

Quality Assurance/Quality Control Program  
for Environmental Data Collection  
during Site Remediation for  
Wisconsin's Ready for Reuse Loan & Grant Program

**Name of Project**  
**Municipality**, Wisconsin

Date:  
Name of project:  
Project manager:  
Project name:

This document describes the Quality Assurance/Quality Control (QA/QC) for collection and use of environmental data during cleanup actions at the **Name of Project**. The response actions will be funded with a **loan or grant** from Wisconsin's Ready for Reuse Loan & Grant Program.

The project QA/QC program will follow the requirements and protocols established by the Wisconsin Department of Natural Resources (DNR) under the authority provided by relevant state statutes, administrative codes, and guidance documents listed in this document. The collective state statutes, administrative codes, and guidance documents comply with 40 CFR 31.45 requirements for practices sufficient to produce data adequate to meet project objectives and to minimize data loss and are consistent with the requirements of U.S. EPA Order 5360.1, April 1984, as amended. Moreover, pursuant to Region 5's Quality Management Plan for the Superfund Division, adherence to, and documentation of, the quality assurance requirements of the State program is an equivalent substitute for an EPA-approved Quality Assurance Project Plan (QAPP).

Chapter 292, Wis. Stats., titled Remedial Action, defines the cleanup program for hazardous substance spills within the state of Wisconsin. In s. 299.11, Wis. Stats., the authority for the state laboratory certification program is given to the DNR. Data quality objectives required by the DNR are specified in the applicable sections of NR 700, 716, 718, 720, 724 and 726, Wis. Adm. Code, and chapters NR 140, 149, 157, 347, and 809, Wis. Adm. Code. The Wisconsin Administrative Code quality assurance and quality control requirements and their documentation are discussed in further detail below.

Copies of Wisconsin Administrative Codes are available at:  
[www.legis.state.wi.us/rsb/code/codtoc.html](http://www.legis.state.wi.us/rsb/code/codtoc.html)

## **I. Statewide Application of Wisconsin's Quality Assurance/Quality Control Program for Environmental Data Collection**

The following is a summary of typical USEPA quality assurance program elements and the corresponding DNR guidance documents for defining and implementing those elements in accordance with NR 700.

## A. Data Generation and Acquisition

### Sampling Process Design

NR 140	Groundwater quality
NR 635	Groundwater and leachate monitoring standards and corrective action requirements
NR 710	Site discovery, screening and ranking
NR 712	Personnel qualifications for conducting environmental response actions
NR 716.13	Sampling and analysis requirements
NR 724	Remedial & interim action design, implementation, operation, maintenance and monitoring requirements
NR 726	Case closure

## B. Guidance Documents

### Groundwater

- **Groundwater Sampling Desk Reference**  
Guidance on determining data objectives, developing and following site-specific sampling plans, making thorough pre-sampling preparations, conducting purging and sampling consistently, and documenting the entire sampling event.  
09/01/1996 [DG037a.pdf](#) , [DG037b.pdf](#)
- **A Fact Sheet of Frequently Asked Questions about Temporary Monitoring Wells for RR Program Sites**  
Frequently asked questions about regulations and technical considerations for temporary wells under NR 141, WI Adm. Code  
August 2012 [RR647.pdf](#)
- **Guidance for Design, Installation and Operation of Groundwater Extraction and Product Recovery Systems**  
Technical guidance for groundwater and free-product recovery systems intended for consultants and DNR staff.  
11/19/2003 [RR183.pdf](#)
- **Understanding Chlorinated Hydrocarbon Behavior in Groundwater: Investigation Assessment and Limitations of Monitored Natural Attenuation**  
This document provides guidance on characterizing and monitoring sites where monitored natural attenuation of chlorinated hydrocarbons is being considered as part of a clean up remedy.  
04/23/2003 [RR699.pdf](#)

### Soils

- **Application of Soil Performance Standard Guidance**  
This guidance answers the question: What is the level of soil contamination that is required

to be addressed, and hence, could be addressed through the use of a soil performance standard at closure?

