Technology Innovation News Survey

Entries for April 1-15, 2016

Market/Commercialization Information

INTERNATIONAL REMEDIATION AND ENVIRONMENTAL SERVICES U.S. Army Corps of Engineers, USACE HNC, Huntsville, Alabama. Federal Business Opportunities, FBO-5264, Solicitation W912DV-16-R-0003, 2016

The objective of this contract is to provide services to safely locate, identify, recover, evaluate, manage and make final disposition of munitions and explosives of concern, munitions constituents, chemical warfare materiel, biological waste and warfare materiel, and hazardous, toxic and radiological waste. Requirements also include implementing environmental compliance measures and performing other munitions-related support services, such as reducing DoD Conventional Munitions Stockpile at other federally controlled sites (including foreign jurisdicions). A target MATOC pool of a total of 10 contractors is planned to result from this acquisition, with \$950M in capacity to be shared amongst all awardees over a period of five years, if the option is exercised. Offers must be received by 2:00 PM CT on June 10, 2016<u>https://www.fho.gov/spg/USA/COE/DACA87/W912DV-16-8-0003/listing.html</u>

VENDOR COLLABORATION [NATIONAL RESPONSE SYSTEM FOR THE SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM CLASS OF CONTRACTS, REGION 6] U.S. Environmental Protection Agency, Region 5, Chicago, IL Federal Business Opportunities, FBO-5285, Solicitation SOL-R5-16-00006, 2016

The purpose of this sources-sought notice is to determine the availability of small businesses that are capable of meeting the requirements of the draft performance work statement (PWS) for assistance to EPA's on-scene coordinators and other test and officials implementing EPA's responsibilities under the Superfund Technical Assessment and Response Team (START) class of contracts. These services primarily support the Emergency Management Branch in the Superfund Technical Assessment and Response Team (START) class of contracts. These services primarily support the Emergency Management Branch in the Superfund Technical Assessment and Response Team (START) class of contracts. These services primarily support the Emergency Management Branch in the Superfund Distinct of the superfund State DIO(-tract) and the services primarily support the Emergency Management Branch in the Superfund Distinct of the Superfund Distinct One Superfund Distinct of the Superfund Distinct One Superfund Di

NEXT GENERATION CHEMICAL DETECTOR XM14 Army Contracting Command, ACC - APG (W911SR) Edgewood, Aberdeen Proving Ground, MD. Federal Business Opportunities, FB0-2587, Solicitation W911SR-RFI-5002, 2016

DRIPLINE LEAD CONTAMINATED SOIL ABATEMENT National Park Service, Boston National Historical Park, Charlestown Navy Yard, Boston, MA. Federal Business Opportunities, FBO-5284, Solicitation P16P501233, 2016

The National Park Service intends to issue a solicitation to acquire services for dripline lead-contaminated soil abatement at Valley Forge National Historical Park, King of Prussia, Penn., and Hopewell Furnace. National Historic Site, Elverson Penn. The basic effort will be for the School House and Sam Britain Sr. House at Valley Forge, with options for the Church House, the Church House Garage, and Tenant House 3 at Hopewell Furnace. Work to be completed by October 14, 2 includes site preparation; installation of a two-stage decontaminator unit; collection, removal, and disposal of lead-contaminated soil; besting and documentation; and landscape reclamation in the treated areas. If issue(14) is a solicited as a total small business set-aide, firm-fixed-priced type contract under VALCS code 562910. Release of the RFP is anticipated on or about May 25, 2016. Visit https://www.fedconnert.com for solicited as a total small business set-aide, firm-fixed-priced type contract under VALCS code 562910. Release of the RFP is anticipated on or about May 25, 2016. Visit https://www.fedconnert.com for project details [Note: It implicit he necessary to copy and paster the VLL how your browsers for direct access]. 2016.

