

**SITE SPECIFIC FIELD ACTIVITY PLAN  
for the  
REMEDIAL INVESTIGATION / FEASIBILITY STUDY  
at Monroe Electronics**

*Monroe Electronics  
100 Housel Avenue  
Lyndonville, New York  
(Site Code #837013)  
(WA # D006130-18)*

*April 2011*

Prepared for:

**New York State Department of Environmental Conservation**  
Division of Environmental Remediation  
625 Broadway  
Albany, New York 12233-7017

Prepared by:  
HRP Engineering P.C.  
1 Fairchild Square Suite 110  
Clifton Park, NY 12065

I, Jason Beach, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER 10).



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Jason A. Beach, CPG, LEP

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## **1.0 INTRODUCTION**

The goal of this New York State Department of Environmental Conservation (NYSDEC) Work Assignment (WA) is to conduct a REMEDIAL INVESTIGATION / FEASIBILITY STUDY (RI/FS) at the Monroe Electronics site located at 100 Housel Avenue Lyndonville, New York. The RI/FS scope of work of the RI/FS provided in Section 2.0 of this document was developed based on the previous implemented subsurface investigations completed at the property. The RI/FS Scope of work outlines necessary tasks that will be required to further conduct site assessment activities; to determine the extent that historic site activities have impacted soil, soil gas, and groundwater at the site; and to determine the extent, if any, of the remediation that would be required to address the impacted media.

### **1.1 PURPOSE AND OBJECTIVES**

The purpose of this Engineering Services Standby Contract WA is to conduct a RI/FS to characterize on-site media potentially impacted by historic activities. The purpose of this portion of the Engineering Services Standby Contract WA is to conduct a RI/FS to define the nature and extent of the suspected on-site source of groundwater contamination associated with the Monroe Electronics site. The primary objectives of the RI/FS's Scope of work are to:

- Obtain geologic and hydrogeologic data from the site. Verify previous data generated by other consultants. The specific information that should be verified includes: soil types (or fill), depth to groundwater, groundwater flow direction, subsurface geology, bedrock characteristics, etc. Identify data gaps from existing data and proposed sampling locations.
- Identify possible source areas on-site by installing 25 passive soil vapor points, 30 direct push soil borings, and 10 shallow soil grab sample points. The sample locations will be advanced in areas where a release of contamination may have occurred.

- Explore the degree and extent of groundwater contamination in overburden and deeper horizons identified in previous on and offsite investigations. Five shallow groundwater monitoring wells will be installed to define the extent of the plume and confirm flow direction. Also, three of the shallow wells will be paired with deeper (bedrock) monitor wells to characterize potential impacts and confirm vertical flow direction gradients.
- Develop a Feasibility Study on the data generated from the Remedial Investigation and/or recommendations for a Phase II Remedial Investigation.

## **1.2 SITE DESCRIPTION AND BACKGROUND INFORMATION**

The area that is being investigated is located at Monroe Electronics, 100 Housel Avenue, Lyndonville, New York. This property is approximately 10.1 acres in size, according to the Orleans County Assessor's office. Currently occupied, the site building is utilized by Monroe Electronics, a manufacturer of electrostatic measuring equipment. The site is connected to the municipal water supply, as are all properties in the Village of Lyndonville. Adjacent properties include Nanko Foods and HH Dobbins (north), cemetery (east), a school athletic fields (south), and a farm/residence (west).

A REMEDIAL INVESTIGATION / FEASIBILITY STUDY is required to identify the likely source area(s) where releases at the Monroe Electronics site have resulted in groundwater contamination at levels exceeding the NYS Part 703 groundwater standards. In September of 1986, the company submitted a Hazardous Waste Disposal Questionnaire as a requirement of the Community Right to Know (CRTK) survey. In the CRTK survey, Monroe Electronics indicated that they dumped 1 to 4 tons of 1,1,1-trichloroethane (1,1,1-TCA) at the site. The dumping area and resulting contamination source is still uncertain, and may likely continue to migrate into the groundwater.

The REMEDIAL INVESTIGATION / FEASIBILITY STUDY will be investigating potential sources of chlorinated VOC contamination at the Monroe Electronics site. There are additional commercial and industrial businesses operations that may have also contributed to site contamination. Before Monroe Electronics operated at the site, the property was the site of the former DuPont/Barre plant. Potential pesticide and heavy metal residues

associated with the former site activities are possible in shallow site soils. However, previous site investigations performed in 1997 did not show consequential amounts of pesticide and/or arsenic on the subject site, so extensive investigations for these contaminants were not warranted. Therefore this REMEDIAL INVESTIGATION / FEASIBILITY STUDY is focused on the finding the source of chlorinated solvent (VOC) contamination at the site.

### **1.3 SITE HYDROGEOLOGY AND GEOLOGY**

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, soil underlying the site is classified into eight soil units on the east side of Route 9W. According to the soil survey, 72% of the site area is designated as Pittsfield gravelly loam (PtB, PtD), another 21% is indentified as Erie and Alden silt loam (ErA, Erb, Ab), and approximately 7% as Udorthents (UH). The majority of the loam slopes are 3 to 8 percent slopes and also 15 to 25 percent slopes. The depth to water ranges from 0 to greater than 6 feet below the ground surface. In addition, the depth to bedrock for these soil units is greater than 6 feet.

### **1.4 AREAS OF CONCERN**

According to previous environmental reports and limited available historic site records, the following areas of concern (AOC) were identified that will require further characterization. Additional AOCs may be identified during the course of implementing the RI/FS.

