

March 27, 2015

Mr. Billy Meyer
State of North Carolina
Department of Environment and Natural Resources
Division of Waste Management, Superfund Section
1646 Mail Service Center
Raleigh, North Carolina 27699

RE: Vapor Intrusion Assessment Report
Former Trade Street Cleaners
426 North Trade Street
Winston-Salem, Forsyth County, North Carolina
ATC Project No. Z045000334
DSCA Site Identification No. 34-0017

Dear Mr. Meyer:

ATC Associates of North Carolina, P.C. (ATC) has prepared this letter report to document vapor intrusion assessment activities performed between December 2013 and May 2014 at the above referenced site. The following sections document background information, laboratory results, and ATC's conclusions.

1.0 Background Information

The former Trade Street Cleaners site is located in the Winston-Salem central business district, which has historically been developed before 1900. Historical records indicate that a drycleaner operated at the facility in the 1950's and 1960's, however exact dates of operation and cessation of the drycleaner facility are unknown. The drycleaner building has long since been demolished and the former footprint of the site lies within an asphalt-paved portion of a parking lot for a Marriott Hotel. Soil samples collected at the property in April 2006 identified detectable concentrations of tetrachloroethylene (PCE). The site was certified into the North Carolina Drycleaning Solvent Cleanup Act (NC DSCA) Program in July 2006. Groundwater impacted with PCE was identified at the site by ATC in November 2006.

In 2010, soil gas samples were collected at four permanent soil gas monitoring points (SGMP-1 through SGMP-4) installed along the southern boundary of the source property to assess potential for vapor intrusion into the adjacent commercial building, the Independent Order of Oddfellows Sovereign Grand Lodge (the Lodge). Results indicated PCE concentrations that exceeded applicable action levels. Based on the soil gas results, indoor air sampling was performed in October 2010 in the Lodge, located at 420 North Trade Street. Two indoor air samples (IA-1 and IA-2) were collected in the basement and two samples (IA-3 and IA-4) were collected from the first

floor of the building using Summa canisters over an 8-hour timeframe. Results indicated detectable concentrations of PCE. However, the results of a cumulative risk evaluation indicated no exceedences of the risk levels considered acceptable by the NC DSCA Program.

Results of groundwater monitoring events at the site indicate a plume of groundwater impacted by PCE at concentrations above the Title 15A NCAC 2L .0202 Groundwater Standard (2L Standard) extending at least 600 feet to the east and southeast in the downgradient direction. Soil gas samples were collected from existing monitoring wells and newly installed soil gas monitoring points in 2013 and 2014 to evaluate the risk of vapor intrusion for structures overlying the groundwater plume. Indoor air sampling was subsequently conducted in buildings overlying the groundwater plume. This report documents the results of these activities.

2.0 Soil Gas Monitoring Point Installation

On December 4 through 10, 2013, ATC provided oversight of installation of six permanent soil gas monitoring points (SGMP-5 through SGMP-10). Each monitoring point was installed by SAEDACCO with a Geoprobe® direct-push drilling rig. Monitoring points SGMP-5, SGMP-6, and SGMP-9 were installed with two to four nested sampling implants. Monitoring points SGMP-7, SGMP-8, and SGMP-10 were each installed with one sampling implant. The points were installed with 6-inch long stainless steel screen implants connected to the surface via 1/8-inch Teflon tubing. Filter sand was placed in the annular space at the implant depth, bentonite/grout mixture was used to seal the annular space between implants, and grout was used to fill the remainder of the annular space to grade. The points were secured at the surface with 12-inch diameter flush-mounted steel manhole covers. Soil gas monitoring point locations are indicated on *Figure 1* and boring logs are provided in *Appendix A*.

3.0 December 2013 and January 2014 Soil Gas Monitoring Protocol

On December 21 and 26, 2013, ATC mobilized to the site to collect soil gas samples from soil gas monitoring points SGMP-7, SGMP-8, SGMP-9S, SGMP-9I, SGMP-9D, and SGMP-10 and existing groundwater monitoring wells MW-4, MW-8S, and MW-10S. The purpose of the concurrent sampling was to evaluate soil gas data collected from the exposed screen in monitoring wells versus traditional soil gas monitoring points. Sample locations are shown on the attached *Figure 1*.

Prior to sampling, ATC conducted a shut-in test on the sampling line to check the connections by applying a vacuum pressure to the line and observing for any decrease in pressure. ATC also conducted a leak test by placing a 5-gallon bucket over the sampling point to form a temporary shroud, injecting helium inside the bucket, and using a field helium meter to measure helium concentrations inside the bucket and inside the sampling line. Helium concentrations in the sampling line were less than 10 percent of the helium concentrations in the shroud; therefore, the sampling connections were deemed acceptable. Upon completion of leak testing, a sample was collected directly from the soil gas monitoring point into a Summa canister for laboratory analysis.

Monitoring well soil gas purge volumes were determined by calculating the total volume of air in the monitoring well and borehole, using the radius of the monitoring well casing, radius of the borehole, depth to water, screen length, and sand pack dimensions. A Balkenbox Pump was then

utilized to purge approximately one, three, and five well volumes from the sampling point. Pressure was monitored during purging to ensure it did not exceed 100 inches of water. A sample was collected in a Tedlar® bag following each purge volume. Concentrations of volatile organic compounds (VOCs) were then measured in each Tedlar® bag using a ppb-Rae photoionization detector. The sample exhibiting the highest concentration (of the different purge volumes) was then transferred into a stainless steel Summa canister for laboratory analysis.

The samples were packaged and shipped under chain-of-custody procedures to H&P Mobile Geochemistry, Inc. (H&P) for analysis of PCE, tetrachloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), trans-1,2-dichloroethylene (trans-1,2-DCE), and vinyl chloride by EPA Method TO-15. Refer to Section 9.0 for a discussion of laboratory results.

In January 2014, ATC mobilized to the site to collect soil gas samples from soil gas monitoring points SGMP-5 and SGMP-6, and monitoring wells MW-4, MW-8S, MW-15, and MW-16S. Sampling protocol was consistent with the previous soil gas sampling event in December 2013. Sample locations are shown on the attached *Figure 1*. Refer to Section 9.0 for a discussion of laboratory results.

4.0 January 2014 Indoor Air Sampling Protocol

On January 3, 2014, ATC mobilized to the site to begin an indoor air sampling event. Two air samples (IA-1 and IA-2) were collected from the basement and two samples (IA-3 and IA-4) were collected in the first floor of the Lodge at 420 North Trade Street. The samples were collected using Radiello passive diffusion samplers. The approximate locations for the Radiello samples are shown on *Figure 1*. The samplers were placed at approximate breathing zone height (4 to 5 feet above grade) and were collected over a 7-day timeframe. At the conclusion of the sampling, the Radiellos were packaged and transported to Enthalpy Analytical, Inc. (Enthalpy) for analysis of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride by solvent desorption. A copy of the laboratory analytical report is included in *Appendix B*. Refer to Section 10.0 for a discussion of laboratory results.

5.0 May 2014 Indoor Air Sampling Protocol

On May 21, 2014, ATC performed an indoor air sampling event at the Marriott Hotel located on the source property. Three indoor air samples (IA-5 through IA-7) were collected on the first floor of banquet room one, banquet room two, and the employee break room, respectively. Approximate sample locations are shown on *Figure 1*. The air samples were collected in 6-liter Summa canisters equipped with a choke to regulate the sample time. The canisters were placed at approximate breathing zone height (4 to 5 feet above grade) and were collected during typical daytime business hours over approximately 8-hours. The air samples were packaged and shipped under chain-of-custody procedures to H&P for analysis of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride by EPA Method TO-15. Samples were collected in individually certified Summa canisters and analyzed in Selective Ion Monitoring (SIM) mode to achieve detection limits at or below applicable indoor air screening levels. Refer to Section 10.0 for a discussion of laboratory results.

6.0 May 2014 Soil Gas Sampling Protocol

On May 22, 2014, ATC mobilized to the site to collect a soil gas sample from monitoring well MW-9, located downgradient of the source property. Sampling protocol was consistent with the soil gas sampling event in December 2013, described in Section 3.0. The location of MW-9 is shown on the attached *Figure 1*. The sample was packaged and shipped under chain-of-custody procedures to H&P for analysis of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride by EPA Method TO-15. Refer to Section 9.0 for a discussion of laboratory results.

7.0 May 2014 Groundwater Sampling Protocol

On May 22, 2014, following collection of the soil gas sample from monitoring well MW-9, ATC collected a groundwater sample from MW-9 for data comparison. Groundwater samples were collected via polyethylene tubing using low flow sampling methods. Well purging and sampling were completed using a GeoTech peristaltic pump. Field parameters, including pH, oxidation/reduction potential, specific conductivity, dissolved oxygen, and temperature, were measured every three minutes using a YSI multimeter and flow-through cell. Before obtaining a sample, field parameters were allowed to stabilize within EPA guidelines to ensure a representative groundwater sample was collected. Groundwater samples were collected in three 40-milliliter vials preserved with hydrochloric acid and filled to zero headspace for volatiles analysis. Each sample was then placed in an ice-filled cooler. A chain-of-custody form was completed for the sampling event and accompanied the samples to the laboratory. Chemical analyses were performed on groundwater samples by Con-Test Analytical Laboratory in East Longmeadow, Massachusetts. Extractions and analyses were performed in accordance with standard EPA Method 8260 for VOCs. Refer to Section 9.0 for a discussion of laboratory results.

8.0 August 2014 Indoor Air Sampling Protocol

On August 18, 2014, ATC mobilized to the site to begin an indoor air sampling event. Two air samples (IA-1 and IA-2) were collected from the basement and two samples (IA-3 and IA-4) were collected in the first floor of the Lodge at 420 North Trade Street to evaluate summer versus winter concentration trends. The samples were collected using Radiello passive diffusion samplers. The approximate locations for the Radiello samples are shown on *Figure 1*. The samplers were placed at approximate breathing zone height (4 to 5 feet above grade) and were collected over a 7-day timeframe. At the conclusion of the sampling, the Radiellos were packaged and transported to Enthalpy Analytical, Inc. (Enthalpy) for analysis of PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride by solvent desorption. A copy of the laboratory analytical report is included in *Appendix B*. Refer to Section 10.0 for a discussion of laboratory results.

9.0 Soil Gas and Groundwater Laboratory Results and Risk Evaluation

Results of the December 2013, January 2014, and May 2014 laboratory analyses indicated detectable concentrations of PCE, TCE, cis-1,2-DCE, and trans-1,2-DCE in select soil gas samples collected from the soil gas monitoring points and monitoring wells. Concentrations of PCE exceeded the North Carolina Division of Waste Management (DWM) Non-Residential Soil Gas Screening Level (SGSL) in source property sample SGMP-10 and adjacent well MW-4. A summary of recent and historical laboratory analytical results for soil gas is provided in *Table 4*. The results

of the December 2013, January 2014, and May 2014 laboratory analyses are also shown on **Figure I**. The laboratory analytical reports are included in **Appendix B**.

ATC also performed non-residential worker cumulative risk evaluations for the soil gas samples. Carcinogenic risk values ranged from 7.21×10^{-9} to 3.39×10^{-5} and the hazard index ranged from 0.00 to 9.13. Where soil gas sampling suggested possible vapor intrusion concerns, indoor air sampling was performed. The cumulative risk evaluations are provided in **Appendix C**.

Laboratory analytical results from the groundwater sample collected at well MW-9 indicated an exceedence of the Title 15A NCAC 2L .0202 Groundwater Standard (NC 2L Standard) for PCE. A summary of the laboratory analytical results is provided in the attached **Table 8**. The laboratory analytical report is included in **Appendix B**.

10.0 Indoor Air Laboratory Results and Risk Evaluation

Results of the January, May, and August 2014 laboratory analyses indicated detectable concentrations of PCE, TCE, and cis-1,2-DCE in select indoor air samples but concentrations were below DWM Non-Residential Indoor Air Screening Levels (IASLs). ATC also performed a non-residential worker cumulative risk calculation for each sample, which is documented in **Appendix C**. Carcinogenic risk values ranged from 0.00 to 1.42×10^{-7} and the hazard index ranged from 0.00 to 0.04. The results of the cumulative risk calculations are considered acceptable by the NC DSCA Program, therefore no significant risk exists to current building occupants. A summary of the recent and historical laboratory analytical results for indoor air is provided in **Table 5**. The results of the laboratory analyses are also shown on **Figure I**. The laboratory analytical reports are included in **Appendix B**.

11.0 Conclusions

ATC has completed soil gas, indoor air, and groundwater sampling events to evaluate the risk of vapor intrusion into source property and off-source property structures. Soil gas sampling was performed at properties overlying the groundwater PCE plume due to historical groundwater data that suggested potential vapor intrusion concerns. Where the results of soil gas sampling suggested possible vapor intrusion concerns, indoor air sampling was performed. Results of the sampling showed that indoor air concentrations were acceptable by the NC DSCA Program and showed no significant risk to current building occupants. However, soil gas concentrations off-site exceeded residential risk levels which is considered a barrier to site closure at this time.

ATC appreciates the opportunity to assist you with this project. If you have questions or require additional information, please do not hesitate to contact us at (919) 871-0999.

Sincerely,
ATC Associates of North Carolina, P.C.



Brett Byrn
Project Manager

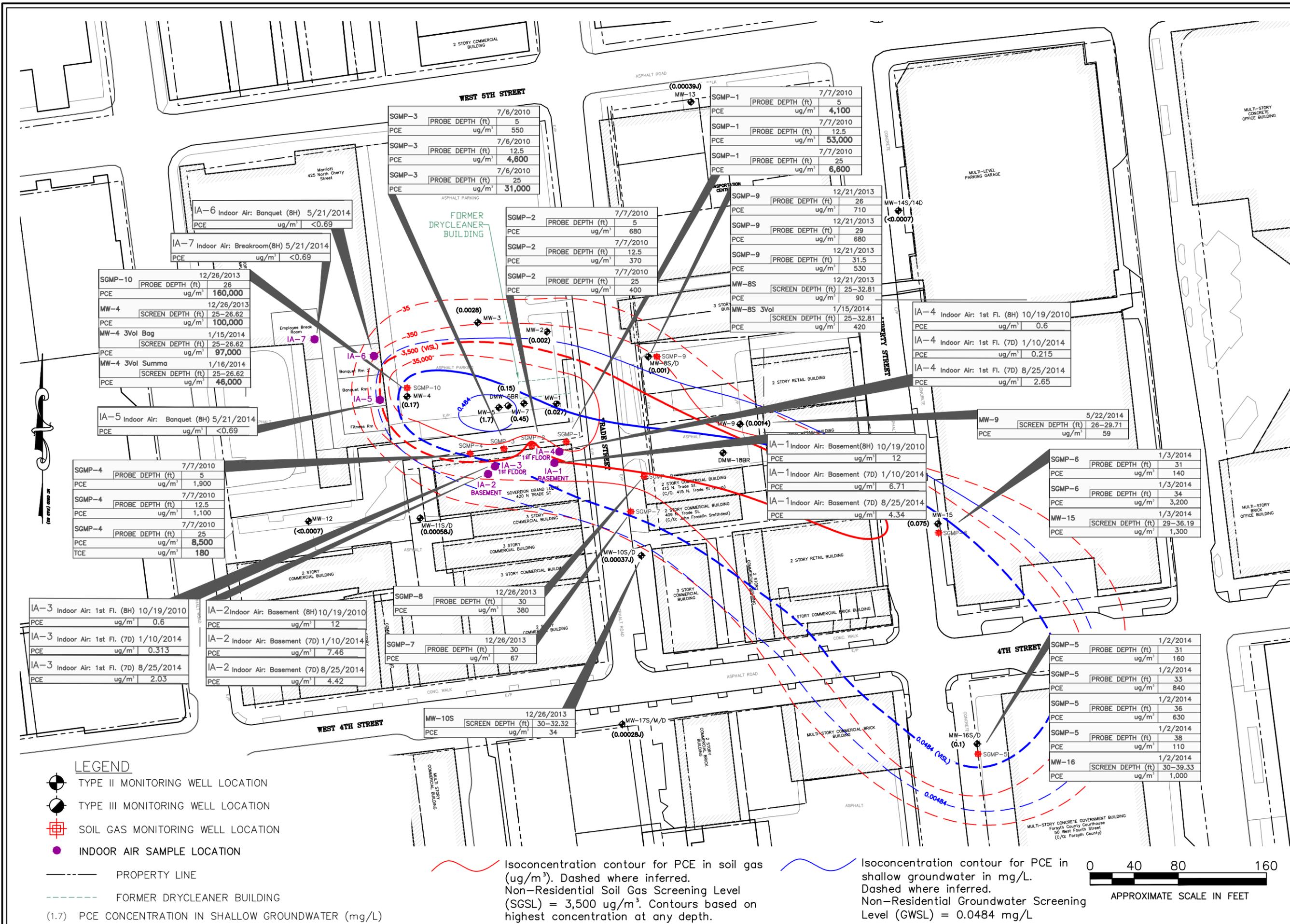


Genna K. Olson, P.G.
Program Manager

Attachments:

1. Figure 1 – Sample Locations
2. Analytical Data Tables
3. Appendix A – Boring Logs
4. Appendix B – Laboratory Analytical Reports
5. Appendix C – Indoor Air and Soil Gas Cumulative Risk Calculations

FIGURE 1



ATC
ASSOCIATES OF NORTH CAROLINA, P.C.
Charlotte, North Carolina 28217 (704) 529-3200 FAX (704) 529-3272

FIGURE 1
TITLE
SOIL GAS AND INDOOR AIR CONCENTRATION MAP
FORMER TRADE STREET CLEANERS
426 N. TRADE STREET
WINSTON-SALEM, NORTH CAROLINA

NOTES:

- Soil gas and indoor air data boxes show PCE plus any other constituents detected above DWM-Non Residential Soil Gas Screening Levels.
- Concentrations in bold exceed the applicable standards.

CAD FILE: 34-0017
PREP. BY: AD
REV. BY: GO
SCALE: AS SHOWN
DATE: 3/20/2015
PROJECT NO.: Z045000334

ANALYTICAL DATA TABLES

Table 1: Site Chronology**ADT 1****DSCA ID No.: 34-0017****Chronology of Events**

Date	Instructions: Brief description of all significant events that have occurred since a problem was suspected at the facility. Commence with the first date a problem was suspected and continue through the most recent activity described in the current report.
4/2006	Due Diligence Report prepared in April 2006 identified the historical presence of a drycleaner operation by review of Sanborn fire insurance maps dated 1958, 1963 and 1969. The start and end dates of drycleaner operations was not identified.
4/2006	Eight soil borings were advanced at the site in April 2006 by MACTEC Engineering. Results detected tetrachloroethene (PCE) at concentrations ranging between 0.0032 to 7.25 mg/kg. The depth of the samples was not reported.
6/2006 - 7/2006	Petitioner questionnaire and site certification letters executed by DSCA and site Petitioner.
11/2006	ATC Associates of North Carolina, P.C. (ATC) supervised the installation of four groundwater monitoring wells (MW-1 through MW-4) and one soil boring (SB-9). Groundwater samples were collected from the new wells shortly following installation. PCE was confirmed in soil and groundwater samples.
1/11/2007	ATC prepared a Prioritization Assessment Report documenting the November 2006 field activities.
11/2007	ATC installed 28 Gore Sorber modules to attempt to map the contaminant plume.
2/2009 - 3/2009	ATC supervised the installation of monitoring wells MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, and DMW-6BR and soil borings SB-10 through SB-14 and EXP-1. Groundwater samples were then collected from the new and existing monitoring wells. Slug tests were performed on select monitoring wells.
10/2009 - 11/2009	ATC supervised the installation of monitoring wells MW-13, MW-14, MW-15, MW-16, MW-17, and DMW-18BR. Groundwater samples were collected from the new and existing wells.
6/2010 - 7/2010	ATC supervised the installation of four soil gas monitoring points (SGMP-1 through SGMP-4) along the southern property line to assess the potential for vapor intrusion into the adjacent commercial building. Samples of the soil gas were collected for laboratory analysis.
10/2010	ATC conducted indoor air sampling at the adjacent property located to the south of the site, occupied by the Independent Order of Oddfellows, Sovereign Grand Lodge. Samples were collected from the basement and the first floor.