BOWDOIN NATIONAL WILDLIFE REFUGE CLEANUP Fish and Wildlife Service, CGS-WO, Lake Plaza North, Lakewood, CO. Federal Business Opportunities, FBO-5287, Solicitation F16PS00575, 2016

This contracting action is 100% set aside for small business under NAICS code 562910. The Montana Department of Environmental Quality requires the U.S. Fish and Wildlife Service to conduct additional soil and groundwater investigation to assess the current extent of petroleum contamination related to historic leaking underground storage tarks (since removed) at two Fish and Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife Refuges: Bowdoin National Wildlife Refuge, near Maita, and Red Rock Lake National Wildlife Refuges: Bowdoin National Wildlife

MOBILE TRAINING CENTERS TO REDUCE MERCURY USE IN ANDEAN SMALL-SCALE GOLD PROCESSING Department of State, Funding Opportunity OES-OMM-16-003, 2016

The State Department plans to award one Cooperative Agreement for up to \$145,000 for work that will support designing, assembling, and field testing one or more mobile mercury-free gold processing plants to be used for training miners within the ASGM sectors of Bolivia and Peru. Eligibility is limited to U.S. higher educational institutions and research centers that have established relationships with regional institutions and/or organizations. The closing date for applications is June 13, 2016, http://www.arg.angl.kou/ub/angl.k

Cleanup News

PINELLAS SITE USES HORIZONTAL WELLS FOR ENHANCED BIOREMEDIATION U.S. DOE, Office of Legacy Management, Energy.gov website, 2016

Deparations to develop and mainfacture components at the former Pinelias Plant in Florida during the nation's Cold War-era nuclear weapons program released solvents to subsurface soils beneath the plant's 11-acre Building 100. Release ar became sources of dissolved contamination, creating groundwater plumes that extended south and east from the source areas under Building 100 and on to private property. DOE continues environmental restoration and biostimulation to treat the chlorinated-solvent source areas and groundwater plumes under Building 100. Release ar concentrated solution of emulsified vegetable oil (EVO) and bacteria (*Dehalococcoldes micarity* or DHM) diluted with water prior to injection of a concentrated solution of emulsified vegetable oil (EVO) and bacteria (*Dehalococcoldes micarity* or DHM) diluted with water prior to injection of a produces dissolved hydrogen, which DHM uses to break the bonds on contaminant molecules, resulting in nontoxic end products. IN November 2015, diluted EVO and DHM were injected into eight horizontal wells installed as deep and shallow pairs to target the deep and shallow aquifer portions beneath Building 100. Monitoring wells placed inside and outside Building 100 will be used to monitor project performance. <u>http://energy.out.org/.micarity.energy.out.com/.micarity.energy.o</u>

INDEPENDENT TECHNICAL SUPPORT FOR THE FROZEN SOIL BARRIER INSTALLATION AND OPERATION AT THE FUKUSHIMA DAIICHI NUCLEAR POWER STATION (F1 SITE) Looney, B.B., D.G. Jackson, M.J. Truex, and C.D. Johnson. SRNL-STI-2015-00215, BI pp. 2015

Water countermeasures are being implemented at the Fukushima Daiichi Nuclear Power Station to limit the releases and impacts of radioactively contaminated water to the surrounding environment. The diverse countermeasures work together in an integrated manner to provide different types and levels of protection. In general, the strategy represents a comprehensive example of a "defense in depth" concept that is used for nuclear facilities around the word. One of the key countermeasures is a frozen soil barrier encircling the damaged reactor facilities. The frozen barrier is intended to limit the flow of water into the area and thus reduce the amount of contaminated water that requires treatment and storage. The technical characteristics of a frozen barrier are relatively well suited to the Fukushima-specific conditions and the need for inflow reduction. This independent review generally supports the countermeasures design, installation strategy, and operation plan <u>http://disce.org/limiter/StRMI-STL2015-D015-D015-ndf</u>

Demonstrations / Feasibility Studies

IN SITU BIOGEOCHEMICAL TREATMENT DEMONSTRATION: LESSONS LEARNED FROM ESTCP PROJECT ER 201124 Stroo, H.F., J.T. Wilson, P.J. Evans, C.A. Lebron, B.M. Henry, D.E. Latta, R.S. Ghosh, and A. Leeson. ESTCP Project ER-20124, 80 pp. 2015

The project originally was intended to demonstrate and update engineering guidance for a subsurface bioreactor technology based on results from field-scale testing at the same site used for earlier column testing (mainly TCE and daughter products). The test site was changed from the original location, however, and the engineering guidance has not y tech end developed. Although the demonstration was not successful, this report explains the reasons for the disappointing results, summarizes the findings, and explures lessons learned from this effort to demonstrate biogeochemical transformation at field scale. <u>https://www.setp.com/com/com/station/st</u>

