



Memorandum

To: *Ms. Caroline Eigenbrodt, Environmental Engineer, Division of Environmental Remediation, New York State Department of Environmental Conservation*

From: *Melissa Harclerode, Project Manager, CDM Smith*
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Date: *May 9, 2018*

Subject: *Villa Cleaners 2018 Vapor Intrusion Assessment*

Villa Cleaners Indoor and Sub-Slab Air Assessment

Background and Site History

Sub-slab depressurization systems (SSDS) were installed at the Villa Cleaners Site in June 2011 to mitigate sub-slab vapor and indoor air contaminated with chlorinated volatile organic compounds (VOCs). In 2014, a vapor intrusion (VI) assessment was performed to monitor the contaminant concentrations and efficacy each SSDS. Due to access issues, the following properties were not evaluated in 2014: 1893, 1895, and 1899A. Based on the New York State Department of Health (NYSDOH) 2006 *Guidance for Evaluating Soil Vapor Intrusion in the State of New York Soil Vapor/Indoor Air Matrix 1 and Matrix 2*, the 2014 investigation results determined that each building sampled for VI no longer met the criteria of "mitigate". Technical Memorandum *Villa Dry Cleaners Air Assessment* documenting the 2014 investigation and findings was submitted to the New York State Department of Environmental Conservation (NYSDEC) on April 11, 2014. The SSDS at each sampled property continued to operate following the sampling event, with the exception of 1899B which was not functioning before or during the sampling event. The broken SSDS at 1899B Deer Park Avenue was determined to be acceptable by NYSDEC because the 2014 investigation concluded that no further action was required.

Subsequently in 2017 and 2018, a VI investigation was performed to re-evaluate the efficacy of the SSDS at each property. The 2017 indoor air and sub-slab vapor sampling event was conducted in accordance with the *Villa Dry Cleaners Site Management Plan (SMP) (August 2012)*. The SSDS for each building was shut off in December 2016 to allow adequate time for the sub-slab vapor and indoor air quality in each building to return to natural conditions. Subsequently, the VI investigation was conducted on March 7 and 8, 2017. Sub-slab vapor and indoor air samples were collected in each of the properties in Crazy Billy's Plaza, including 1887, 1889, 1891, 1893, 1895, 1897, 1899A, and 1899B Deer Park Avenue, Deer Park, NY. Samples were analyzed for VOCs by United States Environmental Protection Agency (USEPA) TO-15 method by Test America Laboratories, Inc. *New York State Department of Health Indoor Air Quality Questionnaire and Building Inventory Center for Environmental Health* forms were filled out for each property with the

exception of 1899A Deer Park Avenue. The 2017 VI assessment determined monitoring/mitigation shall continue at 1889A Deer Park Avenue, monitoring shall continue at 1889 and 1891 Deer Park Avenue, and take reasonable and practical action to identify sources and reduce exposures at 1887, 1893, 1895, 1897, and 1899B Deer Park Avenue.

The focus of this Technical Memorandum is to summarize the results of the 2018 VI assessment. The following paragraphs provides a summary of the site activities and data findings.

2018 Indoor Air and Sub-Slab Vapor Sampling

The 2018 indoor air and sub-slab vapor sampling event was conducted in accordance with the *Villa Dry Cleaners SMP (January 2018)*. The SSDS for each building was shut off on February 6, 2018, to allow adequate time for the sub-slab vapor and indoor air quality in each building to return to natural conditions. Subsequently, the VI investigation was conducted on February 21st and 22nd, 2018. Sub-slab vapor and indoor air samples were collected at the following properties including 1887 (SSDS Number (No.) 8), 1889 (SSDS No. 6), 1891 (SSDS No. 5), 1893 (SSDS No. 4), 1895 (SSDS No. 3), 1897 (SSDS No. 2), 1899A (SSDS No. 7), and 1899B (SSDS No. 1) Deer Park Avenue, Deer Park, NY (**Figure 1**). Sub-slab vapor and indoor air samples were co-located except in cases where the indoor air sample was relocated to be more representative of indoor air conditions. One duplicate indoor air sample was collected at 1891 and one duplicate sub-slab vapor sample was collected at 1899A Deer Park Avenue. One outdoor air sample was placed in the front parking lot adjacent to 1887 Deer Park Avenue and one was placed in the rear parking lot adjacent to 1893 Deer Park Avenue to provide a baseline of outdoor ambient conditions. All air samples were collected using 6-liter summa canisters over a 24-hour period. The only exception to this was sub-slab sample 103538-1887-SS-022218, which was collected with a 1-hour regulator. Additional details are discussed in the following paragraph, *Deviations from the SMP*. Samples were analyzed for VOCs by USEPA TO-15 method by Test America Laboratories, Inc. New York State Department of Health Indoor Air Quality Questionnaire and Building Inventory Center for Environmental Health forms were filled out for each property with the exception of 1899A Deer Park Avenue, and are included as **Appendix A**.

Deviations from the SMP

Sub-slab sample 103538-1887-SS-022218 was collected using a 1-hour regulator instead of a 24-hour regulator as outlined in the 2018 SMP. Following sample collection, the laboratory informed CDM Smith that a 1-hour regulator was accidentally provided instead of the 24-hour regulator requested. After consultation with NYSDEC, the sample was deemed useable since the sample flow rate was under 200 milliliters per minute in accordance with the *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006)*.

As per the 2018 SMP, permanent sampling ports were installed on SSDS No. 5 and No. 6 by NYSDEC On-Call contractor Environmental Assessments and Remediation (EAR) on September 9, 2017 to collect VOC measurements. A permanent sampling port was not installed on SSDS No. 7 since the contractor did not have a ladder that could safely reach the height of the discharge pipe. Therefore,

a VOC measurement was not collected from this system. It is recommended that EAR install a permanent sampling port during the next operation and maintenance (O&M) visit.

Sub-slab Depressurization System Status

SSDS No. 1, 2, 3, 7, 8, and 9 were turned off and not operating upon the O&M inspection conducted on February 6, 2018. SSDS No. 4, 5, and 6 were turned on and operating during the February O&M inspection. SSDS No. 7 should have been operating per recommendation from the 2017 Periodic Review Report. After discussion with the tenant, it was determined that the breaker providing power to SSDS No. 7 was turned off. In contrast, SSDS No. 4 should have been turned off per recommendation of the 2017 Periodic Review Report. It was determined that the SSDS and tenants' microwave were incorrectly wired to the same breaker. Therefore, SSDS No. 4 was turned on and operating whenever the microwave was plugged in. SSDS No. 9 had become walled off, the space vacated and ownership transferred. At NYSDEC direction, management of this system was ceased and is no longer monitored. Each SSDS was turned off on February 6, 2018 prior to the VI sampling event. SSDS No. 5, 6, and 7 were turned back on following the completion of the 2018 VI investigation on February 22, 2018.

Summary of Vapor Intrusion Sampling Results

Indoor air and ambient air results were compared to *NYSDOH Guidance Appendix C Table C2- EPA 2001 Building Assessment and Survey Evaluation (BASE) Database, SUMMA canister method, 90th percentile (EPA BASE 90th Percentile)*. These values provide background concentrations of VOCs expected in typical indoor and outdoor locations. VI investigation results are presented in **Tables 1, 2, and 3**. **Table 4** presents a comparison of investigation results NYSDOH (2006, Revision May 2017) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* and updated matrix appendices A, B, and C. Results of the VI investigation are summarized by matrix result. The Data Usability Summary Report is provided as **Appendix B**.

1899A Deer Park Avenue – Mitigate

The results for trichloroethene (TCE), *cis*-1,2-dichloroethene (DCE), 1,1-DCE, and carbon tetrachloride were compared to Matrix A of the NYSDOH Soil Vapor Guidance. The following actions are suggested by the matrix:

- TCE was detected at 0.86 micrograms per meters cubed ($\mu\text{g}/\text{m}^3$) in sub-slab vapor and 0.49 $\mu\text{g}/\text{m}^3$ in indoor air. Therefore, NYSDOH guidance suggests no further action.
- Carbon tetrachloride was detected at 1 U $\mu\text{g}/\text{m}^3$ in sub-slab vapor and 0.36 $\mu\text{g}/\text{m}^3$ in indoor air. Therefore, NYSDOH guidance suggests no further action.

The results for tetrachloroethene (PCE), 1,1,1-trichloroethane (TCA), and methylene chloride were compared to Matrix B of the NYSDOH soil vapor guidance. The following actions are suggested by the matrix:

- PCE was detected at 850 µg/m³ in sub-slab vapor and 85 µg/m³ in indoor air. Therefore, NYSDOH guidance suggests mitigating the impact to indoor air quality. CDM Smith recommends continued operation of the property's SSDS to mitigate the impact to VI.

No further action is suggested by the matrices for 1,1,1- TCA, *cis*-1,2-DCE, 1,1-DCE, methylene chloride, and vinyl chloride. Indoor air concentrations of non site-related contaminants that exceeded *NYSDOH Guidance Appendix C Table C2- EPA 2001 Building Assessment and Survey Evaluation (BASE) Database, SUMMA canister method, 90th percentile (EPA BASE 90th Percentile)* include 1,2,4-trimethylbenzene, benzene, ethylbenzene, *m,p*-xylene, methyl isobutyl ketone, *n*-heptane, *n*-hexane, *o*-xylene, styrene, and toluene. The presence of these compounds is most likely due to the current operation of the property as an automotive repair shop. The operator of the business at this property did not give permission to the field crew to complete the *New York State Department of Health Indoor Air Quality Questionnaire and Building Inventory Center for Environmental Health* form to document potential sources.

1897 Deer Park Avenue – Identify source(s) and resample or mitigate

The results for TCE, *cis*-1,2-DCE, 1,1-DCE, and carbon tetrachloride were compared to Matrix A of the NYSDOH Soil Vapor Guidance. The following actions are suggested by the matrix:

- TCE was detected at 0.64 µg/m³ in sub-slab vapor and 0.36 µg/m³ in indoor air. Therefore, NYSDOH guidance suggests no further action.
- *Cis*-1,2-DCE was detected at 0.91 µg/m³ in sub-slab vapor and 1.9 µg/m³ in indoor air. Therefore, NYSDOH guidance suggests identifying source(s) and resample or mitigate.
- Carbon Tetrachloride was detected at 0.37 µg/m³ in sub-slab vapor and 0.4 µg/m³ in indoor air. Therefore, NYSDOH guidance suggests no further action.

The results for PCE, 1,1-TCA, and methylene chloride were compared to Matrix B of the NYSDOH soil vapor guidance. The following actions are suggested by the matrix:

- PCE was detected at 4.9 µg/m³ in sub-slab vapor and 5.2 µg/m³ in indoor air. Therefore, NYSDOH guidance suggests no further action.

No further action is suggested by the matrices for 1,1-DCE, 1,1-TCA, methylene chloride, and vinyl chloride. There were no indoor air concentrations of non site-related contaminants that exceeded *NYSDOH Guidance Appendix C Table C2- EPA 2001 BASE Database, SUMMA canister method, 90th percentile (EPA BASE 90th Percentile)*.

1887, 1889, 1891, 1893, 1895, and 1899B Deer Park Avenue – No further action

The results for TCE, *cis*-1,2-DCE, 1,1-DCE, and carbon tetrachloride were compared to Matrix A of the NYSDOH Soil Vapor Guidance. The following actions are suggested by the matrix:

- TCE was detected at 1.6 $\mu\text{g}/\text{m}^3$ in sub-slab vapor and 0.21 U $\mu\text{g}/\text{m}^3$ in indoor air at 1889 Deer Park Avenue and 6.3 $\mu\text{g}/\text{m}^3$ in sub-slab vapor and 0.21 U $\mu\text{g}/\text{m}^3$ in indoor air at 1891 Deer Park Avenue. TCE was non-detect for both sub-slab vapor and indoor air at the remaining locations including 1887, 1893, 1895, and 1899B Deer Park Avenue. Therefore, NYSDOH suggests taking no further action.
- *Cis*-1,2-DCE was only detected at 1891 Deer Park Avenue, with a sub-slab vapor detection of 1.4 $\mu\text{g}/\text{m}^3$ and an indoor air detection of 0.79 U $\mu\text{g}/\text{m}^3$. Therefore, NYSDOH guidance suggests taking no further action.
- Carbon tetrachloride was detected in the sub-slab vapor at 1887 and 1891 Deer Park Avenue, with detections of 0.29 J $\mu\text{g}/\text{m}^3$ and 0.37 $\mu\text{g}/\text{m}^3$, respectively. 1899, 1893, 1895, and 1899B Deer Park Avenue were non-detect for sub-slab vapor. Carbon tetrachloride was detected in the indoor air at 1887, 1889, 1891, 1893, 1895, and 1899B Deer Park Avenue, with detections ranging from 0.35 J to 0.43 $\mu\text{g}/\text{m}^3$. Therefore, NYSDOH guidance suggests taking no further action.

The results for PCE, 1,1-TCA, and methylene chloride were compared to Matrix B of the NYSDOH soil vapor guidance. The following actions are suggested by the matrix:

- PCE was detected in the sub-slab vapor at 1887, 1889, 1891, 1893, 1895, and 1899B Deer Park Avenue with detections ranging from 0.95 J- $\mu\text{g}/\text{m}^3$ to 190 $\mu\text{g}/\text{m}^3$. In indoor air PCE concentrations ranged from 0.27 U $\mu\text{g}/\text{m}^3$ to 0.65 $\mu\text{g}/\text{m}^3$. Therefore, NYSDOH guidance suggests taking no further action.

No further action is suggested by the matrices for 1,1-DCE, 1,1,1-TCA, methylene chloride, and vinyl chloride. Indoor air concentrations of non site-related contaminants that exceeded *NYSDOH Guidance Appendix C Table C2- EPA 2001 BASE Database, SUMMA canister method, 90th percentile (EPA BASE 90th Percentile)* include: Acetone was detected at 1889, 1891, 1893, and 1895 Deer Park Avenue and is likely due to the presence of cleaning products. Chloroform was detected at 1893 Deer Park Avenue and is likely due to cleaning products and/or hair products found in the barber shop. Methyl ethyl ketone and *n*-heptane were detected at 1889 Deer Park Avenue and are likely due to the current operation as a nail salon. There were no indoor air exceedances at 1887 and 1899B Deer Park Avenue.

Outdoor Ambient Air Samples

There were no exceedances of *NYSDOH Guidance Appendix C Table C2- EPA 2001 BASE Database, SUMMA canister method, 90th percentile (EPA BASE 90th Percentile)* for the two outdoor ambient air samples.

Conclusions

Based on the sampling results, CDM Smith concludes that site-related contamination of PCE and *cis*-1,2-DCE is still impacting indoor air quality at the Site, and recommends the following:

- The 1899A Deer Park Avenue: continued operation of the SSDS to mitigate PCE concentrations detected in indoor air and sub-slab vapor along with a continued semi-annual monitoring program.
- The 1897 Deer Park Avenue: restart operation of the SSDS to identify source(s) and mitigate the impact to VI due to *cis*-1,2-DCE detected in indoor air and sub-slab vapor and continuation of the semi-annual monitoring program.
- The 1887, 1889, 1891, 1893, and 1895 Deer Park Avenue: Continuation and/or transition of the long-term monitoring program to determine if the SSDS can remain shut down.
- The 1899B Deer Park Avenue: Discontinue operation of the SSDS and long-term monitoring.

Table 1
2018 Indoor Air Sampling Results
Villa Cleaners
NYSDEC Site # 152188
Deer Park, NY

Sample:				103538-1887-IA-022218	103538-1889-IA-022218	103538-1891-IA-022218	103538-9891-IA-022218	103538-1893-IA-022218	103538-1895-IA-022218	103538-1897-IA-022218	103538-1899A-IA-022218	103538-1899B-IA-022218
Location:				103538-1887-IA	103538-1889-IA	103538-1891-IA	103538-1891-IA	103538-1893-IA	103538-1895-IA	103538-1897-IA	103538-1899A-IA	103538-1899B-IA
Sample Date:				2/21/2018	2/21/2018	2/21/2018	2/21/2018	2/21/2018	2/21/2018	2/21/2018	2/21/2018	2/21/2018
Sample Type:				N	N	N	FD	N	N	N	N	N
Chemical Name	CAS Number	NYSDOH Indoor Air Criteria ¹	NYSDOH Air Guideline Value ^{2,3}									
1,1,1-Trichloroethane	71-55-6	20.6		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
1,1,2,2-Tetrachloroethane	79-34-5	NL		1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	NL		1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
1,1,2-Trichloroethane	79-00-5	<1.5		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
1,1-Dichloroethane	75-34-3	<0.7		0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
1,1-Dichloroethene	75-35-4	<1.4		0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U
1,2,4-Trichlorobenzene	120-82-1	<6.8		3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U	3.7 U
1,2,4-Trimethylbenzene	95-63-6	9.5		0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	11	0.98 U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	<1.5		1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
1,2-Dichlorobenzene	95-50-1	<1.2		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	107-06-2	<0.9		0.81 U	0.81 U	0.81 U	0.81 U	0.84	0.81 U	0.81 U	0.81 U	0.81 U
1,2-Dichloropropane	78-87-5	<1.6		0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
1,2-Dichlorotetrafluoroethane	76-14-2	NL		1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	3.7		0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	3.4	0.98 U
1,3-Butadiene	106-99-0	<3.0		0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	1.7	0.44 U
1,3-Dichlorobenzene	541-73-1	<2.4		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	106-46-7	5.5		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dioxane (P-Dioxane)	123-91-1	NL		18 U	18 R	18 U	18 U	18 U	18 U	18 U	18 U	18 U
2,2,4-Trimethylpentane	540-84-1	NL	1.2		0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	12	0.93 U
2-Chlorotoluene	95-49-8	NL		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	591-78-6	NL		2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Ethyltoluene	622-96-8	3.6		0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	3.1	0.98 U
Acetone	67-64-1	98.9		63	1800 J	1000 J	1000 J	270 J	110 J	16	63	16
Allyl Chloride (3-Chloropropene)	107-05-1	NL		1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
Benzene	71-43-2	9.4	1.3		0.64 U	0.81	0.64 U	0.83	0.64 U	0.64 U	15	0.64 U
Benzyl Chloride	100-44-7	<6.8		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	75-27-4	NL		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Bromoform	75-25-2	NL		2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Bromomethane	74-83-9	<1.7		0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
Butane	106-97-8	NL	55		620 J	190 J	200 J	230 J	60	8	34	11
Carbon Disulfide	75-15-0	4.2		1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	2.3	1.6 U
Carbon Tetrachloride	56-23-5	<1.3	0.36		0.35	0.43	0.39	0.38	0.42	0.4	0.36	0.35
Chlorobenzene	108-90-7	<0.9		0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
Chlorodifluoromethane	75-45-6	NL	1.8		1.8 U	1.8 U	1.8 U	5.6	2.9	1.8 U	1.8 U	1.8 U
Chloroethane	75-00-3	<1.1		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Chloroform	67-66-3	1.1		0.98 U	0.98 U	0.98 U	0.98 U	1.3	0.98 U	0.98 U	0.98 U	0.98 U
Chloromethane	74-87-3	3.7	1.3		1.5	1.2	1.2	1.2	1 U	1 U	1.1	1 U
Cis-1,2-Dichloroethylene	156-59-2	<1.9		0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	1.9	0.79 U	0.79 U
Cis-1,3-Dichloropropene	10061-01-5	<2.3		0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U
Cyclohexane	110-82-7	NL	0.86		0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	5.8	0.69 U
Cymene	99-87-6	NL		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Dibromochloromethane	124-48-1	NL		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Dichlorodifluoromethane	75-71-8	16.5		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Dichloroethylenes	540-59-0	NL		1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.9	1.6 U	1.6 U
Ethylbenzene	100-41-4	5.7		0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	13	0.87 U
Hexachlorobutadiene	87-68-3	<6.8		2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Isopropanol	67-63-0	NL		12 U	1600 J	1600 J	1500 J	2800 J	1700 J	220 J	12 U	12 U
Isopropylbenzene (Cumene)	98-82-8	NL		0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
m,p-Xylene	179601-23-1	22.2		2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	46	2.2 U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	12	1.6		34	5.3	4.6	1.5 U	5.2	1.5 U	5.5	1.5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	6		2 U	2 U	2 U	2 U	2 U	2 U	2 U	8.9	2 U
Methyl Methacrylate	80-62-6	NL		3.2	3300 J	840 J	850 J	31	8.7	2 U	2 U	2 U
Methylene Chloride	75-09-2	10		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Naphthalene	91-20-3	5.1		2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
N-Butylbenzene	104-51-8	NL		1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
N-Heptane	142-82-5	<3.6	2.4		6.3	1.1	0.95	0.82 U	1.9	0.82 U	20	0.82 U