Table 1: Site Chronology**ADT 1****DSCA ID No.: 34-0017****Chronology of Events**

Date	Instructions: Brief description of all significant events that have occurred since a problem was suspected at the facility. Commence with the first date a problem was suspected and continue through the most recent activity described in the current report.
12/2010	ATC submitted a Soil Gas and Air Sampling Report. The report documented vapor intrusion sampling conducted in June-July and October 2010 and concluded that there was no significant risk of vapor intrusion for the south adjacent building (Independent Order of Oddfellows, Sovereign Grand Lodge).
4/2011	ATC submitted an Assessment Report documenting soil and groundwater assessment activities completed between November 2007 and November 2009.
6/26/2013 - 6/27/2013	ATC collected groundwater samples from monitoring wells; MW-4, MW-5, MW-7, MW-10D, MW-14D, MW-15, MW-16S, MW-16D, MW-17M, and MW-17D.
12/4/2013-12/10/2013	Soil gas monitoring points SMGP-5 through SGMP-10 were installed.
1/3/2014 - 1/10/2014	Multiple soil gas monitoring events were conducted at SGMP-5 through SGMP-10 and wells MW-4, MW-8S, MW-10S, MW-15, and MW-16S for comparative purposes. Indoor air samples were collected (8-hour Radiellos) at the Grand Sovereign Lodge (IA-1 through IA-4).
5/21/2014	Indoor air samples IA-5 through IA-7 were collected (8-hour Summas) from inside the Marriott Hotel.
5/22/2014	ATC collected soil gas and groundwater samples from MW-9 for comparative purposes.
8/1/2014 - 8/25/2014	Indoor air samples were collected (7-day Radiellos) at the Grand Sovereign Lodge (IA-1 through IA-4).

Table 4: Analytical Data for Soil Gas

DSCA ID No.: 34-0017																				
Sample ID	Depth [feet bgs]	Sample Duration ¹	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)						
				[µg/m ³]																
SGMP-1	5	G	7/7/2010	NA	<500	NA	NA	NA	4,100	NA	<500	<100	<50	NA						
SGMP-1	12.5	G	7/7/2010	NA	<500	NA	NA	NA	53,000	NA	<500	<100	<50	NA						
SGMP-1	25	G	7/7/2010	NA	<500	NA	NA	NA	6,600	NA	<500	<100	<50	NA						
SGMP-2	5	G	7/7/2010	NA	<500	NA	NA	NA	680	NA	<500	<100	<50	NA						
SGMP-2	12.5	G	7/7/2010	NA	<500	NA	NA	NA	370	NA	<500	<100	<50	NA						
SGMP-2	25	G	7/7/2010	NA	<500	NA	NA	NA	400	NA	<500	<100	<50	NA						
SGMP-3	5	G	7/6/2010	NA	<500	NA	NA	NA	550	NA	<500	<100	<50	NA						
SGMP-3	12.5	G	7/6/2010	NA	<500	NA	NA	NA	4,600	NA	<500	<100	<50	NA						
SGMP-3	25	G	7/6/2010	NA	<500	NA	NA	NA	31,000	NA	<500	<100	<50	NA						
SGMP-4	5	G	7/7/2010	NA	<500	NA	NA	NA	1,900	NA	<500	<100	<50	NA						
SGMP-4	12.5	G	7/7/2010	NA	<500	NA	NA	NA	1,100	NA	<500	<100	<50	NA						
SGMP-4	25	G	7/7/2010	NA	<500	NA	NA	NA	8,500	NA	<500	180	<50	NA						
SGMP-5@31	31	G	1/2/2014	NA	<4.0	NA	NA	NA	160	NA	<8.0	<5.5	<2.6	NA						
SGMP-5@33	33	G	1/2/2014	NA	<4.0	NA	NA	NA	840	NA	23	<5.5	<2.6	NA						
SGMP-5@36	36	G	1/2/2014	NA	<4.0	NA	NA	NA	630	NA	<8.0	<5.5	<2.6	NA						
SGMP-5@38	38	G	1/2/2014	NA	<4.0	NA	NA	NA	110	NA	<8.0	<5.5	<2.6	NA						
SGMP-6@31	31	G	1/3/2014	NA	<4.0	NA	NA	NA	140	NA	<8.0	7	<2.6	NA						
SGMP-6@34	34	G	1/3/2014	NA	67	NA	NA	NA	3,200	NA	<16	65	<5.2	NA						
SGMP-7	30	G	12/26/2013	NA	<4.0	NA	NA	NA	67	NA	<8.0	<5.5	<2.6	NA						
SGMP-8	30	G	12/26/2013	NA	<4.0	NA	NA	NA	380	NA	<8.0	<5.5	<2.6	NA						
SGMP-9 S	26	G	12/21/2013	NA	<4.0	NA	NA	NA	710	NA	<8.0	<5.5	<2.6	NA						
SGMP-9 I	29	G	12/21/2013	NA	<4.0	NA	NA	NA	680	NA	<8.0	<5.5	<2.6	NA						
SGMP-9 D	31.5	G	12/21/2013	NA	<4.0	NA	NA	NA	530	NA	<8.0	<5.5	<2.6	NA						
SGMP-10	26	G	12/26/2013	NA	<200	NA	NA	NA	160,000	NA	<400	<270	<130	NA						

Table 4: Analytical Data for Soil Gas

DSCA ID No.: 34-0017

Sample ID	Depth [feet bgs]	Sample Duration ¹	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)						
				[µg/m ³]																
MW-4	25	G	12/26/2013	NA	<200	NA	NA	NA	100,000	NA	<400	<270	<130	NA						
MW-4 3 Vol*	25	G	1/16/2014	NA	<400	NA	NA	NA	46,000	NA	<800	<550	<260	NA						
MW-4 3 Vol-Bag*	25	G	1/15/2014	NA	<400	NA	NA	NA	97,000	NA	<800	<550	<260	NA						
MW-8 S	25	G	12/21/2013	NA	<4.0	NA	NA	NA	90	NA	<8.0	<5.5	<2.6	NA						
MW-8S 3 Vol	25	G	1/15/2014	NA	<4.0	NA	NA	NA	420	NA	<8.0	<5.5	<2.6	NA						
MW-9	26	G	5/22/2014	NA	<4.0	NA	NA	NA	59	NA	<8.0	<5.5	<2.6	NA						
MW-10S	30	G	12/26/2013	NA	<4.0	NA	NA	NA	34	NA	<8.0	<5.5	<2.6	NA						
MW-15	30	G	1/3/2014	NA	25	NA	NA	NA	1,300	NA	<8.0	23	<2.6	NA						
MW-16S	30	G	1/2/2014	NA	<4.0	NA	NA	NA	1,000	NA	<8.0	<5.5	<2.6	NA						
DWM- Non-Residential Soil Gas Screening Levels (ug/m3)				1,570	NE	4,910	47,200	263	3,500	438000	NE	175	2,790	8,760						

¹ Indicate "G" for grab sample or for longer samples indicate the number of hours followed by "h".

* Duplicate samples collected in a Tedlar bag and in a Summa can for comparative purposes.

Table 5: Analytical Data for Indoor and Outdoor Air

ADT 5

DSCA ID No.: 34-0017

Sample ID	Sampling Date (mm/dd/yy)	Sample Location ¹	Sampling Method ²	Sampling Duration ³	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)						
					[µg/m ³]																
IA-1	10/19/10	AD	SU	8h	NA	<0.5	NA	NA	NA	12	NA	<0.5	<0.5	<0.5	NA						
IA-1	01/10/14	AD	P	7d	NA	<0.107	NA	NA	NA	6.71M	NA	<0.107	<0.124	<0.0862	NA						
IA-1	08/25/14	AD	P	7d	NA	<0.0974	NA	NA	NA	4.34	NA	<0.100	0.0393J	<0.0805	NA						
IA-2	10/19/10	AD	SU	8h	NA	<0.5	NA	NA	NA	12	NA	<0.5	<0.5	<0.5	NA						
IA-2	01/10/14	AD	P	7d	NA	<0.104	NA	NA	NA	7.46M	NA	<0.108	<0.124	<0.0863	NA						
IA-2	08/25/14	AD	P	7d	NA	<0.0973	NA	NA	NA	4.42	NA	<0.100	0.0384J	<0.0805	NA						
IA-3	10/19/10	AD	SU	8h	NA	<0.5	NA	NA	NA	0.6	NA	<0.5	<0.5	<0.5	NA						
IA-3	01/10/14	AD	P	7d	NA	0.0589J	NA	NA	NA	0.313M	NA	<0.108	<0.124	<0.0863	NA						
IA-3	08/25/14	AD	P	7d	NA	<0.0974	NA	NA	NA	2.03	NA	<0.100	<0.116	<0.0805	NA						
IA-4	10/19/10	AD	SU	8h	NA	<0.5	NA	NA	NA	0.6	NA	<0.5	<0.5	<0.5	NA						
IA-4	01/10/14	AD	P	7d	NA	<0.104	NA	NA	NA	0.215	NA	<0.108	<0.124	<0.0863	NA						
IA-4	08/25/14	AD	P	7d	NA	<0.0972	NA	NA	NA	2.65	NA	<0.100	<0.116	<0.0803	NA						
IA-5	05/21/14	AD	SU	8h	NA	<0.40	NA	NA	NA	<0.69	NA	<0.40	<0.55	<0.13	NA						
IA-6	05/21/14	AD	SU	8h	NA	<0.40	NA	NA	NA	<0.69	NA	<0.40	<0.55	<0.13	NA						
IA-7	05/21/14	AD	SU	8h	NA	<0.40	NA	NA	NA	<0.69	NA	<0.40	<0.55	<0.13	NA						
DWM Residential Indoor Air Screening Level (IASL)					0.36	NE	1.12	10.8	0.0826	8.34	1.040	NE	0.417	0.168	20.9						
DWM Non-Residential Indoor Air Screening Level (IASL)					15.7	NE	49.1	472	2.63	35	4,380	NE	1.75	27.9	87.6						

Notes:

¹ Indicate "F" for former or current dry-cleaning facility, "AD" for adjacent space, "R" for residence, "C" for commercial not adjacent space. If sample was taken outdoors, leave blank.

² Indicate "SU" for summa canister, "FC" for flux chambers, "T" for tedlar bags, "P" for passive samplers, "O" for other.

³ Indicate "8h" for 8-hour, "24h" for 24-hour, "G" for grab sample, for other hours indicate the number of hours followed by "h" or "d" for days.

Table 5(2): Additional Data for Indoor and Outdoor Air

ADT 5(2)

DSCA ID No.: 34-0017

Is dry-cleaning facility at the site: Operating Pick-up Only Abandoned

If facility is operating, solvents used are: Perc Petroleum Green Earth Other

For the active or former dry-cleaning space, describe the type and location of the air handling/HVAC unit (for example - a shared unit supplying two adjacent spaces; unit located on the roof):

Central Heating and Air with natural gas/electric heat service.

Attachment:

Sampling location map that indicates where all indoor air samples were collected. The map should clearly indicate the names/types of businesses and residence names sampled and in the vicinity of the subject site that may be of concern.

Table 5(3): Additional Data for Indoor and Outdoor Air

ADT 5(3)

DSCA ID No.: 34-0017

Sample ID	Name and Address for Sampling Location	Property Owner Name, Address, and Phone Number	Tenant Name, Address, and Phone Number
IA-1	Sovereign Grand Lodge 420 North Trade Street Winston-Salem, NC 27101	Sovereign Grand Lodge of the Independent Order of Odd Fellows 420 North Trade Street, Winston-Salem, NC 27101 Attention: Mr. Terry Barrett; Ph: (336) 725-5955	Same
IA-2			
IA-3			
IA-4			
IA-5	Marriott 425 North Cherry Street Winston-Salem, NC 27101	Noble Investment Group 2000 Monarch Tower 3424 Peachtree Road, N.E, Atlanta, GA 30326 Attention: Mr. Roy Croop: (404) 419-1000 roy.croop@nobleinvestment.com	Marriott 425 North Cherry Street, Winston-Salem, NC 27101 Attention: Ms. Wanda Sanders, Eng. Svc. Mgr. Ph: (336) 728-4030 wanda.sanders@twincityquarter.com
IA-6			
IA-7			

Table 6: Monitoring Well Construction Data**ADT 6****DSCA ID No.: 34-0017**

Well ID	Date Installed (mm/dd/yy)	Number of Samples	Well Depth [feet]	Well Diameter [inch]	Screen Interval [feet]	Status (Active/Inactive)
MW-1	11/13/06	4	40	2	25-40	Active
MW-2	11/13/06	4	40	2	25-40	Active
MW-3	11/14/06	4	40	2	25-40	Active
MW-4	11/14/06	5	40	2	25-40	Active
MW-5	9/19/07	4	39	2	29-39	Active
DMW-6BR	2/24/09	2	82	2	77-82	Active
MW-7	2/24/09	3	45	2	30-45	Active
MW-8S	2/20/09	2	45	1	25-45	Active
MW-8D	2/20/09	2	65	2	60-65	Active
MW-9	2/24/09	2	46	2	26-46	Active
MW-10S	2/19/09	2	50	1	30-50	Active
MW-10D	2/19/09	3	62	2	57-62	Active
MW-11S	2/25/09	2	38	1	23-38	Active
MW-11D	2/25/09	2	48	2	43-48	Active
MW-12	2/25/09	2	45	2	25-45	Active
MW-13	10/29/09	1	48	2	33-48	Active
MW-14S	10/27/09	1	50	1	30-50	Active
MW-14D	10/27/09	2	78	2	73-78	Active
MW-15	10/28/09	2	44	2	29-44	Active
MW-16S	10/28/09	2	50	1	30-50	Active
MW-16D	10/28/09	2	76	1	71-76	Active
MW-17S	10/26/09	1	45	1	25-45	Active
MW-17M	10/26/09	2	66	1	61-66	Active
MW-17D	10/26/09	2	87	1	82-87	Active
DMW-18BR	10/29/09	1	105	2	100-105	Active

Table 7: Groundwater Elevation Data **ADT 7**

DSCA ID No.: 34-0017							
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	TOC Elevation [feet]	Depth to Water [feet bgs]	Groundwater Elevation [feet]	Depth to NAPL [feet bgs]	NAPL Thickness [feet]	Corrected* Groundwater Elevation [feet]
MW-1	11/15/2006	100.00	33.43	66.57	ND	ND	NA
	11/8/2007	100.00	33.97	66.03	ND	ND	NA
	3/4/2009	935.07	35.23	899.84	ND	ND	NA
	11/11/2009	935.07	34.37	900.70	ND	ND	NA
	6/26/2013	935.07	33.42	901.65	ND	ND	NA
MW-2	11/15/2006	100.26	33.62	66.64	ND	ND	NA
	11/7/2007	100.26	34.25	66.01	ND	ND	NA
	3/4/2009	935.33	35.27	900.06	ND	ND	NA
	11/11/2009	935.33	34.64	900.69	ND	ND	NA
	6/26/2013	935.33	33.85	901.48	ND	ND	NA
MW-3	11/15/2006	100.21	33.18	67.03	ND	ND	NA
	11/7/2007	100.21	33.74	66.47	ND	ND	NA
	3/4/2009	935.29	34.72	900.57	ND	ND	NA
	11/11/2009	935.29	34.07	901.22	ND	ND	NA
	6/26/2013	935.29	33.25	902.04	ND	ND	NA
MW-4	11/15/2006	100.41	33.04	67.37	ND	ND	NA
	11/7/2007	100.41	32.89	67.52	ND	ND	NA
	3/4/2009	935.49	32.29	903.20	ND	ND	NA
	11/11/2009	935.49	33.05	902.44	ND	ND	NA
	6/26/2013	935.49	30.58	904.91	ND	ND	NA
MW-5	11/8/2007	100.22	33.35	66.87	ND	ND	NA
	3/4/2009	935.24	33.79	901.45	ND	ND	NA
	11/11/2009	935.24	31.80	903.44	ND	ND	NA
	6/26/2013	935.24	31.90	903.34	ND	ND	NA
DMW-6BR	3/4/2009	934.81	34.92	899.89	ND	ND	NA
	11/11/2009	934.81	34.64	900.17	ND	ND	NA
	6/26/2013	934.81	33.31	901.50	ND	ND	NA
MW-7	3/4/2009	934.64	34.47	900.17	ND	ND	NA
	11/11/2009	934.64	33.41	901.23	ND	ND	NA
	6/26/2013	934.64	32.73	901.91	ND	ND	NA

Table 7: Groundwater Elevation Data

ADT 7

DSCA ID No.: 34-0017

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	TOC Elevation [feet]	Depth to Water [feet bgs]	Groundwater Elevation [feet]	Depth to NAPL [feet bgs]	NAPL Thickness [feet]	Corrected* Groundwater Elevation [feet]
MW-8S	3/4/2009	934.45	35.22	899.23	ND	ND	NA
	11/11/2009	934.45	34.52	899.93	ND	ND	NA
	6/26/2013	934.45	33.80	900.65	ND	ND	NA
MW-8D	3/4/2009	934.34	35.27	899.07	ND	ND	NA
	11/11/2009	934.34	34.65	899.69	ND	ND	NA
	6/26/2013	934.34	33.79	900.55	ND	ND	NA
MW-9	3/4/2009	930.40	32.81	897.59	ND	ND	NA
	11/11/2009	930.40	32.09	898.31	ND	ND	NA
	6/26/2013	930.40	31.36	899.04	ND	ND	NA
	5/22/2014	930.40	29.71	900.69	ND	ND	NA
MW-10S	3/4/2009	933.60	35.16	898.44	ND	ND	NA
	11/11/2009	933.60	34.54	899.06	ND	ND	NA
	6/26/2013	933.60	33.40	900.20	ND	ND	NA
MW-10D	3/4/2009	933.70	35.31	898.39	ND	ND	NA
	11/11/2009	933.70	34.75	898.95	ND	ND	NA
	6/26/2013	933.70	33.60	900.10	ND	ND	NA
MW-11S	3/4/2009	936.01	33.65	902.36	ND	ND	NA
	11/11/2009	936.01	33.57	902.44	ND	ND	NA
	6/26/2013	936.01	30.80	905.21	ND	ND	NA
MW-11D	3/4/2009	936.03	33.65	902.38	ND	ND	NA
	11/11/2009	936.03	33.57	902.46	ND	ND	NA
	6/26/2013	936.03	30.77	905.26	ND	ND	NA
MW-12	3/4/2009	935.13	31.84	903.29	ND	ND	NA
	11/11/2009	935.13	31.84	903.29	ND	ND	NA
	6/26/2013	935.13	27.91	907.22	ND	ND	NA
MW-13	11/11/2009	934.83	33.83	901.00	ND	ND	NA
	6/26/2013	934.83	33.36	901.47	ND	ND	NA
MW-14S	11/11/2009	929.74	34.32	895.42	ND	ND	NA
	6/26/2013	929.74	34.02	895.72	ND	ND	NA
MW-14D	11/11/2009	929.83	34.18	895.65	ND	ND	NA
	6/26/2013	929.83	33.86	895.97	ND	ND	NA

