Technology Innovation News Survey

Entries for June 16-30, 2024

F -- SPE603-24-R-5X04 DFSP CHARLESTON ENVIRONMENTAL SERVICES (PRESOL) U.S. Department of Defense Logistics Agency, DLA Energy, Fort Belvoir, VA Contract Opportunities on SAM.gov SPE603-24-R-5X04, 2024

When this solicitation is released on or about September 11, 2024, it will be competed as a total small business set-aside under NAICS code 562910. The U.S. Department of Defense Logistics Agency, DLA Energy, plans to issue a solicitation for environmental remediation, environmental acompliance, and environmental facility maintenance services at its Defense Fuel Support Point (DFSP) in Charleston, South Carolina. DLA Energy's Engineering, Environmental and Property Division (LEV) is responsible for funding, supporting, and overseeing execution of DLA Energy's environmental requirements. Site closure is the primary goal of this effort while rescioning and maintening the facility in a cost-effective manner. This anticipated contract is expected to have a four-year period of performance from April 1, 2025, through March 31, 2029, and a six-month extension provision from April 1, 2029, through October 31, 2029. The award is expected to be one firm-fixed-price contract. There is no solicitation at this time. <u>https://sam.ou/poi/ch070Rev108411341194753473416/bujve.</u>

ENSURING ENVIRONMENTAL JUSTICE, HUMAN WELLBEING, AND ECOSYSTEM RECOVERY IN PUGET SOUND Environmental Protection Agency, Funding Opportunity EPA-I-R10-PS-2024-001, 2024

The overall goal of the program to be established under the Notice of Funding Opportunity is to advance EJ by directing resources and ultimately environmental and community benefits toward overburdened, underserved, or communities adversely and disproportionately affected by environmental and human health harms or risks (communities with potential EJ concerns), EPA anticipates that the grant program will support improved, long-term funding integration of the program by affected by environmental and human health harms or risks (communities with potential EJ concerns), EPA anticipates that the grant program will support improved, long-term funding integration of the program will support improved, long-term funding integration of the program by affects and advinister a support improved integration of the program by a support improved integration of the program and its communities. EPA anticipates awarding up to \$7 million over two years of incremental funding under this announcement. Applications are due by 11:59 pm Er on September 10, 2024.

DEVELOPING AND DEMONSTRATING NANOSENSOR TECHNOLOGY TO DETECT, MONITOR, AND DEGRADE POLLUTANTS Environmental Protection Agency, Funding Opportunity EPA-G2024-STAR-G1, 2024

This funding opportunity is soliciting research to develop and demonstrate nanosensor technology with functionalized catalysts that have the potential to degrade selected contaminants in addition to detecting and monitoring pollutants. Specifically, EPA is seeking proposals that use nanotechnology to detect, monitor, and degrade PAS in groundwater or surface water that may be used as drinking water sources. The Science to Achieve Results (STAR) Program's goal is to stimulate and support scientific and engineering research that dwances EPA's mission to protect human health and the environment. It is a competitive, peer-reviewed, extramural research provides access to the nation's best scientists and engineers in academic and other nonprofit research institutions. STAR funds research on the environmental and public health effects of air quality, environmental changes, water quality and quantity, hazardous waste, toxic substances, and pesticides. EPA anticipates truinding apportantity up to \$1,500,000 per award. Applications are due by 11.55 pm E10 no November 13, 2024.

2024 HEALTHY COMMUNITIES GRANT PROGRAM Environmental Protection Agency, Funding Opportunity EPA-R1-HC-2024, 2024

The Healthy Communities Grant Program is a competitive grant program for EPA New England to fund direct work with communities to support EPA's mission to reduce environmental risks, protect and improve human health, and improve of life. The Healthy Communities Grant Program will achieve these goals by identifying and funding projects that: • Target resources to benefit at-risk communities (environmental justice areas of potential concern and/or sensitive populations). • Assess, understand, and reduce environmental and human health risks. • Increase collaboration through partnerships and community-based projects.

