### Technology Innovation News Survey

#### Entries for July 1-15, 2023

#### Market/Commercialization Information

REGION 5 EMERGENCY HAZMAT RELEASE CLEAN-UP IDIQ (COMBINE) U.S. Department of Agriculture Forest Service, SPOC Southwest, Washington, DC Contract Opportunities on SAM.gov, Solicitation 12970223Q0073, 2023

This is a total small business set-aide under NAICS code 562910. The U.S. Department of Agriculture Forest Service requires emergency response, cleanup and disposal services for Hazardous Material (HAZMAT) that has been spiled/released/dumped on National Forest System Lands located in the Forest Service Pacific Southwest Region (Region 5). Services performed under this requirement may be subject to regulatory review and approval by federal, state, and local regulatory agencis (i.e. EPA, the Regional Water Quality Control Board). Depending on the complexity of a project, intermediate reviews may be required by the Government. The Contractor shall prepare any necessary responses for Indefinite Delivery Indefinite Quantity (IDIQ) contract. The Contractor wall rovide any additional information requested, and modify the final document(s) as needed. All projects will be negotiated and awarded as a Task Order under an Indefinite Delivery Indefinite Quantity (IDIQ) contract. The Contractor rovide all appropriate labor, equipment, materials, supervision, and will be expected to attend, report, and advise at meetings and conferences with regulators and other partice any other data end software required. DPT on September 1, 2023. <u>https://sana.org/unit/1102/1614461-int927rcfa112775/buey</u>

# OPTIMIZED REMEDIATION CONTRACT (ORC) AT VANDENBERG SFB (VSFB). THIS REMEDIATION WILL INVOLVE INSTALLATION RESTORATION PROGRAM (IRP) AND MILITARY MUNITIONS RESPONSE PROGRAM (MMRP) SITES BASE WIDE (SRCSGT) U.S. Army Corps of Engineers, Los Angeles District, CA Contract Opportunities on SMAM, gov, Solicitation W912PL2350006, 2023

This is a sources sought notice for marketing research purposes only under NAICS code 562910. The U.S. Army Corps of Engineers, Los Angeles District, has been tasked to solicit and award an ORC at Vandenberg Spaceforce Base in Santa Barbara, CA. This remediation will involve Installation Restoration Program and Military Munitions Response Program sites base-wide. The proposed project will be a competitive, firm-fixed-price contract, pursuant to FAR 15, using the Tradeoff process. The government intends to issue a solicitation; however, the results and analysis of the market research will finalize the determination of the set-aside decision. The tote decision (5) to be issued will depend upon the responses to this notice. The anticipated solicitation issuere addet is on or about February 2024 and the estimated proposal due date will be on a about March or April 2024. Responses to this sources sought notice are due by 2:00 PM PDT on Setember 25, 2023. <u>Intra-Charte-April 2024-24-714044547-514044547-514044547-51404547-51404547-51404547-51404547-51404547-51404547-51404547-51404547-51404547-5140547</u>

# R7 CHEROKEE COUNTY, KANSAS, OU3 BAXTER SPRINGS AND OU8 EPA-LEAD RAIL LINES (SOL) U.S. Environmental Protection Agency, Region 7 Contracting Office, Lenexa, KS Contract Opportunities on SAM, gov, Solicitation 68HE0728R046, 2023

This is a total small business set-aside under NAICS code 562910. EPA Region 7 Acquisition & Management Branch (AMBR) is seeking the services of an experienced firm to provide excavation, consolidation, and disposal of mine waste and associated soil/sediments contaminated with heavy metals within Operable Unit (OU) 3 and OU® in Cherokee County, Kanasa. This is a remedial action for the mine waste located at multiple mine waste areas in the Bavier Springs OU3 subtle COU3 and The segments of railroade line located in the Railroads OU8 point on the Cherokee County Superflund site. The Bavier Springs OU3 subtle to located along the Kanasa Chaloma border in the south-respring Sub-and three segments of railroade line located in the Railroads OU8 point on the Cherokee County County Superflund site. The Bavier Springs OU3 subtle to located along the Kanasa Chaloma border, where you are solved at the set of Sci 2010 and Superfluod site. The Spring Sub-Subtle County Superfluod site and east of Sci 2010 Struct on the south-respring Sub-around Bavier Springs, KS. EPA antiopates an indefinite delivery/indefinite quanty with fixed unit prices contract consisting of a one-year base period and two one-year option periods. Other South County Superfluod site and east of Sci 2010 Sci 2