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Villa Cleaners
NYSDEC Site # 152188
Deer Park, NY

Sample:				103538-1887-IA-022218		103538-1889-IA-022218		103538-1891-IA-022218		103538-9891-IA-022218		103538-1893-IA-022218		103538-1895-IA-022218		103538-1897-IA-022218		103538-1899A-IA-022218		103538-1899B-IA-022218	
Location:				103538-1887-IA		103538-1889-IA		103538-1891-IA		103538-1891-IA		103538-1893-IA		103538-1895-IA		103538-1897-IA		103538-1899A-IA		103538-1899B-IA	
Sample Date:				2/21/2018		2/21/2018		2/21/2018		2/21/2018		2/21/2018		2/21/2018		2/21/2018		2/21/2018		2/21/2018	
Sample Type:				N		N		N		FD		N		N		N		N		N	
Chemical Name	CAS Number	NYSDOH Indoor Air Criteria ¹	NYSDOH Air Guideline Value ^{2,3}																		
N-Hexane	110-54-3	10.2		3.1		0.7	U	0.7	U	0.7	U	1.9		0.95		0.7	U	16		0.7	U
N-Propylbenzene	103-65-1	NL		0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U	1.8		0.98	U
O-Xylene (1,2-Dimethylbenzene)	95-47-6	7.9		0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	17		0.87	U
Sec-Butylbenzene	135-98-8	NL		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Styrene	100-42-5	1.9		0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	39		0.85	U
T-Butylbenzene	98-06-6	NL		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Tert-Butyl Alcohol	75-65-0	NL		15	U	15	U	15	U	15	U	15	U	15	U	15	U	15	U	15	U
Tert-Butyl Methyl Ether	1634-04-4	11.5		0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U
Tetrachloroethylene (PCE)	127-18-4	15.9	30 ²	0.27	U	0.27	U	0.28		0.27	U	0.27	U	0.27	U	5.2		85		0.65	
Tetrahydrofuran	109-99-9	NL		15	U	15	U	15	U	15	U	15	U	15	U	15	U	15	U	15	U
Toluene	108-88-3	43		4		9.1		4 J		2.5 J		4.5		8.5		1.5		340 J		3.4	
Total Xylenes	133-02-07	NL		3	U	3	U	3	U	3	U	3	U	3	U	3	U	64		3	U
Trans-1,2-Dichloroethene	156-60-5	NL		0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
Trans-1,3-Dichloropropene	10061-02-6	<1.3		0.91	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U
Trichloroethylene (TCE)	79-01-6	4.2	2 ³	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.36		0.49		0.21	U
Trichlorofluoromethane	75-69-4	18.1		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Vinyl Bromide	593-60-2	NL		0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U
Vinyl Chloride	75-01-4	<1.9		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U

Notes:
All results are in micrograms per cubic meter
FD = Field Duplicate Sample
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N = Normal Field Sample
NL = Screening criteria not listed
NYSDOH = New York State Department of Health
R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
¹ - NYSDOH Building Assessment and survey evaluation (BASE) database, SUMMA® canister method 90th percentile (2001)
² - NYSDOH Air Guidance value for tetrachloroethylene was updated in September 2013
³ - NYSDOH Air Guidance value for trichloroethylene was updated in August 2015
Detected results are bolded

NYSDOH Indoor Air Exceedance
This compound has been banned from use in the state of New York

Table 2
2018 Sub-slab Vapor Sampling Results
Villa Cleaners
NYSDEC Site # 152188
Deer Park, NY

Chemical Name	CAS Number	Sample: Location: Sample Date: Sample Type:	103538-1887-SS-022218 103538-1887-AS 2/21/2018 N	103538-1889-SS-022218 103538-1889-AS 2/21/2018 N	103538-1891-SS-022218 103538-1891-AS 2/21/2018 N	103538-1893-SS-022218 103538-1893-AS 2/21/2018 N	103538-1895-SS-022218 103538-1895-AS 2/21/2018 N	103538-1897-SS-022218 103538-1897-AS 2/21/2018 N	103538-1899A-SS-022218 103538-1899A-AS 2/21/2018 N	103538-9899A-SS-022218 103538-1899A-AS 2/21/2018 FD	103538-1899B-SS-022218 103538-1899B-AS 2/21/2018 N
1,1,1-Trichloroethane	71-55-6		1.1 U	5.5 U	1.1 U	4.4 U	3.3 U	1.1 U	4.4 U	4.4 U	11 U
1,1,2,2-Tetrachloroethane	79-34-5		1.4 U	6.9 U	1.4 U	5.5 U	4.1 U	1.4 U	5.5 U	5.5 U	14 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		1.5 U	7.7 U	1.5 U	6.1 U	4.6 U	1.5 U	6.1 U	6.1 U	15 U
1,1,2-Trichloroethane	79-00-5		1.1 U	5.5 U	1.1 U	4.4 U	3.3 U	1.1 U	4.4 U	4.4 U	11 U
1,1-Dichloroethane	75-34-3		0.81 U	4 U	0.81 U	3.2 U	2.4 U	0.81 U	3.2 U	3.2 U	8.1 U
1,1-Dichloroethene	75-35-4		0.79 U	4 U	0.79 U	3.2 U	2.4 U	0.79 U	3.2 U	3.2 U	7.9 U
1,2,4-Trichlorobenzene	120-82-1		3.7 U	19 U	3.7 U	15 U	11 U	3.7 U	15 U	15 U	37 U
1,2,4-Trimethylbenzene	95-63-6		1.1 J	160	0.98 U	46	10 J	0.98 U	3.9 U	3.9 U	370
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4		1.5 U	7.7 U	1.5 U	6.1 U	4.6 U	1.5 U	6.1 U	6.1 U	15 U
1,2-Dichlorobenzene	95-50-1		1.2 U	6 U	1.2 U	4.8 U	3.6 U	1.2 U	4.8 U	4.8 U	12 U
1,2-Dichloroethane	107-06-2		0.81 U	4 U	0.81 U	3.2 U	2.4 U	0.81 U	3.2 U	3.2 U	8.1 U
1,2-Dichloropropane	78-87-5		0.92 U	4.6 U	0.92 U	3.7 U	2.8 U	0.92 U	3.7 U	3.7 U	9.2 U
1,2-Dichlorotetrafluoroethane	76-14-2		1.4 U	7 U	1.4 U	5.6 U	4.2 U	1.4 U	5.6 U	5.6 U	14 U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8		0.98 U	63	0.98 U	19	3.8 J	0.98 U	3.9 U	3.9 U	140
1,3-Butadiene	106-99-0		0.44 U	2.2 U	0.44 U	1.8 U	1.3 U	0.44 U	1.8 U	1.8 U	4.4 U
1,3-Dichlorobenzene	541-73-1		1.2 U	6 U	1.2 U	4.8 U	3.6 U	1.2 U	4.8 U	4.8 U	12 U
1,4-Dichlorobenzene	106-46-7		1.2 U	6 U	1.2 U	4.8 U	3.6 U	1.2 U	4.8 U	4.8 U	12 U
1,4-Dioxane (P-Dioxane)	123-91-1		18 U	90 U	18 U	72 U	54 U	18 U	72 U	72 U	180 U
2,2,4-Trimethylpentane	540-84-1		1.9 J	4.7 U	1.8	3.7 U	2.8 U	0.93 U	3.7 U	3.7 U	9.3 U
2-Chlorotoluene	95-49-8		1 U	5.2 U	1 U	4.1 U	3.1 U	1 U	4.1 U	4.1 U	10 U
2-Hexanone	591-78-6		2 U	10 U	2 U	8.2 U	6.1 U	2 U	8.2 U	8.2 U	20 U
4-Ethyltoluene	622-96-8		0.98 U	18	0.98 U	3.9 U	2.9 U	0.98 U	3.9 U	3.9 U	51
Acetone	67-64-1		12 U	1400 J	57	370	130 J	12 U	48 U	48 U	120 U
Allyl Chloride (3-Chloropropene)	107-05-1		1.6 U	7.8 U	1.6 U	6.3 U	4.7 U	1.6 U	6.3 U	6.3 U	16 U
Benzene	71-43-2		0.7 J	3.2 U	0.87	2.6 U	1.9 U	0.64 U	2.6 U	2.6 U	6.4 U
Benzyl Chloride	100-44-7		1 U	5.2 U	1 U	4.1 U	3.1 U	1 U	4.1 U	4.1 U	10 U
Bromodichloromethane	75-27-4		1.3 U	6.7 U	1.3 U	5.4 U	4 U	1.3 U	5.4 U	5.4 U	13 U
Bromoform	75-25-2		2.1 U	10 U	2.1 U	8.3 U	6.2 U	2.1 U	8.3 U	8.3 U	21 U
Bromomethane	74-83-9		0.78 U	3.9 U	0.78 U	3.1 U	2.3 U	0.78 U	3.1 U	3.1 U	7.8 U
Butane	106-97-8		17 J	130	6.6	150	70 J	1.2 U	44	42	12 U
Carbon Disulfide	75-15-0		1.6 U	7.8 U	1.6 U	11	4.7 U	1.6 U	6.2 U	6.2 U	16 U
Carbon Tetrachloride	56-23-5		0.29 J	1.3 U	0.37	1 U	0.75 U	0.37	1 U	1 U	2.5 U
Chlorobenzene	108-90-7		0.92 U	4.6 U	0.92 U	3.7 U	2.8 U	0.92 U	3.7 U	3.7 U	9.2 U
Chlorodifluoromethane	75-45-6		1.8 U	8.8 U	1.8 U	7.1 U	5.3 U	1.8 U	7.1 U	7.1 U	18 U
Chloroethane	75-00-3		1.3 U	6.6 U	1.3 U	5.3 U	3.9 U	1.3 U	5.3 U	5.3 U	13 U
Chloroform	67-66-3		0.98 U	4.9 U	0.98 U	3.9 U	2.9 U	1	3.9 U	3.9 U	9.8 U
Chloromethane	74-87-3		1 U	5.2 U	1 U	4.1 U	3.1 U	1 U	4.1 U	4.1 U	10 U
Cis-1,2-Dichloroethylene	156-59-2		0.79 U	4 U	1.4	3.2 U	2.4 U	0.91	3.2 U	3.2 U	7.9 U
Cis-1,3-Dichloropropene	10061-01-5		0.91 U	4.5 U	0.91 U	3.6 U	2.7 U	0.91 U	3.6 U	3.6 U	9.1 U
Cyclohexane	110-82-7		0.77 J	3.4 U	0.69 U	2.8 U	2.1 U	0.69 U	2.8 U	2.8 U	6.9 U
Cymene	99-87-6		1.1 U	18	1.1 U	4.6	3.3 U	1.1 U	4.4 U	4.4 U	25
Dibromochloromethane	124-48-1		1.7 U	8.5 U	1.7 U	6.8 U	5.1 U	1.7 U	6.8 U	6.8 U	17 U
Dichlorodifluoromethane	75-71-8		2.5 U	26	9.8	9.9 U	7.4 U	2.5 U	9.9 U	9.9 U	25 U
Dichloroethylenes	540-59-0		1.6 U	7.9 U	1.6 U	6.3 U	4.7 U	1.6 U	6.3 U	6.3 U	16 U
Ethylbenzene	100-41-4		0.87 U	4.3 U	0.87 U	3.5 U	2.6 U	0.87 U	3.5 U	3.5 U	11
Hexachlorobutadiene	87-68-3		2.1 U	11 U	2.1 U	8.5 U	6.4 U	2.1 U	8.5 U	8.5 U	21 U
Isopropanol	67-63-0		12 U	150	14	2900 J	2000 J	12 U	49 U	49 U	120 U
Isopropylbenzene (Cumene)	98-82-8		0.98 U	5.1	0.98 U	6.4	2.9 U	0.98 U	3.9 U	3.9 U	14
m,p-Xylene	179601-23-1		2.2 U	11 U	2.2 U	8.7 U	6.5 U	2.2 U	8.7 U	8.7 U	38 J
Methyl Ethyl Ketone (2-Butanone)	78-93-3		2.6 J	7.4 U	2.2	5.9 U	4.4 U	1.5 U	5.9 U	5.9 U	15 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1		2 U	10 U	2 U	8.2 U	6.1 U	2 U	8.2 U	8.2 U	20 U
Methyl Methacrylate	80-62-6		2 U	430	3.5	8.2 U	16 J	2 U	8.2 U	8.2 U	20 U

Table 2
2018 Sub-slab Vapor Sampling Results
Villa Cleaners
NYSDEC Site # 152188
Deer Park, NY

Chemical Name	CAS Number	Sample: Location: Sample Date: Sample Type:	103538-1887-SS-022218 103538-1887-AS 2/21/2018 N	103538-1889-SS-022218 103538-1889-AS 2/21/2018 N	103538-1891-SS-022218 103538-1891-AS 2/21/2018 N	103538-1893-SS-022218 103538-1893-AS 2/21/2018 N	103538-1895-SS-022218 103538-1895-AS 2/21/2018 N	103538-1897-SS-022218 103538-1897-AS 2/21/2018 N	103538-1899A-SS-022218 103538-1899A-AS 2/21/2018 N	103538-9899A-SS-022218 103538-1899A-AS 2/21/2018 FD	103538-1899B-SS-022218 103538-1899B-AS 2/21/2018 N
Methylene Chloride	75-09-2		1.7 UJ	8.7 U	1.7 U	6.9 U	5.2 UJ	1.7 U	6.9 U	6.9 U	17 U
Naphthalene	91-20-3	12 J	13 U	2.6 U	10 U	7.8 UJ	2.6 U	10 U	10 U	26 U	
N-Butylbenzene	104-51-8	1.1 UJ	20	1.1 U	4.4 U	3.3 UJ	1.1 U	4.4 U	4.4 U	31	
N-Heptane	142-82-5	3.7 J	6.2	4.1	3.3 U	2.6 J-	0.82 U	6.1	4.8	9.3	
N-Hexane	110-54-3	7.5 J	7.7	12	4.6	2.1 UJ	0.7 U	18	18		7 U
N-Propylbenzene	103-65-1	0.98 UJ	19	0.98 U	3.9 U	2.9 UJ	0.98 U	3.9 U	3.9 U	49	
O-Xylene (1,2-Dimethylbenzene)	95-47-6	0.87 UJ	4.3 U	0.87 U	3.5 U	2.6 UJ	0.87 U	3.5 U	3.5 U	17 J	
Sec-Butylbenzene	135-98-8	1.1 UJ	38	1.1 U	6.3	3.3 UJ	1.1 U	4.4 U	4.4 U	50	
Styrene	100-42-5	0.85 UJ	4.3 U	0.85 U	3.4 U	2.5 UJ	0.85 U	3.4 U	3.4 U	8.5 U	
T-Butylbenzene	98-06-6	1.1 UJ	5.5 U	1.1 U	4.4 U	3.3 UJ	1.1 U	4.4 U	4.4 U	11 U	
Tert-Butyl Alcohol	75-65-0	15 UJ	76 U	15 U	61 U	45 UJ	15 U	61 U	61 U	150 U	
Tert-Butyl Methyl Ether	1634-04-4	0.72 UJ	3.6 U	0.72 U	2.9 U	2.2 UJ	0.72 U	2.9 U	2.9 U	7.2 U	
Tetrachloroethylene (PCE)	127-18-4	16 J	60	190	6.8	0.95 J-	4.9	850	740	14	
Tetrahydrofuran	109-99-9	15 UJ	74 U	15 U	59 U	44 UJ	15 U	59 U	59 U	150 U	
Toluene	108-88-3	3.1 J	3.8 U	1.5	3.2	7.9 J-	0.75 U	5.2	6.5	7.5 U	
Total Xylenes	133-02-07	3 UJ	15 U	3 U	12 U	9.1 UJ	3 U	12 U	12 U	55 J	
Trans-1,2-Dichloroethene	156-60-5	0.79 UJ	4 U	0.79 U	3.2 U	2.4 UJ	0.79 U	3.2 U	3.2 U	7.9 U	
Trans-1,3-Dichloropropene	10061-02-6	0.91 UJ	4.5 U	0.91 U	3.6 U	2.7 UJ	0.91 U	3.6 U	3.6 U	9.1 U	
Trichloroethylene (TCE)	79-01-6	0.21 UJ	1.6	6.3	0.86 U	0.64 UJ	0.64	0.86 U	0.86 U	2.1 U	
Trichlorofluoromethane	75-69-4	1.1 UJ	5.6 U	1.2	4.5 U	3.4 UJ	1.2	4.5 U	4.5 U	11 U	
Vinyl Bromide	593-60-2	0.87 UJ	4.4 U	0.87 U	3.5 U	2.6 UJ	0.87 U	3.5 U	3.5 U	8.7 U	
Vinyl Chloride	75-01-4	0.1 UJ	0.51 U	0.1 U	0.41 U	0.31 UJ	0.1 U	0.41 U	0.41 U	1 U	

Notes:
All results are in micrograms per cubic meter
FD = Field Duplicate Sample
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
N = Normal Field Sample
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
Detected results are bolded

Table 3
2018 Outdoor Ambient Air Sampling Results
Villa Cleaners
NYSDEC Site # 152188
Deer Park, NY

			Sample: Location: Sample Date: Sample Type:		103538-1887-OA-022218 103538-1887-OA 2/21/2018 N	103538-1893-OA-022218 103538-1893-OA 2/21/2018 N
Chemical Name	CAS Number	NYSDOH Outdoor Air Criteria ¹				
1,1,1-Trichloroethane	71-55-6	2.6	1.1	U	1.1	U
1,1,2,2-Tetrachloroethane	79-34-5	NL	1.4	U	1.4	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	NL	1.5	U	1.5	U
1,1,2-Trichloroethane	79-00-5	<1.6	1.1	U	1.1	U
1,1-Dichloroethane	75-34-3	<0.6	0.81	U	0.81	U
1,1-Dichloroethene	75-35-4	<1.4	0.79	U	0.79	U
1,2,4-Trichlorobenzene	120-82-1	<6.4	3.7	U	3.7	U
1,2,4-Trimethylbenzene	95-63-6	5.8	0.98	U	0.98	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	<1.6	1.5	U	1.5	U
1,2-Dichlorobenzene	95-50-1	<1.2	1.2	U	1.2	U
1,2-Dichloroethane	107-06-2	<0.8	0.81	U	0.81	U
1,2-Dichloropropane	78-87-5	<1.6	0.92	U	0.92	U
1,2-Dichlorotetrafluoroethane	76-14-2	NL	1.4	U	1.4	U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	2.7	0.98	U	0.98	U
1,3-Butadiene	106-99-0	<3.4	0.44	U	0.44	U
1,3-Dichlorobenzene	541-73-1	<2.2	1.2	U	1.2	U
1,4-Dichlorobenzene	106-46-7	1.2	1.2	U	1.2	U
1,4-Dioxane (P-Dioxane)	123-91-1	NL	18	U	18	U
2,2,4-Trimethylpentane	540-84-1	NL	0.93	U	0.93	U
2-Chlorotoluene	95-49-8	NL	1	U	1	U
2-Hexanone	591-78-6	NL	2	U	2	U
4-Ethyltoluene	622-96-8	3	0.98	U	0.98	U
Acetone	67-64-1	43.7	12	U	36	
Allyl Chloride (3-Chloropropene)	107-05-1	NL	1.6	U	1.6	U
Benzene	71-43-2	6.6	0.64	U	0.64	U
Benzyl Chloride	100-44-7	<6.4	1	U	1	U
Bromodichloromethane	75-27-4	NL	1.3	U	1.3	U
Bromoform	75-25-2	NL	2.1	U	2.1	U
Bromomethane	74-83-9	<1.6	0.78	U	0.78	U
Butane	106-97-8	NL	3.2		4.4	
Carbon Disulfide	75-15-0	3.7	1.6	U	2.3	
Carbon Tetrachloride	56-23-5	0.7	0.38		0.39	
Chlorobenzene	108-90-7	<0.8	0.92	U	0.92	U
Chlorodifluoromethane	75-45-6	NL	1.8	U	1.8	U
Chloroethane	75-00-3	<1.2	1.3	U	1.3	U
Chloroform	67-66-3	0.6	0.98	U	0.98	U
Chloromethane	74-87-3	3.7	1		1	U
Cis-1,2-Dichloroethylene	156-59-2	<1.8	0.79	U	0.79	U
Cis-1,3-Dichloropropene	10061-01-5	<2.2	0.91	U	0.91	U
Cyclohexane	110-82-7	NL	0.69	U	0.69	U
Cymene	99-87-6	NL	1.1	U	1.1	U
Dibromochloromethane	124-48-1	NL	1.7	U	1.7	U
Dichlorodifluoromethane	75-71-8	8.1	2.5	U	2.5	U
Dichloroethylenes	540-59-0	NL	1.6	U	1.6	U
Ethylbenzene	100-41-4	3.5	0.87	U	0.87	U

