NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
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April 15, 2016

Adam Driscoll
Director of Development
DHD Ventures
120 East Avenue
Rochester, NY 14604

Re: Former Labelon Corp. Facility BCP Site (#C835016)
10 Chapin St,. Canandaigua, NY
Supplemental Remedial Investigation Work Plan, March 23, 2016

Dear Mr. Driscoll;

The New York State Departments of Environmental Conservation (NYSDEC) and Health (collectively referred to as the Departments) have completed their review of the document entitled *"Supplemental Remedial Investigation Work Plan"* (the Work Plan) dated March 23, 2016, prepared by MacDonald Engineering for the Former Labelon Corp. Facility located in the City of Canandaigua, Ontario County. The certified version of the Work Plan was submitted on April 13, 2016. In accordance with 6 NYCRR Part 375-1.6, the Departments have determined that the Work Plan, with modifications, substantially addresses the requirements of the Brownfield Cleanup Agreement (BCA). The modifications are outlined as follows:

1. **Sump Water and Pipe Sediment Sampling (Item 1):** Three (3) sump water and three (3) pipe sediment samples will be collected in accordance with the approved SAW Work Plan dated November 2011. The samples will be analyzed as specified in Table 1 of the SAW Work Plan and the revised Labelon Additional Supplemental Sample Matrix below.

2. **Soil, Groundwater, Sump Water and Sump Sediment Near GP-32 (Item 2):** Per the Departments' letter of September 28, 2015, these samples are in addition to the sump water and pipe sediment samples required by the SAW Work Plan.

   Additionally, the Labelon Additional Supplemental Sample Matrix does not match the text and the Departments' letter of September 28, 2015. For example, the text indicates that a minimum of two (2) soil samples from the GP-32 area will be collected, but matrix only shows one (1). The text also states that the soil samples will be analyzed for total metals, hexavalent chromium, and VOCs, but the matrix is missing the VOCs.

   The Labelon Additional Supplemental Sample Matrix below is revised accordingly. Figure 2 is also revised (Attachment 1) to show that one of the three (3) new Geoprobe points in the GP-32 area will be converted to a well. The actual boring that gets converted to a well may differ from the one identified on the figure based on field observations.

3. **Additional PCB Sampling in the Main Building:** As shown on the Labelon Additional Supplemental Sample Matrix, the additional PCB sample will be collected from the boiler room and/or the northeast loading dock.

4. **Additional Soil and Groundwater Samples for VOC Analysis near SB-06:** The last sentence of the first paragraph is changed to: "A minimum of three (3) soil samples and one groundwater sample will be collected and analyzed for VOCs." The Labelon Additional Supplemental Sample Matrix below is revised accordingly.

   Figure 2 is revised (Attachment 1) to show the location of SB-06 and the three (3) new Geoprobe points in this area.

5. **IRM for Identified UST(s) and Investigation of the Boiler Room and Northwest Loading Dock:** The NYSDEC CP-51 and 6 NYCRR Part 375 will be used to establish soil cleanup levels for contaminated soils found in the vicinity of any identified tank.

6. **Grassed Areas of the Site:** Surface soil samples will be collected from the 11 locations shown on the attached figure (Attachment 2). The surface soil samples will be collected from a depth of 0 to 2 inches below the vegetative cover and analyzed for the full suite of analytical parameters. The Labelon Additional Supplemental Sample Matrix below is revised accordingly.

7. **Revised Labelon Additional Supplemental Sample Matrix[c,d]**

Location	VOCs +TICs	SVOCs +TICs	Metals	Hexavalent Chromium	PCBs	Pest.
Sump Water	3	1	3		1	
Pipe Sediment	3	1	3		1	
GP-32 Sump Water			1	1		
GP-32 Sump Sediment			1	1		
GP-32 Soil	2		2	2		
GP-32 Groundwater*	1		1	1		
SB-06 Groundwater*	1			1		
SB-06 Soil	3			1		
MW-200S/MW 201S Soil	2					
UST Closure Boiler Room Soil	2	1			1	
Northeast Loading Dock Soil	1	1				
Groundwater Wells	15					
Surface Soil (0-2 inches)	11	11	11		11	11
Duplicate Soil[a]	2	1	1	1	1	1
Duplicate Water[a]	1	1	1	1	1	
MS/MSD Soil[a,b]	2	1	1	1	1	1
MS/MSD Water[a,b]	1	1	1	1	1	
Trip Blanks[b]	1					
Totals	51	19	26	11	18	13

*Sample collected from new well to be installed. Two new groundwater monitoring wells will be installed. All wells will be sampled (including the two new wells) as requested in NYSDEC comment #13.

[a]Duplicate and MS/MSD samples collected at a rate of 1 per 20 samples for each matrix (soil and water).

[b]Additional QA/QC samples needed if samples submitted to laboratory in more than 1 batch per matrix.

[c]Where there are differences between this matrix and the text, the matrix shall be considered controlling.

[d]All data packages will be ASP Category B and Data Usability Summary Reports will be prepared.

With the understanding that the above noted modifications are agreed to, the Work Plan is hereby approved. If you choose not to accept these modifications, you are required to notify this office within 20 days after receipt of this letter or prior to the start of field activities. In this event, I suggest a meeting be scheduled to discuss your concerns prior to the end of this 20-day period.

This approval includes the Community Air Monitoring Plan, but does not otherwise extend to the Health and Safety Plan as the Departments are not responsible for the health and safety of remediation workers.

Prior to the start of field activities, please attach a copy of this letter to the Work Plan and distribute the approved Work Plan as follows:

- Frank Sowers (2 hardcopies, 1 with an original signature on the certification page);
- Document repositories (1 hardcopy); and
- Copies to other interested parties upon request.

Per the approved schedule in the Work Plan, field activities are scheduled to begin by April 25, 2016. Please notify me at least 7 days in advance of the start of field activities.

We look forward to working together to bring this site back into productive use. If you have questions or concerns on this matter, please contact me at 585-226-5357.

Sincerely,

Frank Sowers

Frank Sowers, P.E.
Environmental Engineer 2

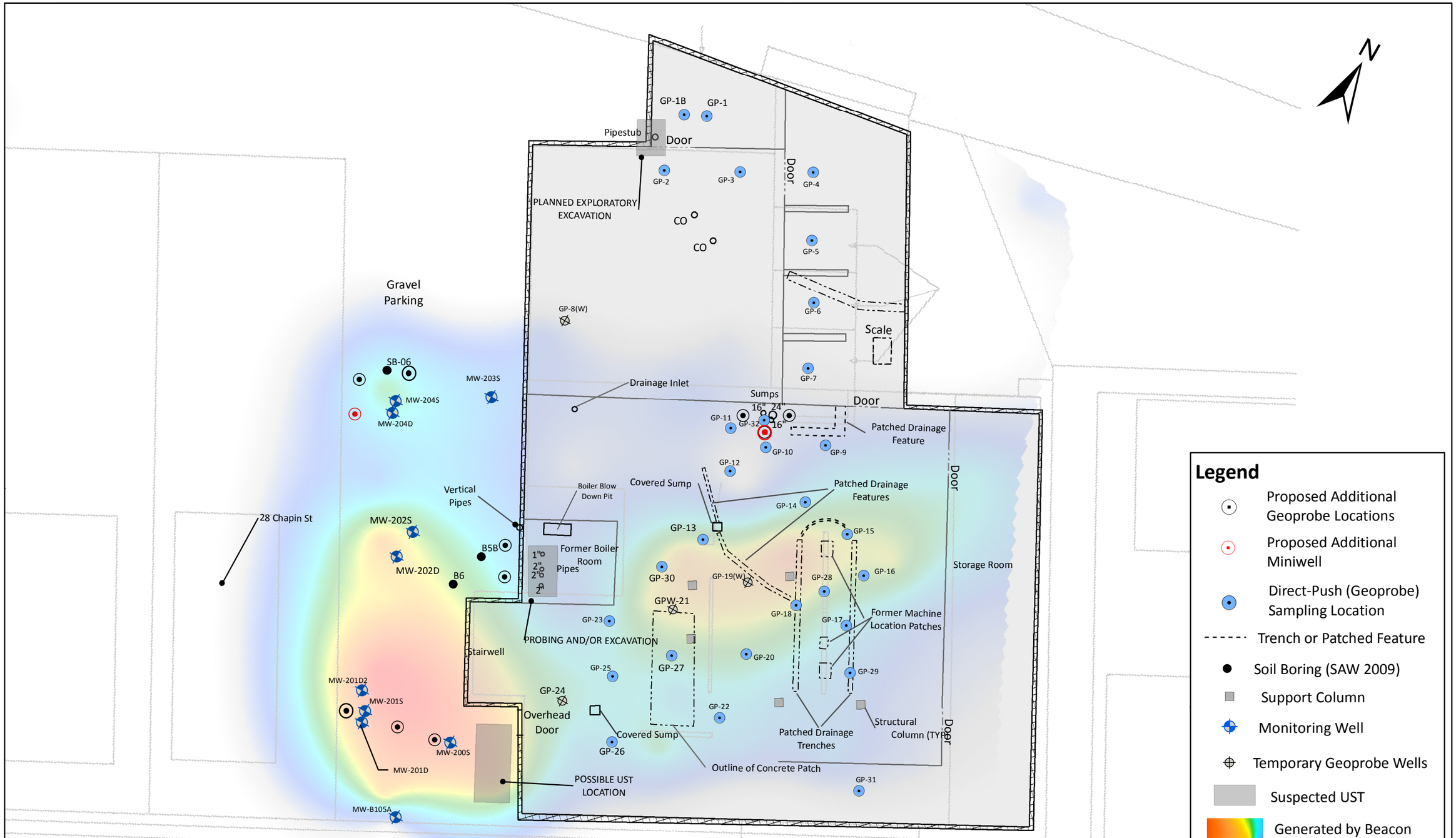
Attach.
1. Revised Figure 2 Additional Sampling Plan
2. Surface Soil Sample Locations

ec: w/attach.