# ENVIRONMENTAL SECURITY TECHNOLOGY CERTIFICATION PROGRAM (ESTCP) - ENVIRONMENTAL TECHNOLOGY DEMONSTRATIONS (PRESOL) U.S. Army Corps of Engineers, Humphreys Engineer Center Support Activity, Alexandria, VA Contract Opportunities on SAM, aov., Soliditation 19/1210-235-0032-1, 2023

ineers, Hum on SAM.gov, ngineer Center Support Activity, tion W912HQ-23-S-0032-1, 2023

Contract opportunities on SAM-gov, solucitation working as 50 and 20 and

#### Cleanup News

## THERMAL CONDUCTION HEATING FOR A 125 FT DEEP TCE SOURCE-MULTIPLE LINES OF EVIDENCE FOR VERIFICATION OF REMEDIAL GOALS Crownover, C., C. Thomas, M. Boulos, R. Giass, G. Crisp, G. Heron, B.S. Kennington, S. Tarmann, and L. Hidalgo. I Groundwater Monitoring & Remediation 43(3):33-44(2023)

Themal conduction heating of a TCE source zone was conducted within vadose zone soil consisting of glacial till at depths of 50 to 125 ft below an active manufacturing facility. Access limitations inside the facility prevented traditional spatial soil confirmation sampling, making performance assessment a unique challenge, Instead, an approach was developed that utilized multiple lines of evidence to document remediation success. The lines of evidence included achieving target temperatures within the treatment volume, demonstrating asymptotic vapou concentrations extracted from the treatment volume achieving achieving modeled energy input glacial, and verifying TCE concentrations in soil samples collected at accessible colations. The treatment volume achieving divide not prevented treatment volume achieving achieving modeled energy input glacials, and verifying TCE concentrations in post-treatment soil colations. The treatment volume achieving dividence inserts or heating groups, and was served also a singent socieded 90°C at 95% of the temperature monitoring points, TCE levels had diminished to asymptotic levels in the recovered vapors, and mass removal rates from the treatment volume declined to minimal levels. Confirmatory soil asampte results indicated that average TCE concentrations achieved were monitoring points, TCE levels had diminished to asymptotic levels in the recovered vapors, and mass achieved nerge more than an order of magnitude below the remediation glacial of 1 mays.

# REMEDIATING A PCE SOURCE AREA IN CLAY USING ELECTROKINETICALLY ENHANCED IN SITU BIOREMEDIATION Rils, C., E.E. Cox, J. Wang, D. Gent, M.B. Bymose, and D.M. Pade. Groundwater Monitoring & Remediation 43(3):70-76(2023)

The novel decrivative (EK) technique EK-B(O was demonstrated at full-scale to overcome the limitations of conventional in situ bioremediation with respect to reagent delivery. Electron donor and dehalorespiring bacteria (KB-16) were effectively and uniformly delivered throughout a PCE source area in clay till using the technique. Lactate, used as an electron donor, was effectively delivered through the clay solis over a 720-day sustained operational period. A one-time bioaugmentation of the treatment area with KB-1 was conducted within the first month of operation. Vinyl chloride reductase functional gene counts increased by several orders of magnitude in treatment area wells with PCE dechlorination to ethene and chloride occurring in all treatment area with site soil of 10 mg PCE/kg were met within 2 years of system operation. Average soil concentrations in the treatment area were reduced by 98.75% (PCE eq.). Rebond testing function of EX-BIO operation showed sustained dependions of magnitude in treatment area were solved by 98.75% (PCE eq.). Rebond testing function of EX-BIO operation showed sustained dependions and compliance with remedial goals.