Table 3
2018 Outdoor Ambient Air Sampling Results
Villa Cleaners
NYSDEC Site # 152188
Deer Park, NY

			Sample:		103538-1887-OA-022218	103538-1893-OA-022218
			Location:		103538-1887-OA	103538-1893-OA
			Sample Date:		2/21/2018	2/21/2018
			Sample Type:		N	N
Chemical Name	CAS Number	NYSDOH Outdoor Air Criteria¹				
Hexachlorobutadiene	87-68-3	<6.4	2.1	U	2.1	U
Isopropanol	67-63-0	NL	12	U	54	
Isopropylbenzene (Cumene)	98-82-8	NL	0.98	U	0.98	U
m,p-Xylene	179601-23-1	12.8	2.2	U	2.2	U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	11.3	1.5	U	2.1	
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	1.9	2	U	2	U
Methyl Methacrylate	80-62-6	NL	2	U	2	U
Methylene Chloride	75-09-2	6.1	1.7	U	1.7	U
Naphthalene	91-20-3	4.9	2.6	U	2.6	U
N-Butylbenzene	104-51-8	NL	1.1	U	1.1	U
N-Heptane	142-82-5	2.2	0.82	U	0.82	U
N-Hexane	110-54-3	6.4	0.7	U	0.7	U
N-Propylbenzene	103-65-1	NL	0.98	U	0.98	U
O-Xylene (1,2-Dimethylbenzene)	95-47-6	4.6	0.87	U	0.87	U
Sec-Butylbenzene	135-98-8	NL	1.1	U	1.1	U
Styrene	100-42-5	1.3	0.85	U	0.85	U
T-Butylbenzene	98-06-6	NL	1.1	U	1.1	U
Tert-Butyl Alcohol	75-65-0	NL	15	U	15	U
Tert-Butyl Methyl Ether	1634-04-4	6.2	0.72	U	0.72	U
Tetrachloroethylene (PCE)	127-18-4	6.5	0.27	U	0.27	U
Tetrahydrofuran	109-99-9	NL	15	U	15	U
Toluene	108-88-3	33.7	0.95		1.4	
Total Xylenes	133-02-07	NL	3	U	3	U
Trans-1,2-Dichloroethene	156-60-5	NL	0.79	U	0.79	U
Trans-1,3-Dichloropropene	10061-02-6	<1.4	0.91	U	0.91	U
Trichloroethylene (TCE)	79-01-6	1.3	0.21	U	0.21	U
Trichlorofluoromethane	75-69-4	4.3	1.1	U	1.1	U
Vinyl Bromide	593-60-2	NL	0.87	U	0.87	U
Vinyl Chloride	75-01-4	<1.8	0.1	U	0.1	U

Notes:

All results are in micrograms per cubic meter

N = Normal Field Sample

NL = Screening criteria not listed

NYSDOH = New York State Department of Health

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

¹ - NYSDOH Building Assessment and survey evaluation (BASE) database, SUMMA® canister method 90th percentile (2001)

Detected results are bolded

NYSDOH Outdoor Air Exceedance

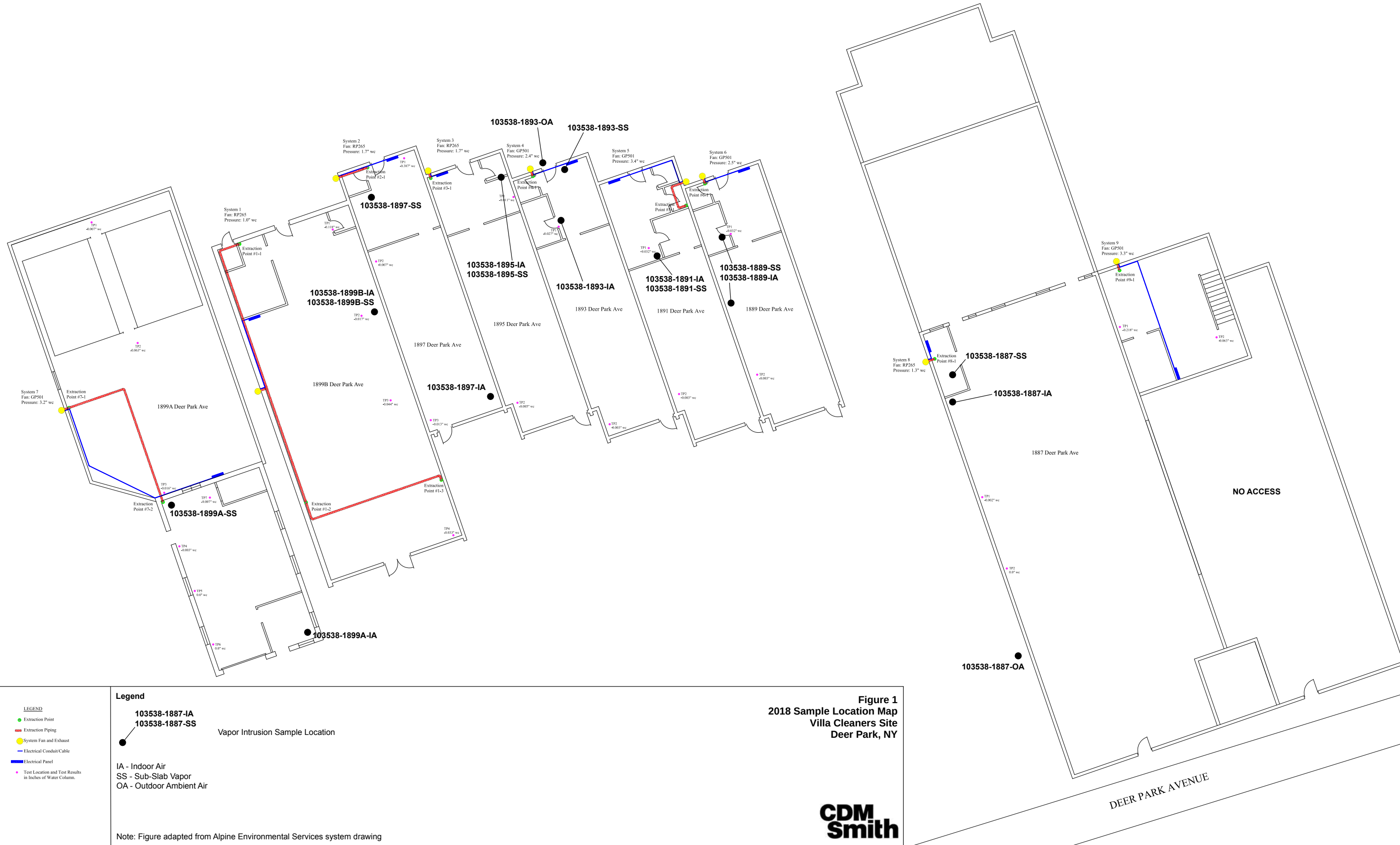
Table 4
2018 NYSDOH Soil Vapor Intrusion Guidance Matrix Action Table
Villa Cleaners
NYSDEC Site # 152188
Deer Park, NY

Address	Sample*	1,1,1-Trichloroethane	1,1-Dichloroethene	Carbon Tetrachloride	cis-1,2-Dichloroethene	Methylene Chloride	Tetrachloroethene	Trichloroethene	Vinyl Chloride
1887 Deer Park Avenue	103538-1887-IA	1.1 U	0.79 U	0.36	0.79 U	1.7 U	0.27 U	0.21 U	0.1 U
	103538-1887-SS	1.1 UJ	0.79 UJ	0.29 J	0.79 UJ	1.7 UJ	16 J	0.21 UJ	0.1 UJ
1889 Deer Park Avenue	103538-1889-IA	1.1 U	0.79 U	0.35	0.79 U	1.7 U	0.27 U	0.21 U	0.1 U
	103538-1889-SS	5.5 U	4 U	1.3 U	4 U	8.7 U	60	1.6	0.51 U
1891 Deer Park Avenue	103538-1891-IA	1.1 U	0.79 U	0.43	0.79 U	1.7 U	0.28	0.21 U	0.1 U
	103538-1891-SS	1.1 U	0.79 U	0.37	1.4	1.7 U	190	6.3	0.1 U
1893 Deer Park Avenue	103538-1893-IA	1.1 U	0.79 U	0.38	0.79 U	1.7 U	0.27 U	0.21 U	0.1 U
	103538-1893-SS	4.4 U	3.2 U	1 U	3.2 U	6.9 U	6.8	0.86 U	0.41 U
1895 Deer Park Avenue	103538-1895-IA	1.1 U	0.79 U	0.42	0.79 U	1.7 U	0.27 U	0.21 U	0.1 U
	103538-1895-SS	3.3 UJ	2.4 UJ	0.75 UJ	2.4 UJ	5.2 UJ	0.95 J-	0.64 UJ	0.31 UJ
1897 Deer Park Avenue	103538-1897-IA	1.1 U	0.79 U	0.4	1.9	1.7 U	5.2	0.36	0.1 U
	103538-1897-SS	1.1 U	0.79 U	0.37	0.91	1.7 U	4.9	0.64	0.1 U
1899A Deer Park Avenue	103538-1899A-IA	1.1 U	0.79 U	0.36	0.79 U	1.7 U	85	0.49	0.1 U
	103538-1899A-SS	4.4 U	3.2 U	1 U	3.2 U	6.9 U	850	0.86 U	0.41 U
1899B Deer Park Avenue	103538-1899B-IA	1.1 U	0.79 U	0.35	0.79 U	1.7 U	0.65	0.21 U	0.1 U
	103538-1899B-SS	11 U	7.9 U	2.5 U	7.9 U	17 U	14	2.1 U	1 U

Notes:
The below recommendations are based on the NYSDOH Soil Vapor Intrusion Guidance Matrices (October 2006, Revision May 2017).

- No further action
- Identify source(s) and resample or mitigate
- MONITOR
- MITIGATE

All results in micrograms per cubic meter
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
NYSDOH - New York State Department of Health
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
* - Sample ID abbreviated for clarity
Detected results are bolded



Legend

103538-1887-IA
103538-1887-SS

Vapor Intrusion Sample Location

IA - Indoor Air
SS - Sub-Slab Vapor
OA - Outdoor Ambient Air

Note: Figure adapted from Alpine Environmental Services system drawing

Figure 1
2018 Sample Location Map
Villa Cleaners Site
Deer Park, NY



Appendix A

NYSDOH Indoor Air Quality and Building Inventory Questionnaires

2018 Indoor Air and Building Questionnaires

**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 SARAH CASCIARINO Date/Time Prepared 2/22/18

Preparer's Affiliation CDM SMITH Phone No. 732-225-7000

Purpose of Investigation VILLA CLEANERS

1. OCCUPANT:

Interviewed: ☒ Y / ☐ N

Last Name: PETERSON First Name: BILLY

Address: 1887 DEER PARK AVE DEER PARK, NY

County: SUFFOLK

Home Phone: _____ Office Phone: 631-667-8070

Number of Occupants/persons at this location 3 Age of Occupants 18-70

2. OWNER OR LANDLORD: (Check if same as occupant ☒)

Interviewed: ☐ Y / ☐ N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

Commercial/Multi-use
Other: LIQUOR STORE

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

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home <u>NO</u>
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other: _____

If multiple units, how many? 1

If the property is commercial, type?

Business Type(s) LIQUOR STORE

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

Other characteristics:

Number of floors 1

Building age 1963

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

N/A

Airflow near source

NONE OBSERVED

Outdoor air infiltration

MINIMAL (FRONT DOOR)

Infiltration into air ducts

NONE OBSERVED

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 unknown
- f. Foundation walls: poured block stone other _____
- g. Foundation walls: unsealed sealed sealed with unknown
- h. The basement is: wet damp dry moldy
- i. The basement is: finished unfinished partially finished
- j. Sump present? Y/N unknown NO BASEMENT
- k. Water in sump? Y/N not applicable

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

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

NONE OBSERVED

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)

<u>Hot air circulation</u>	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:

<u>Natural Gas</u>	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: NATURAL GAS

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.

among ceiling and wall

7. OCCUPANCY

Is basement/lowest level occupied? Full-time ^{business hours} Occasionally Seldom Almost Never

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

1st Floor

Liquor Store Operations

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? HOUSEHOLD CLEANERS

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

☒ No
Unknown

Is there a radon mitigation system for the building/structure? Y / ☒ N Date of Installation: NO MITIGATION
Is the system active or passive? Active/Passive SYSTEM PRESENT - SSDS
(AUGUST 2011)

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: _____

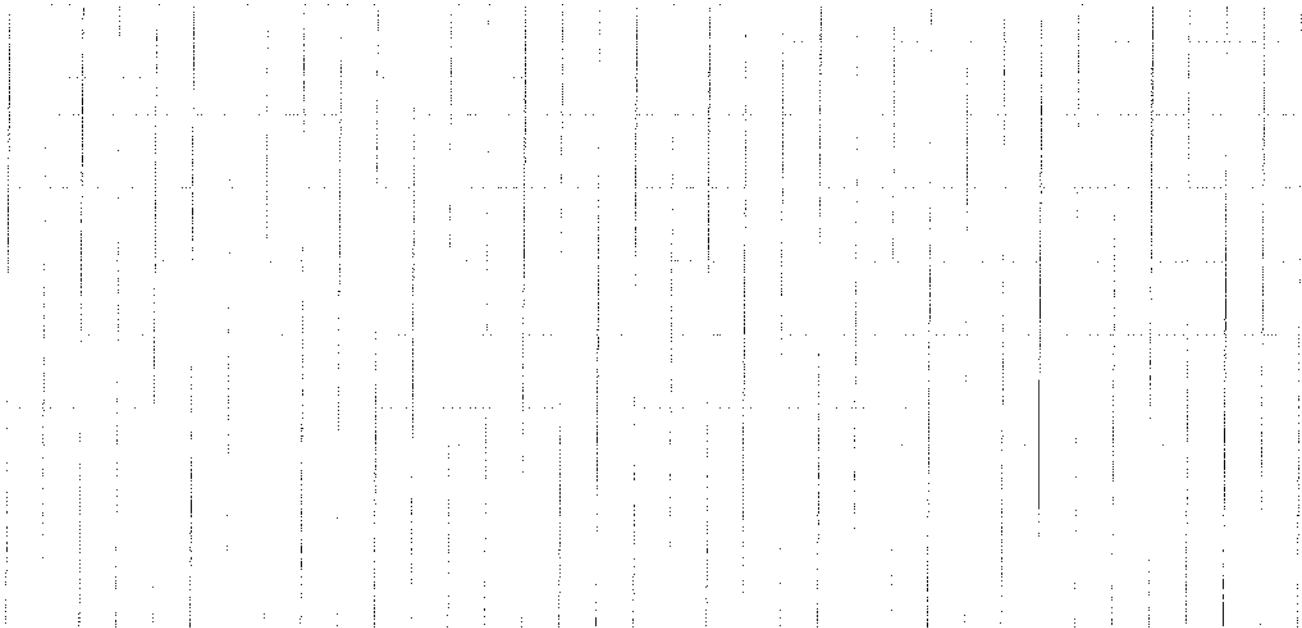
10. RELOCATION INFORMATION (for oil spill residential emergency)

- 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

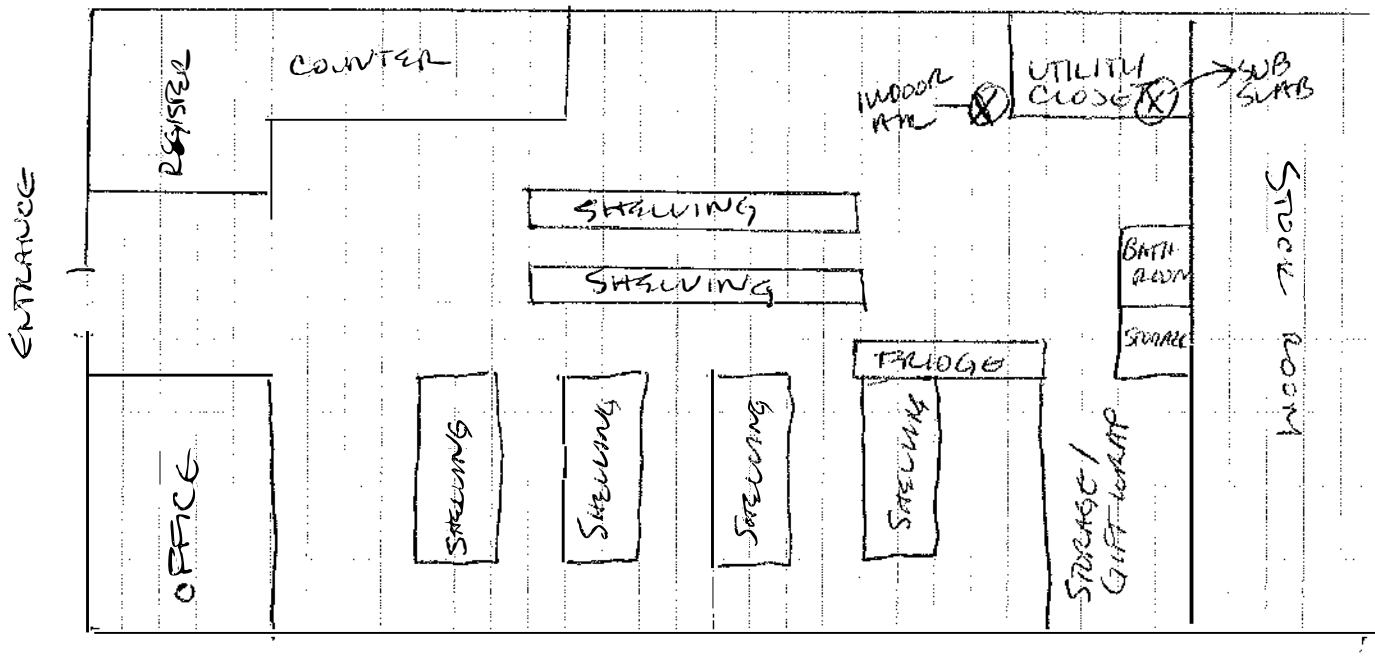
II. FLOOR PLANS

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: N/A



First Floor:

