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January 15, 2019

Division of Environmental Remediation
Remedial Bureau E, 12th Floor
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7017

Attention: Charles Gregory, Project Manager

Subject: **Soil Vapor Intrusion Investigation - Field Activities Plan Addendum 6**
Scobell Chemical – NYSDOT Site (828076) Remedial Design WA D007619-32
MACTEC Engineering and Consulting, P.C. Project No. 3617147328

Dear Mr. Gregory:

This Soil Vapor Intrusion (SVI) Investigation Field Activities Plan (FAP) Addendum 6 has been prepared for the Scobell Chemical – New York State (NYS) Department of Transportation (NYSDOT) Site (828076) (Site) in the Town of Brighton, Monroe County, New York (Figure 1). This FAP provides the scope of work for activities conducted as part of the Site's Remedial Design Work Assignment D007619-32.1 on behalf of the NYS Department of Environmental Conservation (NYSDEC) under the state superfund program, including the ongoing monitoring for SVI at potential receptors (i.e., collection of sub-slab vapor and indoor air samples), as well as system performance evaluations of previously installed sub-slab depressurization systems (SSDSs).

INVESTIGATION OBJECTIVES

The objectives of the investigation are to evaluate the potential for SVI into structures in the vicinity of the groundwater plume, and monitor SSDS performance.

SCOPE OF WORK

This FAP Addendum presents a technical scope of work to conduct the SVI activities. Proposed activities include:

1. Monitor: Sampling structures where monitoring was recommended by the NYS Department of Health (NYSDOH) (i.e., collection of sub-slab vapor and indoor air samples),
2. System Performance: Evaluating system performance of previously installed SSDSs at Rockwood Place and Ellison Park Apartments.
3. System Scoping: Evaluation of structures at Ellison Park Apartments recommended by the NYSDOH for installation of new SSDSs

Work will be conducted in accordance with the NYSDEC DER-10 Guidance (NYSDEC, 2010), the MACTEC Engineering and Consulting, P.C. (MACTEC) Quality Assurance Program Plan (QAPP) (MACTEC, 2011a), the NYSDOH vapor intrusion guidance (NYSDOH, 2006), and this FAP.

A summary of these field tasks and methodologies, sample identifications, and analytical program are described in more detail in Table 1, as well as in the following subsections. Proposed SVI sample locations are shown on Figure 2. Field Forms from the MACTEC QAPP are included in Attachment A. Subcontractors selected to support the SVI investigation include:

- Centek Laboratories – analytical services for sub-slab vapor, indoor air samples, and ambient air samples.
- Mitigation Tech - evaluation of SSDS system performance and System Scoping.

Health and Safety. Fieldwork will be conducted in Level D personal protection. Specific investigation activities and required level of personal protection are set forth in the Site-specific Health and Safety Plan (HASP) (MACTEC, 2014, as well as the job hazard analysis included in Attachment A). Criteria for upgrading or downgrading the specified level of protection are also provided in the Site-specific HASP. Additional health and safety requirements are set forth in the Program HASP (MACTEC, 2011b).

Mobilization. Mobilization will include obtaining utility clearances for proposed locations, procurement of subcontractors, the acquisition and coordination of supplies, and holding a project kick-off meeting and readiness review with team personnel.

SVI Sampling General. SVI sampling will be conducted in accordance with NYSDOH Guidance for Evaluating SVI (NYSDOH, 2006) at properties adjacent to and north of the Site to monitor structures where SSDSs were installed or where additional monitoring was recommended by NYSDOH, as well as evaluation of new locations proposed for SSDSs. Table 1 presents sample rationale and sample IDs. Figure 2 shows proposed sample locations within the Ellison Park Apartments complex (Location 3), and Attachment B shows a field sketch with previous and proposed sample locations at 80 Rockwood Place (Locations 1 and 4). Field data records to be completed are included in Attachment C.

System Performance - Routine Mitigation System Monitoring. SSDSs were previously installed at six buildings in the vicinity of the Site. An evaluation of two of the systems installed at 80 Rockwood (Locations 1 and 4), as well as one of the systems installed at Ellison Park Apartments (Location 3 – Building 6 [B6]) will be conducted. The evaluations will include:

- Visual inspection of the system and its components, including but not limited to the fan, electrical switch, polyvinyl chloride (PVC) piping, piping joints connections, warning device, vacuum manometer gauge and labeling on the system to ensure there are no defects in the system and that it is operating properly.
- Visual inspection of the condition of the basement floor inside the dwelling for additional or new cracks, holes, or utility penetrations.
- Inspect from the ground the condition of the exterior exhaust discharge point for potential air intakes, or potential issues (e.g., ice dams, cracks).
- Collection of indoor air samples at approximately the same location as the indoor air samples collected prior to the installation of the SSDSs, to compare pre and post installation indoor air concentrations. Samples will be obtained over an approximate 8-hour period for commercial properties, and 24-hour period for residential properties (flow rate will be less than 0.2 liters per minute as required by the [NYSDOH, 2006]. Field measurements and sampling activities will be documented using an Indoor Air Sampling Form (QAPP Figure 4.19; MACTEC, 2011a).

System Performance - SSDS Modifications/Monitoring. Three buildings within the Ellison Park Apartments that previously had SSDSs installed (Location 3 – Buildings 1, 2, and 10 [B1, B2, and B10]), continue to contain low concentrations of chlorinated compounds in the indoor air. To evaluate the effectiveness of the system and determine if modifications may be necessary, the following will be conducted in conjunction with Mitigation Tech, the contractor that installed the SSDSs:

- Visual inspection of the system and its components, including but not limited to the fan, electrical switch, PVC piping, piping joints connections, warning device, vacuum manometer gauge and labeling on the system to ensure there are no defects in the system and that it is operating properly.

