

Entries for September 16-30, 2025

Market/Commercialization Information

S -- SP45026R0002 NORTHEASTERN REGIONAL HAZARDOUS WASTE INCINERATION CONTRACT (COMBINE)
U.S. Department of Defense, Defense Logistics Agency, Disposition Services, Battle Creek, MI
Contract Opportunities on SAM.gov SP45026R0002-Northeastern_Regional_2025

This is a full and open competition under NAICS code 562211. The U.S. Department of Defense, Defense Logistics Agency, requires a contractor to provide services for the removal, transportation, incineration or other thermal treatment, and final disposal of Resource Conservation and Recovery Act (RCRA) regulated hazardous wastes, non-RCRA wastes, toxic Substance and Control Act (TSCA) regulated wastes, state regulated, and non-state regulated wastes generated by the Department of Defense and U.S. Coast Guard installations located in the 19 contiguous states of CT, DE, IL, IN, KY, MA, MD, ME, MI, NH, NJ, NY, OH, PA, RI, VA, VT, WI, and WV, and Washington, DC. The awarded contractor will conduct business solely with and on behalf of the U.S. Government. The Government may add new pickup locations situated within the region at any time during the life of the contract. The award will be a firm-fixed-price indefinite delivery/indefinite quantity (IDIQ) contract with a period of performance of one 30-month Base Period and one 30-month Option Period. Offers are due by 2:00 PM EST on November 20, 2025.
<https://sam.gov/workspace/contract/cpa/epd/56431849/8669555-184594da724aee>

F -- EPA WATER RFP (SNOTE)

U.S. Environmental Protection Agency, Region 9 Contracting Office, San Francisco, CA
Contract Opportunities on SAM.gov 68HE0925R0015_2025

Due to the complexity of the questions received in response to the RFP, EPA anticipates providing answers no later than Wednesday, November 5, 2025. EPA also expects to issue the first amendment to this RFP by that date, which will extend the proposal due date by at least two (2) additional weeks. This solicitation is a full and open competition for the Water Assistance Technical Emergency Response (WATER) contract under NAICS code 541520. The purpose of this contract is to provide services that support EPA in carrying out its responsibilities under the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA). Under this contract, the contractor will assist EPA in fulfilling these responsibilities within the assigned region(s) and, as needed, provide backup, cross-regional, and national response support. The contractor must be prepared to deliver scientific and technical assistance during EPA's water-related emergency responses and to support water program activities during routine operation. For each assigned task, the contractor shall provide qualified personnel with current credentials and certifications, along with all necessary supplies, materials, tools, and equipment to complete the work. Unless otherwise specified, these activities will support the entire water sector, including drinking water systems (sources, pumping, storage, treatment, and distribution), wastewater systems (collection, treatment, storage, and discharge), and stormwater systems (conveyance, storage, and as-needed treatment). The technical requirements under this Statement of Work (SOW) include response, preparedness and prevention, assessment and evaluation, technical support, data management, and training. <https://sam.gov/workspace/contract/cpa/3a8f4d41a306dad9c7277950cbbda61a1ee9>

F -- LIBBY ASBESTOS SUPERFUND SITE RESPONSIBLE PARTY OVERSIGHT, PROPOSED PLAN, RECORD OF DECISION (PRESOL)

U.S. Army Corps of Engineers, Engineer Division Northwestern, Omaha District, Omaha, NE
Contract Opportunities on SAM.gov W9128F6RA045_2025

When this solicitation is released on or about October 8, 2025, it will be competed as a full and open competition under NAICS code 5629210. The U.S. Army Corps of Engineers, Omaha District, intends to issue a solicitation for the Responsible Party Oversight, Feasibility Study, and Record of Decision, Libby Superfund Site, Libby, Montana. Libby is a community in northwestern Montana that is located near a large open-pit vermiculite mine (Operable Unit [OU3]). Vermiculite from the mine at Libby is known to be contaminated with amphibole asbestos (tremolite-actinolite series). The considered effort for this solicitation will be to provide responsible party (PRP) oversight for completion of a PRP-led Feasibility Study and complete a Proposed Plan and Record of Decision on behalf of EPA Region 8. The Feasibility Study effort will use data previously collected to complete a detailed and complex analysis of the information produced by the PRP for identification and screening of technologies; process option evaluation; and development, screening, and detailed analysis of alternatives, including cost estimating. After the Feasibility Study is released and public comment has been considered, the EPA and its partners will select a remedy for OU3. The Proposed Plan and Record of Decision will document the remedy selection. A formal solicitation, which will be executed using a Cost-Plus-Fixed-Fee pricing arrangement with a performance period of 36 months from the date of award, will be issued no sooner than 15 days from the publication date of this announcement. There is no solicitation at this time. <https://sam.gov/workspace/contract/cpa/a1c68086e36544c486b4711be875d44157474aee>