Increase collaboration through partnerships and community-based projects.
Build institutional and community capacity to understand and solve environmental and human health problems.
Achieve measurable environmental and human health benefits.
Target investment areas include Areas near New England Ports that are being Redeveloped to Support Offshore Wind and Related Industries, Environmental Justice Areas of Potential Concern, Geographic Priority Areas or Sectors in Northern & Southern New England Ports that are being Redeveloped to Support Offshore Wind and Related Industries, Environmental Justice Areas of Potential Concern, Geographic Priority Areas or Sectors in Northern & Southern New England Ports, and (2) identify how the proposed project will achieve measurable environmental and/or public beath results in one or more of the Target Environment will have environment to fund ~15 awards. Applications may be submitted for amounts up to \$40,000 in federal funding. It is anticipated that project periods for agreements warded under this announcement will have en or two-yeer project periods that will start to earlier than April 1, 2025. Although Applications are due by 11:59 pm ET on November 1, 2024. <u>https://prants.gou/Santh-results-fault_155.2022</u>

Cleanup News

DELINEATION TO DELIVERY: OPTIMIZATION OF ISCO WITH HYDRAULIC FRACTURING AT THE HEMPHILL ROAD TCE SUPERFUND SITE Fulkerson, M., C, Allen, M. Perlmutter, T. Williams, D. Seadler, and B. Bentowski. DCHWS East 2024 Spring Symposium, 10-12 April, Philadelphin, PA, 13 Silkes, 2024

Recycling chemical drums by emptying their residual contents on the ground surface, and then burning and crushing the drums resulted in TCE-contaminated groundwater at the Hemphill Road Superfund site. To accelerate and optimize the restoration process, EPA prepared an Interim Action Record of Decision that included a phased remedial action to address the areas with TCE concentrations >300 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations > 500 µg/L first and the residual groundwater plume (TCE concentrations plug) for the residual groundwater plume (TCE concentrations plus) for the active treatment and finalize the ISCO design. Permanganate injections were conducted using proprietary hydraulic fracturing technology to distribute 182,000 lbs of RemOx-5 at 25 locations throughout the plume on 30-ft creaters. Fractures were created approximately every five vertical ft from the water table, at ~ 30 ft bgs, to before, Performance monitoring will be conducted at 1, 3, and 6-month intervals post-injection to evaluate the effectiveness of the remedy and inform the need for additional injections. <u>http://doi.org/line.org</u>

PASCO SANITARY LANDFILL NPL SITE: REGULATORY AND DESIGN APPROACH FOR IMPLEMENTATION OF THERMAL CONDUCTIVE HEATING Wachter, L.R., I Battelle 2024 Chlorinated Conference, 2-6 June, Denver, CO, abstract only, 2024

The Industrial Waste Area Zone A at the Pasco Landinit INPL site is currently undergloing in situ themal remediation (ISTR) by thermal conduction heating (TCH) to treat ~27,000 vd³ of soil with heterogenous patterns of cVOCs, total petroleum hydrocarbons (TPH), and other organic and non-organic analytes. STR and a final engineered cap will complete the final cleanup action. Following the removal action, post-excavation soil characterization was conducted to develop remediation levels (RELs) and the ISTR develop. And thesi TCE, tetrachiconetheme, and VC). Bits (TR, haptihaliene, Istramolin, and 2-methyhaphthaliene), and other and 2-methyhaphthaliene), and the ISTR develop for evolocity organics. RELs were developed for cVOCs. TCE, tetrachiconetheme, and VC). Bits (TR, haptihaliene), transformation and 2-methyhaphthaliene), and 2-methyhaphthaliene), and discuss and discuss and discuss and the ISTR develop. Tetrace to the state of the transformation of the transformation of the transformation of the transformation and state transformation of the torgen transformation of

AN INNOVATIVE APPROACH TO IN SITU SOIL MIXING APPLIED AT A CHLORINATED SOLVENT-IMPACTED SITE IN BATAVIA, NEW YORK Popek, M.A., S. Dore, D. Vanetti, and D. MacDougall. I Battelle 2024 Chlorinated Conference, 2-6 June, Denver, CO, abstract only, 2024

Poper, M.A., S. Dote, D. Vaneua, and D. Matchougan. T baselines 42x4 cholomated Contentence, 2x3 June, Deriver, O.Q. Substact. Omy, 2024 In situ chemical and excellence and the control of the control o

