APPENDIX B

LIST OF GUIDANCE DOCUMENTS AND REFERENCES FOR USE WITH OHIO EPA DIVISION OF EMERGENCY AND REMEDIAL RESPONSE (DERR) REMEDIAL INVESTIGATION/FEASIBILITY STUDY STATEMENT OF WORK AND ORDERS

Statement of Purpose and Use of This Guidance Document List:
The purpose of this list of Ohio EPA and U.S. EPA policies, directives and guidance documents is to provide a reference of the documents which provide direction and guidance for conducting investigations and evaluating alternative remedial actions at Remedial Response sites. *The listed documents incorporate by reference any documents listed therein*. Certain sites may have contaminants or conditions which are not fully addressed by the documents in this list. There is an evolving body of policy directives, guidance and research documentation which should be used, as needed, to address circumstances not encompassed by the documents in this list. For sites where activities are conducted in response to an administrative or judicial order, this list will be an attachment to the order and will govern the work conducted. When entering into or issuing an order for any site, Ohio EPA reserves the right to modify this list to fully address the site conditions.

Analytical Methods

Compendium of Methods for Determination of Toxic Organic Compounds in Ambient Air, second edition, Compendium Method TO-14, EPA/625/R-96/010b, U.S. EPA, January 1999.

SW 846, Test Methods for Evaluating Solid Waste, 3rd Edition and updates (online), originally dated November 1986.

Standard Methods for the Examination of Water and Waste Water, American Public Health Association, 18th Edition 1992, and recent editions (online).

U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, U.S. EPA, EPA-540-R-04-004, OSWER 9240.1-45, October 2004.

U.S. EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, U.S. EPA, EPA-540-R-08-01, June 2008.

ARARs

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

ARARs Table, Ohio EPA DERR, Remedial Response Program. [This is a list of generic ARARs that is periodically updated and subject to change.]

CERCLA Compliance with Other Laws Manual - Part I and Part 2, OSWER Directive 9234.1-01, EPA/540/G-89/006, August 1988, interim final.

Ohio EPA Rules (online).

Use of Applicable or Relevant and Appropriate Requirements (ARARs) in the Ohio EPA Remedial Response Program, Ohio EPA DERR, September 2003.

Attainment of Cleanup Goals

Methods for Evaluating the Attainment of Cleanup Standards, Volume 1: Soils and Solid Media, U.S. EPA, February 1989. EPA 230/02-89-042.

Methods for Evaluating the Attainment of Cleanup Standards, Volume 2: Ground Water, U.S. EPA, July 1992. EPA 230-R-92-014.

Methods for Evaluating the Attainment of Cleanup Standards, Volume 3: Reference-Based Standards for Soils and Solid Media, U.S. EPA, December 1992. EPA 230-R-94-004.

Background Guidance

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

Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites, U.S. EPA, EPA 540-R-01-003 OSWER 9285.7-41, September 2002.

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

Data Quality Objectives (DQOs)

Data Quality Evaluation Statistical Toolbox (DataQUEST) Users Guide, U.S. EPA ORD, EPA/600/R-96/085 (EPA QA/G-9D), December 1997.

Data Quality Objectives Decision Error Feasibility Trials Software (DEFT) – Users Guide, U.S. EPA, EPA QA/G-4D, EPA/240/B-01/007, September 2001.

Data Quality Objectives Process for Hazardous Waste Site Investigations, U.S. EPA, EPA/600/R-00/007 (EPA QA/G-4HW), January 2000.

Data Quality Objectives Process for Superfund, Interim Final Guidance, OSWER Directive 9355.9-01, EPA540-R-93-071, September 1993.

Data Quality Objectives Process Summary, DERR-00-DI-32 Ohio EPA DERR Remedial Response Program, January 2002.

Guidance for Data Quality Assessment: Practical Methods for Data Analysis, U.S. EPA, EPA/600/R-96/084 (EPA QA/G-9), QAOO Update, July 2000.

Guidance on Systematic Planning Using the Data Quality Objectives Process, U.S. EPA, EPA QA/G-4, February 2006. EPA/240/B-06/001.

Data Usability in Risk Assessment

Guidance for Data Usability in Risk Assessment (Part A), U.S. EPA, OSWER 9285.7-09A, April 1992

Guidance for Data Usability in Risk Assessment (Part B), U.S. EPA, OSWER 9285.7-09B, May 1992

Ecological Risk Assessment

Ecological Risk Assessment Guidance Document, Ohio EPA DERR Remedial Response Program, April 2008.

Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, U.S. EPA, EPA/540/R-97/006, September 1997.

Ecological Soil Screening Levels, U.S. EPA, online.