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Cleanup News

MONITORED NATURAL ATTENUATION (MNA) ASSESSMENT FOR THE CHEMICALS, METALS, AND PESTICIDES (CMP) PITS OPERABLE UNIT (OU) AND THE PEN BRANCH WETLAND
Koelker, E., H. VerMeulen, and S. Fuentes. SRNL-TR-2025-00299, 286 pp, 2025

An independent review of groundwater data was conducted to assess the monitored natural attenuation (MNA) performance related to the Chemicals, Metals, and Pesticides (CMP) Pits OU located in the central portion of the Savannah River Site (SRS). The assessment entailed an independent analysis of groundwater concentration data, groundwater elevation data, available surface water concentration data, soil concentration data, and relevant historical geological characterization logs. Following completion of active soil vapor recovery in 2009, the strategy of MNA with institutional controls for continued remediation was implemented. Three remediation Action Objectives (RAOs) identified during this assessment pertaining to the site-specific objectives detailed in historical RODs for the CMP Pits OU were: 1) preventing human exposure to contaminated groundwater above MCLs or RGs; 2) reducing the COC concentrations in the groundwater plume to MCLs and reduce the size of the plume footprint; and 3) preventing discharge of contaminated groundwater to surface water at concentrations above MCLs. All RAOs were found to be currently fulfilled by institutional controls, remediation efforts, and verifiable NA processes of existing monitoring wells were chosen to determine lateral and vertical extent of the plume area for all primary COCs (PCE, TCE, c-DCE, VC, 1,4-dioxane, and lindane). Following the independent data assessment of the CMP Pits, recommendations for further investigation or action were formulated for consideration. Data gaps that were found to exist are presented with potential options to address them. Primary findings include the absence of native bioremediation within impacted aquifer zones of the CMP Pits area (excluding the Pen Branch wetlands), the vertical movement of COCs from the HAZ to the T2, and the tangential interaction of plume migration with the Pen Branch Wetland. Data gaps were identified for deeper groundwater (primarily LAZ) characterization beneath the Pen Branch Wetland at the northeastern extent of the plume footprint and southern edge of the Pen Branch Wetland. Addressing the identified data gaps will support future remedial decisions. <https://www.nsti.gov/sercdocs/pid/2589376>

ADVANCED PFAS REMOVAL FROM LEACHATE USING AEC TECHNOLOGY

Chandler, T. I PFAS Forum V, 9-11 April, Orlando, FL, 26 minutes, 2025

An innovative approach to capturing and destroying PFAS in leachate, the Aqueous Electrostatic Concentrator (AEC), is highlighted in this presentation. AEC is a sustainable and highly efficient solution for PFAS removal from leachate and other contaminated aqueous streams. The system consistently achieves > 99.9% PFAS removal of both long and short chain PFAS, reducing contaminants to non-detect levels. The technology generates significantly less waste byproduct compared to other techniques. Through real-world case studies, the presentation demonstrates the effectiveness of AEC in treating highly PFAS-contaminated leachate from diverse sources, including raw leachate and leachate pre-treated by common techniques like foam fractionation. It explores AEC's novel three-stage process, which not only removes PFAS but also enables its destruction using a novel electro-oxidation process, preventing recontamination. Compared to conventional treatment methods, AEC offers lower operational costs, enhanced regulatory compliance, and a scalable design adaptable to various leachate treatment needs. The presentation also provides insights into the economic and environmental benefits of AEC technology, its superior performance in PFAS concentration and destruction, and its role in shaping the future of leachate management and PFAS remediation. https://www.youtube.com/watch?v=wUv4v4EMF8I&list=PL1W6v4dmFarkvXQ-1HDXga9pPI55v_WvS8dn9a-2h