#### LEVERAGING SEQUENCE STRATIGRAPHY TO ACCELERATE SITE REMEDIATION: PLIOCENE CITRONELLE FORMATION, EGLIN AIR FORCE BASE, FLORIDA, USA

ultz, M., C. Plank, M. Stapleton, L. Giannetta, and R. Crai oundwater Monitoring & Remediation 43(3):70-78(2023)

A groundwater extraction and treatment system was installed at Egin Air Force Base (AFB) in the Florida Panhandle to contain and remediate a chlorinated solvent plume. After 2 years of operation, the system was not removing the contaminant mass at the rate predicted or required to meet performance-based contract terms. As a result, a sequence-stratigraphic analysis was initiated to develop a strategy to improve performance. Sequence Strategraphy methods were employed to identify a matine flooding surface (mts) formed during relative sea to the groundwater entraction system makes make a the categories matine flooding surface (mts) formed during relative sea to groundwater entractions years and a sequence-strategraphic analysis was initiated to develop a strategy to improve performance. Sequence Strategraphy methods were employed to identify a matine flooding surface (mts) formed during relative sea to groundwater entraction system categories were enclosed on the contaminant mass removal relative sea to groundwater entraction system categories were enclosed on the contaminant mass removal relative sea to groundwater entraction system categories were enclosed on the contaminant mass removal relative sea to groundwater entraction system categories were enclosed and use of the contaminant mass removal relative sea to groundwater entraction system categories were enclosed on the contaminant mass removal relative sea to groundwater entraction system categories were enclosed on the contaminant mass removal relative sea to groundwater entraction system categories were enclosed on the contaminant mass removal relative sea to groundwater entraction system categories on the Gulf Coast (Citronelle Formation) and sites in similar geologic settings worldwide.

# A COMPLEX BROWNFIELDS CASE STUDY—THE FORMER BANNISTER FEDERAL COMPLEX, KANSAS CITY, MISSOURI Cohen, H.A., K.P. Breslin, and M.T. Rafferty. Groundwater Monitoring & Remediation 43(3): 129-138(2023)

The Federal Government transferred 225 acres (91 ha) of the former Bannister Federal Complex (BFC) in Kansas City, Missouri, to Bannister Transformation & Development, LLC (BTD), for demolition, environmental corrective measures, and preparation of the site for redevelopment. The transfer presented an opportunity to reconfigure groundwater remedees and address iong-standing soil contamination issues. The property contained more than 40 previously identified soil waste management units, 3.9 million ft = (362,000 mt -) 0 toildings, subsuratice utilities dating back to the 1940s, and an active groundwater remedies and address included excavation and capping of contaminated soils, installation of groundwater containment tystems, and league utilities. Completing the work within the originally planned timeframe was made possible by factors including u-front mull-yearly and ongoing engagement of regulators, an extended 3-year due diligence program and planning stage, and establishing well-defined environmental transfer visions to the regulation grand regulator exclusion previous the stream of the visions to the regulation grand to visions to the regulation grand reductive previous previous the stream of the visions to the regulation grand explained time development and planning stage, and establishing well-defined environmental transfer visions to the regulation grand reductive previous previous the transfer visions to the regulation grand reductive previous previous transfer and the visions to the regulation grand reductive previous previous the transfer due diligence program and planning stage, and establishing well-defined environmental transfer due diligence program and planning tage. And establishing well-defined environmental transfer due diligence program and planning tage. The reductive transfer due diligence program and planning tage. The reductive transfer due diligence program and planning tage. The reductive transfer due diligence program and planning tage. The reductive transfer due dit the reductive comm

#### **Demonstrations / Feasibility Studies**

FIELD EVALUATION OF THE SENTINEL™ INTEGRATIVE PASSIVE SAMPLER FOR THE MEASUREMENT OF PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES IN WATER USING A MODIFIED ORGANOSILICA ADSORBENT Edmiston, P.L., E. Carter, K. Toth, R. Hershberger, N. Hill, P. Versluis, P. Hollinden, C. Divine. Groundwater Monitoring & Remediation [Published online 1 April 2023 before print]

