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August 22, 2007

Mr. Joseph T. Martella II, Senior Engineer
RIDEM Office of Waste Management
Site Remediation Program
235 Providence Street
Providence, RI 02908

RE: Soil Vapor Investigation Results and
Indoor Air Sampling Work Plan
Former Gorham Manufacturing Facility, Retail Complex
333 Adelaide Avenue, Providence, Rhode Island
MACTEC Project No. 3650050041.09

Dear Mr. Martella:

This letter summarizes the results of the Soil Vapor Investigation activities conducted at the retail complex located the Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (the Site) on August 7, 2007. This report also presents the proposed indoor air sampling Work Plan as the next phase in the soil vapor intrusion pathway assessment at the retail complex.

BACKGROUND

Currently, two of the four spaces of the retail complex are occupied. A check-cashing service and a video rental store are open for business. The remaining retail space is unoccupied.

WORK ACTIVITIES CONDUCTED

Based on the results of the groundwater sampling at MW-221 in front of the retail stores and in coordination with the Rhode Island Department of Environmental Management (RIDEM), MACTEC conducted a soil vapor investigation on August 7, 2007 in accordance with the MACTEC *Soil Vapor Investigation Work Plan* (MACTEC, 2007a approved by RIDEM) to characterize the soil vapor intrusion pathway of the retail complex at the Site. These activities included a building reconnaissance, the collection of sub-slab soil vapor samples at nine locations at the Site, and the restoration of the concrete and pavement following the soil vapor sampling event.

BUILDING RECONNAISSANCE

MACTEC personnel observed the building to identify conditions that may affect or interfere with the soil vapor sampling activities, and to identify direct or apparent indirect conduits for vapor between the subsurface and the building interior. MACTEC observed chemicals stored in the Stop & Shop space including various cleaners (e.g., Lysol, Johnson Wax Block Whitener, Glance Glass Cleaner) and numerous compressed gas cylinders. In the Stop & Shop building, small floor

drains equipped with grates were observed in the bathrooms, and a utility sump was present in the concrete floor. Based on MACTEC's observations, the drains do not access the soil beneath the building. No other floor penetrations were observed in the Stop & Shop building. No floor penetrations were observed in the former Dollar Store retail space.

SOIL VAPOR SURVEY

On August 7, 2007, MACTEC collected nine (9) soil vapor samples at the Site. Six (6) sub-slab soil vapors samples were collected from beneath the retail building, including one inside the former Dollar Store, and the remaining five (5) inside the former Stop & Shop space. The depth of the concrete slab floor in the building ranged from 6 to 9 inches. Three (3) sub-slab samples were also collected outdoors along the perimeter of the building. Two (2) of these samples were collected beneath the pavement, and one (1) beneath the concrete sidewalk in front of the former Dollar Store. Soil vapor was screened prior to sample collection using a PPB RAE Photoionization Detector (PID). Figure 1 shows the locations of the nine soil vapor sampling points.

Soil vapor samples were collected in accordance with the MACTEC Soil Vapor Investigation Work Plan (MACTEC, 2007a) approved by RIDEM, and submitted to Galson Laboratories of East Syracuse, New York for volatile organic compound analysis (VOC) analysis by U.S. Environmental Protection Agency (US EPA) Method TO-15. The analytical results were provided in a data package, and a quality assurance (QA) review was conducted confirming the results of the sub-slab soil gas investigation. The full data package will be provided to RIDEM following receipt of the final data package from the contract laboratory. Following sampling, the temporary sampling ports were filled with concrete and trowel finished.

RESULTS, CONCLUSIONS, AND PROPOSED ACTIONS

Table 1 presents reported concentrations of each analyte in parts per million (ppm) and compares them to the Connecticut Department of Environmental Protection Proposed Industrial/ Commercial Soil Vapor Volatilization Criteria (CT DEP PI/CSVVC). As shown, detected analytes are bolded, and analytes exceeding the criteria are also shaded. Based on the results of the soil vapor survey indoor air sampling and analysis is warranted to determine if subsurface conditions are associated with indoor air impacts.