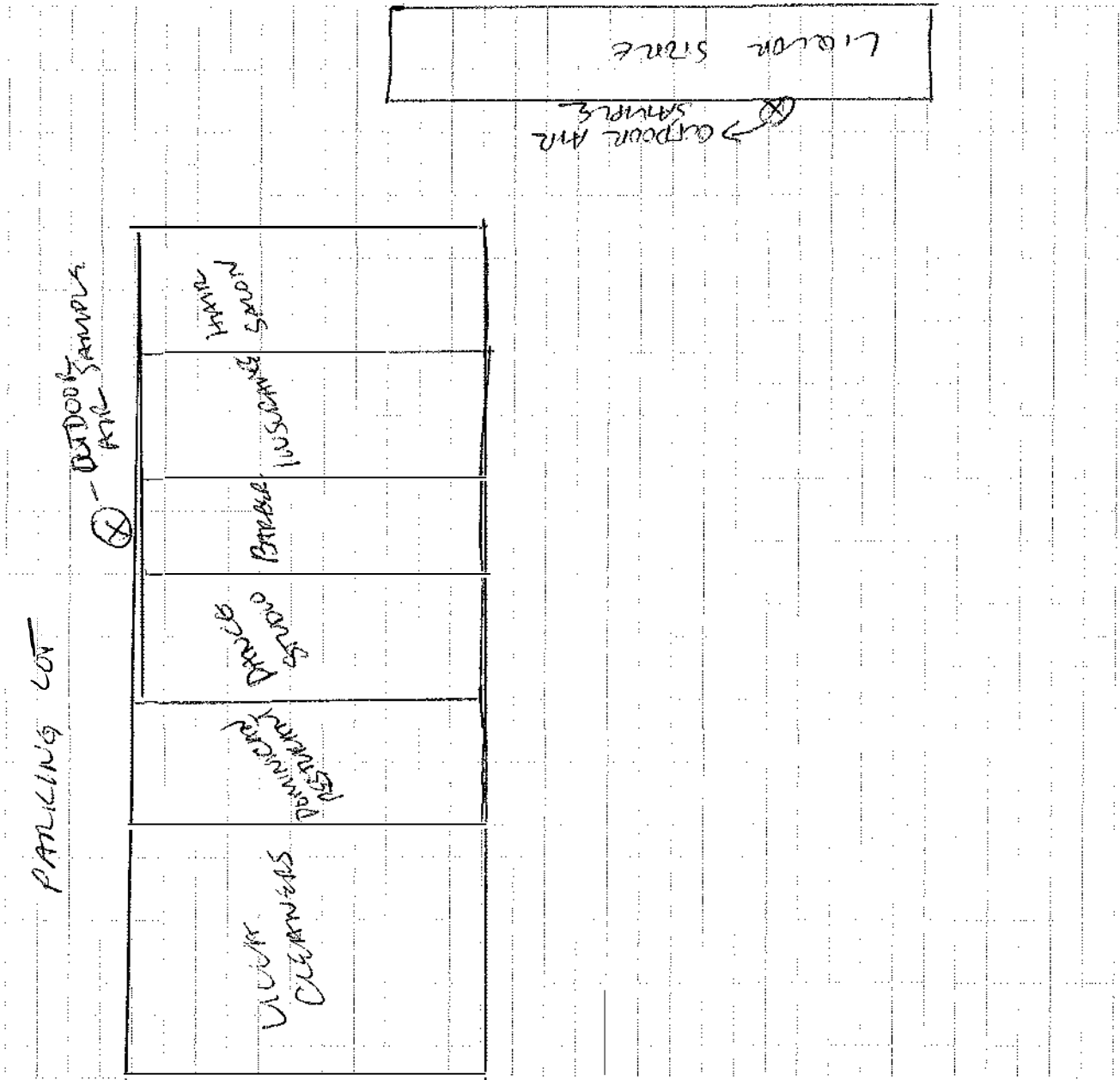


PID = 0.0 ppm

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: MULTRAE PID

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
CLOSET	GLASS CLEANER	32oz	USED	SODIUM, XYLENES, SURFACTANTS	0	Y
	ALL PRO REFRIGERANT	2002	USED	1,1,1,2-tetrafluoroethane, polyalkylene glycol, ammonia, hydrochloric acid	0	N
	WD-40	8oz	USED	Aliphatic hydrocarbon petroleum based oil	0	Y
				low vapor pressure aliphatic hydrocarbon		Y
	KOR-KY CLEANER	32oz	USED	BUTYL ETHANOL, Nonylphenoxy polyethanol	0	N
	OIL BASED PRIMER	1 gallon	USED	hydrocarbon light distillate, titanium dioxide, ammonia	0	N
	CLOROX	32oz	USED	AMMONIA	0	Y
	FLEX SEAL	14oz	USED	SILICONE	0	Y
	PET STAIN REMOVER CONCENTRATE	32oz	USED		0	Y
↓	TERMINATE KILLER				0	Y

* 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.



Photo 1: Chemical inventory at 1887 Deer Park Avenue.



Photo 2: Chemical inventory at 1887 Deer Park Avenue.

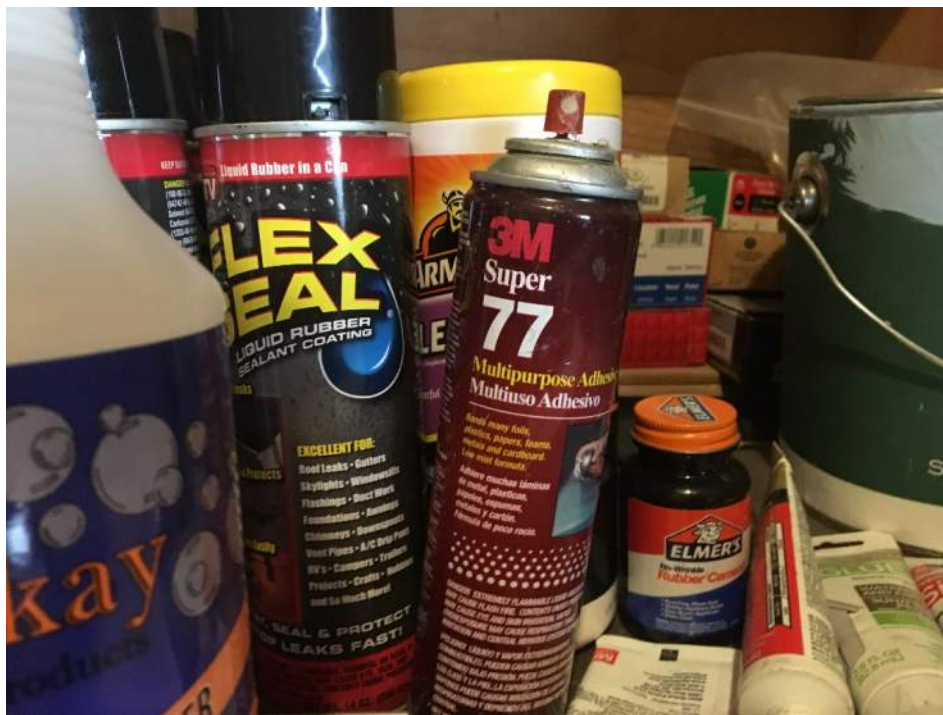


Photo 3: Chemical inventory at 1887 Deer Park Avenue.



Photo 4: Chemical inventory at 1887 Deer Park Avenue.

**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 SARAH CASCARINO Date/Time Prepared 2/22/18
Preparer's Affiliation COM SMITH Phone No. 732-225-7000
Purpose of Investigation VIAA CHANGES

1. OCCUPANT:

Interviewed: ☒ Y ☐ N

Last Name: MANDUSCA First Name: LINDA

Address: 1889 DEER PARK AVE DEER PARK, NJ

County: SUFFOLK

Home Phone: _____ Office Phone: 631-243-1333

Number of Occupants/persons at this location 2 Age of Occupants 30-50

2. OWNER OR LANDLORD: (Check if same as occupant ☐)

Interviewed: Y ☒ N ☐

Last Name: PETERSON First Name: BILLY

Address: 1837 DEER PARK AVE DEER PARK, NJ

County: SUFFOLK

Home Phone: _____ Office Phone: 631-667-8070

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

☒ Commercial/Multi-use

Other: HAIR SALON

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

Ranch	2-Family	3-Family	
Raised Ranch	Split Level	Colonial	NO
Cape Cod	Contemporary	Mobile Home	
Duplex	Apartment House	Townhouses/Condos	
Modular	Log Home	Other: _____	

If multiple units, how many? 1

If the property is commercial, type?

Business Type(s) HAIR/NAIL SALON

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

Other characteristics:

Number of floors 1

Building age 1963

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

NA

Airflow near source

MODERATE AIRFLOW FROM FLOOR TO BACK AND VIA VENT
AND A/C UNIT

Outdoor air infiltration

MINIMAL

Infiltration into air ducts

NOT OBSERVED

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

- a. Above grade construction: wood frame concrete stone NO BASEMENT brick
- b. Basement type: full crawlspace slab other NA
- c. Basement floor: concrete dirt stone other _____
- d. Basement floor: uncovered covered covered with TILE
- e. Concrete floor: unsealed sealed sealed with UNKNOWN
- f. Foundation walls: poured block stone other _____
- g. Foundation walls: unsealed sealed sealed with UNKNOWN
- 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: NA (feet)

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

FLOOR COVERED WITH LINOLEUM, NO CRACKS OBSERVED

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)

- | | | |
|----------------------------|------------------|---------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: NATURAL GAS

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning: Central Air Window units Open Windows None

2 WALL UNITS

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.

2 VENTS IN WALL FOR AIR CIRCULATION

2 A/C UNITS IN WALL

7. OCCUPANCY

Is basement/lowest level occupied? Full-time ^{BUSINESS HOURS} Occasionally Seldom Almost Never

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement N/A

1st Floor HAIR SALON OPERATION

2nd Floor _____

3rd Floor _____

4th Floor _____

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?

Y/N

h. 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? SHAMPOO / CANDID MONITORING
HAIR, STYLING AIDS.

- 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?

If yes, please describe: SMELLING OF HAIR RELATED CHEMICALS

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? COSMETOLOGY

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

☒ No
☐ Unknown

Is there a radon mitigation system for the building/structure? Y ☒ N Date of Installation: SYSTEM PRESENT
Is the system active or passive? Active/Passive SSDS (AUGUST 2011)

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 ☐

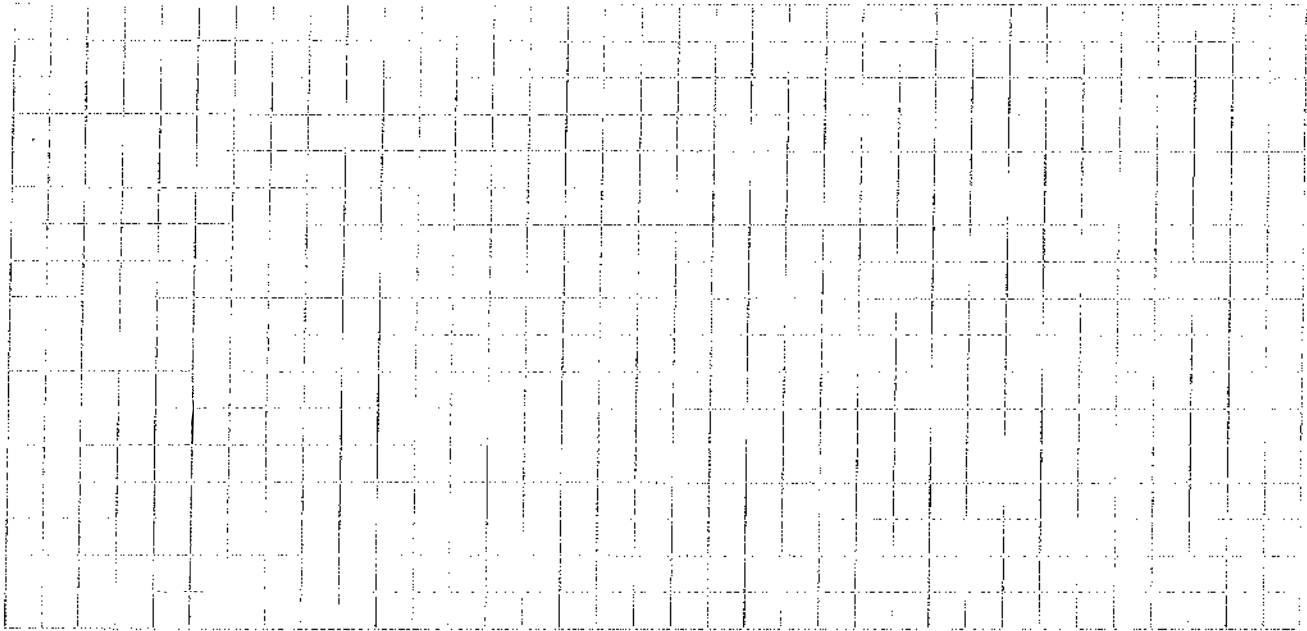
c. Responsibility for costs associated with reimbursement explained? Y / N

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: N/A



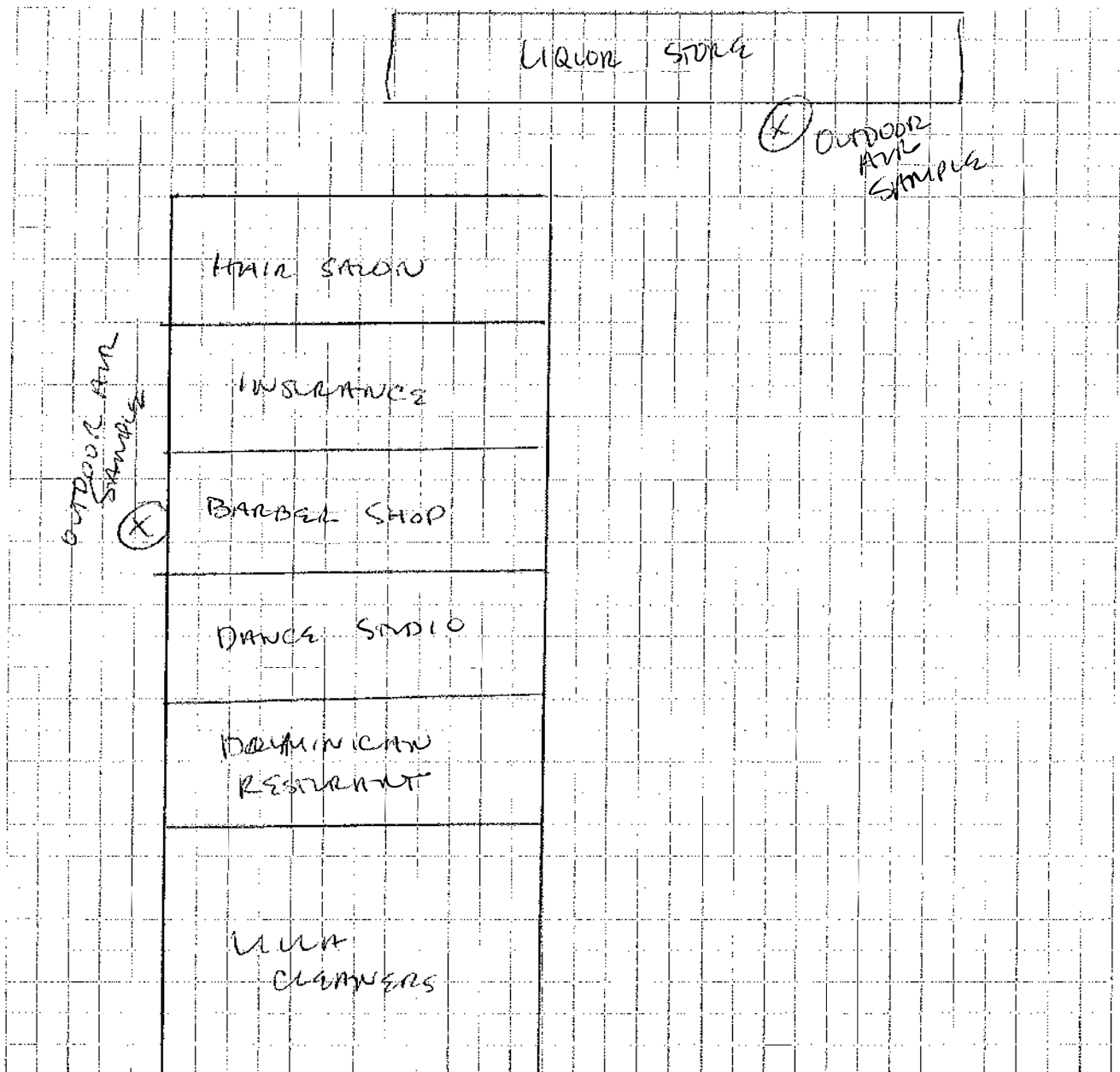
First Floor:



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.



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

[illegible]

**** 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.**



Photo 1: Chemical inventory at 1889 Deer Park Avenue.



Photo 2: Chemical inventory at 1889 Deer Park Avenue.



Photo 3: Chemical inventory at 1889 Deer Park Avenue.



Photo 4: Chemical inventory at 1889 Deer Park Avenue.

**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 SARAH ORSONAMO Date/Time Prepared 4/22/18
Preparer's Affiliation CDM SMITH Phone No. 732-225-7000
Purpose of Investigation VILLA CLEANERS

1. OCCUPANT:

Interviewed: ☒ Y ☐ N

Last Name: TRAIWA First Name: JOSEPH

Address: 1891 DEER PARK AVE DEER PARK, NY

County: SUFFOLK

Home Phone: 631-242-3900 Office Phone: _____

Number of Occupants/persons at this location 1 Age of Occupants 38

Note: Mr. Traima is requesting

2. OWNER OR LANDLORD: (Check if same as occupant ☐)

Interviewed: Y ☒ N

Last Name: PETERSON First Name: BILLY

Address: 1897 DEER PARK AVE DEER PARK, NY

County: SUFFOLK

Home Phone: _____ Office Phone: 631-667-8070

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

Commercial/Multi-use
Other: Insurance

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) INSURANCE OFFICE

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

Other characteristics:

Number of floors 1

Building age 1963

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

N/A

Airflow near source

MODERATE (BACK DOOR)

Outdoor air infiltration

MODERATE (FRONT DOOR)

Infiltration into air ducts

NOT OBSERVED

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

- No basement*
- 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 carpet
- e. Concrete floor: unsealed sealed sealed with unknown
- f. Foundation walls: poured block stone other _____
- g. Foundation walls: unsealed sealed sealed with unknown
- h. The basement is: wet damp dry moldy
- i. The basement is: finished unfinished partially finished
- j. Sump present? Y/N NO
- k. Water in sump? Y/N/not applicable

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

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

NONE OBSERVED

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)

<u>Hot air circulation</u>	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:

<u>Natural Gas</u>	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: NATURAL GAS

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.