Demonstrations / Feasibility Studies

EPA AND U.S. ARMY ANNOUNCE JOINT SAMPLING PROJECT TO IDENTIFY PFAS CONTAMINATION NEAR ARMY INSTALLATIONS EPA Enforcement and Compliance Assurance News Release, 26 July, 2024

EPA and the U.S. Army announced a joint project to conduct sampling and testing of private drinking water wells near Army installations for PFAS. This effort will inform Army remedial actions if results indicate that PFAS is found in drinking water wells of nearby residents. The joint sampling and testing project, which is being implemented nationally, has identified a priority lies do fine installations out of 23 locations. As initial work is completed, EPA and the Army will evaluate additional installations to expand the pilot. If sampling indicates PFAS is present in groundwater above the new MCIs established by EPA, the Army will work with EPA and state regulators to assess additional actions necessary to mitigate exposure. EPA and the Army will work with EPA and be EPA's and DoD's PFAS websites as information becomes available https://www.apa.gov/newergate.asser/apa.and.bo's PFAS websites as information becomes available in the Army will work with EPA and the Army will work with EPA and the Army will work with a state regulators to assess additional actions necessary to mitigate exposure. EPA and the Army will work with EPA and DoD's PFAS websites as information becomes available https://www.apa.gov/newergate.asser/apa.and.bo's BFAS is foresting - priore-1/addition-near-army.

ELECTRICAL RESISTIVITY TOMOGRAPHY MONITORING OF IN SITU SOIL FLUSHING AT THE HANFORD 100-K EAST AREA: 100KE SOIL FLUSHING MONITORING Johnson, T., J. Thomle, J. Robinson, and R. Mackley. PNNL Report PNNL-35781, 46 pp, 2024

In situal flushing was tested at the 100-KE Area at the Hanford site to accelerate Cr(VI) removal in the vadoes zone using 3D time-lapse electrical resistivity tomography (ET) to monitor the distribution of flush water. Previous efforts to accelerate Cr(VI) removal in the vadoes zone using 3D time-lapse electrical resistivity tomography (ET) to monitor the distribution of flush water. Previous efforts to a residue to the board of the test of a flush water. Previous efforts to accelerate Cr(VI) removal in the vadoes zone using 3D time-lapse electrical resistivity tomography (ET) to monitor the distribution of flush water. Previous efforts to a residue to the board of the test of a flush water. Previous efforts to a residue to the board of the test of a flush water removallity than rative soils is flushing campaign energily sovied that: 1) the backfill materials appear to nominally have larger the major during two segments as illushing campaign energily used to the bottom of the pit. 2) non-uniform flows, likely caused by viantions in hydrogelogic properties, developed in the pit board/all materials, resulting in uneven flush water distribution on the southern margin of the soil flushing zone. 3) Redistribution of water at hit waterials and the formation materials likely facilitated an elevated and uniform distribution of flush water regions of the board of the the southern margin of the southern margin of the flush south effect and elevated by ventices of the editor of an water distribution of nuclear the ender of the flush water application rate was been interviewed to the tota and the distribution the application and the southern margin of the flush water application rate as significantly improved flush water advision that and the southern margin of the flush application rate application rate as significantly improved flush water advision to monitor the distribution throughout the target and elevated by real to volumes of an water distribution of the southern margin of the flush application rate applicatin rat de41fcdb7070a79e0485f1.1714071786022.1720553183596.1721059619727.8& hssc=249664665.2.172105961972