April 2013 [RR528.pdf](#)

- **Commonly Asked Questions about Lead (Pb) Soil Standards in Wisconsin**  
This guidance provides answers to the common questions that DNR staff and consultants have raised about the lead (Pb) direct-contact residual contaminant levels in Table 2 of NR 720, Wis. Adm. Code. Examples are given to show general NR 720 precepts on determining direct-contact site-specific RCLs when Pb is present at a site.  
05/1/2001 [RR653.pdf](#)
- **Determining Residual Contaminant Levels Using The EPA Soil Screening Level Web Site**  
This guidance describes how to use the EPA web site on soil screening levels to determine generic residual contaminant levels that are in accord with NR 720, Wis. Adm. Code  
3/27/2013 [RR890.pdf](#)
- **Guidance for Determining Soil Contaminant Background Levels at Remediation Sites**  
Technical guidance on how to determine background soil contaminant levels at sites undergoing remediation through the NR700 process.  
12/14/2005 [RR721.pdf](#)
- **Guidance on Soil Performance Standards**  
Soil performance standards offer an alternative to numerical soil standards for closing out contaminated soil sites. They may not be used as an alternative to meeting groundwater standards. Revised and Updated to account for rule changes and Publication RR-709.  
April 2013 [RR528.pdf](#)
- **Guidance on the Use of Leaching Tests for Unsaturated Contaminated Soils to Determine Groundwater Contamination Potential (New Addendum - 10/7/03)**  
For use in assessing the potential for contaminated soil to contaminate groundwater in excess of ch. NR 140 standards; not intended for leaching tests to determine waste characteristics or leachability of wastes that have been stabilized. Addendum: Adds examples to illustrate how SPLP data should be interpreted and analyzed to determine SSRCL protective of groundwater. The empirical basis, use of statistics and their limitations are included in this Addendum.  
10/07/2003 [RR523.pdf](#)
- **Smear Zone Contamination**  
This fact sheet provides guidance on how the smear zone is evaluated to help determine whether a site is placed on the GIS Registry for soils exceeding generic or site-specific RCL's.  
August 2012 [RR712.pdf](#)
- **Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance**  
Provides suggested generic soil cleanup levels for PAHs based on protection of

groundwater quality and protection of human health from direct contact with contaminated soil via ingestion or inhalation.

April 1997 (corrected) [RR519.pdf](#)

### Sampling Methods

NR 141	Groundwater monitoring well requirements
NR 716.13	Sampling and analysis requirements
NR 347	Sediment sampling and analysis, monitoring protocol and disposal criteria for dredging projects
NR 507	Environmental monitoring for landfills and groundwater

- EPA publication SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*
- **Groundwater Sampling Desk Reference**  
Guidance on determining data objectives, developing and following site-specific sampling plans, making thorough pre-sampling preparations, conducting purging and sampling consistently, and documenting the entire sampling event.  
09/01/1996 [DG037a.pdf](#) , [DG037b.pdf](#)
- **Groundwater Sampling Field Manual**  
Procedures for collecting groundwater samples.  
Publication [PUB-DG-03896](#), September, 1996
- **Modified GRO Method for Determining Gasoline Range Organics [includes DRO Method, PUBL-SW-141]**  
Comprehensive field and laboratory procedures for the collection and analysis of soil and groundwater samples according to the Wisconsin DNR Modified GRO and DRO Methods.  
September 1995 [dnr.wi.gov/regulations/labcert/documents/methods/grosep95.pdf](http://dnr.wi.gov/regulations/labcert/documents/methods/grosep95.pdf)

### Sample Handling

NR 700.13	Sample preservation and analysis
NR 712.05	Sampling and field work requirements

### Analytical Methods, Quality Control, Laboratory Certification Program (Instrument Calibration and Frequency), and Data Validation and Usability

NR 148	Data collection and reporting requirements of chemical analysis
NR 149	Laboratory certification and registration
NR 347	Sediment sampling and analysis, monitoring protocol and disposal criteria for dredging projects
NR 716.13	Sampling and analysis requirements

