Purpose and Use

This document provides an evolving “working list” of primary guidance documents and references which may be added as needed to the core guidance lists established for RI/FS and RD/RA statements of work (SOW) and orders. This general list of guidance and references is periodically updated by Ohio EPA. *It is not to be used as an attachment to Remedial Response orders.* Ohio EPA recognizes that some remedial response sites may have conditions or circumstances that are not fully addressed by the documents in this working list of general guidance documents and references. Accordingly, Remedial Response orders should be supported as necessary by current guidance, professional publications, research and U.S. EPA and Ohio EPA policy directives. For sites where activities are conducted in response to an administrative or judicial order, *the list of selected reference documents* will be attached to the order as an appendix and will govern the work conducted. Ohio EPA reserves the right to modify this list as needed to fully and appropriately address site conditions.

Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical Methods &amp; U.S. EPA Contract Laboratory Program</td>
<td>1</td>
</tr>
<tr>
<td>Applicable or Relevant and Appropriate Requirement (ARARs)</td>
<td>1</td>
</tr>
<tr>
<td>Attainment of Cleanup Goals (Statistical Assessment Methods)</td>
<td>2</td>
</tr>
<tr>
<td>Background Guidance</td>
<td>3</td>
</tr>
<tr>
<td>Conceptual Site Models</td>
<td>3</td>
</tr>
<tr>
<td>Data Quality Assessment, Data Verification, and Data Validation</td>
<td>4</td>
</tr>
<tr>
<td>Data Quality Objectives</td>
<td>5</td>
</tr>
<tr>
<td>Data Usability in Risk Assessment</td>
<td>5</td>
</tr>
<tr>
<td>Ecological Risk Assessment</td>
<td>6</td>
</tr>
<tr>
<td>Federal Facilities, Munitions, and Explosives</td>
<td>6</td>
</tr>
<tr>
<td>Geologic/Hydrogeologic Investigation and Modeling</td>
<td>7</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>9</td>
</tr>
<tr>
<td>Human Health Risk Assessment</td>
<td>10</td>
</tr>
<tr>
<td>Institutional Controls</td>
<td>11</td>
</tr>
<tr>
<td>Landfills, Waste Containment Facilities, and Engineered Barriers</td>
<td>12</td>
</tr>
<tr>
<td>Land Redevelopment and Reuse</td>
<td>13</td>
</tr>
<tr>
<td>Lead</td>
<td>13</td>
</tr>
<tr>
<td>Monitored Natural Attenuation</td>
<td>14</td>
</tr>
</tbody>
</table>

Updated 09/12/2016; NOTE: web links are not regularly maintained.
Ohio EPA DERR Remedial Response Program
General Guidance and Reference List for SOWs and Orders