- Inspect from the ground the condition of the exterior exhaust discharge point for potential air intakes, or potential issues (e.g., ice dams, cracks).
- Visual inspection of the condition of the basement floor inside the dwelling for additional or new cracks, holes, or utility penetrations.
- Evaluation of the floor/walls and basement air with a parts per billion (ppb) photoionization detector to evaluate potential source areas/vapor entry points.
- Drilling of holes in the sub-slab and collection of vacuum measurements from across the basement slabs to evaluate if there are potential areas not being affected by the existing system.

Based on results of the inspections, the following may be conducted:

- If areas below the concrete slab are not depressurized by the existing SSDS, system modifications (e.g., additional suction points or fans, sealing of identified cracks) will be conducted by Mitigation Tech, under consultation with the NYSDEC/NYSDOH, or
- If vacuum measurements indicate the current system is effectively depressurizing the slab, indoor air samples will be collected to confirm previous results and evaluate additional areas of the structure's basement.

System Scoping - Evaluation for New SSDS. The NYSDOH has proposed the installation of new SSDSs at three buildings within the Ellison Park Apartments (Location 3 – Buildings 3, 4, and 5 [B3, B4, and B5]). MACTEC will meet with Mitigation Tech to evaluate potential system requirements. Evaluations will include:

- Documenting the general size of the building foundation and potential footers.
- Conducting a visual inspection of the buildings for sumps, crawl spaces, cracks, potential fan and piping locations.
- Communication testing to evaluate potential number and type of fan and vacuum points needed.

Results from the evaluation will be used to estimate the potential cost for SSDS installation.

Monitor - SVI Monitoring at Previously Sampled Locations. Two structures within the Ellison Park Apartments complex (Location 3, Buildings 8, and 9 [labeled as B8, and B9]), as well as the structure on the property adjacent to the Site (80 Rockwood Place - Locations 1 and 4) will be sampled to evaluate if additional mitigation measures are necessary at these locations. Based on discussions with the NYSDOH and the NYSDEC, samples collected at 80 Rockwood will be collected from a subset of previous sample locations (proposed and previous locations shown on a plan of the building included in Attachment B). Monitoring locations within the Ellison Park Apartments are also presented on Figure 2. Sub-slab vapor and indoor air samples will be collected from approximately

the same locations as those collected previously. Samples will generally be collected using the same procedures as discussed below.

SVI Sampling Techniques

Indoor air and sub-slab vapor samples will be obtained over an approximate 8-hour period (if commercial space) or 24-hour period (if residential dwelling). The sampling flow rate will be less than 0.2 liters per minute as required by the NYSDOH guidance. The samples will be collected as described below.

Prior to collecting air samples, an indoor air survey will be completed using the NYSDOH "Indoor Air Quality Questionnaire and Building Inventory" form. Sample collection procedures are further described in the QAPP (MACTEC, 2011a). Sub-slab vapor samples will be collected from below the structures' concrete slab using a temporary sampling point. A 3/8-inch diameter hole will be drilled with a hammer drill through the building floor, at the approximate locations indicated in the attached figures, but away from any cracks or sumps. The hole will be continued approximately 2-inches below the slab. The hole will then be swept to remove drill cuttings/dust from the area. A ¼-inch piece of Teflon tubing will be placed into the hole, so that the bottom of the tubing is below the slab floor (ensuring that the bottom of the tubing does not become blocked with dirt/concrete at the bottom of the hole); the hole around the tubing will be sealed with Van Aiken Plastalina (a sealant similar to modeling clay), or equivalent. Helium will be used within an enclosure around the sample point to leak test the location. One 60 cubic centimeter volume of air will be purged from the tubing with a polyethylene syringe (1 to 3 volumes). The syringe will be capped, and the air released outside the building as to not interfere with the indoor air sample collection. The tubing will then be purged with a helium leak detector (25 milliliters/minute) to ensure that there is less than 10% helium in the sub-slab vapor prior to collecting the sample. A SUMMA®-type canister with an 8 or 24-hour flow valve (as described previously) will be connected to the tubing as described in the QAPP.

Indoor air samples will be collected in SUMMA®-type canisters from the vicinity of the sub-slab vapor sample collection points. Indoor air samples will be collected away from sumps, and if standing water is present it will be noted on the sampling form. Indoor air samples will be collected from approximately three to five feet above the floor level (if necessary, Teflon tubing will be extended

from the canister to attain the proper intake height). Indoor air samples will be set up with 8 or 24-hour flow valve (will correspond with the sub-slab vapor sample duration).

Ambient air samples will be collected in SUMMA®-type canisters from the vicinity of the structures being sampled for indoor air and sub-slab vapor volatile organic compound (VOC) contamination (multiple structures near each other and being sampled for the same time duration can use a single ambient air sample). Samples will be collected from approximately three to five feet above ground surface. Ambient air samples will be set up with an 8 or 24-hour flow valve to correspond with the duration of the sub-slab and indoor air samples.

Once the sub-slab vapor sample canisters, indoor air sample canisters, and exterior ambient air canister have been set up for an individual location, the valves from all containers will be opened. The time of sample collection, canister vacuum (in inches Mercury), weather conditions, and barometric pressure will be recorded on the field data record.

Approximately 8-hour or 24-hours after the start of sample collection (depending on canister duration), the flow valve will be shut off. The time, remaining vacuum in the canister and barometric pressure will be noted on the field data record. The samples will be shipped to Centek for analyses of VOCs via United States Environmental Protection Agency (USEPA) Method TO-15 with a detection limit of 1 microgram per cubic meter ($\mu g/m^3$) for most compounds and a detection limit of 0.25 $\mu g/m^3$ for trichloroethene, vinyl chloride, and carbon tetrachloride in the indoor/ambient air samples.

Upon completion of the sampling, the tubing and stopper will be removed from the building floor and the holes will be filled completely with a fast-drying hydraulic concrete (i.e. Quickcrete).