Runs along ceiling

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally ^{BUSINESS HOURS} Seldom Almost Never

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

1st Floor

BUSINESS PURPOSES

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No
Unknown

Is there a radon mitigation system for the building/structure? Y ☒ N

Is the system active or passive? Active/Passive

Date of Installation:

VI MITIGATION
SYSTEM - SSOS
(AUGUST 2011)

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

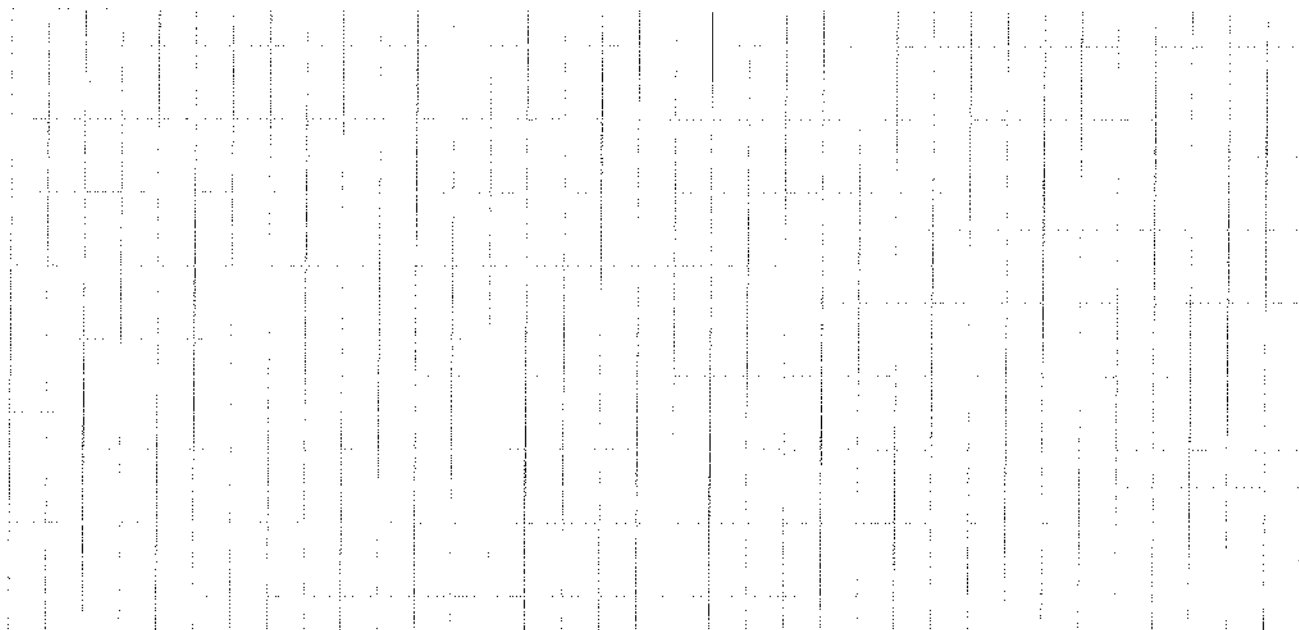
c. Responsibility for costs associated with reimbursement explained? Y / N

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

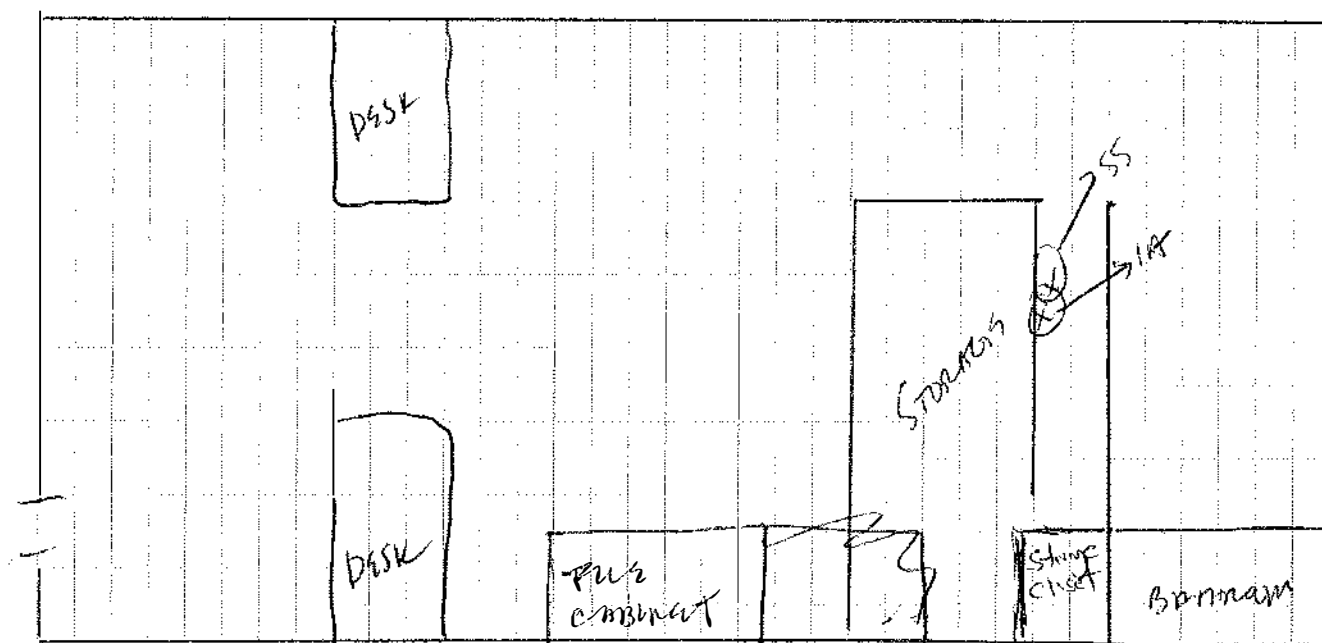
11. FLOOR PLANS

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: N/A



First Floor:

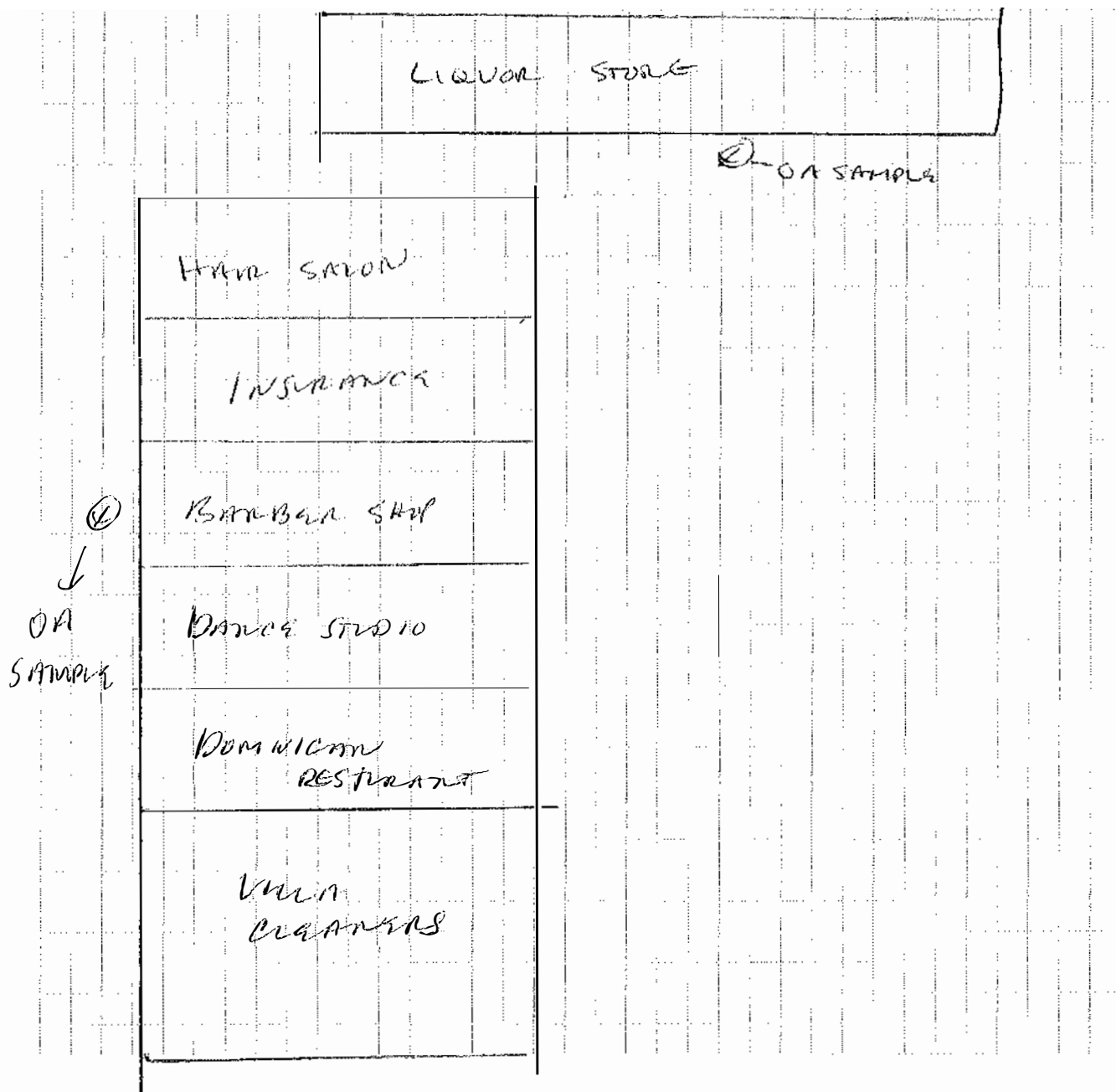


PID → 0ppm

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.



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

* 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.



Photo 1: Chemical inventory at 1891 Deer Park Avenue.



Photo 2: Chemical inventory at 1891 Deer Park Avenue.



Photo 3: Chemical inventory at 1891 Deer Park Avenue.



Photo 4: Chemical inventory at 1891 Deer Park Avenue.

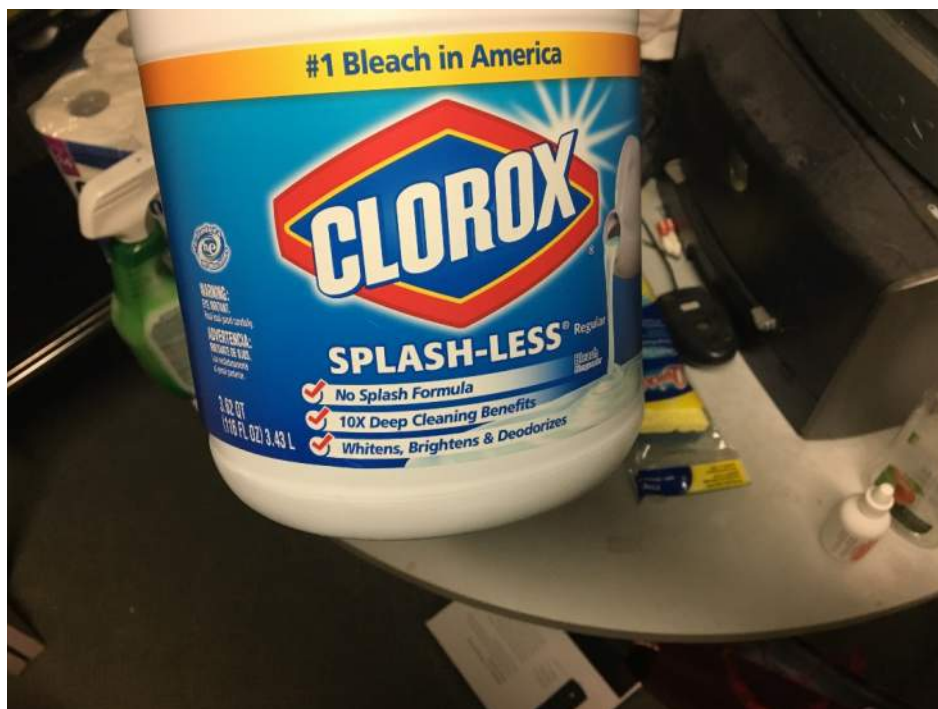


Photo 5: Chemical inventory at 1891 Deer Park Avenue.

**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 SARAH CASCARNO Date/Time Prepared 2/22/13
Preparer's Affiliation CDM SMITH Phone No. 732-225-7000

Purpose of Investigation VLLA CLEANERS

1. OCCUPANT:

Interviewed: Y/N

Last Name: TAYLOR First Name: NICKY

Address: 1393 DEER PARK AVE DEER PARK, NY

County: SUFFOLK

Home Phone: _____ Office Phone: 631-839-7060

Number of Occupants/persons at this location 4 Age of Occupants 4-40

2. OWNER OR LANDLORD: (Check if same as occupant ☐)

Interviewed: Y/N

Last Name: PETERSON First Name: BILLY

Address: 1337 DEER PARK DEER PARK, NY

County: SUFFOLK

Home Phone: _____ Office Phone: 631-667-8070

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

Commercial/Multi-use
Other: BARBER SHOP

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) BARBER SHOP

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

Other characteristics:

Number of floors 1

Building age 1963

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

N/A

Airflow near source

NONE OBSERVED

Outdoor air infiltration

LIGHT (FRONT DOOR)

Infiltration into air ducts

NOT OBSERVED

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 WOOD FLOORING/TILE
- e. Concrete floor: unsealed sealed sealed with UNKNOWN
- f. Foundation walls: poured  stone other _____
- g. Foundation walls: unsealed sealed sealed with UNKNOWN
- h. The basement is: wet damp dry moldy
- i. The basement is: finished unfinished partially finished
- j. Sump present? Y / N none
- k. Water in sump? Y / N / not applicable

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

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

~~was assessed~~ Many tiles were cracked at the back of building. However, the slab underneath tiles ~~files were made~~ did not show signs of cracks.

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)

- | | | |
|----------------------------|------------------|---------------------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: NATURAL GAS

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.

RUNS ALONG WALL AND CEILING

7. OCCUPANCY

Is basement/lowest level occupied?

Full-time

Occasionally

BUSINESS HOURS

Seldom

Almost Never

Level

General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

NA

1st Floor

BUSINESS USE

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? Shower, Buter

Perfume
Shampoo
Conditioner

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?

(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? ~~COSMETOLOGISTS~~ None

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No

Unknown

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: VI MITIGATION SYSTEM PRESENT, SSDS (AUGUST 2011)

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: _____

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

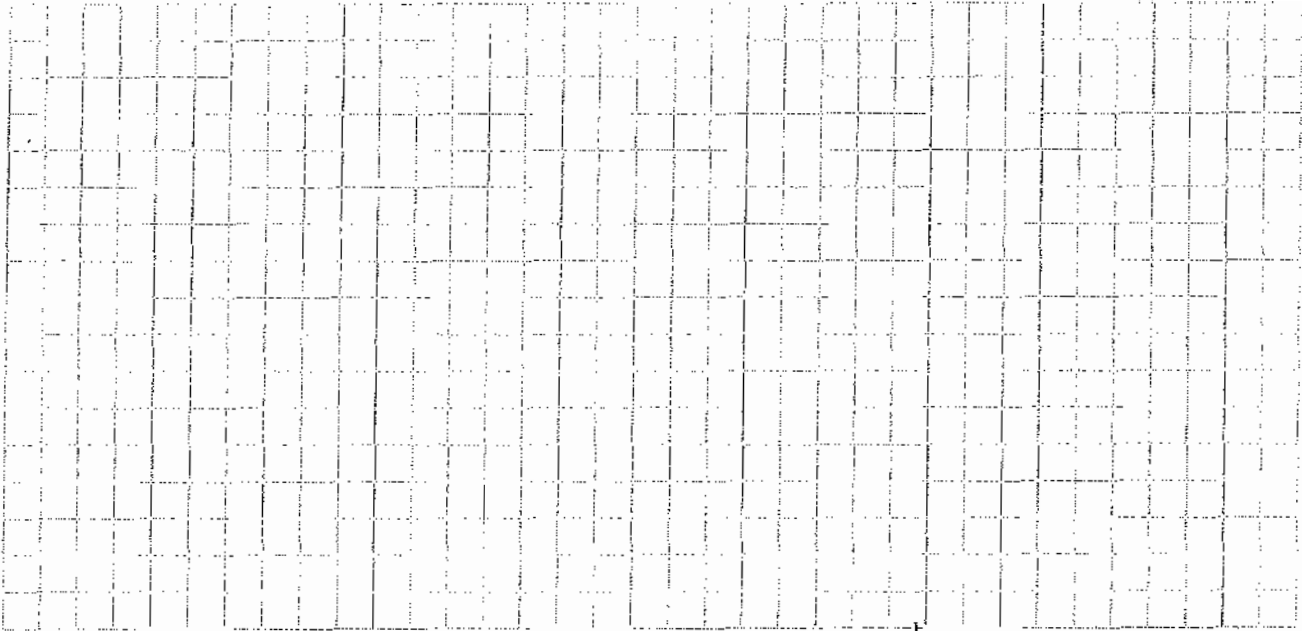
c. Responsibility for costs associated with reimbursement explained? Y / N

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

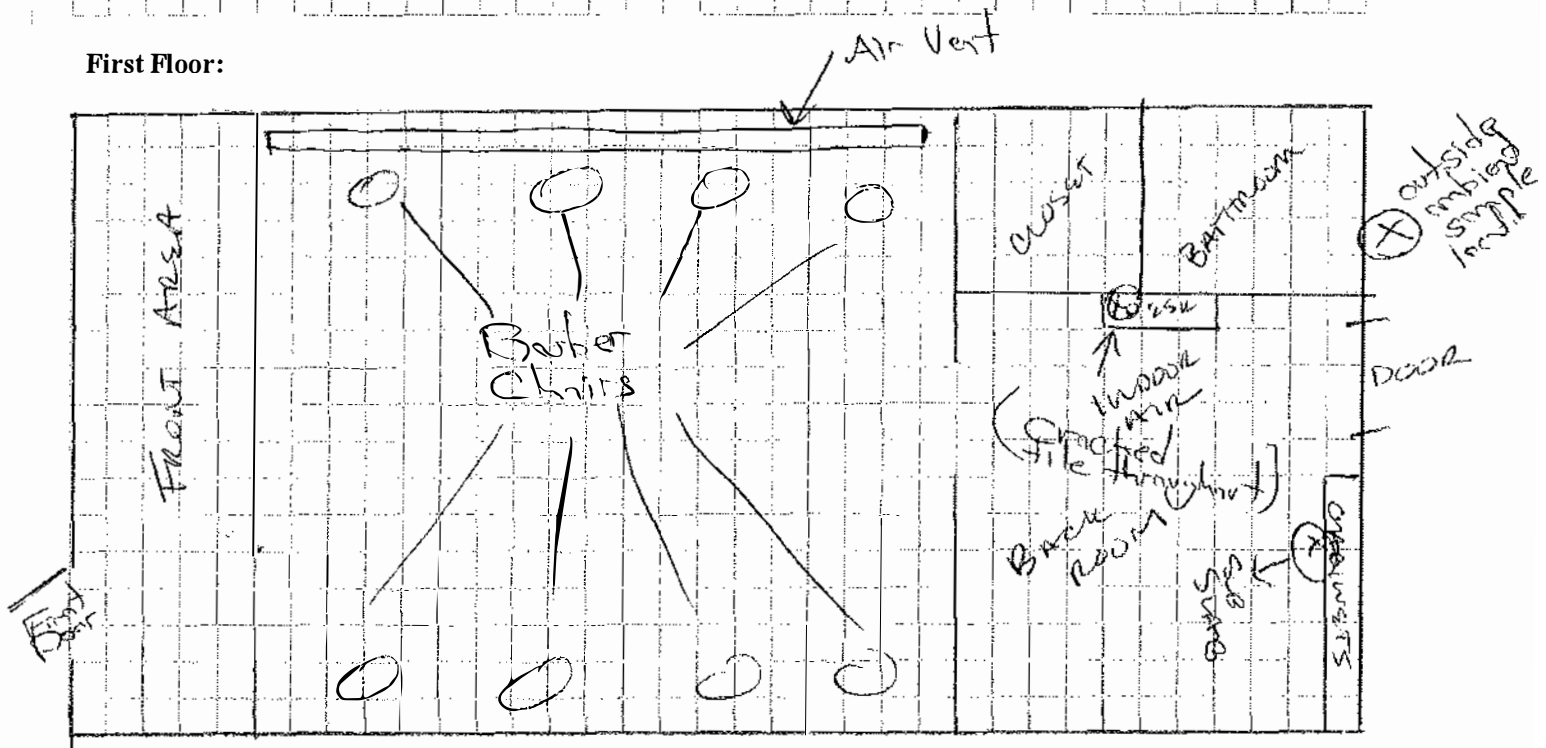
11. FLOOR PLANS

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.