Table of Contents

<table>
<thead>
<tr>
<th>Natural Resource Damages</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Aqueous Phase Liquid (DNAPL, LNAPL) Assessment</td>
<td>16</td>
</tr>
<tr>
<td>Oversight</td>
<td>16</td>
</tr>
<tr>
<td>Presumptive Remedies (see “Landfills” also)</td>
<td>17</td>
</tr>
<tr>
<td>Quality Assurance Project Plans (QAPPs) and Quality Assurance</td>
<td>17</td>
</tr>
<tr>
<td>Remedial Alternative Evaluation, Remedy Selection, and Proposed Plans</td>
<td>18</td>
</tr>
<tr>
<td>Remedial Design and Remedial Action (RD/RA)</td>
<td>19</td>
</tr>
<tr>
<td>General RD/RA References</td>
<td>19</td>
</tr>
<tr>
<td>Bioremediation</td>
<td>20</td>
</tr>
<tr>
<td>Green and Sustainable Remediation</td>
<td>20</td>
</tr>
<tr>
<td>Ground Water Remediation/Restoration</td>
<td>21</td>
</tr>
<tr>
<td>Hazardous Waste Treatment and Stabilization/Solidification</td>
<td>21</td>
</tr>
<tr>
<td>Incineration</td>
<td>22</td>
</tr>
<tr>
<td>In-Situ Chemical Oxidation</td>
<td>22</td>
</tr>
<tr>
<td>Non-Aqueous Phase Liquid (DNAPL, LNAPL) Remediation</td>
<td>22</td>
</tr>
<tr>
<td>PCB Remediation</td>
<td>23</td>
</tr>
<tr>
<td>Permeable Reactive Barriers</td>
<td>23</td>
</tr>
<tr>
<td>Phytoremediation</td>
<td>24</td>
</tr>
<tr>
<td>Sediment Remediation</td>
<td>24</td>
</tr>
<tr>
<td>Soil Remediation</td>
<td>25</td>
</tr>
<tr>
<td>Soil Vapor Extraction, Dual Phase Extraction, and Air Sparging</td>
<td>25</td>
</tr>
<tr>
<td>Radioactive Site Remediation</td>
<td>25</td>
</tr>
<tr>
<td>Thermal Desorption</td>
<td>26</td>
</tr>
<tr>
<td>Remedial Investigation/Feasibility Study (RI/FS) General Guidance</td>
<td>26</td>
</tr>
<tr>
<td>RCRA Facility Investigation and Corrective Action</td>
<td>27</td>
</tr>
<tr>
<td>Regional Screening Levels and Removal Management Levels</td>
<td>27</td>
</tr>
<tr>
<td>Site Assessment (Inspection), Sampling, and Field Screening</td>
<td>28</td>
</tr>
<tr>
<td>Treatability Studies</td>
<td>30</td>
</tr>
<tr>
<td>Triad Approach</td>
<td>30</td>
</tr>
<tr>
<td>Vapor Intrusion</td>
<td>31</td>
</tr>
<tr>
<td>Waste Site Decontamination and Control</td>
<td>33</td>
</tr>
<tr>
<td>Water Quality Standards</td>
<td>33</td>
</tr>
<tr>
<td>Wetland Delineation/Restoration and Steam Restoration</td>
<td>34</td>
</tr>
</tbody>
</table>

Updated 09/12/2016; NOTE: web links are not regularly maintained.
Analytical Methods & U.S. EPA Contract Laboratory Program

U.S. EPA & Other Guidance


*Standard Methods for the Examination of Water and Waste Water*, American Public Health Association, 22nd Edition and updates (webpage); *updated table of standard methods approved under the Clean Water Act*, and *updated table of standard methods approved under the Safe Drinking Water Act*

*U.S. EPA Drinking Water Analytical Methods*, U.S. EPA webpage

*U.S. EPA Superfund Analytical Services / Contract Laboratory Program*, U.S. EPA webpage


*Introduction to the Contract Laboratory Program*, U.S. EPA, EPA 540-R-07-02, January 2007

*Contract Laboratory Program Guidance for Field Samplers*, U.S. EPA, EPA-540-R-014-013, October 2014

Applicable or Relevant and Appropriate Requirements (ARARs)

Ohio EPA Guidance

*Ohio EPA Rules and Laws*, webpage (as applicable for ARARs)

*ARARs Table, Ohio EPA DERR Remedial Response Program* (provides a generic list of ARARs that is updated periodically and subject to change)

*Use of Applicable or Relevant and Appropriate Requirements (ARARs) in the Ohio EPA Remedial Response Program*, U.S. EPA, DERR-00-RR-034, September 2003 (Draft)
Ohio EPA DERR Remedial Response Program
General Guidance and Reference List for SOWs and Orders

U.S. EPA & Other Guidance

Applicable or Relevant and Appropriate Requirements (ARARS), U.S. EPA


CERCLA Compliance with Other Laws Manual, CERCLA Compliance with State Requirements, U.S. EPA, EPA 9234.2-05/FS, December 1989

Permits and Permit ‘Equivalency’ Processes for CERCLA On-site Response Actions, U.S. EPA, OWSER 9355.7-03, February 1992

Clarification of the Role of Applicable, or Relevant and Appropriate Requirements in Establishing Preliminary Remediation Goals Under CERCLA, U.S. EPA, OSWER 9200.4-23, August 22, 1997

Attainment of Cleanup Goals (Statistical Assessment Methods)

U.S. EPA & Other Guidance


Background Guidance

Ohio EPA Guidance

*Use of Background for Remedial Response Sites*, Technical Decision Compendium, Ohio EPA DERR, August 2009