A passive sampler designed to measure PFAS in surface and groundwater was bested at Elisaria and Peterson Air Force bases, the Ohio River, and the Santa Ana River. Over the 2-year study, 96 passive samplers were deployed at 33 sample locations and were compared with co-collected grab samples, all of which were measured for 19 FAS analytes by HPLC-MSMS. Correlations were observed (typically within 2×difference) between aqueous PFAS concentrations measured by passive versus discrete grab samples across over 5 orders of magnitude in concentration (0.5 to 150,000 mgL). Overall relative % difference between grab and passive results displayed a median of 1% (interquarile range of -19 to 73%). Detection limits were - 1 ngL for a 2-week sampling time, with sampling rates ranging time in 2 to 70 mL/day in flowing systems. Duplicates samples or deployed at 14 to 42% (interquarile arge) for 12 to 70 mL/day in flowing systems. Duplicates samples are deployed at 14 to 42% (interquarile arge) for 14 to 73% (interquarile trange of -19 to 73%). Detection limits were - 1 ngL for a 2-week sampling time, with sampling rates ranging to potential prove ratable water flows. A commercial ab measured a sub-set of duplicate samples and or 14 to 42% (interquarile range of -19 to 73%). Detection limits were seen with site and potential prove ratable water flows. A commercial ab measured sub-set of duplicate samples and to 8. <u>Attraction were seen with site and and the 14 to 42% (intervent equivalent data to research tab measurements 44 12 to 25%). Reteated used poster use of passive sampling. The 2-were seen with site and the study to facilitate expanded lestim and future to reactive use of passive user passive variable water flows. A data to research tab measurements 44 12 to 25%. Reteated use of passive user passive sampling. The 2-were seen with site and the study to facilitate expanded lestim and to the totage user passive user passive user passive user passive user passive developed during the study to facilitate expanded lestim and</u>

## IMPROVED LONGEVITY AND SELECTIVITY OF PFAS GROUNDWATER TREATMENT USING SUB-MICRON POWDERED ACTIVATED CARBON AND CERAMIC MEMBRANE FILTER SYSTEM Quinnan, J., V. Pulikkal, T. Reid, and C. Bellona. ESTCP Project ER19-5181, 365 pp, 2022

Quinnan, J., V. Pulikkal, T. Reid, and C. Bellona. ESTCP Project ER19-5181, 365 pp. 2022 A demonstration and validation study was conducted at horsham AI: Guard Station (AS) and former Naval AI: Station (NAS) at Willow Grove in Horsham, PA to test a sub-micron powdered activated carbon (SPAC) coupled with ceramic membrane filtration (CMF) to reduce the total life-cycle cost of treating PFAS-impacted groundwater. The approach combined proven CMF and SPAC technologies into a new configuration specifically designed to treat water resources highly performance using life cycle cost analyses (LCA). The SFAC-CMF system consisted of cloth media filters to remove particulates, a sorbent reactor in which SPAC is mixed with influent surface water, followed by a CMF filter to separate test the adsorption rate (SRA) of various PFAS on SPAC and compared to GAC and IX. Costs were compared to estimate a payback period for the SPAC-CMF system at filter to separate test the adsorption rate (SRA) of various PFAS on SPAC and compared to GAC and IX. Costs were compared to estimate a payback period for the SPAC-CMF system at filter to separating the specific adsorption rate (SRA) of various PFAS on SPAC and compared to GAC and IX. Costs were compared to estimate a payback period for the SPAC-CMF system at Horsham achieved 146 (g PFAS/g sorbent SAK, while SI as Side SMC-CMF system at Horsham achieved 146 (g PFAS/g sorbent SAK, while SI as Side SMC-CMF system at Horsham achieved 146 (g PFAS/g sorbent SAK, while SI as Side SMC-CMF system at Horsham achieved 146 (g PFAS/g and reduced disposal requirements. *Final Report: https://secto-structure.getSubj.compared.getSubj.compar* 

### A FIELD-VALIDATED EQUILIBRUM PASSIVE SAMPLER FOR THE MONITORING OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IN SEDIMENT PORE WATER AND SURFACE WATER AND MONO, B. 65, Pauler, A Sweet J. J. Bobrit, S. F. Reaber, L. A. D'Agostino, J. Conder, J. R. Bouter, J. Bouter, S. Maura, A Staterino, P. Micasa, G. Hantanadai, and A. Le-Tuan Plana I. Environmental Science Processes & Impact Science Proceses & Impact Science Processes &

#### Research

MULTI-LABORATORY VALIDATION STUDY FOR ANALYSIS OF PFAS BY EPA DRAFT METHOD 1633: WASTEWATER, SURFACE WATER, AND GROUNDWATER MATRICES Willey, J., A. Hanley, R. Anderson, A. Leeson, and T. Thompson. SERDP Project ER19-1409, 211 pp, 2023