- Spent Solvent Disposal Area: As previously discussed, a CRTK survey completed by Monroe Electronics in September 1986 indicated that 1 to 4 tons of spent chlorinated solvent (i.e., 1,1,1-TCA) were dumped at the site. Previous investigations have confirmed that the property is a source of VOC contamination and on-site groundwater has been impacted by disposal, but the exact location of the solvent dumping area remains unknown.
- Potential Pesticide Application: The site was historically occupied by the former DuPont/Barre Lime & Sulfur Company, which manufactured various pesticide sprays and dust mixtures. Pesticide and heavy metal residues may be present in shallow soils at the site.

## **2.0 A RI/FS SCOPE OF WORK**

The purpose of the Monroe Electronics assignment (RI/FS WA) is to implement all the necessary tasks that will be required to complete RI/FS to determine if historic site activities have impacted soil, soil gas, and groundwater at the site. The scope of work of the RI/FS will be sufficient for the NYSDEC to determine if the conditions at the site are such that the site should become a listed inactive hazardous waste site.

The approach to the RI/FS WA for the Monroe Electronics Site is to further investigate the identified AOCs that are presented in Section 1.4. Provided below is a discussion of the RI/FS Scope of work to be performed for the RI/FS WA. The characterization will include a field activity plan development tasks, a RI/FS task and a report task.

### **2.1 FIELD ACTIVITY PLAN DEVELOPMENT – TASK 1**

As part of the scope of work, the following field activity plans will be prepared: A project specific Field Activity Plan, site specific Health and Safety Plan (HASP), and site-specific Quality Assurance Project Plan (QAPP). HRP's generic FAP, HASP, and QAPP are on file with the NYSDEC and have been approved. These field activity plans are described below.

#### **2.1.1 Field Activity Plan**

The RI/FS WA Field Activity Plan will be prepared for use in performing the Characterization. The field activity plan will identify the components of the Characterization and a description of the tasks to be performed. The tasks that are to be performed are outlined below, including the specific methods or procedures that will be used to conduct the field Characterization. The project RI/FS schedule will be included as part of this plan. A project budget has been approved by the NYSDEC. This budget provides details, on a task by task basis, of labor, expenses and subcontractor costs necessary to complete the project.

#### **2.1.2 Health and Safety Plan**

A site-specific Health and Safety Plan will be developed before the start of on-site work. The site specific HASP will provide guidance to maximize health and safety of on-site

workers during various SI tasks including soil and sediment sampling, installation of wells, surveying and other field related activities. The generic HASP has guidelines for health and safety supervision, air monitoring, medical monitoring, personal protective equipment, site controls, safe work practices and decontamination, etc.

### **2.1.3 Quality Assurance Project Plan**

A site-specific Quality Assurance Project Plan will be developed and approved by the NYSDEC prior to commencement of fieldwork. Deviations from the protocols specified in the QAPP will be subject to the NYSDEC approval.

All laboratory analytical work will be performed by a NYSDOH Environmental Laboratory Approval Program (ELAP) approved laboratory certified in all categories of Contract Laboratory Protocol (CLP) and Solid and Hazardous Waste analytical testing. A Data Usability Summary Report will be included in the RI/FS Report for each round of analytical work. Category B deliverables will be retained in the project files and available for full data validation by a qualified independent third party.

## **2.2 REMEDIAL INVESTIGATION / FEASIBILITY STUDY– TASK 2**

The Remedial Investigation/Feasibility Study (RI/FS) task will include the components described below and will consist of the subsurface/intrusive Characterization. The RI/FS will consist of sampling of the subsurface soil, soil gas, and groundwater. The RI/FS consists of several work elements and will be conducted over various areas on the site. The field investigation tasks for the Monroe Electronics site area are listed below in order for which they will be completed:

1. Base Map Development and Site Survey
2. Underground Utility Clearance
3. Passive Gas Sampling
4. Sub-Slab Soil Gas and Air Sampling
5. Subsurface Soil Sampling
6. Groundwater Characterization (well installation & sampling)
7. Analytical Data Quality Evaluation
8. Disposal of Derived Waste (task to commence after fieldwork in #4)

### **2.2.1 Base Map Development and Site Survey**

The subject property and surrounding areas will be surveyed by a New York State licensed land surveyor. The field survey will include establishing project horizontal control and the collection of plan metric features including the on-site building and, and when access to the interior of the building access is granted, the interior layout, and abutting buildings, for the development of 2D mapping. Interior building infrastructure, including obvious utilities and utilities conduits, floor drains, drain lines, and drop inlets will be identified and mapped as part of the survey once access to the interior of the building is obtained. Subsequently, a base map of the site will be developed using Computer Aided-Design (CAD) software that will be utilized to place all sampling locations from previous on-site and off-site investigations. The sample locations will be placed on the base map by georeferencing previous figures into the local CAD coordinate system, and will include all monitoring wells, geoprobe locations, borings, bedrock profile data, and soil gas points.

Upon completion of the investigation fieldwork, a survey will be conducted in order to properly locate all sampling points such as monitoring wells, soil borings, soil vapor intrusion samples, and any other sample locations. The elevations of all monitoring well casings will be established to within an accuracy of plus or minus 0.01 feet based on an arbitrary local vertical benchmark. A notch will be etched in all interior casings, or a permanent black mark, to provide a reference point for all future groundwater elevation measurements.