ADEC EXPERIENCE WITH REMEDIATION OF PCE PLUME USING IN SITU MICRODIFFUSION OZONE TREATMENT EAST CENTRAL PHOENIX 24TH STREET AND GRAND CANAL PHOENIX, AZ Morales, M. I 19th Annual Environmental Professionals of Anzona Conference, 26-27 February, Tempe, AZ, 31 sildes, 2024 The Arizona Department of Environmental Professionals of Anzona Conference, 26-27 February, Tempe, AZ, 31 sildes, 2024 The Arizona Department of Environmental Professionals of Anzona Conference, 26-27 February, Tempe, AZ, 31 sildes, 2024 The Arizona Department of Environmental Professionals of Anzona Conducted a pliot study to evaluate the effectiveness of in stum incrodiffusion ozone (MD-O₃) to remediate PCE-contaminated groundwater at a ~1/2-acre former dry cleaner site. Post-soil vapor extraction (SVE) PCE concentrations in source area groundwater were up levels were to remediate the resistual source area to below the 5 up L, Dquieter water quality standard, map the distrutor of gascous zone and compressed air, inflo a coafse-granol thiologi layer (predominantly gravel) underlying a lass permaetile using failing a parented filters on the onverying fine-grane of using a find gas meter and O₃ test strips for water, Wells were profixed, and diffusers were replaced as required. The pulsed system delivered ~15,000 b 0 O₃ to the source area aquifier. PCE concentrations in the hotspot declined by 5%. O₃ extended beyond the anticipated area to ~20 feet. dissolved Or concentrations in the notspot declined by 5%. O₃ extended beyond the anticipated area to ~20 feet. Website that includes all site documents: <u>https://arden.gou/decp-24th.gc</u>.

PILOT-SCALE THERMAL TREATMENT OF PFAS-LADEN MATERIALS Potter, P., B. Crone, and M. Mills. ACS Spring 2024 National Meeting, New Orleans, LA, 17-20 March, 22 slides, 2024

Results from a pilot-scale system used to perform both biosolid incineration and GAC regeneration will be presented along with a summary of current EPA research in this field, https://topi.ena.org/sis/sinubic/records/as/si

Research

ISOLATION AND CHARACTERIZATION OF PURE CULTURES FOR METABOLIZING 1,4-DIOXANE IN OLIGOTROPHIC ENVIRONMENTS Tesfamariam, E., D. Seekimpi, S. Hoque, H. Chen, J. Howe, C. Zhou, Y. Shen, and Y. Tang. Water Science & Technology 89(9):2440-2456(2024)

In this study, 1,4-dioxane-metabolizing mixed cultures were enriched by periodically spiking 1,4-dioxane at low concentrations (s1 mg/L). Five 1,4-dioxane-metabolizing pure strains (LCD6B, LCD6D, WC10G, WCD6H, and WD4H) were isolated and characterized. Partial 165 rRNA gene sequencing showed that the five strains were related to Dokonella sp. (98, 3%), *Acinetobacter* sp. (99, 0%), *Alinetobacter* sp. (99, 0%), *Nirobacter* sp. (97, 5%), and *Pseudoncardia* 9, 194,3%), respectively. Concentrations (s1 mg/L), *Iver* 1,4-dioxane-metabolizing pure strains (LCD6B, LCD6D, WC10G, WCD6H, and WD4H) were isolated and characterized. Partial 165 rRNA gene sequencing showed that the five strains were related to Dokonel sp. (98, 3%), *Acinetobacter* sp. (99, 0%), *Alinetobacter* sp. (97, 5%), and *Pseudoncardia* 9, 194,3%), respectively. Concentrations of <51 mg/L, lower maximum specific 1, 4 newly discovered strains have obver half-maximum-rate concentrations (18 to 82, mg-dioxane), lower maximum specific 1, 4 novane utilization rates (0, 24 to 0, 47 novane), and lower decay coefficients (0.01 to 0.02 d⁻¹). These are characteristics of microorganisms living in oligotrophic environments. <u>https://wawnicide/d89/07/48/101199/01/09/anion-and-characterization-and</u>

APPLICATION OF B-CYCLODEXTRIN ADSORBENTS IN THE REMOVAL OF MIXED PER- AND POLYFLUOROALKYL SUBSTANCES Abaie, F., M. Kumar, N. Kumar, Y. Sun, J. Guelfo, Y. Shen, and D. Reible. Toxics 12(4):264(2024)