COMMUNITY AND FUNCTIONAL STABILITY IN A WORKING BIOREACTOR DEGRADING 1,4-DIOXANE AT THE LOWRY LANDFILL SUPERFUND SITE

Romero, J.L., J.H. Ratliff, C.J. Carlson, D.R. Griffiths, C.S. Miller, A.C. Mosier, and T.M. Roane

Applied and Environmental Microbiology 91(10):e00574-25(2025)

Dioxane-containing groundwater at the Lowry Landfill Superfund site is treated using in situ microorganisms in an aboveground bioreactor. The original treatment processes successfully removed VOCs from contaminated groundwater but did not reduce dioxane. To address these issues, a new aerobic (micro) biological treatment system (BTS) was installed, which was composed of three aerated moving-bed bioreactors to concurrently treat groundwater collected from locations distributed across the landfill. Shotgun metagenomic and 16S rRNA gene sequencing were used to describe microbial community composition, soluble di-iron monooxygenase (SDIMO) alpha hydroxylases, and potential for dioxane degradation and horizontal gene transfer in bioreactor support media from the facility. Support media showed diverse microbial communities dominated by Nitrospiraceae, Nitrososphaeraceae, Nitrospinae, and Pseudonocardia, suggesting a potential presence of known dioxane-degraders. Candidate SDIMOs belonged mostly to Group V, followed by Groups IV, II, and I (based on read depth). The most abundant Group V clade contained 38 proteins that were phylogenetically related to DxmA-like proteins, including those of *Pseudonocardia dioxanivorans* CB1190, a known dioxane degrader. Seventeen Lowry contigs containing DxmA-like proteins contained protein-coding genes potentially involved in chemical degradation, transcriptional regulation, and chemical transport. These contigs also included evidence of potential horizontal gene transfer, including toxin-antitoxin proteins, phage integrase proteins, putative transposases, and putative miniature inverted-repeat transposable elements. Findings improve our understanding of potential dioxane biodegradation mechanisms in a functioning remediation system. Further studies are needed to definitively confirm microbial activity and enzymatic activity toward dioxane removal at this site. <https://journals.asm.org/doi/epub/10.1128/aem.00574-25>

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Demonstrations / Feasibility Studies

ADVANCED OXIDATION ASSISTED GROUNDWATER TREATMENT SYSTEM: A FIELD EVALUATION

Nambodini, V., D. Cutt, I. Katz, D. Gwisdalla, F. Alvarez, and M. Pensak. EPA/600/R-25/125, 35 pp, 2025

The objective of this project was to conduct a field evaluation of an advanced oxidation-assisted technology for treating 1,4-dioxane-contaminated groundwater at the Williams Property Superfund site in New Jersey. The treatment system was originally designed, installed, and tested at the EPA Test & Evaluation Facility in Cincinnati, Ohio, and was then shipped to the 5.6-acre Williams Property site. A 10-gpm slipstream of the groundwater was diverted from the existing groundwater treatment system to the test system. In its final installed configuration, untreated groundwater from the Williams Property had an average influent 1,4-dioxane concentration of 13.9 µg/L. Treated effluent from the 1,4-dioxane treatment system had an average 1,4-dioxane concentration of 0.86 µg/L. This field study demonstrated that a simple treatment system using hydrogen peroxide and ozone, known as peroxonation, may be a solution to mitigate the 1,4-dioxane contamination issues in water. This study is specifically designed for treating trace quantities of 1,4-dioxane that may not be removed by regular treatment approaches and the GAC filter. It was conducted for a short period of time, which may not capture all the treatment aspects, such as overall treatment cost, influence of other contaminants, and long-term system performance and maintenance requirements. https://cfpub.epa.gov/csl/public_record_report.cfm?dirEntryId=36731781&ab=CFSE&simplesearch=0&showcriteria=7&sortby=pubDate&firstpage&datebeginpublished=presented=06/15/2019&searchall=remediation

MULTI-SCALE EVALUATION OF PFAS THERMAL DESTRUCTION REQUIREMENTS

Shields, E., J. Krug, W. Makas, S. Jackson, W. Roberson, T. Yamada, and M. Kahandawala.