Guidance for Developing Ecological Screening Levels, U.S. EPA, OSWER 9285.7-55, November, 2003.

Guidelines for Ecological Risk Assessment, U.S. EPA, EPA/630/R-95/002F, April 1998.

Feasibility Studies (Developing Cost Estimates)

A Guide to Developing and Documenting Cost Estimates During the Feasibility Study, U.S. EPA and U.S. Army Corps of Engineers, EPA 540-R-00-002, July, 2000. Appendix A (Internet Resources), Appendix B (Cost Adjustment Factors), Appendix C (Example Cost Templates, Appendix D (Glossary)

Ground Water Investigation

Ground Water Sampling and Monitoring Using Direct Push Technologies, U.S. EPA, OSWER 9200.1-51, EPA 540/R-04/005, August, 2005.

Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring Programs, Ohio EPA/DDAGW, Final, February 1995 (as updated).

VLEACH: A One-Dimensional Finite Difference Vadose Zone Leaching Model, Version 2.2a, U.S. EPA, Hazardous Sites Control Division, Contract No. 68-01-251, May 2007.

Health and Safety Plan

American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices, ISBN: 1-882417-46-1, 2002.

NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985, DHHS (NIOSH) Publication No. 85-115.

NIOSH Pocket Guide to Chemical Hazards (DHHS-NIOSH Publication No. 2005-149, November 2005)

OSHA Regulations particularly in 29 CFR 1910 and 1926

OSHA Regulation 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response; U.S. Department of Labor (OSHA).

OSHA Regulation 29 CFR 1910.134, Respiratory Protection Standard;

U.S. EPA Standard Operating Safety Guides (Publication 9285.1-03, PB92-963414, June 1992 (chapters 1-3, 4-7, 8-11)

Section 111(c)(6) of CERCLA

Human Health Risk Assessment

Application of Bioavailability in the Assessment of Human Health Hazards and Cancer Risk, Ohio EPA/DERR, Remedial Response Program, March 2002.

Assessing Compounds without Formal Toxicity Values Available for Use in Human Health Risk Assessment, Ohio EPA DERR, Remedial Response Program, August 2005.

Exposure Factors Handbook (Final), U.S. EPA, EPA/600/P-95/002Fa-c, August 1997.

Human Health Cumulative Carcinogenic Risk and Non-carcinogenic Hazard Goals for DERR Remedial Response and Office of Federal Facility Oversight, Ohio EPA DERR, April 28, 2004.

Risk Assessment Guidance for Superfund (RAGS) Volume 1: Human Health Evaluation Manual (Part A), U.S. EPA, EPA/540/1-89/002, December 1989.

Risk Assessment Guidance for Superfund (RAGS), Volume 1: Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals) U.S. EPA, EPA/540/R-92/003. December 1991.

Risk Assessment Guidance for Superfund (RAGS), Volume 1: Human Health Evaluation Manual, (Part C, Risk Evaluation of Remedial Alternatives) U.S. EPA, OSWER 9285.7-01C, October 1991.

Risk Assessment Guidance for Superfund (RAGS), Volume I: Human Health Evaluation Manual (Part D, Standardized Planning, Reporting and Review of Superfund Risk Assessments) Final, U.S. EPA, OSWER 9287-7-47, December 2001

Risk Assessment Guidance for Superfund (RAGS), Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), U.S. EPA, OSWER 9285.7-02 PB99-963312, July 2004.

Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors," U.S. EPA, OSWER 9285.6-03, March 1991.

Superfund Exposure Assessment Manual, U.S. EPA, OSWER 9285.5-1, EPA/540/1-88/001, April 1988,

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

U.S. EPA Integrated Risk Information System (IRIS) Data Base, U.S. EPA (online)

U.S. EPA Health Effects Assessment Summary Tables (HEAST), Office of Emergency & Remedial Response. HEAST values for non-radioactive chemicals (last Updated in1997) are being superseded by EPA Provisional Peer Reviewed Toxicity Values (PPRTVs).

Landfills

Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites, OSWER Directive 9355.3-11, EPA/540/P-91/001, February 1991.

Presumptive Remedy for CERCLA Municipal Landfill Sites, U.S. EPA, EPA 540-F-93-035, September 1993.

Presumptive Remedies: CERCLA Landfill Caps RI/FS Data Collection Guide, U.S. EPA, EPA/540/F-95/009, August 1995.

Seminar Publication - Requirements for Hazardous Waste Landfill Design, Construction, and Closure, U.S. EPA, EPA/625/4-89/022, August 1989 (# 625489022).

Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments, U.S. EPA, EPA/530-SW-89-047, July 1989 (# 530SW89047).