A study assessed the effectiveness of three different β -cyclodextrin (β -CD) adsorbents in removing a mixture of PFAS, including anionic, neutral, and zwitterionic compounds, at neutral pH. Linear partition coefficient (K_0) values were calculated to quantify the adsorption affinity of each PFAS. β -CD polymers crosslinked with hexamethylene disocycanate (β -CD-HD) and epichlorohydrin (β -CD-2D-CD displayed some PFAS adsorption. Benzyl chloride β -CD (β -CD-2D) was also synthesized and tested for PFAS adsorption. β -CD-2 displayed to grant there on affinity for zwitterionic compounds, at neutral pH. Linear partition coefficient (K_0) values were calculated β -CD-EPD, which og Kay alues ranging from 1.9 Ug to 3.3 Ug, β -CD-2 displayed no affinity for zwitterionic compounds, as opposed to β -CD-EPD, which β -CD-EPD, which α -BCD-2 displayed homethyl ammonio proxyl perfluorohexane sulfonamide (AmPr-FhxSA). Comparing K dyalues and log Koy di PFAS confirmed the significant role of hydrophobic interactions in the adsorption mechanism. This effect was stronger in β -CD-ED and β -CD-EPD. While no effect of PFAS charge was observed in β -CD-ED, come ind β -CD-EPD and β -CD

PFAS adsorption by B-CD-CI was similar in magnitude to other adsorbents proposed in the literature. However, unlike many commonly proposed adsorbents, it offers the advantage of not containing fluorine - hoter-/downser. Because advances. Because advances and advances adva

INFLUENCE OF WATER CHEMISTRY AND OPERATING PARAMETERS ON PFOSIPFOA REMOVAL USING RGO-NZVI NANOHYBRID Ali, M., U. Thapa, J. Antle E. Tanim, J. Aguilar, I. Bradley, D. Aga and N. Aich. Journal of Hazardous Materials 469:133912(2024)

This study evaluated how and to what extent different environmental and operational parameters, such as initial PFAS concentration, H₂O₂ dose, pH, ionic strength, and natural organic matter (NOM), influenced PFOS and PFOA removal using graphene and zero-valent-iron based- nanohybrid (rGO-nZU NH), with an initial increase in PFAS concentration (from 0.4 to 50 ppm), pH (3 to 9), ionic strength (to 100 mH), and NOM (0 to 10 ppm), PFOS removal reduced by 20%, 30%, 20%, and 0% increase in PFAS concentration (from 0.4 to 50 ppm), pH (3 to 9), ionic strength (to 100 mH), and NOM (0 to 10 ppm), PFOS removal reduced by 20%, 30%, and 0% increase in PFAS concentration (from 0.4 to 50 ppm), pH (3 to 9), ionic strength (to 100 mH), and NOM (0 to 10 ppm), PFOS removal and by 20%, 30%, and 0% increase in PFAS concentration (from 0.4 to 50 ppm), pH (3 to 9), ionic strength (to 100 mH), and NOM (0 to 100 ppm), PFOS removal indicated by 20%, 30%, and 0% increase in PFAS concentration (from 0.4 to 50 ppm), pH (3 to 9), ionic strength (to 100 mH), and NOM (0 to 100 ppm), PFOS removal indicated by 20%, 30%, indicated by 10% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% indicated by 20% of PFOS interactions (from 0.4 to 50%), and 0% interactions (from 0.4 to 50%), and 0% int

RESULTS OF 2018-19 WATER-QUALITY AND HYDRAULIC CHARACTERIZATION OF AQUIFER INTERVALS USING PACKER TESTS AND PRELIMINARY GEOPHYSICAL-LOG CORRELATIONS FOR SELECTED BOREHOLES AT AND NEAR THE FORMER NAVAL AIR WARRARE CENTER WARMINSTER, BUCKS COUNTY, PENNSYLVANIa Senior, L.A. and A.R. Riore. LJS. Geological Survey in cooperation with the U.S. Navy, Open-File Report 2024-1007, 156 pp, 2024

Selind i Lek and ken note 0.0 Geological barter in tooperustic bear, and the contracting, oper the requality using aquifer-interval-isolation tests and other vertical profiling methods in 15 boreholes completed in fractured sedimentary bedrock in Northampton, Warminster, and Warwick Townships, Bucks County, Pennsylvania from 2018-19. The work was conducted to support detailed investigations at and near the former Naval Air Warfare Center (NAWC) Pennsylvania from 2018-19. The work was conducted to support detailed investigations at and near the former Naval Air Warfare Center (NAWC) Warminster, where PFOS and PFOA were measured in groundwater samplings from supply and monitoring wells at concentrations above EPA health advisory (verifs drinking water. The vertical distribution of aquifer properties and water quality using a stradel-packer system (13 boreholes) or depth-discrete point sampling under known borehole-flow conditions (2 boreholes). Geophysical and video logs were used to identify potential water-bearing fractures in 15 boreholes, ranging in depth from 210 to 604 k. Including six boreholes and nine existing wells on or near the six. The hydrogeologic framework, in conjunction with the vertical distribution of hydraulic heads and water quality, may assist in evaluating the locations of various PFAS sources and potential migration pathways of PFAS in groundwater.

