

2 February 2010

Matthew S. Hubicki
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
New York, NY 12233-7014

**RE: Sub-Slab Ventilation System Update
Stop & Shop at New Paltz Plaza Site (ID#V000873)
271 Main Street (State Route 299)
New Paltz, New York 12561
Langan Project No. 007618220**

Dear Mr. Hubicki:

This letter provides an update regarding the ongoing operation of the sub-slab ventilation (SSV) system installed at the Stop & Shop in New Paltz, New York. The SSV system has been operating since December 2006, and confirmatory air sampling of the SSV blower exhaust has been conducted semi-annually, beginning in January 2007. Results of the 2009 confirmatory air sampling events are discussed below.

On 27 April 2009, six Summa canister air samples were collected during SSV operation consisting of: ambient air, blower exhaust, two vacuum monitoring ports (Ports 3 and 6), Port 3 duplicate, and a trip blank. On 10 September 2009, six Summa canister air samples were collected during SSV operation, consisting of: ambient air, blower exhaust, two vacuum monitoring ports (Ports 3 and 6), Port 6 duplicate, and a trip blank. Analytical results from the April and September 2009 air sampling are included in Table 1. The table presents only the data for tetrachloroethylene (PCE) and its breakdown products as these are the site-specific contaminants of concern. The analytical results are compared to background concentrations of VOCs in air from a NYSDOH air quality study referenced in the "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH 2006).

Photo-ionization detector (PID) readings were collected during the monthly SVV system checks for each of the sampling ports located in the front of the Stop & Shop Supermarket as well as each of the blower exhaust manifold ports in the rear of the building. These readings are summarized in Table 2. PID readings exceeding 4,381 ppm have been observed at the front monitoring ports, indicating that elevated levels of volatile organic contaminants are present in the subsurface. In contrast, PID readings collected from the SSV system exhaust were consistently at background or below. The results indicate that the SSV system is drawing in a significant amount of make-up air and lowering contaminant concentrations sub-slab. A significant amount of variability can be seen in this data and can be attributed to weather fluctuations (i.e., rising and falling barometric pressures, rain events, and windy conditions). In

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particular, elevated PID readings were observed on 31 August 2009 when rising barometric pressures quickly gave way to very windy conditions with a rapidly falling barometric pressure.

The April 2009 air sampling data indicates that only one contaminant of concern (tetrachloroethylene) was detected in samples collected from the blower exhaust and the vacuum monitoring port 6; however no exceedances were noted above the NYSDOH 2006 air background levels.

The September 2009 air sampling data indicates that two contaminants of concern (tetrachloroethylene and trichloroethylene) were detected in samples collected from the blower exhaust and the vacuum monitoring ports 3 and 6. No exceedances above the NYSDOH 2006 air background levels were noted.

The results indicate the presence of PCE and TCE in the exhaust from the SSV system for the first time since its construction and activation in January 2007. Based on this finding coupled with the high PID readings observations, Langan recommends the continued operation of the SSV blower. Langan will continue conducting semi-annual air sampling to evaluate the status of the SSV system and future requirements for continued system operation.

If you have any questions or concerns in connection with the SSV system, please contact us at 201-794-6900.

Sincerely,

Langan Engineering and Environmental Services, Inc.



Marshall E. King, P.E.
Assistant Project Engineer



Steven A. Ciambuschini, P.G., L.E.P.
Senior Associate

MK:kn

Enclosures

cc: Michael J. Ryan, P.E., NYSDEC
Edward Moore, P.E., NYSDEC
Fay S. Navratil, NYSDOH
Rosalie Rusinko, Esq, NYSDEC
Melissa Mintz, Shop & Shop
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TABLE 1

Subslab Ventilation System

Air Sampling Analytical Results Summary

Stop and Shop

New Paltz, New York

January 2007 Confirmatory Air Sampling

Sample ID Langan Sample Number Lab ID Date	Air Background Databases		AMBIENT AIR				EXHAUST				EXHAUST DUP				TRIP BLANK			
	NYSDOH 1997: Control Home Database for Outdoor Air 75th Percentile (ug/m ³) ¹	NYSDOH 1997: Control Home Database for Indoor Air 75th Percentile (ug/m ³) ¹	#001 J50827-1 1/5/2007				#002 J50827-2 1/5/2007				#003 J50827-3 1/5/2007				#004 J50827-4 1/5/2007			
GC/MS Volatiles (TO-15)			ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q
Chloroethane	1	1	<0.53		<0.20		<0.53		<0.20		<0.53		<0.20		<0.53		<0.20	
1,1-Dichloroethylene	1	1	<0.79		<0.20		<0.79		<0.20		<0.79		<0.20		<0.79		<0.20	
1,2-Dichloroethane	10	10	<0.81		<0.20		<0.81		<0.20		<0.81		<0.20		<0.81		<0.20	
trans-1,2-Dichloroethylene	10	10	<0.79		<0.20		<0.79		<0.20		<0.79		<0.20		<0.79		<0.20	
cis-1,2-Dichloroethylene	10	10	<0.79		<0.20		<0.79		<0.20		<0.79		<0.20		<0.79		<0.20	
Tetrachloroethylene	6.8	10	0.62	J	0.092	J	2.9		0.43		2.8		0.42		<1.4		<0.20	
Trichloroethylene	5.4	5.4	<1.1		<0.20		0.81	J	0.15	J	0.75	J	0.14	J	<1.1		<0.20	
Vinyl chloride	1	1	<0.51		<0.20		<0.51		<0.20		<0.51		<0.20		<0.51		<0.20	