Julia Kenney	Bernette Schilling
James Mahoney	Greg Andrus
Matt Dunham	Greg Stahl
Dan MacDonald	

ATTACHMENT 1

Revised Figure 2 Additional Sampling Plan



Legend

- Proposed Additional Geoprobe Locations
- Proposed Additional Miniwell
- Direct-Push (Geoprobe) Sampling Location
- Trench or Patched Feature
- Soil Boring (SAW 2009)
- Support Column
- Monitoring Well
- Temporary Geoprobe Wells
- Suspected UST
- Generated by Beacon

0 12.5 25 50 Feet

1 inch = 25 feet

DATE: OCTOBER 2015

DRAWN/CHECKED: CSB/GLA

1 Inch= 25 Feet

DATA SOURCE: NYS ORTHOIMAGERY, MacDonald Engineering

Figure 2. Proposed Additional Sampling Plan

SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN UP DATE
FORMER LABELON RI.

MacDonald Engineering

ATTACHMENT 2

Surface Soil Sample Locations

Surface Soil Sample Location

March 23, 2016

Frank Sowers, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation – Region 8
6274 East Avon-Lima Road
Avon, New York 14414-9519

RE: Brownfield Cleanup Program, NYSDEC Site #C835016
Former Labelon Site, 10 Chapin Street Canandaigua, New York
Supplemental Remedial Investigation Work Plan

Dear Mr. Sowers:

On behalf of DHD Ventures, LLC, MacDonald Engineering (MLSE) is providing this Supplemental Remedial Investigation Work Plan Update to collect additional data needed to achieve the overall goals of the remedial investigation as specified in 6 NYCRR Part 375-1.8(e). The Scope of Work provided below is designed to provide information necessary to evaluate remedial options at the site. This Scope of Work has incorporated your comments on our Supplemental Work Plan dated October 29, 2015.

The locations for all additional work are provided on the attached Proposed Additional Sampling Plan. All sampling, analytical testing and interim remedial measures will be done in accordance with The approved Work Plan for the Site prepared by SAW dated November of 2011 (NYSDEC Comment 2, December, 18 2015), and NYSDEC Rules, Regulations, Policy Directives and Guidance Documents.

The following sections reference the most recent review/comment letter received from your office on December 18, 2015 and previous NYSDEC correspondence (September, 28 2015) as appropriate. We have also included the Scope of Work from our October 29, 2015 Supplemental Work Plan Submittal that the NYSDEC did not have comments on. The purpose of this document is to address all State comments and provide one addendum to the November, 2011 SAW Work Plan identifying the proposed additional Scope of Work.

Comment 1 (NYSDEC Comments December 18, 2015):

This Supplemental Work Plan will incorporate by reference the following sections from original SAW Work Plan:

- QA/QC section
- Community Air Monitoring Plan
- Sample Collection Methods
- Decontamination Procedures
- Procedures for Managing Investigation Derived Wastes

MLSE has included a copy of our Site-Specific Health and Safety Plan, which is attached along with a figure (Figure 3) depicting the site boundary as defined in the BCA. We plan to complete the tasks required for

completion of the RI in accordance with NYSDEC's DER-10.
We plan to complete this project as quickly as possible. It is assumed that NYSDEC will review and approve this work plan by April 15, 2016. Under that assumption, field work will commence on or about April 25, 2015. Field activities and laboratory analysis will require an estimated one (1) week to complete. The RI Report will be submitted for review 30 calendar days from receipt of all analytical results. Therefore, based on an assumed start date of April 25, 2016, the RI Report for the portions of the investigation specified herein will be completed by June 6, 2016.

The following section incorporates comments from both NYSDEC letters (Item 1, September 28, 2015 and Comment 3, December 18, 2015)

1. **Sump Water and Pipe Sediment Sampling:** (Implementation of Section 2.1 of the SAW Work Plan dated November 2011)

MLSE will complete additional inspection and sampling of the floor drain and sump in the main building (located in the southwest portion of the building) . This work will include use of a remote camera and/or smoke or dye testing (if the camera route is blocked) of the drain system followed by sampling of media as described in the response to Item 2 below. Based on the results of the above noted evaluation, concrete will be removed and the area beneath the slab will be evaluated, with limited excavation if necessary, to determine the configuration of piping and an ascertainable discharge point. This evaluation will include sampling based on visual observations, and PID screening of soils/water found during the excavation. Analytical parameters will include PCBs, VOCs, and Total Metals (including hexavalent chromium). We have estimated one (1) sample for both sediment and water at this location. This sampling location is a stand-alone collection point and is not a substitute for sampling to take place in the boiler room as discussed in this Scope of Work.

The following section incorporates comments from Items 2 and 3, September 28, 2015.

2. **Soil, Groundwater, Sump Water and Sump Sediment Samples Near GP-32**

A Geoprobe will be used to collect soil and groundwater samples as part of an evaluation of the area around GP-32. Soils will be tested for total chromium and hexavalent chromium to evaluate the location as a possible site-related source. One (1) of the Geoprobe locations will be converted to a groundwater well to evaluate potential chromium and volatile organics in groundwater. A minimum of two (2) soil samples and one (1) groundwater sample will be collected and analyzed for total metals including chromium and hexavalent chromium and VOCs. Accessible sump water and sediment will be collected and analytical parameters will include hexavalent chromium. One (1) sediment and sump water sample will be collected.

We anticipate three (3) Geoprobe points surrounding the GP-32 location will be sufficient for the additional work. We will hold all samples pending analysis in case additional analytical testing is determined necessary.

The following section incorporates comments from Items 4 and 5, September 28, 2015.

3. **Historical TIC Data and Inclusion for All New VOC and SVOC Samples**:

MLSE has contacted CDM Smith and the contract laboratory regarding TICs. Their ability to provide TIC information is inconclusive at this point. Henceforth, TIC data will be provided for all new samples analyzed for VOCs and SVOCs.

The following section incorporates comments from Item 6, September 28, 2015.

4. Additional SVOC Samples from the Building Interior:

One additional SVOC sample will be collected from inside the building during the supplemental investigation phase. A soil sample from the boiler room will be collected and analyzed for SVOCs as outlined in Item 10.

The following section incorporates comments from Item 7, September 28, 2015 and Comment 4 December 18, 2015.

5. Additonal PCB Sampling in the Main Building:

An additional PCB sample will be collected from inside the building during the supplemental investigation phase. These samples were discussed in Item 1 above. If determined to be necessary by the Field Team Leader and the NYSDEC, subsurface soil samples from the boiler room and/or the northeast loading dock may also include PCB sampling.

The following section incorporates comments from Item 8, September 28, 2015.

6. Hydraulic Conductivity Testing:

MLSE will retest the three (3) wells originally tested for hydraulic conductivity and add a fourth (4^{th}) well (MW-202S) to the testing. Hydraulic conductivity testing will be completed using the same procedures identified previously.

The following section incorporates comments from Item 9, September 28, 2015, and Comment 5, December 18, 2015.

7. Additional Soil and Groundwater Samples for VOC Analysis near SB-06:

A Geoprobe will be used to collect soil and groundwater samples as part of an evaluation of the area around SB-06. Soils will be tested for total VOCs to evaluate the location as a possible site-related source of TCE identified by CDM Smith. One of the Geoprobe locations will be converted to a groundwater well to evaluate potential chromium and VOCs in groundwater. This well will be located hydraulically downgradient of SB-06 near the property line. A minimum of two (2) soil samples and one groundwater sample will be collected and analyzed for VOCs.

We anticipate three (3) Geoprobe points placed (based on spacing within the building for our work completed in February of 2015) surrounding the SB-6 location will be sufficient for the additional work. One soil sample will be collected from each one of these borings and analyzed for VOCs. As mentioned above, groundwater will be sampled for chromium and VOCs. We will hold all samples pending analysis in case additional analytical testing is determined necessary (Lab TAT is standard 5 days – Holding times are 14 days).

The following section incorporates comments from Item 10, September 28, 2015.