SERP Project ER-1-1268, 69 pp, 2025

The main objective of this research project is to improve the understanding of the fate of PFAS during thermal treatment, conditions needed for destruction, and to investigate alternative indicators of destruction to help verify PFAS destruction. Tests using C1 to C5 perfluorocarbons performed in a bench-scale tube furnace found that, except for tetrafluoromethane, the compounds were destroyed around 1000-1100 °C, but some products of incomplete combustion were observed. A pilot-scale tunnel furnace was used to investigate the incineration of fluorocarbons, a legacy PFAS AFFF, and a fluorotelomer-based AFFF. Results showed that as the temperatures approached 1100 °C, PFAS were destroyed, and the products of incomplete destruction approached detection limits. Hexafluoroethane showed a similar trend and could be a potential indicator to help evaluate PFAS destruction. Experiments were performed in simplified systems and matrices and may not directly apply to complex systems. This work helped establish methods to characterize emissions from incinerators to determine if PFAS are mineralized during incineration. Future work should include pilot or full-scale systems burning typical hazardous waste streams to determine how mixed wastes and complicated matrices impact PFAS destruction. <https://sepub.nmst-0001-1247339362-1-us-gov-west-1-43-us-gov-west-1-amaaznaws.com/335c-nb/2025-n7/EB21-1268%20Final%20Report.pdf?versionId=6CoW5X9D-2KNB18Bhf6e8am9SGmWmk>

CHASE STUDY: IN SITU REMEDIATION OF A PFAS SOURCE AREA UNDER A FACTORY

Shore, J. and K. Maerten. I AquatConSol 2025, 16-20 June, Liege, Belgium, abstract only, 2025

Spills and leaks during chemical handling of PFAS at a textile manufacturing facility in Belgium resulted in accumulation of PFAS in the shallow soil, which then leached into the groundwater. These conditions resulted in a diffuse PFAS plume composed of fluorotelomers 6:2, 8:2, and 10:2 FTIS, along with C-4 to C-9 carboxylic acids including PFOA. PFAS are largely retained in a clay layer, with concentrations decreasing at greater depths. Nested shallow and deep groundwater monitoring wells revealed dissolved-phase PFAS concentrations >10,000 ng/L in the clay (capillary zone), over 20 times higher than in the underlying saturated sand layer. A solution was needed to eliminate the long-term PFAS flux from the source zone and prevent further plume development. A proof-of-concept pilot test was conducted to assess the application of a liquid colloidal activated carbon (CAC) material, consisting of activated carbon particles less than 2µm in diameter suspended in water, to reduce PFAS leaching. The formulation allows for the permeation through and coating of activated particles onto the soil matrix. CAC was injected using a low-pressure, rotating auger injection method that ensured even distribution through both the saturated sand and confining clay layers. Four injection points were arranged in a square pattern with 2-meter spacing. Two pairs of nested monitoring wells with 1-meter screens, were installed in the clay (shallow, capillary zone) and sand (deep, saturated zone) layers, both within the grid and 1 meter outside of it. Following CAC application, total PFAS concentrations in groundwater decreased by an average of 89% within the first month. Concentrations continued to decline steadily, reaching reductions greater than 99% for all PFAS over five months. Reductions were consistent across all PFAS, with PFOA (a C-4 compound) achieving the lowest reduction (89.7%) and PFOA the highest (99.7%). Monitoring is ongoing to evaluate performance through seasonal groundwater changes, and the project is now moving towards full-scale treatment. More information: https://iregenesis.com/wp-content/uploads/2025/08/2411218-C3-BEG_SourceStop_PFAS_Belgium-NA-version-4.pdf

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Research

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) PROFILES IN PRIMARY AND SECONDARY LANDFILL LEACHATES: INDICATIONS OF TRANSFORMATION, LINER INTERACTIONS, AND OTHER PFAS SOURCES

Robey, N.M., Y. Liu, T.M. Tolaymat, J.A. Bowden, H. Solo-Gabarille, and T.G. Townsend.

