ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC

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June 15, 2010

Mr. Robert R. Stewart
Engineering Geologist
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 1
Stony Brook University
50 Circle Road
Stony Brook, New York 11790-3409

Re: Summary of Investigation – Soil Vapor Intrusion Study
333 Smith Street (a.k.a. 50 Marcus Drive)
Farmingdale, New York
NYSDEC Site #V-001521

Dear Mr. Stewart:

On behalf of RXR Realty LLC (RexCorp), Roux Associates, Inc. (Roux Associates) has prepared the following Summary of Investigation for a soil vapor intrusion study conducted at 333 Smith Street in Farmingdale, New York (Site). The soil vapor intrusion study was conducted on March 13, 2010 in accordance with Roux Associates' January 4, 2008 "Vapor Intrusion Evaluation Work Plan" as approved by New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) on January 24, 2008.

Scope of Work

The purpose of this vapor survey was to identify vapor concentrations in and under the building slab using the October 2006 NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York."

Discussion

On March 13, 2010, four indoor ambient air samples (A-1 through A-4), and one outdoor ambient air sample (B-1), which was collected outside the southern wall of the building were collected. All samples were collected in six-liter Summa canisters with flow-controlling regulators over an eight-hour period. Samples were collected anywhere between 7:00 AM and 3:00 PM (depending on start times) over an eight-hour sample collection period.

The HVAC system was set to run under typical daily settings to simulate conditions representative of those when employees are present.

At the beginning of sampling, the indoor and outdoor atmospheric pressures were measured to be 30.02 inches of mercury (inHg). At the end of sampling, the indoor and outdoor atmospheric pressures were measured to be 29.83 inHg. Weather data including wind speed and direction was taken from the National Weather Service's reporting station in Farmingdale, New York (KFRG) and was recorded on an hourly basis throughout the eight-hour sampling period.

Air samples were sent to AccuTest Laboratories of Dayton, New Jersey and analyzed for VOCs using USEPA method TO-15.

Results

Analytical results for VOCs in ambient air are presented in Attachment 1, summarized in Table 1, and discussed below. Analytical results for samples collected during this Soil Vapor Intrusion investigation were evaluated using the NYSDOH's October 2006 "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" ("NYSDOH Guidance").

A total of thirty-two (32) VOCs were detected in the samples. The indoor air samples (A-1 to A-4) (Table 1) had twenty-six (26) detections, the background sample (B-1) had thirty-two (32) detections.

The NYSDOH has developed two matrices found in Section 3.4 of the NYSDOH Guidance that addresses indoor air contamination for four VOCs including carbon tetrachloride, tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), and trichloroethene (TCE).

The laboratory data was independently validated and the resulting report will be forwarded under a separate cover. The data table has been modified to reflect the results in the validation report.

Conclusions

A comparison of PCE concentrations in sub-slab soil vapor to PCE concentrations in indoor air does not suggest the potential for soil vapor intrusion. As discussed above, the highest concentration of PCE detected in indoor air was 1.9 $\mu g/m^3$, while the highest value of PCE detected in sub-slab soil vapor was 10,800 $\mu g/m^3$.

The concentrations found in the indoor air samples are most likely due to indoor sources rather than soil vapor intrusion given the types and concentrations found in the sub-slab vapor samples. Potential indoor sources should be identified and steps to reduce exposures should be taken such as removal of the chemicals, relocation of the chemicals to locations away from exposures, and making sure containers are tightly covered.

These results are consistent with the results from previous investigations completed at the Site and demonstrate that the sub-slab depressurization system is working to prevent soil vapor intrusion.

If you have any questions concerning this report, please do not hesitate to contact us.

Sincerely,

ROUX ASSOCIATES, INC.

Mark Elmendorf
Principal Scientist

Attachments

cc: Kevin Murphy, RXR Property Management

Analytical Report

Table 1. Summary of Volatile Organic Compounds in Soil Vapor Samples, 50 Marcus Drive/333 Smith Street, Melville, New York

