



Natural and Enhanced Attenuation for Chlorinated Solvents: New Developments and Tools



Welcome! The files in this folder titled **Project Documents** are identified by document number. To assist the reader in identifying the document(s) he/she would like to review, the titles and short descriptions of each document are provided below.

The **Project Documents** folder is divided into two sections: Key Technical Documents and Research Study Documents. These report document the technical findings and products developed as part of this Department of Energy sponsored project.

The Key Technical Documents are as follows:

File Name	Title	Description
WSRC-TR-2003-00328.pdf	Natural and Passive Remediation of Chlorinated Solvents: Critical Evaluation of Science and Technology Targets	This is the baseline document that describes the conceptual approach and central scientific tenants in which the project would invest its resources.
WSRC-TR-2003-00329.pdf	Baseline Natural Attenuation Processes: Lines of Inquiry Supporting Monitored Natural Attenuation of Chlorinated Solvents	Supporting document to WSRC-TR-2003-00328 that documents the project team's evaluation of the state of the science of baseline natural attenuation processes.
WSRC-TR-2003-00331.pdf	Multiple Lines of Evidence Supporting Natural Attenuation: Lines of Inquiry Supporting Monitored Natural Attenuation of Chlorinated Solvents	Supporting document to WSRC-TR-2003-00328 that documents the project team's evaluation of the state of the science for the lines of evidence for supporting decision-making for MNA.
WSRC-TR-2003-00332.pdf	Characterization and Monitoring of Natural Attenuation: Lines of Inquiry Supporting Monitored Natural Attenuation of Chlorinated Solvents	Supporting document to WSRC-TR-2003-00328 that documents the project team's evaluation of the state of the science of the characterization and monitoring process and tools.
WSRC-TR-2003-00333 rev1.pdf	Historical and Retrospective Survey of Monitored Natural Attenuation: A Line of Inquiry Supporting Monitored Natural Attenuation and Enhanced Passive Remediation of Chlorinated Solvents	Supporting document to WSRC-TR-2003-00328 that documents the results of a survey of site owners with chlorinated solvent plumes to assess, using a retrospective survey, what has worked and where there are barriers to implementation.
WSRC-STI-2006-00082_Rev0.pdf	Mass Balance: A Key to Advancing Monitored and Enhanced Attenuation for Chlorinated Solvents	This document provides the technical basis for the mass balance concept.
WSRC-STI-2006-00083 Rev1.pdf	Enhanced Attenuation: A Reference Guide on Approaches to Increase the Natural Treatment Capacity of a System	This document describes classes of technologies that may be applied using the Enhanced Attenuation concept.

File Name	Title	Description
WSRC-STI-2006-00084 Rev1.pdf	Characterization and Monitoring of Natural Attenuation of Chlorinated Solvents in Ground Water: A Systems Approach	This document describes a phased approach to characterization and monitoring (C&M) natural attenuation and enhanced attenuation processes and identifies promising tools and techniques by which to accomplish C&M.
WSRC-STI-2006-00377 final.pdf	Advancing the Science of Natural and Enhanced Attenuation for Chlorinated Solvents	This is the summary report addressing the key scientific and technical aspects related to natural and enhanced attenuation of chlorinated organics that were investigated through this project.

You will note in the WSRC-TR-2003 document titles the term Enhanced Passive Remediation is used. After meeting with state regulators, as part of the ITRC, this term was changed to Enhanced Attenuation. The concept behind the term remained the same.

The Research Study Documents are as follows:

File Name	Title	Main Topic(s) Addressed
WSRC-STI-2006-00096 rev2.pdf	Scenarios Evaluation Tool for Chlorinated Solvent MNA	Characterization and Monitoring
WSRC-STI-2006-00174.pdf	Developing an MNA Modeling Tool based on RT3D	Mass Balance and Enhanced Attenuation
WSRC-STI-2006-00189.pdf	Use of Electron Shuttles to Biologically Enhance Abiotic Dechlorination	Enhanced Attenuation
WSRC-STI-2006-00247.pdf	Evaluating an Innovative Oxygen Sensor for Remote Subsurface Oxygen Measurements	Characterization and Monitoring
WSRC-STI-2006-00293.pdf	A New Device and Method for Measuring Volatile Compounds in Monitoring Wells	Characterization and Monitoring
WSRC-STI-2006-00315.pdf	Passive Fluxmeters: Application as a Characterization/Monitoring Tool for Monitored Natural Attenuation of Chlorinated Solvents	Mass Balance and Characterization and Monitoring
WSRC-STI-2006-00332.pdf	Advancement of Nucleic Acid-Based Tools for Monitoring <i>In Situ</i> Reductive Dechlorination	Characterization and Monitoring
WSRC-STI-2006-00339.pdf	Desorption Behavior of Trichlorethene and Tetrachloroethene in U.S. Department of Energy Savannah River Site Unconfined Aquifer Sediments	Mass Balance

File Name	Title	Main Topic(s) Addressed
WSRC-STI-2006-00340.pdf	Detecting and Quantifying Reductive Dechlorination During Monitored Natural Attenuation at the Savannah River CBRP Site	Mass Balance and Characterization and Monitoring
cVOC_Decision_Tool_Final_Report_92906.pdf	Decision Tool for Groundwater Cleanup of Chlorinated Solvent Plumes at DOE Sites	Decision Support

Additional reports are being finalized and will be available at a later date on the project website (www.mnaeacvocs.com)

All documents and products will be available from the following websites:

DOE's Office of Scientific and Technical Information at www.osti.gov

and

the project team's website at www.mnaeacvocs.com