PILOT-TESTING ON THERMAL ENHANCED SVE OF MERCURY IN SOIL AND BEDROCK UNDER AN ONGOING CHLORO-ALKALI PLANT Bergeron, E., A. Eriksson, L. Torin, B.-O. Jorloev, and I. Froessling. RPIC 2016 Federal Contaminated Sites National Workshop, Real Property Institute of Canada, 2016

Arria 2010 reveral concentration in the same and before the started 2 one of the order of an analyted higher the control with the same and before the started in the same and before the s

EFFECTIVE REMEDIATION OF GUN PROPELLANT RESIDUES IN SURFACE SOILS USING COMMERCIALLY AVAILABLE ASPHALT HEATERS Connell, K.K., G. Ampleman, S. Thiboutat, and S. Downe. RPIC 2016: Federal Contaminated Sites National Workshop, Real Property Institute of Canada, 2016

Note Carbon received in the second monitorial process feature instance or Canada, provided in the concentrations of nitroglycerin (NG) behind the firing positions of anti-tank ranges in Canada. Risk of surface ignition and fire upon discharge of the weapon as well as potential inhalation of volatile NG poses health and safety risks to the range users. To address high NG concentrations in soil, two trials were conducted with a commercially available infrared to the range users. To address high NG concentrations in soil, two trials were conducted with a commercially available infrared bending users. To address high NG concentrations. The first year of trials showed a decrease in NG concentrations after 5 and 10 minutes of burning cycles did not provide temperatures sufficient to destroy all NG. During the second year of trials showed a decrease in NG concentrations after 5 and 10 minutes of burning cycles did not provide temperatures sufficient to destroy all NG. During the second year of trials showed a decrease in NG concentrations after 5 and 10 minutes of burning cycles in the second year showed a circlea joint twhere water vaporization occurre after thicks builts from the thermocouples in the second year of trials burning cycles of 60 minutes and greater. The technology and resources to conduct the remediation are readily available within most Canadian Forces bases. Further trials will be conducted with the technology on energetics.

PHYTO PROCESSES FOR PCB REMOVAL IN LAGOON AND RIVERINE SEDIMENTS.

Licht, L.A. 12th International Conference of the International Phytotechnology Society, 27-30 September 2015, Manhattan, Kansas. Abstract only, 2015

A demonstration using phytoremediation techniques is addressing PCBs in sediments at the Altavista, Winginia, 6-acre wastewater lagoon site. PCB concentrations up to 50,000 ppm have been measured in the sediments, and the Virginia Department of Environmental Quality has established a 50 pm total PCB deanup concentration goal. ECap® tree covers are being fested to evaluate their potential for containing PCBs in the subsurface by keeping the surface soil layer instact while sustaining microflora in the root zone. Six ECap® tree cover part being the subsurface by lakering a layer of blended local materials over self upper layer installed at the site between 2012 and 2014 m 2,000 m ² plots built into the lagoon by placing a layer of blended local materials over self upper layer installed at the site between weapad throughbout the sediment and cover layer, providing a plant thizosphere in 3 f of sediment. Unrooted poplar wings were purchade and willow roots now expand throughbout the sediment and cover layer, providing a plant thizosphere in 3 f of sediment within an operating lagoon, potential in a diverse microbial population. Additional information: by the subscription by the subscriptin

Research

ASSESSMENT OF A HYDROXYAPATITE PERMEABLE REACTIVE BARRIER TO REMEDIATE URANIUM AT THE OLD RIFLE SITE COLORADO Moore, R.C., J. Szecsody, M.J. Rigali, V. Vermuel, and J. Leulen. Waste Wanagement 2016, 6-10 March, Phoeneux, Arziona, Paper 16193, 9 pp, 2016