REPEATED AQUEOUS FILM-FORMING FOAMS APPLICATIONS: IMPACTS ON POLYFLUOROALKYL SUBSTANCES RETENTION IN SATURATED SOIL Wanzek, T.A., J.A. Field, and K. Kostarelos. Environmental Science & Technology 58(3):1659-1668(2024)

Waiteds, L.K., J.K. Pielu, and K. Ruszletos. Environmental science of technology 36(3):1053-1060(2024) Repeated AFFF applications, composed of 14 anionic and 23 sufferiories (FAS), were conducted on a single one-dimensional saturated soil column to quantify PFAS retention. An electrofluorination-based (3M)Milspec AFFF above the mixture's critical micelle concentration (CMC) was at application strength (3%, v/v). Retention and retardation or PFAS mass increased with each successive AFFF addition, though FFAS concentration profiles for subsequent application strength (3%, v/v). Retention and retardation content chain length and charged headgroup type and as a function of AFFF application numbers, Annionic PFAS were increasingly retained with each subsected PFAS from the first application, changing the nature of the soil sufface with preferential sorption of anionic PFAS due to competitive elution. An application of applyaameter quantitative subsected PFAS from the first application, changing the nature of the soil sufface with preferential sorption of anionic PFAS due to competitive elution. An application of a polypaarameter quantitative Experimental conditions that included the presence of mixed micelles (aggregates consisting of different kinds of suffactants that exhibit characteristics and properties different from micelles composed of a single sufface with preferential sorption in proved by adding a "micelle parameter" to account for cascount from the application or shore the apparent CMC. Results competitive desorption of PFAS may result in downgradient PFAS retention wend BFAS becomes resorbed to uncontaminated soil.

ENHANCED BIOACCUMULATION AND TRANSFER OF MONOMETHYLMERCURY THROUGH PERIPHYTIC BIOFILMS IN BENTHIC FOOD WEBS OF A RIVER AFFECTED BY RUN-OF-RIVER DAMS Leclerc, M., D.E. Ponton, F. Bilodeau, D. Planas, and M. Amyot. Environmental Science & Technology 57(49):20792-20801(2024)

A study investigated periphyton and benthic communities from different habitats of the St. Maurice (Quebec, Canada) affected by two run-of-river (ROR) power plants and their effect on the bioaccumulation and biomagnification of monomethylmercury (IMH4). Proportion of total mercury as MH4 preached maximum values ~2.9 times higher infloaded sites compared to unfloaded sites. Impoundment by ROR would, therefore, provide favorable environments for periphyton for fooding, which care produce and accumulate MH4. Periphyton MH4 concentrations significantly explained concentrations in some benthic macroinvertebrates, reflecting a local transfer. The analyses of 513C and 615N signatures for periphyton MH4 periphyton MH4 concentrations in floaded areas are likely due to the impoundment by ROR would, therefore, provide favorable environments for periphyton MH4 periphyton MH4 concentrations in floaded areas are likely due to the impoundment of the study of the study

General News

MODIFICATION OF ACTIVATED CARBON FOR ENHANCED TREATMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES: A FOCUSED REVIEW Okorie, C.J., T. Ojeyemi, A. Egbemhenghe, M.Q. Ali, E.C. Emenike, K.O. Iwuozor, and A.G. Adeniyi. Remediation 34(2):e21777(2024)

The latest advancements in modifying activated carbon (AC) to enhance PFAS absorption are reviewed in this article. It explores chemical and physical modifications, including metal/metal oxide nanoparticle deposition, polymer-based coatings, surfactants, and advanced oxidation processes, offering insights into their mechanisms and effectiveness. Analysis of modified AC materials is valuable for developing efficient and sustainable strategies to address PFAS contamination in water sources.