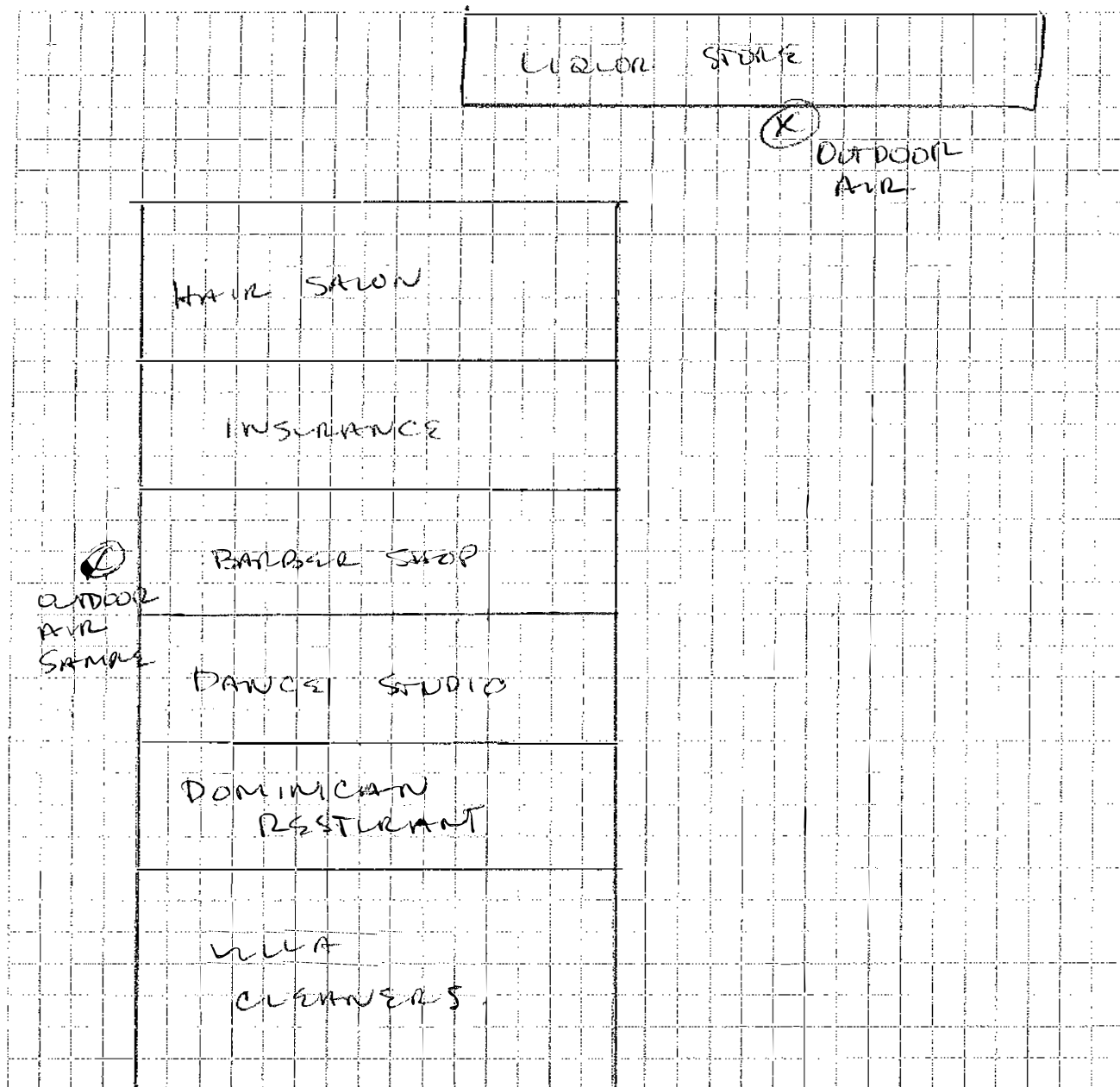




Photo 1: Chemical inventory at 1893 Deer Park Avenue.



Photo 2: Chemical inventory at 1893 Deer Park Avenue.

**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 SALAH CASCAINO Date/Time Prepared 2-12-2018
Preparer's Affiliation CDM SMITH Phone No. 732-225-7000
Purpose of Investigation WALL CLEANERS

1. OCCUPANT:**Interviewed:** Y/NLast Name: RUNIMO First Name: PANAddress: 1895 DEER PARK AVE DEER PARK, NYCounty: SUFFOLKHome Phone: _____ Office Phone: 631-392-1960Number of Occupants/persons at this location UNK Age of Occupants UNK**2. OWNER OR LANDLORD:** (Check if same as occupant ☐)**Interviewed:** Y/NLast Name: PERASON First Name: BILLAddress: 1887 DEER PARK AVE DEER PARK, NYCounty: SUFFOLKHome Phone: _____ Office Phone: 631-667-8570**3. BUILDING CHARACTERISTICS****Type of Building:** (Circle appropriate response)Residential
IndustrialSchool
ChurchCommercial/Multi-use
Other: _____DANCE STUDIO

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: _____

No

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) Scuba

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

Other characteristics:

Number of floors 1

Building age 1963

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

N/A

Airflow near source

NONE OBSERVED

Outdoor air infiltration

MINIMAL

Infiltration into air ducts

NOT OBSERVED

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

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

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

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

NONE OBSERVED

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
Space Heaters
Electric baseboard

Heat pump
Stream radiation
Wood stove

Hot water baseboard
Radiant floor
Outdoor wood boiler Other _____

The primary type of fuel used is:

Natural Gas
Electric
Wood

Fuel Oil
Propane
Coal

Kerosene
Solar

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.

AIR DUCTS ON CEILING/WALL INTERFACES

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	<u>N/A</u>
1 st Floor	<u>DANCE STUDIO</u>
2 nd Floor	<u></u>
3 rd Floor	<u></u>
4 th Floor	<u></u>

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?

If yes, please describe: _____

Y N

Do any of the building occupants use solvents at work?

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

Y N

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No
Unknown

Is there a radon mitigation system for the building/structure? Y N Date of Installation: _____

Is the system active or passive? Active/Passive

Radon Mitigation
System - SSDS
(August 2011)

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

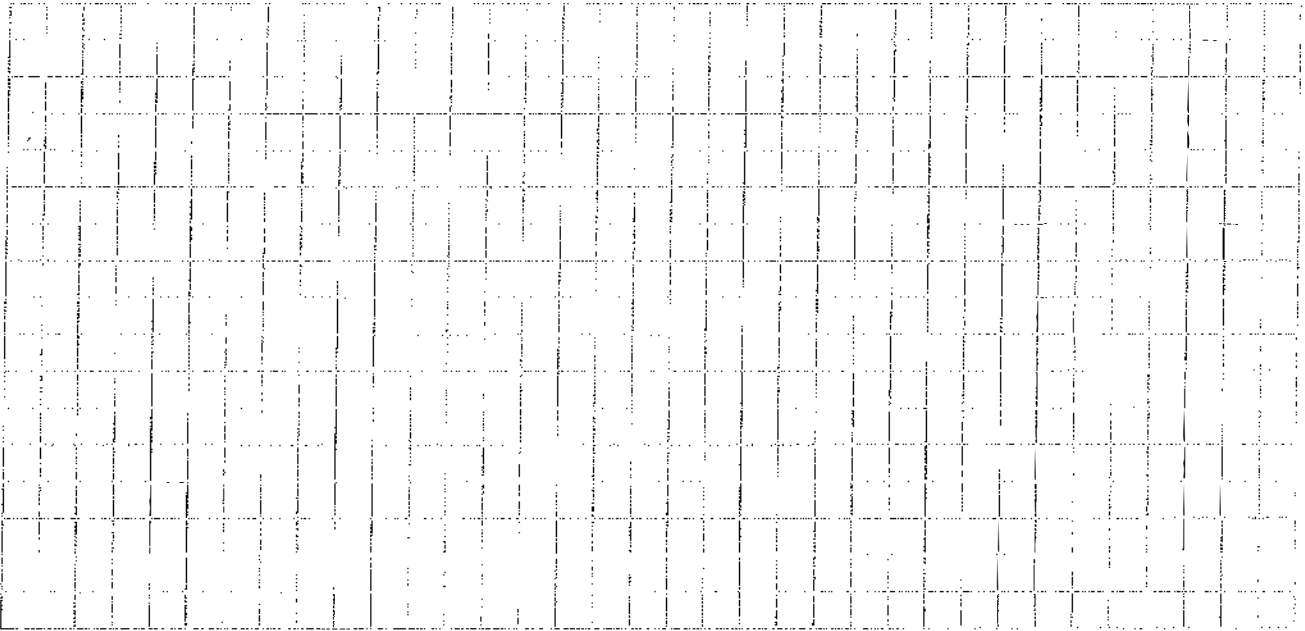
c. Responsibility for costs associated with reimbursement explained? Y / N

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

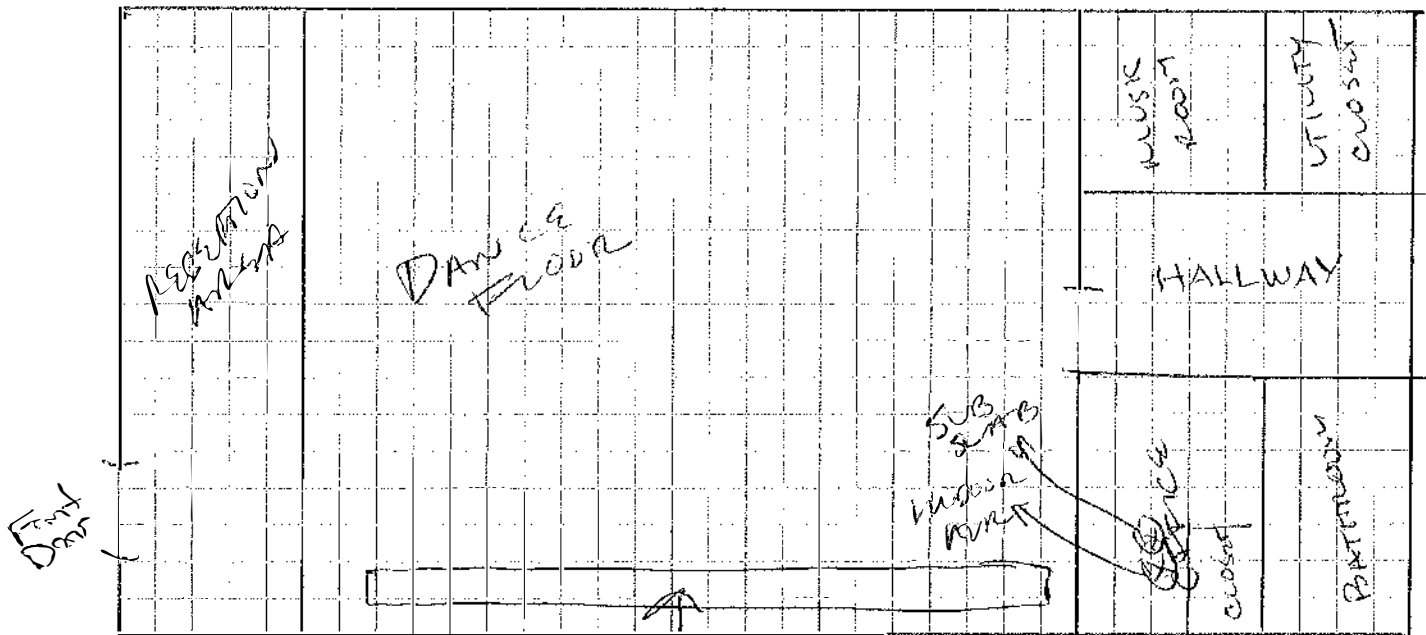
11. FLOOR PLANS

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:

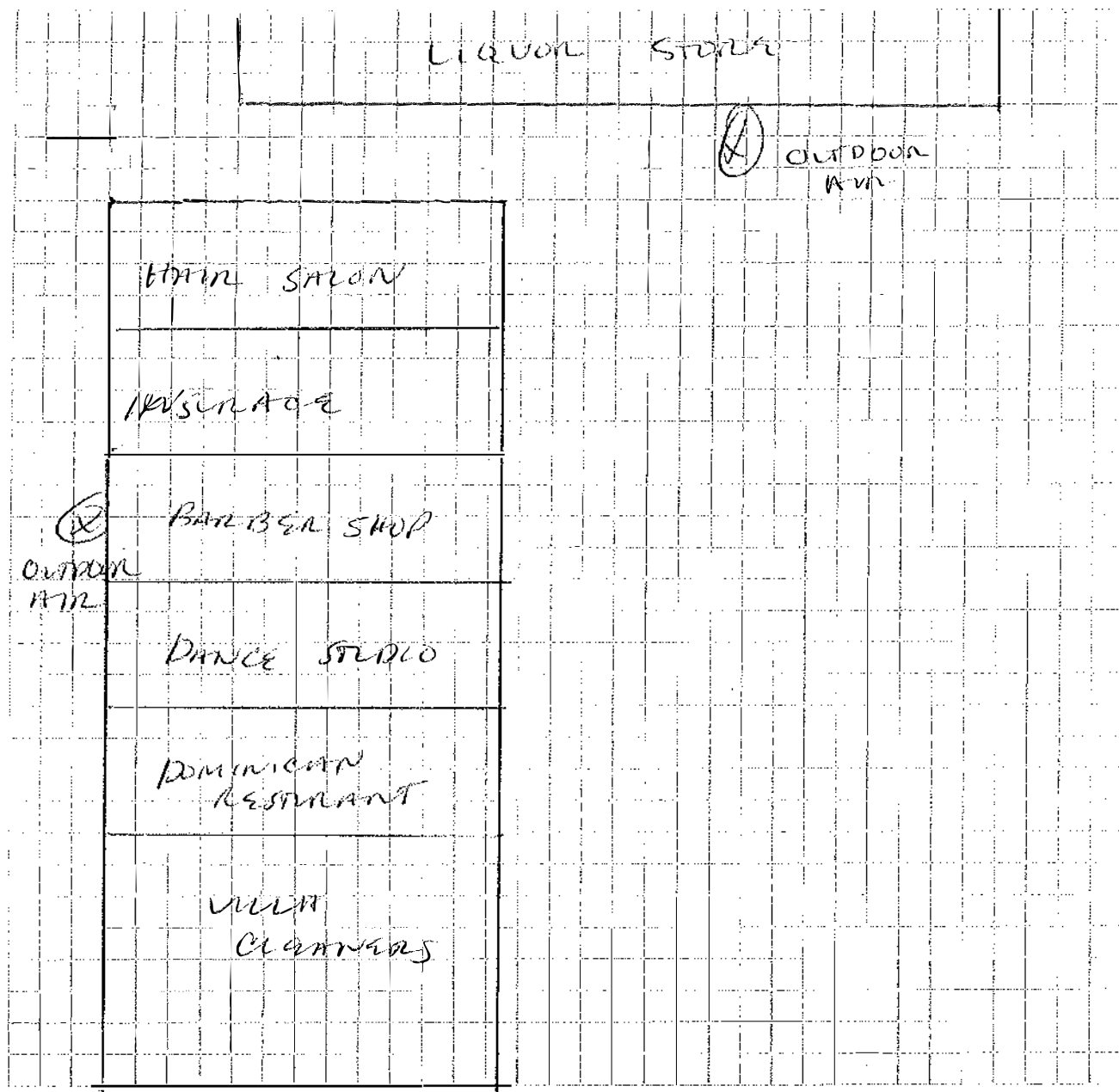


PID → 0.0 ppm

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.



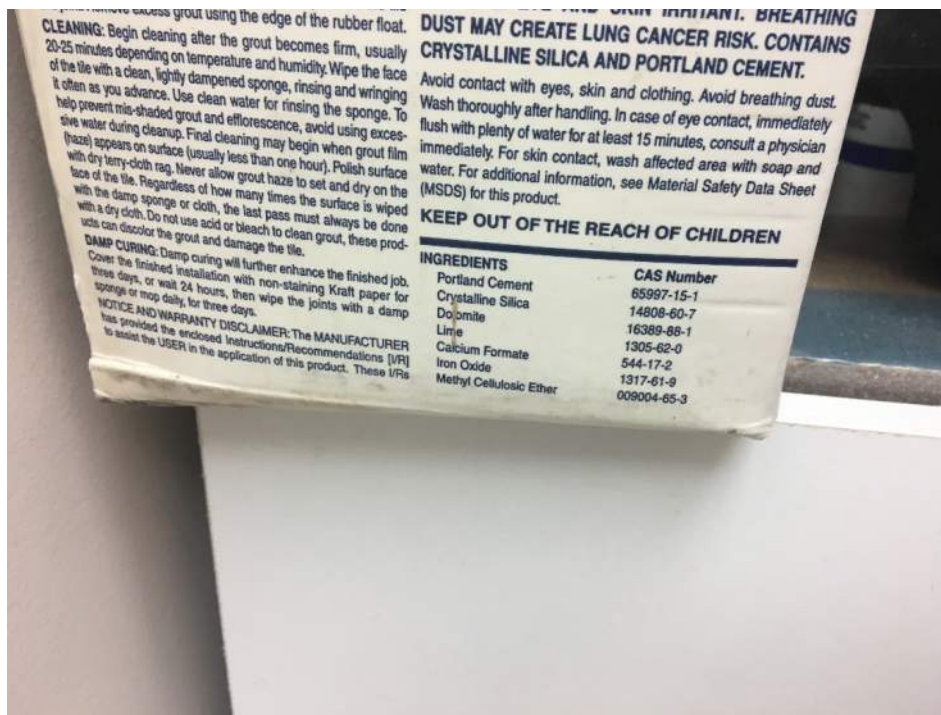


Photo 1: Chemical inventory at 1895 Deer Park Avenue.



Photo 2: Chemical inventory at 1895 Deer Park Avenue.



Photo 3: Chemical inventory at 1895 Deer Park Avenue.



Photo 4: Chemical inventory at 1895 Deer Park Avenue.

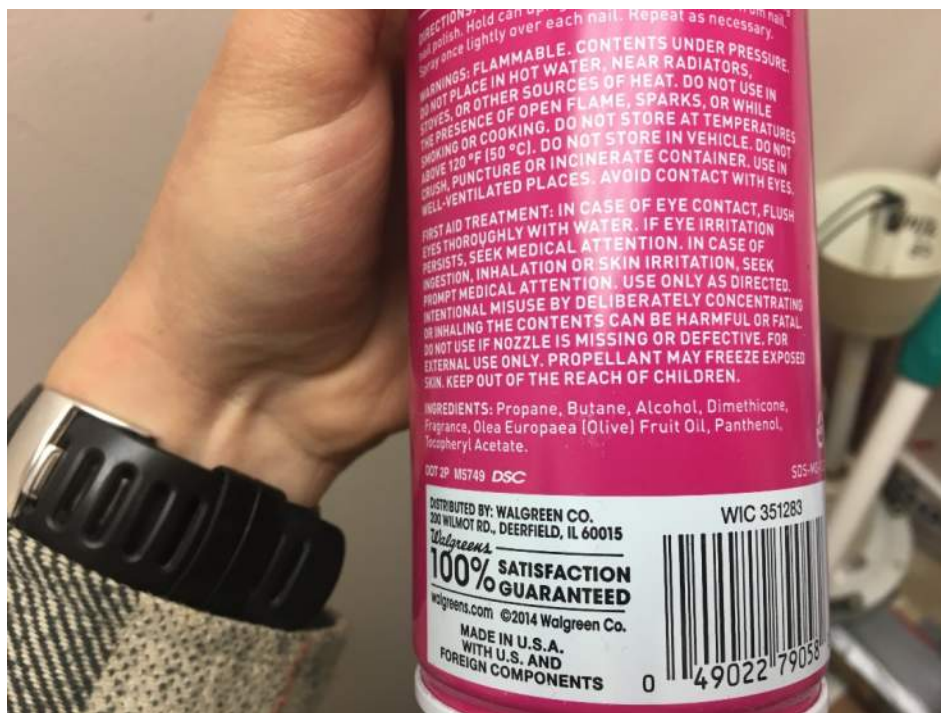


Photo 5: Chemical inventory at 1895 Deer Park Avenue.