SVI sampling activities will be documented using a Soil Vapor Sampling Record (QAPP Figure 4-11, MACTEC, 2011a).

Analytical Methods and Data Objectives: Soil vapor, indoor air, and ambient air samples will be collected for laboratory VOC analysis using Method TO-15.

Laboratory results will be reported in a Category B deliverable.

Soil vapor and indoor air samples will be compared to the SVI matrices (NYSDOH, 2006 and NYSDOH, 2015).

Laboratory data review of soil vapor, indoor air, and ambient air samples will include a Data Usability Summary Report (DUSR). The DUSR review will be completed based on NYSDEC DER-10 guidance (NYSDEC, 2010). Quality Control limits found in USEPA Region 2 validation guidelines in combination with the referenced analytical methods will be used during the data validation.

DELIVERABLES

An SVI report will be completed that summarize the results of monitoring (including air sampling and mitigation system monitoring) at structures where previous sampling resulted in monitoring or mitigation being recommended by NYSDOH.

The report will include a comparison of laboratory analytical results to applicable NYSDOH indoor air guidance values (NYSDOH, 2006 and NYSDOH, 2015). Field data records and environmental sampling data will be included as appendices to the reports.

The reports will be submitted to the NYSDEC and NYSDOH in portable document format. Analytical data will be uploaded to EQuIS.

Please feel free to contact us if you have any questions.

Sincerely,

MACTEC Engineering and Consulting, P.C.

Charles R. Staples
Task Leader

Jayme P. Connolly
Project Manager

Enclosures (1)

Attachment A: Job Hazardous Analysis for Sub Slab Soil Vapor Intrusion Sampling
Attachment B: Proposed SVI Sampling Locations
80 Rockwood
Attachment C: Field Data Records

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

DUSR	Data Usability Summary Report
FAP	Field Activities Plan
HASP	Health and Safety Plan
MACTEC	MACTEC Engineering and Consulting, P.C.
$\mu g/m^3$	microgram(s) per cubic meter
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
PDF	portable document format
PVC	polyvinyl chloride
QAPP	Quality Assurance Program Plan
Site	Scobell Chemical– NYSDOT Site
SSDS	sub-slab depressurization system
SVI	soil vapor intrusion
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

REFERENCES

MACTEC Engineering and Consulting, P.C. (MACTEC), 2014. Field Activities Plan – Scobell Chemical – NYSDOT Site No 828076 Prepared for the New York State Department of Environmental Conservation, Albany, New York. October 2014.

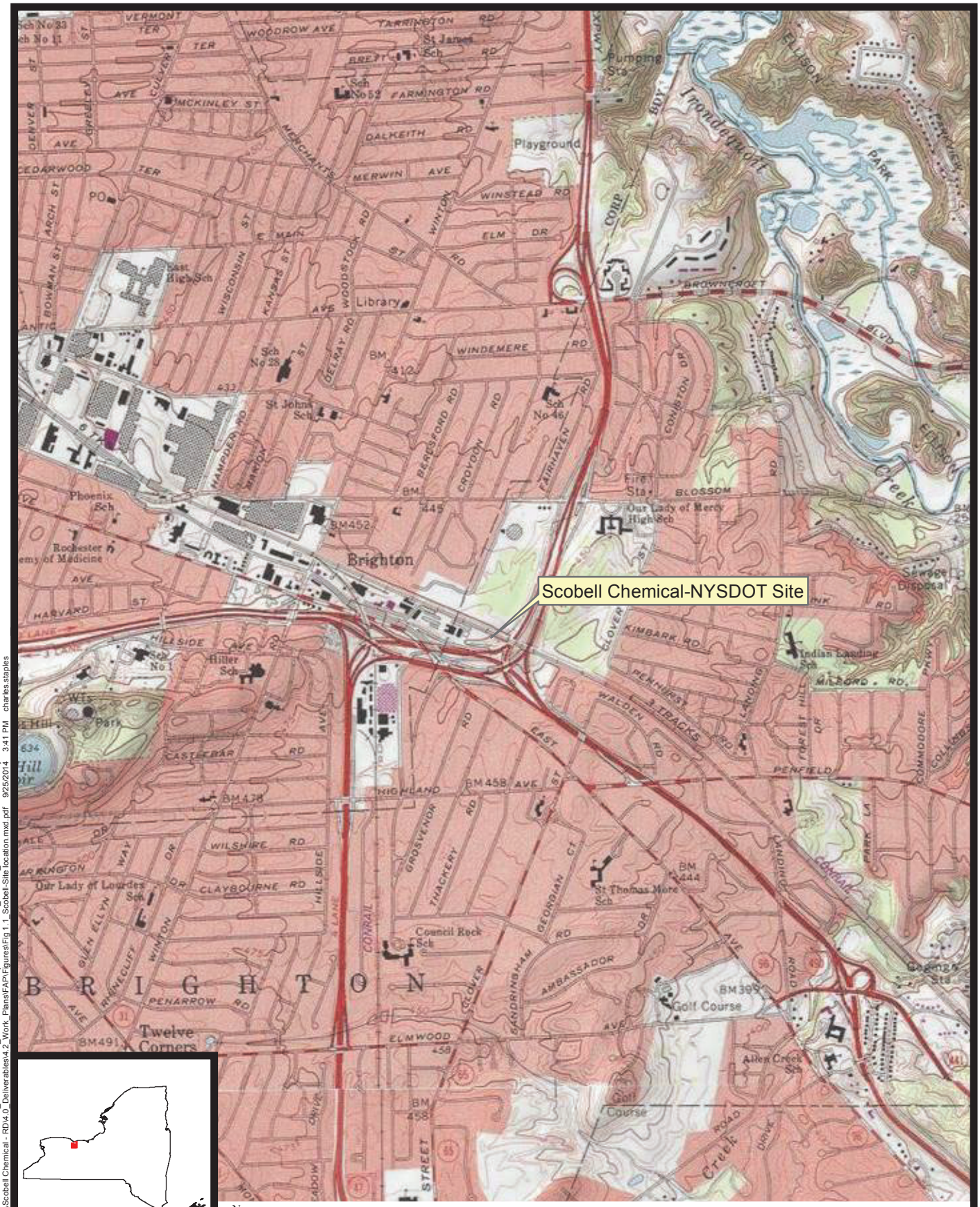
MACTEC, 2011a. Program Quality Assurance Program Plan. Prepared for the New York State Department of Environmental Conservation, Albany, New York. June 2011.