- EPA publication SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*

The following excerpt from the DNR website at:

[dnr.wi.gov/regulations/labcert/documents/info\\_progsum.pdf](http://dnr.wi.gov/regulations/labcert/documents/info_progsum.pdf) describes DNR's Laboratory Certification Program. Additional information on Lab Certification is available at [dnr.wi.gov/regulations/labcert/](http://dnr.wi.gov/regulations/labcert/)

[The program] was created in 1986 to help insure that laboratories submit reliable and consistent data to the Department's various environmental programs. The program currently offers certifications and registrations designed to accommodate the needs of many DNR programs including testing under the Clean Water Act, Resource Conservation and Recovery Act and the Safe Drinking Water Act. The program is unique because it offers two levels of accreditation; certification for large, commercial laboratories or registration for smaller municipal or industrial laboratories required to perform compliance monitoring by their permit.

The program has grown significantly since its inception and currently certifies or registers about 440 laboratories in 19 states. It is one of the most sought after certifications in the nation.

- **Modified GRO Method for Determining Gasoline Range Organics [includes DRO Method, PUBL-SW-141]**  
Comprehensive field and laboratory procedures for the collection and analysis of soil and groundwater samples according to the Wisconsin DNR Modified GRO and DRO Methods. September 1995 [dnr.wi.gov/regulations/labcert/documents/methods/grosep95.pdf](http://dnr.wi.gov/regulations/labcert/documents/methods/grosep95.pdf)

## **C. Assessment and Oversight and Data Validation and Usability**

### Assessment, Response Actions, Data Validation and Usability

NR 157	Management of PCBs and products containing PCBs
NR 605, 610 & 615	Identification and listing of hazardous waste
NR 700	General requirements
NR 706	Hazardous substance discharge notification and source confirmation requirements
NR 708	Immediate and interim actions
NR 710	Site discovery, screening and ranking
NR 720	Soil cleanup standards
NR 722	Standards for selecting remedial actions
NR 734	Selecting and contracting environmental consulting services
NR 736	Advertising, bidding & award of environmental construction contracts
NR 809	Safe drinking water

### Petroleum Contamination

- **Guidance On Natural Attenuation For Petroleum Releases**  
Technical guidance on site investigation needs, data analysis, and monitoring for natural attenuation at petroleum release sites as well as Wisconsin regulatory requirements for site closure when using natural attenuation as a remedy.  
for RR614.pdf et.al. go to the following link and choose keyword “**natural attenuation**”  
[prodoasext.dnr.wi.gov/inter1/sp\\_rr\\_doc\\_keyword?i\\_prog=RRPUB](http://prodoasext.dnr.wi.gov/inter1/sp_rr_doc_keyword?i_prog=RRPUB)

Keep in mind the DRO/GRO guidance is not at this site, but available as indicated on previous page.

- **Contents of Site Investigation Reports for Petroleum Contaminated Sites**  
Checklist Summary of NR 716 and NR 746 Requirements for Petroleum Sites  
10/22/2001 [RR628.pdf](#)
- **Naturally Occurring Biodegradation as a Remedial Action Option for Soil Contamination Interim Guidance (Disclaimers Updated Sep. 2004)**  
Technical guidance for evaluating petroleum contamination sites for their suitability for remediation through natural biodegradation intended for use by consultants and DNR staff at contamination sites.  
09/15/2004 [RR515.pdf](#)

## **II. US EPA Region V Memorandum of Agreement for Wisconsin's Brownfields Properties and Voluntary Cleanups**

Region V and Wisconsin DNR have agreed to operating principles that are designed to maximize program resources by designating DNR as the lead agency for voluntary cleanups in order to eliminate duplication of efforts. The agreement covers Superfund jurisdiction and liability for contamination sites that undergo cleanups under the state's voluntary cleanup program. A copy is included as an attachment. The MOA contains the following language on pp. 2-3:

### V. Implementation

Region V and DNR agree that this SMOA shall serve as EPA's written public statement that it will not initiate federal action, unless exceptional circumstances exist, at properties that have been or are being: (1) responded to in accordance with the NR 700 rule series; and/or (2) designated by EPA as a No Further Action Planned (NFRAP) site and removed from CERCLIS. Further, it is not Region V's intention to enter into site-specific agreements with prospective purchasers at these types of properties; the SMOA between Region V and the DNR will suffice as the necessary written public statement.