U.S. EPA & Other Guidance


*Role of Background in the CERCLA Cleanup Program*, OSWER 9285.6-07P, April 2002


Conceptual Site Models

Ohio EPA Guidance

*Conceptual Site Models Guidance Document*, Ohio EPA DERR, April 2015

U.S. EPA & Other Guidance

Ohio EPA DERR Remedial Response Program
General Guidance and Reference List for SOWs and Orders


Data Quality Assessment, Data Verification, and Data Validation

Ohio EPA Guidance

*Tier I Data Validation Manual for the Ohio EPA Division of Environmental Response and Revitalization*, Ohio EPA DERR, March 2012

U.S. EPA & Other Guidance


Updated 09/12/2016; NOTE: web links are not regularly maintained.
Data Quality Objectives

Ohio EPA Guidance

*Data Quality Objectives Process Summary*, DERR-00-DI-32, Ohio EPA DERR, January 2002

U.S. EPA & Other Guidance


Data Usability in Risk Assessment

U.S. EPA & Other Guidance


Ecological Risk Assessment

Ohio EPA Guidance

Ecological Risk Assessment Guidance Document, Ohio EPA DERR, April 2008

U.S. EPA & Other Guidance

Ecological Soil Screening Level (Eco-SSL), U.S. EPA

ECOTOX Database, U.S. EPA


Federal Facilities, Munitions, and Explosives

U.S. EPA & Other Guidance

Cleanups at Federal Facilities, U.S. EPA webpage


Geologic/Hydrogeologic Investigation and Modeling

Ohio EPA Guidance

Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring Programs, Ohio EPA Division of Drinking and Ground Waters, February 1995 (as updated)

Vadose Zone Modeling in RCRA Closure, Ohio EPA Division of Hazardous Waste Management, January 2005

Soil Leaching to Ground Water Evaluation for Total Petroleum Hydrocarbons (TPH) Guidance, Ohio EPA DERR, January 2004

Updated 09/12/2016; NOTE: web links are not regularly maintained.
U.S. EPA & Other Guidance


*Groundwater Sampling and Monitoring with Direct Push Technologies*, U.S. EPA, EPA 540/R-04/005, August 2005


Use and Measurement of Mass Flux and Mass Discharge, The Interstate Technology & Regulatory Council Integrated DNAPL Site Strategy Team, MASSFLUX-1, August 2010

Health and Safety

U.S. EPA & Other Guidance

U.S. Department of Labor, Occupational Safety & Health Administration (OSHA) Laws and Regulations, United States Department of Labor – OSHA website


29 CFR 1926: Construction, U.S. Department of Labor, OSHA – OSHA website

CERCLA Section 111(c)(6), U.S. Senate Committee on Environmental & Public Works website


NIOSH Pocket Guide to Chemical Hazards (online), Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH)

2015 American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices (TLVs and BEIs), ACGIH Publication #0115, ISBN: 978-1-607260-77-6
Human Health Risk Assessment

Ohio EPA Guidance

*Use of Risk-Based Numbers in the Remedial Response Process Overview*, Ohio EPA DERR, June 2005

*Application of Bioavailability in the Assessment of Human Health Hazards and Cancer Risk*, Ohio EPA DERR, August 2009

*Human Health Cumulative Carcinogenic Risk and Non-carcinogenic Hazard Goals for DERR Remedial Response Program*, Ohio EPA DERR, August 2009

*Assessing Compounds without Formal Toxicity Values Available for Use in Human Health Risk Assessment*, Ohio EPA DERR, April 2010

U.S. EPA & Other Guidance

*Risk Assessment*, U.S. EPA

*Integrated Risk Information System (IRIS)*, U.S. EPA


*Supplemental Guidance to RAGS: Calculating the Concentration Term*, U.S. EPA, OSWER Publication 9285.7-081, May 1992


Institutional Controls

U.S. EPA & Other Guidance

Superfund Institutional Controls: Guidance and Policy, U.S. EPA webpage


Landfills, Waste Containment Facilities, and Engineered Barriers

Ohio EPA Guidance

Geotechnical and Stability Analyses for Ohio Waste Containment Facilities, Ohio EPA Geotechnical Resources Group (GeoRG), September 14, 2004

U.S. EPA & Other Guidance


Updated 09/12/2016; NOTE: web links are not regularly maintained.