MACTEC, 2011b. Program Health and Safety Plan. Prepared for New York State Department of Environmental Conservation, Albany, New York. June 2011.

NYSDEC, 2010. DER-10, Technical Guidance for Site Investigation and Remediation. May 3, 2010.

NYSDOH, 2015. Thrichloroethene in Indoor and Outdoor Air, August 2015 Fact Sheet. August 2015.

NYSDOH, 2006. Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October 2006; updated May 2017.



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Prepared/Date: CRS 09/25/14
Checked/Date: BPN 09/25/14

SCOBELL CHEMICAL-NYSDOT
SITE # 828076
BRIGHTON, NEW YORK

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Site Location

Project 3617147328 Figure 1

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ysdec1\Contract D007619\Projects\Scobell Chemical - RD\4.0_Deliverables\4.2_Work_Plans\FAP\Figures\Fig 1_Scobell-Site location.mxd 9/25/2014 3:41 PM charles.staples

Blossom Rd

B2-01
B1-01
B2-02
B1-02
B3
B4
Bobrich Dr
B5
B6-01
Location 3
Ellison Park Apartments
B6-02
B8-01
B9-01
B8-02
B9-02
B10-04
B10-03
State

Locations 1 and 4
80 Rockwood Place
(Sample Locations
Shown on Attachment B)

Scobell Chemical-NYSDOT Site

N
0 75 150
Feet

Legend

- System Performance: Proposed Indoor Air Location
- Monitor: Sub-Slab/Indoor Air Location
- System Scoping

Note: Building IDs noted next to location symbol as "B#", i.e., B10 = Building 10

- Property Line
- Site Boundary

Prepared/Date: BRP 01/14/19
Checked/Date: CRS 01/14/19

SCOBELL CHEMICAL-NYSDOT SITE
ROCHESTER, NEW YORK

MACTEC

Proposed 2019 SVI Sampling Locations

Project 3617147328 Figure 2

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Table 1: Proposed Field Tasks and Methodology SVI Investigation

Location Identification	Medium	Depth bgs ft.	Sample I.D.	VOCs TO-15	Notes	Methodology and Rationale
Locations 1 and 4 (Attachment B)	Indoor Air (8 hour samples)	Sub-Slab Vapor-0.5 feet below concrete slab. Indoor Air - 3-5 feet above ground surface.	828076-IA-001-Basement	1	(8 hour)	System Performance and Monitoring: To check function and evaluate effectiveness of in-place SSDS, as well as evaluate indoor air conditions and potential for SVI at 80 Rockwood, collect soil vapor, indoor air and ambiant air samples. Ambient air sample numbers are place holders and will also to be used with soil vapor intrusion sampling below.
			828076-SS-001-Central	1	(8 hour)	
			828076-IA-001-Central	1	(8 hour)	
			828076-SS-001-Tryon	1	(8 hour)	
			828076-IA-001-Tryon	1	(8 hour)	
			828076-IA-001-Print	1	(8 hour)	
			828076-IA-001-NSC	1	(8 hour)	
			828076-IA-001-Dog Day Care	1	(8 hour)	
			828076-SS-004-T7-Glass	1	(8 hour)	
			828076-IA-004-Glass Oven	1	(8 hour)	
			828076-IA-004-Glass Oven Dup	1	(8 hour) Duplicate	
			828076-AA-001-01	1	(8 hour)	
Location 3 (Building B6) (Figure 2)	Indoor Air (24 hour samples)	Indoor Air - 3-5 feet above ground surface.	828076-IA-003B6-01	1	(24 hour)	System Performance - Initial confirmation indoor air samples at mitigated building.
			828076-IA-003B6-02	1	(24 hour)	
Location 3 (Buildings B8, and B9) (Figure 2)	Sub-Slab Vapor/ Air (24 hour samples)	Sub-Slab Vapor-0.5 feet below concrete slab. Indoor Air - 3-5 feet above ground surface.	828076-SS-003B8-01	1	(24 hour)	Collect sub-slab soil vapor and indoor air samples to evaluate locations previously recommended for continued monitoring and assess whether additional action is necessary.
			828076-IA-003B8-01	1	(24 hour)	
			828076-SS-003B8-02	1	(24 hour)	
			828076-IA-003B8-02	1	(24 hour)	
			828076-SS-003B9-01	1	(24 hour)	
			828076-IA-003B9-01	1	(24 hour)	
			828076-SS-003B9-02	1	(24 hour)	
			828076-SS-003B9-02D	1	(24 hour)Duplicate	
			828076-IA-003B9-02	1	(24 hour)	
			828076-AA-003B9-01	1	(24 hour)	
Location 3 (Buildings B1, B2, and B10) (Figure 2)	System performance check with Mitigation Tech; If system performing as designed, collect samples as per below. See Workplan for Details.					
	Air -(24 hour samples)	Indoor Air - 3-5 feet above ground surface.	828076-IA-003B1-01	1	(24 hour)	System Performance - If system check indicates SSDS operating as designed, collect indoor air confirmation samples to evaluate whether additional action is necessary.
			828076-IA-003B1-02	1	(24 hour)	
			828076-IA-003B2-01	1	(24 hour)	
			828076-IA-003B2-02	1	(24 hour)	
			828076-IA-003B10-03	1	(24 hour)	
			828076-IA-003B10-04	1	(24 hour)	
Location 3 (Buildings B3, B4, B5) (Figure 2)	No Sampling.				See Workplan for Details	System Scoping-Evaluate for new systems

Notes:
Sample ID:
828076 = NYSDEC Site No.
IA=indoor air; SS = sub-slab vapor, followed by location/structure number and sample number per structure (Location 3 also includes Building Number - B1, B2, etc.)
AA = ambient air
TO-15 = Target Compound List Volatile Organic Compounds (VOCs) in air
Duplicates will be collected at a frequency of 5% (1:20 samples).