### **2.2.2 Underground Utility Clearance**

Prior to implementing any intrusive activities, a utility clearance will be conducted. The drilling contractor, or HRP, will request utility mark outs through NYS Code Rule 753/Dig Safe System. The dig safe system is limited to public right-of ways and will only identify utilities entering private property rather than utilities present on-site. If necessary, the upper five feet at all boring locations will be cleared of any underground utilities by non-mechanical means, such as a hand auger.

### **2.2.3 Passive Gas Sampling**

Passive soil gas samplers will be implemented in an attempt to delineate those areas of greatest contamination. A total of approximately 25 passive soil gas samplers will be completed and analyzed as part of the remedial investigation. The approximate location of the passive gas samplers is shown on figure 2. Dependent upon the results of the passive soil gas investigation, HRP may potentially modify the proposed sampling locations of soil borings, groundwater wells, and/or any potential indoor soil gas collection points based on the results of the passive soil gas investigation.

HRP has selected Vapor Trail Analytics, LLC to provide the passive soil gas samplers, which include single-tube axial passive sampler devices. Sampling for VOCs using these samplers will be performed per ASTM D6196-03, axial passive. The mode of sampling is rod-coupled within a 1' deep hammer-driven perforated pipe, or within pre-bored holes, and sampling duration is recommended at a minimum of two days. The results are reported as mass collected via modified USEPA Method TO-17. The Axial Passive Analyte List is included as Appendix A. The list includes all standard chlorinated hydrocarbon compounds associated with 1,1,1-TCA and its primary decomposition compounds, the presumed contaminants of concern at the site.

### **2.2.4 Sub-Slab Soil Gas and Air Sampling**

In an effort to assess gaseous vadose zone contamination, up to six (6) locations will be identified and sub-slab soil gas and air samples will be collected. Each soil gas sample will be completed and sampled in accordance with the New York State Department of Health's Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006. The locations of the sampling points will be determined in the field with consultation with the NSDEC and the NYSDOH. Sub-slab soil gas points will be located beneath concrete pavement/slabs and each will be placed 2-3 inches below the bottom of the impervious surface. Filter glass/sand beads will be placed around the screen portion of the probe and annular space and sealed with bentonite slurry or modeling clay. Air samples will be collected simultaneous to sub-slab samples, and will be placed at a height corresponding to the average breathing level (i.e. approximately five feet above the ground surface). Collected at a flow rate of 0.2 liters/minute, the sampling duration will be at least an hour. Soil gas and air samples will be collected in Summa canisters, and analyzed using USEPA

Method TO-15. Samples will be submitted to Columbia Analytical Services, an ELAP-approved laboratory. The minimum reporting limits for constituents detected in the TO-15 method are provided in Appendix C. Prior to sampling, the integrity of the seal will be evaluated using a helium tracer gas. In the event that the probe fails the tightness test, the subsurface probe seal will be modified and the integrity testing repeated. In addition, a chemical inventory of the rooms where samples will be located will be completed prior to sampling.

### **2.2.5 Subsurface Soil Investigations**

In an effort to assess the nature of subsurface soil at the site, verify previous data, and to characterize regolith geology, a total of thirty (30) borings will be advanced to 20 feet below ground surface (bgs), or to bedrock or sampler refusal. Borings will be advanced using a Geoprobe® direct-push rig and continuous soil samples will be collected using disposable acetate liners with a 1.75 inch diameter macro-core sampler.

Grab soil samples will be collected directly above the water table or at an interval that is impacted, based on physical observation, olfactory senses, or elevated PID reading. Samples will be collected in jars and will be preserved on ice in coolers. Each sample will be sent to an NYSDOH ELAP and NYSDEC approved laboratory and analyzed for volatile organic compounds (VOCs). In addition, ten (10) shallow soil samples will be collected using clean, decontaminated hand tools on various portions of the site and submitted to an NYSDOH ELAP and NYSDEC approved laboratory for pesticides and the RCRA 8 metals. The proposed sampling locations are illustrated on Figure 2.

All equipment will be properly decontaminated between sampling locations and intervals. It is anticipated that drill cuttings will be containerized in 55-gallons drum for proper disposal if any evidence of contamination is noted during the investigation. All sampling equipment will be appropriately decontaminated between sampling locations.

### **2.2.6 Groundwater Characterization**

For the purpose of evaluating groundwater quality and to obtain flow information, a total of nine groundwater monitoring wells are proposed for installation as part of the RI/FS. Three of these wells are to be bedrock wells and six are to be overburden wells. Overburden

wells will be co-located with passive soil vapor points. The bedrock wells are to be installed utilizing a drill rig and the overburden wells are to be installed using Geoprobe direct push techniques. The wells will be positioned in order to determine if chlorinated solvents have impacted the overburden and bedrock aquifers. Based on an assumed northerly overburden groundwater flow direction, the proposed locations of each well are presented on Figure 2. These proposed locations may vary based on the results from the passive gas survey, and site conditions and observations.

#### **2.2.6.1 Overburden Well Installation**

Overburden wells will be installed to a depths determined by the water table encountered in the field such that the well screen will intersect the observed water table elevation. A hollow stem auger will be advanced through the overburden. Soils will be collected with a split spoon sampler at 5 foot intervals or at each change of lithology, for descriptive characterization, screening for volatiles, and possible analytic sampling.

Soil cores will be screened for organic vapors using a PID and any evidence of contamination will be noted. Monitoring wells are to be constructed of PVC solid well pipe riser and a ten foot PVC slotted screen that will be positioned to intercept the water table and descend into the water table. Depending on the location of the well, it will be finished with either a 4 foot stick-up protective casing, or a flush mounted protective cover. All equipment will be appropriately decontaminated between sampling locations.

