



QUALITY ASSURANCE/QUALITY CONTROL PLAN FOR ENVIRONMENTAL DATA COLLECTION

Demonstrating CERCLA Equivalency of the Michigan Environmental Remediation and Asbestos Management Programs

USEPA Brownfields Revolving Loan Fund Grant Program Cooperative Agreement: BF-00E00383-0 Michigan Land Bank Fast Track Authority

1.0 INTRODUCTION

SME, in support of the Michigan Landbank Fast Track Authority (the MLBFTA), prepared this Quality Assurance Plan (QAP) to document the quality assurance/quality control (QA/QC) program for collection and use of environmental data during planned, non-time-critical, removal actions (environmental response actions) funded by the MLBFTA's U.S. Environmental Protection Agency (USEPA) Brownfields Revolving Loan Fund (RLF) Grant. This QAP demonstrates that data collected under the Michigan Department of Environmental Quality's (MDEQ) voluntary cleanup program and the Michigan Department of Energy, Labor & Economic Growth's (MDELEG) Asbestos Program will satisfy the QA/QC requirements of CERCLA and be of equivalent quality. This document serves as an "equivalent substitute" for a USEPA-approved Quality Assurance Project Plan for environmental response actions funded by loans or subgrants from the MLBFTA's RLF Grant.

The MLBFTA anticipates that generation of environmental data will occur through collection and analyses of samples from soil, sediment, groundwater, soil gas, ambient air, concrete and other building materials. A site-specific, QAP supplement will be prepared if environmental data will be collected from media or by procedures not addressed in this QAP.

The project QA/QC program for environmental sampling of soil, groundwater, soil gas, ambient air and other target media will follow the requirements and protocols established by the MDEQ pursuant to Part 201 of the Michigan Natural Resources and Environmental Protection Act, as amended (Part 201). Part 201 defines the environmental remediation program for sites impacted with contaminated soil, sediment, groundwater, soil gas, and other environmental media within the State of Michigan. The project QA/QC program for asbestos sampling and analyses will follow the requirements and protocols established by American Society for Testing and Materials (ASTM), the Asbestos Hazard Emergency Response Act/Asbestos School Hazard Abatement Reauthorization Act (ASHERA/ASHARA, 40 CFR 763), and the Occupational Safety and Health Administration (OSHA)'s asbestos regulations and enforced by MDELEG.

The QA/QC requirements of Part 201 and MDELEG's Asbestos Program satisfy the data quality objectives (DQOs) required by the USEPA for response actions funded wholly or in part by RLF funds. DQOs required by the USEPA for brownfields sites are outlined in the Cooperative



Agreements (CA) between the USEPA and the MLBFTA. The equivalency of Part 201 QA/QC program and MDELEG's Asbestos Program requirements and documentation are discussed in further detail below.

2.0 APPLICATION OF THE QUALITY ASSURANCE REQUIREMENTS OF MICHIGAN'S ENVIRONMENTAL AND ASBESTOS CLEANUP PROGRAM S

2.1 Soil and Groundwater

The MDEQ has published guidance documents and operational memoranda that define QA/QC practices, policies, procedures, specifications, and standards required to produce environmental data of sufficient quality to meet Part 201 program objectives. The collective Part 201 QA/QC program complies with 40 CFR 31.45 requirements for practices to produce data adequate to meet project objectives and to minimize data loss and are consistent with the requirements of USEPA Order 5360.1, April 1984, as amended. The following is a summary of typical USEPA quality assurance program elements and the corresponding MDEQ guidance documents for defining and implementing those elements within the Part 201 program:

Data Generation and Acquisition

Sampling Process Design

- MDEQ Sampling Strategies and Statistics Training Materials, 2002.
- MDEQ Procedure for Collection and Methanol Preservation of Soil Samples for Volatile Organics.
- MDEQ Guidance - Groundwater Monitoring.
- MDEQ Guidance - Monitoring Well Installation.
- MDEQ Guidance - Summary of Aquifer Analysis Methods.
- MDEQ Guidance for the Vapor Intrusion Pathway

Sampling Methods

- MDEQ RRD Operational Memorandum No. 2 - Sampling and Analysis Guidance, October 22, 2004 - Attachment 5 - Collection of Samples for Comparison to Generic Criteria.
- MDEQ RRD Operational Memorandum No. 2 - Sampling and Analysis Guidance, October 22, 2004 - Attachment 6 - Sampling Methods for Volatile Organic Compounds.
- MDEQ RRD Operational Memorandum No. 2 - Sampling and Analysis Guidance, October 22, 2004 - Attachment 7 - Low Level Mercury Sampling Specifications.
- MDEQ RRD Guidance Document for the Vapor Intrusion Pathway, May 2013.

