Entries for April 1-15, 2014

Technology Innovation News Survey

Market/Commercialization Information

GREAT LAKES NATIONAL PROGRAM OFFICE CONSTRUCTION SERVICES II
U.S. Environmental Protection Agency, Region V, Chicago, IL
Federal Business Opportunities, FBO-4528, Solicitation SOL-RS-14-00002, 2014

EPA Region 5 expects to post in August 2014 a full and open solicitation for environmental dredging in Great Lakes’ rivers and harbors and handling of dredged sediments, NAICS code 562910. EPA anticipates 5-year, multiple-award, indefinite-delivery, indefinite-quantity type contracts with firm-fixed-price task orders, at an estimated value of $300 million per contract. GLNPO executes a budget of ~$50 million per year to facilitate sediment remediation projects varied in scope between 10,000 and 500,000 cubic yards of contaminated sediment per project. Three to five projects are anticipated per year, depending on size. This procurement will be conducted through http://www2.epa.gov/region8/libby-asbestos for the West Branch Grand Calumet River Remedial Action is attached to the notice posted there. The project magnitude likely will exceed $10 million.

DEVELOPING MERCURY INVENTORIES FOR ARTISANAL AND SMALL-SCALE GOLD MINING (ASGM) SECTORS IN SOUTHEAST ASIA
Dept. of State, Ocean and International Environmental Scientific, OES-OMM-14-001, 2014

The primary program goal is to protect human health and the environment by reducing global mercury pollution. Applicants must have significant experience working on mercury use in ASGM outside the United States. Eligible applicants include private, public, and state-controlled institutions of higher education; nonprofits having a 501(c)(3) status with the IRS; international nonprofits; and public international organizations. A single award of up to $200,000 is anticipated. The closing date for this opportunity is June 16, 2014.
http://www.grants.gov/web/grants/view-opportunity.html?oppId=254772

REQUEST FOR INFORMATION FOR SITE SPECIFIC ENVIRONMENTAL REMEDIATION SERVICES FOR LIBBY ASBESTOS SUPERFUND SITE, MT
U.S. Army Corps of Engineers, USACE District, Omaha, NE.
Federal Business Opportunities, FBO-4551, Solicitation W9128F14E0005, 2014

This RFI constitutes a market research tool to determine the capabilities and capacity of small business contractors for environmental remediation at the Libby Asbestos Superfund site for EPA Region 8 under a USACE Omaha District contract. Prospective offerors have until May 30, 2014, to complete the survey at https://www.surveymonkey.com/s/63JX3M62 to indicate interest in the future procurement. The contractor will be required to work with an architect-engineer site contractor performing characterization and removal/remedial action quality control activities for EPA and USACE. The Government currently anticipates awarding one small business contract of about $49.9M, NAICS code 562910, with a likely basic ordering period of three years and two 1-year option periods. Visit http://www2.epa.gov/region8/libby-asbestos for background information on the site.

IDIQ CONTRACT FOR ENVIRONMENTAL REGULATORY SERVICES FOR THE USCG IN THE STATE OF ALASKA
Dept. of Homeland Security, U.S. Coast Guard Shore Maintenance Command, Seattle, WA.
Federal Business Opportunities, FBO-4549, Solicitation HSCG50-14-R-PXA701, 2014

The USCG Facilities Design and Construction Center-Detachment Seattle has a requirement for environmental remediation of various regulated and/or hazardous waste sites as well as environmental facility management in the state of Alaska, primarily in Kodiak, under an indefinite-delivery, indefinite-quantity remediation services contract, NAICS code 562910. The maximum total of this contract is $9,500,000.00 or 5 years, whichever comes first. This procurement is being processed under a Partnership Agreement between the Department of Homeland Security (DHS) and the Small Business Administration (SBA), delegating to DHS the authority to enter into an 8(a) contract directly with an eligible 8(a) firm. SBA will retain responsibility for 8(a) certification, training, acceptance or rejection of offer letters, eligibility determinations, and counseling and assistance. Sealed offers are due by 12:00 pm PT on June 23, 2014.
https://www.fbo.gov/spg/DHS/USCG/USCGFDCCP/HSCG50-14-R-PXA701/listing.html