This report is the first in a series presenting the results of a multi-lab validation study (MLVS) to validate EPA's draft Office of Water Method 1633: Analysis of Per-and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Sample's by LC-MS/MS. The MLVS objectives were to identify and quantify up to 40 PFAS in aqueous matrices and tissues using the isotope dilution LC-MS/MS method, achieve a low ppt level of quantifation (LOQ) in aqueous matrices and pps in solids and tissues, produce a method that can be implemented at a tyrical indi-sized full-service environmental lab, and conduct single-and multi-lab validation studies of the draft method. Extracts for aqueous matrices were prepared via solid-phase extraction followed by carbon cleanup. Analyte concentrations were determined using an isotope dilution or extracted internal standard (EIS) quantification schemes; both utilize isotopically labeled compounds added to the samples

before extraction. Non-extracted internal standards were used to determine EIS compound recoveries, providing a general indicator of overall analytical quality. The method includes 40 target analytes, 24 EIS compounds, and 7 NIS compounds. Analytes were quantified and reported in their acid form. Eight commercial and two state labs participated in the study. All labs were required to complete Initial Calibrations and Initial Demonstration of Capabilities studies before samples (49 total analytes). For surface weter and groundwater, 2 samples for each matrix were analyted as upscheding to the study. All labs were required to complete Initial Calibrations and Initial Demonstration of Capabilities studies before samples (49 total analyses). For surface weter and groundwater, 2 samples for each matrix were analyted as upscheding to the study. All labs were required to complete Initial Calibrations and Initial Demonstration of Capabilities studies before samples (49 total analyses). For surface weter and groundwater, 2 samples for each matrix were analyted as upscheding total analyses). The objectives of this MLVS were achieved. Data generated during the MLVS demonstrated that EPA Method 1633, as written, is robust enough to be performed by suitable laboratories using similar instruments of different manufacturers and models. Technical Report. <u>Thus://Event/WartWartPatrix/Patri</u>

## INFLUENCE OF GROWTH SUBSTRATE AND CONTAMINANT MIXTURES ON THE DEGRADATION OF BTEX AND MTBE BY RHODOCOCCUS RHODOCHROUS ATCC STRAIN 21198 Huizenga, J.M. and L. Semptini I Biodegradation 292023)

A study investigated the degradation of the prevalent environmental contaminants hereare, toluene, elly/lemance, and yalence (BTEX) along with a common co-contaminant, MTEE by *Rhodococcus chodochrous* ATCC Strain 11108. The ability of the stain is to degrade the contaminants individually and in the instance of the degradiant of the gradient of the stain of the stain

## ENHANCED FEAMMOX ACTIVITY AND PERFLUOROOCTANOIC ACID (PFOA) DEGRADATION BY ACIDIMICROBIUM SP. STRAIN A6 USING PAA-COATED FERRIHYDRITE AS AN ELECTRON ACCEPTOR. Park, J., S. Huang, B.E. Koel, and P.R. Jaffe. I Journal of Hazardous Materials 459:132039(2023)

Ferrihydrite particles were coated with polyacrylic acid (PAA) with four different molecular weights, resulting in a negative zeta potential on their surface to study their potential in accelerating PFAS defluorination. Zeta potential was determined as a function of pH and PAA loading, with the lowest value observed when the PAA/enrihydrite ratio was >1/5 (wiv) at a pH of 5.5. Several 50-day incubiations with an A6-enrichment culture were conducted to determine the effect of PAA-coated ferrihydrite as the electron acceptor of A6 on the Fearmox activity and PFOA degradation, PFOA de

# DEMONSTRATION OF A PRINCIPAL COMPONENT ANALYSIS TRAJECTORY METHOD TO ASSESS BIOREMEDIATION PROGRESS AT A TCE-IMPACTED SITE Freedman, M., K.G. Mumford, A. Danko, D. Hart, S.D. Richardson. Groundwater Monitoring & Remediation 43(2):09-97(2023)

The principal component analysis (PCA) trajectory method was employed on a dataset from an in situ bioremediation site impacted by TCE. This approach served as an alternative to the examination of time series data. The method connected each monitoring well's scores through PCA space to account for temporal changes in multiple analytes. Using the method, monitoring well locations were separated into categories that included "on-track" and "unsuccessful" based on their similarity to based by the series data to facilitate interpretation. The series data to facilitate interpretation interpretation, the series data to facilitate interpretation interpretation.