Also, based on well location, any soil cuttings will be spread either on-site or containerized. However, if impacts are observed, the contaminated soils will be segregated from non-impacted media and handled as described in Section 2.2.8.

#### **2.2.6.2 Bedrock Well Installation**

Bedrock wells will be installed to a depth of ten feet beyond the observed bedrock water table. A hollow stem auger will be advanced through the overburden. Soils will be collected with a split spoon sampler at 5 foot intervals or at each change of lithology, for descriptive characterization, screening for volatiles, and possible

analytic sampling. It is expected that the augers will advance into the weathered bedrock surface sufficient to allow NX Coring into the bedrock. Coring will be performed to produce at least a 3.8 inch diameter borehole approximately 5 feet into competent bedrock. A capped PVC casing will be grouted into the socket with a protective casing installed at the surface. The grout and the concrete will be allowed to set for 24 hours before proceeding with continuous coring runs of less than 5 feet through the PVC casing into the bedrock. NQ coring will advance at least 2.98 inch borehole into the bedrock. Coring will continue until at least 10 feet into the water table. Depending on the location of the well, it will be finished with either a 4 foot stick-up protective casing, or a flush mounted protective cover. All equipment will be appropriately decontaminated between sampling locations at the decontamination pad constructed for the field activities.

Drill cuttings will be collected and containerized on-site for proper disposal. However, if impacts are observed, the contaminated soils will be segregated from non-impacted media and handled as described in Section 2.2.8.

### **2.2.6.3 Installed Overburden and Bedrock Well Development**

Each well will be developed by pumping and surging for 2 hours or until the field parameters stabilize for a minimum of three consecutive readings of 10 percent variability or less. The field parameters include: temperature, pH and specific conductance. In addition, the turbidity of the groundwater must achieve a reading of 50 Nephelometric Turbidity Units (NTUs) or less during the field parameter readings.

It is anticipated that purge water will be containerized and sampled prior to either being discharged to the aquifer from which it was removed or sent off-site for proper disposal. However, if impacts are observed, the contaminated groundwater will be handled as described in Section 2.2.8. All sampling equipment will be appropriately decontaminated between sampling locations or disposed of after a one-time use.

#### **2.2.6.4 Installed Overburden and Bedrock Well Sampling**

Depth to water measurements will be collected to the nearest 0.01 foot from the surveyed points identified on the well risers. Water levels will be measured using an interface probe capable of detecting a separate phase liquid. Until deemed unnecessary, in addition to measuring the water level, the wells will be checked for both light and dense non-aqueous phase liquids (LNAPLs and DNAPLs) using the interface probe.

Groundwater samples will be collected from the ten wells and will be submitted for analysis of VOCs. Samples from the overburden wells will also be sampled for pesticides and RCRA 8 metals. All samples will be sent to an NYSDOH ELAP and NYSDEC approved laboratory.

#### **2.2.7 Analytical Data Quality Evaluation**

A site specific QAPP and this field activities plan will be provided which will detail the data quality objectives and analytical requirements. All quality assurance protocols will be provided in the generic QAPP.

During the final field activity plan review period, the site specific QAPP and FAP will be reviewed and modified according to NYSDEC requirements and comments. Once the plans are finalized, deviations, if required, from protocols specified in the plans will be approved in advance by NYSDEC. As required, the selected analytical laboratory will maintain NYSDOH ELAP certification in all categories of CLP and Solid and Hazardous Waste analytical testing for the duration of the project.

The selected laboratory will supply all required data deliverables (USEPA CLP and NYSDEC ASP deliverable format) to enable the data to be validated. The analytical data will also be submitted electronically in the NYSDEC format from the laboratory to the validators to minimize the chances of errors in describing the data. All environmental data will be submitted electronically in a specified format named 'NYSDEC' in accordance with the data submission procedures outlined on the NYSDEC's web site (<http://www.dec.ny.gov/chemical/62440.html>).

Upon receipt of the sample data, the validation contractor will quantitatively and qualitatively validate the laboratory data. The validation of the analytical data will be performed according to the protocols and QC requirements of the analytical methods, the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic and Inorganic Data Review (February 1994), the USEPA Region II CLP Data Review SOP, and the reviewer's professional judgment.

### **2.2.8 Disposal of Derived Waste**

Derived waste (DW) that is generated from the subsurface characterization, monitoring wells installation and the development of monitoring wells shall be handled in accordance with NYSDEC TAGM No. 4032. HRP will be responsible for supplying the equipment and materials necessary for the proper handling and storage of the DW, such as DOT-approved 55-gallon drums, roll-off containers and/or holding tanks. All containers will be labeled and stored properly.

Soil shall be handled and disposed of in a manner that does not pose a threat to health and the environment. If off-site disposal of the derived waste is required, it will be disposed of or treated according to applicable local, state and federal regulations. Any soils from the RI/FS may be disposed within the direct push hole provided the hole will not be used for the installation of a monitoring well (cuttings may be used to backfill holes resulting from soil sampling), the direct push hole did not penetrate an aquitard nor an aquiclude, and the backfilling the hole with cuttings will not create a significant path for vertical movement of contaminants. Soil additives (bentonite) may be added to the cuttings to reduce permeability. Six (6) inches of cohesive, compacted soil should be placed over the area of the hole.

