CONRAD GEOSCIENCE CORP. www.conradgeo.com
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August 13, 2007

John J. Rashak
New York State Department of Environmental Conservation
Division of Environmental Remediation
21 South Putt Corners Road
New Paltz, New York 12561-1620

Re: **Vapor Well Installation and Sampling Report;** Lumelite Plastics,
85 Charles Colman Boulevard, Pawling, New York.
NYSDEC Site #EV00218;
Conrad Geoscience File #LP000350

Dear Mr. Rashak:

Conrad Geoscience Corp. has completed vapor well installation and vadose zone sampling on the opposite, up-gradient side of Charles Colman Boulevard from the Lumelite Plastics property (Figure 1) in accordance with our June 11, 2007 work plan. Summarized below is a description of field tasks, observations, sampling results and conclusions.

VAPOR WELL INSTALLATION

On June 18, 2007, Conrad Geoscience installed three vapor wells along the western edge of the sidewalk on the western side of Charles Colman Boulevard (Figure 2). Based on groundwater contours generated from depth-to-water measurements in monitoring wells since 1996, the vapor wells are hydraulically up-gradient of the Lumelite facility. Vapor Well VW-1 is located approximately 70 feet west of Monitoring Well L-13S. VW-2 is located in front of the residence at 94 Charles Colman Boulevard, approximately 115 feet northwest of L-13S. VW-3 is located in front of the residence at 102 Charles Colman Boulevard, approximately 245 feet north of L-13S.

On the day of sampling, groundwater was approximately 5 feet below land surface (bls) in L-13S. The six-inch stainless steel vapor sampling implants were installed approximately 1 foot above the water table using a direct-push rig. In VW-1 and VW-2, the implants were installed at a depth of 4 feet bls. In VW-3 the implant was installed at a depth of 5 feet bls to adjust for its slightly higher surface elevation. The implants were fitted to ¼-inch, flexible Teflon® tubing and brought to grade. The annular space around the screen in each well was backfilled with glass beads to 0.5 foot above the screen, creating a 1-foot vapor sampling interval. Above the glass beads, the remaining annular

space around the tubing was backfilled to grade and sealed with bentonite slurry to prevent air infiltration from the surface.

In order to create a sealed sampling environment and prevent outdoor ambient air infiltration, the wells were completed above the surface using an inverted bucket placed over 6-mil polyethylene sheeting, which was sealed in place using beeswax. The Teflon® down-hole tubing and tubing for the tracer gas tests passed through pre-drilled holes in the inverted bucket. These holes were also sealed with beeswax once the tubing was in place.

TRACER GAS TESTS

To insure that each well had a proper seal and there was no infiltration of outdoor air, tracer gas tests were conducted using helium gas before, during and after sample collection. Helium was introduced into the sealed chamber (inverted bucket) placed over each vapor sampling port. Tracer gas was monitored using a portable helium monitoring device to detect loss of helium. A loss of 10% of helium in the sealed chamber would indicate communication between the well and the atmosphere. In each vapor well, we measured helium loss at approximately 2-4%, indicating that the wells had proper seals.

VAPOR SAMPLE COLLECTION

Prior to sample collection, vapor wells were purged of 1-3 implant volumes of air (volume in the sample screen and tubing). One-liter Tedlar bags were filled with the purged air and screened using a photoionization detector (PID). PID readings on the purged air from the three vapor wells were all 0.0 ppm.

Soil vapor samples from each of the three locations were collected using laboratory provided 1-liter stainless steel Summa canisters equipped with flow controllers. Samples were collected over a 2-hour period at a rate of approximately 0.01 liters per minute. All samples were analyzed via USEPA Method TO-15 by Paradigm Environmental Services, Inc., a NYSDOH ELAP approved laboratory. Vapor well installation and sample collection conformed to the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 Final Version.*

RESULTS

NYSDOH Guidance values for four compounds are set forth in the above referenced guidance document: Carbon tetrachloride; tetrachloroethene (PCE); 1,1,1-trichloroethane; and trichloroethene. Vapor sample results for those compounds are

discussed below. Several other compounds, including petroleum and chlorinated hydrocarbons, were detected in the samples, and are included in Table 1.

VW-1: PCE was detected at 999 $\mu g/m^3$ (estimated); trichloroethene was detected at 1.04 $\mu g/m^3$; and 1,1,1-trichloroethane was detected at 1.99 $\mu g/m^3$. Other compounds detected include chloroform; benzene; ethylbenzene; 1,4-dichlorobenzene; xylene; toluene; 2-butanone; 1,2-dichloroethane; and Freon 11.