Investigators are testing the effectiveness of a hydroxyapatite permeable reactive barrier (PRB) and source area treatment to decrease uranium mobility at DDE's former Old Rifle uranium mill processing site (Rifle, Colorado), where uranium ore was processed from the 1940s to the 1970s. Although the mill facilities and tailings have been removed, groundwater in the alluvial aquifer beneath the site still contains elevated concentrations of U and currently is used for field tests to study U behavior in groundwater and investigate potential remediation technologies. The in still contains elevated, concentrations of U and currently is used for field tests to study U behavior in groundwater and also provide source area treatment. The process is based on injecting a solution containing calcium citrate and solution inter adjusting the subject of the upper solution containing calcium citrate and solution inter containing calcium citrate and solution inter the subject of the injected citrate. The source are treated with the phosphate to form hydroxyapatite. This paper reports on proof of principle column tests with the phosphate to for mydroxyapatite. This paper reports on proof of principle column tests with the phosphate to for mydroxyapatite. This paper reports on proof of principle column tests with the phosphate to for mydroxyapatite. This paper reports on proof of principle column tests with the phosphate to for mydroxyapatite. This paper reports on proof of principle column tests with the phosphate to for mydroxyapatite. This paper reports on proof of principle column tests with the difference of the source area treated and and so the difference of the source area treated and the difference of the source of the principle column tests with the phosphate to for mydroxyapatite. This paper to a source of the treated and the difference of the phosphate to the source area treated and the difference of the phosphate to the difference of the phosphate to the difference of the phosphate to the difference of the phosphate

MEASUREMENT AND MODELING OF ECOSYSTEM RISK AND RECOVERY FOR IN SITU TREATMENT OF CONTAMINATED SEDIMENTS Luthy, R., Y.-M. Cho, Y. Choi, Y. Wu, and D. Werner. SERDP Project En-1552, 2015

Lab and field trials have shown that in situ sediment treatment technologies using activated carbon (AC) sorbents can reduce ecological and health risk from PCBs and PAHs. While several lines of evidence have demonstrated AC treatment effectiveness, further investigation is needed of ecosystem recovery after AC sorbent amendment, assessment of secondary effects of AC on ecosystem health, development of mechanistic mass transfer modeling frameworks, and the design and testing of rapid and reliable performance. The overarching objective of this project was to advance sediment in situ AC transment technologies by studying these considerations. The overarching objective of this project was to advance sediment in situ AC transment technologies by studying these considerations. The overarching objective of this project was to advance sediment in situ AC transment technologies by studying these considerations. The overarching objective of this project was to advance sediment in situ AC transment technologies by studying these considerations. The overarching objective of this project was to advance sediment by advance sediment technologies by studying these considerations. The overarching objective of this project was to advance sediment technologies by studying these considerations. The overarching objective of this project was to advance sediment technologies by studying these considerations. The overarching objective of the project was to advance sediment technologies by studying these considerations. The overarching objective of the projective set of the prove technologies by studying these considerations. The overarching objective of the prove technologies by studying these considerations. The overarching objective of the prove technologies by studying these considerations. The overarching technologies by studying these considerations. The overarching technologies by studying the second technologies by studying tech

potential repartitioning of contaminants in sediment following the removal of AC after stabilization treatment; standardization of field monitoring methods using polyethylene passive samplers; and development of a user-friendly, stand-alone program for an HOC mass transfer model to predict sequestration and pore-water concentrations. The SERDP project page hosts reports for phases 1, 2, and 3 of this effort; a desorption model in a zipped file; and a user manual.

IMPACTS OF ENHANCED REDUCTIVE BIOREMEDIATION ON POST-REMEDIATION GROUNDWATER QUALITY Borden, R.C., J.M. Tillotson, G.-H.C. Ng, B.A. Bekins, and D.B. Kent. SERDP Project ER-2131, 68 pp, 2015

Electron donor addition can be very effective in stimulating enhanced reductive bioremediation (ERB) of a wide variety of groundwater contaminants; however, ERB can result in secondary water quality impacts (SWQI), such as decreased levels of displayed oxygen, nitratina and suttains, and individed levels of displayed oxygen, nitratina and suttains and adverted provided to the secondary water quality impacts (SWQI). Such as decreased levels of displayed oxygen, nitratina and suttains and the secondary water quality impacts (SWQI). Such as decreased levels of displayed oxygen, nitratina and suttains and adverted provided compounds (Suc). Swift of the secondary water quality impacts (SWQI) and the secondary water quality impacts (SWQI). Such as decreased levels of displayed compounds (Suc). Swift of the secondary water quality impacts (SWQI) and the secondary water quality impacts (SWQI). Such as decreased levels of displayed compounds (Suc). Swift of the secondary water quality impacts (SWQI) and the secondary water quality impacts (SWQI) and adverte quality impacts (SWQI). Swift of the secondary displayed to the secondary quality impacts (SWQI) and the secondary quality impacts (SWQI). Swift of the secondary water quality impacts (SWQI) and adverte quality impacts (SWQI) and the secondary quality impacts (SWQI). Swift of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) and the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the secondary quality impacts (SWQI) in the secondary of the seco