Journal of Hazardous Materials 494:138705(2025)

This study measured PFAS concentrations in primary and secondary leachate and physical-chemical constituents such as chloride, ammonia, chemical oxygen demand, and metal from three municipal solid waste landfills utilizing double HDPE geomembrane liner systems. On average, physical-chemical parameter concentrations were significantly lower in the secondary compared to the primary leachate, although PFAS concentrations were not significantly different between leachate sources. Chloride concentrations in groundwater and primary leachate were used to calculate expected PFAS concentrations in the secondary leachate. PFAS concentrations in secondary leachate were often higher than expected, with PFAAs more likely to exceed expected levels. Of the 22 PFAS analyzed, 50 were quantified in primary leachates and 48 in secondary leachates. The 27PFAS concentrations in primary leachate ranged from 3,200–81,000 ng/L, and secondary leachate ranged from 3,300–96,000 ng/L. The study explores possible explanations for the disproportionately high PFAS concentrations in secondary leachates, including residence time, transformation, liner sorption, and other PFAS sources (e.g., landfill gas). While liner systems are highly effective, PFAS migration through landfill liners and potential groundwater impacts remain a concern.

PERMEABLE REACTIVE BARRIER TREATMENT OF 1,4-DIOXANE AND PFOA IMPACTED GROUNDWATER USING POWDERED ACTIVATED CARBON (PAC) ACTIVATED PERSULFATE

Manz, K.E., F. Dunn, K. Anderson, A. Meserevey, M. Apfelbaum, L. Hellerich, J.D Bryant, and K.D. Pennell. Remediation 35(4):670038(2025)

A study evaluated a permeable reactive barrier that employs powdered activated carbon (PAC) to achieve both persulfate activation and adsorption to treat PFAS- and 1,4-dioxane- contaminated groundwater in situ. In column studies, persulfate activation using PAC was more effective than iron sources (pyrite, ferrihydrite, or FerroBlack), resulting in degradation of both 1,4-dioxane and PFAS. 1,4-dioxane was readily oxidized, regardless of the activation source. No PFAS removal occurred in studies with iron-activated persulfate, whereas PAC activation of persulfate resulted in 99.9% removal of PFOA. In column studies packed with sand or aquifer materials and persulfate, removal of 1,4-dioxane and PFOA continued after the persulfate and sulfate anions were no longer detected in the effluent, indicating the PAC may have retained the capacity to adsorb the co-contaminants. Findings suggest that PAC-activated persulfate treatment in permeable reactive barriers could be a viable method for remediating multiple groundwater contaminants and warrant further investigation in field-scale studies. <https://onlinelibrary.wiley.com/doi/epub/10.1002/rem.70038>

PROBING THE MICROSCOPIC BEHAVIOR OF PFOS CLUSTERING AND ADSORPTION AT LNAPL INTERFACES: A PFOS-WATER-CYCLOHEXANE SYSTEM

Lari, K.S., A. Reinhardt, A.C. Warden, J.L. Rayner, and G.B. Davis.

Environmental Science & Technology 59(28):14615-14624(2025)

Molecular-dynamics simulations were used to study the behavior of supersaturated PFOS, focusing on micellization and partitioning at LNAPL-water interfaces. Large quantities of PFOS were adsorbed at LNAPL-water interfaces, suggesting that such interfaces may serve as major retention sites and long-term sources of PFOS contamination. Both adsorption and micellization were considerably affected by the counterions used (sodium and hydronium), suggesting a possible avenue for controlling the partitioning process through gaining a better understanding of the effect of water chemistry on PFOS. https://pubs.acs.org/doi/epub/10.1021/acs.est.5c17482&ref=article_page01

ENHANCED SUSTAINABLE REMEDIATION OF CO-CONTAMINATED SOIL AND GROUNDWATER WITH LEAD AND ARSENIC UTILIZING THE WILLOW-VETIVER-PERMEABLE REACTIVE BARRIER SYSTEM

Yepu, L., W. Guoping, J. Tao, Y. Ying, and G. Hongyan.