8. Additional Soil Samples Near MW-200S and MW-201S:

A Geoprobe will be used to collect additional soil samples as part of an evaluation of the area around MW-200S and MW-201S. Soils will be tested for total VOCs to evaluate the location as a possible site-related source of the TCE identified by a previous soil-gas survey. A minimum of two soil samples will be collected and analyzed

for VOCs.

We anticipate 3 Geoprobe points surrounding this investigation area. If PID readings or visual observations indicate the need for more borings they will be added as appropriate by the field team leader. We will hold all samples pending analysis in case additional analytical testing is determined necessary (Lab TAT is standard 5 days – Holding times are 14 days).

The following section incorporates comments from Item 11, September 28, 2015 and Comment 6, December 18, 2015.

9. IRM for Identified UST(s):

An investigation will be completed using excavation methods to determine whether a UST is present in this location and to characterize associated soils and/or groundwater. If one or more USTs are found during the investigation protocols for the immediate implementation of a UST removal IRM will be evaluated. However, the implementation of a UST removal IRM will be dependent on conditions found. If the tank(s) are located in an area that would compromise the structural integrity of the building, closure in place with removal of contaminated soil will be evaluated.

If UST(s) are found, and they can be removed with no concerns for the structure, then a removal IRM will be implemented. All tank removal procedures will follow NYSDEC DER-10 and 6 NYCRR 375-1.12(e). Surrounding soils will be evaluated for contamination using a PID. If free product is observed it will be removed during the excavation and properly disposed of. If contaminated soils are present they will be addressed with remedial measures (to be determined) for the treatment of VOCs in the area. NYSDEC CP-51 will be used to establish soil cleanup levels for contaminated soils found in the vicinity of any identified tanks.

The following section incorporates comments from Item 12, September 28, 2015 and Comment 7, December 18, 2015.

10. Investigation of the Boiler Room and Northwest Loading Dock:

A Geoprobe will be used to collect additional soil samples as part of an evaluation of the area around boring B-5B completed by SAW in June of 2009 and if possible inside the boiler room. The boiler room will be investigated with either a Geoprobe or a small excavator, whichever piece of equipment can be safely used to complete this work. Soils will be tested for total VOCs to evaluate these areas as a possible site-related source of product previously identified in SAW's investigation. One (1) of these samples will also be analyzed for SVOCs as the SAW Work Plan calls for three (3) SVOC soil samples and only two (2) have been collected to date.

Analytical results will be compared to 6 NYCRR Part 375 and CP-51. At a minimum, we anticipate two (2) Geoprobe points outside the building and two (2) inside. A minimum of two (2) soil samples will be collected (one (1) inside and one (1) outside) and analyzed for VOCs. If PID readings or visual observations indicate the need for more borings they will be added as appropriate by the field team leader. We will hold all samples pending analysis in case additional analytical testing is determined necessary (Lab TAT is standard 5 days – Holding times are 14 days).

The northwest loading dock area will be evaluated using an excavator. This area has a steel pipe similar to a tank port located along the north wall of the building. An excavator will be used to follow the pipe to determine its origin. If a UST is found, and it can be removed with no concerns for the structure, then a removal

IRM will be implemented. All tank removal procedures will follow NYSDEC protocols. Surrounding soils will be evaluated for contamination using a PID.

Sampling of the excavation will be used to evaluate soil conditions. NYSDEC CP-51 will be used to establish soil cleanup levels for contaminated soils found in the vicinity of any identified tank.

The following section incorporates comments from Item 13, September 28, 2015.

11. One Round of Groundwater Sampling for All On-Site Wells:
An additional round of groundwater samples will be collected from accessible Site monitoring wells and miniwells for VOCs and TICs (15 total). All samples will be collected as outlined in the approved site Work Plan.

The following section addresses comment 8 from December 18, 2015.

12. Grassed Areas of the Site
There are no significant grassed areas on the site and therefore no surface soil samples will be collected.

The following section incorporates comments from Item 14, September 28, 2015.

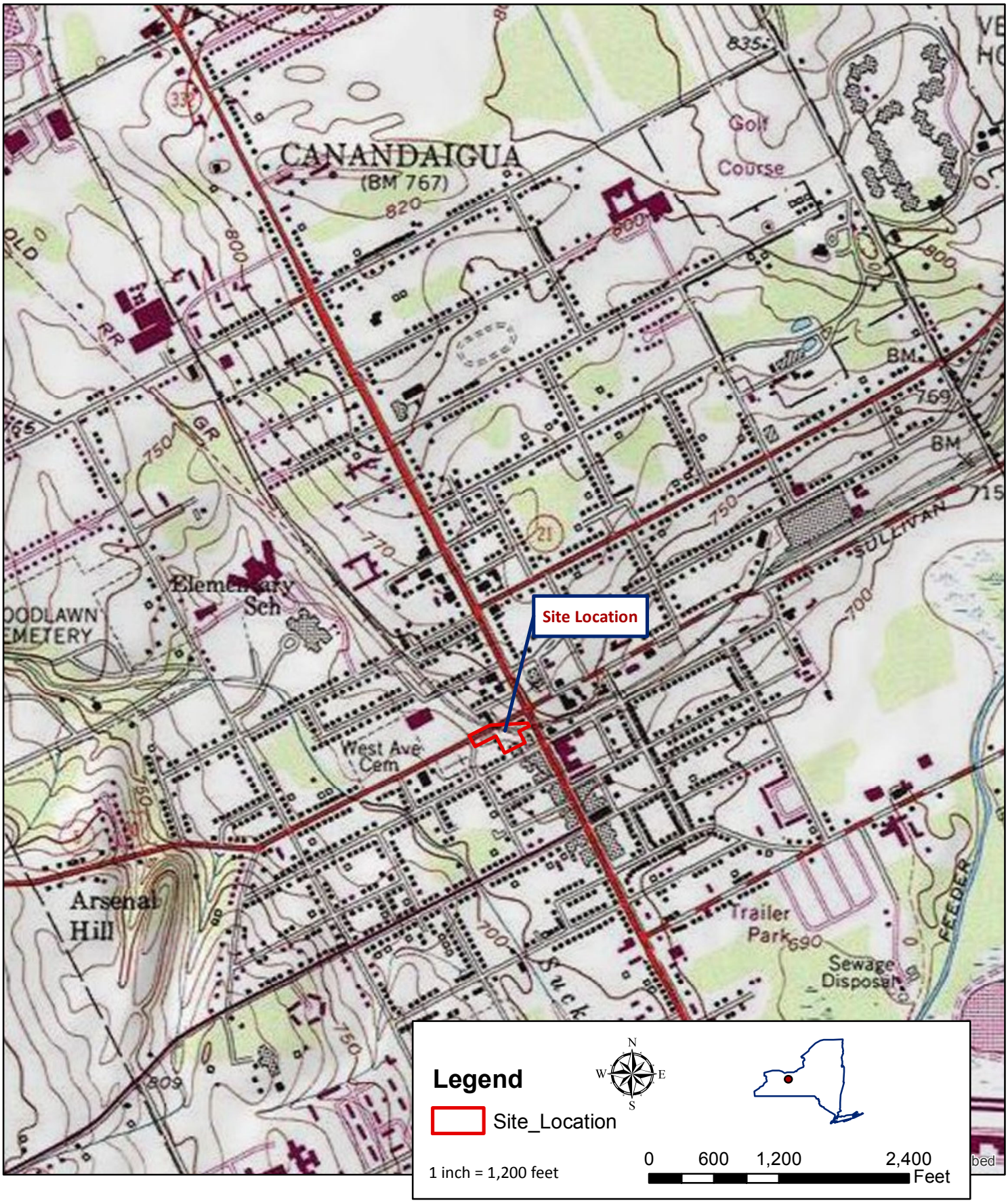
13. Electronic Delivery of Analytical Data:
All MLSE-generated data and available BCP-derived data will be provided in the EQUIS deliverable format.

Please contact me at (585) 732-5786 with any questions or concerns relative to this project.

I, Gregory L. Andrus, CHMM, 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 statues and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities will be performed in full accordance with the DER-approved work plan and any DER-approved modifications.