Table 7: Groundwater Elevation Data **ADT 7**

DSCA ID No.: 34-0017							
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	TOC Elevation [feet]	Depth to Water [feet bgs]	Groundwater Elevation [feet]	Depth to NAPL [feet bgs]	NAPL Thickness [feet]	Corrected* Groundwater Elevation [feet]
MW-15	11/11/2009	934.70	37.28	897.42	ND	ND	NA
	6/26/2013	934.70	36.75	897.95	ND	ND	NA
MW-16S	11/11/2009	936.17	39.70	896.47	ND	ND	NA
	6/26/2013	936.17	40.11	896.06	ND	ND	NA
MW-16D	11/11/2009	936.22	39.75	896.47	ND	ND	NA
	6/26/2013	936.22	39.04	897.18	ND	ND	NA
MW-17S	11/11/2009	932.84	35.67	897.17	ND	ND	NA
	6/26/2013	932.84	33.38	899.46	ND	ND	NA
MW-17M	11/11/2009	932.81	35.99	896.82	ND	ND	NA
	6/26/2013	932.81	33.61	899.20	ND	ND	NA
MW-17D	11/11/2009	932.84	36.56	896.28	ND	ND	NA
	6/26/2013	932.84	33.20	899.64	ND	ND	NA
DMW-18BR	11/11/2009	932.28	34.15	898.13	ND	ND	NA
	6/26/2013	932.28	33.61	898.67	ND	ND	NA

Table 8: Analytical Data for Groundwater

ADT 8

DSCA ID No.: 34-0017																					
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)	Chloroform	Acetone	Bromodichloromethane	Methylene chloride	Trans-1,3-Dichloropropene	Bromoform	Carbon disulfide	Diisopropyl ether	2-Butanone
		[mg/L]																			
MW-1	11/15/2006	<0.005	<0.005	<0.005	<0.005	<0.005	0.042	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/21/2007	<0.005	<0.005	<0.005	<0.005	0.00081J	0.011	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	0.110B	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	3/4/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.049	0.0013J	<0.005	<0.005	<0.0005	0.00104J	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/13/2009	<0.005	<0.005	<0.005	<0.005	0.00063J	0.027	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-2	11/15/2006	<0.005	<0.005	<0.005	<0.005	<0.005	0.0053	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/21/2007	<0.005	<0.005	<0.005	<0.005	0.00073J	0.002	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	0.019B	<0.005	0.0012J	<0.005	<0.005	<0.005	<0.005	<0.01
	3/4/2009	<0.005	<0.005	0.00021J	<0.005	<0.005	0.005	0.0013J	<0.005	<0.005	<0.0005	0.0013J	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/13/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.002	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-3	11/15/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/21/2007	<0.005	<0.005	<0.005	<0.005	0.00066J	0.0033	<0.005	<0.005	<0.005	<0.0005	<0.005	0.00045J	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	3/4/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0054	0.0011J	<0.005	<0.005	<0.0005	0.00118J	0.00056J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/13/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0028	0.00071J	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-4	11/15/2006	<0.005	<0.005	<0.005	<0.005	<0.005	0.084	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/7/2007	<0.005	<0.005	<0.005	<0.005	0.0029J	0.11	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	0.005JB	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	3/4/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.19	0.001J	<0.005	<0.005	<0.0005	0.00102J	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/13/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.032	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/26/2013	<0.0005	<0.005	<0.005	<0.005	<0.005	0.17	<0.005	<0.005	<0.0028	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-5	11/21/2007	<0.005	<0.005	<0.005	<0.005	0.0012J	1.300E	<0.005	<0.005	0.0019J	<0.0005	<0.005	0.0037J	<0.010	0.00031J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	3/4/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.68	0.0015J	<0.005	0.0023J	<0.0005	0.00124J	0.00083J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/13/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.19	<0.005	<0.005	<0.0028	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/26/2013	<0.0005	<0.005	<0.005	<0.005	<0.005	1.7	<0.005	<0.005	0.0018J	<0.0005	<0.005	0.00087J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01

Table 8: Analytical Data for Groundwater

ADT 8

DSCA ID No.: 34-0017																					
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)	Chloroform	Acetone	Bromodichloromethane	Methylene chloride	Trans-1,3-Dichloropropene	Bromoform	Carbon disulfide	Diisopropyl ether	2-Butanone
		[mg/L]																			
DMW-6BR	3/4/2009	<0.005	<0.005	0.0002J	<0.005	<0.005	0.25	0.002J	<0.005	0.0019J	<0.0005	0.00135J	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/13/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.15	<0.005	<0.005	0.0012J	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-7	3/4/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.33	0.0015J	<0.005	0.00092J	<0.0005	0.00109J	0.00056J	0.017J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/13/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.55	<0.005	<0.005	0.00072J	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/26/2013	<0.0005	<0.005	<0.005	<0.005	<0.005	0.45	0.00034J	<0.005	0.00075J	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-8S	3/5/2009	<0.005	<0.005	<0.005	<0.005	0.00063J	0.00097	0.0013J	<0.005	<0.005	<0.0005	0.00049J	0.00049J	<0.05	<0.005	<0.005	0.00022J	<0.005	<0.005	<0.005	<0.01
	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.001	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-8D	3/5/2009	<0.005	0.00056J	<0.005	<0.005	<0.005	0.082	0.0018J	<0.005	0.0033	<0.0005	0.00056J	<0.005	<0.05	<0.005	<0.005	<0.005	0.0011J	<0.005	<0.005	<0.01
	11/12/2009	<0.005	0.013	<0.005	<0.005	<0.005	0.076	<0.005	<0.005	0.0032	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-9	3/5/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0036	0.0017J	<0.005	0.00043J	<0.0005	0.00044J	0.00098J	<0.05	<0.005	<0.005	<0.005	0.0016J	<0.005	<0.005	<0.01
	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.005	<0.0005	<0.005	0.00097J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	5/22/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	0.0014	<0.0010	<0.0010	<0.0010	<0.0020	<0.0030	0.00044J	<0.050	<0.00050	<0.0050	<0.00050	<0.0020	<0.0040	<0.00050	<0.020
MW-10S	3/5/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0024	0.0017J	<0.005	<0.005	<0.0005	0.0004	0.0015J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/12/2009	0.00058	<0.005	<0.005	<0.005	0.0011J	0.00037J	0.0046J	<0.005	<0.005	<0.0005	<0.005	0.0013J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-10D	3/5/2009	<0.005	<0.005	<0.005	<0.005	0.0006J	0.19	0.002J	<0.005	0.00067J	<0.0005	0.00122J	0.00081J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.31	0.0013J	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/26/2013	<0.0005	<0.005	<0.005	<0.005	<0.005	0.22	<0.005	<0.005	0.0004J	<0.0005	<0.005	0.00072J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-11S	3/5/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0013	0.0014J	<0.005	<0.005	<0.0005	0.00042J	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.00058J	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01

Table 8: Analytical Data for Groundwater

ADT 8

DSCA ID No.: 34-0017																					
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)	Chloroform	Acetone	Bromodichloromethane	Methylene chloride	Trans-1,3-Dichloropropene	Bromoform	Carbon disulfide	Diisopropyl ether	2-Butanone
		[mg/L]																			
MW-11D	3/5/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0038	0.0014J	<0.005	<0.005	<0.0005	0.00048J	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.00037J	<0.005	<0.005	<0.005	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	0.00061J	<0.005	<0.01
MW-12	3/5/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0007	0.0013J	<0.005	<0.005	<0.0005	0.00087J	0.022	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0007	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.023	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-13	11/11/2009	<0.005	<0.005	<0.005	0.0013J	<0.005	0.00039J	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.00084J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	0.00091J	<0.01
MW-14S	11/11/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0007	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.0025J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-14D	11/11/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005	0.00058J	<0.0005	<0.005	0.0015J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/27/2013	<0.0005	<0.005	<0.005	<0.005	<0.005	0.0087	0.00032J	<0.005	0.00055J	<0.0005	<0.005	0.0014 J	0.0059 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-15	11/11/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0074	<0.005	<0.005	<0.0028	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/27/2013	<0.0005	0.0031J	<0.005	<0.005	<0.005	0.075	<0.005	<0.005	0.0018J	<0.0005	<0.005	0.00078J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-16S	11/11/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.041	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.0015J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/27/2013	<0.0005	0.00083J	<0.005	<0.005	<0.005	0.1	<0.005	<0.005	0.00089J	<0.0005	<0.005	0.00098J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-16D	11/11/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.12	<0.005	<0.005	0.0014J	<0.0005	<0.005	0.0013J	<0.05	<0.005	0.13	<0.005	<0.005	<0.005	<0.005	<0.01
	6/27/2013	<0.0005	0.0063	<0.005	<0.005	<0.005	0.25	<0.005	<0.005	0.0035	<0.0005	<0.005	0.0012J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01

Table 8: Analytical Data for Groundwater

ADT 8

DSCA ID No.: 34-0017																					
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)	Chloroform	Acetone	Bromodichloromethane	Methylene chloride	Trans-1,3-Dichloropropene	Bromoform	Carbon disulfide	Diisopropyl ether	2-Butanone
		[mg/L]																			
MW-17S	11/12/2009	<0.005	<0.005	<0.005	<0.005	0.00064J	0.00028J	<0.005	<0.005	<0.0028	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0029J
MW-17M	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.0035J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/27/2013	<0.0005	<0.005	<0.005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.0027J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW-17D	11/12/2009	<0.005	<0.005	<0.005	<0.005	<0.005	0.056	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.0048J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
	6/27/2013	<0.0005	<0.005	<0.005	<0.005	<0.005	0.0072	<0.005	<0.005	<0.0028	<0.0005	<0.005	0.0032J	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
DMW-18BR	11/12/2009	<0.005	0.01	<0.005	<0.005	<0.005	0.12	<0.005	<0.005	0.0058	<0.0005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
NC 2L Standard		0.001	0.07	0.6	0.02	0.006	0.0007	0.6	0.1	0.0030	0.00003	0.5	0.07	6	0.0006	0.005	0.0004	0.004	0.7	0.07	4

Table 12: Analytical Data for Natural Attenuation Parameters

DSCA ID No.: 34-0017																
Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Nitrate	Sulfate	Major Cations	Methane	Ferrous Iron	Oxidation reduction potential (ORP)	Alkalinity	Chloride (optional)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mV	mg/L	mg/L	µs/cm ²	std unit	° C	mg/L	mg/L	mg/L
MW-1	3/4/2009	6.12	NA	NA	NA	NA	NA	91.3	NA	NA	104.0	4.93	12.53	NA	NA	NA
	11/11/2009	7.71	NA	NA	NA	NA	NA	212.0	NA	NA	90.0	4.65	16.48	NA	NA	NA
MW-2	3/4/2009	6.83	NA	NA	NA	NA	NA	96.5	NA	NA	32.0	4.75	14.02	NA	NA	NA
	11/11/2009	7.59	NA	NA	NA	NA	NA	223.5	NA	NA	28.0	4.82	17.91	NA	NA	NA
MW-3	3/4/2009	7.72	NA	NA	NA	NA	NA	87.8	NA	NA	485.0	4.95	15.22	NA	NA	NA
	11/11/2009	7.36	NA	NA	NA	NA	NA	228.1	NA	NA	417.0	5.54	18.56	NA	NA	NA
MW-4	3/4/2009	7.96	NA	NA	NA	NA	NA	88.8	NA	NA	291.0	5.37	11.05	NA	NA	NA
	11/11/2009	8.45	NA	NA	NA	NA	NA	232.9	NA	NA	134.0	4.86	16.44	NA	NA	NA
	6/26/2013	7.23	NA	NA	NA	NA	NA	255.5	NA	NA	221.0	4.08	26.64	NA	NA	NA
MW-5	3/4/2009	6.96	NA	NA	NA	NA	NA	62.1	NA	NA	377.0	7.16	11.96	NA	NA	NA
	11/11/2009	9.13	NA	NA	NA	NA	NA	221.0	NA	NA	436.0	6.39	17.24	NA	NA	NA
	6/26/2013	6.41	NA	NA	NA	NA	NA	221.5	NA	NA	488.0	5.56	27.35	NA	NA	NA
DMW-6BR	3/4/2009	2.6	NA	NA	NA	NA	NA	11.7	NA	NA	414.0	7.33	13.79	NA	NA	NA
	11/11/2009	2.63	NA	NA	NA	NA	NA	-90.0	NA	NA	314.0	7.01	15.40	NA	NA	NA
MW-7	3/4/2009	4.02	NA	NA	NA	NA	NA	59.7	NA	NA	645.0	7.48	13.87	NA	NA	NA
	11/11/2009	5.56	NA	NA	NA	NA	NA	140.1	NA	NA	483.0	6.01	15.62	NA	NA	NA
	6/26/2013	3.26	NA	NA	NA	NA	NA	214.6	NA	NA	473.0	5.72	29.68	NA	NA	NA

Table 12: Analytical Data for Natural Attenuation Parameters

DSCA ID No.: 34-0017																
Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Nitrate	Sulfate	Major Cations	Methane	Ferrous Iron	Oxidation reduction potential (ORP)	Alkalinity	Chloride (optional)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mV	mg/L	mg/L	µs/cm ²	std unit	° C	mg/L	mg/L	mg/L
MW-8S	3/4/2009	5.52	NA	NA	NA	NA	NA	79.3	NA	NA	1035.0	6.39	11.71	NA	NA	NA
	11/11/2009	6.59	NA	NA	NA	NA	NA	-100.4	NA	NA	642.0	6.78	16.16	NA	NA	NA
MW-8D	3/4/2009	5.60	NA	NA	NA	NA	NA	84	NA	NA	212.0	5.60	12.46	NA	NA	NA
	11/11/2009	5.32	NA	NA	NA	NA	NA	308.3	NA	NA	203.0	5.57	16.42	NA	NA	NA
MW-9	3/4/2009	6.61	NA	NA	NA	NA	NA	89.1	NA	NA	312.0	4.78	12.62	NA	NA	NA
	11/11/2009	6.47	NA	NA	NA	NA	NA	-3.0	NA	NA	327.0	5.61	15.67	NA	NA	NA
	5/22/2014	6.47	NA	NA	NA	NA	NA	311.9	NA	NA	501.0	4.24	20.05	NA	NA	NA
MW-10S	3/4/2009	6.20	NA	NA	NA	NA	NA	84.7	NA	NA	400.0	5.41	12.84	NA	NA	NA
	11/11/2009	5.92	NA	NA	NA	NA	NA	-58.1	NA	NA	308.0	6.40	15.46	NA	NA	NA
MW-10D	3/4/2009	1.17	NA	NA	NA	NA	NA	11.9	NA	NA	345.0	5.92	12.32	NA	NA	NA
	11/11/2009	1.50	NA	NA	NA	NA	NA	217.9	NA	NA	324.0	6.65	14.58	NA	NA	NA
	6/26/2013	4.05	NA	NA	NA	NA	NA	27.6	NA	NA	365.0	6.63	23.78	NA	NA	NA
MW-11S	3/4/2009	6.63	NA	NA	NA	NA	NA	93.0	NA	NA	320.0	4.84	15.53	NA	NA	NA
	11/11/2009	6.45	NA	NA	NA	NA	NA	4.1	NA	NA	265.0	4.62	14.46	NA	NA	NA
MW-11D	3/4/2009	7.41	NA	NA	NA	NA	NA	91.7	NA	NA	253.0	4.76	16.24	NA	NA	NA
	11/11/2009	6.10	NA	NA	NA	NA	NA	306.2	NA	NA	233.0	4.75	15.71	NA	NA	NA
MW-12	3/4/2009	5.93	NA	NA	NA	NA	NA	80.8	NA	NA	357.0	5.59	16.32	NA	NA	NA
MW-13	11/11/2009	6.67	NA	NA	NA	NA	NA	291.6	NA	NA	800.0	4.56	16.46	NA	NA	NA

Table 12: Analytical Data for Natural Attenuation Parameters

DSCA ID No.: 34-0017

Sample ID	Sampling Date (mm/dd/yy)	Dissolved oxygen (DO)	Nitrate	Sulfate	Major Cations	Methane	Ferrous Iron	Oxidation reduction potential (ORP)	Alkalinity	Chloride (optional)	Conductivity	pH	Temperature	Total organic carbon (TOC)	Ethane	Ethene
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mV	mg/L	mg/L	µs/cm ²	std unit	° C	mg/L	mg/L	mg/L
MW-14S	11/11/2009	5.32	NA	NA	NA	NA	NA	264.4	NA	NA	1275.0	6.28	15.64	NA	NA	NA
MW-14D	11/11/2009	2.90	NA	NA	NA	NA	NA	-190.8	NA	NA	204.0	9.01	14.69	NA	NA	NA
	6/26/2013	1.58	NA	NA	NA	NA	NA	41.4	NA	NA	197.0	5.77	21.96	NA	NA	NA
MW-15	11/11/2009	1.95	NA	NA	NA	NA	NA	232.3	NA	NA	271.0	6.25	16.02	NA	NA	NA
	6/26/2013	6.00	NA	NA	NA	NA	NA	84.9	NA	NA	266.0	4.21	20.71	NA	NA	NA
MW-16S	11/11/2009	5.74	NA	NA	NA	NA	NA	236.6	NA	NA	381.0	6.07	16.41	NA	NA	NA
	6/26/2013	4.57	NA	NA	NA	NA	NA	61.3	NA	NA	360.0	5.22	21.57	NA	NA	NA
MW-16D	11/11/2009	3.62	NA	NA	NA	NA	NA	-147.5	NA	NA	318.0	7.70	16.69	NA	NA	NA
	6/26/2013	2.09	NA	NA	NA	NA	NA	56.2	NA	NA	309.0	5.46	20.93	NA	NA	NA
MW-17S	11/11/2009	7.52	NA	NA	NA	NA	NA	-43.7	NA	NA	641.0	7.05	14.37	NA	NA	NA
MW-17M	11/11/2009	6.33	NA	NA	NA	NA	NA	185.6	NA	NA	117.0	6.42	14.84	NA	NA	NA
	6/26/2013	7.17	NA	NA	NA	NA	NA	74.0	NA	NA	137.0	4.99	20.84	NA	NA	NA
MW-17D	11/11/2009	2.42	NA	NA	NA	NA	NA	-156.5	NA	NA	269.0	6.42	13.02	NA	NA	NA
	6/26/2013	5.02	NA	NA	NA	NA	NA	29.7	NA	NA	210.0	5.95	22.17	NA	NA	NA
DMW-18BR	11/11/2009	3.17	NA	NA	NA	NA	NA	-173.2	NA	NA	300.0	6.54	13.82	NA	NA	NA

APPENDIX A
BORING LOGS



BORING LOG: SGMP-5

(Page 1 of 1)

Former Trade Street Cleaners
 426 N. Trade Street,
 Winston-Salem, NC 27101
 ATC Project No. 45.34341.3417

Date(s) Drilled : December 10, 2013
 Drilling Contractor : SAEDACCO
 Drilling Method : Direct push