SYNOPSIS FOR CALS EMD
Army Contracting Command, ACC-APG - Edgewood, Aberdeen Proving Ground, MD.
Federal Business Opportunities, FBO-4523, Solicitation W911SR-14-R-0002, 2014

The U.S. Army Contracting Command intends to solicit proposals on a full and open basis for the engineering, manufacturing, and development (EMD) phase of the Common Analytical Laboratory System (CALS) program to design, develop, fabricate, integrate, and test the CALS in multiple configurations. CALS integrates a common suite of commercial and government off-the-shelf analytical components to support the identification of chemical, biological, and radiological (CBR) materials in environmental samples. The CALS program will develop and field multiple units of two integrated system configurations to support an array of CBR missions for DoD field analytics. Each system integrates common CBR capabilities into a common 20-foot ISO container. The estimated period of performance is 3.5 years. The solicitation will contain multiple contract types and options to execute the CALS EMD effort most efficiently. All nonrecurring engineering, test support, logistics, etc. will be completed on a cost-plus-incentive-fee basis. The solicitation likely will be issued by May 23, 2014.
https://www.fbo.gov/notices/9146da3b34c4e6d17891c990b9bb6bf

Cleanup News

EVALUATING THE EFFECTIVENESS OF A SEDIMENT TIME-CRITICAL REMOVAL ACTION USING MULTIPLE LINES OF EVIDENCE
Book of Abstracts: Seventh International Conference on Remediation of Contaminated Sediments, 4-7 February 2013, Dallas, Texas. Battelle Press, Columbus, OH. 2013

U.S. EPA conducted a time-critical removal action at the former Bryant Mill Pond on Portage Creek in Kalamazoo, Michigan, to address sediments contaminated primarily with PCBs. The cleanup criterion was 10 mg/kg, with a cleanup goal of 1 mg/kg. Because the PCB-containing waste generally is visible, it was used after, a cleanup criterion of all visibly contaminated current or formerly impounded sediment would be sufficient to meet the cleanup criteria or goal. Immediately following the removal of 112,000 m³ of material, PCB concentrations in two species of resident fish (carp and white suckers), caged channel catfish, surface water, and sediment declined by over one order of magnitude. The success of the methods used suggests that commitment to remediation of large proportions of contaminated surface area that are in-stream, prone to inundation, or susceptible to erosion into the aquatic system is required to achieve meaningful reductions in sediment and correspondingly fish tissue and surface

MEMORANDUM: DISCUSSION OF REMEDIATION STRATEGIES AND ANTICIPATED BUDGETARY COST ESTIMATES, FORMER CLYDE MORRIS LANDFILL SITE
City of Daytona Beach, Florida. 6 pp, 2013

This memorandum provides a budgetary cost estimate for two different remedial alternatives that are under consideration at the former Clyde Morris Landfill site, which contains residual waste from a former manufactured gas plant. Both alternatives include an initial task of landfill excavation and removal, estimated at $2.5 M for the proposed 4.5 acre area, equating to ~$560,000 per acre. Once landfill debris is adequately addressed, budgetary cost estimates are presented for both in situ solidification (ISS) and self-sustaining treatment for active remediation (STAR) within the established NAPL zones (in which free-product recovery is ongoing). The preliminary cost estimate for ISS remediation of the NAPL areas ranges from ~$10 M to $11 M, including initial excavation and disposal, and the preliminary cost estimate for STAR remediation budgetary treatment is somewhat higher than for the STAR alternative; ISS is a well-developed technology, whereas full-scale experience with the innovative STAR technology is limited. http://agenda.codbh.us/public/AttachmentViewer.aspx?AttachmentID=17808&ItemID=2991

Demonstrations / Feasibility Studies

LAB- AND PILOT-SCALE TREATMENT OF DREDGED SEDIMENT BY MEANS OF ENHANCED WASHING SEPARATION
Book: Abstracts Seventh International Conference on Remediation of Contaminated Sediments, 4-7 February, Columbus, OH, 2013