MACTEC proposes to collect indoor air samples from within the building in each of the retail spaces and from outdoor locations to better determine if a soil vapor intrusion pathway exists to indoor air. The samples will be analyzed for volatile organic compounds. When the analytical data are received, the results will be evaluated, and the data and evaluation will be submitted to RIDEM. The following sections outline the proposed indoor air sample collection and analysis Work Plan.

INDOOR AIR SITE PREPARATION ACTIVITIES

MACTEC will update the Site Specific Health & Safety Plan (HASP), as necessary, to support the implementation of this Work Plan. Textron and MACTEC will coordinate with the building owner and occupants to minimize disturbance of business activities.

The indoor air sampling will be conducted during fair weather conditions, (i.e., no significant precipitation or windspeeds exceeding 20 miles per hour), and avoiding conditions of extremely high or low barometric pressure. Before initiating the sampling round, the meteorological forecast for the next 24-hour period will be reviewed. If conditions are expected to be favorable (i.e., no prolonged periods of winds greater than 20 miles per hour or heavy rain predicted), the sampling event will be started. On the day of sampling, weather conditions will be observed using available meteorological data or instrument, and conditions documented in the field sampling logbook.

INDOOR AIR PRE-SAMPLING INSPECTION

If possible, two or three days prior to collecting indoor air samples, a pre-sampling inspection will be performed to identify conditions that may affect or interfere with the proposed sampling, and to prepare the building for sampling. Any foundation penetrations such as water, sewer, gas, electric and telecommunication lines, as well as sumps, will be identified and marked on a plan. These areas will be screened prior to sampling using a PID equipped with an 11.7 or 11.8 eV lamp. Results of the pre-screening will be documented in the Site logbook. In addition, an Indoor Air Questionnaire and Building Inventory Form (Attachment A) will be completed for each of the retail spaces. Indoor air samples will be collected as outlined below at all sample locations to minimize possible discrepancies.

INDOOR AIR SAMPLING PROTOCOL

The indoor air sampling program will include sampling of indoor air at each of the retail spaces at the Site using certified pre-cleaned Summa canisters provided by the laboratory. Indoor air samples will be collected from the single story retail spaces in accordance with the procedures outlined below. Up to five (5) indoor air samples will be collected within the Stop & Shop space. At least one sample will be collected in each of the remaining three retail spaces. These proposed sample locations are shown on Figure 2.

In general, indoor air samples will be collected in the following manner:

- To ensure that air is representative of the locations and occupant presence (industrial/commercial scenario), samples will be collected over an 8-hour period using a 6-liter Summa canister with an 8-hour flow valve;
- The intake of the sample tubing will be elevated to approximately 3 – 5 feet above the floor in order to collect air from the approximate breathing zone of an occupant;
- The time of sample collection, initial canister vacuum (in inches of mercury), weather conditions, and barometric pressure will be recorded;
- Eight hours after initiating the sample collection, the flow valves will be shut off and the time, remaining vacuum in each canister, and the barometric pressure will be recorded;
- One duplicate sample will be collected by connecting two canisters to a connecting bridge. Air is drawn through Teflon sample tubing, is split at the connecting bridge, and enters each of the canisters simultaneously. This method ensures that the air being sampled by both canisters is from a single point in space, and represents a true duplicate sample;
- One field (method) blank sample will be collected by connecting a certified clean canister to another certified clean canister containing ultra high purity (UHP) air with a UHP

regulator all provided by the contract laboratory. UHP air is transferred from the full canister to the empty canister at the same flow rate at which the samples are being collected on site; and
- Samples and the blank will be submitted for analysis by the US EPA Method TO-15.