Superfund Accelerated Cleanup Bulletins: Presumptive Remedies for Municipal Landfill Sites, U.S. EPA Publication 9203.1-02I:
1.) April 1992, Vol. 1, No. 1; 2.) February 1993, Vol. 2, No. 1; and, 3.) August 1992, Vol. 1, No. 3

Land Use and Reuse

Land Use in the CERCLA Remedy Selection Process, U.S. EPA, OSWER 9355.7-04, May 25, 1995.

Reuse Assessments: A Tool To Implement The Superfund Land Use Directive, U.S. EPA, OSWER 9355.7-06P, June 4, 2001.

Lead

Integrated Exposure Uptake Biokinetic Model for Lead in Children, Windows® version (IEUBKwin v1.0 build 263) (December, 2005).

Superfund Lead-Contaminated Residential Sites Handbook, U.S. EPA, OSWER 9285.7-50, August 2003.

Monitored Natural Attenuation

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

Natural Attenuation for Groundwater Remediation, Committee on Intrinsic Remediation, National Academy of Sciences, 2000.

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

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

Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents In Ground Water, U.S. EPA, EPA/600/R-98/128, September 1998.

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.

Oversight

Interim Guidance on implementing the Superfund Administration Reform on PRP Oversight, U.S. EPA, OSWER Directive 9200.0-32P, May 2000.

Using RCRA's Results-Based Approaches and Tailored Oversight Guidance" when Performing Superfund PRP Oversight, U.S. EPA December 2006, OSWER, EPA 530-R-03-012, September 2003.

Presumptive Remedies

Presumptive Remedies: Site Characterization and Technology Selection for CERCLA Sites with Volatile Organic Compounds in Soil, U.S. EPA, OSWER 9355.4-048FS, September 1993.

Presumptive Remedy: Supplemental Bulletin Multi- Phase Extraction (MPE) Technology for VOCs in Soil and Groundwater, U.S. EPA, OSWER 9355.0-68F8, April 1997.

Presumptive Response Strategy and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites, U.S. EPA, EPA 540/R-96/023, OSWER 9283.1-12, October, 1996, final guidance.

User's Guide to the VOCs in Soils Presumptive Remedy, U.S. EPA, OSWER 9355.0-63FS; EPA 540/F-96/008; PB 96-963308, July, 1996.

Quality Assurance

Data Quality Assessment: A Reviewer's Guide, (QA/G-9R), U.S. EPA, EPA/240/B-06/002, February, 2006.

Guidance for Preparing Standard Operating Procedures, U.S. EPA, EPA QA/G-6, EPA/240/B-01/004, March 2001.

Guidance for Quality Assurance Plans for Modeling, U.S. EPA, EPA QA/G-5M, EPA/240-R02/007, December, 2002.

Guidance for Quality Assurance Project Plans, U.S. EPA, QA-G-5, EPA/240/R-02-009, December 2002.

Guidance on Environmental Data Verification and Data Validation, U.S. EPA, EPA/240/R-02/004, November 2002.

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

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

Preparation Aids for the Development of Category 1 Quality Assurance Project Plans, U.S. EPA, EPA/600-8-91-003, February 1991 (#600891003).

Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures, Interim Final, U.S. EPA, EPA/540/G-90/004, April 1990 (# 540G90004).

Technical Guidance Document: Construction Quality Assurance and Quality Control for Waste Containment Facilities, U.S. EPA, EPA/600/R-93/182, September 1993 (# 600R93182).

RI/FS and General Program Guidance

Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, U.S. EPA, OSWER 9355.3-01, EPA/540/G-89/004, October 1988.

Guide to Principle and Low-level Threat Wastes, U.S. EPA, OSWER 9380.3-06FS, November 1991.

Investigation Derived-Waste Guidance, Ohio EPA DERR, Remedial Response Program, June 1994.

Remedial Investigation/Feasibility Study Statement of Work, Ohio EPA DERR, Remedial Response Program, September 2006.

Quality Assurance and Quality Control for Waste Containment Facilities (Summary), U.S. EPA - National Risk Management Research Laboratory, EPA 600/SR-93/182, September 1995.

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

Wastewater Discharges Resulting from Clean-Up of Response Action Sites Contaminated with Volatile Organic Compounds, Ohio EPA Policy No. DSW-DERR 0100.027, Final, September 22, 1994, as revised.

Sampling and Analysis

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

Compendium of ERT Soil Sampling and Surface Geophysics Procedures, U.S. EPA, OSWER 9360.4-02, January 1991.

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

Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers, U.S. EPA, EPA 542-S-02-001, May 2002.

Multi-State Evaluation of Expedited Site Characterization Technology, Site Characterization and Analysis Penetrometer System-Induced Fluorescence (SCAPS-LIF), Interstate Technology Regulatory Council (ITRC) Cone Penetrometer Task Group Report, Final, May 1996.