Dredged sediments from four small harbors of the Emilia Romagna Region in the northern part of the Adriatic Italian coast were subjected to lab-scale separation and treatment to investigate the potential for recovery of sand for reuse in beach applications. One or more of the following separation processes was applied: sieving under both dry and wet conditions (and ultrasonication with wet sieving); field classification (a sieving system working at an operative pressure of 2.5 bar and equipped with a system for underflow recirculation); and either mechanical attrition scrubbing or chemically assisted attrition using TWÉÉN® non-ionic surfactant. Results are reported in terms of both mass balance and quality of the separated fractions (grain size distribution, organic contaminant content, aesthetic properties). The success of the lab study inspired the development of a flexible process to accommodate the variations in sediment composition, and a pilot-scale demonstration plant has been constructed to investigate the performance of the treatment sequence. http://www.coast-best.eu/site/wp-content/plugins/download-monitor/download.php?id=102

FEASIBILITY OF SPECIFIC SOIL WASHING WITH RECYCLED SOLUTIONS (SSWSR) FOR THE REMOVAL OF SELECTED METALS AND ORGANIC COMPOUNDS FROM CONTAMINATED SOIL AND MATHEMATICAL MODEL TO ASSESS POLLUTANT TRANSFER BY SSWSR
TIMBRE Project, WP-4-D.4, 34 pp, 2013

Pilot-scale soil flushing with re-use of flushing fluids was performed from September 11 to October 1, 2012, at the conjoint Hombre-Timbre test site (a former wood-treater) to assess efficiencies and costs for in situ removal of creosote from a moderately contaminated sandy soil. A second pilot was carried out from September 7 to October 14, 2013, at the old wastewater station of a former steel works megasite in Hunedoara, Romania, to address a highly viscous and hydrophobic tar DNAPL. Because of the very low porosity of the contaminated soil at the former steel works and the high hydrocarbon viscosity, direct washing with surfactant solutions at neutral pH was unable to remove hydrocarbons efficiently. Alkaline surfactant solutions (pH 11), however, were 10 times more effective. Prior to in situ flushing, an initial oxidative pre-treatment using sodium persulfate with a hydroxide ion was conducted to increase the porosity of the contaminated soil. The highest removal rates were observed during the oxidation step, but the persulfate was unable to oxidize PAH. http://www.timbre-project.eu/tl_files/timbre/Intern/4%20Work%20Packages/WP8/Deliverables/timbre_265364_D4.4_V3.pdf

VOLUMETRIC SCALE-UP OF SMOULDERING REMEDIATION OF CONTAMINATED MATERIALS

A suite of 12 experiments explored the effectiveness of the smoldering remediation process as the operating scale was increased from the bench (0.003 m3) to intermediate (0.3 m3) and pilot field scale (3 m3) with coal tar and petrochemical NAPLs. As scale increased, remediation efficiency of 97-99.95% was maintained. The pilot field-scale experiments demonstrated localized operation, controllability through airflow supply, the importance of a minimum air flux for self-sustainability, and the robustness of the process despite heterogeneities. Experiments established at the intermediate scale established, feasibility of the smoldering remediation process; an important advantage over traditional remediation methods. http://strathprints.strath.ac.uk/47173/1/Switzer_et_al_JHM_acceptedmanuscript.doc

CONTROL OF TAILING SEEPAGE THROUGH REACTIVE CHEMICAL AMENDMENTS

Reactive phosphate amendment for control of seepage was evaluated at pilot scale in a legacy uranium mill tailings impoundment. Challenges related to amendment delivery and distribution within the impoundment and overcoming extremely alkaline conditions that were unfavorable for uranium precipitation were evaluated in the pilot study. Results indicate that reactive chemical amendments can provide an alternative or supplemental option to traditional physical methods of seepage control for some applications. http://www.imwa.info/docs/imwa_2013/IMWA2013_Gillow_513.pdf

ADVANCES IN USING SEWAGE SLUDGE TO REMEDIATE SULFIDIC MINE TAILINGS: AN OVERVIEW FROM PILOT- AND FIELD-SCALE EXPERIMENTS, NORTHERN SWEDEN
Nason, P.

