

This e-mail is supported by NAVFAC's Alternative Restoration Technology Team (ARTT) to provide links to Technology Transfer (T2) tools and the latest information on policies, guidance, and training related to innovative technologies. The T2 topics highlighted in this issue will help support the ARTT's chartered goals of promoting the use of innovative technologies, removing barriers to implementing new technologies, and reducing cleanup costs, while remaining protective of the environment and human health.

Issue 132

August 3, 2015

SERDP/ESTCP Webinar Series: Characterization and Remediation in Fractured Rock Environments

SERDP and ESTCP are conducting webinars to promote the transfer of innovative, cost-effective, and sustainable solutions. Two presentations will highlight Department of Defense (DoD) research efforts to characterize and remediate fractured rock environments impacted by chlorinated solvents. The first presentation will describe the targeted application of bioaugmentation in fracture zones containing dense non-aqueous phase liquid (DNAPL). The second presentation will cover the use of novel geophysical tools for characterization and monitoring of amendment delivery in fractured rock aquifers.



DoD's Environmental Research Programs

Topic: Characterization and Remediation in Fractured Rock Environments

Presenter: Dr. Charles Schaefer and Dr. Lee Slater

Date: Thursday, August 20, 2015

Time: 9:00 AM PDT | 12:00 PM EDT

USGS Fractured Rock Research Updates

Many of the ongoing ESTCP studies related to fractured rock are being conducted in collaboration with the United States Geological Survey (USGS) including field studies located at the former Naval Air Warfare Center (NAWC), West Trenton, NJ. The research is focused on increasing the understanding of contaminant fate and transport in fractured-rock aquifers and improving site characterization, monitoring, and modeling tools. The following websites highlight the research objectives and outcomes:



[USGS Contamination in Fractured Rock Aquifers](#)

[Partners in Research at the Former NAWC, West Trenton, NJ](#)

[Chlorinated Solvents in Fractured Sedimentary Rock: NAWC Research Site Bibliography](#)

US EPA Clu-In Fractured Rock Web Page

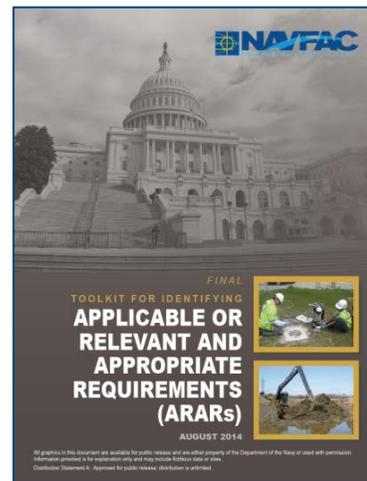
The presence of fractured rock can contribute to uncertainty in the fate and transport of contaminants and adds significant complexity to the design and implementation of remedial actions. The United States Environmental Protection Agency (US EPA) has gathered useful resources related to fractured rock sites including site characterization, remediation, and case study information.



https://clu-in.org/contaminantfocus/default.focus/sec/Fractured_Rock/cat/Overview/

NAVFAC Toolkit for Identifying Applicable or Relevant and Appropriate Requirements (ARARs)

ARARs are federal and state environmental laws and regulations that are identified when evaluating CERCLA removal or remedial actions. The Navy is responsible for complying with ARARs for Environmental Restoration site response actions conducted under the CERCLA Program. This toolkit provides Remedial Project Managers (RPMs) with exhibits and tables that convey the process for selecting ARARs and how to navigate through the most common challenges. This toolkit consists of eight graphical exhibits that outline key concepts in identifying and documenting ARARs.

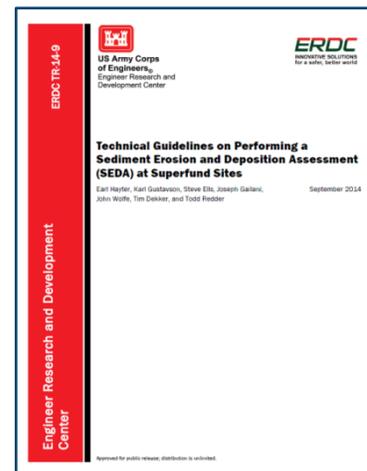


NAVFAC Toolkit for Identifying ARARs

https://www.navfac.navy.mil/content/dam/navfac/Specialty%20Centers/Engineering%20and%20Expeditionary%20Warfare%20Center/Environmental/Restoration/er_pdfs/gp_r/navfac-ev-tkit-arars-201408f.pdf

Technical Guidelines on Performing a Sediment Erosion and Deposition Assessment at Superfund Sites

This report was prepared by the US Army Corps of Engineers (USACE) to assess the potential for sediment beds to undergo erosion or deposition over time. It reviews the processes that influence sediment transport and outlines methods for conducting a sediment erosion and deposition assessment (SEDA). The SEDA process includes consideration of sediment characteristics, groundwater movement, surface water stresses, sediment loadings, anthropogenic activity, weather, and oceanographic influences. The SEDA process ultimately supports the development of a sound conceptual site model based on site-specific processes.



Technical Guidelines on Performing a Sediment Erosion and Deposition Assessment at Superfund Sites

<http://el.erd.c.usace.army.mil/elpubs/pdf/tr14-09.pdf>

For questions or more information, please contact EXWC_T2@navy.mil or visit our Web page at: <https://www.navfac.navy.mil/go/erb>