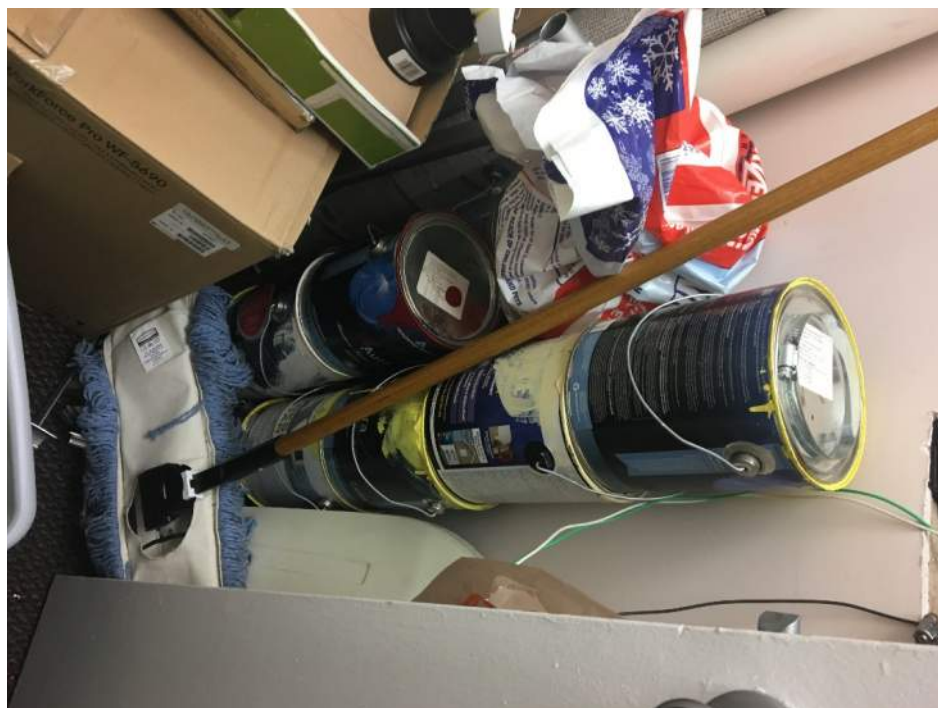


Photo 6: Chemical inventory at 1895 Deer Park Avenue.

**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 SAMM ANSEALINO Date/Time Prepared 2-12-18
Preparer's Affiliation CDM SMITH Phone No. 732-225-7000
Purpose of Investigation WATER CLEANERS

I. OCCUPANT:

Interviewed: Y/N DOMINICAN RESTAURANT S
G.C. MOON CORP
Last Name: _____ First Name: _____
Address: 1897 DEER PARK AVE DEER PARK, NY
County: SUFFOLK
Home Phone: 631-940-9703 Office Phone: _____
Number of Occupants/persons at this location 5 Age of Occupants 18-75

2. OWNER OR LANDLORD: (Check if same as occupant ☐)

Interviewed: Y/N
Last Name: PERKINSON First Name: BILLY
Address: 1887 DEER PARK AVE DEER PARK, NY
County: SUFFOLK
Home Phone: _____ Office Phone: 631-667-8070

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	<u>Commercial/Multi-use</u>
Industrial	Church	Other: <u>RESTAURANT</u>

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

Ranch	2-Family	3-Family	No
Raised Ranch	Split Level	Colonial	
Cape Cod	Contemporary	Mobile Home	
Duplex	Apartment House	Townhouses/Condos	
Modular	Log Home	Other: _____	

If multiple units, how many? 1

If the property is commercial, type? USS

Business Type(s) Restaurant

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

Other characteristics:

Number of floors 1

Building age 1963

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

NA

Airflow near source

MINIMAL (BACK DOOR)

Outdoor air infiltration

MINIMAL (FORMER SEALS EFFECTIVE)

Infiltration into air ducts

NOT OBSERVED

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 tile
- e. Concrete floor: unsealed sealed sealed with unknown
- f. Foundation walls: poured block stone other _____
- g. Foundation walls: unsealed sealed sealed with unknown
- 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: NA (feet)

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

NONE OBSERVED

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
Space Heaters
Electric baseboard

Heat pump
Stream radiation
Wood stove

Hot water baseboard
Radiant floor
Outdoor wood boiler Other _____

The primary type of fuel used is:

Natural Gas
Electric
Wood

Fuel Oil
Propane
Coal

Kerosene
Solar

Domestic hot water tank fueled by: NATURAL GAS

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.

NONE OBSERVED

7. OCCUPANCY

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

Level General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, storage)

Basement	<u>N/A</u>
1 st Floor	<u>RESTAURANT / KITCHEN</u>
2 nd Floor	<u></u>
3 rd Floor	<u></u>
4 th Floor	<u></u>

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?

Y / 

h. 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? FLOOR / SURFACE
cleaning

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? New tile laid in back of kitchen at same point over the last year

l. Have air fresheners been used recently?

☒ Y / ☐ N When & Type? _____

m. Is there a kitchen exhaust fan?

☒ Y / ☐ N If yes, where vented? UNK ...

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: Dominican Food

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

☒ No
☐ Unknown

Is there a radon mitigation system for the building/structure? ☒ Y / ☐ N Date of Installation: _____

Is the system active or passive? Active/Passive

MITIGATION SYSTEM PRESENT (SSDS) (AUGUST 2011)

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 ☐

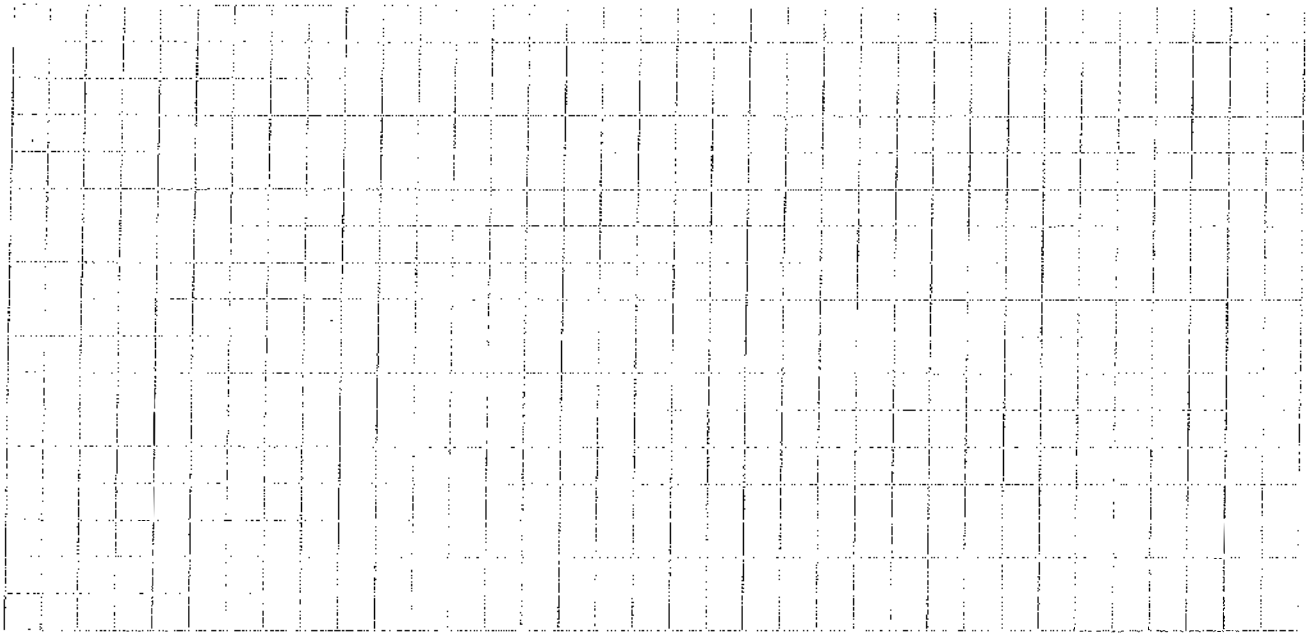
c. Responsibility for costs associated with reimbursement explained? ☐ Y / ☐ N

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

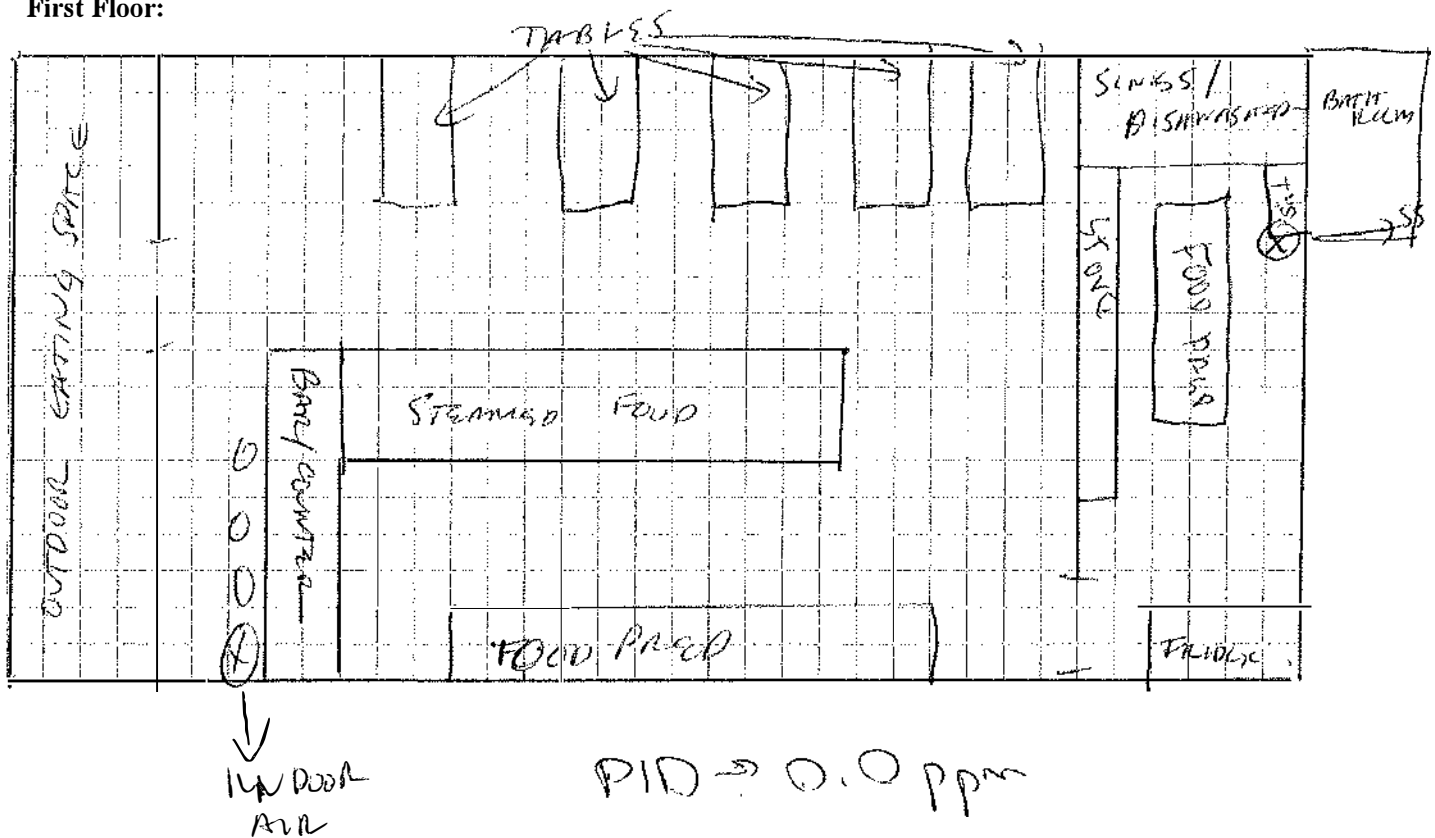
11. FLOOR PLANS

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: *N/A*



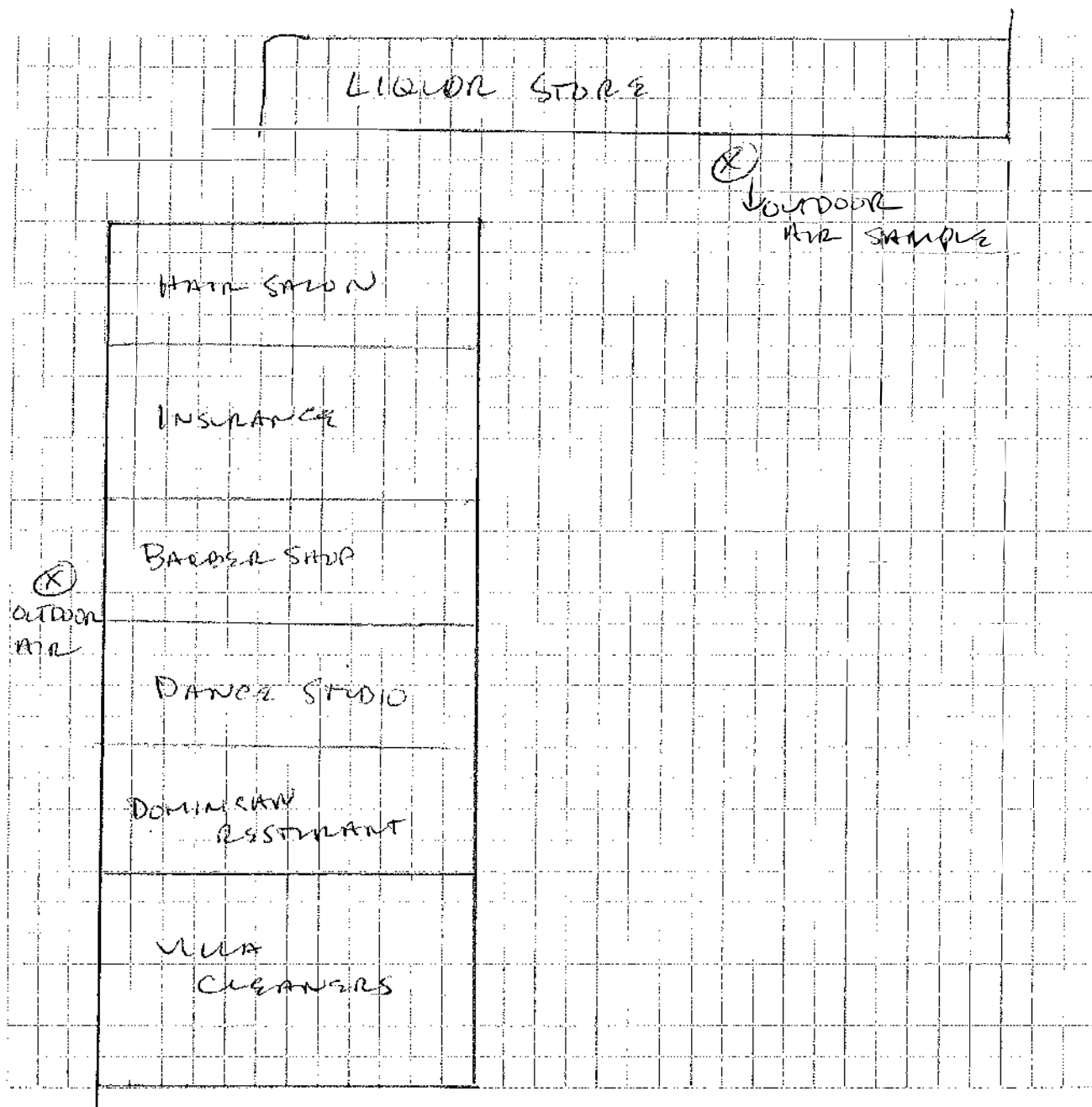
First Floor:



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.



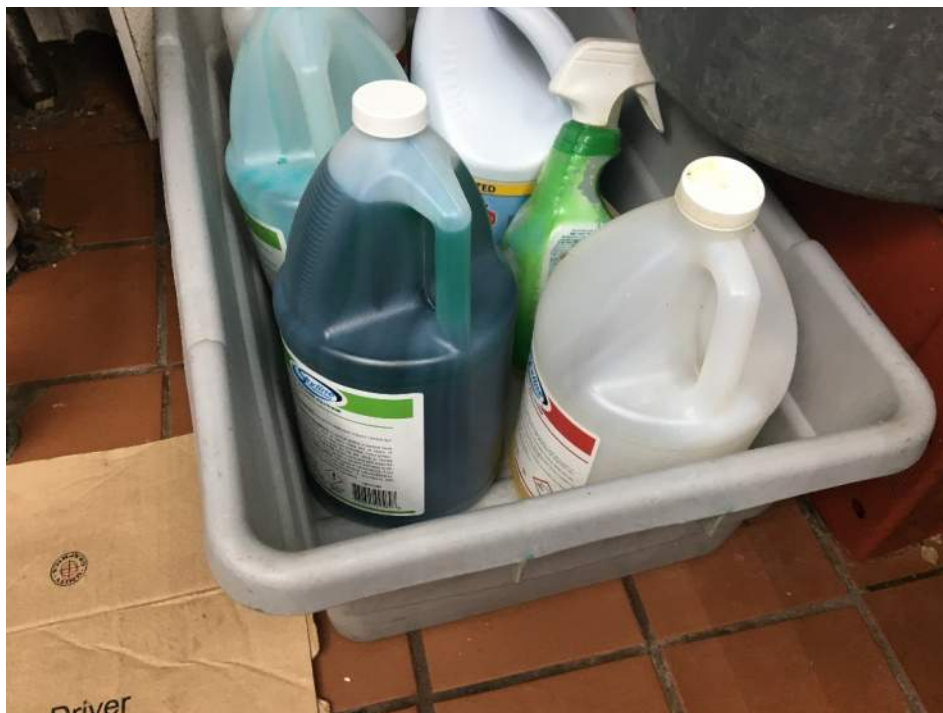


Photo 1: Chemical inventory at 1897 Deer Park Avenue.



Photo 2: Chemical inventory at 1897 Deer Park Avenue.

**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 SMITH CASCHINO Date/Time Prepared 2/22/18

Preparer's Affiliation CDM SMITH Phone No. 732-225-7000

Purpose of Investigation ULVA CLEANERS

I. OCCUPANT:

Interviewed: Y/N

Last Name: GANN First Name: JENN

Address: 1899B DEER PARK AVE DEER PARK, NY

County: SUFFOLK

Home Phone: 631-667-4665 Office Phone: _____

Number of Occupants/persons at this location 4-5 Age of Occupants 7-67

2. OWNER OR LANDLORD: (Check if same as occupant ____)

Interviewed: Y/N

Last Name: PETERSON First Name: BILLY

Address: 1887 DEER PARK AVE DEER PARK, NY

County: SUFFOLK

Home Phone: _____ Office Phone: 631-667-8070

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

Commercial/Multi-use
Other: _____

DAY CLEANER

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

Ranch	2-Family	3-Family	No
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) DAY CLEANER

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

Other characteristics:

Number of floors 1

Building age 1963

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

N/A

Airflow near source

MINOR FRONT TO BACK + EXHAUST FANS

Outdoor air infiltration

N/S

Infiltration into air ducts

N/A

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 Partially w/ ~~MA~~ LINOLEUM TILE
- e. Concrete floor: unscaled sealed sealed with unknown
- 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 unknown
- k. Water in sump? Y / N not applicable

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

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

UNSEEN / NOT OBSERVED

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	Other <u>Boiler for</u> <u>MAINTENANCE</u>
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	

The primary type of fuel used is:

Natural Gas	<u>Fuel Oil</u>	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: FURNACE OIL

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.

NA

7. OCCUPANCY

Is basement/lowest level occupied?