Sewage sludge has been used effectively as an organic-rich cover for sulfidic mine waste remediation; however, the optimum use of the material as a layer in engineered covers remains unconfirmed. Results obtained from four pilot-scale sewage sludge applications are presented and discussed in context to their success and for their applicability for being used at full-scale sulfidic-mine waste remediation projects. Sewage sludge experiments evaluated sewage sludge on bare tailings, a water-saturated cover, a composite cover, and a sealing-layer barrier material. The sealing-layer barrier use was deemed the most successful technique. http://www.imwa.info/docs/imwa_2013/IMWA2013_Nason_438.pdf
Research

**PCB METHOD COMPARISON OF HIGH AND LOW RESOLUTION SEDIMENT ANALYSIS**

Coots, R.
Washington Dept. of Ecology, Publication 14-0309, 72 pp, 2014

Currently in Washington state, three general types of EPA methods are used for analyses of PCBs in sediment: congeners (high resolution), homologs (low resolution), and Aroclors. This study compares all three, with emphasis on comparing homolog to congener methods. Ten archived marine and freshwater sediment samples from cleanup projects with known PCB concentrations were split three ways and analyzed by congeners, homologs, and Aroclor methods. Detection limits varied between methods, with estimated sample detection limits for congeners averaging about 50 times lower than those reported for homologs and over 400 times lower than Aroclors. A strong statistical relationship was noted for total PCBs determined by high-resolution congener analysis (HRGC/HRMS) compared to either the low-resolution homolog analysis (GC/LRMS) or the same dataset Kaplan and Meier adjusted to account for nondetects. When total PCB Aroclors were compared to high-resolution congeners, a weaker yet still strong relationship was reported. [https://fortress.wa.gov/ecy/publications/SummaryPages/14030909.html](https://fortress.wa.gov/ecy/publications/SummaryPages/14030909.html)

**HAZARD MITIGATION THROUGH A SYSTEMIC MODEL OF ACCIDENT TO A SOCIO-TECHNICAL SYSTEM: A CASE STUDY**

Hardy, K. and F. Guarnieri.

The STAMP (systems-theoretic accident model and processes) model was used to characterize the risks associated with the use of the innovative Novosol® technology for remediation of contaminated sediments. The two-stage Novosol® process first stabilizes heavy metals by capturing them in a calcium phosphate matrix and then destroys organic compounds by calcination (650-900°C = 1,200-1,650°F). Risk analysis was carried out through the application of STAMP-Based Analysis. The study of system risk at an organizational level, rather than technical risks at a field level, can be the way to improved solutions for the treatment and recovery of contaminated sediments. [http://hal.inria.fr/docs/00/82/33/48/PDF/Fg-KHiJournal_of_Energy_and_Power_Engineering-2013.4-2.pdf](http://hal.inria.fr/docs/00/82/33/48/PDF/Fg-KHiJournal_of_Energy_and_Power_Engineering-2013.4-2.pdf)

**DOES SEAGRASS STIMULATE THE BIOAVAILABILITY OF MERCURY IN CONTAMINATED SEDIMENTS IN A BRACKISH FJORD IN NORWAY?**

SedNet 2013, 18 slides, 2013

Between 1947 and 1988, the chloralkali plant of Norsk Hydro released ~80 tonnes of mercury into the brackish landlocked fjord Gunneklevfjorden in Telemark, Norway. Sediment investigations showed values reaching 72 mg Hg/kg, and a specimen of eel had mercury concentrations as high as 1.55 μg Hg/g ww. The fjord contains a large area of seagrass, which is important to the biological diversity in the fjord. Researchers investigating Hg bioavailability in the fjord suspect a possible stimulation of methylmercury within the seagrass area. In connection with the development of a plan for remediation of the contaminated sediments, the authors discuss whether the seagrass habitat should be protected as a valuable biological resource or treated to decrease Hg bioavailability, potentially destroying the habitat. Longer abstract: [http://www.sednet.org/download/2013-presentation61-Marianne_Olsen-abstract.pdf](http://www.sednet.org/download/2013-presentation61-Marianne_Olsen-abstract.pdf) Slides: [http://www.sednet.org/download/2013-presentation61-Marianne_Olsen.pdf](http://www.sednet.org/download/2013-presentation61-Marianne_Olsen.pdf)