The cuttings and spoil from several wells which are chemically compatible may be collected and disposed at one on-site location if they cannot be disposed in their respective boreholes. Material that is visually stained, creates high PID measurements, or exhibits strong odors shall be sampled and analyzed to ensure chemical compatibility with other cuttings before placing the materials in a common storage/disposal area if staining is present in the cuttings. Additionally, cuttings which are stored/disposed on-site in bulk (not in containers) shall be monitored for volatile emissions and for fugitive dust emissions.

Monitoring instruments available at the site as determined by the site-specific Health and Safety Plan (HASP) may generally be sufficient. If any action level specified in the HASP is exceeded, corrective actions such as interim cover, placement in containers, etc., shall be implemented promptly.

It is anticipated that purge water generated during the development of the monitoring wells will not require off-site disposal and will be discharged to the land surface in the vicinity of the well. Containerization of the purge water will be required if non-aqueous phase liquids (NAPL) are observed in the groundwater or if heavy chemical odors are detected. HRP will be responsible for the handling and disposal of any contaminated purge water.

### **2.3 REMEDIAL INVESTIGATION / FEASIBILITY STUDY REPORT -TASK 3**

#### **2.3.1 Electronic Data Delivery**

In addition to appropriate data summary tables and boring logs included in the report, all environmental data will be submitted electronically in a specified Electronic Data Deliverable (EDD) format named 'NYSDEC' in accordance with the data submission procedures outlined on the NYSDEC's web site (<http://www.dec.ny.gov/chemical/62440.html>).

#### **2.3.2 Remedial Investigation Report**

The Remedial Investigation Report (RI) will be prepared as part of this work assignment following completion of the field activities. The RI Report will provide a description of the field activities, present data collected during field characterization, present a physical description of the site including geology and hydrogeology, and provide an analysis and interpretation of the available data in the context of existing site conditions. The report will include tabulated laboratory analytical results, site maps and a discussion of contaminant concentrations, including a comparison to NYSDEC Standards, Criteria and Guidelines (RI/FSs).

The RI Report prepared as part of this assignment will also provide a data validation/usability evaluation, identification and location of contaminants, assessment of potential contaminant migration pathways, impact on human and environmental receptors, conclusions regarding the significance of the findings. The proposed work will provide initial

delineation and extent of contamination, if present, at the site. The scope of work of the RI will be sufficient for the NYSDEC to determine if the conditions at the site warrant further action or if a no further action designation may be recorded .

The submitted report will include the report text, appropriate tables, figures, photographs, data summary tables, and boring logs in a PDF format on a compact disc. The electronic file will contain 'bookmarks'. In addition, one hard copy of the report will be sent.

### ***2.3.3 Feasibility Study Report***

Subsequent to the field activities and RI report, a Feasibility Study (FS) may be prepared for the property. The need for an FS will be determined by the absence/presence of contamination of the property at levels in exceedance of the applicable criteria. Various remedial options, framed by the known contamination, will be introduced and discussed based on their efficacy, cost, and/or feasibility. This report would also be submitted in a "bookmarked" PDF format on a compact disk along with one hard copy.

### **3.0 PROJECT MANAGEMENT**

HRP has the responsibility of the overall management of this project and will respond to any NYSDEC requests. HRP will be utilizing Shumaker Consulting Engineering & Land Surveying, P.C. (Shumaker) as a subconsultant on this project. Shumaker will be responsible for base map development and site survey, passive gas sampling, sub-slab gas and air sampling, and groundwater sampling as part of this work assignment.

### **3.1 PROJECT SCHEDULE AND KEY MILESTONES/REPORTS**

The project schedule for this work assignment is outlined below. Key milestones are identified to monitor work progress. The following milestones will be applicable for this project:

Milestone 1:	RI/FS WA Field activity plan development
Milestone 2:	NYSDEC review of all site specific plans
Milestone 3:	Passive soil gas survey
Milestone 4:	Sub-slab soil gas and air sampling
Milestone 5:	Subsurface soil sampling
Milestone 6:	Installation and sampling of monitoring wells
Milestone 7:	Removal of any site derived waste
Milestone 9:	Ensure data validation is complete
Milestone 10:	RI/FSWA Report

### **3.2 PROJECT BUDGET**

An estimated project budget has been approved by the NYSDEC. This budget provides details, on a task by task basis, of labor, expenses, and subcontractor costs necessary to complete the project.

### 3.3 PROJECT PERSONNEL

A list of the project personnel of the prime consultant and subcontractors responsible for performance of the site investigation has been submitted to the NYSDEC for approval.