When indoor air samples are collected, detailed notes will be taken to document the following conditions during sampling:

- A product inventory survey of VOC-containing materials will be completed (see Attachment A);
- Heating and air conditioning system operation during sampling will be observed and recorded;
- Floor plan sketches will be drawn, and will include identification of sample locations, chemical storage areas, overhead doors, windows, garages, entry/exit doorways, stairways, location of basement sumps or subsurface drains, utility perforations through building foundations, Heating Ventilation, and Air Conditioning (HVAC) system air supply and return registers, compass orientation (north), and any other pertinent information useful for data interpretation;
- If possible, photographs will be taken to accompany floor plan sketches;
- Outdoor plot sketches will also be drawn and will include the building site, outdoor air sample locations (if applicable), compass orientation (north), footings that may create separate foundation sections, and paved areas;
- Weather conditions (e.g., precipitation, indoor and outdoor temperature, and barometric pressure) and ventilation conditions (e.g., heating system active and windows closed) will be noted; and
- Pertinent observations, such as spills, floor stains, smoke tube results, odors, and readings from field instrumentation (e.g., PID readings), will be recorded.

The field sampling team will maintain a sample log sheet that summarizes the following:

- Sample identification;
- Date and time of sample collection;
- Sampling height;
- Identity of samplers;
- Sampling methods and devices;
- Volume of air sampled if appropriate for sampling method;
- Vacuum of canisters before and after samples are collected, if canisters are used; and
- Chain of custody protocols and records used to track samples from sampling point to analysis.

OUTDOOR AIR SAMPLING PROTOCOL

Up to four (4) outdoor air samples, one on each side of the retail complex (north, south, east, and west sides) will be collected using Summa canisters simultaneously with, and in the same manner as, indoor air samples (Figure 2). In addition, the outdoor air samples will be protected from direct sunlight and away from wind obstructions (e.g., building). Like the indoor samples, the intake will be positioned at approximately 3–5 feet off the ground and located approximately 5–15 feet away from the building. Detailed notes on conditions at the sampling location will be recorded.

AIR SAMPLING REPORT

A field sampling report documenting the indoor and outdoor air sampling program and analytical results will be prepared and submitted to RIDEM approximately 30 days following the air sampling. The report will include an evaluation of the results with respect to potential vapor intrusion from the subsurface to the interior of the building and also recommendations for further action, as warranted.

PROPOSED SCHEDULE

The project schedule will be developed when it is determined that access to the property will be granted and will be distributed to RIDEM and the stakeholders.

We will work with RIDEM, the City of Providence, the building owner and retail stores on the review of these soil gas sampling results and the execution of this Indoor Air Survey Work Plan. Feel free to contact either Michael Murphy at (781) 213-5600 or Greg Simpson of Textron at (401) 457-2635 with any questions. We are available either for a conference call or to meet with RIDEM to address any questions you may have on these results and the Work Plan.

Sincerely,
MACTEC Engineering and Consulting, Inc.

Michael Murphy
Senior Principal Scientist

David E. Heislein
Principal Engineer

Attachments: Table
Figures
Attachment A – Indoor Air Quality Questionnaire and Building Inventory
Attachment B – References

cc: T. Dellar, City of Providence
P. Grivers, EA Engineering, Science, and Technology
T. Regan, EA Engineering, Science, and Technology
G. Simpson, Textron, Inc.
D. McCabe, Textron, Inc.
Knight Memorial Library Repository
G. Wilson, Kimco Realty Corporation (including tenants)
J. Morgan, The Stop & Shop Supermarket Co. LLC
MACTEC Project File [P:\TEXTRON\GORHAM\Stop & Shop\Soil Vapor Report and Indoor Air WP\Soil Gas Results and Work Plan 082207.doc]