SIMPLE MODELING TOOL FOR RECONSTRUCTING SOURCE HISTORY USING HIGH RESOLUTION CONTAMINANT PROFILES FROM LOW-K ZONES Adamson, D.T., S.W. Chapman, S.K. Farhat, B.L. Parker, P.C. deBlanc, and C.J. Newell. Remediation Journal, Vol 25 No. 3, 31-51, 2015

Migration of contaminants into low-permeability (low-k) zones via diffusion (and possibly slow advection) produces concentration versus depth profiles that can be used to understand temporal concentration trends at the interface with overlying transmissive zones, including evidence of attenuation over time due to source decay. A simple transport-based spreadsheet tool for generating source history estimates fit to the profiles was developed and applied to published solit concentration the majority of cases using site-specific values for input parameters. In generating source nitrory estimates fit to the profiles was developed and applied to understand temporal concentration the majority of cases using site-specific values for input parameters. Sing for an ot obtained by varying these parameters, history estimates generated by the tool vere similar to those generated using more intensive analytical or numerical inverse modeling approaches. This included confirmation of constant source histories at locations where DNAPL was present or suspected, and declining source histories for locations where source

STIMATING REMEDIATION AND CONTAMINANT RESPIRATION EMISSIONS FOR ALTERNATIVES COMPARISONS AT PETROLEUM SPILL SITES CAlexander, B.L. and K.V. Tuggle. mediation Journal, Vol 25 No 3, 53-67, 2015

COST-EFFECTIVE, RAPID AND LONG-TERM SCREENING OF CHEMICAL VAPOR INTRUSION (CVI) POTENTIAL: ACROSS BOTH SPACE AND TIME Schuver, H.J. and D.J. Steck. Remediation Journal. Vol 25 No 4, 27-53, 2015

Reviews including the latest "data-rich" chemical vapor intrusion-radon (CVI-Rn) studies indicate buildings/times can be "screened-in" as having Rn-evident-susceptibility/priority for soil gas intrusion, and elevated potential for CVI concerns (or not). These screening methods can supplement conventional indoor-air chemical sampling under naturally varying conditions by prioritizing buildings and times based on indoor Rn levels. Rn is a widespread, naturally occurring component of soil gas and a tracer of soil gas intrusion into the indoor air of overlying buildings. Rn is also an indicator for generally varying conditions by prioritizing buildings and times based on indoor Rn levels. Rn is a widespread, naturally occurring component of soil gas and a trace of soil gas indoor Rn levels. An is a widespread, naturally occurring component of soil gas and trace of soil gas indoor Rn levels. An is a widespread, naturally occurring components of new cost, allowing continuous observations from essentially all buildings with CVI potential across time. Additional information in slides: https://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.if.undi.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.attps://lavi.attps.at

INDOOR AIR CONTAMINATION FROM HAZARDOUS WASTE SITES: IMPROVING THE EVIDENCE BASE FOR DECISION-MAKING Johnston, J. and J.M. Gibson. Tinternational Journal of Environmental Research and Public Health, Vol 12, 15040-15057, 2015

U.S. EPA's 2015 vapor intrusion (VI) guidance document specifies two conditions for demonstrating that mitigation is needed: (1) proof of a VI pathway; and (2) evidence that human health risks exceed established thresholds. The guidance lacks details, however, on methods for demonstrating these conditions. A review of current evidence suggests that monitoring and modeling approaches commonly employed at VI sites can characterize long-term exposure inadequalety and may underestimate risks. The authors recommend specific approaches to monitoring and modeling a payneo-throin fegurate the lines of evidence at a site and determine if more information is needed before deciding whether the two conditions specified in the VI guidance are satisfied. A multi-directional community engagement strategy and consideration of environmental justice concerns also are recommended to facilitate data collection and decision-making. <u>http://www.mbi.cm/i6nd/als/01/21/21/346/indf</u>

APPLICATION OF AN ADAPTED VERSION OF MT3DMS FOR MODELING BACK-DIFFUSION REMEDIATION TIMEFRAMES Carey, G.R., S.W. Chapman, B.L. Parker, and R. McGregor. Remediation Journal, Vol 25 No 4, 55-79, 2015