Multi-State Evaluation of Expedited Site Characterization Technology, Site Characterization and Analysis Penetrometer System-Volatile Organic Compounds (SCAPS-VOC) Sensing Technologies, Interstate Technology Regulatory Council (ITRC) Accelerated Site Characterization Work Team, Final, December 1997.

ProUCL Version 4.00.04 User Guide, U.S. EPA, EPA 600/R-07/038, February 2009.

Requirements for the Preparation of Sampling and Analysis Plans, U.S. ACE, EM 200-1-3, February, 2001.

Superfund Ground Water Issue: Ground Water Sampling for Metals, U.S. EPA, EPA/540/4-89/001, March 1989 (# 540489001).

Screening Values

Clarification of the Role of ARARs in Establishing Preliminary Remedial Goals under CERCLA, OSWER 9200.4-23, August 22, 1997

Use of U.S. EPA's Regional Screening Levels as Screening Values in Human Health Risk Assessments, Ohio EPA DERR, Remedial Response Program, August 2009.

Treatability Studies

Guide for Conducting Treatability Studies Under CERCLA, U.S. EPA OSWER/ORD, EPA/540/R-92/071a, Final, October 1992.

Guide for Conducting Treatability Studies Under CERCLA: Soil Vapor Extraction, U.S. EPA – Office of Emergency and Remedial Response, EPA/540/2-91/019A, (#540291019A), Interim, September 1991.

Guide for Conducting Treatability Studies Under CERCLA: Aerobic Biodegradation Remedy Screening, U.S. EPA Office of Research and Development, EPA/540/2-91/013A, Interim, July 1991.

Guidance on Specific Types of Treatability Studies, U.S. EPA (online).

Vapor Intrusion

Methodology for Vapor Intrusion Assessment, Technical Decision Compendium, Ohio EPA DERR Remedial Response Program, April 2005.

Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance), U.S. EPA, EPA530-F-02-052, November 2002.

Vapor Intrusion Pathway: A Practical Guideline, Technical and Regulatory Guidance, Interstate Technology Regulatory Council (ITRC) – Vapor Intrusion Team, January 2007.

Vapor Intrusion Pathway: Investigative Approaches for Typical Scenarios, Technical and Regulatory Guidance Supplement, Interstate Technology Regulatory Council (ITRC) – Vapor Intrusion Team, January 2007.

Wetland (and Stream) Delineation and Restoration

Addendum to Biological Criteria for the Protection of Aquatic Life: Volume II. Users Manual for Biological Field Assessment of Ohio Surface Waters. Ohio EPA, Division of Surface Water, 1989.

Amphibian Index of Biotic Integrity (AmphIBI) for Ohio Wetlands, Ohio EPA, Wetland Ecology Group, Division of Surface Water, Final, Volume 7, 2004.

Biological Criteria for the Protection of Aquatic Life: Volume I. The Role of Biological Data in Water Quality Assessment. Ohio EPA, Division of Surface Water, 1987.

Biological Criteria for the Protection of Aquatic Life: Volume II. Users Manual for Biological Field Assessment of Ohio Surface Waters. Ohio EPA, Division of Surface Water, 1987.

Biological Criteria for the Protection of Aquatic Life: Volume III. Standardized Biological Field Assessment of Ohio Surface Waters. Ohio EPA, Division of Surface Water, 1989.

Integrated Wetland Assessment Program. Part 5: Biogeochemical and Hydrological Investigations of Natural and Mitigation Wetlands. Ohio EPA Technical Report WET/2004-5. Ohio Environmental Protection Agency, Wetland Ecology Group, Division of Surface Water, Fennessy, M. Siobhan, John J. Mack, Abby Rokosch, Martin Knapp, and Mick Micacchion. 2004. Columbus, Ohio.

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Standardized Monitoring Protocols, Data Analysis and Reporting Requirements for Mitigation Wetlands in Ohio, v. 1.0. Ohio EPA Technical Report WET/2004-6. Ohio Environmental Protection Agency, Division of Surface Water, Wetland Ecology Group, Mack, John J, M. Siobhan Fennessy, Mick Micacchion and Deni Porej. 2004. Columbus, Ohio.

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National Guidance Water Quality Standards for Wetlands, U.S. EPA, July 1990.

The Qualitative Habitat Evaluation Index (QHEI): Rationale, Methods, and Application. Ohio EPA, Division of Surface Water, Rankin, E.T., 1990.

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Treatment Wetlands, Robert H. Kadlec and Robert L. Knight, Lewis Publishers, 1996.

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Wetlands Delineation Manual, U.S. Army Corps of Engineers, 1987.

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