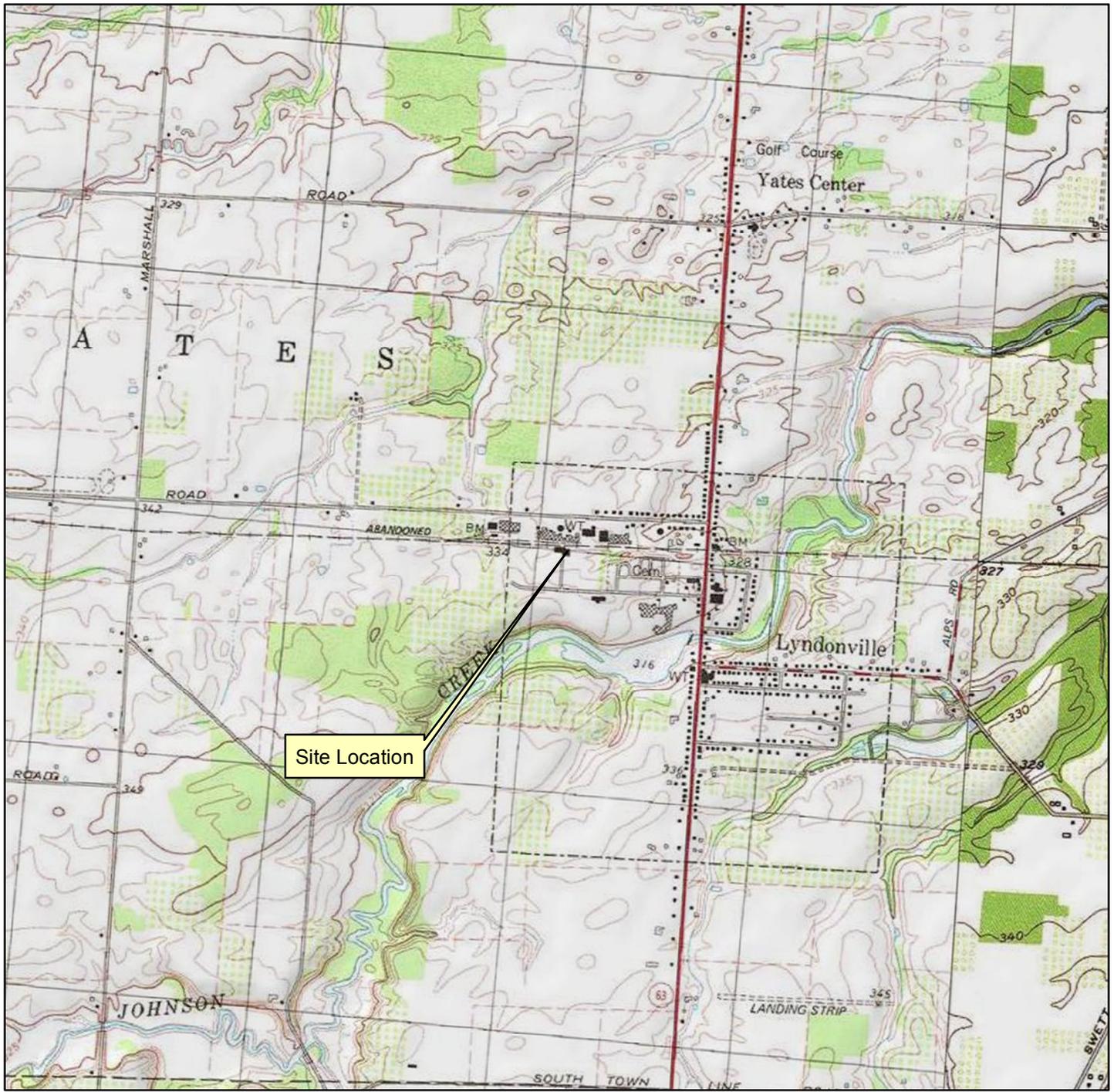
Primary project staffs are listed below:

<i>Personnel</i>	<i>Company</i>	<i>Title for this Work Assignment</i>	<i>Responsibility</i>
Jason Beach, CPG, LEP (Project Manager)	HRP Engineering, P.C. (Prime Consultant)	Project Manager	Overall management of the work assignment
Jeffrey R. Sotek, P.E., CIH, CSP (Senior Project Manager)	HRP Engineering, P.C.	Office Health & Safety manager	Approval of HASP and responsible for overall health and safety issues with the work assignment
Zoe Belcher, LG, RPB (Project Manager)	HRP Engineering, P.C.	Corporate QA/QC	Responsible for QA/QC on the work assignment
Jen Kotch – Senior Project Geologist Joanna Wozniak - Project Scientist	HRP Engineering, P.C.	Field manager and health & safety officer	Responsible for the on-site sampling and investigative tasks
Robert Koslosky, CPG	Shumaker Consulting Engineering & Lane Surveying, P.C. (Subconsultant to HRP)	Senior Geologist	Responsible for management of Shumaker's portions of the work assignment and reporting to HRP.

Subcontractors for this project will include:

- Passive gas sampling survey – Vapor Trail Analytics, LLC to provide materials and produce report, Shumaker to complete the field work;
- Drilling – GeoLogic NY, Inc./North Star Drilling;
- Laboratory – Test America to provide soil and groundwater sample analysis;
- Air Laboratory – Columbia Analytical to provide TO-15 air analysis;
- Data Validation - Nancy Potak; and
- Company to dispose of any derived waste (not yet selected).