ATTACHMENT A

JOB HAZARDOUS ANALYSIS

For Sub-Slab Soil Vapor Sampling

MACTEC

Job Hazard Analysis - Short Form HASP

Job Title: Sub-slab Soil Vapor Sampling **Date of Analysis:** 06/25/2009

Minimum Recommended PPE*:
steel-toed boots, safety glasses with side shields, chemical resistant gloves-nitrile, hearing protection, flashlight/work gloves

*See HASP for all required PPE

Key Work Steps	Hazards/Potential Hazards	Safe Practices
1. Begin Site Work	1A) SEE SITE-SPECIFIC HASP	1A) See Site-Specific HASP and don appropriate PPE.
2. Utility Clearance	2A) Underground utilities: electrical, flammable, and explosive hazards.	2A) Notify Dig Safe and Local Utility Companies to Identify and mark Utilities coming into the building from the outside (e.g., gas, water, sewer, refrigerant, and electrical lines). • Review facility drawings to determine and mark indoor locations of subsurface utility lines. • Mark and maintain utility markings for the duration of the site work.
3. General Site Hazards	3A) See JHA Field Work - General	3A) See JHA Field Work – General
	3B) Chemical exposure	3B) Chemical Exposure ▪ Read HASP and determine air monitoring and PPE needs.
4. Calibrate monitoring equipment	4A) Exposure to calibration gases	4A) Exposure to calibration gases ▪ Review equipment manuals. ▪ Calibrate in a clean, well ventilated area.
5. Access Building	5A) Slips, Trips, Falls	5A) Observe floors/stairs for potential tripping hazards Watch for potential holes in floors, or uneven surfaces and do not step on objects placed on floor (could be blocking hole).
	5B) Lifting Injuries	5B) See JHA Field Work – General • Follow safe lifting techniques.
6. Drill Hole in floor	6A) Electrocution	6A) Electrocution ▪ A ground fault circuit interrupter (GFCI) device must protect all AC electrical circuits. ▪ Use only correctly grounded equipment. Never use three-pronged cords which have had the third prong broken off. ▪ Make sure that the electrical cords from generators and power tools are not allowed to be in contact with water. ▪ Do not stand in wet areas while operating power equipment. ▪ Always make sure all electrically-powered sampling equipment is in good repair. Report any problems so the equipment can be repaired or replaced. ▪ When unplugging a cord, pull on the plug rather than the cord. ▪ Never do repairs on electrical equipment unless you are both authorized and qualified to do so.
	6B) Exposure to hazardous Inhalation and contact with hazardous substances (VOC contaminated Soil Vapor).	6B) Exposure to hazardous substances ▪ Wear PPE as identified in HASP (steel-toed boots, safety glasses, nitrile gloves and a flashlight or lamp). ▪ Review hazardous properties of site contaminants with workers before sampling operations begin. ▪ Immediately monitor breathing zone using a PID after drilling hole to determine exposure and verify that level of PPE is adequate – see Action Levels in HASP.

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Job Hazard Analysis - Short Form HASP

Job Title: Sub-slab Soil Vapor Sampling **Date of Analysis:** 06/25/2009

Key Work Steps	Hazards/Potential Hazards	Safe Practices
	6C) Back strain due to lifting and from moving equipment	6C) Back strain ▪ Use mechanical aids when possible, if mechanical aids are not available, use two person lifts for heavy items. ▪ DO NOT LIFT MORE THAN THE MACTEC LIMIT OF 50 POUNDS. ▪ Use proper lifting techniques.
	6D) Foot injuries from dropped equipment/drill bit	6D) Foot Injuries ▪ Be aware when moving objects, ensure you have a good grip when lifting and carrying objects. ▪ Do not carry more than you can handle safely. ▪ Watch feet when drilling and hold drill firmly. ▪ Wear Steel toed boots.
7. Installing Probes Using Rotary Hammer	7A) Electrocution	7A) Electrocution • See 6A above.
	7B) Lifting Injuries	7B) See JHA Field Work – General • Follow safe lifting techniques.
	7C) Injuries from Impact/Vibration/Entanglement	7C) Impact Injuries • Loss of control of the hammer drill during operation can cause serious injury. • Read and follow the manufacturer's instructions for proper operation of the rotary hammer drill. • Always hold the body handle and side handle firmly during operation (use two hands) to prevent loosing control of the drill. • Ensure that the rotary hammer drill is in the OFF position before plugging it into power. • Ensure that the extension cord is sufficiently rated for the hammer drill. Check the manufacturer's instruction manual. • Make sure that long hair, loose clothing, etc., are tied back so that they cannot get caught in the drill bit. • Watch the placement of the extension cord to ensure that it will not become tangled in the drill bit. • Follow the manufacturer's instructions for operation of the rotary hammer drill. • Ensure that the soil vapor probe is seated properly and locked into the housing in the rotary hammer drill prior to turning on the drill. • Do not lean on the rotary hammer, this reduces the effectiveness of the rotary drill and cause the drill bit to get stuck. • Maintain proper balance when operating the hammer and always work on a level surface. • Stop drilling if the drill bit becomes bound in the subsurface. This can cause the hammer to buck/turn and can cause injury. • Always turn off the hammer drill before moving to a new location or changing probes.