Region V and DNR agree to follow the "Guidance on Agreements with Prospective Purchasers of Contaminated Property" (May 24, 1995, OSWER Directive #9835.9) to determine whether or not site specific, written agreements will be entered into with prospective purchasers for properties listed or proposed for listing on the National Priorities List, or properties where EPA has undertaken, is undertaking, or plans to conduct a response action. Region V will continue to work with the DNR to remove any concerns about federal activity under Superfund to encourage the financing, transfer and appropriate redevelopment and use of Brownfields properties.

The DNR's interpretation of the MOA is that EPA Region V supports and encourages the use of the DNR's regulations and program as an equivalent substitute for the EPA requirements.

## **III. Conclusion and Implementation of QA/QC Program**

The Department of Natural Resources shall require environmental data generation activities and the closure report for the **Name of Project** to comply with the DNR guidance documents and data quality objectives applicable to the project tasks. At the conclusion of site remediation, the **owner of the property** will be seeking **insert the desired outcome: closure/Certificate of Completion/etc.** demonstrating that the site was successfully cleaned up in accordance with DNR standards for

describe the intended use (residential, industrial, etc.). This approval will serve as DNR verification that the environmental data generated in support of response activities and remediation verification complied with DNR's QA/QC requirements.

Any reports that document data generation activities shall include the appropriate references to DNR QA/QC guidance documents and operational memoranda. All reports will be placed in the Administrative Record for the site and copies will be sent to U.S. EPA for placement in the Cooperative Agreement file.

An electronic copy is available at: [dnr.wi.gov/files/PDF/pubs/rr/RR541.pdf](http://dnr.wi.gov/files/PDF/pubs/rr/RR541.pdf)

**BROWNFIELDS MEMORANDUM OF AGREEMENT  
BETWEEN THE  
WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
AND THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION V  
CONCERNING BROWNFIELDS PROPERTIES  
AND VOLUNTARY CLEAN UPS**

**I. Background.**

The Wisconsin Department of Natural Resources (DNR) and the United States Environmental Protection Agency (EPA), Region V, believe that our agencies play a critical role in Wisconsin's land use policies. In particular, both agencies agree that the cleanup and redevelopment of Brownfields properties - contaminated properties that have development potential or interest, but which are not significant environmental or public health priorities - are critical to ensuring proper land use. By focusing a share of our resources on these properties, both Region V and DNR hope to minimize the development of green space and promote the cleanup and redevelopment of Brownfield properties. Our agencies' overall goal of this Brownfields initiative is to protect public health and the environment of those communities, as well as providing the opportunity for an economic benefit to those communities.

**II. Purpose.**

To achieve these goals, DNR and Region V believe that it is necessary to clarify the roles and responsibilities of our respective agencies in implementing a Brownfields initiative in Wisconsin, so as not to duplicate our resources or authorities.

**III. Program Adequacy.**

Region V and DNR have agreed to a set of "Brownfields operating principles," which both agencies believe will facilitate achieving our goal of Brownfields redevelopment. These operating principles, listed in section IV, are designed to maximize our respective program resources by clearly designating the DNR as the lead agency for voluntary cleanups, which includes cleanups of Brownfields sites. Region V enters into this SMOA due to Region V's belief in the adequacy of DNR's remediation programs, particularly due to:

- EPA's long-term, positive working relationship with the DNR remediation programs and the recognition of its further efforts to integrate its remediation programs into one administrative unit, so as to eliminate duplicative efforts and maximize resources.
- DNR's continued advancement of its technical, policy and legal capabilities since the inception of the Hazardous Substance Discharge Law (i.e., Spill law) in 1978 and the Environmental Repair Law in 1984.
- DNR's comprehensive procedural and environmental standards that apply across the state's environmental programs (e.g., Superfund, LUST, Spills, Environmental Repair, Hazardous and Solid Waste). In particular, the comprehensive NR 700 rule series on environmental response actions is one of the first state rules in the nation to include numeric soil cleanup standards, as

well as procedures for taking a site from site discovery through close out. In addition, the state's Groundwater Law, ch. 160, Stats., establishes numeric groundwater standards, which broadly apply to groundwater contamination problems throughout the state.