Full-time

Occasionally

Seldom

Almost Never

business hours

Level

General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

1st Floor

dry cleaner

2nd Floor

3rd Floor

4th Floor

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?

Y

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? PB 2000 and SOAP DETERGENT

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?

If yes, please describe: clean maintenance

Y / N

Do any of the building occupants use solvents at work?

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

Y / N

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

All employees

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: VI mitigation system - 5/5/05

Is the system active or passive? Active/Passive

(August 2011)

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

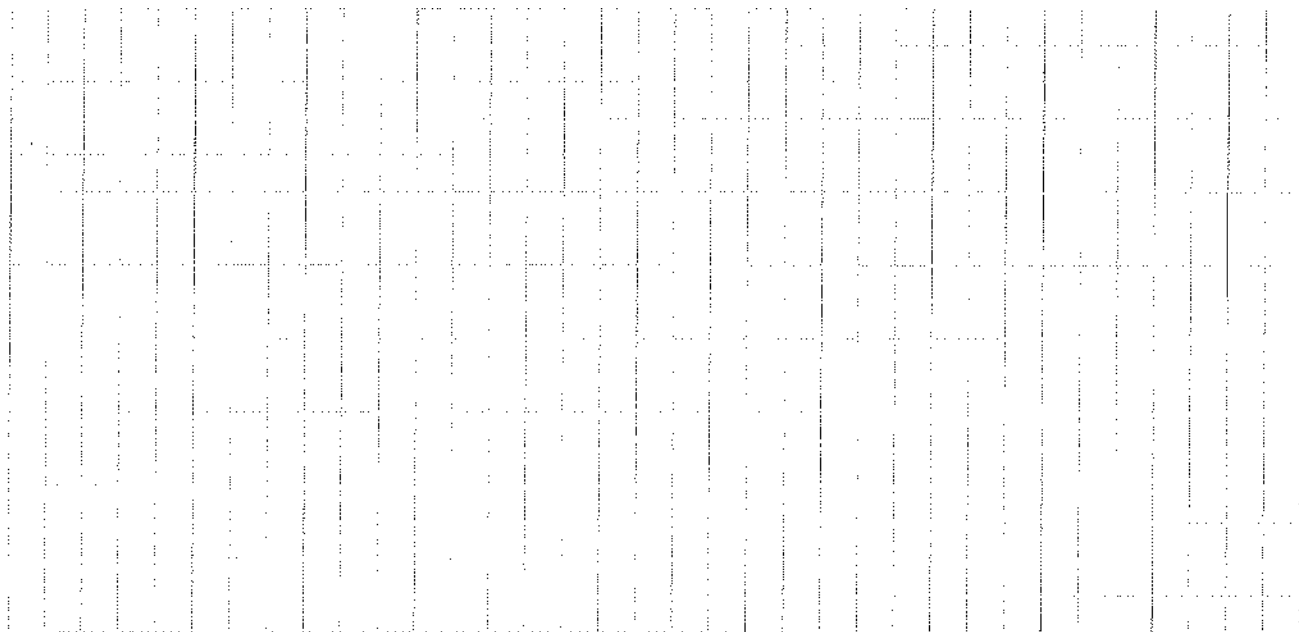
c. Responsibility for costs associated with reimbursement explained? Y / N

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

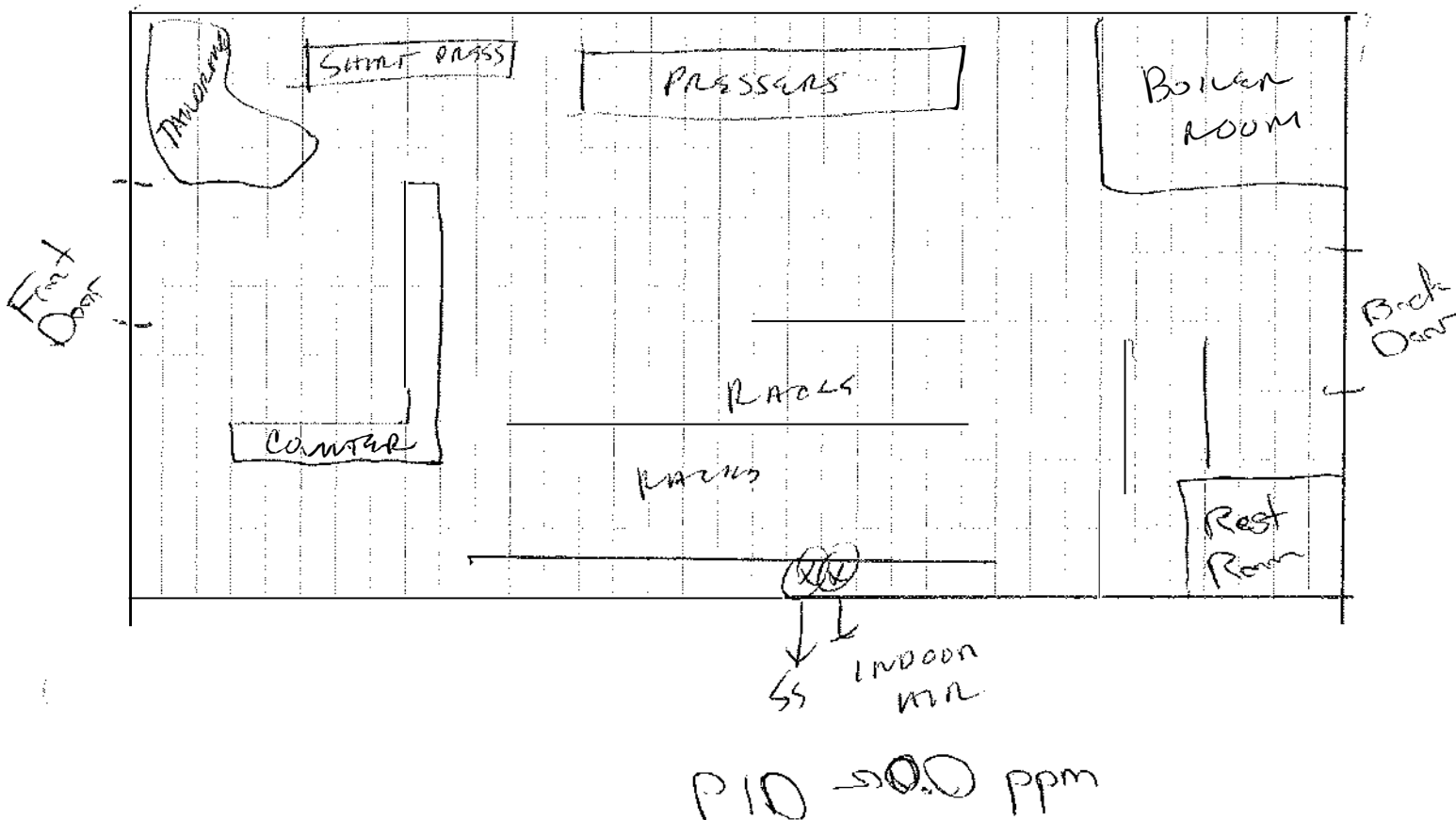
11. FLOOR PLANS

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: *NR*



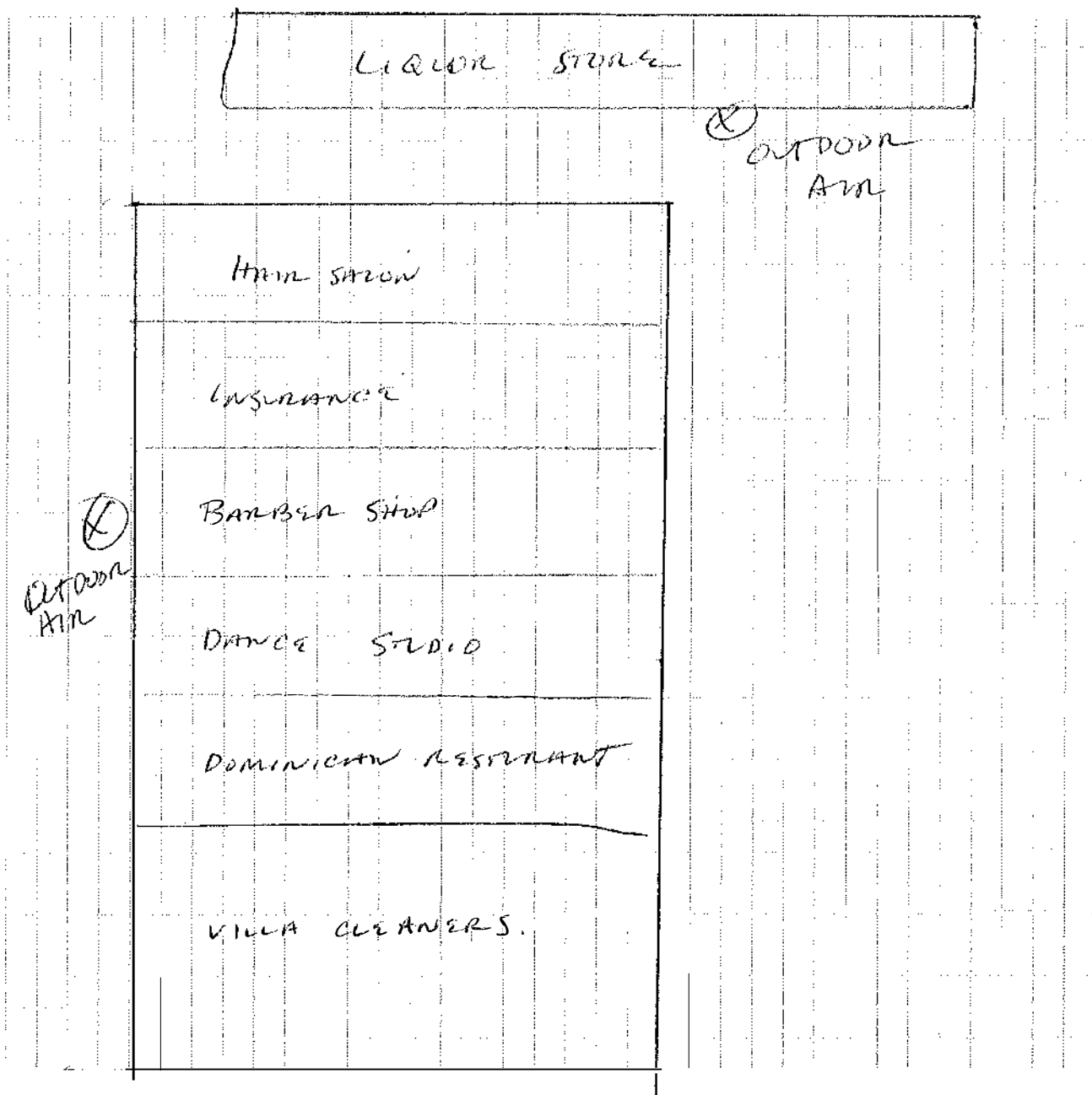
First Floor:



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: MINI-MAX PID

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

[illegible]

* 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.**

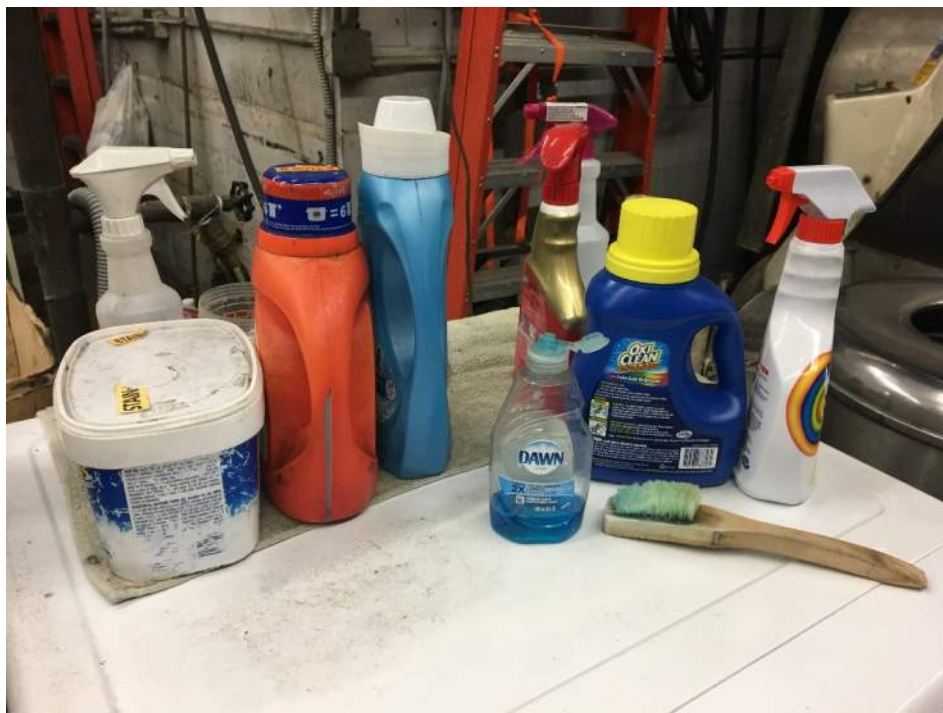


Photo 1: Chemical inventory at 1899B Deer Park Avenue.



Photo 2: Chemical inventory at 1899B Deer Park Avenue.

Appendix B

Data Usability Summary Report

Data Validation Services

120 Cobble Creek Road P.O. Box 208

North Creek, NY 12853

Phone 518-251-4429

harry@frontiernet.net

March 29, 2018

Sean O'Hare
CDM Smith
110 Fieldcrest Ave Suite B
Edison, NJ 08837

RE: Villa Cleaners
Validation of the Analytical Laboratory Data and Data Usability Summary Report (DUSR)
TA SDG No. 200-42383-1

Dear Mr. O'Hare:

Review has been completed for the data package generated by TestAmerica Laboratories that pertains to air samples collected February 22, 2018 at the Villa Cleaners site. Eighteen 6 L summa canisters and two field duplicates were analyzed for volatile analytes by USEPA method TO-15.

Data validation was performed using guidance from the 2006 USEPA Region II validation SOP HW-31, with consideration for the specific requirements of the analytical methodology. The following items were reviewed:

- * Data Completeness
- * Case Narrative
- * Custody Documentation
- * Holding Times
- * Internal Standard Recoveries
- * Method and Canister Blanks
- * Laboratory Control Samples (LCSs)
- * Blind Field Duplicate Correlations
- * Instrumental Tunes
- * Initial and Continuing Calibration Standards
- * Method Compliance
- * Sample Result Verification

The data review includes evaluation of the specific items noted in The NYS DER-10 Appendix B section 2.0 (c). The items listed above that show deficiencies are discussed within the text of this narrative. The laboratory QC forms illustrating the excursions can be found within the laboratory data package.

Those items showing deficiencies are discussed in the following sections of this report. All others were found to be acceptable as outlined in the above-mentioned validation procedure, and as applicable for the methodology. Unless noted specifically in the following text, reported results are substantiated by the raw data, and generated in compliance with project requirements.

In summary, sample processing was primarily conducted in compliance with, and adherence to, protocol requirements. Samples results are usable either as reported or with minor qualification, with the exception that the result for 1,4-dioxane in one sample is rejected and not usable.

Data completeness, accuracy, precision, representativeness, comparability, and sensitivity are acceptable.

The client and laboratory identifications are attached to this text. Also included is the client EQuIS EDD with recommended validation qualifiers and edits applied.

Chain-of-Custody/Sample Receipt

Edits made as writeovers on the custody form should have been lined through, dated, and initialed.

Canister and flow controller IDs for one sample were reversed on the custody form and resolved at sample receipt.

Volatiles by EPA TO-15

103538-1887-SS-022218 was collected in a provided flow controller designed for one hour collection, rather than one designed for twenty four hours. This was determined following receipt at the laboratory, as outlined in the laboratory case narrative. It should be noted by the end user of the data that the reported concentrations reflect the constituency of the air only during that shortened time interval rather than over the intended twenty four hours noted in the project Work Plan. Because that canister was received at ambient pressure, the results for that sample have been qualified as estimated in value.

103538-1895-SS-022218 was also received with no residual vacuum, and the results for that sample have therefore been qualified as estimated in value.

Some of the analytes show responses that exceed (some by very large margins) the established linear range of the instrumentation. In order to achieve low reporting limits for the analytes of concern, the laboratory was instructed to report those samples undiluted. Therefore, the results for those high concentration compounds (laboratory "E" flag) have been qualified as estimated in value.

Any potential response for 1,4-dioxane in 103538-1889-IA-022218 would have occurred during the time at which the isopropyl alcohol response was saturating the electronmultiplier. The result for 1,4-dioxane in that sample has therefore been rejected and is not usable.

The detections of the xylenes in 103538-1899B-SS-022218 have been qualified as tentative in identification and estimated in value due to poor mass spectral quality.

The blind field duplicate evaluations were performed on 103538-1891-IA-022218 and 103538-1899A-SS-022218. The correlations are within validation action guidelines, with the exception of that for toluene ($>\pm RL$) in 103538-1891-IA-022218, results for which are qualified as estimated in the indicated parent sample and its duplicate.

Holding times, internal standard responses, and instrument tunes meet requirements. Blanks show no contamination.

Initial calibration standard responses were within validation guidelines, with all response factors (RRFs) above 0.05 and linearity within the 30%RSD limit. The continuing calibration responses are below 30%D or are elevated for analytes not detected in the project samples.

Some of the samples were processed at dilution due to the relatively very high concentrations of target hydrocarbons. This resulted in proportionally elevated reporting limits for all compounds.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Judy Harry", with a long, sweeping horizontal line extending to the right.

Judy Harry

VALIDATION DATA QUALIFIER DEFINITIONS

- U** The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
- J** The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
- J-** The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
- J+** The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
- UJ** The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- NJ** The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
- EMPC** The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Client and Laboratory Sample IDs

SAMPLE SUMMARY

Client: CDM Smith, Inc.

Job Number: 200-42383-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-42383-1	103538-1899A-IA-022218	Air	02/22/2018 1630	02/26/2018 1243
200-42383-2	103538-9899A-SS-022218	Air	02/22/2018 1635	02/26/2018 1243
200-42383-3	103538-1899A-SS-022218	Air	02/22/2018 1635	02/26/2018 1243
200-42383-4	103538-1899B-SS-022218	Air	02/22/2018 1615	02/26/2018 1243
200-42383-5	103538-1899B-IA-022218	Air	02/22/2018 1615	02/26/2018 1243
200-42383-6	103538-1897-SS-022218	Air	02/22/2018 1600	02/26/2018 1243
200-42383-7	103538-1897-IA-022218	Air	02/22/2018 1605	02/26/2018 1243
200-42383-8	103538-1895-IA-022218	Air	02/22/2018 1456	02/26/2018 1243
200-42383-9	103538-1895-SS-022218	Air	02/22/2018 0850	02/26/2018 1243
200-42383-10	103538-1893-OA-022218	Air	02/22/2018 1415	02/26/2018 1243
200-42383-11	103538-1893-SS-022218	Air	02/22/2018 1550	02/26/2018 1243
200-42383-12	103538-1893-IA-022218	Air	02/22/2018 1552	02/26/2018 1243
200-42383-13	103538-1891-SS-022218	Air	02/22/2018 1533	02/26/2018 1243
200-42383-14	103538-1891-IA-022218	Air	02/22/2018 1531	02/26/2018 1243
200-42383-15	103538-9891-IA-022218	Air	02/22/2018 1530	02/26/2018 1243
200-42383-16	103538-1889-SS-022218	Air	02/22/2018 1515	02/26/2018 1243
200-42383-17	103538-1889-IA-022218	Air	02/22/2018 1517	02/26/2018 1243
200-42383-18	103538-1887-SS-022218	Air	02/22/2018 0825	02/26/2018 1243
200-42383-19	103538-1887-IA-022218	Air	02/22/2018 1510	02/26/2018 1243
200-42383-20	103538-1887-OA-022218	Air	02/22/2018 1645	02/26/2018 1243