# ROLE OF MINERAL-ORGANIC INTERACTIONS IN PFAS RETENTION BY AFFF-IMPACTED SOIL Wanzek, T., J. F. Stults, M.G. Johnson, J.A. Field, and M. Kleber. Environmental Science & Technology 37(13):5231-5242(2023)

A study developed a comprehensive, generalized approach to predicting PFAS retention from AFFF by a soil matrix as a function of PFAS molecular and soil physiochemical properties. In one-dimensional saturated column experiments, PFAS mass retained was measured by adding an AFFF with 34 major PFAS (12 anions and 22 xwitterions) to uncontaminated soil. PFAS mass retention was described using an exhaustive statistical approach to generate a poly-parameter quantitative structure-property relationship). The relevant productive properties were PFAS molar mass, mass fluorine, number of nitrogen atoms in the PFAS molar Description of a specific surface area. The retention of anionic I/PAS was nearly independent of soil properties and largely a function of molecular hydrophoticity, with the size of the fluorinated side chain as the main predictor. Retention of nitrogen-containing zwitterions) to effect the specific surface area. The retention of anionic I/PAS was nearly independent of soil properties and largely a function of molecular hydrophoticity, with the size of the fluorinated side chain as the main predictor. Retention of nitrogen-containing zwitterionic of molecular hydrophoticity of the size of the fluorinated side chain as the main predictor. Retention of nitrogen-containing zwitteriones to explore the size of evelop reactive thrapport elevant to vidin a subtract of PAS was related to poorty containing retractive changes of the size of the fluorinated side chain as the main predictor. Retention of nitrogen-containing zwitteriones to which as using of the size of the fluorinated side chain as the well or exercise the size of evelop reactive thrapport elevant to vidin a subtract of PAS was related to poorty containing retractive changes of the size of the fluorinated side chain as the main predictor. Retention of introgen-containing zwitteriones to which as using of PAS may respond to variations in soil matrix properties paves the way to develop reactive thrapport elevant to vidin as using and the size of the f

# EVALUATING NEUTRAL PFAS FOR POTENTIAL DERMAL ABSORPTION FROM THE GAS PHASE Kissel, J.C. I.A. Titaley, D.J. Muensterman, and J.A. Field. Environmental Science & Technology 57(12):4951-4958(2023)

The physicochemical properties estimated by the SPARC calculator were utilized to compute transdermal permeability coefficients (k<sub>p-g</sub>) and dermal-to-inhalation (*D/I*) exposure ratios for two categories of neutral PFAS compounds, including those on an EPA PFAS list. Eleven neutral PFAS showed calculated *D/I* ratios >5, indicating that direct transdermal absorption may be an important exposure pathway compared to inhalation. Data on consumer products or indoor air is needed for the 11 neutral PFAS.

#### **General News**

## PUMP AND TREAT OPTIMIZATION Interstate Technology & Regulatory Council (ITRC) Web-based document PT-1, 2023

This TRC document provides guidance and an adaptive framework for optimizing groundwater pump and treat (P&T) systems. The goals of P&T optimization are to improve the effectiveness and efficiency of the remedy, maintain or improve receptor protection, ensure adequate maintenance, reduce cost and liability, reduce the environmental footprint, and make the remedy more resilient to environmental changes. This document prevents an overview of the optimization process and the tools and resources available to help users achieve the user goals. <u>This footprint</u> and the tools and resources available to help users achieve the twee goals. <u>This footprint</u> and the cost and resources available to help users achieve the the environmental changes.

# HIGH-VOLUME SAMPLING FOR VAPOR INTRUSION ASSESSMENTS FACT SHEET Naval Facilities Engineering Command, 4 pp, 2023

This fact sheet covers the high-volume sampling (HVS) method to characterize the nature and extent of VOC vapor distributions beneath large buildings. Case studies at NAS Corpus Christi and NS Norfolk are presented in addition to a summary of the advantages and limitations before selecting and applying HVS. https://exec.org/act.org/unit/Proto/sigN/Orguments/EVW/LRStorafong-r\_ndfs/h/NAVFAC%20HVS\_FactSheet\_Final\_6\_27\_23.ndf2ver=4aFX\_BdR2Vd2XG\_CUISi\_a%3d%3d