- DNR, with permission and oversight by Region V, has implemented the Superfund site assessment program, with little or no contractor assistance for the last 5 years. This program has developed the technical expertise in the area of site assessments: phase I assessments, phase II assessments, and no-further-action-planned reports.
- Wisconsin has a new Brownfields law, entitled the Land Recycling law, which includes a number of legal and programmatic initiatives to address the state's Brownfields problems. This law includes provisions covering municipal grants, lender liability, municipal cost recovery, superior liens, municipal liability exemption and a purchaser liability exemption available upon completion of a cleanup.
- Together the above allows for response actions that are protective of human health and the environment and provides adequate opportunities for public involvement and ensures appropriate oversight and technical assistance.

#### **IV. Operating Principles.**

Region V and DNR agree that unless exceptional circumstances exist - that is, the site poses an imminent threat to public health or the environment or in an emergency situation - Region V will not plan and does not anticipate any federal action under the Superfund law in the following situations:

- When an environmental assessment, a site investigation or both are conducted in accordance with DNR guidance and the NR 700 rule series, and the DNR issues a no action letter.
- When an investigation is conducted in accordance with DNR guidance and the NR 700 rule series, and the DNR issues an off-site source letter.
- When a property in Wisconsin has been investigated and remediated in accordance with the NR 700 rule series.
- When a property has been investigated and cleaned up in accordance with the NR 700 rule series and has received a certificate of completion (per s. 144.765, Stats.).

These operating principles do not apply to sites which have been listed on the National Priorities List or sites subject to an order or other enforcement action under Superfund law or sites imminently threatening public health or the environment.

In all cases, the Region V decision will be based strictly on the information available at the time of the DNR determination.

#### **V. Implementation**

Region V and DNR agree that this SMOA shall serve as EPA's written public statement that it will not initiate federal action, unless exceptional circumstances exist, at properties that have been or are being: (1) responded to in accordance with the NR 700 rule series; and/or (2) designated by EPA as a No Further Action Planned (NFRAP) site and removed from CERCLIS. Further, it is not Region V's intention to enter into site-specific agreements with prospective purchasers at these types of properties; the SMOA between Region V and the DNR will suffice as the necessary written public statement. Region V and DNR agree to follow the "Guidance on Agreements with Prospective Purchasers of Contaminated Property" (May 24, 1995, OSWER Directive #9835.9) to determine whether or not sitespecific,

written agreements will be entered into with prospective purchasers for properties listed or proposed for listing on the National Priorities List, or properties where EPA has undertaken, is undertaking, or plans to conduct a response action.

Region V will continue to work with the DNR to remove any concerns about federal activity under Superfund to encourage the financing, transfer and appropriate redevelopment and use of Brownfields properties. At the request of the DNR, Region V will provide technical assistance and, at its discretion, financial support to local and state governmental agencies to support Brownfields initiatives in Wisconsin.

#### **V. Reporting.**

On an annual basis, the DNR will report to Region V the following information:

- Number of properties in the Land Recycling program.
- Number of properties entering the program the previous year.
- Number of properties receiving approvals from the DNR, classified by type of approval.

#### **VI. Signatures.**

This SMOA has been developed by mutual cooperation and consent, and hereby becomes an integral part of EPA's and DNR's working relationship.

For the Wisconsin Department of Natural Resources  
Signed by Secretary George Meyer on October 17, 1995.  
George E. Meyer, Secretary Date

For the U.S. Environmental Protection Agency  
Signed by Regional Administrator Valdas Adamkus on October 27, 1995.  
Valdas V. Adamkus, Regional Administrator Date  
U.S. EPA, Region V