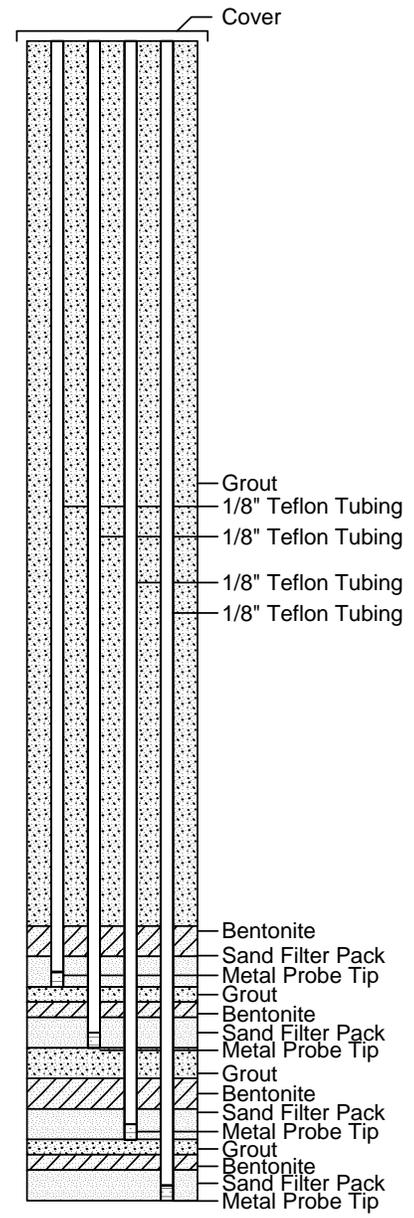
Boring Diameter : 2 Inches
 Sample Method : Macro Core

Client: NCDENR-DSCA Contract

Logged By : PH

Depth In Feet	USCS	GRAPHIC	DESCRIPTION
0			Red, brown, and yellow CLAYEY SILT
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19	ML		
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			

Well1: SGMP-5@31'
 Well2: SGMP-5@33'
 Well3: SGMP-5@36'
 Well4: SGMP-5@38'



Boring terminated at 38' bgs and set four gas probe points:
 Set one 1/8" teflon tube with 0.5' metal gas probe tip at 31' bgs
 Set one 1/8" teflon tube with 0.5' metal gas probe tip at 33' bgs
 Set one 1/8" teflon tube with 0.5' metal gas probe tip at 36' bgs
 Set one 1/8" teflon tube with 0.5' metal gas probe tip at 38' bgs



BORING LOG: SGMP-6

(Page 1 of 1)

Former Trade Street Cleaners
 426 N. Trade Street,
 Winston-Salem, NC 27101
 ATC Project No. 45.34341.3417

Date(s) Drilled : December 10, 2013
 Drilling Contractor : SAEDACCO
 Drilling Method : Direct push

Boring Diameter : 2 Inches
 Sample Method : Macro Core

Client: NCDENR-DSCA Contract

Logged By : PH

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	
0			Red, brown, and yellow CLAYEY SILT	<p>Well1: SGMP-6S Well2: SGMP-6D</p> <p>Cover</p> <p>Grout</p> <p>1/8" Teflon Tubing</p> <p>1/8" Teflon Tubing</p> <p>Bentonite</p> <p>Sand Filter Pack</p> <p>Metal Probe Tip</p> <p>Grout</p> <p>Bentonite</p> <p>Sand Filter Pack</p> <p>Metal Probe Tip</p>
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17	ML			
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

Boring terminated at 34' bgs

Set 2 gas probe points:

Set one 1/8" teflon tube with 0.5' metal gas probe tip at 31' bgs

Set one 1/8" teflon tube with 0.5' metal gas probe tip at 34' bgs



BORING LOG: SGMP-7

(Page 1 of 1)

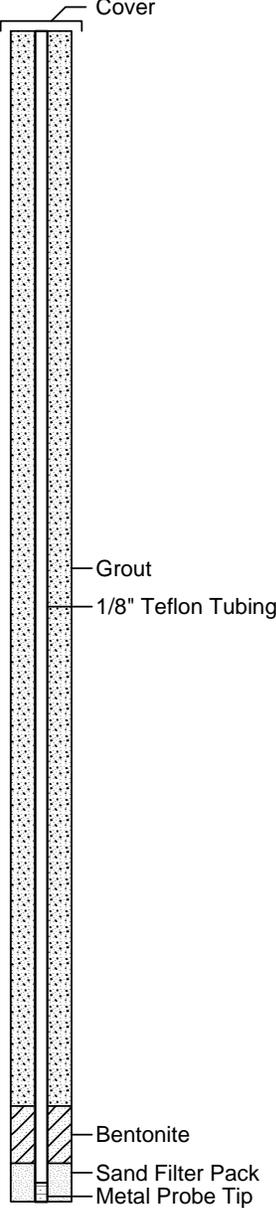
Former Trade Street Cleaners
 426 N. Trade Street,
 Winston-Salem, NC 27101
 ATC Project No. 45.34341.3417

Date(s) Drilled : December 10, 2013
 Drilling Contractor : SAEDACCO
 Drilling Method : Direct push

Boring Diameter : 2 Inches
 Sample Method : Macro Core

Client: NCDENR-DSCA Contract

Logged By : PH

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	Well: SGMP-7 
0			Red, brown CLAYEY SILT	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15	ML			
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

Boring terminated at 30.5' bgs
 Set one 1/8" teflon tube with 0.5' metal gas probe tip at 30.5' bgs



BORING LOG: SGMP-8

(Page 1 of 1)

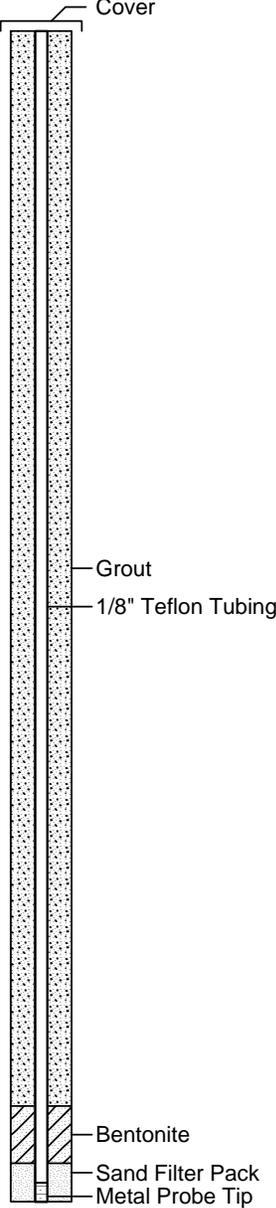
Former Trade Street Cleaners
 426 N. Trade Street,
 Winston-Salem, NC 27101
 ATC Project No. 45.34341.3417

Date(s) Drilled : December 10, 2013
 Drilling Contractor : SAEDACCO
 Drilling Method : Direct push

Boring Diameter : 2 Inches
 Sample Method : Macro Core

Client: NCDENR-DSCA Contract

Logged By : PH

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	Well: SGMP-8 
0			Red, brown CLAYEY SILT	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15	ML			
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

Boring terminated at 30.5' bgs
 Set one 1/8" teflon tube with 0.5' metal gas probe tip at 30.5' bgs



BORING LOG: SGMP-9

(Page 1 of 1)

Former Trade Street Cleaners
 426 N. Trade Street,
 Winston-Salem, NC 27101
 ATC Project No. 45.34341.3417

Date(s) Drilled : December 10, 2013
 Drilling Contractor : SAEDACCO
 Drilling Method : Direct push

Boring Diameter : 2 Inches
 Sample Method : Macro Core

Client: NCDENR-DSCA Contract

Logged By : PH

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	Well1: SGMP-9S Well2: SGMP-9M Well3: SGMP-9D
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	ML		Red, brown, and yellow CLAYEY SILT	<p>Cover</p> <p>Grout</p> <p>1/8" Teflon Tubing</p> <p>1/8" Teflon Tubing</p> <p>1/8" Teflon Tubing</p> <p>Bentonite</p> <p>Sand Filter Pack</p> <p>Metal Probe Tip</p> <p>Grout</p> <p>Bentonite</p> <p>Sand Filter Pack</p> <p>Metal Probe Tip</p> <p>Grout</p> <p>Bentonite</p> <p>Sand Filter Pack</p> <p>Metal Probe Tip</p>

Boring terminated at 31.5' bgs

Set 3 gas probe points:

Set one 1/8" teflon tube with 0.5' metal gas probe tip at 26' bgs

Set one 1/8" teflon tube with 0.5' metal gas probe tip at 29' bgs

Set one 1/8" teflon tube with 0.5' metal gas probe tip at 31.5' bgs



BORING LOG: SGMP-10

(Page 1 of 1)

Former Trade Street Cleaners
 426 N. Trade Street,
 Winston-Salem, NC 27101
 ATC Project No. 45.34341.3417

Date(s) Drilled : December 10, 2013
 Drilling Contractor : SAEDACCO
 Drilling Method : Direct push

Boring Diameter : 2 Inches
 Sample Method : Macro Core

Client: NCDENR-DSCA Contract

Logged By : PH

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	Well: SGMP-10
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	ML		Red, brown, and yellow CLAYEY SILT	<p>Cover</p> <p>Grout</p> <p>1/8" Teflon Tubing</p> <p>Bentonite</p> <p>Sand Filter Pack</p> <p>Metal Probe Tip</p>

Boring terminated at 26' bgs
 Set one 1/8" teflon tube with 0.5' metal gas probe tip at 26' bgs

APPENDIX B

LABORATORY ANALYTICAL REPORTS

10 January 2014



Mr. Jake Whittle
Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

H&P Project: ATC010714-10
Client Project: 45.3431.3417 / Trade Street Cleaners

Dear Mr. Jake Whittle:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 07-Jan-14 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

A handwritten signature in cursive script that reads "Janis Villarreal".

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SGMP-5@31'	E401018-01	Vapor	02-Jan-14	07-Jan-14
SGMP-5@33'	E401018-02	Vapor	02-Jan-14	07-Jan-14
SGMP-5@36'	E401018-03	Vapor	02-Jan-14	07-Jan-14
SGMP-5@38'	E401018-04	Vapor	02-Jan-14	07-Jan-14
SGMP-6@31'	E401018-05	Vapor	03-Jan-14	07-Jan-14
SGMP-6@34'	E401018-06	Vapor	03-Jan-14	07-Jan-14
MW-15	E401018-07	Vapor	03-Jan-14	07-Jan-14
MW-16 S	E401018-08	Vapor	02-Jan-14	07-Jan-14
MW-4	E401018-09	Vapor	26-Dec-13	07-Jan-14
MW-10 S	E401018-10	Vapor	26-Dec-13	07-Jan-14
SGMP-9 shallow	E401018-11	Vapor	21-Dec-13	07-Jan-14
SGMP-9 I	E401018-12	Vapor	21-Dec-13	07-Jan-14
SGMP-9 D	E401018-13	Vapor	21-Dec-13	07-Jan-14
MW-8 S	E401018-14	Vapor	21-Dec-13	07-Jan-14
SGMP-8	E401018-15	Vapor	26-Dec-13	07-Jan-14
SGMP-7	E401018-16	Vapor	26-Dec-13	07-Jan-14
SGMP-10	E401018-17	Vapor	26-Dec-13	07-Jan-14

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

DETECTIONS SUMMARY

Sample ID: **SGMP-5@31'**

Laboratory ID: **E401018-01**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Tetrachloroethene	160	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-5@33'**

Laboratory ID: **E401018-02**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
trans-1,2-Dichloroethene	23	8.0	ug/m3	EPA TO-15	
Tetrachloroethene	840	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-5@36'**

Laboratory ID: **E401018-03**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Tetrachloroethene	630	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-5@38'**

Laboratory ID: **E401018-04**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Tetrachloroethene	110	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-6@31'**

Laboratory ID: **E401018-05**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Trichloroethene	7.0	5.5	ug/m3	EPA TO-15	
Tetrachloroethene	140	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-6@34'**

Laboratory ID: **E401018-06**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
cis-1,2-Dichloroethene	67	8.0	ug/m3	EPA TO-15	
Trichloroethene	65	11	ug/m3	EPA TO-15	
Tetrachloroethene	3200	14	ug/m3	EPA TO-15	

Sample ID: **MW-15**

Laboratory ID: **E401018-07**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
cis-1,2-Dichloroethene	25	4.0	ug/m3	EPA TO-15	
Trichloroethene	23	5.5	ug/m3	EPA TO-15	
Tetrachloroethene	1300	6.9	ug/m3	EPA TO-15	

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Sample ID: **MW-16 S**

Laboratory ID: **E401018-08**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	1000	6.9	ug/m3	EPA TO-15	

Sample ID: **MW-4**

Laboratory ID: **E401018-09**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	100000	340	ug/m3	EPA TO-15	

Sample ID: **MW-10 S**

Laboratory ID: **E401018-10**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	34	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-9 shallow**

Laboratory ID: **E401018-11**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	710	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-9 I**

Laboratory ID: **E401018-12**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	680	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-9 D**

Laboratory ID: **E401018-13**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	530	6.9	ug/m3	EPA TO-15	

Sample ID: **MW-8 S**

Laboratory ID: **E401018-14**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	90	6.9	ug/m3	EPA TO-15	

Sample ID: **SGMP-8**

Laboratory ID: **E401018-15**

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	380	6.9	ug/m3	EPA TO-15	

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Sample ID: **SGMP-7**

Laboratory ID: **E401018-16**

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Tetrachloroethene	67	6.9		ug/m3	EPA TO-15	

Sample ID: **SGMP-10**

Laboratory ID: **E401018-17**

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Tetrachloroethene	160000	340		ug/m3	EPA TO-15	

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	-----------------	-------	----------	----------	--------	-------

SGMP-5@31' (E401018-01) Vapor Sampled: 02-Jan-14 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	160	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

107 % 76-134

"

"

"

"

Surrogate: Toluene-d8

101 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

91.3 % 77-127

"

"

"

"

SGMP-5@33' (E401018-02) Vapor Sampled: 02-Jan-14 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	23	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	840	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

107 % 76-134

"

"

"

"

Surrogate: Toluene-d8

100 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

90.8 % 77-127

"

"

"

"

SGMP-5@36' (E401018-03) Vapor Sampled: 02-Jan-14 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	630	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

111 % 76-134

"

"

"

"

Surrogate: Toluene-d8

102 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

95.9 % 77-127

"

"

"

"

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	-----------------	-------	----------	----------	--------	-------

SGMP-5@38' (E401018-04) Vapor Sampled: 02-Jan-14 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	110	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

111 % 76-134

"

"

"

"

Surrogate: Toluene-d8

100 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

89.3 % 77-127

"

"

"

"

SGMP-6@31' (E401018-05) Vapor Sampled: 03-Jan-14 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	7.0	5.5	"	"	"	"	"	"	
Tetrachloroethene	140	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

113 % 76-134

"

"

"

"

Surrogate: Toluene-d8

104 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

89.3 % 77-127

"

"

"

"

SGMP-6@34' (E401018-06) Vapor Sampled: 03-Jan-14 Received: 07-Jan-14

Vinyl chloride	ND	5.2	ug/m3	2	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	16	"	"	"	"	"	"	
cis-1,2-Dichloroethene	67	8.0	"	"	"	"	"	"	
Trichloroethene	65	11	"	"	"	"	"	"	
Tetrachloroethene	3200	14	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

99.2 % 76-134

"

"

"

"

Surrogate: Toluene-d8

101 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

98.2 % 77-127

"

"

"

"

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW-15 (E401018-07) Vapor Sampled: 03-Jan-14 Received: 07-Jan-14									
Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	25	4.0	"	"	"	"	"	"	
Trichloroethene	23	5.5	"	"	"	"	"	"	
Tetrachloroethene	1300	6.9	"	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.3 %	76-134	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	98.5 %	78-125	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	97.1 %	77-127	"	"	"	"	"	"	

MW-16 S (E401018-08) Vapor Sampled: 02-Jan-14 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	1000	6.9	"	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.6 %	76-134	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	98.0 %	78-125	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	97.0 %	77-127	"	"	"	"	"	"	

MW-4 (E401018-09) Vapor Sampled: 26-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	130	ug/m3	50	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	400	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
Trichloroethene	ND	270	"	"	"	"	"	"	
Tetrachloroethene	100000	340	"	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>	99.0 %	76-134	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	98.6 %	78-125	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	96.3 %	77-127	"	"	"	"	"	"	

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	-----------------	-------	----------	----------	--------	-------

MW-10 S (E401018-10) Vapor Sampled: 26-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	34	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

99.6 % 76-134

"

"

"

"

Surrogate: Toluene-d8

97.1 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

91.1 % 77-127

"

"

"

"

SGMP-9 shallow (E401018-11) Vapor Sampled: 21-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	710	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

103 % 76-134

"

"

"

"

Surrogate: Toluene-d8

99.4 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

94.5 % 77-127

"

"

"

"

SGMP-9 I (E401018-12) Vapor Sampled: 21-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	680	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

106 % 76-134

"

"

"

"

Surrogate: Toluene-d8

100 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

89.1 % 77-127

"

"

"

"

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	-----------------	-------	----------	----------	--------	-------

SGMP-9 D (E401018-13) Vapor Sampled: 21-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	530	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

105 % 76-134

"

"

"

"

Surrogate: Toluene-d8

99.5 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

90.4 % 77-127

"

"

"

"

MW-8 S (E401018-14) Vapor Sampled: 21-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	90	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

105 % 76-134

"

"

"

"

Surrogate: Toluene-d8

99.9 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

90.0 % 77-127

"

"

"

"

SGMP-8 (E401018-15) Vapor Sampled: 26-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	380	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

106 % 76-134

"

"

"

"

Surrogate: Toluene-d8

98.2 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

90.4 % 77-127

"

"

"

"

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	-----------------	-------	----------	----------	--------	-------

SGMP-7 (E401018-16) Vapor Sampled: 26-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	67	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

108 % 76-134

"

"

"

"

Surrogate: Toluene-d8

101 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

88.1 % 77-127

"

"

"

"

SGMP-10 (E401018-17) Vapor Sampled: 26-Dec-13 Received: 07-Jan-14

Vinyl chloride	ND	130	ug/m3	50	EA40805	08-Jan-14	08-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	400	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	200	"	"	"	"	"	"	
Trichloroethene	ND	270	"	"	"	"	"	"	
Tetrachloroethene	160000	340	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

108 % 76-134

"

"

"

"

Surrogate: Toluene-d8

101 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

87.1 % 77-127

"

"

"

"

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Volatile Organic Compounds by EPA TO-15 - Quality Control
H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EA40805 - TO-15

Blank (EA40805-BLK1)

Prepared & Analyzed: 08-Jan-14

Vinyl chloride	ND	2.6	ug/m3							
trans-1,2-Dichloroethene	ND	8.0	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Trichloroethene	ND	5.5	"							
Tetrachloroethene	ND	6.9	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	227		"	214		106	76-134			
<i>Surrogate: Toluene-d8</i>	206		"	207		99.7	78-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	319		"	364		87.5	77-127			

LCS (EA40805-BS1)

Prepared & Analyzed: 08-Jan-14

Vinyl chloride	50	2.6	ug/m3	52.0		96.4	70-130			
trans-1,2-Dichloroethene	76	8.0	"	80.8		93.7	70-130			
cis-1,2-Dichloroethene	82	4.0	"	80.0		103	70-130			
Trichloroethene	100	5.5	"	110		94.1	70-130			
Tetrachloroethene	120	6.9	"	138		90.1	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	225		"	214		105	76-134			
<i>Surrogate: Toluene-d8</i>	206		"	207		99.5	78-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	341		"	364		93.6	77-127			

LCS Dup (EA40805-BSD1)