Control of Subsurface Contaminant Migration by Vertical Engineered Barriers, U.S. EPA, EPA/600/F-10/017, July 2010

Land Redevelopment and Reuse

U.S. EPA & Other Guidance

Superfund Redevelopment, U.S. EPA


Reuse Considerations During CERCLA Response Actions, U.S. EPA, OSWER 9365.0-30

Guidance for Preparing Superfund Ready for Reuse Determinations, U.S. EPA, OSWER 9365.0-33

Reuse of CERCLA Landfill and Containment Sites, U.S. EPA, EPA 540-F-99-015, September 1999


Reusing Cleaned Up Superfund Sites: Golf Facilities Where Waste is Left on Site, U.S. EPA, EPA-540-R-03-003, October 2003


Lead

U.S. EPA & Other Guidance

Lead at Superfund Sites, U.S. EPA

Lead at Superfund Sites: Software and User’s Manuals, U.S. EPA (Integrated Exposure Uptake Biokinetic Model for Lead in Children and Adult Lead Methodology)
USGS Background Soil – Lead Survey, USGS


Short Sheet: TRW Recommendations for Sampling and Analysis of Soil at Lead (Pb) Sites, U.S. EPA, EPA #540-F-00-010, April 2000

Assessing Intermittent or Variable Exposures at Lead Sites, U.S. EPA, EPA-540-R-03-008, OSWER # 9285.7-76

TRW Recommendations for Performing Human Health Risk Analysis on Small Arms Shooting Ranges, U.S. EPA, OSWER #9285.7-37, March 2003


Monitored Natural Attenuation

Ohio EPA Guidance

Remediation Using Monitored Natural Attenuation, Ohio EPA DERR Remedial Response Program Fact Sheet, January 2001

Distinction between Monitored Natural Attenuation and Enhanced Monitoring at DERR Remedial Response Sites, Ohio EPA DERR Technical Decision Compendium, October 2002
U.S. EPA & Other Guidance


_Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action and Underground Storage Tank Sites_, U.S. EPA, OSWER Directive 9200.4-17P, April 1999


_Calculation and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies_, U.S. EPA, EPA/540/S-02/500, November 2002

_Performance Monitoring of MNA Remedies for VOCs in Ground Water_, U.S. EPA, EPA/600/R-04/027, April 2004


Natural Resource Damage Assessments

U.S. EPA & Other Guidance

Natural Resource Damages, U.S. EPA

Non-Aqueous Phase Liquid (LNAPL, DNAPL) Assessment

U.S. EPA & Other Guidance


An Introduction to Characterizing Sites Contaminated with DNAPLs, The Interstate Technology & Regulatory Council (ITRC) Dense Nonaqueous Phase Liquids Team, DNAPLs-4, September 2003

Site Characterization Technologies for DNAPL Investigations, U.S. EPA, EPA 542-R-04-017, September 2004


Oversight

U.S. EPA & Other Guidance


Using RCRA’s "Results-Based Approaches and Tailored Oversight Guidance" when Performing Superfund PRP Oversight, U.S. EPA Memorandum, December 2006 [Results-Based Approaches and Tailored Oversight Guidance for Facilities Subject to Corrective Action Under Subtitle C of the Resource Conservation and Recovery Act, EPA 530-R-03-012, September 2003 is attached]

Superfund Oversight Guidance, U.S. EPA, January 24, 2007 (Memorandum from Susan E. Bromm, Director, Office of Site Remediation Enforcement)

Presumptive Remedies (see “Landfills” also)

U.S. EPA & Other Guidance


Quality Assurance Project Plans (QAPPs) and Quality Assurance

Ohio EPA Guidance

Guidelines and Specifications for Preparing Quality Assurance Project Plans, DERR-00-RR-008, Ohio EPA DERR, September 1998

Laboratory and Field Data Screening for Preparing Quality Assurance Project Plans, DI-00-034, Ohio EPA DERR, August 2005

Page 17 of 35
Updated 09/12/2016; NOTE: web links are not regularly maintained.
Ohio EPA DERR Remedial Response Program
General Guidance and Reference List for SOWs and Orders

U.S. EPA & Other Guidance


Remedial Alternative Evaluation, Remedy Selection, and Proposed Plans

Ohio EPA Guidance

*Procedures for Evaluation of Response Action Alternatives and Remedy Selection for Remedial Response Program Sites*, Ohio EPA DERR, Policy DERR-00-RR-019, Revised September 14, 1999

U.S. EPA & Other Guidance

*Key Principles of Remedy Selection*, U.S. EPA website


Page 18 of 35

Updated 09/12/2016; NOTE: web links are not regularly maintained.