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Job Hazard Analysis - Short Form HASP

Job Title: Sub-slab Soil Vapor Sampling **Date of Analysis:** 06/25/2009

Key Work Steps	Hazards/Potential Hazards	Safe Practices
	7D) Noise	7D) Noise • Wear hearing protection at all times when operating the hammer drill.
	7E) Burns	7E) Burns • Do not touch the drill bit during and immediately after use as it may be hot. Allow a few minutes for the bit to cool.
8. Installing Probes Using Slide Hammer	8A) Lifting Injuries	8A) See JHA Field Work – General
	8B) Noise	8B) Noise • Wear hearing protection at all times when using the slide hammer.
	8C) Cuts from Burs on Slide Hammer	8C) Cuts from Burs on Slide Hammer • Inspect the slide hammer. • Wear sturdy work gloves when operating and handling the slide hammer.
	8C) Pinching Hazard	8C) Pinching Hazards • Wear sturdy work gloves. • Keep your hands on the handles at all times while operating the slide hammer.
	8D) Foot Injuries from Dropping Slide Hammer on Feet	8D) Foot Injuries from Dropping Slide Hammer on Feet • See #6D above.
9. Collecting Sub-Slab and indoor air sample	9A) Cutting Hazard	9A) Cutting Hazard • Use MACTEC approved Maxisafe knife to cut the tubing. • Always cut the tubing away from you. ▪ Keep hands and body parts away from the path of the knife.
	9B) Exposure to contaminants	9B) See #6B above.
	9C) Pinching Hazard	9C) Pinching Hazard from attaching regulators/tubing • Use appropriate size wrenches for the fittings. • Take care when using wrenches to attach regulator and or tubing to cans to not pinch fingers.
10. Mixing Mortar to Fill Drill Holes	10A) Inhalation of Dust	10A) Inhalation of Dust ▪ Empty the bag of mortar slowly into appropriately sized container. ▪ Have water available to immediately add to mortar to suppress the creation of airborne dust.

Prepared by: Annette McLean 6/25/2009

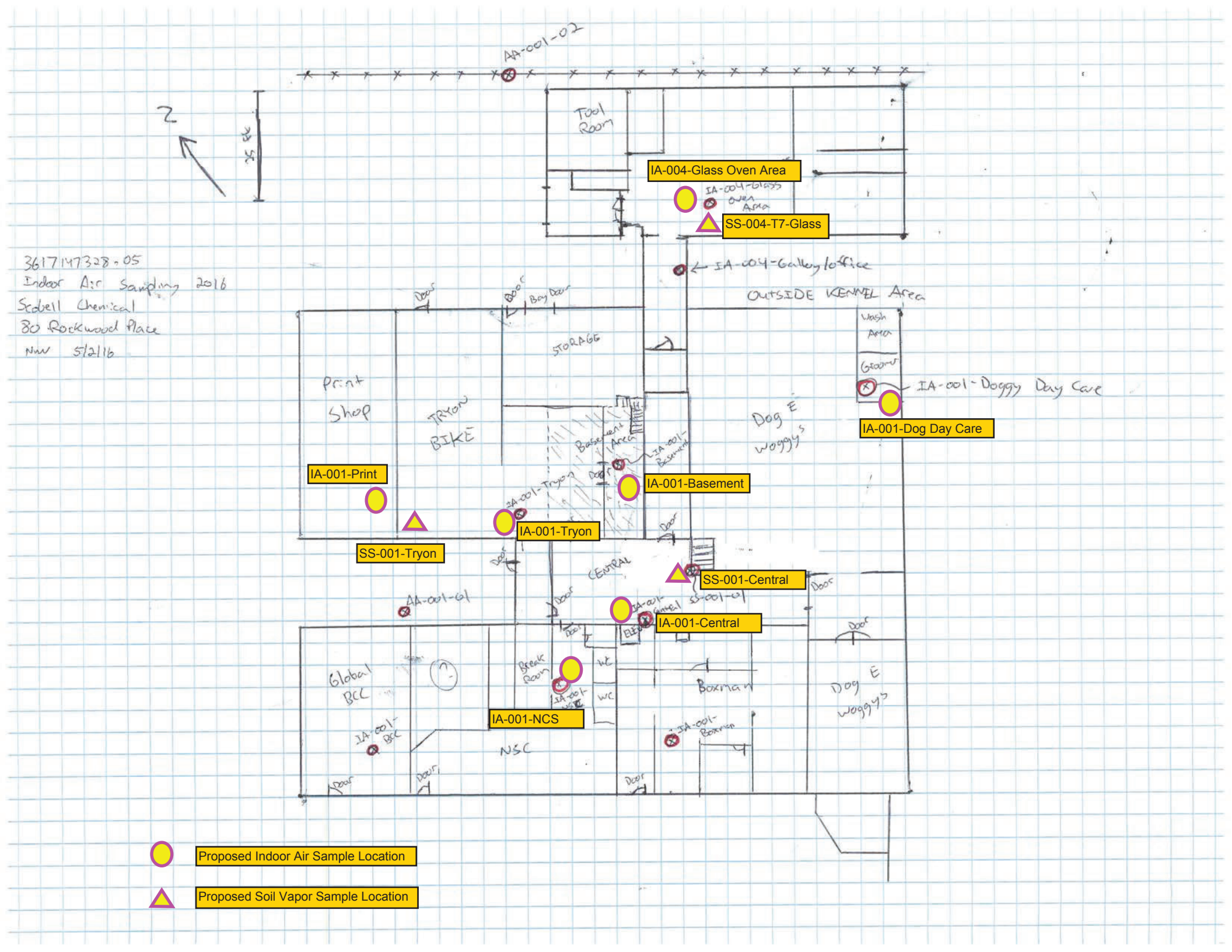
ATTACHMENT B

PROPOSED SVI SAMPLING LOCATIONS

80 Rockwood

Modified Excerpt from:

March 2016 Soil Vapor Intrusion Monitoring Report; 80 Rockwood Place and 989 Blossom Road, Rochester, New York. MACTEC Engineering and Consulting, P.C. January 29, 2016.