Prepared & Analyzed: 08-Jan-14

Vinyl chloride	53	2.6	ug/m3	52.0		103	70-130	6.46	25	
trans-1,2-Dichloroethene	78	8.0	"	80.8		96.4	70-130	2.83	25	
cis-1,2-Dichloroethene	82	4.0	"	80.0		103	70-130	0.440	25	
Trichloroethene	110	5.5	"	110		96.3	70-130	2.30	25	
Tetrachloroethene	120	6.9	"	138		89.9	70-130	0.221	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	226		"	214		106	76-134			
<i>Surrogate: Toluene-d8</i>	207		"	207		100	78-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	335		"	364		91.8	77-127			

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC010714-10
Project Number: 45.3431.3417 / Trade Street Cleaners
Project Manager: Mr. Jake Whittle

Reported:
10-Jan-14 11:00

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory (Certification # L11-175) in accordance with the DoD-ELAP program. H&P is approved by the State of Arizona under Certification Numbers AZM758 and AZ0779. H&P is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

Hexachlorobutadiene by EPA TO-15 & TO-14A	1,3-Dichlorobenzene by EPA TO-15 & TO-14A
1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A	Trichlorofluoromethane by EPA TO-14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A	Naphthalene by H&P SOP TO-15/GC-MS
Dichlorotetrafluoroethane by EPA TO-14A	1,2-Dibromoethane (EDB) by EPA TO-15 & TO-14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A	1,2-Dibromo-3-chloropropane by EPA TO-15
Benzene by EPA TO-15 & TO-14A	1,3-Butadiene by EPA TO-15
Chlorobenzene by EPA TO-15 & TO-14A	1,1,2-Trichlorotrifluoroethane by EPA TO-14A
Ethyl benzene by EPA TO-15 & TO-14A	Carbon disulfide by EPA TO-15
Styrene by EPA TO-15 & TO-14A	1,4-Dioxane by EPA TO-15
Toluene by EPA TO-15 & TO-14A	
Total Xylenes by EPA TO-15	
1,1,1-Trichloroethane by EPA TO-15 & TO-14A	
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A	
1,1,2-Trichloroethane by EPA TO-15 & TO-14A	
1,1-Dichloroethane by EPA TO-15 & TO-14A	
1,1-Dichloroethene by EPA TO-15 & TO-14A	
1,2-Dichloroethane by EPA TO-15 & TO-14A	
1,2-Dichloropropane by EPA TO-15 & TO-14A	
Benzyl Chloride by EPA TO-15 & TO-14A	
Bromoform by EPA TO-15	
Bromomethane by EPA TO-15 & TO-14A	
Carbon tetrachloride by EPA TO-15 & TO-14A	
Chloroethane by EPA TO-15 & TO-14A	
Chloroform by EPA TO-15 & TO-14A	
Chloromethane by EPA TO-15 & TO-14A	
cis-1,2-Dichloroethene by EPA TO-15 & TO-14A	
cis-1,3-Dichloropropene by EPA TO-15 & TO-14A	
Methylene chloride by EPA TO -15 & TO-14A	
Tetrachloroethane by EPA TO-15 & TO-14A	
trans-1,2-Dichloroethene by EPA TO-15	
trans-1,3-Dichloropropene by EPA TO-15 & TO-14A	
Trichloroethene by EPA TO-15 & TO-14A	
Vinyl chloride by EPA TO -15	
2-Butanone by EPA TO-15	
4-Methyl-2-Pentanone by EPA TO-15	
Hexane by EPA TO-15	
Methyl tert-butyl ether by EPA TO-15	
Vinyl acetate by EPA TO-15	

This certification applies to samples analyzed in summa canisters.

Chain of Custody Record

HIP Mobile
Geochemistry, Inc.

2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888



Date: _____ H&P Project # ATC010714-10
Outside Lab: _____

Client: Cardno ATC Collector: Roy Szymanski Page: 1 of 2
Address: 7606 Whitehall Executive Center Client Project # 45-3431-3417 Project Contact: Take Whittle
Charlotte NC 28273 Location: Winston-Salem, NC Trade Street Cleaners
Email: Jason.Whittle@cardno.com Phone: 704-529-3200 Fax: _____ Turn around time: PRELIMBY 11/9 OR 11/10

Geotracker EDF: Yes No Global ID: _____
Excel EDD: Yes No Temperature: RT
Sample Receipt: Intact: Yes No
Seal Intact: Yes No N/A
Cold: Yes No N/A

Special Instructions:
VOC's EPA method TO-15 (DSCA Short list) ATC SOLVENTS TO-15 (SN)
UPS # 1Z93T7618747218804
1Z93T7618748138614
Lab Work Order # 401018

Sample Name	Field Point Name	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers
SGMP-5@31-		3477 mL	1050	12/14	SV	Summary	1
SGMP-5@33-		3597 mL	1140				
SGMP-5@36-		3651 mL	1240				
SGMP-5@38-		3721 mL	1400				
SGMP-6@31-		3477 mL	1005	1/3/14			
SGMP-6@34-		3582 mL	1115				
MW-15		86516 mL	1205				
MW-16 S		95312 mL	1520	1/2/13			
MW-4		118498 mL	1320	12/26/10			
MW-10 S		11115 mL	1155				

SOIL VAPOR/AIR ANALYSIS

SOIL/GW	VOCs: Full List	VOCs: Short List/DTSC	VOCs: SAM, 8260B	Naphthalene	Oxygencates	TPHV gas	Ketones	Other	Leak Check Compound	Methane	Fixed Gases
8260B Full List	<input type="checkbox"/> 8260B	<input checked="" type="checkbox"/> 8260B	<input type="checkbox"/> SAM A <input type="checkbox"/> SAM B	<input type="checkbox"/> TO-15	<input type="checkbox"/> TO-15	<input type="checkbox"/> TO-15	<input type="checkbox"/> 8260B	<input type="checkbox"/> TO-15	<input type="checkbox"/> 1,1 DFA <input type="checkbox"/> OTHER		<input type="checkbox"/> CO2 <input type="checkbox"/> O2 <input type="checkbox"/> N2
		X									Can # 022-1
		X									377-2
		X									206-1
		X									275-1.2
		X									366-3
		X									331-6
		X									270-4
		X									231-1
		X									269-7
		X									233-10

Approved/Relinquished by: (Signature) _____ Date: 1/3/14 Time: 1600
Approved/Relinquished by: (Signature) _____ Date: 1/7/14 Time: 1115
Approved/Relinquished by: (Signature) _____ Date: _____ Time: _____

Sample disposal instruction: Disposal Return to client Pickup

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

17 January 2014



Mr. Jake Whittle
Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

H&P Project: ATC011614-13
Client Project: 45.34341.3417 / Winston-Salem, NC

Dear Mr. Jake Whittle:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 16-Jan-14 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

A handwritten signature in cursive script that reads "Janis Villarreal".

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC011614-13
Project Number: 45.34341.3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
17-Jan-14 09:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4-3vol	E401070-01	Vapor	15-Jan-14	16-Jan-14
MW-8s-3vol	E401070-02	Vapor	15-Jan-14	16-Jan-14
MW-4-3vol-Bag	E401070-03	Vapor	15-Jan-14	16-Jan-14

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC011614-13
Project Number: 45.34341.3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
17-Jan-14 09:00

DETECTIONS SUMMARY

Sample ID: **MW-4-3vol**

Laboratory ID: **E401070-01**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Tetrachloroethene	46000	690	ug/m3	EPA TO-15	

Sample ID: **MW-8s-3vol**

Laboratory ID: **E401070-02**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Tetrachloroethene	420	6.9	ug/m3	EPA TO-15	

Sample ID: **MW-4-3vol-Bag**

Laboratory ID: **E401070-03**

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Tetrachloroethene	97000	690	ug/m3	EPA TO-15	

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC011614-13
Project Number: 45.34341.3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
17-Jan-14 09:00

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	-----------------	-------	----------	----------	--------	-------

MW-4-3vol (E401070-01) Vapor Sampled: 15-Jan-14 Received: 16-Jan-14

Vinyl chloride	ND	260	ug/m3	100	EA41610	16-Jan-14	16-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	800	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	400	"	"	"	"	"	"	
Trichloroethene	ND	550	"	"	"	"	"	"	
Tetrachloroethene	46000	690	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

109 % 76-134

"

"

"

"

Surrogate: Toluene-d8

97.1 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

108 % 77-127

"

"

"

"

MW-8s-3vol (E401070-02) Vapor Sampled: 15-Jan-14 Received: 16-Jan-14

Vinyl chloride	ND	2.6	ug/m3	1	EA41610	16-Jan-14	16-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	420	6.9	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

110 % 76-134

"

"

"

"

Surrogate: Toluene-d8

96.9 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

111 % 77-127

"

"

"

"

MW-4-3vol-Bag (E401070-03) Vapor Sampled: 15-Jan-14 Received: 16-Jan-14

Vinyl chloride	ND	260	ug/m3	100	EA41610	16-Jan-14	16-Jan-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	800	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	400	"	"	"	"	"	"	
Trichloroethene	ND	550	"	"	"	"	"	"	
Tetrachloroethene	97000	690	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

108 % 76-134

"

"

"

"

Surrogate: Toluene-d8

96.8 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

108 % 77-127

"

"

"

"

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC011614-13
Project Number: 45.34341.3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
17-Jan-14 09:00

Volatile Organic Compounds by EPA TO-15 - Quality Control
H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EA41610 - TO-15

Blank (EA41610-BLK1)

Prepared & Analyzed: 16-Jan-14

Vinyl chloride	ND	2.6	ug/m3							
trans-1,2-Dichloroethene	ND	8.0	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Trichloroethene	ND	5.5	"							
Tetrachloroethene	ND	6.9	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	179		"	214		83.7	76-134			
<i>Surrogate: Toluene-d8</i>	204		"	207		98.5	78-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	399		"	364		110	77-127			

LCS (EA41610-BS1)

Prepared & Analyzed: 16-Jan-14

Vinyl chloride	28	2.6	ug/m3	26.0		109	70-130			
trans-1,2-Dichloroethene	47	8.0	"	40.4		116	70-130			
cis-1,2-Dichloroethene	40	4.0	"	40.0		101	70-130			
Trichloroethene	46	5.5	"	54.8		84.3	70-130			
Tetrachloroethene	64	6.9	"	69.2		92.1	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	227		"	214		106	76-134			
<i>Surrogate: Toluene-d8</i>	204		"	207		98.4	78-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	411		"	364		113	77-127			

LCS Dup (EA41610-BSD1)

Prepared & Analyzed: 16-Jan-14

Vinyl chloride	27	2.6	ug/m3	26.0		104	70-130	4.79	25	
trans-1,2-Dichloroethene	42	8.0	"	40.4		105	70-130	9.70	25	
cis-1,2-Dichloroethene	43	4.0	"	40.0		107	70-130	6.17	25	
Trichloroethene	47	5.5	"	54.8		85.9	70-130	1.86	25	
Tetrachloroethene	64	6.9	"	69.2		92.9	70-130	0.850	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	185		"	214		86.5	76-134			
<i>Surrogate: Toluene-d8</i>	201		"	207		96.9	78-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	407		"	364		112	77-127			

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC011614-13
Project Number: 45.34341.3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
17-Jan-14 09:00

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory (Certification # L11-175) in accordance with the DoD-ELAP program. H&P is approved by the State of Arizona under Certification Numbers AZM758 and AZ0779. H&P is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

Hexachlorobutadiene by EPA TO-15 & TO-14A
1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A
Dichlorotetrafluoroethane by EPA TO-14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A
Benzene by EPA TO-15 & TO-14A
Chlorobenzene by EPA TO-15 & TO-14A
Ethyl benzene by EPA TO-15 & TO-14A
Styrene by EPA TO-15 & TO-14A
Toluene by EPA TO-15 & TO-14A
Total Xylenes by EPA TO-15
1,1,1-Trichloroethane by EPA TO-15 & TO-14A
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A
1,1,2-Trichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethane by EPA TO-15 & TO-14A
1,1-Dichloroethene by EPA TO-15 & TO-14A
1,2-Dichloroethane by EPA TO-15 & TO-14A
1,2-Dichloropropane by EPA TO-15 & TO-14A
Benzyl Chloride by EPA TO-15 & TO-14A
Bromoform by EPA TO-15
Bromomethane by EPA TO-15 & TO-14A
Carbon tetrachloride by EPA TO-15 & TO-14A
Chloroethane by EPA TO-15 & TO-14A
Chloroform by EPA TO-15 & TO-14A
Chloromethane by EPA TO-15 & TO-14A
cis-1,2-Dichloroethene by EPA TO-15 & TO-14A
cis-1,3-Dichloropropene by EPA TO-15 & TO-14A
Methylene chloride by EPA TO -15 & TO-14A
Tetrachloroethane by EPA TO-15 & TO-14A
trans-1,2-Dichloroethene by EPA TO-15
trans-1,3-Dichloropropene by EPA TO-15 & TO-14A
Trichloroethene by EPA TO-15 & TO-14A
Vinyl chloride by EPA TO -15
2-Butanone by EPA TO-15
4-Methyl-2-Pentanone by EPA TO-15
Hexane by EPA TO-15
Methyl tert-butyl ether by EPA TO-15
Vinyl acetate by EPA TO-15
1,3-Dichlorobenzene by EPA TO-15 & TO-14A
Trichlorofluoromethane by EPA TO-14A
Naphthalene by H&P SOP TO-15/GC-MS
1,2-Dibromoethane (EDB) by EPA TO-15 & TO-14A
1,2-Dibromo-3-chloropropane by EPA TO-15
1,3-Butadiene by EPA TO-15
1,1,2-Trichlorotrifluoroethane by EPA TO-14A
Carbon disulfide by EPA TO-15
1,4-Dioxane by EPA TO-15

This certification applies to samples analyzed in summa canisters.

Chain of Custody Record

2470 Impala Dr., Carlsbad, CA 92010 • ph 760.804.9678 • fax 760.804.9159
 1855 Coronado Ave., Signal Hill, CA 90755 • ph 800.834.9888

HIP Mobile
 Geochemistry, Inc.

Date: 1
 SNHP Project # ATC011614-13
 Outside Lab:

Client: Cardno ATC Collector: Roy Spornaske Page: 1 of 1
 Address: 7606 Whitehall Executive Center Drive Suite 802 Client Project # 45-34341-3417 Project Contact: Jake Whittle
Charlotte, NC 28273 Location: Winston-Salem, NC
 Email: Jason.whittle@cardno.com Phone: 704-529-3800 Fax: Turn around time: 1 to 2 days per take

Sample Receipt
 Intact: Yes No
 Seal Intact: Yes No N/A
 Cold: Yes No N/A
 Temperature: RT

Geotracker EDF: Yes No
 Global ID: _____
 Excel EDD: Yes No

Special Instructions: PUK# [unclear]
704-236-5323
Call Jake. Cell #
UPS# 12 937 76184 4602 0008
Lab Work Order # 1401070

Sample Name	CAN#	Purge Vol	Time	Date	Sample Type	Container Type	Total # of containers
MU-4 - 3vol	316	-	1300	1/15	Air	Summa	1
MU-8s - 3vol	121	-	1303	↓	↓	↓	↓
MU-4 - 3vol - Bag	083	-	1430	↓	↓	↓	↓

SOIL/GW	SOIL VAPOR/AIR ANALYSIS
8260B Full List	8260B Full List
8260B <input type="checkbox"/> BTEX/OXY <input type="checkbox"/> TPH gas	8260B <input type="checkbox"/> TPH gas
LUFT/8015M TPH <input type="checkbox"/> g <input type="checkbox"/> d <input type="checkbox"/> ext	418.1 TRPH
VOCs: Full List <input checked="" type="checkbox"/> 8260B <input checked="" type="checkbox"/> TO-15	VOCs: Full List <input checked="" type="checkbox"/> 8260B <input checked="" type="checkbox"/> TO-15
VOCs: Short List/DISC <input checked="" type="checkbox"/> 8260B <input checked="" type="checkbox"/> TO-15	VOCs: Short List/DISC <input checked="" type="checkbox"/> 8260B <input checked="" type="checkbox"/> TO-15
VOCs: SAM, 8260B <input type="checkbox"/> SAM A <input type="checkbox"/> SAM B	VOCs: SAM, 8260B <input type="checkbox"/> SAM A <input type="checkbox"/> SAM B
Naphthalene <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15	Naphthalene <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15
Oxygendes <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15	Oxygendes <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15
TPHV gas <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15	TPHV gas <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15
Ketones <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15	Ketones <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15
Other <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15	Other <input type="checkbox"/> 8260B <input type="checkbox"/> TO-15
Leak Check Compound <input type="checkbox"/> 1,1 DFA <input type="checkbox"/> OTHER	Leak Check Compound <input type="checkbox"/> 1,1 DFA <input type="checkbox"/> OTHER
Methane	Methane
Fixed Gases <input type="checkbox"/> CO2 <input type="checkbox"/> O2 <input type="checkbox"/> N2	Fixed Gases <input type="checkbox"/> CO2 <input type="checkbox"/> O2 <input type="checkbox"/> N2

Approved/Relinquished by: (Signature) [Signature] (company) ATC Received by: (Signature) UPS
 Approved/Relinquished by: (Signature) [Signature] (company) ATC Received by: (Signature) [Signature]
 Approved/Relinquished by: (Signature) [Signature] (company) ATC Received by: (Signature) [Signature]

Date: 1/15 Time: 16:00
 Date: 1-16-14 Time: 1045

Sample disposal instruction: Disposal Return to client Pickup

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Cardno ATC – Charlotte

4020 Old Pineville Rd.
Charlotte, NC 28217

Trade Street Cleaners: Winston-Salem, NC
Project #45.34341.3417

Analytical Report (0114-73)

GC/MS SIM Analysis

cis-1,2-Dichloroethylene
Tetrachloroethylene
trans-1,2-Dichloroethylene
Trichloroethylene
Vinyl chloride



Enthalpy Analytical, Inc.

Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains ??? pages.

Report Issued: xx/xx/xxxx



Results



Sample Name : IA-1-073FU-RAD
 Sample Info : 0114-73
 Sampling Date : 2014-01-10
 Data File : W1400061.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 9565 min
 Acquisition Date : 2014-01-14 14:11:33
 Instrument Method : RAD624-SIM.M
 Matrix : RADIELLO TUBE

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0171	0.0862	ND	ND	
trans-1,2-Dichloroethylene	0.0180	0.107	ND	ND	
cis-1,2-Dichloroethylene	0.0202	0.104	ND	ND	
Trichloroethylene	0.0243	0.124	ND	ND	
Tetrachloroethylene	0.0142	0.142	3.79	6.71	m

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	43,696	6.92	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Sample Name : IA-2-070FU-RAD
 Sample Info : 0114-73
 Sampling Date : 2014-01-10
 Data File : W1400062.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 9555 min
 Acquisition Date : 2014-01-14 14:34:01
 Instrument Method : RAD624-SIM.M
 Matrix : RADIELLO TUBE

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0171	0.0863	ND	ND	
trans-1,2-Dichloroethylene	0.0180	0.108	ND	ND	
cis-1,2-Dichloroethylene	0.0202	0.104	ND	ND	
Trichloroethylene	0.0243	0.124	ND	ND	
Tetrachloroethylene	0.0143	0.143	4.20	7.46	m

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	43,183	6.92	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Sample Name : IA-3-071FU-RAD
 Sample Info : 0114-73
 Sampling Date : 2014-01-10
 Data File : W1400063.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 9560 min
 Acquisition Date : 2014-01-14 14:52:38
 Instrument Method : RAD624-SIM.M
 Matrix : RADIELLO TUBE

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0171	0.0863	ND	ND	
trans-1,2-Dichloroethylene	0.0180	0.108	ND	ND	
cis-1,2-Dichloroethylene	0.0202	0.104	0.0440	0.0589	J C
Trichloroethylene	0.0243	0.124	ND	ND	
Tetrachloroethylene	0.0143	0.143	0.176	0.313	m

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	43,723	6.92	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Sample Name : IA-4-074FU-RAD
 Sample Info : 0114-73
 Sampling Date : 2014-01-10
 Data File : W1400064.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 9560 min
 Acquisition Date : 2014-01-14 15:15:59
 Instrument Method : RAD624-SIM.M
 Matrix : RADIELLO TUBE

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0171	0.0863	ND	ND	
trans-1,2-Dichloroethylene	0.0180	0.108	ND	ND	
cis-1,2-Dichloroethylene	0.0202	0.104	ND	ND	
Trichloroethylene	0.0243	0.124	ND	ND	
Tetrachloroethylene	0.0143	0.143	0.121	0.215	

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	43,582	6.92	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Narrative Summary



Enthalpy Analytical Narrative Summary

Company	Cardno ATC - Charlotte
Analyst	LAH
Parameters	GC/MS Analysis

Client #	Trade Street Cleaners
Job #	0114-73
# Samples	4 Radiello Tubes

Custody

Chester Burnett received the samples on 1/14/14 after being relinquished by Cardno ATC - Charlotte. The samples were received at 20.2°C and in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for vinyl chloride, trans-1,2-dichloroethylene, cis-1,2-dichloroethylene, trichloroethylene, and tetrachloroethylene.