**COST ANALYSIS OF REMEDIATION SYSTEMS FOR DEPLETED URANIUM**

ERDC/EL TR-14-5, 79 pp, 2014

Recent concern over potential human exposure to depleted uranium (DU) at U.S. Army test ranges has led to an examination of innovative DU remediation technologies. This report is a life-cycle cost analysis comparing three alternatives for remediation of DU in soil and two alternatives for remediation of DU in catchbox sand. The team chose a generic sandy soil site roughly 10 miles square for cost estimates. A bottom-up estimate was applied to all alternatives to get a baseline cost; Alternative 3 (selective excavation with physical separation and chemical treatment) had the best estimate for an efficient and effective remediation method. A cost-estimating relationship was generated and then simulation-based costing was applied to Alternative 3. [http://el.erdc.usace.army.mil/epubs/pdf/rel14-5.pdf](http://el.erdc.usace.army.mil/epubs/pdf/rel14-5.pdf)

**FEASIBILITY OF LABILE ZN PHYTOEXTRACTION USING ENHANCED TOBACCO AND SUNFLOWER: RESULTS OF FIVE- AND ONE-YEAR FIELD-SCALE EXPERIMENTS IN SWITZERLAND**


Phytoextraction with somaclonal variants of tobacco and sunflower mutant lines with enhanced metal uptake and tolerance can be a sustainable alternative to conventional decontamination methods, especially for stripping bioavailable zinc excess in topsoil. The overall results of a 5-year time-series field experiment in Switzerland confirm that the labile Zn pool in soil was lowered by 45-70%, even as the control subplots maintained their labile Zn concentrations. When the phytoextraction study site was enlarged by a factor of 3 in 2011, the labile 0.1 μM nitrate extractable Zn concentration in the soil declined as much as 58% one period after harvest. A mass balance analysis confirmed soil Zn decontamination in line with plant Zn uptake. Although phytoextraction of total soil Zn needs a long cleanup time, the stripping of bioavailable Zn is feasible within just a few years.

**FEASIBILITY OF PHYTOREMEDIATION OF COMMON SOIL AND GROUNDWATER POLLUTANTS**

Trapp, S., A. Rein, L. Clause, and M. Algreen.
TIMBRE Project, WP4-D4.3, 48 pp, 2014

The report presents an end-user toolbox that contains a decision flow chart for phytoremediation; two mass balance models with and without degradation for assessing the timescale of phytoremediation for a given site; and phytotoxicological data for common soil and groundwater contaminants. The models were applied to the TIMBRE sites of Hunedoara, Romania (a former steel works with high concentrations of heavy metals), and Szprotawa, Poland (a fuel-contaminated former military base), to assess the feasibility of phytoremediation there. Taking all factors into consideration, phytoremediation appears to be a feasible option to support naturally occurring degradation of contamination at Szprotawa. In conclusion, the authors briefly discuss several sites where phytoremediation potentially shows promise, attributing those results to unrealistic expectations or inadequate planning. [http://www.andrea-kubitz.de/timbre/tl_files/timbre/Intern/4%20Work%20Packages/WP8/Deliverables/timbre_265364_D4.3_v3.pdf](http://www.andrea-kubitz.de/timbre/tl_files/timbre/Intern/4%20Work%20Packages/WP8/Deliverables/timbre_265364_D4.3_v3.pdf)

**PARAMETRIC ANALYSES OF EVAPOTRANSPIRATION LANDFILL COVERS IN HUMID REGIONS**


Evapotranspiration (ET) covers generally have been constructed in arid or semi-arid regions, and their use has not been investigated thoroughly in humid areas. A study was conducted to evaluate the use of ET covers in humid areas where there is an annual precipitation of more than 800 mm. Numerical analyses were carried out to investigate the influences of cover thickness, soil type, vegetation level, and distribution of precipitation on ET cover performance. Applicability and performance of capillary barriers and a new-type cover also were analyzed. Results show that percolation decreases with an increasing cover thickness and an increasing vegetation level, but the increasing trend becomes unclear when certain thickness or LAI (leaf area index) is reached. Cover soil with a large capability of water
storage is recommended to minimize percolation. ET covers are significantly influenced by distribution of precipitation and are more effective in areas where rainy season coincides with hot season. Capillary barriers are more efficient than monolithic covers. The new cover performed better than the monolithic cover with final percolation of only 0.5% of annual precipitation. The paper is Open Access at http://www.sciencedirect.com/science/article/pii/S1674775514000109.