Table 1
Soil Vapor Sample Results - Retail Complex
August 7, 2007

333 Adelaide Avenue Site
Providence, Rhode Island

		S&S Floor	S&S Floor	S&S Floor	S&S Floor	S&S Floor	Dollar Store Floor	Asphalt Pavement	Asphalt Pavement	Concrete Sidewalk
Lab ID	**CT DEP**	**L157141-1**	**L157141-2**	**L157141-3**	**L157141-4**	**L157141-5**	**L157141-6**	**L157141-7**	**L157141-8**	**L157141-9**
Sample ID	**I/C SVVC (ppm)***	**SG-1**	**SG-2**	**SG-3**	**SG-4**	**SG-5**	**SG-6**	**SG-7**	**SG-8**	**SG-9**
Depth of Concrete (inches)		**8**	**7**	**7**	**6**	**6**	**6**	**-**	**-**	**9**
Depth of Asphalt Pavement (inches)		**-**	**-**	**-**	**-**	**-**	**-**	**?**	**8**	**-**
Depth of Soil (inches)		**-**	**-**	**-**	**-**	**-**	**-**	**?**	**2**	**2**
Volatile Organic Compounds (ppm)										
1,1,1-Trichloroethane	130	**4.12**	**96.7**	**151**	**675**	**174**	**71.7**	**6.6**	**0.163**	**5.87**
1,1,2,2-Tetrachloroethane	0.028	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,1,2-Trichloroethane	3.1	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,1-Dichloroethane	150	**4.15**	**40.8**	**35.9**	**34.5**	**16.5**	**2.3**	0.2 U	**0.066**	0.45 U
1,1-Dichloroethene	7	0.2 U	**19.1**	**16.5**	**32.3**	**14.3**	1 U	0.2 U	0.025 U	0.45 U
1,2,4-Trichlorobenzene		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,2,4-Trimethylbenzene	15	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,2-Dibromoethane		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,2-Dichlorobenzene	95	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,2-Dichloroethane	0.11	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,2-Dichloropropane	0.13	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,3,5-Trimethylbenzene	15	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,3-Butadiene		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,3-Dichlorobenzene	95	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,4-Dichlorobenzene	5.5	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
1,4-Dioxane		0.8 U	8 U	8 U	12.8 U	8 U	4 U	0.8 U	0.1 U	1.8 U
2,2,4-Trimethylpentane		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
4-Ethyltoluene		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Acetone	290	**1.6**	2 U	**2.34**	3.2 U	**3.82**	1 U	0.2 U	**0.094**	0.45 U
Allyl Chloride		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Benzene	1.4	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Benzyl Chloride		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Bromodichloromethane	0.095	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Bromoform	0.98	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Bromomethane		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Carbon Disulfide		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Carbon Tetrachloride	0.12	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Chlorobenzene	60	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Chloroethane	260	0.2 U	**2.65**	**2.35**	3.2 U	**2.58**	1 U	0.2 U	0.025 U	0.45 U
Chloroform	0.14	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Chloromethane	53	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
cis-1,2-Dichloroethylene	35	0.2 U	**20.2**	**9.6**	3.2 U	2 U	1 U	0.2 U	**0.032**	0.45 U
cis-1,3-Dichloropropene		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Cyclohexane		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Dibromochloromethane		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Ethyl Acetate		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Ethylbenzene	93	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Freon-11	120	**3.88**	**4.52**	**12.4**	**7.54**	**10**	**2.61**	**1.2**	**0.371**	0.45 U
Freon-113		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Freon-114		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Freon-12 (dichlorodifluoromethane)	140	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Heptane		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Hexachloro-1,3-Butadiene		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Hexane		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Isopropyl Alcohol		**0.304**	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
m & p-xylene	160	0.4 U	4 U	4 U	6.4 U	4 U	2 U	0.4 U	0.05 U	0.9 U