July 2007 Confirmatory Air Sampling

Sample ID Langan Sample Number Lab ID Date	Air Background Databases		AMBIENT AIR				EXHAUST				EXHAUST DUP				TRIP BLANK			
	NYSDOH 1997: Control Home Database for Outdoor Air 75th Percentile (ug/m ³) ¹	NYSDOH 1997: Control Home Database for Indoor Air 75th Percentile (ug/m ³) ¹	#005 J67477-1 7/27/2007				#006 J67477-2 7/27/2007				#007 J67477-3 7/27/2007				#008 J67477-4 7/27/2007			
GC/MS Volatiles (TO-15)			ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q
Chloroethane	1	1	<0.53		<0.20		<4.2		<1.6		<4.2		<1.6		<0.53		<0.20	
1,1-Dichloroethylene	1	1	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
1,2-Dichloroethane	10	10	<0.81		<0.20		<6.5		<1.6		<6.5		<1.6		<0.81		<0.20	
trans-1,2-Dichloroethylene	10	10	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
cis-1,2-Dichloroethylene	10	10	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
Tetrachloroethylene	6.8	10	<1.4		<0.20		<11		<1.6		<11		<1.6		<1.4		<0.20	
Trichloroethylene	5.4	5.4	<1.1		<0.20		<8.6		<1.6		<8.6		<1.6		<1.1		<0.20	
Vinyl chloride	1	1	<0.51		<0.20		<4.1		<1.6		<4.1		<1.6		<0.51		<0.20	

January 2008 Confirmatory Air Sampling

Sample ID Langan Sample Number Lab ID Date	Air Background Databases		AMBIENT AIR				EXHAUST #1				PORT 6				PORT 3				TRIP BLANK			
	NYSDOH 1997: Control Home Database for Outdoor Air 75th Percentile (ug/m ³) ¹	NYSDOH 1997: Control Home Database for Indoor Air 75th Percentile (ug/m ³) ¹	#009 J82098-1 1/24/2008				#010 J82098-2 1/24/2008				#011 J82098-3 1/24/2008				#012 J82098-4 1/24/2008				#013 J82098-5 1/24/2008			
GC/MS Volatiles (TO-15)			ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q
Chloroethane	1	1	<0.53		<0.20		<4.2		<1.6		<4.2		<1.6		<4.2		<1.6		<0.53		<0.20	
1,1-Dichloroethylene	1	1	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
1,2-Dichloroethane	10	10	<0.81		<0.20		<6.5		<1.6		<6.5		<1.6		<6.5		<1.6		<0.81		<0.20	
trans-1,2-Dichloroethylene	10	10	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
cis-1,2-Dichloroethylene	10	10	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
Tetrachloroethylene	6.8	10	<1.4		<0.20		<11		<1.6		<11		<1.6		<11		<1.6		<1.4		<0.20	
Trichloroethylene	5.4	5.4	<1.1		<0.20		<8.6		<1.6		<8.6		<1.6		<8.6		<1.6		<1.1		<0.20	
Vinyl chloride	1	1	<0.51		<0.20		<4.1		<1.6		<4.1		<1.6		<4.1		<1.6		<0.51		<0.20	

July 2008 Confirmatory Air Sampling

Sample ID Langan Sample Number Lab ID Date	Air Background Databases		AMBIENT AIR				EXHAUST				EXHAUST DUP				PORT 6				PORT 3				TRIP BLANK			
	NYSDOH 1997: Control Home Database for Outdoor Air 75th Percentile (ug/m ³) ¹	NYSDOH 1997: Control Home Database for Indoor Air 75th Percentile (ug/m ³) ¹	#0014 J95731-1 7/15/2008				#0015 J95731-2 7/15/2008				#0016 J95731-3 7/15/2008				#0017 J95731-4 7/15/2008				#0018 J95731-5 7/15/2008				#0019 J95731-6 7/15/2008			
GC/MS Volatiles (TO-15)			ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q
Chloroethane	1	1	<0.53		<0.20		<4.2		<1.6		<4.2		<1.6		<4.2		<1.6		<4.2		<1.6		<0.53		<0.20	
1,1-Dichloroethylene	1	1	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
1,2-Dichloroethane	10	10	<0.81		<0.20		<6.5		<1.6		<6.5		<1.6		<6.5		<1.6		<6.5		<1.6		<0.81		<0.20	
trans-1,2-Dichloroethylene	10	10	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
cis-1,2-Dichloroethylene	10	10	<0.79		<0.20		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<6.3		<1.6		<0.79		<0.20	
Tetrachloroethylene	6.8	10	<1.4		<0.20		<11		<1.6		<11		<1.6		<11		<1.6		<11		<1.6		<1.4		<0.20	
Trichloroethylene	5.4	5.4	<1.1		<0.20		<8.6		<1.6		<8.6		<1.6		<8.6		<1.6		<8.6		<1.6		<1.1		<0.20	
Vinyl chloride	1	1	<0.51		<0.20		<4.1		<1.6		<4.1		<1.6		<4.1		<1.6		<4.1		<1.6		<0.51		<0.20	