Gregory L. Andrus, CHMM
Project Scientist

Enclosures:
- Site Location Map – Figure 1
- Proposed Additional Sampling Plan – Figure 2
- Site Parcel Map – Figure 3
- Additional Sampling Matrix
- Health and Safety Plan Update



MacDonald Engineering

Figure 1 Site Location

FORMER LABELON RI

10 Chapin Street, Canandaigua, NY

DATE: DECEMBER 2014
PROJECT NO: 50279-02
DRAWN/CHECKED: CSB/GLA
DATA SOURCE: USGS, ESRI ONLINE

See Approval Letter
Attachment 1

GP-1B
GP-1
Pipestub
Door
GP-2
GP-3
GP-4
Door
PLANNED EXPLORATORY
EXCAVATION
CO
CO
GP-5
Gravel
Parking
GP-8(W)
GP-6
Scale
GP-7
MW-203S
MW-204S
MW-204D
Drainage Inlet
Sumps
16"
24"
16"
Door
GP-11
GP-32
GP-10
GP-9
Patched Drainage
Feature
GP-12
Boiler Blow
Down Pit
Covered Sump
Patched Drainage
Features
Vertical
Pipes
GP-14
GP-13
GP-15
28 Chapin St
MW-202S
MW-202D
B5B
B6
Former Boiler
Room
Pipes
GP-30
GP-19(W)
GP-28
GP-16
Storage Room
GPW-21
GP-18
GP-17
Former Machine
Location Patches
GP-23
PROBING AND/OR EXCAVATION
Stairwell
GP-20
GP-25
GP-27
GP-29
MW-201D2
MW-201S
MW-201D
GP-24
Overhead
Door
GP-22
Structural
Column (TYP)
Covered Sump
GP-26
Patched Drainage
Trenches
MW-200S
Outline of Concrete Patch
Door
POSSIBLE UST
LOCATION
GP-31
MW-B105A

N

Legend

- Proposed Additional Geoprobe Locations
- Direct-Push (Geoprobe) Sampling Location
- Trench or Patched Feature
- Soil Boring (SAW 2009)
- Support Column
- Monitoring Well
- Temporary Geoprobe Wells
- Suspected UST
- Generated by Beacon

0 12.5 25 50 Feet

1 inch = 25 feet

DATE: OCTOBER 2015

DRAWN/CHECKED: CSB/GLA

1 Inch= 20 Feet

DATA SOURCE:
NYS ORTHOIMAGERY,
MacDonald Engineering

Figure 2. Proposed Additional Sampling Plan

SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN UP DATE
FORMER LABELON RI.

MacDonald Engineering

Figure 3. Site Parcel Map

SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN UP DATE
FORMER LABELON RI.

DATE: MARCH 2016

DRAWN/CHECKED: CSB/GLA

1 Inch= 40 Feet

DATA SOURCE:
NYS ORTHOIMAGERY,
MacDonald Engineering

MacDonald Engineering

Labelon Additi See Approval Letter Matrix 3/23/16

Location		VOCs	SVOCs	Metals	Hexavalent Chromium	PCBs
Sump Water		1		1	1	1
Sump Soil/Sediment		1		1	1	1
GP-32 Groundwater				1	1**	
GP-32 Soil				1	1	
SB-06 Groundwater		1*			1	
SB-06 Soil		2			1	
MW-2005/MW 2015 Soil		2				
UST Closure Boiler Room Soil		2	1			1
Northeast Loading Dock Soil		1	1			
Groundwater Wells		15				
MS/MSD		1	1	1	1	1
Totals		27	3	5	7	3

*Sample collected from new well to be installed. Two new groundwater monitoring wells will be installed. All wells will be sampled (including the two new wells) as requested in NYSDEC comment #13.

MacDonald Engineering

Former Labelon Corporation Facility
10 Chapin Street
City of Canandaigua
Ontario County, New York
NYSDEC IHWDS# C835016

Health and Safety Plan

Prepared for:

Canandaigua Crossroads, LLC
120 East Avenue
Rochester, New York 14604

Prepared By:

MacDonald Land Surveying and Engineering, DPC
199 Wycliff Drive
Webster, New York 14580

December 2014
Revised March 2016

Table of Contents

FIGURES

APPENDICES

Site Safety Plan

A. GENERAL INFORMATION

Project Title: Former Labelon Facility
Ontario County, New York
Remedial Investigation/Feasibility Study

Project Director and Manager: Gregory L. Andrus, CHMM

Site Safety Officer: Eric Detweiler
Location: 10 Chapin Street
City of Canandaigua, Ontario County, New York

Prepared by: Ariadna Cheremeteff Date Prepared: December 27, 2014
Date Revised: March 2016

Approved by: Gregory L. Andrus, CHMM Date Approved:

Site Safety Officer Review: Patrick Colern Date Reviewed:

Scope/Objective of Work:

The purpose of the planned Remedial Investigation (RI) activities is to fully determine the nature and extent of environmental contamination located within the footprint of the Former Labelon Corporation Site buildings. This RI will involve the advancement of soil borings, installation of one monitoring well into bedrock (to the immediate southwest of the building), installation of miniwells, and collection of soil and groundwater samples potentially contaminated with volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), heavy metals and PCBs. Specific Scope of Work items covered by this HASP include, but are not limited to the following tasks:

- Sampling of accessible materials in sumps, trenches and other interior features
- Advancement of soil borings by direct-push methods
- Collection of split spoon and MacroCore soil samples
- Installation of one groundwater monitoring well into bedrock
- Installation of miniwells inside the building
- Installation of six exterior miniwells
- Placement of drill cuttings in 55-gallon drums
- Development and sampling of monitoring wells and placement of development water in 55-gallon drums
- Surveying of groundwater monitoring wells
- Loading, transporting and disposing of waste drums

Implementation of the tasks above will result in greater understanding of environmental impacts to surface and subsurface soil, and groundwater associated with the historic use of the Site.

Proposed Date of Field Activities: January, 2014, April 2016

Background Information:	[ ] Complete	[X] Preliminary (limited analytical data)
Overall Chemical Hazard:	[ ] Serious	[ ] Moderate
	[X] Low	[ ] Unknown
Overall Physical Hazard:	[ ] Serious	[X] Moderate
	[ ] Low	[ ] Unknown

B. SITE/WASTE CHARACTERISTICS

Waste Type(s):

[X] Liquid [X] Solid [X] Sludge [X] Gas/Vapor

Characteristic(s):

[X] Flammable/Ignitable [X] Volatile [X] Corrosive [ ] Acutely Toxic
[ ] Explosive (moderate) [ ] Reactive [X] Carcinogen [ ] Radioactive
Other: _____

Physical Hazards:

[X] Overhead [ ] Confined Space [X] Below Grade [X] Trip/Fall
[X] Puncture [ ] Burn [X] Cut [X] Splash
[X] Noise [X] Other: Cold Stress/Heat Stress

Site History/Description and Unusual Features:

The former Labelon Corporation Facility is located at 10 Chapin Street, in the City of Canandaigua, Ontario County, New York and encompasses 1.63 acres. The Site contains an approximately 80,000 square foot, 4-story vacant manufacturing building. The Site is bordered to the east and south by commercial properties and by residential neighborhoods to the north and west. Historic usage of the Site includes a coal yard, a corset factory, and a bicycle factory. Most recently Labelon Coporation occupied the Site from approximately 1960 to 2002 and manufactured transparency films and pressure sensitive labels.

A full description of the Site history is detailed in the RI Work Plan.

Locations of Chemicals/Wastes: Soil, groundwater, and sumps/trenches/other interior features.

Estimated Volume of Chemicals/Wastes: unknown

Site Currently in Operation: [ ] Yes [X] No [ ] Not Applicable

C. HAZARD EVALUATION

PHYSICAL HAZARD EVALUATION:	
HAZARD(S)	**HAZARD PREVENTION**
Cold/heat stress exposure	Implement cold/heat stress management techniques such as taking frequent breaks in a warmer/cooler, indoor location, and monitoring employees**. See Appendix A.**
Weather Extremes	Establish Site-specific contingencies for severe weather situations. Discontinue work in severe weather.
Slip/ trip/ fall	Observe terrain and be aware of the dangers while walking to minimize slips and falls, particularly in winter conditions. Steel-toed boots provide additional support and stability. Use adequate lighting. Inspect Site and mark existing hazards.
Noise	**See Appendix B**
Native wildlife presents the possibility of insect bites and associated diseases.	Avoid wildlife when possible. Use insect repellant. Check for ticks on skin and clothing.
Biological (flora, fauna, etc.)	Be aware of sharp, rough vegetation especially during geophysical survey. Wear proper work boots and clothing.
General physical hazards associated with drilling and excavating operations (overhead equipment, noise).	Hardhats and steel-toed boots required while working around heavy equipment. Keep a safe distance from equipment. **See Appendix B.**
Heavy Equipment Operation	Define equipment routes, traffic patterns, and Site-specific safety measures. Ensure that operators are properly trained and equipment has been properly inspected and maintained. Verify back-up alarms. Ensure that ground spotters are assigned and informed of proper hand signals and communication protocols. Identify special PPE and monitoring needs. Ensure that field personnel do not work in close proximity to operating equipment. Ensure that lifting capacities, load limits, etc., are not exceeded. Overhead obstructions and falling objects.
Overhead Hazards/ Falling Objects	Wear hardhat. Identify overhead hazards prior to each task.
Contact with or inhalation of contaminants, potentially in high concentration in soil.	To minimize exposure to chemical contaminants, a thorough review of suspected contaminants should be completed and implementation of an adequate protection program.
Power Tools	Ensure compliance with 29 CFR 1910 Subpart P.
Utility Lines	Identify/locate existing utilities prior to work. Ensure overhead utility lines are at least 25 feet away from project activities. Contact utilities to confirm locations, as necessary.
Contact with or inhalation of decontamination solutions.	Material Safety Data Sheets for all decon solutions. First aid equipment available.