Coordination between RCRA Corrective Action and Closure and CERCLA Site Activities, U.S. EPA, September 24, 1996


Remedial Design and Remedial Action (RD/RA)

General RD/RA References

Ohio EPA Guidance

State of Ohio Model Statement of Work for Remedial Design and Remedial Action, Ohio EPA DERR, August 30, 2004

U.S. EPA & Other Guidance


Bioremediation

U.S. EPA & Other Guidance

Cost and Performance Reporting for In Situ Bioremediation Technologies (Final), The Interstate Technology and Regulatory Cooperation (ITRC) Work Group In Situ Bioremediation Technical Task Team in partnership with the Bioremediation Consortium of the Remediation technology Development Forum, December 1997

Interstate Technology and Regulatory Cooperation Work Group (ITRC) In Situ Bioremediation Work Team, Closure Criteria Focus Group, FY-97 Report (Final), March 3, 1998

General Protocol for Demonstration of In Situ Bioremediation Technologies (Revised Final), The Interstate Technology and Regulatory Cooperation (ITRC) Work Group, InSitu Bioremediation Work Team, September 1, 1998


Overview of In Situ Bioremediation of Chlorinated Ethene DNAPL Source Zones, The Interstate Technology and Regulatory Council (ITRC) Bioremediation of Dense Nonaqueous Phase Liquids (Bio DNAPL) Team, BIODNAPL-1, October 2005

In Situ Bioremediation of Chlorinated Ethene: DNAPL Source Zones, The Interstate Technology & Regulatory Council (ITRC) Bioremediation of DNAPLs Team, BIODNAPL-3, June 2008

Green and Sustainable Remediation

U.S. EPA & Other Guidance

Superfund Green Remediation, U.S. EPA webpage

Superfund Green Remediation Strategy, U.S. EPA, September 2010


Ground Water Remediation/Restoration

U.S. EPA & Other Guidance

Guidance for Remedial Actions for Contaminated Ground Water at Superfund Sites, EPA/540/G-88/003, December 1988


Presumptive Response Strategy and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites (Final Guidance), U.S. EPA 540/R-96/023, October 1996

Use of Alternate Concentration Limits (CLs) in Superfund Cleanups, U.S. EPA, OWSER 9200.4-39, July 19, 2005


Hazardous Waste Treatment and Stabilization/Solidification

U.S. EPA & Other Guidance


Page 21 of 35
Updated 09/12/2016; NOTE: web links are not regularly maintained.
Ohio EPA DERR Remedial Response Program
General Guidance and Reference List for SOWs and Orders


**Incineration**

U.S. EPA & Other Guidance

_Hazardous Waste Combustion_, U.S. EPA webpage


**In-Situ Chemical Oxidation**

U.S. EPA & Other Guidance

_Technical and Regulatory Guidance for In Situ Chemical Oxidation of Contaminated Soil and Groundwater (Second Edition)_, The Interstate Technology & Regulatory Council (ITRC) In Situ Chemical Oxidation Team, January 2005

_In-Situ Chemical Oxidation – Engineering Issue_, U.S. EPA, EPA/600/R-06/072, August 2006

**Non-Aqueous Phase Liquid (DNAPL, LNAPL) Remediation**

U.S. EPA & Other Guidance

_Evaluating Natural Source Zone Depletion at Sites with LNAPL_, The Interstate Technology & Regulatory Council (ITRC) LNAPLs Team, LNAPL-1, April 2001

_DNAPL Source Reduction: Facing the Challenge_, Interstate Technology & Regulatory Council (ITRC) Dense Nonaqueous Phase Liquids Team, DNAPLs-2, April 2002


Strategies for Monitoring the Performance of DNAPL Source Zone Remedies, The Interstate Technology & Regulatory Council (ITRC) Dense Nonaqueous-Phase Liquids Team, DNAPLs-5, August 2004