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August 7, 2007

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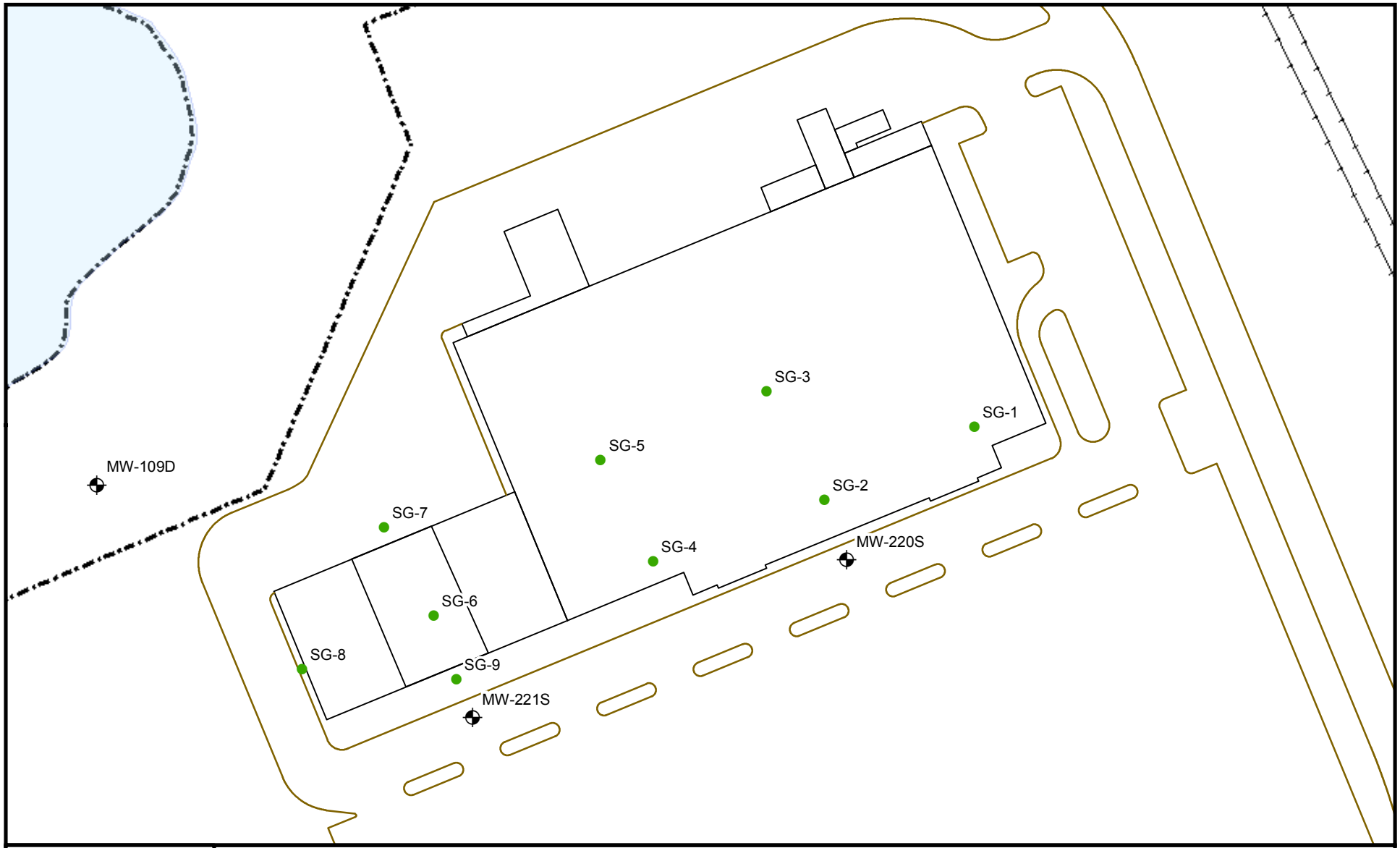
Lab ID	**CT DEP**	**L157141-1**	**L157141-2**	**L157141-3**	**L157141-4**	**L157141-5**	**L157141-6**	**L157141-7**	**L157141-8**	**L157141-9**
Sample ID	**I/C SVVC (ppm)***	**SG-1**	**SG-2**	**SG-3**	**SG-4**	**SG-5**	**SG-6**	**SG-7**	**SG-8**	**SG-9**
Depth of Concrete (inches)		**8**	**7**	**7**	**6**	**6**	**6**	**-**	**-**	**9**
Depth of Asphalt Pavement (inches)		**-**	**-**	**-**	**-**	**-**	**-**	**?**	**8**	**-**
Depth of Soil (inches)		**-**	**-**	**-**	**-**	**-**	**-**	**?**	**2**	**2**
Methyl Butyl Ketone		0.8 U	8 U	8 U	12.8 U	8 U	4 U	0.8 U	0.1 U	1.8 U
Methyl Ethyl Ketone	230	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Methyl Isobutyl Ketone	68	0.8 U	8 U	8 U	12.8 U	8 U	4 U	0.8 U	0.1 U	1.8 U
Methyl Tert-Butyl Ether	73	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Methylene Chloride	6.8	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
o-Xylene	160	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Propylene		**0.288**	2 U	2 U	3.2 U	2 U	1 U	0.2 U	**0.332**	0.45 U
Styrene	95	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Tetrachloroethylene	1	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	**0.044**	0.45 U
Tetrahydrofuran		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Toluene	180	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	**0.035**	0.45 U
Trans-1,2-Dichloroethene	70	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
trans-1,3-Dichloropropene		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Trichloroethylene	0.26	**0.44**	**7.76**	**4.74**	**70.6**	**3.14**	**3.42**	**0.762**	**0.467**	**0.48**
Vinyl Acetate		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Vinyl Bromide		0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U
Vinyl Chloride	1	0.2 U	2 U	2 U	3.2 U	2 U	1 U	0.2 U	0.025 U	0.45 U