Physical Hazard Evaluation: Basic health and safety protection: (steel-toed boots, work clothes, and safety glasses or goggles) will be worn by all personnel at all times. Any allergies should be reported to the Site Safety Officer prior to the start of the project.

D. SITE SAFETY WORK PLAN

Site Control: Entrances to the Site buildings are locked. Only authorized personnel may enter the Site and on-Site buildings.

Perimeter Identified?	**[Y]**	**Site Secured?**	**[N]**
Work Areas Designated?	**[Y]**	**Zone(s) of contamination identified?**	**[Y]**

Anticipated Level of Protection (cross-reference task numbers in Section C):

Level of PPE:	A	B	C	D
				X

All Site work will be performed at Level D (steel-toed boots, work clothes, eye protection, gloves and hardhats) unless monitoring indicates otherwise.

Air Monitoring:

Contaminant	Monitoring Device	Frequency
Organic Vapors	MiniRAE 3000 PID	As Necessary

Action Level:
PID readings of **>5 ppm to 10 ppm** above background in the breathing zone, sustained for greater than 1 minute,
Action: Halt work activities and move away from the vapor source. Consider vapor suppression actions. If PID readings drop to within 5 ppm above background, work may resume with continuous air monitoring.

PID readings of **10 ppm to <25 ppm** above background at breathing zone, sustained for greater than 1 minute,
Action: Stop work and consider upgrade to Level C protection.

PID readings of **>25 ppm** above background at breathing zone, sustained for greater than 1 minute,
Action: Stop work.
All air monitoring results as well as wind direction and speed (estimates) will be documented in the Site-specific log book.

Decontamination Solutions and Procedures for Equipment, Sampling Gear, etc.
Specified in work plan.

Personnel Decon Protocol: Soap, water, and paper towels or baby wipes will be available for all personnel and will be used before eating, drinking or leaving the Site. Personnel will shower

upon return to home. Disposable PPE will be double bagged and disposed of in an appropriately designated 55-gallon drum.

Decon Solution Monitoring Procedures, if Applicable: Decontamination solutions will be containerized in appropriately labeled 55-gallon drums.

Special Site Equipment, Facilities or Procedures (Sanitary Facilities and Lighting Must Meet 29CFR 1910.120): Personnel will be required to maintain the Buddy System when entering and working on-Site. All parties will be required to attend an on-Site briefing, which will identify the roles of each organization's personnel and will integrate emergency procedures for all Site participants.

Site Entry Procedures and Special Considerations: Entry to the Site should be limited to authorized personnel, through the main entrance. The Buddy System should be employed when on-Site and entering and exiting the Site, along with the work zone areas.

Work Limitations (time of day, weather conditions, etc.) and Cold/Heat Stress Requirements: All work will be completed during daylights hours. Severe inclement weather may be cause to suspend outdoor activities. Cold/heat stress protocol will dictate work/rest regimen. Heavy equipment will not be used during electrical storms. No transfer of materials can be conducted outside of normal working hours.

Investigation Derived Material (i.e., Expendables, Decon Waste, Cuttings) Disposal: Specified in work plan.

Sampling Handling Procedures Including Protective Wear: All sample handling will be performed while wearing nitrile gloves. To minimize hazards to lab personnel, sample volumes will be no larger than necessary, and the outside of all sample containers will be wiped clean prior to shipment.

Accident and Injury Reporting: Any work-related incident, accident, injury, illness, exposure, or property loss must be reported to the project manager. This includes:

- Accident, injury, illness, or exposure of an employee;
- Injury of a subcontractor;
- Damage, loss, or theft of property, and/or
- Any motor vehicle accident regardless of fault, which involves a company vehicle, rental vehicle, or personal vehicle while employee is acting in the course of employment.

E. TRAINING REQUIREMENTS

All personnel conducting field activities on-Site are required to have completed training sessions in accordance with Occupational Safety and Health Administration (OSHA) for Parts 1926 and 1910 (Title 29 Code of Federal Regulations [CFR] Part 1926.65 and Part 1910.120 - Hazardous Waste Operations and Emergency Response- 'HazWOPER'). This training shall consist of a minimum of 40 hours of instruction off-Site and three days of actual field experience under the direct supervision of a trained, experienced supervisor. Each employer will maintain documentation stating that its on-Site personnel have complied with this regulation.

In addition, each employee PPE worn by each employee will be in compliance with OSHA Parts 1910.132-140. Also, if respirator use is required, each employee needed to wear a respirator will be in compliance with OSHA Respiratory Protection standards Part 1910.134.

All personnel will have reviewed this HASP and received a Site-specific health and safety briefing prior to participating in field work.

All visitors entering the work area must review the HASP and be equipped with the proper PPE. All Site personnel and visitors shall sign the last page of the HASP as an acknowledgement that they have read and understand the Site health and safety requirements.

Medical Surveillance Requirements: All field staff who engage in on-Site activities for 30 days or more per year participate in a medical monitoring program and have completed applicable training per 29CFR 1910.120. Respiratory protection program meets requirements of 29CFR 1910.134.

Team Member*	**Responsibility**
Gregory L. Andrus	Field Team Leader/Site Safety Officer
Patrick Colern	Alternate Field Team Leader/Site Safety Officer
Ari Cheremeteff	Field Technician
Gina Ferruzza	Field Technician

* All entries into the work zone require use of "Buddy System".

F. EMERGENCY INFORMATION

LOCAL RESOURCES

Ambulance:	911
Hospital Emergency Room:	Thompson Hospital 350 Parrish Street, Canandaigua, New York
Poison Control Center:	911
Police (include local, county sheriff, state):	911
Fire Department:	911
Airport:	N/A
Laboratory:	ALS Environmental 1565 Jefferson Road, Rochester, NY 14623 (585) 288-5380 Paradigm Environmental Services, Inc. 179 Lake Avenue, Rochester, NY 14608 (585) 647-2530
UPS/FedEx Express:	**Nearest FedEx**: F L Shipping Outlet, 4385 Recreation Drive, Canandaigua, NY 14424 (last ground pickup 4:00 pm M-F) **Nearest UPS**: 106 Cobblestone Court Drive, Victor, NY 14564 (last air and ground pickup 7:00 pm M-F)

SITE RESOURCES

Site Emergency Evaluation Alarm Method: Sound vehicle horn

Water Supply Source: Gallons of water will be available in vehicles

Telephone Location, Number: None available

Cellular Phone, if Available: On-Site cell # TBD

Other:

EMERGENCY CONTACTS

1. Fire/Police: 911
2. Safety Director: (585) 385-7417 (office)
3. Gregory L. Andrus: (585) 385-7417, Ext. 215 (office)/ (585) 732-5786 (Cell phone)

EMERGENCY ROUTES

Note: Field team must know route(s) prior to start of work.

Directions from the Site to Thompson Hospital (map on following page):
Head southeast on Chapin Street toward Bemis Street. Turn left onto South Pearl Street. Turn right onto Parrish Street, Thompson hospital will be on the right-hand side of the road at the corner of Parrish Street and West Street.

On-Site Assembly Area: At Site entry point.

Off-Site Assembly Area: Consult with Site Safety Officer.

Emergency egress routes to get off-Site: Exit via West Avenue parking area to meeting point to be designated by the Site Safety Officer.