Rapid Field-Based Analytical Techniques for the Environmental Screening of Abandoned Mine Sites

Coetzee, H

A field-based screening protocol for the assessment of water quality and the potential of solid materials to pollute has been assembled using commercially available consumable water tests and procedures requiring the minimum of specialized capital equipment. The method aims to allow the identification of sites where little or no remediation is required to address water contamination, rather than detailed characterization of site contamination. The methods used do need adequate detection accuracy and precision at concentrations appropriate for screening-level assessments. An additional objective of this approach has been the identification of simple test procedures that can be implemented by nontechnical operators, allowing qualitative to semi-quantitative water quality testing to be undertaken on a broader scale. As appropriate, the method can be complemented with more sophisticated field and laboratory-based methods. http://www.imwa.info/docs/imwa_2013/IMWA2013_Coetzee_373.pdf

HybridIce™ Filter Design in Freeze Desalination of Mine Water


Effective desalination of mine water is required to reduce pollution of land and water, meet environmental regulations, provide water for reuse, and reduce scaling and corrosion potential in mine effluents. The HybridIce™ filter is a relatively inexpensive technology that can be used for separation of ice slurry in freeze desalination of mine wastewater. Experiments were carried out to establish the model found to have the highest yield at a flow rate of 25 L/min. Salt removal was also found to be dependent on the refrigerant temperature. http://www.imwa.info/docs/imwa_2013/IMWA2013_Adeniyi_361.pdf

A Novel Passive Sampling Device for Measuring Sediment-Water Diffusion Fluxes of Hydrophobic Organic Chemicals

Environmental Science & Technology, Vol 47 No 17, 9866-9873, 2013

Molecular diffusion across the sediment-water interface, as one of the key geochemical processes, dictates whether sediment is a source or sink of chemicals, which is useful data in designing remedial actions. This paper introduces a novel passive sampling device capable of measuring vertical profiles of chemical concentrations near the sediment-water interface, from which diffusion fluxes can be calculated based on a model. In lab testing, diffusion fluxes of dichlorodiphenyltrichloroethane and its metabolites obtained from the sampling device were consistent with those determined using conventional solid-phase extraction/liquid-liquid extraction. Field deployment of the sampling device yielded individual diffusion fluxes comparable to those obtained with a benthic chamber. Some diffusion fluxes obtained with the sampling device were negative, i.e., the sediment acted as a sink for the test chemicals.

Persistence of Perfluorooalkyl Acid Precursors in AFF-Impacted Groundwater and Soil


Several classes of polyfluorinated chemicals that are potential precursors to the perfluorinated carboxylates and sulfonates are present in aqueous film-forming foams (AFF). To assess the persistence of these AFF-derived precursors, groundwater, soil, and aquifer solids were obtained in 2011 from an unlabeled firefighting training area at a U.S. Air Force Base where AFF was used regularly between 1970 and 1990. Results suggest that much of the mass of precursors released at the site was converted to perfluorinated carboxylates and sulfonates. The precursors that have persisted may generate significant amounts of additional perfluorinated carboxylates and sulfonates upon remediation of contaminated groundwater or aquifer solids.