3617147328.05
Indoor Air Sampling 2016
Sidell Chemical
80 Rockwood Place
NW 5/2/16
N
35 ft
AA-001-02
Tool Room
IA-004-Glass Oven Area
IA-004-Glass Oven Area
SS-004-T7-Glass
IA-004-Galley/office
OUTSIDE KENNEL Area
Door
Bay Door
STORAGE
Print Shop
TRYON BIKE
Basement Area
IA-001-Basement
Wash Area
Groom
IA-001-Doggy Day Care
IA-001-Dog Day Care
Dog E Woggys
IA-001-Print
SS-001-Tryon
IA-001-Tryon
CENTRAL
SS-001-Central
AA-001-01
IA-001-Central
Global BCC
Break Room
WC
WC
Boxman
IA-001-NCS
IA-001-BCC
NSC
IA-001-Boxman
Dog E Woggys
Proposed Indoor Air Sample Location
Proposed Soil Vapor Sample Location

ATTACHMENT C

FIELD DATA RECORDS

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Scobell Chemical -NYSDOT Site 828076 | TASK NO: _____ DATE: _____
PROJECT NUMBER: 3617147328 | MACTEC CREW: _____
PROJECT LOCATION: Rochester, NY | SAMPLER NAME: _____
WEATHER CONDITIONS (AM): _____ | SAMPLER SIGNATURE: _____
WEATHER CONDITIONS (PM): _____ | CHECKED BY: _____ DATE: _____

MULTI-PARAMETER WATER QUALITY METER

METER TYPE _____
MODEL NO. _____
UNIT ID NO. _____

AM CALIBRATION Start Time _____/End Time_____ | **POST CALIBRATION CHECK** Start Time _____/End Time_____

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH (4)	SU	4.0		+/- 0.1 pH Units			
pH (7)	SU	7.0		+/- 0.1 pH Units	7.0		+/- 0.3 pH Units
pH (10)	SU	10.0		+/- 0.1 pH Units			
Redox	+/- mV	240		+/- 10 mV	240		+/- 10 mV
Conductivity	mS/cm	1.413		+/- 0.5 % of standard	1.413		+/- 5% of standard
DO (saturated)	%	100		+/- 2% of standard			
DO (saturated)	mg/L[1] (see Chart 1)			+/- 0.2 mg/L			+/- 0.5 mg/L of standard
DO (<0.1)	mg/L	<0.1		< 0.5 mg/L			
Temperature	°C						
Baro. Press.	mmHg						

TURBIDITY METER

METER TYPE _____
MODEL NO. _____
UNIT ID NO. _____

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
<0.1 Standard	NTU	<0.1		<0.1		+/- 0.3 NTU of stan.
20 Standard	NTU	20		20		+/- 5% of standard
100 Standard	NTU	100		100		+/- 5% of standard
800 Standard	NTU	800		800		+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE _____
MODEL NO. _____
UNIT ID NO. _____

Background	ppmv	<0.1		<0.1		within 5 ppmv of BG
Span Gas	ppmv	100		100		+/- 10% of standard

O_2-LEL 4 GAS METER

METER TYPE _____
MODEL NO. _____
UNIT ID NO. _____

Methane	%	50		50		+/- 10% of standard
O_2	%	20.9		20.9		+/- 10% of standard
H_2S	ppmv	25		25		+/- 10% of standard
CO	ppmv	50		50		+/- 10% of standard

OTHER METER

METER TYPE _____
MODEL NO. _____
UNIT ID NO. _____

See Notes Below for Additional Information

☐ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.
☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source: Portland FOS
Lot#/Date Produced: _____
Trip Blank Source: _____
Sample Preservatives Source: _____
Disposable Filter Type: 0.45µm cellulose
Calibration Fluids / Standard Source:
- DO Calibration Fluid (<0.1 mg/L) Portland FOS
- Other _____
- Other _____
- Other _____

	Cal. Standard Lot Number	Exp. Date
pH (4)		
pH (7)		
pH (10)		
ORP		
Conductivity		
<0.1 Turb. Stan.		
20 Turb. Stan.		
100 Turb. Stan.		
800 Turb. Stan.		
PID Span Gas		
O_2-LEL Span Gas		
Other		

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additonal acceptance criteria obtained from instrument specific manufacturer recommendations.
** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.
1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

MACTEC
511 Congress Street, Portland Maine 04101

FIGURE 6.1
FIELD INSTRUMENT CALIBRATION RECORD
NYSDEC QUALITY ASSURANCE PROJECT PLAN

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: _____ Site Code: _____ Operable Unit: _____

Building Code: _____ Building Name: _____

Address: _____ Apt/Suite No: _____

City: _____ State: _____ Zip: _____ County: _____

Contact Information

Preparer's Name: _____ Phone No: _____

Preparer's Affiliation: _____ Company Code: _____

Purpose of Investigation: _____ Date of Inspection: _____

Contact Name: _____ Affiliation: _____

Phone No: _____ Alt. Phone No: _____ Email: _____

Number of Occupants (total): _____ Number of Children: _____

☐ Occupant Interviewed? ☐ Owner Occupied? ☐ Owner Interviewed?