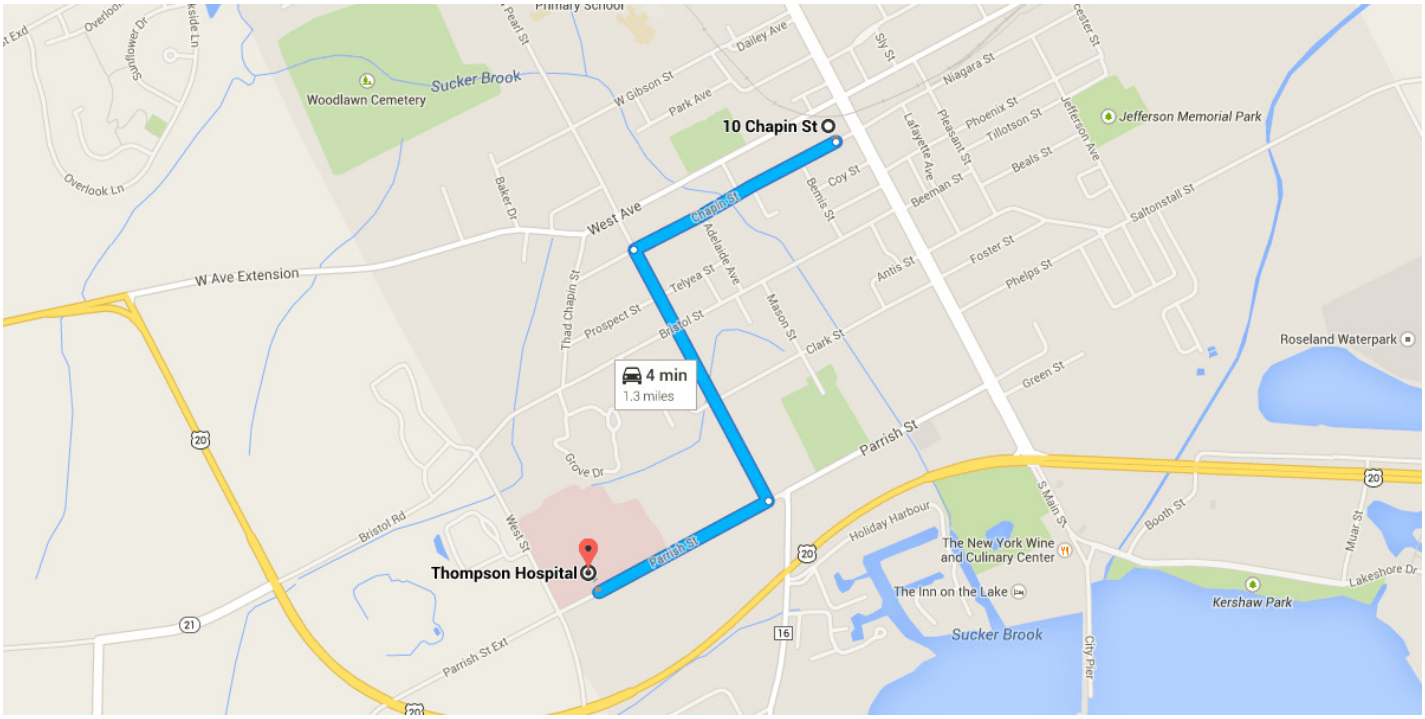
FIGURES

HOSPITAL ROUTE MAP

Google

Drive 1.3 miles, 4 min

Directions from 10 Chapin St to Thompson Hospital



10 Chapin St

Canandaigua, NY 14424

1. Head **southwest** on **Chapin St** toward **Bemis St**

0.4 mi

2. Turn **left** onto **S Pearl St**

0.5 mi

3. Turn **right** onto **Parrish St**

Destination will be on the right

0.4 mi

Thompson Hospital

350 Parrish Street, Canandaigua, NY 14424

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

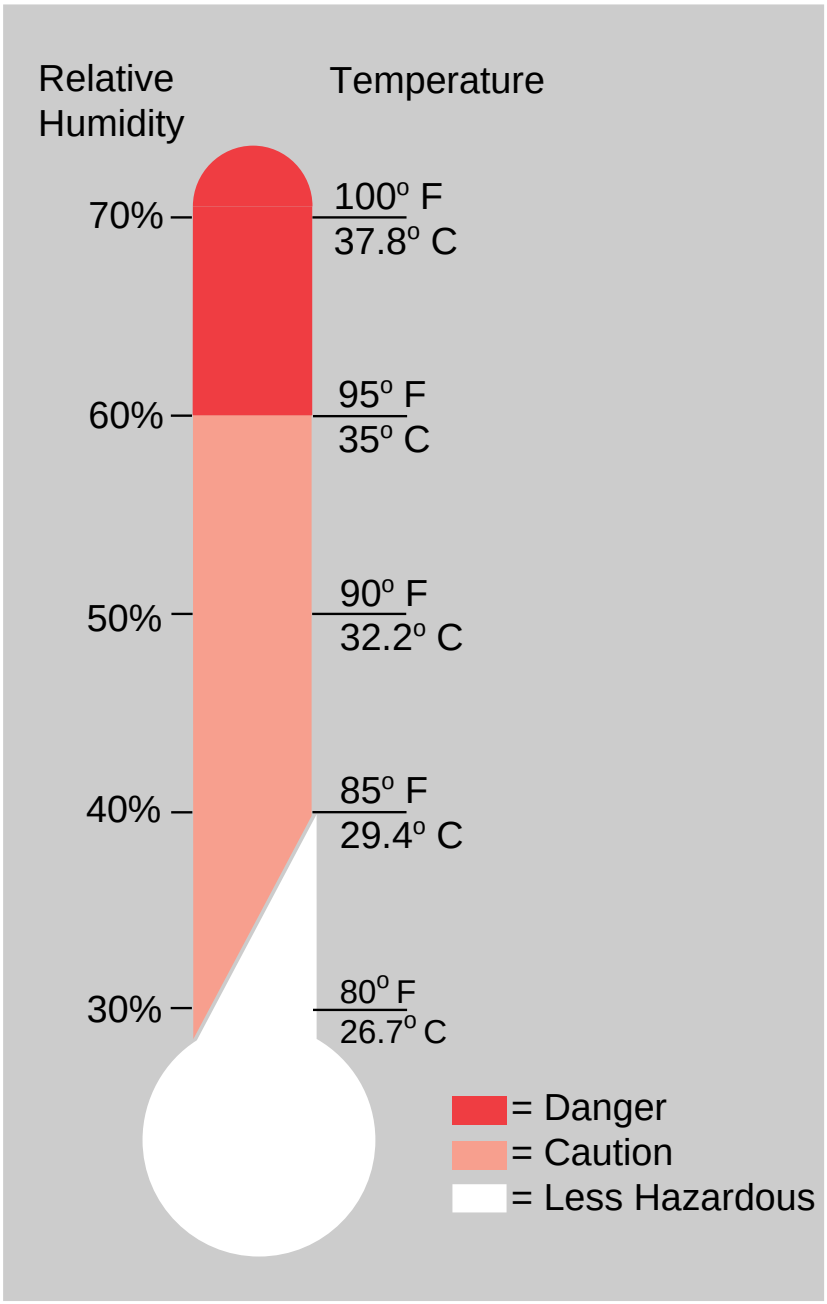
APPENDIX A

COLD/HEAT EXPOSURE

THE HEAT EQUATION

HIGH TEMPERATURE + HIGH HUMIDITY + PHYSICAL WORK = HEAT ILLNESS

When the body is unable to cool itself through sweating, **serious** heat illnesses may occur. The most severe heat-induced illnesses are **heat exhaustion** and **heat stroke**. If actions are not taken to treat heat exhaustion, the illness could progress to heat stroke and possible **death**.



U.S. Department of Labor
Occupational Safety and Health Administration

OSHA 3154
1998

HEAT EXHAUSTION

What Happens to the Body:

HEADACHES, DIZZINESS/LIGHT HEADEDNESS, WEAKNESS, MOOD CHANGES (irritable, or confused/can't think straight), FEELING SICK TO YOUR STOMACH, VOMITING/THROWING UP, DECREASED and DARK COLORED URINE, FAINTING/PASSING OUT, and PALE CLAMMY SKIN.

What Should Be Done:

- Move the person to a cool shaded area to rest. Don't leave the person alone. If the person is dizzy or light headed, lay them on their back and raise their legs about 6-8 inches. If the person is sick to their stomach lay them on their side.
- Loosen and remove any heavy clothing.
- Have the person drink some cool water (a small cup every 15 minutes) if they are not feeling sick to their stomach.
- Try to cool the person by fanning them. Cool the skin with a cool spray mist of water or wet cloth.
- If the person does not feel better in a few minutes call for emergency help (Ambulance or Call 911).

(If heat exhaustion is not treated, the illness may advance to heat stroke.)

HEAT STROKE—A MEDICAL EMERGENCY

What Happens to the Body:

DRY PALE SKIN (no sweating), HOT RED SKIN (looks like a sunburn), MOOD CHANGES (irritable, confused/not making any sense), SEIZURES/FITS, and COLLAPSE/PASSED OUT (will not respond).

What Should Be Done:

- Call for emergency help (Ambulance or Call 911).
- Move the person to a cool shaded area. Don't leave the person alone. Lay them on their back and if the person is having seizures/fits remove any objects close to them so they won't strike against them. If the person is sick to their stomach lay them on their side.
- Remove any heavy and outer clothing.
- Have the person drink some cool water (a small cup every 15 minutes) if they are alert enough to drink anything and not feeling sick to their stomach.
- Try to cool the person by fanning them. Cool the skin with a cool spray mist of water, wet cloth, or wet sheet.
- If ice is available, place ice packs under the arm pits and groin area.

How to Protect Workers

- Learn the signs and symptoms of heat-induced illnesses and what to do to help the worker.
- Train the workforce about heat-induced illnesses.
- Perform the heaviest work in the coolest part of the day.
- Slowly build up tolerance to the heat and the work activity (usually takes up to 2 weeks).
- Use the buddy system (work in pairs).
- Drink plenty of cool water (one small cup every 15-20 minutes)
- Wear light, loose-fitting, breathable (like cotton) clothing.
- . Take frequent short breaks in cool shaded areas (allow your body to cool down).
- Avoid eating large meals before working in hot environments.
- Avoid caffeine and alcoholic beverages (these beverages make the body lose water and increase the risk for heat illnesses).