General News

The Processing and Beneficial Use of Fine-Grained Dredged Material: A Manual for Engineers

New Jersey Department of Transportation (NJDOT), Trenton, NJ. 132 pp, 2013

It is the policy of the state of New Jersey to consider dredged material as a natural resource and encourage its beneficial uses. This manual is designed to educate engineers and dredging professionals responsible for the placement and management of sediments removed from authorized navigation channels, berths, or marinas. Topics covered include the geochemical and geotechnical characteristics of dredged sediment specific to coastal and estuarine waterways of New Jersey and New York, placement and transportation methods, processing and stabilization systems, decontamination methods, and quality control-qualification assurance protocols. Chapter 8 reviews several successful dredged material projects, including the Jersey Gardens Mall and Bayonne Golf Course. This volume is the first of three; the other volumes (still under development) address the beneficial use of dredged material (1) stored in confined disposal facilities and (2) applied to habitat restoration. http://cait.rutgers.edu/cait/manual-beneficial-reuse-processed-dredge-material

A Primer for Remedial Project Managers on Water Quality Standards and the Regulation of Combined Sewage Overflows Under the Clean Water Act


This fact sheet summarizes for RPMs how combined sewage overflows and other discharges are regulated under the Clean Water Act (CWA). It emphasizes the objectives of the legislation, how it is often applied in practice, and some significant challenges in employing those controls to meet the objectives of the CWA. Similarities and differences between the CWA and CERCLA objectives and how they can affect remediation of contaminated sediment are also highlighted. SAMS #4 is available on the "Contaminated Sediments in Superfund" webpage at www.epa.gov/superfund/health/commedia/sediment/documents.htm.

Environmental Quality: In Situ Air Sparging

U.S. Army Corps of Engineers.
EM 200-1-19, 178 pp, 2013

This manual provides the information needed to help assure the appropriate application of in situ air sparging for environmental remediation. Designers and decision makers can use the manual to help determine the site characterization information needed for implementation and then use that information to evaluate the technology's potential site-specific effectiveness. This manual supersedes EM 1110-1-4005, dated 31 January 2008.
ENVIRONMENTAL QUALITY DESIGN: IN SITU THERMAL REMEDIATION
U.S. Army Corps of Engineers.
EM 200-1-21, 243 pp, 2014
This manual provides guidance and background for the appropriate screening and selection of in situ thermal remediation (ISTR) technologies, e.g., steam-enhanced injection-extraction, electrical resistivity heating, and thermal conductive heating. This document is intended to help distinguish proper applications of the technology and identify important design, operational, and monitoring issues. It is intended for use by engineers, geologists, soil scientists, hydrogeologists, chemists, project managers, and others who possess a technical education but only the broadest familiarity with ISTR technologies. This Engineer Manual supersedes EM 1110-1-4015, dated 2009. http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_200-1-21.pdf

ABANDONED URANIUM MINES IN THE UNITED STATES: FOUR DRAFT REPORTS
U.S. DOE, Office of Legacy Management website, 2014
Congress directed U.S. DOE to prepare a report on abandoned uranium mines in the United States, due in July 2014, and DOE has posted four draft reports that will provide the foundation for the final Report to Congress. The following topics are covered: (1) location and status of defense-related uranium mines; (2) impacts of the mines on human health and the environment; (3) potential cost and feasibility of reclamation and remediation efforts; and (4) priority ranking for reclamation and remediation. Additionally, a slide presentation from February 2014 summarizes the results. http://www.lm.doe.gov/default.aspx?id=10668

REVIEW OF EPA'S INTEGRATED RISK INFORMATION SYSTEM (IRIS) PROCESS
National Research Council.
EPA's Integrated Risk Information System (IRIS) develops toxicologic assessments of environmental contaminants. An IRIS assessment contains hazard identifications and dose-response assessments of various chemicals related to cancer and noncancer outcomes. The program was created to increase consistency among toxicologic assessments within the agency, but federal, state, and international agencies and other organizations have come to rely on IRIS assessments for setting regulatory standards, establishing exposure guidelines, and estimating risks to exposed populations. In a 2011 review of the IRIS assessment of formaldehyde, the review committee identified deficiencies in the specific assessment and more broadly in some of EPA's general approaches and specific methods and made suggestions for improving the IRIS process. This report commends EPA for its substantive new approaches, continued commitment to improving the process, and successes to date. While recognizing the IRIS program is still implementing changes, the NRC notes in its report that, "overall, the committee expects that EPA will complete its planned revisions in a timely way and that the revisions will transform the IRIS program." http://www.nap.edu/catalog.php?record_id=18764

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.gov or (703) 603-9915 with any comments, suggestions, or corrections.

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