***FIGURES***



1 inch = 2,000 feet

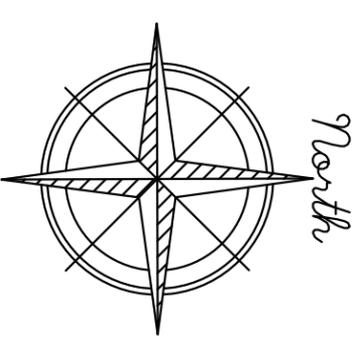
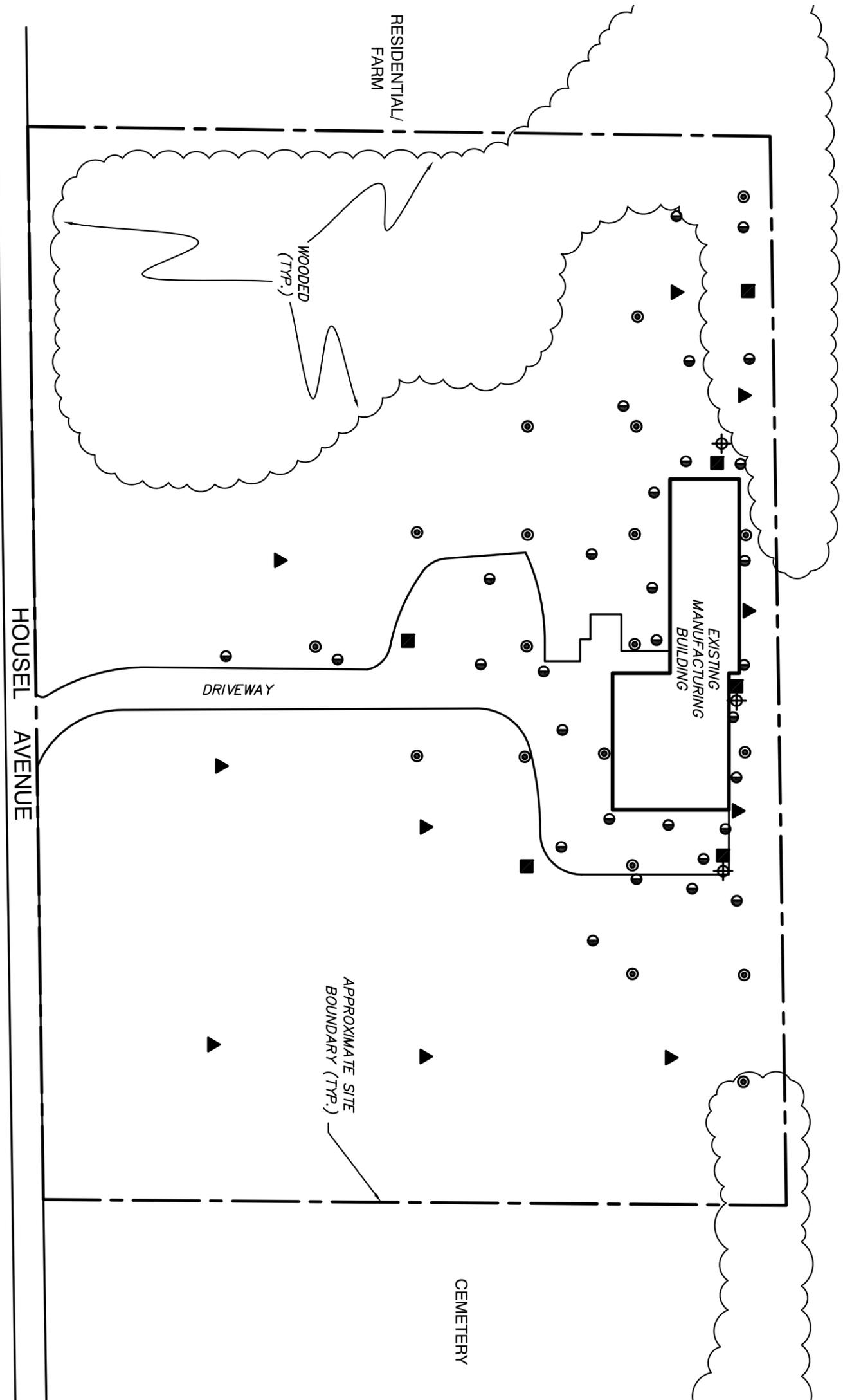


**Figure 1**  
**Site Location**  
**Monroe Electronics**  
**100 Housel Avenue**  
**Lyndonville, New York**  
**Site Code# 837013**  
**HRP# NYS9617.P2**  
**Scale 1"=2,000'**

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 Connecticut, New York, South Carolina, Florida, Indiana  
 1 Fairchild Square, Suite 110  
 Clifton Park, New York 12065  
 (518) 877-7101 FAX: (518) 877-8561  
 www.hrpassociates.com

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COMMERCIAL/MANUFACTURING  
(FOOD PRODUCTION FACILITY)



LEGEND

- ⊕ -PROPOSED DEEP MONITOR WELL LOCATION
- ⊙ -PROPOSED PASSIVE SOIL VAPOR POINT LOCATION
- ▲ -PROPOSED SHALLOW SOIL GRAB SAMPLE LOCATION
- -PROPOSED DIRECT PUSH BORING LOCATION
- -PROPOSED SHALLOW MONITOR WELL AND PASSIVE SOIL VAPOR POINT LOCATION

NOTE:  
PROPOSED SAMPLE LOCATIONS SUBJECT TO  
CHANGE BASED ON FIELD CONDITIONS,  
UTILITY CONFLICTS, ETC.

**FIGURE 2**  
**PROPOSED SAMPLE**  
**LOCATION MAP**  
**MONROE ELECTRONICS**  
**100 HOUSEL AVE.**  
**LYNDONVILLE, NY**  
**SITE CODE# 837013**  
**HRP# NEW9617.P2**  
**NOT TO SCALE**

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Offices in CT, SC, NY, FL, MA, TX and IN  
999 Oronoque Lane, 2nd Floor  
Stratford, Connecticut 06614  
Ph: (203)380-1395 Fax: (203)380-1438  
www.hrpassociates.com

**APPENDIX A**

***Passive Soil Gas Analyte List***



# Vapor Trail Analytics

*Volatiles and Semi-Volatiles Characterization*

179 Lake Avenue  
Rochester, NY 14608 USA  
585.727.2825 fax: 585.647.3311  
E-mail: [info@vaportrailanalytics.com](mailto:info@vaportrailanalytics.com)  
Web: [www.vaportrailanalytics.com](http://www.vaportrailanalytics.com)

*QAS HRP 1084*

**Axial Passive Analyte List – HRP Associates – Lyndonville, NY  
VTA Quotation Number 1084**

## Analytes

1,1,1-Trichloroethane  
1,2-Dichloroethane  
Benzene  
Chloroform  
Cyclohexane  
Ethylbenzene  
Isopropylbenzene  
Methyl acetate  
Methylcyclohexane  
*m,p*-Xylenes  
*o*-Xylene  
Styrene  
Tetrachloroethylene  
Toluene  
Trichloroethylene

**APPENDIX B**

***Community Air Monitoring Program***

## **COMMUNITY AIR MONITORING PROGRAMS**

### **1.0 MONITORING**

Real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter and surrounding community of the work area may be necessary. Monitoring activities will consist of a combination of continuous and periodic monitoring, which will be performed dependent upon the type of activity being conducted at the site, as discussed below.