April 2009 Confirmatory Air Sampling

Sample ID Langan Sample Number Lab ID Date	Air Background Databases		AMBIENT AIR				EXHAUST				PORT 6				PORT 3				PORT 3 DUP				TRIP BLANK			
	NYSDOH 1997: Control Home Database for Outdoor Air 75th Percentile (ug/m ³) ¹	NYSDOH 1997: Control Home Database for Indoor Air 75th Percentile (ug/m ³) ¹	#0020 JA17369-1 4/27/2009				#0021 JA17369-2 4/27/2009				#0022 JA17369-4 4/27/2009				#0023 JA17369-3 4/27/2009				#0024 JA17369-5 4/27/2009				#0025 JA17369-6 4/27/2009			
GC/MS Volatiles (TO-15)			ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q
Chloroethane	1	1	<0.53		<0.20		<2.1		<0.80		<2.1		<0.8		<2.1		<0.8		<2.1		<0.8		<0.53		<0.2	
1,1-Dichloroethylene	1	1	<0.79		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8		<0.79		<0.2	
1,2-Dichloroethane	10	10	<0.81		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8		<0.81		<0.2	
trans-1,2-Dichloroethylene	10	10	<0.79		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8		<0.79		<0.2	
cis-1,2-Dichloroethylene	10	10	<0.79		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8		<0.79		<0.2	
Tetrachloroethylene	6.8	10	<0.27		<0.04		3.1		0.46		6.2		0.92		<1.1		<0.16		<1.1		<0.16		<0.27		<0.04	
Trichloroethylene	5.4	5.4	<0.21		<0.04		<0.86		<0.16		<0.86		<0.16		<0.86		<0.16		<0.86		<0.16		<0.21		<0.04	
Vinyl chloride	1	1	<0.51		<0.20		<2		<0.80		<2		<0.8		<2		<0.8		<2		<0.8		<0.51		<0.2	

September 2009 Confirmatory Air Sampling

Sample ID	Air Background Databases						AMBIENT AIR			EXHAUST			PORT 6			PORT 6 DUP			PORT 3			TRIP BLANK				
Langan Sample Number	NYSDOH 1997: Control Home Database for Outdoor Air 75th Percentile (ug/m ³) ¹			NYSDOH 1997: Control Home Database for Indoor Air 75th Percentile (ug/m ³) ¹			#0026 JA27662-1 9/10/2009			#0027 JA27662-2 9/10/2009			#0028 JA27662-3 9/10/2009			#0029 JA27662-5 9/10/2009			#0030 JA27662-4 9/10/2009			#0031 JA27662-6 9/10/2009				
Lab ID																										
Date																										
GC/MS Volatiles (TO-15)							ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q	ug/m3	Q	ppbv	Q
Chloroethane	1						<0.53		<0.20		<2.1		<0.80		<2.1		<0.8		<2.1		<0.8		<2.1		<0.8	
1,1-Dichloroethylene	1						<0.79		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8	
1,2-Dichloroethane	10						<0.81		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8	
trans-1,2-Dichloroethylene	10						<0.79		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8	
cis-1,2-Dichloroethylene	10						<0.79		<0.20		<3.2		<0.80		<3.2		<0.8		<3.2		<0.8		<3.2		<0.8	
Tetrachloroethylene	6.8						<0.27		<0.040		3.5		0.52		6.5		0.96		6.7		0.99		2.6		0.39	
Trichloroethylene	5.4						<0.21		<0.040		1.2		0.23		1.2		0.22		1.2		0.22		1.5		0.27	
Vinyl chloride	1						<0.51		<0.20		<2		<0.80		<2		<0.8		<2		<0.8		<2		<0.8	

TABLE 2
Subslab Ventilation System
PID Readings Summary
Stop and Shop
New Paltz, New York

PID Readings Collected at the Exhaust and Front Monitoring Ports

Date	PID Reading (ppm)					
	3/17/2009	4/27/2009	5/13/2009	6/12/2009	8/31/2009	9/10/2009
Port 1	247	260	253	26	775	21
Port 2	0	17	3	0	98	1
Port 3	202	884	1224	315	4381	24
Port 4	17	18	26	267	237	2
Port 5	412	2252	1119	149	761	1
Port 6	8	22.8	122	0	2117	0
Blower Exhaust	0	0	0	0	0	0

Note

Measurements were made using a Thermo 580B OVM PID analyzer with 11.8 eV lamp