Sample Handling

- MDEQ RRD Operational Memorandum No. 2 - Sampling and Analysis Guidance, October 22, 2004 - Attachment 4 - Sampling Preservation, Sample Handling, and Sample Holding Time Specifications.
- MDEQ RRD Guidance Document for the Vapor Intrusion Pathway, May 2013.

Analytical Methods

- MDEQ RRD Operational Memorandum No. 2 - Sampling and Analysis Guidance, October 22, 2004 - Attachment 1 - Targeting Detections Limits and Designated Analytical Methods.
- MDEQ RRD Guidance Document for the Vapor Intrusion Pathway, May 2013.

Quality Control

- MDEQ ERD Operational Memorandum No. 13 - Data Quality Objectives.
- MDEQ RRD Guidance Document for the Vapor Intrusion Pathway, May 2013.

Instrument Calibration and Frequency

- MDEQ ERD Operational Memorandum No. 13 - Data Quality Objectives.
- MDEQ RRD Guidance Document for the Vapor Intrusion Pathway, May 2013.

Assessment and Oversight

Assessment and Response Actions

- MDEQ RRD Operational Memorandum No. 2 - Sampling and Analysis Guidance, October 22, 2004 - Attachment 8 - Assessments for Sites Contaminated with Petroleum Products.
- MDEQ RRD Operational Memorandum No. 4 - Site Characterization and Remediation Verifications, under development.
- MDEQ ERD Operational Memorandum No. 5 - Environmental Assessments and Audits, September 29, 1991.
- MDEQ RRD Guidance Document for the Vapor Intrusion Pathway, May 2013.

Data Validation and Usability

Data Review, Verification, and Validation

- MDEQ ERD Operational Memorandum No. 13 - Data Quality Objectives.
- MDEQ RRD Guidance Document for the Vapor Intrusion Pathway, May 2013.

Environmental analysis data will be collected and used to perform limited assessments, verify the locations and extents of areas of contamination (“hot spots”) subject to response actions, and verify remediation of contaminated media to applicable and relevant cleanup criteria defined in



rules promulgated pursuant to Part 201. Samples will be collected, preserved and analyzed, and resulting data will be evaluated and validated, in accordance with the DQO-appropriate methods and procedures specified in MDEQ guidance (see above) applicable to the project.

2.2 Asbestos-Containing Materials

Sampling and analyses of asbestos-containing materials (ACM) will be performed in accordance with the MDELEG's Asbestos Program. That program is responsible for enforcement of the Asbestos Abatement Contractors Licensing Act (Michigan Public Act 135 of 1986, as amended), the Asbestos Workers Accreditation Act (Michigan Public Act 440 of 1988, as amended), and for meeting the state of Michigan's mandated responsibilities under the USEPA's AHERA regulation. The program also enforces asbestos issues related to the Michigan Occupational Safety and Health Act (MIOSHA; Michigan Public Act 154 of 1974, as amended).

The MDELEG has published guidance documents and requirements that define QA/QC practices, policies, procedures, specifications, and standards required to produce data of sufficient quality to meet the Asbestos Program objectives. These measures generally reference the USEPA's AHERA protocols. The collective Asbestos Program complies with 40 CFR 31.45 requirements for practices to produce data adequate to meet project objectives and to minimize data loss and are consistent with the requirements of USEPA Order 5360.1, April 1984, as amended. Environmental data during an ACM abatement project will be generated by one of the following two types of sampling: 1) bulk sampling of suspect ACMs or 2) air sampling associated with ACM abatement activities. The environmental data generated by these two sampling types is summarized below.

Bulk Sampling of Suspect ACMs

Bulk sampling will be performed when suspect ACMs are encountered during abatement and no previous analytical data exists for that material. Samples will be collected, analyzed, and interpreted in accordance with the USEPA's AHERA assessment protocols. ACM bulk samples will be analyzed by a laboratory accredited by the National Institute of Standards and Technology (NIST) under the requirements of the National Voluntary Laboratory Accreditation Program (NVLAP), for analysis using Polarized Light Microscopy (PLM). PLM is an USEPA-approved method for visual identification of bulk materials that contain one percent (1%) or more asbestos. The asbestos content of samples found to contain less than ten percent (10%) asbestos using the PLM method will be verified via the Point Count Method as defined in the AHERA regulations.