GROUNDWATER CR(VI) CONTAMINATION AND REMEDIATION: A REVIEW FROM 1999 TO 2022 Xu, H., H. Zhang, C. Qin, X. Li, D. Xu, and Y. Zhao. Chemosphere 360:142395(2024)

This article presents a review and bibliometric analysis of the literature on the interest area "Cr(VI) in groundwater" published in the Web of Science Core Collection from 1999 to 2022. It summarizes information on 203 Cr(VI)-contaminated groundwater sites working and derives basic characteristics of the sources, and concentrations of contramination. Of the 203 contaminated sites, 69% were due to human causes, and 56% had Cr(VI) concentrations around from the sources are concentrations of contramination. Of the 203 contaminated sites, 69% were due to human causes, and 56% had Cr(VII) concentrations around from the sources and sources and concentrations of contramination. Of the 203 contaminated sites, 69% were due to human causes, and 56% had Cr(VII) concentrations around from the 203 contaminated sites. As the concentration of the progress of studies on the Cr(VI) removal/remediation around and the field of environmental sciences. A systematic review of the progress of studies on the Cr(VI) removal/remediation, respectively. In addition, several studies demonstrated the protein attenuation to mendate Cr(VI)-contaminated groundwater.

CURRENT UNDERSTANDING ON THE TRANSFORMATION AND FATE OF PER- AND POLYFLUOROALKYL SUBSTANCES BEFORE, DURING, AND AFTER THERMAL TREATMENT OF BIOSOLIDS Hakem, I.G., P. Halder, S. Patel, E. Selezneva, N. Rathnayake, M.H. Marzbail, G. Veluswamy, A. Sharma, S. Kundu, A. Surapaneni, M. Megharaj, D.J. Batstone, and K. Shah. Chemical Engineering Journal 493:152537(2024)

The current knowledge on PFAS transformation, destruction, and final fate before, during, and after thermal treatment of biosolids is consolidated in this review, which covers lab, pilot scale, and industrial studies. PFAS degradation mechanisms during thermal treatment of biosolids have a complex organic and inorganic matrix and typically have low PFAS concentrations. Among thermal treatment techniques, provides has received extensive investigations at different scales of operation. However, for all techniques, treatment temperatures and residence time need to be sufficiently optimized for designing realistic large-scale thermal scales of operation. However, for all techniques, treatment temperatures and residence time need to be sufficiently optimized for designing realistic large-scale thermal scales of operation. However, in all techniques, thermal J38594724140245.

IMPLEMENTATION OF IN SITU AEROBIC COMETABOLISM FOR GROUNDWATER TREATMENT: STATE OF THE KNOWLEDGE AND IMPORTANT FACTORS FOR FIELD OPERATION Skinner, J., A.G. Deigado, M. Hyman, and M.-Y.J. Chu. Science of The Total Environment 955:171667(2024)

This paper reviews 14 well-documented field-scale aerobic cometabolic bioremediation studies and summarizes the underlying microbiological factors that may affect the performance observed in these field studies. The combination of microbiological and engineering principles gained from field testing leads to insights and recommendations on the planning, design, and operation of an in situ aerobic cometabolic treatment system. The article also presents several novel topics and future research directions that can potentially enhance technology development and foster success in implementing this technology for environmental resortand. <u>Https://www.sciencendirect.ow/science/article/pii/Scha8g64724118866</u>

A REVIEW OF SAMPLE COLLECTION AND ANALYTICAL METHODS FOR DETECTING PER- AND POLYFLUOROALKYL SUBSTANCES IN INDOOR AND OUTDOOR AIR Wallace, M.A.G., M.G. Smeltz, J.M. Mattila, H.K. Liberatore, S.R. Jackson, E.P. Shields, X. Xhani, E.Y. Li, J.H. Johansson. I Chemosphere 358:142129(2024)

A literature review presents the last two decades of research characterizing PFAS in outdoor and indoor air, focusing on active and passive air sampling and analytical methods. The PFAS classes targeted and detected in air samples include fluorotelomer alcohols, perfluoroalkane sulfonamides, perfluoroalkane sulfonamide dathook, perfluorinated carboxylic acids, and perfluorinate

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 <u>adam michael@epa.gov</u> 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