VW-2: PCE was detected at 4.86 $\mu g/m^3$; trichloroethene was detected at 0.617 $\mu g/m^3$; and carbon tetrachloride was detected at 0.684 $\mu g/m^3$. Other compounds detected include benzene; ethylbenzene; xylene; styrene; toluene; 2-butanone; 1,2-dichloroethane; and Freon 11.

VW-3: PCE was detected at 19.1 $\mu g/m^3$; trichloroethene was detected at 0.596 $\mu g/m^3$; and 1,1,1-trichloroethane was detected at 1.39 $\mu g/m^3$. Other compounds detected include chloroform; benzene; ethylbenzene; xylene; toluene; 2-butanone; 1,2-dichloroethane; Freon 11; and Freon 113.

CONCLUSIONS

When compared to the "sub-slab" values published in the above referenced NYSDOH soil vapor guidance matrices, the concentrations of carbon tetrachloride; trichloroethene; and 1,1,1-trichloroethane detected in the off-site vapor wells do not exceed the thresholds for monitoring or mitigation. The vapor well concentration of PCE was estimated at 999 $\mu g/m^3$; the NYSDOH mitigation threshold for PCE in "sub-slab" samples is 1,000 $\mu g/m^3$. With the exception of PCE in VW-1, all other VOCs detected in vapor well samples are present at very low concentrations (0.3 to 19.1 $\mu g/m^3$).

Several compounds detected in one or more of the vapor wells have never been detected in groundwater on the Lumelite property across the street: Carbon tetrachloride (VW-2); chloroform (VW-1, VW-3); 1,2-dichloroethane (VW-1, VW-2, VW-3); 1,1,1-trichlorethane (VW-1, VW-3); Freon 11 (VW-1, VW-2, VW-3). Styrene (VW-2) and 1,4-dichlorobenzene (VW-1) have each been detected only a single time in Lumelite groundwater samples.

Several compounds detected in one or more of the vapor wells have never been detected in sub-slab vapor samples on the Lumelite property: 1,2-dichloroethane; benzene; benzene; and 1,4-dichlorobenzene.

Methylene chloride, acetone and carbon disulfide were present in one or more vapor well samples, but were also detected in the laboratory method blank, indicating they are laboratory contaminants.

The trace concentrations of VOCs detected in Vapor Wells VW-2 and VW-3 indicate that vapor intrusion conditions are not likely to exist in the adjacent residences on the western side of Charles Colman Blvd. The only compound that approached the NYSDOH action threshold for sub-slab samples was PCE in Vapor Well VW-1, which is closer to the warehouse than to any residence.

Although PCE was present in all three of the vapor wells, five anomalous VOCs were also present. The compounds carbon tetrachloride; chloroform; 1,2-dichloroethane; 1,1,1-trichlorethane; and Freon 11 have never been detected in groundwater on the Lumelite property. This indicates that PCE and other VOCs detected in the three vapor wells may not originate at Lumelite and that there may be other sources of VOCs present in the subsurface up-gradient of the Lumelite facility.

Based on the June 2007 vapor well data from VW-2 and VW-3, we conclude that there is little likelihood of vapor intrusion at the residences up-gradient and west of the Lumelite facility.

