents/EXWC/Restoration/er_pdfs/t/NAVFAC%20PFAS%20Thermal%20Fact%20Sheet%20March%202025.pdf?ver=VBX8PI-z-fxwmuRtvdio3w%3d%3d



DoD Environmental Data Quality Workgroup (EDQW) Memorandum on Issues with Applying the Incremental Sampling Methodology (ISM) to PFAS Investigations

ISM is a sampling protocol that involves collecting and combining a large number of soil sample increments of equal depth and mass across an area defined as a decision unit (DU). The ISM protocol is designed so a single composite sample result represents the mean concentration of a chemical constituent in the DU. After further review and consideration, the DoD EDQW has recommended to avoid the use of ISM for PFAS sampling and analysis. The reasons for the recommendation include the following: 1) lack of validation of the methodology for PFAS, 2) increased risk of cross-contamination from sample processing, 3) increased risk of PFAS loss during drying, grinding, and milling of the samples, and 4) the practical challenges with creating laboratory control sample spikes for all targeted PFAS compounds. In addition, ISM only provides an average concentration result for the entire area sampled, which may not be appropriate to meet project goals. The DoD EDQW also noted that the use of ISM could result in the collection of insufficient information on the spatial distribution of PFAS across the site (e.g., nature and extent) that is required as a part of investigations conducted under the Comprehensive Environmental Response, Compensation, and Liability Act. As detailed in the memorandum, the DoD EDQW currently advises against using ISM for PFAS investigations due to these issues identified with sample collection and laboratory processes.

To view the memorandum on the DoD EDQW website, please use the link below:

<https://www.denix.osd.mil/edqw/denix-files/sites/43/2025/02/Final-ISM-PFAS-Issues-White-Paper-013125.pdf>

This email has been prepared by the NAVFAC EXWC Environmental Restoration Division

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ABOUT THIS EMAIL

This email supports the NAVFAC Environmental Restoration Program by providing the latest information on policy, guidance, and training related to innovative technologies. Links are provided to T2 resources and tools. Our goal is to promote the use of innovative technologies, remove barriers to implementing new technologies, and reduce cleanup costs, while remaining protective of human health and the environment.