#### **1.1 Continuous Air Monitoring**

Continuous monitoring for VOCs and particulates may be required for all ground intrusive activities associated with the site. Ground intrusive activities include soil/waste excavation and handling, installation of test pits, soil borings, and groundwater monitoring wells.

VOCs should be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using a MiniRAE 2000 or equivalent, which is appropriate to measure the types of contaminants known or suspected to be present at the site. The MiniRAE 2000 shall be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The MiniRAE 2000 is capable of calculating 15-minute running average concentrations, which will be compared to the levels specified in Section 12.2.

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the work area at temporary particulate monitoring stations. The particulate monitoring will be performed using a Thermo MIE pDR-4000 DataRam or equivalent. The Thermo MIE pDR-4000 DataRam is a real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size [PM-10] and capable of integrating over a period of 15 minutes for comparison to the airborne particulate action level. The Thermo MIE pDR is equipped with an audible alarm to indicate exceedance of the action level. In addition to using the Thermo MIE pDR-4000 DataRam, fugitive dust migration will be visually assessed during all work activities. If particulate concentrations are recorded at higher or equivalent concentrations at the upwind station during RI/FS activities then continuous air monitoring will be discontinued, as approved by NYSDEC representative.

#### **1.2 Periodic (As-Needed) Air Monitoring**

Periodic or as-needed air monitoring for VOCs may be required during non-intrusive activities associated with the site-specific Work Plan. Non-intrusive activities are anticipated to include the collection of soil and sediment samples, the collection of groundwater samples from existing monitoring wells, and the collection of indoor air and soil vapor samples. Periodic air monitoring during sample collection will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location.

## **2.0 ACTION LEVELS AND RESPONSE**

This subsection identifies the action levels and corresponding responses for concentrations of VOCs and particulates detected during the field activities associated with a site.

### **2.1 Volatile Organic Compounds**

If the ambient air concentration of total organic vapors at the downwind perimeter of the work area exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring will continue. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be stopped, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 ft downwind of the work zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less (but in no case less than 20 ft), is below 5 ppm over background for the 15-minute average.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

All 15-minute readings will be recorded and be available for NYSDEC and New York State Department of Health (NYSDOH) personnel to review. Instantaneous readings (if any) used for decision purposes will also be recorded.

### **2.2 Particulates**

If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed  $150 \mu\text{g}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, the downwind PM-10 particulate levels are greater than  $150 \mu\text{g}/\text{m}^3$  above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within  $150 \mu\text{g}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

Similar to the VOC readings, all particulate readings will be recorded and be available for NYSDEC and NYSDOH personnel to review.

**APPENDIX C**

***TO-15 Minimum Reporting Limit***



MDL Summary -CAS/Rochester

Method TO-15 AIR  
Technology GCMS  
Date: 6/8/2009

Analyte	MDL ppbv	MRL ppbv
1,1,1-trichloroethane		0.018
1,1,2,2-tetrachloroethane		0.028
1,1,2-trichloroethane		0.036
1,1-dichloroethene		0.016
1,1-dichloroethane		0.020
1,2,4-trichlorobenzene		0.039
1,2,4-trimethylbenzene		0.018
1,2-dclbenz		0.031
1,2-dibromoethane		0.031
1,2-dichloroethane		0.019
1,2-diclpropane		0.026
1,3,5-trimethylbenzene		0.015
1,3-butadiene		0.020
1,3-dclbenz		0.022
1,4-dclbenz		0.027
2-butanone		0.013
2-hexanone		0.020
4-ethyltoluene		0.008
4-methyl-2-pentanone		0.017
acetone		0.187
benzene		0.011
benzyl chloride		0.025
bromodichloromethane		0.029
bromoform		0.029
bromomethane		0.023
carbon disulfide		0.002
carbon tetrachloride		0.025
chlorobenzene		0.024
chloroethane		0.030
chloroform		0.023
chloromethane		0.013
cis-1,2-dichloroethene		0.027
cis-1,3-dichloropropene		0.014
cyclohexane		0.011
dibromochloromethane		0.042
dichlorodifluoromethane		0.014
ethyl acetate		0.011
ethylbenzene		0.009
freon-113		0.022
freon-114		0.022
heptane		0.011
hexachlorobutadiene		0.078
hexane		0.014
M+P xylene		0.018
methyl tert butyl ether		0.006
methylene chloride		0.021
O xylene		0.012
styrene		0.009
tetrachloroethene		0.031
tetrahydrofuran		0.042
toluene		0.009
trans-1,2-dichloroethene		0.016
trans-1,3-dichloropropene		0.021
trichloroethene		0.021
trichlorofluoromethane		0.032
vinyl acetate		0.009
vinyl chloride		0.009