Evaluating LNAPL Remedial Technologies for Achieving Project Goals, The Interstate Technology & Regulatory Council (ITRC) LNAPLs Team, LNAPL-2, December 2009

Integrated DNAPL Site Strategy, The Interstate Technology & Regulatory Council (ITRC) Integrated DNAPL Site Strategy Team, IDSS-1, November 2011

**PCB Remediation**

U.S. EPA & Other Guidance

Guidance on Remedial Actions for Superfund Sites with PCB Contamination, U.S. EPA, EPA/540/G-90/007, August 1990 (Please note: After EPA's Office of Solid Waste and Emergency Response issued "Guidance on Remedial Actions for Superfund Sites with PCB Contamination" OSWER Directive 9355.4-01 (August 1990), the Agency published a final rule under the Toxic Substances Control Act (TSCA) that amended existing regulations governing PCBs (see 40 CFR Part 761). The regulations are controlling legal authority and any policy discussion in the OSWER Directives that is not consistent with those regulations should be disregarded.)


**Permeable Reactive Barriers**

U.S. EPA & Other Guidance

Interstate Technology & Regulatory Council, Permeable Reactive Barriers (PRBs) Documents and Training Courses


Phytoremediation

U.S. EPA & Other Guidance


Sediment Remediation

U.S. EPA & Other Guidance


Soil Remediation

U.S. EPA & Other Guidance


Soil Vapor Extraction, Dual Phase Extraction, and Air Sparging

U.S. EPA & Other Guidance


*Enhanced Attenuation Technologies: Passive Soil Vapor Extraction*, prepared by GSI Environmental Inc. for the Savannah River National Laboratory, Aiken, South Carolina, SRNL-STI-2009-00571 (Rev. 1), March 2010

Radioactive Site Remediation

U.S. EPA & Other Guidance

Thermal Desorption

U.S. EPA & Other Guidance


*Technical Requirements for On-Site Thermal Desorption of Solid Media Contaminated with Hazardous Chlorinated Solvents (Final)*, The Interstate Technology and Regulatory Cooperation (ITRC) Work Group, Low Temperature Thermal Desorption Work Team, September 1997

*Technical Guidelines for On-Site Thermal Desorption of Solid Media Contaminated and Low Level Mixed Waste Contaminated with Mercury and/or Hazardous Chlorinated Organics (Final)*, The Interstate Technology and Regulatory Cooperation (ITRC) Work Group, Low Temperature Thermal Desorption Work Team, September 1998

Remedial Investigation/Feasibility Study (RI/FS) General Guidance

Ohio EPA Guidance


U.S. EPA & Other Guidance


RCRA Facility Investigation and Corrective Action

U.S. EPA & Other Guidance

Region 5 RCRA Corrective Action, U.S. EPA

RCRA Policy and Guidance On-Line Resources, U.S. EPA


Fact Sheet #3, Final Remedy Selection for Results-Based RCRA Corrective Action, U.S. EPA, March 2000


Regional Screening Levels and Removal Management Levels

Ohio EPA Guidance

Use of U.S. EPA’s Regional Screening Levels as Screening Values in Human Health Risk Assessments, Ohio EPA DERR, August 2009
Ohio EPA DERR Remedial Response Program
General Guidance and Reference List for SOWs and Orders

U.S. EPA & Other Guidance

Regional Screening Levels (RSLs), U.S. EPA webpage

Regional Removal Management Levels for Chemicals (RMLs), U.S. EPA webpage


Site Assessment (or Inspection), Sampling, Monitoring and Field Screening

Ohio EPA Guidance

Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring Programs, Ohio EPA Division of Drinking and Ground Waters

Petroleum Contaminated Sites Guidance Document for Emergency Response Actions, Ohio EPA DERR, March 2005

U.S. EPA & Other Guidance

Visual Sampling Plan (Version 7.2), U.S. Department of Energy webpage


A Rationale for the Assessment of Errors in the Sampling of Soils, U.S. EPA, EPA/600/4-90/013, July 1990


Multi-State Evaluation of An Expedited Site Characterization Technology: Site Characterization and Analysis Penetrometer System Laser-Induced Fluorescence (SCAPS-LIF), Western Governors’ Association DOIT Initiative, Interstate Technology and Regulatory Cooperation (ITRC) Work Group Cone Penetrometer Task Group Report, May 1996


Incremental Sampling Methodology, The Interstate Technology & Regulatory Council Incremental Sampling Methodology Team, ISM-1, February 2012

Ground Water Issue: Ground Water Sample Preservation at In-Situ Chemical Oxidation Sites – Recommended Guidelines, U.S. EPA, EPA/600/r-12/049, August 2012

Treatability Studies

U.S. EPA & Other Guidance


Triad Approach (This intricate process is best utilized at fund-lead sites with technical assistance from U.S. EPA.)