I/C SVVC - Connecticut DEP Proposed Industrial/Commercial Soil Vapor Volatilization Criteria
ppm - parts per million
Bolded and shaded cells exceed CT DEP I/C SVVC
Bolded cells are detected compounds
S&S = Stop & Shop space

Prepared by: ARM
Checked by: BJR



MACTEC

N

0 40 80 Feet

Prepared by BJR | Checked by ARM

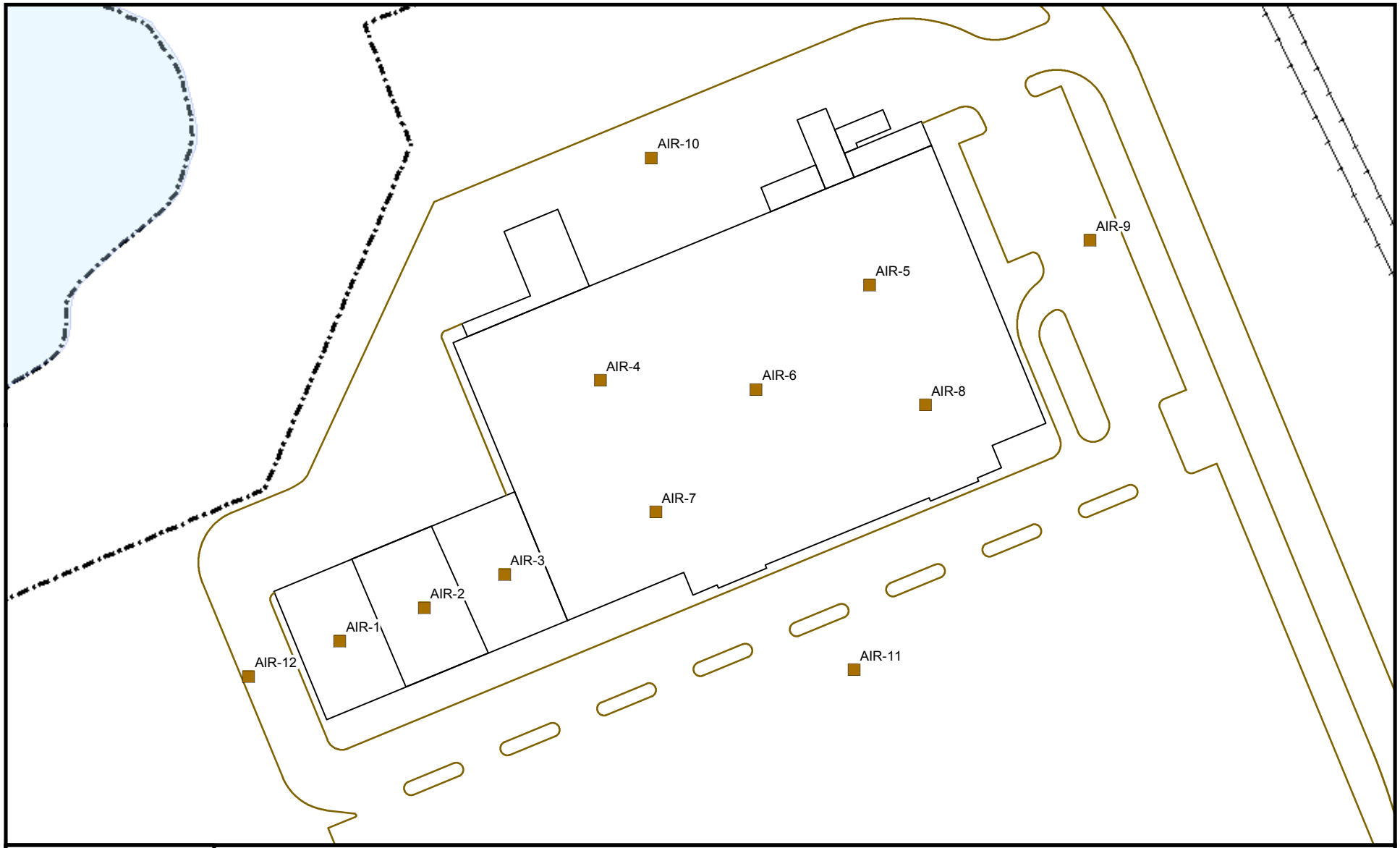
Legend

- Soil Gas Sample Location
- Monitoring Well
- Building
- Pavement Outline

Figure 1
Soil Gas Sampling Locations
Retail Complex

Former Gorham Site
333 Adelaide Avenue
Providence, Rhode Island

Document: P:\TEXTRON\GORHAM\GIS\MapDocuments\StopShopVI.mxd PDF: P:\TEXTRON\GORHAM\GIS\Figures\Vapor Intrusion\SoilGasLocations.pdf 08/20/2007 1:14 PM bjroden



MACTEC

N

0 40 80 Feet

Legend

Proposed Indoor Air Sample Location

Building

Pavement Outline

Prepared by BJR | Checked by ARM

Figure 2
Proposed Indoor Air Sampling Locations
Retail Complex

Former Gorham Site
333 Adelaide Avenue
Providence, Rhode Island

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Attachment A
Indoor Air Quality Questionnaire and Building Inventory

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name _____ Date/Time Prepared _____

Preparer's Affiliation _____ Phone No._____

Purpose of Investigation_____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors_____ Building age_____

Is the building insulated? Y / N How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: _____(feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

_____

_____

_____

_____

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	_____
1st Floor	_____
2nd Floor	_____
3rd Floor	_____
4th Floor	_____

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / N

b. Does the garage have a separate heating unit? Y / N / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / NA
Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / N Where? _____

f. Is there a workshop or hobby/craft area? Y / N Where & Type? _____

g. Is there smoking in the building? Y / N How frequently? _____

h. Have cleaning products been used recently? Y / N When & Type? _____

i. Have cosmetic products been used recently? Y / N When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented?_____

n. Is there a bathroom exhaust fan? Y / N If yes, where vented?_____

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type?_____

Are there odors in the building? Y / N
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	Public Water	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	Public Sewer	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