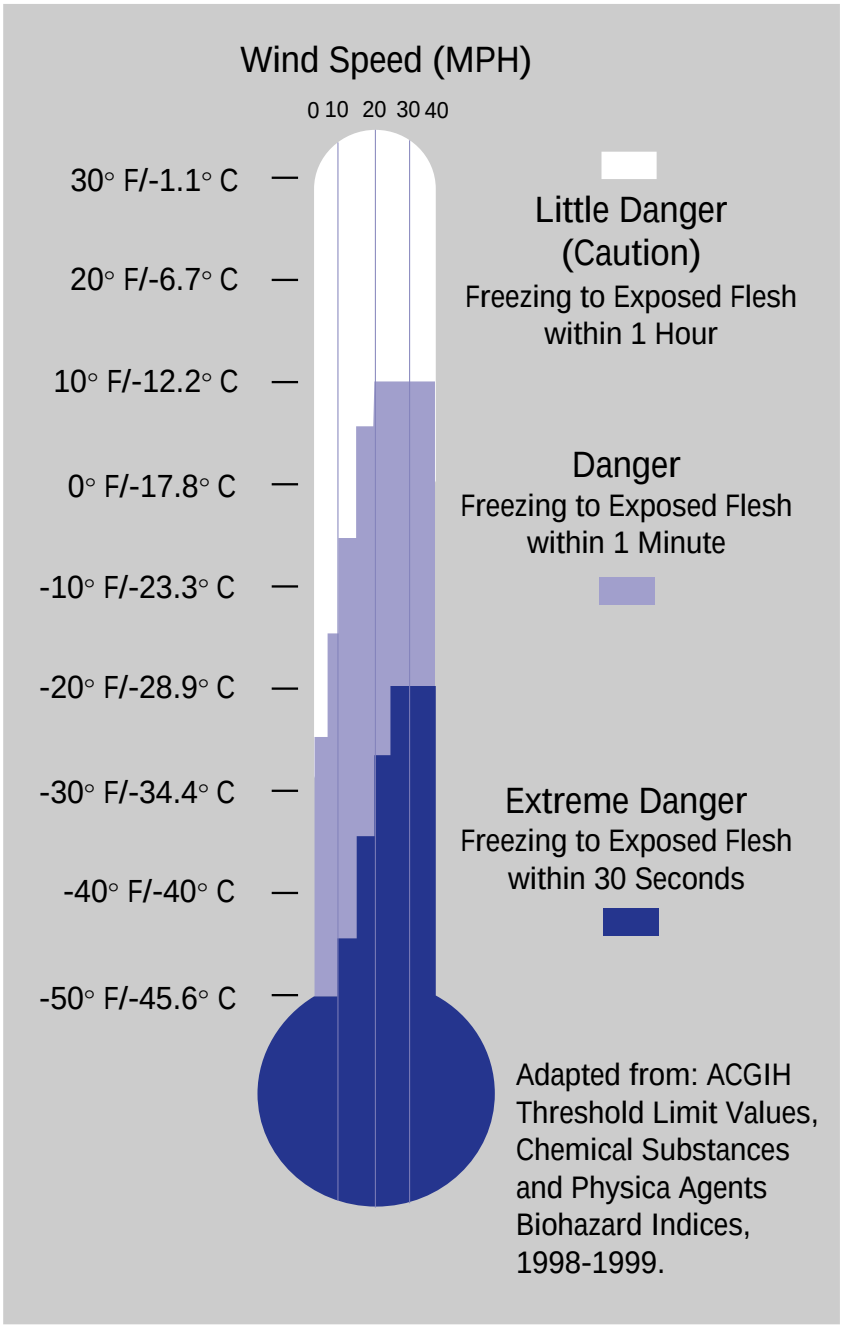
Workers Are at Increased Risk When

- They take certain medication (check with your doctor, nurse, or pharmacy and ask if any medicines you are taking affect you when working in hot environments).
- They have had a heat-induced illness in the past.
- They wear personal protective equipment (like respirators or suits).

THE COLD STRESS EQUATION

LOW TEMPERATURE + WIND SPEED + WETNESS = INJURIES & ILLNESS

When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result. **Hypothermia** can occur when *land temperatures* are **above** freezing or *water temperatures* are below 98.6°F/ 37°C. Cold-related illnesses can slowly overcome a person who has been chilled by low temperatures, brisk winds, or wet clothing.



U.S. Department of Labor
Occupational Safety and Health Administration

OSHA 3156
1998

FROST BITE

What Happens to the Body:

FREEZING IN DEEP LAYERS OF SKIN AND TISSUE; PALE, WAXY-WHITE SKIN COLOR; SKIN BECOMES HARD and NUMB; USUALLY AFFECTS THE FINGERS, HANDS, TOES, FEET, EARS, and NOSE.

What Should Be Done: (land temperatures)

- Move the person to a warm dry area. Don't leave the person alone.
- Remove any wet or tight clothing that may cut off blood flow to the affected area.
- **DO NOT** rub the affected area, because rubbing causes damage to the skin and tissue.
- **Gently** place the affected area in a warm (105°F) water bath and monitor the water temperature to **slowly** warm the tissue. Don't pour warm water directly on the affected area because it will warm the tissue too fast causing tissue damage. Warming takes about 25-40 minutes.
- After the affected area has been warmed, it may become puffy and blister. The affected area may have a burning feeling or numbness. When normal feeling, movement, and skin color have returned, the affected area should be dried and wrapped to keep it warm. **NOTE:** If there is a chance the affected area may get cold again, do not warm the skin. If the skin is warmed and then becomes cold again, it will cause severe tissue damage.
- Seek medical attention as soon as possible.

HYPOTHERMIA - (Medical Emergency)

What Happens to the Body:

NORMAL BODY TEMPERATURE (98.6° F/37°C) DROPS TO OR BELOW 95°F (35^0 C); FATIGUE OR DROWSINESS; UNCONTROLLED SHIVERING; COOL BLUISH SKIN; SLURRED SPEECH; CLUMSY MOVEMENTS; IRRITABLE, IRRATIONAL OR CONFUSED BEHAVIOR.

What Should Be Done: (land temperatures)

- Call for emergency help (i.e., Ambulance or Call 911).
- Move the person to a warm, dry area. Don't leave the person alone. Remove any wet clothing and replace with warm, dry clothing or wrap the person in blankets.
- Have the person drink warm, sweet drinks (sugar water or sports-type drinks) if they are alert. **Avoid drinks with caffeine** (coffee, tea, or hot chocolate) or alcohol.
- Have the person move their arms and legs to create muscle heat. If they are unable to do this, place warm bottles or hot packs in the arm pits, groin, neck, and head areas. **DO NOT** rub the person's body or place them in warm water bath. This may stop their heart.

What Should Be Done: (water temperatures)

- Call for emergency help (Ambulance or Call 911). Body heat is lost up to 25 times faster in water.
- **DO NOT** remove any clothing. Button, buckle, zip, and tighten any collars, cuffs, shoes, and hoods because the layer of trapped water closest to the body provides a layer of insulation that slows the loss of heat. Keep the head out of the water and put on a hat or hood.
- Get out of the water as quickly as possible or climb on anything floating. **DO NOT** attempt to swim unless a floating object or another person can be reached because swimming or other physical activity uses the body's heat and reduces survival time by about 50 percent.
- If getting out of the water is not possible, wait quietly and conserve body heat by folding arms across the chest, keeping thighs together, bending knees, and crossing ankles. If another person is in the water, huddle together with chests held closely.

How to Protect Workers

- Recognize the environmental and workplace conditions that lead to potential cold-induced illnesses and injuries.
- Learn the signs and symptoms of cold-induced illnesses/injuries and what to do to help the worker.
- Train the workforce about cold-induced illnesses and injuries.
- Select proper clothing for cold, wet, and windy conditions. Layer clothing to adjust to changing environmental temperatures. Wear a hat and gloves, in addition to underwear that will keep water away from the skin (polypropylene).
- Take frequent short breaks in warm dry shelters to allow the body to warm up.
- Perform work during the warmest part of the day.
- Avoid exhaustion or fatigue because energy is needed to keep muscles warm.
- Use the buddy system (work in pairs).
- Drink warm, sweet beverages (sugar water, sports-type drinks). Avoid drinks with caffeine (coffee, tea, or hot chocolate) or alcohol.
- Eat warm, high-calorie foods like hot pasta dishes.

Workers Are at Increased Risk When…

- They have predisposing health conditions such as cardiovascular disease, diabetes, and hypertension.
- They take certain medication (check with your doctor, nurse, or pharmacy and ask if any medicines you are taking affect you while working in cold environments).
- They are in poor physical condition, have a poor diet, or are older.