U.S. EPA & Other Guidance

The Brownfields and Land Revitalization Technology Support Center, U.S. EPA, Argonne National Laboratory, and U.S. Army Corps of Engineers webpage
Triad Resource Center, U.S. EPA webpage

Summary of the Triad Approach, U.S. EPA, Deana M. Crumbling, Office of Superfund Remediation and Technology Innovation, March 25, 2004

Improving Sampling, Analysis and Data Management for Site Investigation and Cleanup, U.S. EPA, EPA-542-F-04-001a, April 2004


Vapor Intrusion

Ohio EPA Guidance

Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites, Ohio EPA DERR, August 2016

Sample Collection and Evaluation of Vapor Intrusion to Indoor Air for Remedial Response and Voluntary Action Programs (Guidance Document), Ohio EPA DERR, May 2010 (NOTE: this document is currently under revision, please refer to the documents under “Principal Vapor Intrusion Guidance: U.S. EPA” below.)

Principal Vapor Intrusion Guidance: U.S. EPA

Ohio EPA DERR Remedial Response Program
General Guidance and Reference List for SOWs and Orders

OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, U.S. EPA, Publication OWSER 9200.2-154, June 2015


Supporting Vapor Intrusion Guidance: U.S. EPA & Other

Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management, Interstate Technology & Regulatory Council (ITRC) webpage

Vapor Intrusion Pathway: A Practical Guideline, Interstate Technology & Regulatory Council (ITRC) Vapor Intrusion Team, January 2007

Vapor Intrusion Pathway: Investigative Approaches for Typical Scenarios (A Supplement to Vapor Intrusion Pathway: A Practical Guideline), Interstate Technology & Regulatory Council (ITRC) Vapor Intrusion Team, January 2007

Indoor Air Vapor Intrusion Mitigation Approaches, U.S. EPA, EPA/600/R-08-115, October 2008


Conceptual Site Model Scenarios for the Vapor Intrusion Pathway, U.S. EPA, EPA 530-R-10-003, February 2012


Petroleum Vapor Intrusion – Fundamentals of Screening, Investigation, and Management, Interstate Technology & Regulatory Council (ITRC) Petroleum Vapor Intrusion (PVI) Team, October 2014
Waste Management and Site Decontamination/Control

Ohio EPA Guidance

*Closure Plan Review Guidance for RCRA Facilities*, Ohio EPA Division of Hazardous Waste Management, October 2009

U.S. EPA & Other Guidance


Water Quality Standards

Ohio EPA Guidance

*Biological Criteria for the Protection of Aquatic Life*, Ohio EPA Division of Surface Water webpage


*Biological Criteria for the Protection of Aquatic Life: Volume III: Standardized Biological Field Sampling and Laboratory Methods for Assessing Fish and Macroinvertebrate Communities*, Ohio EPA Division of Surface Water, First Update, September 1989; 2014 Volume III Updates (replaces 2013 updates)

U.S. EPA & Other Guidance
Ohio EPA Guidance

*The Qualitative Habitat Evaluation Index [QHEI]: Rationale, Methods, and Application*, Ohio EPA Division of Surface Water, November 1989

*Ohio Rapid Assessment for Wetlands Version 5.0 (Final)*, Ohio EPA Division of Surface Water, February 2001

*Integrated Wetland Assessment Program, Part 4: Vegetation Index of Biotic Integrity (VIBI) and Tiered Aquatic Life Uses (TALUs) for Ohio Wetlands*, Ohio Environmental Protection Agency Division of Surface Water Wetland Ecology Group, Ohio EPA Technical Report WET/2004-4, 2004


U.S. EPA & Other Guidance

*Wetlands*, U.S. EPA webpage (includes information on Clean Water Act Section 404 regulations and federal, state and local government programs)