Parameter (Concentrations in ug/m3)	**Sample Designation:** / **Sample Date:**	A-1 3/13/2010	A-2 3/13/2010	A-3 3/13/2010	A-4 3/13/2010	B-1 3/13/2010
1,1,1-Trichloroethane		0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-Tetrachloroethane		0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
1,1,2-Trichloro-1,2,2-trifluoroethane		**0.5 J**	**0.5 J**	**0.49 J**	**0.46 J**	**0.58 J**
1,1,2-Trichloroethane		0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1-Dichloroethane		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2,4-Trichlorobenzene		3 U	3 U	3 U	3 U	3 U
1,2,4-Trimethylbenzene		**0.34 J**	0.39 U	**0.3 J**	**0.48**	**34**
1,2-Dibromoethane		0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
1,2-dichloro-1,1,2,2-tetrafluoroethane		0.56 U	0.56 U	0.56 U	0.56 U	**0.11 J**
1,2-Dichlorobenzene		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane		0.32 U	**0.081 J**	0.32 U	0.32 U	0.32 U
1,2-Dichloropropane		0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,3,5-Trimethylbenzene		0.39 U	0.39 U	0.39 U	**0.15 J**	**10**
1,3-Butadiene		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3-Dichlorobenzene		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,4-Dichlorobenzene		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,4-Dioxane		1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
2-Butanone (MEK)		**1.4 B**	**1.1 J B**	**6.2 B**	**1.4**	**4 B**
2-Chlorotoluene		0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
2-Hexanone		**0.21 J**	**0.18 J**	**1.2**	**0.18 J**	**0.7 J**
2-Propanol		**6.5**	**9.1**	**9.5**	**7.4**	**0.58 J**
3-Chloropropene		0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Ethyltoluene		0.79 U	0.79 U	0.79 U	0.79 U	**11**
4-Methyl-2-pentanone (MIBK)		**0.18 J**	**0.17 J**	**0.64 J**	**0.3 J**	**0.4 J**
Acetone		**13**	**64 E**	**49 E**	**14**	**26**
Benzene		**0.39**	**0.36**	**0.37**	**0.38**	**0.67**
Benzyl chloride		0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Bromodichloromethane		0.54 U	0.54 U	0.54 U	0.54 U	0.54 U
Bromoethene		0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromoform		0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Bromomethane		0.31 U	0.31 U	0.31 U	0.31 U	**0.72**
Carbon disulfide		**0.082 J**	**0.14 J**	0.62 U	**1.5**	**1.1**
Carbon tetrachloride		**0.4 J**	**0.41 J**	**0.43 J**	**0.41 J**	**0.42 J**
Chlorobenzene		0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Chloroethane		**0.056 J**	**0.053 J**	**0.07 J**	0.21 U	**0.17 J**

Table 1. Summary of Volatile Organic Compounds in Soil Vapor Samples, 50 Marcus Drive/333 Smith Street, Melville, New York

Parameter (Concentrations in ug/m3)	**Sample Designation:** / **Sample Date:**	A-1 3/13/2010	A-2 3/13/2010	A-3 3/13/2010	A-4 3/13/2010	B-1 3/13/2010
Chloroform		0.39 U	0.39 U	**0.082 J**	**0.079 J**	0.39 U
Chloromethane		**1.3**	**1.2**	**1.2**	**1.1**	**1.7**
cis-1,2-Dichloroethene		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
cis-1,3-Dichloropropene		0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Cyclohexane		**0.21 J**	**0.35 J**	**0.44 J**	**0.36 J**	**0.58 J**
Dibromochloromethane		0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
Dichlorodifluoromethane		**2.4**	**2.2**	**2.2**	**2.2**	**2**
Ethyl acetate		2.9 U	2.9 U	**0.36 J**	**0.36 J**	2.9 U
Ethylbenzene		**0.16 J**	0.35 U	**0.13 J**	**0.19 J**	**8**
Hexachlorobutadiene		4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
Isooctane		0.93 U	0.93 U	0.93 U	0.93 U	**1.6**
m+p-Xylene		**0.5**	**0.28 J**	**0.36**	**0.52**	**35**
Methylene chloride		**0.44 J B**	**0.46 J B**	**0.43 J B**	**0.56 J B**	**0.43 J B**
MTBE		1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
n-Heptane		**0.22 J**	**0.24 J**	**0.25 J**	**0.21 J**	**1.1**
n-Hexane		**0.3 J**	**0.28 J**	**0.34 J**	**0.31 J**	**0.47 J**
o-Xylene		**0.16 J**	0.35 U	**0.13 J**	**0.19 J**	**16**
Propene		0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Styrene		0.34 U	0.34 U	0.34 U	**0.11 J**	**0.13 J**
t-Butyl Alcohol		**0.28 J**	**0.37 J**	**0.85 J**	**0.29 J**	**0.31 J**
Tetrachloroethene		**0.34 J**	**0.59**	**1**	**1.9**	**0.61**
Tetrahydrofuran		**0.082 J**	1.2 U	**0.11 J**	**0.13 J**	**0.14 J**
Toluene		**0.48 B**	**0.52 B**	**0.51 B**	**0.71**	**11 B**
trans-1,2-Dichloroethene		0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
trans-1,3-Dichloropropene		0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Trichloroethene		0.21 U	0.21 U	0.21 U	**0.086 J**	**0.73**
Trichlorofluoromethane		**1.2**	**1.2**	**1.2**	**1.2**	**1.1**
Vinyl acetate		1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Vinyl chloride		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