## ASSESSING ENVIRONMENTAL REMEDIATION TECHNOLOGIES - GROUNDWATER Johnson, C.,V. Vokal, and T. Macbeth. Pacific Northwest National Laboratory RemPlex-IAEA Seminar, 107 minutes, May 2023

This seminar features three presentations about different aspects to consider in the selection of groundwater remediation approaches. The first presentation provides an overview of factors to consider in selecting a groundwater remediation to constraints a summary invitable attensive. Examples from DDE sites are used to literative the application of groundwater remediation to constraints and second presentation factors to consider in the Cach Republic. Over 50 years, ~130,000 tons of uranium in innormative used to literative the application of groundwater remediation to constraints and groundwater remediation to constraints and and the Cach resentation approaches. The first presentation factors and groundwater remediation to constraint wave produced from 56 exploited deposits leading to widespread environmental impacts and groundwater contamination. The objectives of a large-scale environmental program taking into account regional systems of ecological stability and urban plans. The final presentation discusses innovative approaches to treating groundwater with mixed contaminants, including PFAS. **Vol Uber Vol 10**, **Vol 10**, **Vo** 23May2023 ndf

#### FIELD METHODS AND EXAMPLE APPLICATIONS FOR THE MIN-TRAP® MINERAL SAMPLER Divine, C., S. Justicia-Leon, J.M. Tilton, E. Carter, E. Zardouzian, K. Clark, and D. Taggart. ne, C., S. Justicia-Leon, J.M. 11 nediation 33(3):209-216(2023)

The Min-Trap sampler is a simple, cost-effective tool that can directly measure reactive mineral formation in situ without additional drilling or soil core collection. Methods presented in this article describe how Min-Traps deployed in conventional monitoring wells can measure reactive minerals and how these minerals can be identified through commercially available analytical methods. Several examples show how the sampler can be used to characterize the rate and spatia variability of reactive mineral precipitation, data that may support operation and optimization decisions.

## ENVIRONMENTAL JUSTICE AS A NEW DRIVER FOR SUSTAINABLE REMEDIATION AT SUPERFUND SITES Wice, R. I 2023 Bioremediation Symposium Proceedings, 8-11 May, Austin, TX, 21 slides, 2023

This presentation provides an overview of EPA's environmental justice (EJ) program and how it is being applied to Superfund sites. EPA's EJScreen tool uses demographic data defaulted to American Community Survey (ACS 2015-2019, or earlier census data) and environmental data loc create reports and maps that help identify EJ areas. Demographic data categories used as too linguist for an area include perclave provides and vora age (4, The EJScreen hold environmental data categories used as too linguist for an area include perclave provides and vora age (4, The EJScreen hold environmental data categories used as too linguist for an area include perclave provides and vora age (4, The EJScreen hold environmental data categories used as too linguist for an area include perclave provides and vora age (4, The EJScreen hold environmental data categories used as too linguist for an area include perclave provides and vora age (4, The EJScreen hold environmental data categories used as too linguist for an area include perclave provides), rais that magement Plan Facility proximity, maps can be generated for the major data categories or a combined EJ index map. EPA's EJScreen hold is explained, and examples of too output for a Superfund site with EJ concerns are compared to a non-impacted affluent area in the San Francisco Bay Area.

### REMOVAL OF MUNITIONS CONSTITUENTS FROM WASTEWATER Hubbard, B, and J, Weidhaas, SERDP & ESTCP Webinar, August 2023

This webinar featured DoD-funded research efforts to develop treatment technologies for munitions in wastewater. First, Dr. Jennifer Weidhaas presented her research results on developing more efficient, cost-effective, and sustainable treatment trains for mixed munitions wastewater. Second, Mr. Brian Hubbard discussed the development, scale-up, and results from several field demonstrations of a technology capable of rapidly and completely destroying insensitive munition constituents in explosives productions wastewater. Inter *Long and Completely and Co* 

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 Remediation and Technology Innovation at adam michael@epa.gou or (703) 603-9915 with any comments, suggestions, or corrections. Mention of non-EPA documents, presentations, or papers does not constitute a U.S. EPA endorsement of their contents, only an acknowledgment that they exist and may be relevant to the Technology Innovation News Survey audience