Air Sampling for ACM Abatement Activities

The following air samples are typically collected to evaluate the effectiveness of ACM abatement activities at a project site: pre-abatement (baseline), background, work area, perimeter, and post-abatement (clearance). These samples will be collected in accordance with USEPA's AHERA protocol and the National Institute for Occupational Safety and Health (NIOSH) 582 *Sampling and Evaluating Airborne Asbestos Dust* course criteria. The air samples will be analyzed by one or both of the following two methods:

- on-site by a person trained in accordance with the NIOSH 582 *Sampling and Evaluating Airborne Asbestos Dust* course and accredited by the MDELEG Asbestos Program using the NIOSH 7400 Phase-Contrast Microscopy (PCM) method, or
- by a laboratory accredited by the NIST under the requirements of the NVLAP for asbestos fiber analysis via Transmission Electron Microscopy (TEM) following the USEPA AHERA TEM method or USEPA Level II TEM protocol.

The levels for acceptable air clearance sampling will be those established under the AHERA regulation. The clearance level is less than or equal to (\leq) 0.01 fibers per cubic centimeter (f/cc) of air for analysis by the PCM method or 70.0 structures per square millimeter of filter area (s/mm²) for analysis by the TEM method.

3.0 USEPA MEMORANDUM OF AGREEMENT FOR MICHIGAN'S CLEANUP PROGRAM UNDER PART 201

The relationship between the USEPA Brownfields RLF Program and the MDEQ Part 201 cleanup program is outlined in a USEPA Superfund Memorandum of Agreement (SMOA) with the State of Michigan. Applicable addenda to the SMOA are appended to this document.

On July 10, 1996, the USEPA and MDEQ entered into the *Addendum 1: Brownfields Redevelopment* of the SMOA. Addendum 1 provides that the USEPA "...will not plan or anticipate any federal action against a covered party (owner, operator, generator, or transporter) under the Superfund law when one or more of the following conditions is satisfied: (1) The covered party is a new owner/operator who discloses a Baseline Environmental Assessment (BEA) to the MDEQ and is not otherwise liable for environmental contamination existing on the site. A BEA does not relieve the covered party from its due care obligations under federal and state law, or (2) the covered party conducts its activities on the property consistent with an MDEQ-approved Remedial Action Plan (RAP) for closure." The decision to not take federal action applied to past and future MDEQ determinations. The MLBFTA's interpretation of this SMOA is that the USEPA supports and encourages use of the Part 201 regulations and program as an equivalent substitute for the USEPA requirements for CERCLA.

4.0 STATE OF MICHIGAN INVOLVEMENT

The MLBFTA will ensure the State of Michigan's involvement in each brownfield response action funded by the RLF Grant. The State of Michigan's role will be to ensure environmental response actions conducted at the site are not inconsistent with the state's voluntary cleanup and asbestos management programs.

The State of Michigan's role in environmental response actions will be directed by the MDEQ Remediation and Redevelopment Division (RRD). Descriptions of risk analyses and proposed cleanup criteria; proposed response actions; specific tasks; and proposed environmental

sampling, analyses, and QA/QC plans and protocols will be made available to the MDEQ prior to initiation of response actions. The purpose of the MDEQ involvement, at a minimum, will be to obtain MDEQ acknowledgement that the proposed environmental response actions are not inconsistent with a response action pursuant to Part 201. This information may be provided to the MDEQ for review and comment by one of the following mechanisms defined in Part 201: Remedial Action Plan (RAP), Response Activity Plan, Due Care Plan, or in some cases a less formal written summary. The mechanism for MDEQ involvement will be project specific.

The State of Michigan's role for the asbestos abatement activities will be directed by the MDELEG. In accordance with the MDELEG's Asbestos Program, a *Notification of Intent to Renovate/Demolish* form will be submitted to the MDELEG Asbestos Program 10 calendar days prior to starting ACM abatement and to the MDEQ Air Quality Division (AQD) 14 calendar days prior to starting the work. No further reporting is required by the MDELEG's Asbestos Program, but the asbestos abatement work will be performed by a licensed asbestos abatement contractor in accordance with the applicable rules and guidance of the MDELEG Asbestos Program.

5.0 CONCLUSION

The MLBFTA will require that environmental and asbestos data generation, QA/QC, and reporting activities funded with RLF Grant funds meet the DQOs applicable to the project tasks and comply with the applicable State of Michigan oversight program. A report documenting response actions and data evaluations will be prepared at the conclusion of RLF-funded activities. Reports that document data generation activities will include the appropriate references to Michigan QA/QC guidance documents and operational memoranda. The reports will be placed in the Administrative Record for the site, and copies will be sent to the USEPA for placement in the Cooperative Agreement file.