J - Estimated value

E - Indicates value exceeded calibration range

U - Indicates that the compound was analyzed for but not detected

DUP - Duplicate sample

ug/m3 - Micrograms per cubic meter

Bold data indicates that parameter was detected

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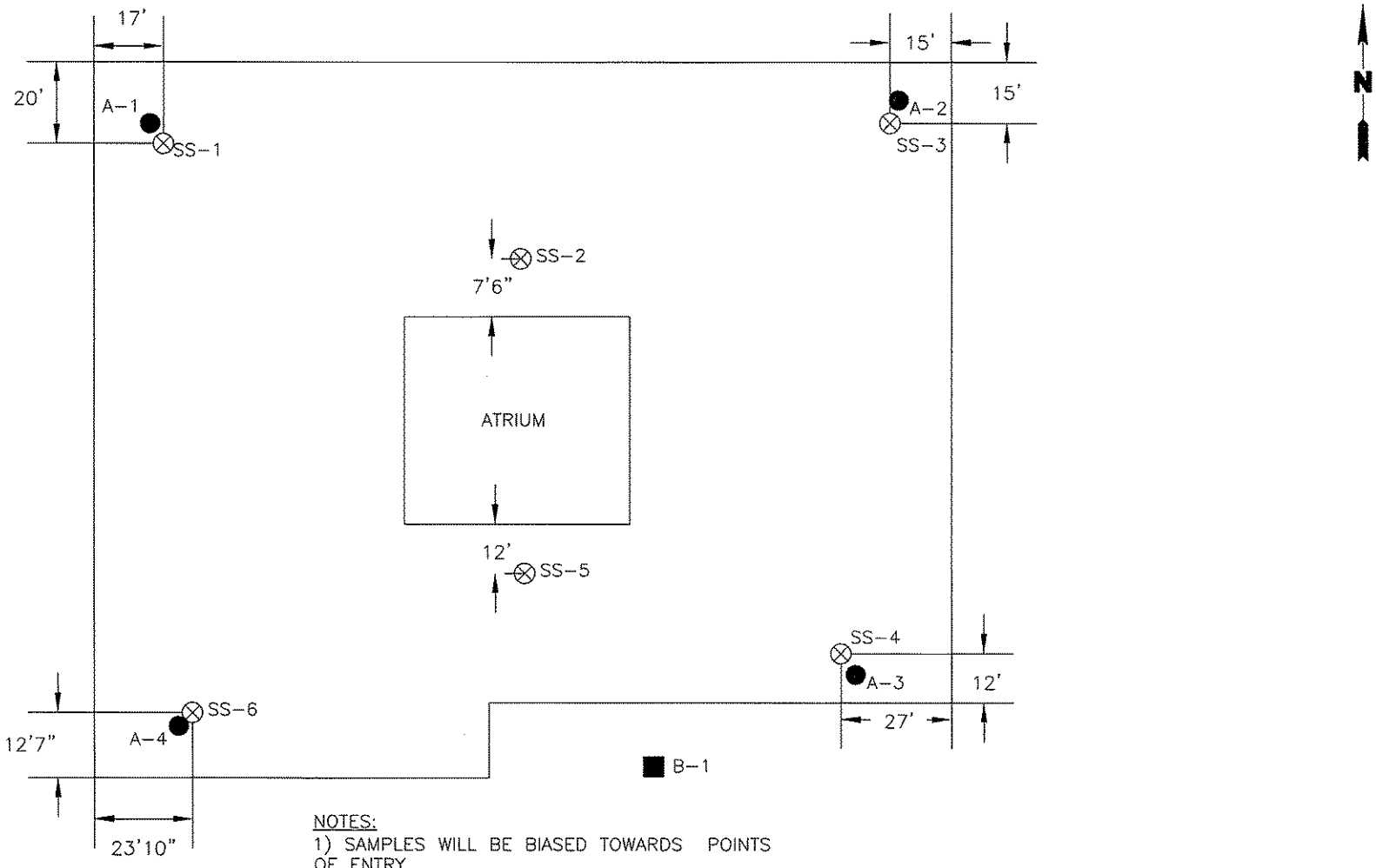

NOTES:

1) SAMPLES WILL BE BIASED TOWARDS POINTS OF ENTRY.
2) BACKGROUND SAMPLE WILL BE TAKEN ON WINDWARD SIDE OF BUILDING
3) SAMPLE SS-1 TO BE INSTALLED BEHIND DOOR IN CONFERENCE ROOM
4) SAMPLE SS-2 TO BE INSTALLED IN CUBICLE OUTSIDE LACTATION ROOM
5) SAMPLE SS-3 TO BE INSTALLED IN BETWEEN CUBICLES
6) SAMPLE SS-5 TO BE INSTALLED IN CUBICLE ACROSS FROM ATRIUM
7) SAMPLE SS-4 TO BE INSTALLED IN EMPTY CUBICLE ACROSS FROM WINDOW
8) SAMPLE SS-6 TO BE INSTALLED IN CAFETERIA

LEGEND

⊗ SUB-SLAB SAMPLING LOCATION
● AMBIENT SAMPLING LOCATION
■ BACKGROUND SAMPLE LOCATION

Title:

VAPOR SAMPLE LOCATION PLAN

Prepared For:

RECKSON ASSOCIATES REALTY CORPORATION

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: K.T.	Date: 28APR08	FIGURE
Prepared by: K.T.	Scale: NTS	1
Project Mgr: M.E.	Office: NY	
File No: REC0610301	Project: 70206Y	