Owner Name (if different): _____ Owner Phone: _____

Owner Mailing Address: _____

Building Details

Bldg Type (Res/Com/Ind/Mixed): _____ Bldg Size (S/M/L): _____

If Commercial or Industrial Facility, Select Operations:

If Residential Select Structure Type:

Number of Floors: _____ Approx. Year Construction: _____ ☐ Building Insulated? ☐ Attached Garage?

Describe Overall Building 'Tightness' and Airflows(e.g., results of smoke tests):

Foundation Description

Foundation Type: _____ Foundation Depth (bgs): _____ Unit: FEET

Foundation Floor Material: _____

Foundation Wall Material: _____

Foundation Floor Thickness: _____

Foundation Wall Thickness: _____ Unit: INCHES

☐ Floor penetrations? Describe Floor Penetrations: _____

☐ Wall penetrations? Describe Wall Penetrations: _____

Basement is: _____ Basement is: _____ ☐ Sumps/Drains? Water In Sump?: _____

Describe Foundation Condition (cracks, seepage, etc.) : _____

☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating/Cooling/Ventilation Systems

Heating System: _____ Heat Fuel Type: _____ ☐ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: _____ Clothes Dryer Fuel Type: _____

Water Htr Vent Location: _____ Dryer Vent Location: _____

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: _____ Bldg Code: _____ Date: _____

Bldg Address: _____ Apt/Suite No: _____

Bldg City/State/Zip: _____

Make and Model of PID: _____ Date of Calibration: _____

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? ☐ Were there any elevated PID readings taken on site? ☐ ☐ Products with COC?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: _____ Site Code: _____ Operable Unit: _____

Building Code: _____ Building Name: _____

Address: _____ Apt/Suite No: _____

City: _____ State: _____ Zip: _____ County: _____

Factors Affecting Indoor Air Quailty

Frequency Basement/Lowest Level is Occupied?: _____ Floor Material: _____

☐ Inhabited? ☐ HVAC System On? ☐ Bathroom Exhaust Fan? ☐ Kitchen Exhaust Fan?

Alternate Heat Source: _____ ☐ Is there smoking in the building?

☐ Air Fresheners? Description/Location of Air Freshener: _____

☐ Cleaning Products Used Recently?: Description of Cleaning Products: _____

☐ Cosmetic Products Used Recently?: Description of Cosmetic Products: _____

☐ New Carpet or Furniture? Location of New Carpet/Furniture: _____

☐ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics: _____

☐ Recent Painting/Staining? Location of New Painting: _____

☐ Solvent or Chemical Odors? Describe Odors (if any): _____

☐ Do Any Occupants Use Solvents At Work? If So, List Solvents Used: _____

☐ Recent Pesticide/Rodenticide? Description of Last Use: _____

Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality:

☐ Any Prior Testing For Radon? If So, When?: _____

☐ Any Prior Testing For VOCs? If So, When?: _____

Sampling Conditions

Weather Conditions: _____ Outdoor Temperature: _____ °F

Current Building Use: _____ Barometric Pressure: _____ in(hg)

Product Inventory Complete? _____ ☐ Building Questionnaire Completed?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: _____ Address: _____

Sampling Information

Sampler Name(s): _____ Sampler Company Code: _____

Sample Collection Date: _____ Date Samples Sent To Lab: _____

Sample Chain of Custody Number: _____ Outdoor Air Sample Location ID: _____

SUMMA Canister Information

Sample ID:					
Location Code:					
Location Type:					
Canister ID:					
Regulator ID:					
Matrix:					
Sampling Method:					

Sampling Area Info

Slab Thickness (inches):					
Sub-Slab Material:					
Sub-Slab Moisture:					
Seal Type:					
Seal Adequate?:	☐	☐	☐	☐	☐

Sample Times and Vacuum Readings

Sample Start Date/Time:					
Vacuum Gauge Start:					
Sample End Date/Time:					
Vacuum Gauge End:					
Sample Duration (hrs):					
Vacuum Gauge Unit:					

Sample QA/QC Readings

Vapor Port Purge:	☐	☐	☐	☐	☐
Purge PID Reading:					
Purge PID Unit:					
Tracer Test Pass:	☐	☐	☐	☐	☐

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the lowest building level .
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the first floor of the building.
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

OUTDOOR PLOT LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the outdoor plot of the building as well as the surrounding area. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Periodic Operations Visit Form

☐ Check box if new sys info

System ID: _____ Date of Visit: _____

Owner Name: _____ Date Installed: _____

System Address: _____ Telephone: _____

City: _____ Zip: _____ Alt. Telephone: _____

Performed By: _____ Site No: _____

Company: _____ Site Name: _____

EXTERIOR

Fan Operation Confirmation

	Fan #1	Fan #2	Fan #3
Fan Model No(s).	_____	_____	_____
Is Fan Operating (arrival)?	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Confirmation Method			
Is Fan Operating (departure)?	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No

Requested to inspect interior system components? ○ Yes ○ No

If yes, when and by whom? _____ Date: _____

INTERIOR

			Notes
Structural Review			
Change in building footprint since last inspection?	○ Yes	○ No	_____
Basement occupied (>4 hrs per day)?	○ Yes	○ No	_____
Heating/ventilation system modifications?	○ Yes	○ No	_____
Crawlspace inspected?	○ Yes	○ No	_____
Large cracks in floor or near sumps?	○ Yes	○ No	_____
Wall penetrations or cracks noted?	○ Yes	○ No	_____
Piping, Slab & Wall			
Are system suction points sealed?	○ Yes	○ No	_____
Is piping system in need of repair?	○ Yes	○ No	_____
Miscellaneous			
Are manometer levels equal?	○ Yes	○ No	_____
Are system labels accurate and applied correctly?	○ Yes	○ No	_____

Maintenance completed (check all that apply): ☐ Replace fan ☐ Seal pipe ☐ Electrical ☐ Other

Describe repairs made and any proposed actions requiring a subsequent visit (if necessary):