The Agilent Technologies Model 6890N, Gas Chromatograph "Wiley" (S/N CN10244010) was equipped with a 5973N Mass Selective Detector and a Restek Rtx-624 MS, 40 m x 0.18 mm x 1.0 µm capillary column (S/N 1086670) for these analyses.

The Radiello sampling cartridges were desorbed with 2 mL of extraction solvent consisting of carbon disulfide with toluene-d8 at 1.0 ug/mL. The samples were placed on a 2-dimensional shaker for 30 minutes at 450 rev/min.

Calibration

The instrument's calibration range was approximately 0.04 µg/mL to 16 µg/mL for each analyte.

The Initial Calibration was processed using linear regression with an inverse square weighting. The coefficient of determination (R²) for each target analyte was greater than 0.99. The Initial Calibration Verification met 20% Recovery criteria. All Continuing Calibration Verifications met 20% Recovery criteria. The Initial Calibration W121813A-RAD and Continuing Calibration Verifications have not been included in this report but are available upon request.

Chromatographic Conditions

The instrument analysis method *RAD624-SIM.M* has not been included in this report but is available upon request.

QC Notes

All internal standard response and retention time criteria were met.

The Laboratory Duplicate analyzed with this analytical batch met 25% Difference criteria.

No target analytes were detected in the Solvent Blank at concentrations greater than the MDL.



Enthalpy Analytical Narrative Summary (continued)

Reporting Notes

There are no published sampling rate values (Q values) for vinyl chloride, trans-1,2-dichloroethylene, or cis-1,2-dichloroethylene. Sampling rates for these analytes were calculated by an application of Graham's Law using the published sampling rate for 1,2-dichloroethane; an analyte similar in structure. The theoretical sampling rates were calculated to be 97 mL/min for vinyl chloride and 78 mL/min for both cis- and trans-1,2-dichloroethylene. Any results for these three compounds are flagged with a "C", denoting an estimated sampling rate was used.

The results presented in this report are representative of the samples as provided to the laboratory.



General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as “**Type**” represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as “EPA Method 16-Type” because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.
- The acronym **MDL** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym **LOQ** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym **ND** following a value indicates a non-detect or analytical result below the MDL.
- The letter **J** in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter **E** in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The acronym **DF** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of **MS** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).
- The addition of **MSD** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of **LD** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of **AD** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.



General Reporting Notes

(continued)

- The Sample ID *LCS* represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection and/or sample transport.
- **Significant Figures:** Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration:** The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was *not integrated* by the software "NI", the peak was *integrated incorrectly* by the software "II" or the *wrong peak* was integrated by the software "WP". These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.



Sample Custody





Chain of Custody Record

Page 1 of 1

Special Handling:

- Standard Turn Around Time (10 business days)
- Rush Turn Around Time - Date Needed per Justin
- All TATs Subject to Approval by Enthalpy Analytical, Inc.
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Client Name: ATC Project Number: 45-34341-3417 PO#: _____
 Project Manager: Steve Whittle Site Name: Trade Street Cleaners Telephone#: 704-522-5200
 Report To: Steve Whittle Location: Winston Salem, NC Email: jason.whittle@card.com

For spiked or duplicate samples: please provide sample volumes for recovery calculations.
 For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions: _____

Special Instructions: _____

A=Air 1=H2SO4 2=NaOH 3= _____ 4= _____
 X=XAD C=Charcoal SG=Silica Gel

G=Grab C=Composite Q=Quality Control

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	Notes:
IA-1 (073Fu)	1/6/14	1150	NA	Grab	Air						1		
IA-2 (070Fu)	1/6/14	1145		Grab	Air						1		
IA-3 (071Fu)	1/6/14	1155		Grab	Air						1		
IA-4 (074Fu)	1/6/14	1200		Grab	Air						1		

Analyses:

Analysis	IA-1	IA-2	IA-3	IA-4
Vinyl chloride	X	X	X	X
Trans 1,2-Dichloro	X	X	X	X
Cis 1,2-Dichloro	X	X	X	X
TCE	X	X	X	X
PCE	X	X	X	X

Relinquished By: Bob Symonske Date: 1/6/14 Received By: Charles Burnett Date: 1/6/14 Time: 9:00 Sample Condition: Ambient Iced Ambient Iced Ambient Ambient Iced Ambient Iced

**This Is The Last Page
Of This Report.**



20 June 2014



Mr. Jake Whittle
Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

H&P Project: ATC052914-15 Rev
Client Project: Trade St. 3417 / Winston-Salem, NC

Dear Mr. Jake Whittle:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 29-May-14 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

A handwritten signature in black ink that reads "Janis Villarreal" followed by a small mark.

Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC052914-15 Rev
Project Number: Trade St. 3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
20-Jun-14 11:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
IA-5	E405122-01	Vapor	21-May-14	29-May-14
IA-6	E405122-02	Vapor	21-May-14	29-May-14
IA-7	E405122-03	Vapor	21-May-14	29-May-14
MW-9	E405122-04	Vapor	22-May-14	29-May-14

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC052914-15 Rev
Project Number: Trade St. 3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
20-Jun-14 11:17

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	-----------------	-------	----------	----------	--------	-------

IA-5 (E405122-01) Vapor Sampled: 21-May-14 Received: 29-May-14

Vinyl chloride	ND	0.13	ug/m3	1	EF40408	03-Jun-14	03-Jun-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	0.40	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.40	"	"	"	"	"	"	
Trichloroethene	ND	0.55	"	"	"	"	"	"	
Tetrachloroethene	ND	0.69	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

93.0 % 76-134

"

"

"

"

Surrogate: Toluene-d8

101 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

92.3 % 77-127

"

"

"

"

IA-6 (E405122-02) Vapor Sampled: 21-May-14 Received: 29-May-14

Vinyl chloride	ND	0.13	ug/m3	1	EF40408	03-Jun-14	03-Jun-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	0.40	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.40	"	"	"	"	"	"	
Trichloroethene	ND	0.55	"	"	"	"	"	"	
Tetrachloroethene	ND	0.69	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

94.3 % 76-134

"

"

"

"

Surrogate: Toluene-d8

99.7 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

92.2 % 77-127

"

"

"

"

IA-7 (E405122-03) Vapor Sampled: 21-May-14 Received: 29-May-14

Vinyl chloride	ND	0.13	ug/m3	1	EF40408	03-Jun-14	03-Jun-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	0.40	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.40	"	"	"	"	"	"	
Trichloroethene	ND	0.55	"	"	"	"	"	"	
Tetrachloroethene	ND	0.69	"	"	"	"	"	"	

Surrogate: 1,2-Dichloroethane-d4

92.6 % 76-134

"

"

"

"

Surrogate: Toluene-d8

100 % 78-125

"

"

"

"

Surrogate: 4-Bromofluorobenzene

92.3 % 77-127

"

"

"

"

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC052914-15 Rev
Project Number: Trade St. 3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
20-Jun-14 11:17

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
MW-9 (E405122-04) Vapor Sampled: 22-May-14 Received: 29-May-14									
Vinyl chloride	ND	2.6	ug/m3	1	EF40408	03-Jun-14	04-Jun-14	EPA TO-15	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
Tetrachloroethene	59	6.9	"	"	"	"	"	"	
<hr/>									
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94.6 %		76-134	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.5 %		78-125	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.0 %		77-127	"	"	"	"	

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC052914-15 Rev
Project Number: Trade St. 3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
20-Jun-14 11:17

Volatile Organic Compounds by EPA TO-15 - Quality Control
H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EF40408 - TO-15

Blank (EF40408-BLK1)

Prepared & Analyzed: 03-Jun-14

Vinyl chloride	ND	0.13	ug/m3							
trans-1,2-Dichloroethene	ND	0.40	"							
cis-1,2-Dichloroethene	ND	0.40	"							
Trichloroethene	ND	0.55	"							
Tetrachloroethene	ND	0.69	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	200		"	214		93.3	76-134			
<i>Surrogate: Toluene-d8</i>	208		"	207		100	78-125			
<i>Surrogate: 4-Bromofluorobenzene</i>	333		"	364		91.4	77-127			

LCS (EF40408-BS1)

Prepared: 03-Jun-14 Analyzed: 04-Jun-14

Vinyl chloride	4.2	0.13	ug/m3	5.20		80.6	70-130			
trans-1,2-Dichloroethene	6.2	0.40	"	8.08		76.7	70-130			
cis-1,2-Dichloroethene	6.5	0.40	"	8.00		81.8	70-130			
Trichloroethene	8.3	0.55	"	11.0		76.1	70-130			
Tetrachloroethene	11	0.69	"	13.8		77.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	201		"	214		93.8	70-130			
<i>Surrogate: Toluene-d8</i>	209		"	207		101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	412		"	364		113	70-130			

LCS Dup (EF40408-BS1)

Prepared: 03-Jun-14 Analyzed: 04-Jun-14

Vinyl chloride	4.3	0.13	ug/m3	5.20		83.2	70-130	3.11	25	
trans-1,2-Dichloroethene	6.2	0.40	"	8.08		76.8	70-130	0.195	25	
cis-1,2-Dichloroethene	6.9	0.40	"	8.00		85.8	70-130	4.80	25	
Trichloroethene	8.3	0.55	"	11.0		75.5	70-130	0.787	25	
Tetrachloroethene	10	0.69	"	13.8		74.8	70-130	3.27	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	205		"	214		95.6	70-130			
<i>Surrogate: Toluene-d8</i>	213		"	207		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	412		"	364		113	70-130			

Cardno ATC Associates - Charlotte
7606 Whitehall Executive Center Dr., Ste. 800
Charlotte, NC 28273

Project: ATC052914-15 Rev
Project Number: Trade St. 3417 / Winston-Salem, NC
Project Manager: Mr. Jake Whittle

Reported:
20-Jun-14 11:17

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory (Certification # L11-175) in accordance with the DoD-ELAP program. H&P is approved by the State of Arizona under Certification Numbers AZM758 and AZ0779. H&P is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

Hexachlorobutadiene by EPA TO-15 & TO-14A	1,3-Dichlorobenzene by EPA TO-15 & TO-14A
1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A	Trichlorofluoromethane by EPA TO-14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A	Naphthalene by H&P SOP TO-15/GC-MS
Dichlorotetrafluoroethane by EPA TO-14A	1,2-Dibromoethane (EDB) by EPA TO-15 & TO-14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A	1,2-Dibromo-3-chloropropane by EPA TO-15
Benzene by EPA TO-15 & TO-14A	1,3-Butadiene by EPA TO-15
Chlorobenzene by EPA TO-15 & TO-14A	1,1,2-Trichlorotrifluoroethane by EPA TO-14A
Ethyl benzene by EPA TO-15 & TO-14A	Carbon disulfide by EPA TO-15
Styrene by EPA TO-15 & TO-14A	1,4-Dioxane by EPA TO-15
Toluene by EPA TO-15 & TO-14A	
Total Xylenes by EPA TO-15	
1,1,1-Trichloroethane by EPA TO-15 & TO-14A	
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A	
1,1,2-Trichloroethane by EPA TO-15 & TO-14A	
1,1-Dichloroethane by EPA TO-15 & TO-14A	
1,1-Dichloroethene by EPA TO-15 & TO-14A	
1,2-Dichloroethane by EPA TO-15 & TO-14A	
1,2-Dichloropropane by EPA TO-15 & TO-14A	
Benzyl Chloride by EPA TO-15 & TO-14A	
Bromoform by EPA TO-15	
Bromomethane by EPA TO-15 & TO-14A	
Carbon tetrachloride by EPA TO-15 & TO-14A	
Chloroethane by EPA TO-15 & TO-14A	
Chloroform by EPA TO-15 & TO-14A	
Chloromethane by EPA TO-15 & TO-14A	
cis-1,2-Dichloroethene by EPA TO-15 & TO-14A	
cis-1,3-Dichloropropene by EPA TO-15 & TO-14A	
Methylene chloride by EPA TO -15 & TO-14A	
Tetrachloroethane by EPA TO-15 & TO-14A	
trans-1,2-Dichloroethene by EPA TO-15	
trans-1,3-Dichloropropene by EPA TO-15 & TO-14A	
Trichloroethene by EPA TO-15 & TO-14A	
Vinyl chloride by EPA TO -15	
2-Butanone by EPA TO-15	
4-Methyl-2-Pentanone by EPA TO-15	
Hexane by EPA TO-15	
Methyl tert-butyl ether by EPA TO-15	
Vinyl acetate by EPA TO-15	

This certification applies to samples analyzed in summa canisters.

Lab Client and Project Information	
Lab Client/Consultant: Cardno ATC	Project Name / #: Trade St 3417
Lab Client/Project Manager: Jake Whittle	Project Location: Winston-Salem, N.C.
Lab Client Address: 7606 Whithell Exec. Center, Dr.	Report E-Mail(s): jason.whittle@cardno.com
Lab Client City, State, Zip: Charlotte NC 28217	
Phone Number: (704) 529-3200	
Reporting Requirements	Turnaround Time
<input checked="" type="checkbox"/> Standard Report <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Excel EDD <input type="checkbox"/> Other EDD: _____ <input type="checkbox"/> CA Geotracker Global ID: _____	<input checked="" type="checkbox"/> 5-7 day Std <input type="checkbox"/> 24-Hr Rush <input type="checkbox"/> 3-day Rush <input type="checkbox"/> Mobile Lab <input type="checkbox"/> 48-Hr Rush <input type="checkbox"/> Other: _____
Sampler Information	
Sampler(s): Jared Hambl	
Signature: [Signature]	
Date: 5/27/14	

Sample Receipt (Lab Use Only)	
Date Rec'd: 5/29/14	Control #: 140310.01
H&P Project #: ATC052914-15	
Lab Work Order #: E405122	
Sample Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Notes Below	
Receipt Gauge ID: 116.7 x 107.084	Temp: RT
Outside Lab:	
Receipt Notes/Tracking #: US # 12 9376 187 4848 9629	Lab PM Initials: [Signature]

Additional Instructions to Laboratory: **PLY, TCE, CESTIC, TRAVIS 1-2, VC 6L-RUS 400mL-RUS (SN)**

Check if Project Analyte List is Attached

* Preferred VOC units (please choose one): ug/L ug/m³ ppbv ppmv 2 REPEATS (SN)

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (Sv)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa or Tedlar or Tube	CONTAINER ID (#)	Lab use only: Receipt Vac	VOCs Standard Full List	VOCs Short List/Project List	Oxygenates	Naphthalene	TPH as Gas	TPH as Diesel (sorbet tube)	Aromatic/Aliphatic Fractions	Leak Check Compound	Methane by EPA 8015m	Fixed Gases by ASTM D1945
IA-5	N/A	5/21/14	Start 900 End 1650	IA	6L Summa	296	-2.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IA-6			Start 700 End 1650			277	-2.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IA-7			Start 900 End 1630			344	-3.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MW-9		5/22/14	1243	SV	400mL Summa	382	-1.7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Company: Cardno-ATC	Date: 5/27/14	Time: 11:30
Company: Cardno-ATC	Date: 5/27/14	Time: 11:30
Company: Cardno-ATC	Date: 5/27/14	Time: 11:30

June 5, 2014

Jason Whittle
Cardno ATC Associates - Charlotte, NC
7606 Whitehall Executive Drive, Suite 800
Charlotte, NC 28273

Project Location: Trade St. Winston-Salem N.C.
Client Job Number:
Project Number: 45.34341.3417
Laboratory Work Order Number: 14E0962

Enclosed are results of analyses for samples received by the laboratory on May 27, 2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Cardno ATC Associates - Charlotte, NC
7606 Whitehall Executive Drive, Suite 800
Charlotte, NC 28273
ATTN: Jason Whittle

REPORT DATE: 6/5/2014

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 45.34341.3417

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 14E0962

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Trade St. Winston-Salem N.C.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-9	14E0962-01	Ground Water		SW-846 8260B	
Trip Blank	14E0962-02	Trip Blank Water		SW-846 8260B	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260B

Qualifications:

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Carbon Disulfide

14E0962-01[MW-9], 14E0962-02[Trip Blank], B096630-BLK1, B096630-BS1, B096630-BSD1

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Bromomethane

14E0962-01[MW-9], 14E0962-02[Trip Blank], B096630-BLK1, B096630-BS1, B096630-BSD1

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2,2-Dichloropropane, Bromoform, trans-1,3-Dichloropropene

14E0962-01[MW-9], 14E0962-02[Trip Blank], B096630-BLK1, B096630-BS1, B096630-BSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Michael A. Erickson
Laboratory Director

Project Location: Trade St. Winston-Salem N.C.