Incorporation of a local domain approach for simulating back-diffusion in a new model—In Situ Remediation-MT3DMS (ISR-MT3DMS)—is validated based on a benchmark with MT3DMS and comparisons with a highly discretized finite-difference numerical model. The approach used to estimate the vertical hydrodynamic dispersion coefficient is shown to have a significant influence on the simulated flux into and out of silt/day layers in early time periods. Previously documented back-diffusion controlled remediation time fare too various site characteristics. A base-case simulation with a layer lens of 0.2 mt hickness and 100 mt length indicates that even after 99.96% aqueous TCC removal from the clay lens, downgradient concentrations still exceed the MCL in groundwater monitoring wells. This shows that partial mass reduction from a NAPL source zone via in situ treatment may have little benefit for the long-term management of contaminated sites, given that back-diffusion can sustain a groundwater plume for a long origi of time. Pump and treat implemented to period of time. Pump and treat implemented to provide containment may have an additional benefit of reducing the back-diffusion remediation timefare to the sandyclay interface. See additional information in presentation slides at http://www.newstet.com/fice/diffusion remediation timefare due to enhanced transverse advective fluxes at the sand/clay interface. See additional information in presentation slides at http://www.newstet.com/fice/diffusion remediation timefare due to enhanced transverse advective fluxes at the sand/clay interface. See additional information in presentation slides at http://www.newstet.com/fice/diffusion remediation timefare due to enhanced transverse advective fluxes at the sand/clay interface. See additional information in presentation slides at http://www.newstet.com/fice/diffusion remediation timefare due to enhanced transverse advective fluxes at the sand/clay interface. See additional information in presentation slides at http://wwww.newstet.co

EVALUATION OF A SOIL-BASED SYSTEM TO DISSIPATE MULTIPLE PESTICIDES Peacock, A.D., C.A. Lytle, W.E. Hart, D.C. Yoder, and T.C. Mueller. Remediation Journal, Vol 25 No 4, 89-97, 2015

Soil columns were employed to simulate a soil-based bioreactor (SBBR) during tests for dissipation of a mixture of five herbicides and two insecticides from seven different chemical families. Atrazine, dicamba, fluometuron, metolachlor, sulfentrazone, chlopyrflus, and lambda-cyhalothrin were added to the SBBR-simulated system as formulated products at 100, 10, or 0 (control) ppm. A 1,000 ppm treatment was added for the five herbicides to investigate how the system would respond to heavy loading. The system ran for 90 days with samples taken at days 4 (just prior to loading) 30, 60, and 90. At low pesticide concentrations (10 and 100 ppm) significant dissipation of all pesticides to investigate how the system suffertrazone was observed. At 1,000 ppm, fluometuron and sulfentrazone showed no significant dissipation. Overall, the system performed as expected and could be considered practical for pesticides removal on farms or plant nurseries.

PERFORMANCES OF LAB-SCALE ANAEROBIC BIOREACTORS AT LOW TEMPERATURE USING YUKON NATIVE MICROORGANISMS Janim, A. and J. Harrington. Proceedings of Mine Water Solutions in Extreme Environments, April 12-15, 2015, Vancouver, Canada. InfoMine, ISBN: 978-0-9917905-7-9, 519-532, 2015

Four lab-scale anaerobic bioreactors were monitored for over one year for their capacity to reduce metal concentrations at ambient lab temperature, and then at 6°C and 3°C. As, Cd, Cu, Se, and Zn concentrations in the effluent were compared and contrasted with discharge limits in application at the Bellekeno Mine, Yukon Terntory. Removal efficiencies in the range of 90-100% were observed for the five metals in the four reactors, suggesting that sulfate reducing biochar in the composition of a biochar in the composition of a biochar in the composition of a biochar in the teratment system by taking advantage of metal adsorption mechanisms, which allow for continued metals removal during changes in temperatures.