APPENDIX B

ADDITIONAL POTENTIAL PHYSICAL AND CHEMICAL HAZARDS

ADDITIONAL POTENTIAL PHYSICAL AND CHEMICAL HAZARDS	
POTENTIAL PHYSICAL HAZARDS	**CONTROL METHODS**
Overhead Hazards/Falling Objects	Overhead hazards will be identified prior to each task (i.e., inspecting drill rig mast, building structure). Hardhats will be required for each task that poses an overhead hazard.
Contact with Utilities	Prior to initiating Site activities, all utilities will be located by the appropriate utility company and will be marked and/or barricaded to minimize the potential of accidental contact. A minimum distance of 25 feet between the derrick and overhead power lines must be maintained at all times.
Noise Exposure	Areas of potentially high sound pressure levels (>85 dBA) will be restricted to authorized personnel only. Engineering controls will be used to the extent possible. Hearing protection will be made available to all workers on Site. Exposure to time-weighted average levels in excess of 85 dBA is not anticipated.
POTENTIAL CHEMICAL HAZARDS	**GENERAL CONTROL METHODS**
Contaminant Inhalation	Direct reading instruments and/or olfactory indications will be used to monitor airborne contaminants. Established action levels will limit exposure to safe levels. Respiratory protection will be used as appropriate.
Contaminant Ingestion	Standard safety procedures such as restricting eating, drinking, chewing gum and tobacco, and smoking to the support zone and utilizing proper personal decontamination procedures will minimize ingestion as a potential route of exposure.
Dermal Contaminant Contact	The proper selection and use of personal protective clothing and decontamination procedures will minimize dermal contaminant contact.
Potential contact with lower concentration waste and naturally occurring contaminants (i.e., methane)	Dermal contact with contaminants will be minimized by proper use of the following PPE: • Neoprene gloves

APPENDIX C

CHEMICAL HAZARD EVALUATION

CHEMICAL HAZARD EVALUATION									
	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
Compound	PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Acetone	1000 ppm	250 ppm	500 ppm	Y	Inh, Ing, Con	Irritation to eyes, nose, or throat, skin, skin burns, loss of coordination and equilibrium	Sharp penetrating odor, mint like	1.1	9.69
Aroclor 1260 (PCB)*	0.5 ^{sk} mg/m^3	---	0.5 ^{sk} mg/m^3	Y	Abs, Inh, Ing	Irritation to eyes and skin; dermatitis, liver damage	---	---	---
Arsenic*	0.010 mg/m^3	---	0.01 mg/m^3	Y	Inh, Ing, Abs, Con	Coughing, irritation to eyes, nose, throat, respiratory tract, inflammation of mucous membranes, dyspnea (labored breathing), cyanosis, and rales (rattle breathing), vomiting, bloody diarrhea, cold clammy skin, low blood pressure, weakness, headache cramps, convulsions, coma, redness, burns to skin	Odorless/silver gray or tin white brittle (metal, inorganic), also can be in solution (clear & odorless)	---	---
Barium	0.5 mg/m^3	---	0.5 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, nose, throat, or skin; stomach pains, slow pulse, irregular heart beat	Odorless	---	---

CHEMICAL HAZARD EVALUATION									
	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
Compound	PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Benzene*	1 ppm	---	10 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, nose, respiratory system; headache, nausea, dizziness, drowsiness, unconsciousness, harmful, fatal if aspirated into lungs	Colorless to light yellow liquid, sweet aromatic odor	0.5	9.25
Cadmium*	0.005 mg/m^3	LFC	0.01 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, nose, throat, cough, tight chest/pain, dyspnea, pulmonary edema, sweating, chills, slow pulse, muscle aches, weakness, death	Silvery/white (blue tinged) lustrous solid, odorless	---	N/A
Chromium (metal)	1.0 mg/m^3	0.5 mg/m^3	0.5 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, skin and respiratory tract (lungs), ulceration of skin and mucous membranes, rash, electrolyte disturbances	Blue-white to steel gray lustrous brittle hard, odorless solid	---	N/A
CIS-1,2-Dichloroethene CIS-DCE	200 ppm	200 ppm	200 ppm	Y	Inh, Ing, Abs, Con	Irritant to skin, eyes, respiratory tract, mucous membranes, liver damage, narcotic effect at high concentrations	Mild odor	0.8	9.66
1,1-Dichloroethene	1 ppm	---	5 ppm	N	Inh, Ing, Abs, Con	Irritation, sensitation to eyes, nose, throat, dizziness	Mild, sweet chloroform-like odor	0.9	9.79

CHEMICAL HAZARD EVALUATION

Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
	PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
1,2-Dichloroethene 1,2-Dichloroethylene Trans-DCE	200 ppm	200 ppm	10 ppm	Y	Inh, Ing, Abs, Con	Irritation to eyes, respiratory system; central nervous system depression	Colorless liquid, slightly acrid, chloroform-like odor	---	---
Ethylbenzene	100 ppm	---	100 ppm	Y	Inh, Ing, Con	Irritation to eyes, skin, mucous membranes; dermatitis, narcosis, , trouble breathing, paralysis, headache, nausea, headache, dizziness, coma	Colorless liquid, aromatic odor	0.5	8.77
Lead	0.05 mg/m^3	0.05 mg/m^3	0.05 mg/m^3	Y	Inh, Ing, Con	Poison, abdominal pain, spasms, nausea, vomiting, headache, irritation to eyes; skin, weakness, metallic taste, anorexia/loss of appetite, insomnia, facial pallor, colic, anemia, tremor, “lead line” in gums, constipation, abdominal pain, paralysis in wrists and ankles, encephalopathy (inflammation of brain)	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
	PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Magnesium	N/A	---	N/A	Y	Inh	Irritation to eyes, nose, throat, skin (can burn), corneal abrasions, muscular pain, chills, nausea, vomiting, diarrhea, metal fume fever.	Silver white, metallic powder, odorless	---	---
Mercury	0.1 [sk] mg/m^3 ceiling	0.1 mg/m^3 ceiling 0.05 mg/m^3 ceiling	0.025 [sk] mg/m^3	Y	Inh, Abs, Ing, Con	Severe respiratory tract damage, sore throat, coughing, pain, tightness in chest, breathing difficulties, headache, muscle weakness, anorexia, GI disturbances, ringing in ear, liver changes fever, bronchitis, pneumonitis, burning in mouth, abdominal pain, vomiting, corrosive ulceration, bloody diarrhea, weak & rapid pulse, paleness, exhaustion, tremors, collapse, thirst, burns and irritates skin, eyes, blurred vision, pain in eyes	Silver-white, heavy, odorless liquid metal	---	N/A

CHEMICAL HAZARD EVALUATION

Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
	PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Methyl Ethyl Ketone (2-Butanone, MEK)	200 ppm	200 ppm	200 ppm	Y	Inh, Ing, Con	Irritation to eyes, nose; skin, dizziness, nausea, drowsiness, CNS depression, unconsciousness	Mint or acetone-like	0.9	9.51
Silver	0.01 mg/m^3	---	0.1 mg/m^3	Y	Inh, Ing, Con	Blue gray eyes, irritation to nasal septum, throat, skin, ulcerations to skin, GI disturbances	White to gray lustrous/ metallic solid, odorless	---	---
Sodium	None	---	None	Y	Ing, Con	Can react with moisture to create sodium hydroxide and burn tissue	White to gray metallic, odorless solid	---	---
1,1,1-Trichloroethane	350 ppm	---	350 ppm	Y	Inh, Con	Vomiting, nausea, drowsiness, unconsciousness	Slight fruity odor	NR	11
Tetrachloroethylene (PCE)	100 ppm	---	25 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, nose, upper respiratory tract, throat; skin, flush face dizziness, giddiness, headache, intoxication, nausea, vomiting, abdominal pain, diarrhea, systemic effects	Colorless liquid, mild chloroform-like odor	---	9.32

CHEMICAL HAZARD EVALUATION									
	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
Compound	PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Toluene	200 ppm	100 ppm	20 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, nose; upper respiratory tract, fatigue, weak, confusion, dizziness, headache, drowsiness, abdominal spasms, dilated pupils, euphoria	Colorless liquid, sweet pungent, benzene like odor	0.5	8.82
Trichloroethene* (TCE)	100 ppm (per 6/97 NIOSH Pocket Guide)	25 ppm (per 2005 NIOSH Pocket Guide)	10 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, mucous membranes and GI, headache, vertigo, fatigue, giddiness, tremors, vomiting, nausea, may burn skin, visual disturbance, paresthesia, cardiac arrhythmias	Colorless liquid, sometimes dyed blue, chloroform odor	---	9.45
Vinyl Chloride*	1 ppm	---	1 ppm	Y	Inh, Con	Dulled auditory and visual response, headache, weakness, frostbite, GI bleeding, pallor or cyanosis of extremities, abdominal pain, bleeding	Colorless liquefied gas, pleasant odor at high concentrations (3000 ppm)	2.0	9.99

CHEMICAL HAZARD EVALUATION									
	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
Compound	PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
Xylenes	100 ppm	100 ppm	100 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, nose, throat, skin; nausea, vomiting, headache, ringing in ears, severe breathing difficulties (that may be delayed in onset), substernal pain, coughing hoarseness, dizziness, excited, burning in mouth, stomach, dermatitis (removes oils from skin), corneal burns	Colorless liquid, aromatic odor (solid below 56 F	.5	8.44

KEY:

PEL = Permissible Exposure Limit
REL = Recommended Exposure Limit
--- = Information not available
TLV = Threshold Limit Value(ACGIH)
Inh = Inhalation
Ing = Ingestion
mg/m^3 = Milligrams per cubic meter
* = Chemical is a known or suspected carcinogen
Abs = Skin Absorption
Con = Skin and/or eye Contact
ppm = Parts per million
sk = Skin notation