Sample Description:

Work Order: 14E0962

Date Received: 5/27/2014

Field Sample #: MW-9

Sampled: 5/22/2014 13:45

Sample ID: 14E0962-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.050	0.0047	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Benzene	ND	0.0010	0.000079	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Bromobenzene	ND	0.0010	0.000044	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Bromochloromethane	ND	0.0010	0.00022	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Bromodichloromethane	ND	0.00050	0.000088	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Bromoform	ND	0.0020	0.00021	mg/L	1	V-05	SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Bromomethane	ND	0.0020	0.00094	mg/L	1	R-05	SW-846 8260B	5/29/14	5/30/14 8:28	MFF
2-Butanone (MEK)	ND	0.020	0.0024	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
n-Butylbenzene	ND	0.0010	0.000054	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
sec-Butylbenzene	ND	0.0010	0.000084	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
tert-Butylbenzene	ND	0.0010	0.000096	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Carbon Disulfide	ND	0.0040	0.0010	mg/L	1	L-04	SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Carbon Tetrachloride	ND	0.0050	0.00010	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Chlorobenzene	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Chlorodibromomethane	ND	0.00050	0.000054	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Chloroethane	ND	0.0020	0.00016	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Chloroform	0.00044	0.0020	0.00014	mg/L	1	J	SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Chloromethane	ND	0.0020	0.00032	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
2-Chlorotoluene	ND	0.0010	0.000070	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
4-Chlorotoluene	ND	0.0010	0.000074	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2-Dibromoethane (EDB)	ND	0.00050	0.000089	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2-Dichlorobenzene	ND	0.0010	0.000076	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,3-Dichlorobenzene	ND	0.0010	0.000079	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,4-Dichlorobenzene	ND	0.0010	0.000046	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0020	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,1-Dichloroethane	ND	0.0010	0.00016	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2-Dichloroethane	ND	0.0010	0.00019	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,1-Dichloroethylene	ND	0.0010	0.00021	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
cis-1,2-Dichloroethylene	ND	0.0010	0.00015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
trans-1,2-Dichloroethylene	ND	0.0010	0.00015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2-Dichloropropane	ND	0.0010	0.00011	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,3-Dichloropropane	ND	0.00050	0.000099	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
2,2-Dichloropropane	ND	0.0010	0.000072	mg/L	1	V-05	SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,1-Dichloropropene	ND	0.0020	0.00013	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
cis-1,3-Dichloropropene	ND	0.00050	0.000062	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
trans-1,3-Dichloropropene	ND	0.00050	0.000056	mg/L	1	V-05	SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Diisopropyl Ether (DIPE)	ND	0.00050	0.00018	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Ethylbenzene	ND	0.0010	0.000092	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
2-Hexanone (MBK)	ND	0.010	0.0015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Isopropylbenzene (Cumene)	ND	0.0010	0.00011	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0010	0.000090	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Methylene Chloride	ND	0.0050	0.0032	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.010	0.0015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Trade St. Winston-Salem N.C.

Sample Description:

Work Order: 14E0962

Date Received: 5/27/2014

Field Sample #: MW-9

Sampled: 5/22/2014 13:45

Sample ID: 14E0962-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Naphthalene	ND	0.0050	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
n-Propylbenzene	ND	0.0010	0.000094	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Styrene	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,1,2,2-Tetrachloroethane	ND	0.00050	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Tetrachloroethylene	0.0014	0.00050	0.000080	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Toluene	ND	0.0010	0.000090	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2,3-Trichlorobenzene	ND	0.0050	0.00014	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2,4-Trichlorobenzene	ND	0.0020	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,1,1-Trichloroethane	ND	0.0010	0.000094	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,1,2-Trichloroethane	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Trichloroethylene	ND	0.0010	0.000077	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0020	0.00015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2,3-Trichloropropane	ND	0.0020	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,2,4-Trimethylbenzene	ND	0.0010	0.00018	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
1,3,5-Trimethylbenzene	ND	0.0010	0.00010	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Vinyl Acetate	ND	0.020	0.0013	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
Vinyl Chloride	ND	0.0020	0.00013	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
m+p Xylene	ND	0.0020	0.00018	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF
o-Xylene	ND	0.0010	0.00011	mg/L	1		SW-846 8260B	5/29/14	5/30/14 8:28	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	96.0	70-130	
4-Bromofluorobenzene	89.4	70-130	

Project Location: Trade St. Winston-Salem N.C.

Sample Description:

Work Order: 14E0962

Date Received: 5/27/2014

Field Sample #: Trip Blank

Sampled: 5/22/2014 00:00

Sample ID: 14E0962-02

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.050	0.0047	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Benzene	ND	0.0010	0.000079	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Bromobenzene	ND	0.0010	0.000044	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Bromochloromethane	ND	0.0010	0.00022	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Bromodichloromethane	ND	0.00050	0.000088	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Bromoform	ND	0.0020	0.00021	mg/L	1	V-05	SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Bromomethane	ND	0.0020	0.00094	mg/L	1	R-05	SW-846 8260B	5/29/14	5/30/14 3:48	MFF
2-Butanone (MEK)	ND	0.020	0.0024	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
n-Butylbenzene	ND	0.0010	0.000054	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
sec-Butylbenzene	ND	0.0010	0.000084	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
tert-Butylbenzene	ND	0.0010	0.000096	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Carbon Disulfide	ND	0.0040	0.0010	mg/L	1	L-04	SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Carbon Tetrachloride	ND	0.0050	0.00010	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Chlorobenzene	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Chlorodibromomethane	ND	0.00050	0.000054	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Chloroethane	ND	0.0020	0.00016	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Chloroform	ND	0.0020	0.00014	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Chloromethane	ND	0.0020	0.00032	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
2-Chlorotoluene	ND	0.0010	0.000070	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
4-Chlorotoluene	ND	0.0010	0.000074	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2-Dibromoethane (EDB)	ND	0.00050	0.000089	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2-Dichlorobenzene	ND	0.0010	0.000076	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,3-Dichlorobenzene	ND	0.0010	0.000079	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,4-Dichlorobenzene	ND	0.0010	0.000046	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0020	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,1-Dichloroethane	ND	0.0010	0.00016	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2-Dichloroethane	ND	0.0010	0.00019	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,1-Dichloroethylene	ND	0.0010	0.00021	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
cis-1,2-Dichloroethylene	ND	0.0010	0.00015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
trans-1,2-Dichloroethylene	ND	0.0010	0.00015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2-Dichloropropane	ND	0.0010	0.00011	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,3-Dichloropropane	ND	0.00050	0.000099	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
2,2-Dichloropropane	ND	0.0010	0.000072	mg/L	1	V-05	SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,1-Dichloropropene	ND	0.0020	0.00013	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
cis-1,3-Dichloropropene	ND	0.00050	0.000062	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
trans-1,3-Dichloropropene	ND	0.00050	0.000056	mg/L	1	V-05	SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Diisopropyl Ether (DIPE)	ND	0.00050	0.00018	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Ethylbenzene	ND	0.0010	0.000092	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
2-Hexanone (MBK)	ND	0.010	0.0015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Isopropylbenzene (Cumene)	ND	0.0010	0.00011	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0010	0.000090	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Methylene Chloride	ND	0.0050	0.0032	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.010	0.0015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF

Project Location: Trade St. Winston-Salem N.C.

Sample Description:

Work Order: 14E0962

Date Received: 5/27/2014

Field Sample #: Trip Blank

Sampled: 5/22/2014 00:00

Sample ID: 14E0962-02

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Naphthalene	ND	0.0050	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
n-Propylbenzene	ND	0.0010	0.000094	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Styrene	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,1,2,2-Tetrachloroethane	ND	0.00050	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Tetrachloroethylene	ND	0.00050	0.000080	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Toluene	ND	0.0010	0.000090	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2,3-Trichlorobenzene	ND	0.0050	0.00014	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2,4-Trichlorobenzene	ND	0.0020	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,1,1-Trichloroethane	ND	0.0010	0.000094	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,1,2-Trichloroethane	ND	0.0010	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Trichloroethylene	ND	0.0010	0.000077	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0020	0.00015	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2,3-Trichloropropane	ND	0.0020	0.00012	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,2,4-Trimethylbenzene	ND	0.0010	0.00018	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
1,3,5-Trimethylbenzene	ND	0.0010	0.00010	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Vinyl Acetate	ND	0.020	0.0013	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
Vinyl Chloride	ND	0.0020	0.00013	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
m+p Xylene	ND	0.0020	0.00018	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF
o-Xylene	ND	0.0010	0.00011	mg/L	1		SW-846 8260B	5/29/14	5/30/14 3:48	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	98.9	70-130	5/30/14 3:48
Toluene-d8	95.6	70-130	5/30/14 3:48
4-Bromofluorobenzene	90.4	70-130	5/30/14 3:48

Sample Extraction Data

Prep Method: SW-846 5030B-SW-846 8260B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
14E0962-01 [MW-9]	B096630	5	5.00	05/29/14
14E0962-02 [Trip Blank]	B096630	5	5.00	05/29/14

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B096630 - SW-846 5030B

Blank (B096630-BLK1)

Prepared: 05/29/14 Analyzed: 05/30/14

Acetone	ND	0.050	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0010	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.00050	mg/L							
Bromoform	ND	0.0010	mg/L							V-05
Bromomethane	ND	0.0020	mg/L							R-05
2-Butanone (MEK)	ND	0.020	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Carbon Disulfide	ND	0.0040	mg/L							L-04
Carbon Tetrachloride	ND	0.0050	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chlorodibromomethane	ND	0.00050	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0020	mg/L							
Chloromethane	ND	0.0020	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
1,2-Dibromoethane (EDB)	ND	0.00050	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
Dichlorodifluoromethane (Freon 12)	ND	0.0020	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethylene	ND	0.0010	mg/L							
cis-1,2-Dichloroethylene	ND	0.0010	mg/L							
trans-1,2-Dichloroethylene	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.00050	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							V-05
1,1-Dichloropropene	ND	0.0020	mg/L							
cis-1,3-Dichloropropene	ND	0.00050	mg/L							
trans-1,3-Dichloropropene	ND	0.00050	mg/L							V-05
Diisopropyl Ether (DIPE)	ND	0.00050	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
2-Hexanone (MBK)	ND	0.010	mg/L							
Isopropylbenzene (Cumene)	ND	0.0010	mg/L							
p-Isopropyltoluene (p-Cymene)	ND	0.0010	mg/L							
Methyl tert-Butyl Ether (MTBE)	ND	0.0010	mg/L							
Methylene Chloride	0.0038	0.0050	mg/L							J
4-Methyl-2-pentanone (MIBK)	ND	0.010	mg/L							
Naphthalene	ND	0.0020	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.00050	mg/L							
Tetrachloroethylene	ND	0.00050	mg/L							
Toluene	ND	0.0010	mg/L							
1,2,3-Trichlorobenzene	ND	0.0050	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B096630 - SW-846 5030B

Blank (B096630-BLK1)

Prepared: 05/29/14 Analyzed: 05/30/14

1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
Trichloroethylene	ND	0.0010	mg/L							
Trichlorofluoromethane (Freon 11)	ND	0.0020	mg/L							
1,2,3-Trichloropropane	ND	0.0020	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.020	mg/L							
Vinyl Chloride	ND	0.0020	mg/L							
m+p Xylene	ND	0.0020	mg/L							
o-Xylene	ND	0.0010	mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0246		mg/L	0.0250		98.5	70-130			
Surrogate: Toluene-d8	0.0239		mg/L	0.0250		95.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.0223		mg/L	0.0250		89.4	70-130			

LCS (B096630-BS1)

Prepared: 05/29/14 Analyzed: 05/30/14

Acetone	0.0886	0.050	mg/L	0.100		88.6	70-160			†
Benzene	0.00930	0.0010	mg/L	0.0100		93.0	70-130			
Bromobenzene	0.0100	0.0010	mg/L	0.0100		100	70-130			
Bromochloromethane	0.00960	0.0010	mg/L	0.0100		96.0	70-130			
Bromodichloromethane	0.00818	0.00050	mg/L	0.0100		81.8	70-130			
Bromoform	0.00750	0.0010	mg/L	0.0100		75.0	70-130			V-05
Bromomethane	0.00700	0.0020	mg/L	0.0100		70.0	40-160			R-05 †
2-Butanone (MEK)	0.0911	0.020	mg/L	0.100		91.1	40-160			†
n-Butylbenzene	0.00931	0.0010	mg/L	0.0100		93.1	70-130			
sec-Butylbenzene	0.0103	0.0010	mg/L	0.0100		103	70-130			
tert-Butylbenzene	0.0102	0.0010	mg/L	0.0100		102	70-130			
Carbon Disulfide	0.00518	0.0040	mg/L	0.0100		51.8	* 70-130			L-04
Carbon Tetrachloride	0.00818	0.0050	mg/L	0.0100		81.8	70-130			
Chlorobenzene	0.0104	0.0010	mg/L	0.0100		104	70-130			
Chlorodibromomethane	0.00802	0.00050	mg/L	0.0100		80.2	70-130			
Chloroethane	0.00789	0.0020	mg/L	0.0100		78.9	70-130			
Chloroform	0.00919	0.0020	mg/L	0.0100		91.9	70-130			
Chloromethane	0.00543	0.0020	mg/L	0.0100		54.3	40-160			†
2-Chlorotoluene	0.0101	0.0010	mg/L	0.0100		101	70-130			
4-Chlorotoluene	0.0102	0.0010	mg/L	0.0100		102	70-130			
1,2-Dibromoethane (EDB)	0.00967	0.00050	mg/L	0.0100		96.7	70-130			
1,2-Dichlorobenzene	0.0104	0.0010	mg/L	0.0100		104	70-130			
1,3-Dichlorobenzene	0.0103	0.0010	mg/L	0.0100		103	70-130			
1,4-Dichlorobenzene	0.0104	0.0010	mg/L	0.0100		104	70-130			
Dichlorodifluoromethane (Freon 12)	0.00421	0.0020	mg/L	0.0100		42.1	40-160			†
1,1-Dichloroethane	0.00909	0.0010	mg/L	0.0100		90.9	70-130			
1,2-Dichloroethane	0.00959	0.0010	mg/L	0.0100		95.9	70-130			
1,1-Dichloroethylene	0.00844	0.0010	mg/L	0.0100		84.4	70-130			
cis-1,2-Dichloroethylene	0.00845	0.0010	mg/L	0.0100		84.5	70-130			
trans-1,2-Dichloroethylene	0.00969	0.0010	mg/L	0.0100		96.9	70-130			
1,2-Dichloropropane	0.00936	0.0010	mg/L	0.0100		93.6	70-130			
1,3-Dichloropropane	0.00959	0.00050	mg/L	0.0100		95.9	70-130			
2,2-Dichloropropane	0.00581	0.0010	mg/L	0.0100		58.1	40-130			V-05 †
1,1-Dichloropropene	0.00918	0.0020	mg/L	0.0100		91.8	70-130			
cis-1,3-Dichloropropene	0.00724	0.00050	mg/L	0.0100		72.4	70-130			
trans-1,3-Dichloropropene	0.00753	0.00050	mg/L	0.0100		75.3	70-130			V-05

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B096630 - SW-846 5030B

LCS (B096630-BS1)

Prepared: 05/29/14 Analyzed: 05/30/14

Diisopropyl Ether (DIPE)	0.00892	0.00050	mg/L	0.0100		89.2	70-130			
Ethylbenzene	0.0108	0.0010	mg/L	0.0100		108	70-130			
2-Hexanone (MBK)	0.0926	0.010	mg/L	0.100		92.6	70-160			†
Isopropylbenzene (Cumene)	0.0104	0.0010	mg/L	0.0100		104	70-130			
p-Isopropyltoluene (p-Cymene)	0.0103	0.0010	mg/L	0.0100		103	70-130			
Methyl tert-Butyl Ether (MTBE)	0.00880	0.0010	mg/L	0.0100		88.0	70-130			
Methylene Chloride	0.0130	0.0050	mg/L	0.0100		130	70-130			
4-Methyl-2-pentanone (MIBK)	0.0956	0.010	mg/L	0.100		95.6	70-160			†
Naphthalene	0.00981	0.0020	mg/L	0.0100		98.1	40-130			†
n-Propylbenzene	0.0105	0.0010	mg/L	0.0100		105	70-130			
Styrene	0.0106	0.0010	mg/L	0.0100		106	70-130			
1,1,2,2-Tetrachloroethane	0.0106	0.00050	mg/L	0.0100		106	70-130			
Tetrachloroethylene	0.0103	0.00050	mg/L	0.0100		103	70-130			
Toluene	0.00986	0.0010	mg/L	0.0100		98.6	70-130			
1,2,3-Trichlorobenzene	0.00898	0.0050	mg/L	0.0100		89.8	70-130			
1,2,4-Trichlorobenzene	0.00864	0.0010	mg/L	0.0100		86.4	70-130			
1,1,1-Trichloroethane	0.00851	0.0010	mg/L	0.0100		85.1	70-130			
1,1,2-Trichloroethane	0.00996	0.0010	mg/L	0.0100		99.6	70-130			
Trichloroethylene	0.00983	0.0010	mg/L	0.0100		98.3	70-130			
Trichlorofluoromethane (Freon 11)	0.00954	0.0020	mg/L	0.0100		95.4	70-130			
1,2,3-Trichloropropane	0.0114	0.0020	mg/L	0.0100		114	70-130			
1,2,4-Trimethylbenzene	0.0104	0.0010	mg/L	0.0100		104	70-130			
1,3,5-Trimethylbenzene	0.0105	0.0010	mg/L	0.0100		105	70-130			
Vinyl Acetate	0.0714	0.020	mg/L	0.100		71.4	70-130			
Vinyl Chloride	0.00623	0.0020	mg/L	0.0100		62.3	40-160			†
m+p Xylene	0.0216	0.0020	mg/L	0.0200		108	70-130			
o-Xylene	0.0103	0.0010	mg/L	0.0100		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0238		mg/L	0.0250		95.3	70-130			
Surrogate: Toluene-d8	0.0243		mg/L	0.0250		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.0242		mg/L	0.0250		96.6	70-130			

LCS Dup (B096630-BSD1)

Prepared: 05/29/14 Analyzed: 05/30/14

Acetone	0.112	0.050	mg/L	0.100		112	70-160	23.6	25	†
Benzene	0.00970	0.0010	mg/L	0.0100		97.0	70-130	4.21	25	
Bromobenzene	0.0108	0.0010	mg/L	0.0100		108	70-130	7.48	25	
Bromochloromethane	0.0103	0.0010	mg/L	0.0100		103	70-130	6.94	25	
Bromodichloromethane	0.00857	0.00050	mg/L	0.0100		85.7	70-130	4.66	25	
Bromoform	0.00806	0.0010	mg/L	0.0100		80.6	70-130	7.20	25	V-05
Bromomethane	0.00929	0.0020	mg/L	0.0100		92.9	40-160	28.1 *	25	R-05 †
2-Butanone (MEK)	0.0952	0.020	mg/L	0.100		95.2	40-160	4.37	25	†
n-Butylbenzene	0.0102	0.0010	mg/L	0.0100		102	70-130	8.73	25	
sec-Butylbenzene	0.0110	0.0010	mg/L	0.0100		110	70-130	6.68	25	
tert-Butylbenzene	0.0110	0.0010	mg/L	0.0100		110	70-130	7.36	25	
Carbon Disulfide	0.00662	0.0040	mg/L	0.0100		66.2 *	70-130	24.4	25	L-04
Carbon Tetrachloride	0.00840	0.0050	mg/L	0.0100		84.0	70-130	2.65	25	
Chlorobenzene	0.0109	0.0010	mg/L	0.0100		109	70-130	4.69	25	
Chlorodibromomethane	0.00861	0.00050	mg/L	0.0100		86.1	70-130	7.10	25	
Chloroethane	0.00945	0.0020	mg/L	0.0100		94.5	70-130	18.0	25	
Chloroform	0.00958	0.0020	mg/L	0.0100		95.8	70-130	4.16	25	
Chloromethane	0.00574	0.0020	mg/L	0.0100		57.4	40-160	5.55	25	†
2-Chlorotoluene	0.0108	0.0010	mg/L	0.0100		108	70-130	6.80	25	
4-Chlorotoluene	0.0110	0.0010	mg/L	0.0100		110	70-130	6.79	25	