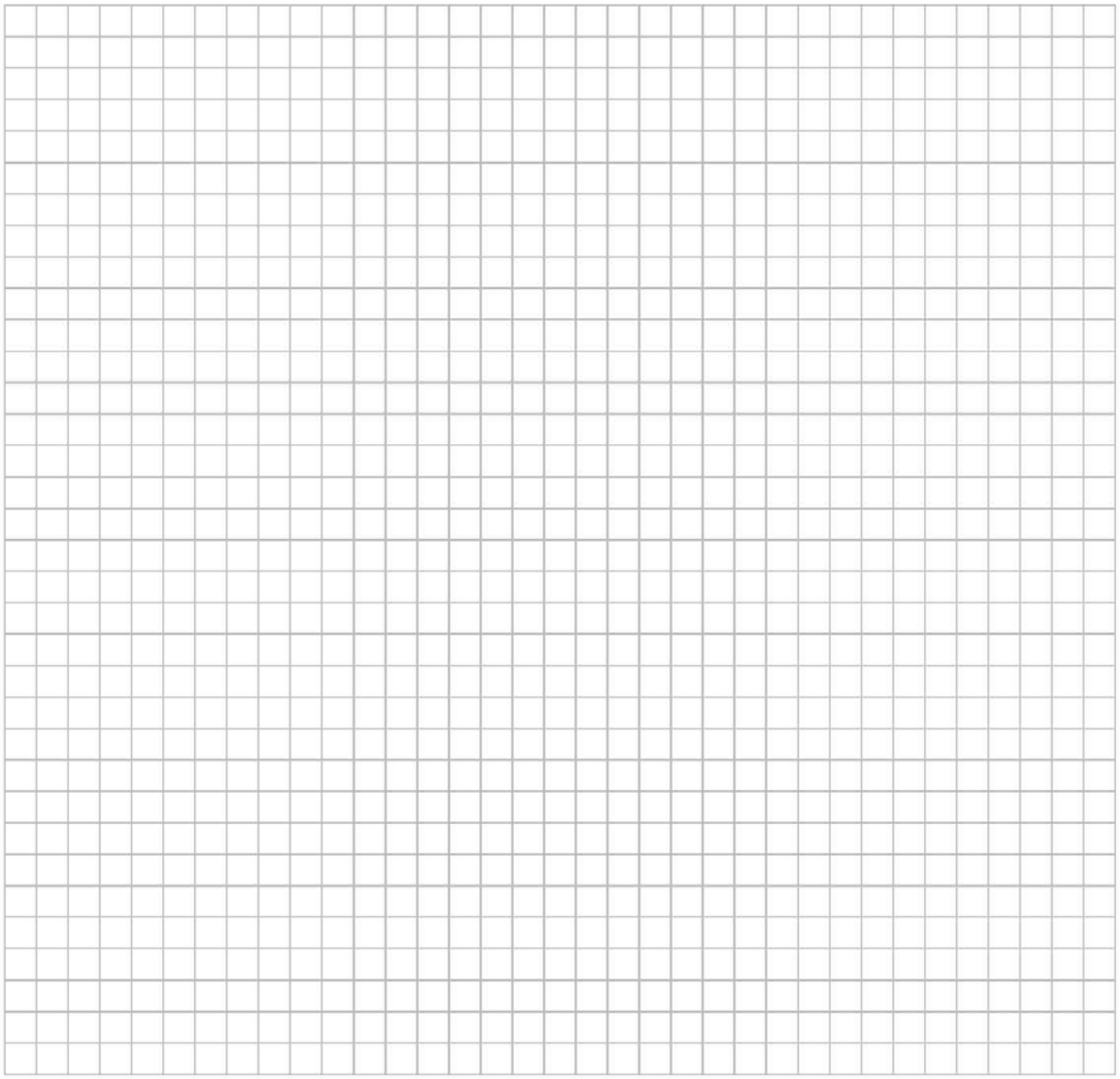
Basement:

First Floor:

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** 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.

Attachment B
References

Attachment B

References

Connecticut Department of Environmental Protection (CT DEP), 2003. "Connecticut's Remediation Standard Regulations Volatilization Criteria". Proposed Revisions. Permitting, Enforcement and Remediation Division. Bureau of Water Management. March.

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New York State Department of Health (NYS DOH), 2006. "Guidance for Evaluating Soil Vapor Intrusion in the State of New York". Final. Center for Environmental Health. Bureau of Environmental Exposure Investigation. October.

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