Sincerely,

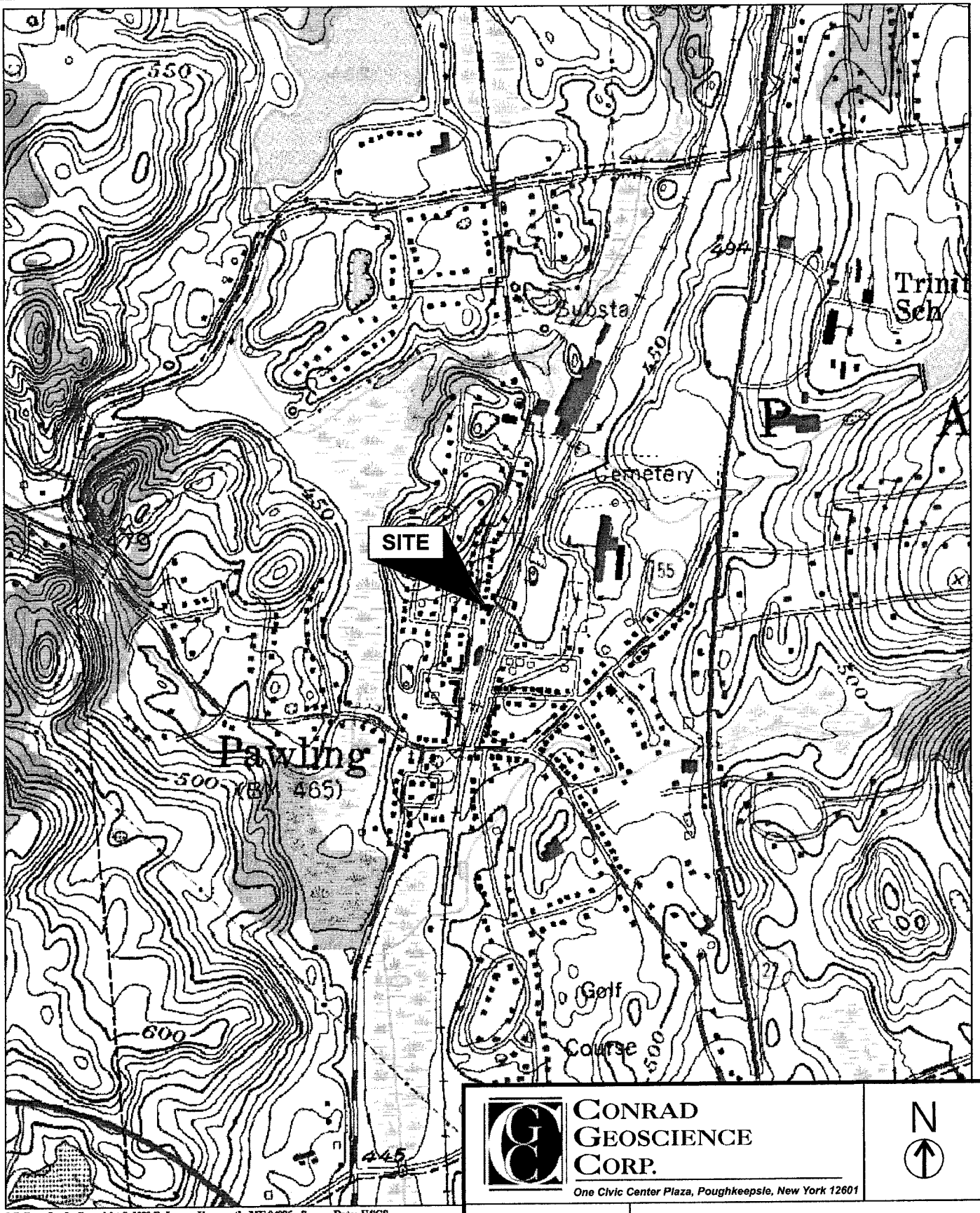
CONRAD GEOSCIENCE CORP.

John A. Conrad
Senior Hydrogeologist

JAC/seg

attachments

cc: John Privitera, Esq.
Joe Pietryka
Rebecca Dixon
Michael Rivara
Michael Lesser



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One Civic Center Plaza, Poughkeepsie, New York 12601

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Figure 1		SITE LOCATION MAP
Prepared By:	BPG 12/10/04	
Reviewed By:		LUMELITE PLASTICS Pawling, New York LP000350
Revised By:		
Approved By:	BPG 12/10/04	

Table 1. **Volatile Organic Compounds (VOCs) in Vapor Well Samples;** USEPA Method TO-15; collected **June 19, 2007;** Village of Pawling, New York; Conrad Geoscience File #LP000350

Chemical Constituent	Sample Identification		
	VW-1	VW-2	VW-3
Volatile Organic Compounds			
Bromodichloromethane	ND < 0.663	ND < 0.663	ND < 0.663
Bromoform	ND < 1.02	ND < 1.02	ND < 1.02
Bromomethane	ND < 0.384	ND < 0.384	ND < 0.384
Carbon Tetrachloride	ND < 0.622	0.684	ND < 0.622
Chloroethane	ND < 0.262	ND < 0.262	ND < 0.262
Chloroform	5.02	ND < 0.483	4.34
Chloromethane	ND < 0.204	ND < 0.204	ND < 0.204
Dibromochloromethane	ND < 0.843	ND < 0.843	ND < 0.843
1,2 Dibromoethane	ND < 0.761	ND < 0.761	ND < 0.761
1,1-Dichloroethane	ND < 0.401	ND < 0.401	ND < 0.401
1,1-Dichloroethene	ND < 0.393	ND < 0.393	ND < 0.393
1,2-Dichloroethane	1.88	1.48	1.64
Cis-1,2-Dichloroethene	ND < 0.393	ND < 0.393	ND < 0.393
Trans-1,2-Dichloroethene	ND < 0.393	ND < 0.393	ND < 0.393
1,2-Dichloropropane	ND < 0.458	ND < 0.458	ND < 0.458
Cis-1,3-Dichloropropene	ND < 0.450	ND < 0.450	ND < 0.450
trans-1,3-Dichloropropene	ND < 0.450	ND < 0.450	ND < 0.450
Methylene Chloride	1.90 B	ND < 1.72	ND < 1.72
1,1,2,2-Tetrachloroethane	ND < 0.679	ND < 0.679	ND < 0.679
Tetrachloroethene	999 E	4.86	19.1
1,1,1-Trichloroethane	1.99	ND < 0.540	1.39
1,1,2-Trichloroethane	ND < 0.540	ND < 0.540	ND < 0.540
Trichloroethene	1.04	0.617	0.596
Vinyl Chloride	ND < 0.254	ND < 0.254	ND < 0.254