REAL TIME MONITORING OF RATES OF SUBSURFACE MICROBIAL ACTIVITY ASSOCIATED WITH NATURAL ATTENUATION AND ELECTRON DONOR AVAILABILITY

Lovley, D.R. DOE-UMASS-06790, 5 pp, 2016

This grant project successfully developed new gening technologies for monitoring tases of microbial activity in sels and setiments in addition to a novel proof-of-concept for monitoring the prosence of biovalable concentrations of diverse attrabulated back computer in contraining the processor of the provide attrabulated task contractions of the provide attrabulated task contractions of the provide attrabulated task contractions at the provide attrabulated task contractions of the provide attrabulated task contractions attrabulated task contra

TESTING NOVEL CR-39 DETECTOR DEPLOYMENT SYSTEM FOR IDENTIFICATION OF SUBSURFACE FRACTURES, SODA SPRINGS, ID McLing, T., M. Carpenter, W. Brandon, and B. Zavala. INJ/K7T-15-34802, 21 pp. 2015

U.S. EPA teamed with Battelle Energy Alliance LLC at Idain National Laboratory (INL) to facilitate further testing of geologic fracture identification methoology at a field aite near the Monanto Superfund Site. The proposed study contributes a multi-year otilaborative effort. The between INL and EPA to test the effects or delevised have a dand nedection technology in a logical to between INL and EPA to test the effects or delevised have outside the proposed vorkscope. (R-39 detectors are being utilized to determine the location of active transporting contaminisms at the upland adjacent to a landfill site at NPL-designated For Devers, Mass. The concept of using a neasily deployed port that allows the (R-39 detectors are being utilized to determine the location of active transport fractures in a factor of using a neasily deployed port that allows the (R-39 detectors are being utilized to determine the location of active transport fractures in a factor of using a neasily deployed port that allows the (R-39 to measure R-39 to reasure R-39 to measure R-39 to

General News

SUPPLEMENTAL GUIDANCE FOR VAPOR INTRUSION OF CHLORINATED SOLVENTS AND OTHER PERSISTENT CHEMICALS Maine Dept. of Environmental Protection (MDEP), 47 pp, 2016

This document supplements the guidance provided by U.S. EPA on investigating and mitigating vapor intrusion (VI) risks by providing general guidelines for the investigation of certain VI sites in Maine. Specifically, this guidance pertains to sites with 10 or fewer inhabitable buildings at risk and where the contaminants of concern are chlorinated solvents or similarly persistent, volatile, and toxic chemicals. This guide supersedes MEDEP's Vapor Intrusion Evaluation Guidance of 2010. http://www.maine.ou/dens/similarly/actival/a

SITE REMEDIATION & WASTE MANAGEMENT PROGRAM: IMPLEMENTATION OF NOVEMBER 25, 2015, INTERIM GROUND WATER QUALITY STANDARDS New Jersey Department of Environmental Protection (DEP), 8 pp, 2016

The last quarter of 2015, the New Jersey DEP implemented interim Groundwater Quality Standards for a series of constituents, including 1,4-dioxane. The new groundwater remediation standard for 1,4-dioxane (0.4 ppb) is more than an order of magnitude lower than the old groundwater remediation standard (10 ppb). For all active sites where 1,4-dioxane is a known or potential contaminant of concern, the use of the new groundwater remediation standard (10 ppb). For all active sites where 1,4-dioxane is a known or potential contaminant of concern, the use of the new groundwater remediation standard became effective immediately upon posting to the DEP website. For sites where 1,4-dioxane is being remediated pursuant to a Ground Water Remedial Action Permit, an order of magnitude evaluation is required as part of the remedial action protective effective immediately upon soliting to the being remediated by an active sites within engineering or institutional controls on the site prevent exposure to the contamination and if the site remains protective of public health, safety, and the environment. For sites where 1,4-dioxane is being remediated by an active groundwater transment protective of public health, safety, and the environment. For sites where 1,4-dioxane edilal Action Permit, an order of magnitude evaluation is required as part of the being remediated by an active groundwater transment molecular active active and the site merit. The new intermit, an order of magnitude evaluation is required as part of the the environment. For evaluation is required as a site for the magnitude evaluation is required as part of the new intermet? Water Monotring and Standards website at wew in gov/den/wms/hears/gwas. Interim. criteria. Table.htm.

POST REMOVALS SITE CONTROLS (PRSCS): ENSURING THE LONG-TERM INTEGRITY OF REMOVAL ACTIONS Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Removal Action Focus Group, 22 pp, 2015

This report updates the 2010 ASTSWMO report, "Transition Issues Analysis," with additional information on Post Removals Site Controls, noting that timely input from the state is needed throughout the removal decision-making process with respect to institutional, proprietary, and government controls, as well as zoning, groundwater use restrictions, and fish consumption advisories/time/lawame.org/lise.issues.And.Resworked/ResCast.and.Resworked/

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