Science of The Total Environment 977:179343(2025)

A study investigated sustainable integrated remediation of Pb and As co-contaminated soil and groundwater utilizing a combination of willow, vetiver grass, and permeable reactive barriers (PRBs). It demonstrated a significant reduction in groundwater Pb and As concentrations, from 300 µg/L to Rosefexseco, *Intrasporangiaceae*, *KD4-96*, *Bacillus drentensis*, and *SKR 1031*, exhibited Pb and As immobilization capabilities. In addition, GC-MS analysis showed that up-regulated carboxyl-containing lowered groundwater pH and enhanced As and Pb remediation. https://www.sciencedirect.com/science/article/pii/S0048969725009789?pdf__ccsa_token=mbkDNR78-VMAAAAVhVR6wvzrBg9n45Auifphn_11uR8zhfxytVStQ5StrEMj0088221_wMmDlswuCGA68md5m0ac6308c155k5fcd41e78-5d-c979538p

INTEGRATING CONTAMINANT SOURCE INDICATORS, WATER QUALITY MEASURES, AND ECOTOXICITY TO CHARACTERIZE CONTAMINANT MIXTURES AND PER- AND POLYFLUOROALKYL SUBSTANCE (PFAS) VARIABILITY IN AN URBAN WATERSHED
Behrens, J.R., A.S. Joyce, P. Lee Ferguson, D.W. Kolpin, N. Jayasundara, N. Barbo, and E.S. Bernhardt. I Environmental Science & Technology 59(27):13958-13969(2025)

This article presents an integrative watershed approach using source-specific indicator compounds, common water quality measures, and ecotoxicity assays to examine the distribution of contaminant mixtures in an urbanized watershed. Indicator compound concentrations were temporally and spatially distributed for treated/untreated sewage, road runoff (diphenyl-guanidine [DPG] and 6PPD-quinone [6PPD-Q], automobile tire additives), and lawncare runoff. DPG and 6PPD-Q concentrations correlated to road density during base flow and were elevated during stormflow. AMPA was measurable spring through fall, especially where lawns were dense. When specific sources dominated flow, water quality measures correlated with wastewater (sulfate, potassium, chloride, and sodium) and road runoff (chromium and lead) indicators. The limited behavioral toxicity observed in exposed zebrafish (*Danio rerio*) (18%) was not well explained by source indicators. PFAS concentrations were highly variable spatially but not well explained by source-specific indicator compounds. More costly compound-specific monitoring may be necessary when multiple sources exist or when unexpected toxicity trends occur.

SALT IONS AFFECT THE REMEDIATION OF Cr(VI)-CONTAMINATED GROUNDWATER USING A SIMULATED PERMEABLE REACTIVE BARRIER FILLED WITH SULFIDATED NANO-SCALE ZEROVALENT IRON (S-nZVI)

Wang, Y., J.P. Chen, Y. Yang, and P. Zhang.
Journal of Environmental Management 387:125825(2025)

Experimental and computational approaches were employed in a study to investigate the performance of S-nZVI-based permeable reactive barrier (S-nZVI/PRB) reactors to treat Cr(VI) under background solutions with various salt ions. Results demonstrated 1.2-2.0 times higher Cr(VI) removal efficiencies with Ca^{2+} and Mg^{2+} (introduced as CaCl_2 and MgCl_2) compared to pure water and NaCl solutions. In contrast, CO_3^{2-} (introduced as Na_2CO_3) exhibited a strong inhibitory effect with a Cr(VI) removal capacity of only 34 mg/g, lower than the 104 mg/g observed in NaCl solution. Density functional theory calculations revealed that different ionic species influenced the interaction between Cr(VI) and S-nZVI by occupying active adsorption sites and altering the free energy of intermediate reduction products. Findings deepen an understanding of how various ionic species in groundwater influence Cr(VI) removal by S-nZVI.

QUANTIFICATION OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN AIR EMISSIONS: AN INTERLABORATORY COMPARISON

Hofman, J., B. Baeyens, W. Aerts, G. Jacobs, A. Reis de Carvalho, G. Van den Bergh, S. Voorspoels, and G. Otten. I Chemosphere 380:144449(2025)

An interlab comparison (ILC) was conducted on available monitoring methods for C4-18 PFAS in air emissions, evaluating method QA/QC, apparent spike recovery, and measurement uncertainty of 50 individual PFAS compounds (C4-18) between three Belgian and two international labs. In addition to confirming the validity of the recently published Belgian reference method and equivalence of the specified sampling train variants (OTM-45, OTM-45 variant and cooled probe), results provided insights in the retention potential of applied collection media (filter, XAD-2 and water), methodological issues and analytically challenging PFAS compounds. By evaluating various sampling train variants and techniques, the study aims to provide crucial insights into the effectiveness, accuracy, and reliability of these methods in detecting PFAS in air emissions. Findings contribute to cross-boundary standardization of PFAS emission monitoring, which is currently a significant gap in both regulatory frameworks and scientific understanding.