Notes:
All units are $\mu g/m^3$ unless otherwise noted;
VW prefix represents vapor well samples;
E = denotes estimated, concentration exceeds calibration range.
B = compound also identified in "Method Blank" sample.

Table 1 cont'd. **Volatile Organic Compounds (VOCs) in Vapor Well Samples;** USEPA Method TO-15; collected **June 19, 2007;** Village of Pawling, New York; Conrad Geoscience File #LP000350

Chemical Constituent	Sample Identification		
	VW-1	VW-2	VW-3
Volatile Organic Compounds			
Benzene	2.00	1.32	0.807
Chlorobenzene	ND < 0.458	ND < 0.458	ND < 0.458
Ethylbenzene	1.66	2.17	1.53
Toluene	8.28	7.26	4.10
m,p-Xylene	3.59	5.64	4.55
o-Xylene	1.34	2.22	1.98
Styrene	ND < 0.425	0.672	ND < 0.425
1,2-Dichlorobenzene	ND < 0.597	ND < 0.597	ND < 0.597
1,3-Dichlorobenzene	ND < 0.597	ND < 0.597	ND < 0.597
1,4-Dichlorobenzene	1.85	1.13	ND < 0.597
Acetone	59.8 B E	177 B E	24.2 B E
2-Butanone	7.83	9.87	2.40
2-Hexanone	ND < 0.409	ND < 0.409	ND < 0.409
4-Methyl-2-Pentanone	ND < 0.671	ND < 0.409	ND < 0..409
Carbon Disulfide	1.99 B	0.441 B	0.385 B
Freon 11	2.21	1.26	1.23
Freon 113	ND < 0.761	ND < 0.761	0.913
Methyl-tert-butyl-Ether	ND < 0.360	ND < 0.360	ND < 0.360
Vinyl Acetate	ND < 0.352	ND < 0.352	ND < 0.352

Notes:
All units are $\mu g/m^3$ unless otherwise noted;
VW prefix represents vapor well samples;
E = denotes estimated, concentration exceeds calibration range.
B = compound also identified in "Method Blank" sample.

Table 2. **Volatile Organic Compounds (VOCs) Detected in Vapor Well Samples;** USEPA Method TO-15; collected **June 19, 2007;** Village of Pawling, New York; Conrad Geoscience File #LP000350

Chemical Constituent	Sample Identification		
	VW-1	VW-2	VW-3
Volatile Organic Compounds			
Carbon Tetrachloride	ND < 0.622	0.684	ND < 0.622
Chloroform	5.02	ND < 0.483	4.34
1,2-Dichloroethane	1.88	1.48	1.64
Methylene Chloride	1.90 B	ND < 1.72	ND < 1.72
Tetrachloroethene	999 E	4.86	19.1
1,1,1-Trichloroethane	1.99	ND < 0.540	1.39
Trichloroethene	1.04	0.617	0.596
Benzene	2.00	1.32	0.807
Ethylbenzene	1.66	2.17	1.53
Toluene	8.28	7.26	4.10
m,p-Xylene	3.59	5.64	4.55
o-Xylene	1.34	2.22	1.98
Styrene	ND < 0.425	0.672	ND < 0.425
1,4-Dichlorobenzene	1.85	1.13	ND < 0.597
Acetone	59.8 B E	177 B E	24.2 B E
2-Butanone	7.83	9.87	2.40
Carbon Disulfide	1.99 B	0.441 B	0.385 B
Freon 11	2.21	1.26	1.23
Freon 113 [1]	ND < 0.761	ND < 0.761	0.913

Notes:

All units are $\mu g/m^3$ unless otherwise noted;
VW prefix represents vapor well samples;
E = denotes estimated, concentration exceeds calibration range.
B = compound also identified in "Method Blank" sample.
Darkly shaded rows are compounds that have not been detected during the quarterly groundwater monitoring program on the Lumelite facility started in 2001.
Lightly shaded rows are compounds that have been detected only once during the quarterly groundwater monitoring program on the Lumelite facility started in 2001.
[1] = Compound not tested for during the quarterly groundwater monitoring program.