APPENDIX
SUPERFUND MEMORANDUM OF AGREEMENT

Addendum I: Brownfields Redevelopment

Addendum II: Site Assessments

SUPERFUND MEMORANDUM OF AGREEMENT ADDENDUM I
BROWNFIELDS REDEVELOPMENT

The redevelopment of contaminated, or potentially contaminated, properties (often referred to as "brownfields") provides significant benefits to the protection of human health and safety, the environment and the economy of local communities. To the extent possible, the U.S. Environmental Protection Agency, Region V (Region V) and the Michigan Department of Environmental Quality (MDEQ) agree to mutually exercise their authorities to facilitate the productive redevelopment of brownfields in Michigan. Specifically, the MDEQ agrees to continue to support efforts to promote and implement Region V's brownfields initiatives, whereas Region V agrees to support the MDEQ in the development and implementation of its newly amended cleanup program (Part 201 of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, MCL 324.20101 et seq., as follows:

With respect to properties in Michigan which are sites that are not proposed or listed on the National Priorities List (NPL) and are not subject to an order or other enforcement action under Superfund law or do not pose an imminent and substantial endangerment to public health or welfare or the environment or an emergency situation, Region V will not plan or anticipate any federal action against a covered party (owner, operator, generator or transporter) under Superfund law when one or more of the following conditions are satisfied:

- I. The covered party is a new owner/operator who discloses a Baseline Environmental Assessment (BEA) to the MDEQ and is not otherwise liable for environmental contamination existing on the site. A BEA does not relieve the covered party from its due care obligations under federal and state law.
- II. The covered party conducts its activities on the property consistent with an MDEQ-approved remedial action plan (RAP) for closure.
- III. The covered party conducts its activities on the property consistent with a written settlement agreement between the covered party and the Department of Attorney General acting on behalf of the MDEQ and/or the State of Michigan.
- IV. The covered party is an owner or operator of property (site) which is removed from the Michigan Sites of Environmental Contamination list after MDEQ review of the cleanup actions that have been completed.

Region V and MDEQ acknowledge that the foregoing provisions (I-IV) of Michigan's Part 201 cleanup program provide for: response actions that are

protective of human health and safety, opportunity for public involvement, and appropriate oversight and technical assistance.

With respect to properties which are sites proposed or listed on the NPL, subject to an order or an enforcement action under Superfund law or that pose an imminent and substantial endangerment to public health or welfare or the environment or an emergency situation, Region V and the MDEQ will continue to work cooperatively to resolve the concerns of covered parties regarding federal activity under Superfund. Such efforts may include the execution of multi-party agreements with the covered party, consistent with Region V and the MDEQ policies. When considering site specific agreements, Region V will follow the "Guidelines on Agreement with Prospective Purchasers of Contaminated Property" (9835.9).

At sites where both Region V and MDEQ have conducted response activities in furtherance of revitalization, the agencies will attempt to coordinate enforcement actions with respect to the responsible party. In the event Region V and MDEQ have determined that EPA involvement is no longer essential, the MDEQ will have lead responsibility for future response activities and enforcement actions. Region V and MDEQ agree that each agency will have lead responsibility in the recovery of their respective enforcement and response activity costs.

Notwithstanding the above, if under exceptional circumstances, conditions at the property are such that the site poses an imminent and substantial endangerment to public health or welfare or an emergency situation, or in the event the covered party fails to substantially comply or conduct its activities consistent with provisions I-IV above, Region V may, at its discretion or upon referral from the MDEQ, pursue federal action. Region V will consult with the MDEQ and give the MDEQ an opportunity to correct such non-compliance with provisions I-IV, prior to making a determination that federal response action is necessary at any state enforcement lead site. The Region V decision not to take federal action unless the site poses an imminent and substantial endangerment to public health or welfare or emergency situation will apply to both past and future state settlement agreements and enforcement actions.

Region V will continue to provide technical assistance and, at its discretion, financial support to local and state governmental agencies in order to facilitate the redevelopment of contaminated or potentially contaminated properties in Michigan and engender the environmental and social benefits which accompany the revitalization of brownfields.

This Memorandum of Understanding has been developed by mutual cooperation and consent, and hereby becomes an integral part of the working relationship between the EPA and MDEQ.