[Return to top](#) General News **ADSORPTIVE MEDIA SELECTION TOOL**

Fuller, M., P. Hatzinger, F. Boodoo, E. McKenzie, and R. Suri. SERDP Project ER18-1027, 35 pp, 2024

An adsorptive media selection tool was developed to help water practitioners economically rank commercially proven technologies capable of reducing PFAS in water to acceptable single-digit levels. The tool provides very rough estimates of operating and capital costs when using either granular activated carbon, single-use ion exchange resin, or regenerable ion exchange resin. The tool is suitable for use with water qualities that range from potable and industrial types of sources with low to moderate levels of PFAS to the much higher levels typical of point source contaminated sites. The intent is for water practitioners to use the tool as a first pass screening to evaluate the merits of the available technologies.

https://sepul-prod-0101-17274729361-us-gov-west-1-s3-us-gov-west-1-amazonaws-com-us-frc-public/7015-16/ER18-1027%20Guidance%20Document.pdf?VersionId=_9GQ7W22nc2M6zmpoWxw2gw2E5oBD7jm

SPECIATION OF AQUEOUS IRON AND ARSENIC FOR ASSESSING MECHANISMS OF ARSENIC ATTENUATION IN GROUNDWATER

Li, T. I ACS ES&T Water 5(9):5523-5530(2025)

Characterization of the chemical species of arsenic and iron in groundwater is critical to diagnosing the cause of arsenic mobilization and assessing the potential for downgradient attenuation. A streamlined plan is reported to preserve and analyze aqueous Fe(II), Fe(III), As(III), and As(V). In succinic acid, both Fe(II) and As(III) are stable for 9 days, allowing adequate time for the analyses. The revised Fe speciation is based on the o-phenanthroline (o-phen) method, with limits of quantitation (LOQ) of 0.2 and 0.07 μM for Fe(II) and Fe(III), respectively. This method can tolerate $100\times$ of Ca^{2+} , $100\times$ of Mg^{2+} , $100\times$ of Mn^{2+} , and $500\times$ of F^{-} . The revised As speciation is based on the analysis of As(V) with mixed mode LC-ESI-MS. The LOQ for As(V) is 0.13 μM . A generic protocol was developed to prepare synthetic groundwater with the desired compositions of 11 major ions. The methods were applied to characterize the oxidation and sequestration of Fe(II) and As(III) in synthetic groundwater when exposed to air over 16 h.

PFAS MONITORED RETENTION: A FRAMEWORK FOR MANAGING PFAS-CONTAMINATED GROUNDWATER SITES

Adamson, D.T., C.J. Newell, P. Kulkarni, and H. Stroh.
Groundwater Monitoring & Remediation 45(3):37-49(2025)

Direct application of monitored natural attenuation (MNA) to PFAS has been limited due to their inherent stability. However, the development of PFAS monitored retention (PMR) broadens the scope of MNA, incorporating an understanding of how retention processes, such as sorption, matrix diffusion, and precursor retention, help to mitigate PFAS mobility and mass discharge in the environment. This paper summarizes PMR, discussing its evolution from traditional MNA, key retention mechanisms, evaluation methodologies, and potential site-specific and broader applications. PMR offers a scientifically robust, economically viable approach for managing PFAS-contaminated groundwater sites when immediate threats to receptors are absent or as an interim remedy pending the development of cost-effective in situ destruction technologies.

The Technology Innovation News Survey welcomes your comments and suggestions, as well as information about errors for correction. Please contact Michael Adam of the U.S. EPA Office of Superfund and Emergency Management at adam.michael@epa.gov or (703) 399-4268 with any comments, suggestions, or corrections.

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