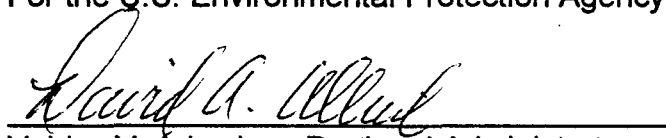
For the Michigan Department of Environmental Quality



Russell J. Harding, Director
Michigan Department of Environmental Quality

6/19/96
Date

For the U.S. Environmental Protection Agency, Region V



Valdas V. Adamkus, Regional Administrator
U.S. Environmental Protection Agency

7/10/96
Date

Al Howard
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SUPERFUND MEMORANDUM OF AGREEMENT ADDENDUM II
BETWEEN THE
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AND THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION 5

I. PURPOSE

The Michigan Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency, Region 5 (Region 5) have entered a Superfund Memorandum of Agreement (SMOA). Among other things, the SMOA establishes operating procedures for general coordination and communication between the MDEQ and Region 5 regarding the Superfund program. Pursuant to Part II.A. of the SMOA, the MDEQ has been designated lead agency for remedial activities at selected sites in the state of Michigan. The purpose of this addendum is to further define the roles and responsibilities of Region 5 and the MDEQ with respect to activities conducted at state enforcement lead sites.

II. BACKGROUND

The MDEQ and Region 5 recognize the importance of facilitating the cleanup of sites by Potentially Responsible Parties (PRPs). Both agencies agree that it is in the best interest of the environment and the Superfund program to exercise their authorities and use their resources in mutually complementary ways and to minimize the duplication of effort, especially in the area of remedial enforcement.

The MDEQ has long been involved in remedial enforcement activities at federal Superfund sites, as co-signatories with Region 5 on various consent decrees and through management assistance grants. In addition, using enforcement authority pursuant to Part 201 of the Natural Resources and Environmental Protection Act, 1994 PA 451 (formerly known as the Michigan Environmental Response Act), the MDEQ has entered into enforceable agreements with PRPs that require the PRPs to perform investigations and/or cleanups at sites of environmental contamination. Based on both of the above factors, the MDEQ has been designated as the lead agency at selected sites in the state of Michigan appearing on the National Priorities List (NPL). These sites are designated as state enforcement lead sites.

Region 5 recognizes that the MDEQ has implemented this law (Part 201), and has the ability to select and implement cleanups that are protective of human health and the environment.

III. PRINCIPLES

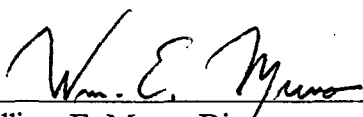
For those state enforcement lead sites in Michigan that have been investigated and/or remediated in compliance with Part 201 and for which the MDEQ has approved a Remedial Action Plan

(RAP), Region 5 will not plan or anticipate any federal response action under the Comprehensive Environmental Response, Compensation and Liability Act unless, in exceptional circumstances, conditions at the property are such that the site may pose an imminent and substantial endangerment to public health or welfare or the environment or an emergency situation. Region 5 will consult with the MDEQ, and give the MDEQ an opportunity to correct such non-compliance with the approved RAP, prior to making a determination that federal response action is necessary at any state enforcement lead site. The Region 5 decision not to take federal response action unless the site poses an imminent and substantial endangerment or emergency will apply to both current and future state enforcement lead investigations and cleanups.

When a state enforcement lead site has been remediated in compliance with Part 201 pursuant to a RAP approved by the MDEQ, MDEQ will request via letter to EPA that deletion from the NPL be initiated. In making a determination to delete a release from the NPL, EPA shall consider, in consultation with the state, whether any of the criteria in 300.425 (e) (1) has been met. After making this determination, Region 5 will initiate the process required to delete the site from the NPL.

Region 5 will work with the MDEQ to remove any concerns about federal activity under Superfund so as to encourage the investigation and/or remediation of NPL sites in Michigan by PRPs in accordance with Part 201 and under the direction of the MDEQ.

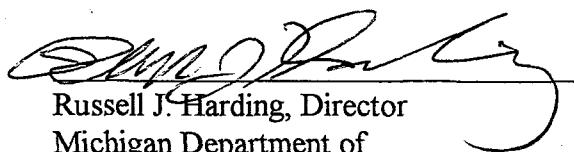
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



William E. Muno, Director
Superfund Division

Date 3/14/97

STATE OF MICHIGAN



Russell J. Harding, Director
Michigan Department of
Environmental Quality

Date 3/24/97