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B096630 - SW-846 5030B										
LCS Dup (B096630-BSD1)										
					Prepared: 05/29/14 Analyzed: 05/30/14					
1,2-Dibromoethane (EDB)	0.0103	0.00050	mg/L	0.0100		103	70-130	6.50	25	
1,2-Dichlorobenzene	0.0112	0.0010	mg/L	0.0100		112	70-130	7.41	25	
1,3-Dichlorobenzene	0.0109	0.0010	mg/L	0.0100		109	70-130	6.14	25	
1,4-Dichlorobenzene	0.0113	0.0010	mg/L	0.0100		113	70-130	8.27	25	
Dichlorodifluoromethane (Freon 12)	0.00433	0.0020	mg/L	0.0100		43.3	40-160	2.81	25	†
1,1-Dichloroethane	0.00949	0.0010	mg/L	0.0100		94.9	70-130	4.31	25	
1,2-Dichloroethane	0.0102	0.0010	mg/L	0.0100		102	70-130	6.65	25	
1,1-Dichloroethylene	0.0101	0.0010	mg/L	0.0100		101	70-130	18.1	25	
cis-1,2-Dichloroethylene	0.00887	0.0010	mg/L	0.0100		88.7	70-130	4.85	25	
trans-1,2-Dichloroethylene	0.00866	0.0010	mg/L	0.0100		86.6	70-130	11.2	25	
1,2-Dichloropropane	0.00981	0.0010	mg/L	0.0100		98.1	70-130	4.69	25	
1,3-Dichloropropane	0.0102	0.00050	mg/L	0.0100		102	70-130	6.07	25	
2,2-Dichloropropane	0.00587	0.0010	mg/L	0.0100		58.7	40-130	1.03	25	V-05 †
1,1-Dichloropropene	0.00949	0.0020	mg/L	0.0100		94.9	70-130	3.32	25	
cis-1,3-Dichloropropene	0.00755	0.00050	mg/L	0.0100		75.5	70-130	4.19	25	
trans-1,3-Dichloropropene	0.00786	0.00050	mg/L	0.0100		78.6	70-130	4.29	25	V-05
Diisopropyl Ether (DIPE)	0.00951	0.00050	mg/L	0.0100		95.1	70-130	6.40	25	
Ethylbenzene	0.0114	0.0010	mg/L	0.0100		114	70-130	6.22	25	
2-Hexanone (MBK)	0.0984	0.010	mg/L	0.100		98.4	70-160	6.04	25	†
Isopropylbenzene (Cumene)	0.0111	0.0010	mg/L	0.0100		111	70-130	5.95	25	
p-Isopropyltoluene (p-Cymene)	0.0109	0.0010	mg/L	0.0100		109	70-130	6.32	25	
Methyl tert-Butyl Ether (MTBE)	0.00899	0.0010	mg/L	0.0100		89.9	70-130	2.14	25	
Methylene Chloride	0.0116	0.0050	mg/L	0.0100		116	70-130	11.6	25	
4-Methyl-2-pentanone (MIBK)	0.101	0.010	mg/L	0.100		101	70-160	5.56	25	†
Naphthalene	0.00982	0.0020	mg/L	0.0100		98.2	40-130	0.102	25	†
n-Propylbenzene	0.0112	0.0010	mg/L	0.0100		112	70-130	6.36	25	
Styrene	0.0114	0.0010	mg/L	0.0100		114	70-130	7.35	25	
1,1,1,2-Tetrachloroethane	0.0114	0.00050	mg/L	0.0100		114	70-130	7.56	25	
Tetrachloroethylene	0.0111	0.00050	mg/L	0.0100		111	70-130	7.76	25	
Toluene	0.0104	0.0010	mg/L	0.0100		104	70-130	5.43	25	
1,2,3-Trichlorobenzene	0.00907	0.0050	mg/L	0.0100		90.7	70-130	0.997	25	
1,2,4-Trichlorobenzene	0.00877	0.0010	mg/L	0.0100		87.7	70-130	1.49	25	
1,1,1-Trichloroethane	0.00892	0.0010	mg/L	0.0100		89.2	70-130	4.70	25	
1,1,2-Trichloroethane	0.0105	0.0010	mg/L	0.0100		105	70-130	5.37	25	
Trichloroethylene	0.0103	0.0010	mg/L	0.0100		103	70-130	5.06	25	
Trichlorofluoromethane (Freon 11)	0.0102	0.0020	mg/L	0.0100		102	70-130	6.88	25	
1,2,3-Trichloropropane	0.0124	0.0020	mg/L	0.0100		124	70-130	8.64	25	
1,2,4-Trimethylbenzene	0.0113	0.0010	mg/L	0.0100		113	70-130	7.83	25	
1,3,5-Trimethylbenzene	0.0113	0.0010	mg/L	0.0100		113	70-130	6.99	25	
Vinyl Acetate	0.0775	0.020	mg/L	0.100		77.5	70-130	8.25	25	
Vinyl Chloride	0.00691	0.0020	mg/L	0.0100		69.1	40-160	10.4	25	†
m+p Xylene	0.0228	0.0020	mg/L	0.0200		114	70-130	5.67	25	
o-Xylene	0.0110	0.0010	mg/L	0.0100		110	70-130	6.69	25	
Surrogate: 1,2-Dichloroethane-d4	0.0237		mg/L	0.0250		94.8	70-130			
Surrogate: Toluene-d8	0.0243		mg/L	0.0250		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.0241		mg/L	0.0250		96.6	70-130			

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
No results have been blank subtracted unless specified in the case narrative section.
- J Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
 - L-04 Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - R-05 Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Water</i>	
Acetone	CT,NH,NY,NC,ME
Benzene	CT,NH,NY,NC,ME
Bromobenzene	NC
Bromochloromethane	NH,NY,NC,ME
Bromodichloromethane	CT,NH,NY,NC,ME
Bromoform	CT,NH,NY,NC,ME
Bromomethane	CT,NH,NY,NC,ME
2-Butanone (MEK)	CT,NH,NY,NC,ME
n-Butylbenzene	NY,NC,ME
sec-Butylbenzene	NY,NC,ME
tert-Butylbenzene	NY,NC,ME
Carbon Disulfide	CT,NH,NY,NC,ME
Carbon Tetrachloride	CT,NH,NY,NC,ME
Chlorobenzene	CT,NH,NY,NC,ME
Chlorodibromomethane	CT,NH,NY,NC,ME
Chloroethane	CT,NH,NY,NC,ME
Chloroform	CT,NH,NY,NC,ME
Chloromethane	CT,NH,NY,NC,ME
2-Chlorotoluene	NY,NC,ME
4-Chlorotoluene	NY,NC,ME
1,2-Dibromoethane (EDB)	NC
1,2-Dichlorobenzene	CT,NY,NC,ME
1,3-Dichlorobenzene	CT,NH,NY,NC,ME
1,4-Dichlorobenzene	CT,NH,NY,NC,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,NC,ME
1,1-Dichloroethane	CT,NH,NY,NC,ME
1,2-Dichloroethane	CT,NH,NY,NC,ME
1,1-Dichloroethylene	CT,NH,NY,NC,ME
cis-1,2-Dichloroethylene	NY,NC,ME
trans-1,2-Dichloroethylene	CT,NH,NY,NC,ME
1,2-Dichloropropane	CT,NH,NY,NC,ME
1,3-Dichloropropane	NY,NC,ME
2,2-Dichloropropane	NH,NY,NC,ME
1,1-Dichloropropene	NH,NY,NC,ME
cis-1,3-Dichloropropene	CT,NH,NY,NC,ME
trans-1,3-Dichloropropene	CT,NH,NY,NC,ME
Diisopropyl Ether (DIPE)	NH,NY,NC,ME
Ethylbenzene	CT,NH,NY,NC,ME
2-Hexanone (MBK)	CT,NH,NY,NC,ME
Isopropylbenzene (Cumene)	NY,NC,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,NC,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,NC,ME
Methylene Chloride	CT,NH,NY,NC,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,NC,ME
Naphthalene	NH,NY,NC,ME
n-Propylbenzene	CT,NH,NY,NC,ME
Styrene	CT,NH,NY,NC,ME

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Water</i>	
1,1,2,2-Tetrachloroethane	CT,NH,NY,NC,ME
Tetrachloroethylene	CT,NH,NY,NC,ME
Toluene	CT,NH,NY,NC,ME
1,2,3-Trichlorobenzene	NH,NY,NC,ME
1,2,4-Trichlorobenzene	CT,NH,NY,NC,ME
1,1,1-Trichloroethane	CT,NH,NY,NC,ME
1,1,2-Trichloroethane	CT,NH,NY,NC,ME
Trichloroethylene	CT,NH,NY,NC,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,NC,ME
1,2,3-Trichloropropane	NH,NY,NC,ME
1,2,4-Trimethylbenzene	NY,NC,ME
1,3,5-Trimethylbenzene	NY,NC,ME
Vinyl Acetate	NH,NY,NC,ME
Vinyl Chloride	CT,NH,NY,NC,ME
m+p Xylene	CT,NH,NY,NC,ME
o-Xylene	CT,NH,NY,NC,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2015
RI	Rhode Island Department of Health	LAO00112	12/30/2014
NC	North Carolina Div. of Water Quality	652	12/31/2014
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2015
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2014
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014



Phone: 413-525-2332
 Fax: 413-525-6405
 Email: info@contestlabs.com
 http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
 East Longmeadow, MA 01028

Page 1 of 1

Company Name: Carbone ATC Telephone: (704) 529-3200

Address: 7606 Mitchell Egan Center Dr. Suite 8000 Project # 45-34341-3117

Attention: Charlotte, NC, 28217 Client PO#

Project Location: Trade St Winston-Salem, NC DATA DELIVERY (check all that apply)

Sampled By: Jared Hamada Email: jsham@carbone.com FAX EMAIL WEBSITE

Project Proposal Provided? (for billing purposes) Format: PDF EXCEL OGIS

Con-Test Lab ID 01 Client Sample ID / Description MW.9

Con-Test Lab ID <small>(Laboratory use only)</small>	Client Sample ID / Description	Collection		Composite	Grab	*Matrix Code	Conc Code	Analysis Requested	# of Containers	** Preservation	***Cont. Code:
		Beginning Date/Time	Ending Date/Time								
01	MW.9		5/21/13		X	GW	M	X (NO DCA TEST)			A=amber glass G=glass P=plastic ST=sterile V=vial S=summa can T=redlar bag O=Other
											**Matrix Code: GW=groundwater WW=wastewater DW=drinking water A=air S=soil/solid SL=sludge O=other

Comments: Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Turnaround 5-Day 5-7-Day 10-Day RUSH 24-Hr 48-Hr 72-Hr 4-Day

Detection Limit Requirements: North Carolina 2L GWPC SWSL OTHER

Program Information: DSCA IHSB Orphaned Landfill SWS Landfill UST REC

NECAC & AIHA Certified WBE/DBE Certified

TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED. PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT


802715198660

 Ship (P/U) date :
Tues 5/27/2014 5:35 pm
 RALEIGH, NC US

Delivered
Signed for by: C. COLLINS

 Actual delivery :
Wed 5/28/2014 10:04 am
 MA US

Travel History

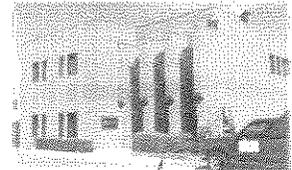
▲ Date/Time	Activity	Location
* 5/28/2014 - Wednesday		
10:04 am	Delivered	MA
8:25 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
8:20 am	At local FedEx facility	WINDSOR LOCKS, CT
8:18 am	Delivery exception Package at station, arrived after courier dispatch	① WINDSOR LOCKS, CT
7:01 am	At destination sort facility	EAST GRANBY, CT
5:20 am	Departed FedEx location	INDIANAPOLIS, IN
12:03 am	Arrived at FedEx location	INDIANAPOLIS, IN
* 5/27/2014 - Tuesday		
8:50 pm	Left FedEx origin facility	RALEIGH, NC
5:35 pm	Picked up	RALEIGH, NC

Local Scan Time

Shipment Facts

Tracking number	802715198660	Service	FedEx First Overnight
Weight	18 lbs	Dimensions	17x12x13 in.
Signature services	Direct signature required	Delivered To	Shipping/Receiving
Total pieces	1	Total shipment weight	18 lbs / 8.16 kgs
Shipper reference	45 34341 9201	Packaging	Your Packaging
Special handling section	Deliver Weekday, Direct Signature Required		

39 Spruce St.
 East Longmeadow, MA. 01028
 P: 413-525-2332
 F: 413-525-6405
 www.contestlabs.com



Sample Receipt Checklist

CLIENT NAME: Cordno ATC RECEIVED BY: CFC DATE: 5/28/14

- 1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included
- 2) Does the chain agree with the samples? Yes No If not, explain: _____
- 3) Are all the samples in good condition? Yes No If not, explain: _____

4) How were the samples received:
 On Ice Direct from Sampling Ambient In Cooler(s)

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 3.2°

5) Are there Dissolved samples for the lab to filter? Yes No
 Who was notified _____ Date _____ Time _____

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
 Who was notified _____ Date _____ Time _____

7) Location where samples are stored: 19
 Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

8) Do all samples have the proper Acid pH: Yes No N/A _____

9) Do all samples have the proper Base pH: Yes No N/A _____

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below	6	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments: Received Trip blank Not on C.O.C.

40 mL vials: # HCl 6 # Methanol _____
 # Bisulfate _____ # DI Water _____
 # Thiosulfate _____ Unpreserved _____

Time and Date Frozen: _____

Log-In Sample Receipt Checklist
 (Rejection Criteria Listing - Using Sample Acceptance Policy)
 Any False statement will be brought to the attention of Client

Question	Answer (True/False)	Comment
	T/F/NA	
1) The cooler's custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	NA	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	T	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials:

OEC

Date/Time:

Date/Time:

5/28/14 1004

Cardno ATC – Charlotte

7606 Whitehall Executive Center, Suite 800
Charlotte, NC 28273

Trade Street DSCA
Winston-Salem, NC
Client Project #45-34341-3417

Analytical Report (0914-25)

GC/MS SIM Analysis

Vinyl chloride
trans-1,2-Dichloroethylene
cis-1,2-Dichloroethylene
Trichloroethylene
Tetrachloroethylene



Enthalpy Analytical, Inc.

Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains 15 pages.

A handwritten signature in black ink that reads "Michael Steven Schapira". The signature is written in a cursive style with a large initial 'M' and 'S'.

QA Review Performed by: Michael Steven Schapira

Report Issued: 9/18/14



Results



Sample Name : IA-1 460HL
 Sample Info : 0914-25
 Sampling Date : 2014-08-18 10:45:00
 Data File : W1403595.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 10240 min
 Acquisition Date : 2014-09-13 01:08:10
 Instrument Method : RAD624-SIM-RAD130.M
 Matrix : AIR

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0159	0.0805	ND	ND	
trans-1,2-Dichloroethylene	0.0168	0.100	ND	ND	
cis-1,2-Dichloroethylene	0.0189	0.0974	ND	ND	
Trichloroethylene	0.0227	0.116	0.0278	0.0393	m J
Tetrachloroethylene	0.0133	0.133	2.62	4.34	

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	18,433	7.20	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Sample Name : IA-2 457HL
 Sample Info : 0914-25
 Sampling Date : 2014-08-18 10:40:00
 Data File : W1403598.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 10250 min
 Acquisition Date : 2014-09-13 01:59:18
 Instrument Method : RAD624-SIM-RAD130.M
 Matrix : AIR

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0159	0.0805	ND	ND	
trans-1,2-Dichloroethylene	0.0168	0.100	ND	ND	
cis-1,2-Dichloroethylene	0.0188	0.0973	ND	ND	
Trichloroethylene	0.0227	0.116	0.0272	0.0384	m J
Tetrachloroethylene	0.0133	0.133	2.67	4.42	

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	17,710	7.20	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Sample Name : IA-3 779HL
 Sample Info : 0914-25
 Sampling Date : 2014-08-18 10:35:00
 Data File : W1403599.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 10245 min
 Acquisition Date : 2014-09-13 02:16:19
 Instrument Method : RAD624-SIM-RAD130.M
 Matrix : AIR

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0159	0.0805	ND	ND	
trans-1,2-Dichloroethylene	0.0168	0.100	ND	ND	
cis-1,2-Dichloroethylene	0.0188	0.0974	ND	ND	
Trichloroethylene	0.0227	0.116	ND	ND	
Tetrachloroethylene	0.0133	0.133	1.23	2.03	

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	17,117	7.20	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Sample Name : IA-4 778HL
 Sample Info : 0914-25
 Sampling Date : 2014-08-18 10:30:00
 Data File : W1403600.D
 Dilution : 1
 Extraction Volume : 2 mL
 Sampling Time : 10265 min
 Acquisition Date : 2014-09-13 02:33:30
 Instrument Method : RAD624-SIM-RAD130.M
 Matrix : AIR

Target Compound	Detection Limit (ug/m3)	Quantitation Limit (ug/m3)	Catch Weight (ug)	Concentration (ug/m3)	Flag *
Chloroethene (Vinyl chloride)	0.0159	0.0803	ND	ND	
trans-1,2-Dichloroethylene	0.0167	0.100	ND	ND	
cis-1,2-Dichloroethylene	0.0188	0.0972	ND	ND	
Trichloroethylene	0.0226	0.116	ND	ND	
Tetrachloroethylene	0.0133	0.133	1.60	2.65	

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	Flag *
Toluene-d8	16,943	7.20	1.00	PASS

(ND) = Not Detected

* (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration, (C) = Estimated Flow Rate

IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%



Narrative Summary



Enthalpy Analytical Narrative Summary

Company	Cardno ATC – Charlotte
Analyst	LAH
Parameters	GC/MS Analysis

Client #	Trade Street DSCA: W-S, NC
Job #	0914-25
# Samples	4 Radiello Tubes

Custody	<p>Summer Mims received the samples on 9/3/14 after being relinquished by Cardno ATC - Charlotte. The samples were received at ambient temperature and in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.</p>
Analysis	<p>The samples were analyzed for vinyl chloride, trans-1,2-dichloroethylene, cis-1,2-dichloroethylene, trichloroethylene, and tetrachloroethylene using generic GC/MS analytical procedures.</p> <p>The Agilent Technologies Model 6890N, Gas Chromatograph "Wiley" (S/N CN10244010) was equipped with a 5973N Mass Selective Detector and a Restek Rtx-624 MS, 40 m x 0.18 mm x 1.0 µm capillary column (S/N 1207064) for this analysis.</p> <p>The Radiello sampling cartridges were desorbed with 2 mL of extraction solvent consisting of carbon disulfide with toluene-d8 at 1.0 ug/mL. The samples were placed on a 2-dimensional shaker for 30 minutes at 450 rev/min.</p>
Calibration	<p>The instrument's calibration range was approximately 0.04 µg/mL to 16 µg/mL for each analyte. The Initial Calibration was processed using linear regression with an inverse square weighting. The coefficient of determination (R²) for each target analyte was greater than 0.99. The Initial Calibration Verification met 20% Recovery criteria. All Continuing Calibration Verifications met 20% Recovery criteria. The Initial Calibration <i>W091214A-RAD</i> has not been included in this report but is available upon request.</p>
Chromatographic Conditions	<p>The instrument analysis method <i>RAD624-SIM-RAD130.M</i> has not been included in this report but is available upon request.</p>
QC Notes	<p>All internal standard response and retention time criteria were met.</p> <p>The Laboratory Duplicate associated with this analysis met 25% Difference criteria, but has not been included in this report.</p> <p>No target analytes were detected in the Solvent Blank at concentrations greater than the MDL.</p>



Enthalpy Analytical Narrative Summary (continued)

Reporting Notes

There are no published sampling rate values (Q values) for vinyl chloride, trans-1,2-dichloroethylene, or cis-1,2-dichloroethylene. Sampling rates for these analytes were calculated by an application of Graham's Law using the published sampling rate for 1,2-dichloroethane; an analyte similar in structure. The theoretical sampling rates were calculated to be 97 mL/min for vinyl chloride and 78 mL/min for both cis- and trans-1,2-dichloroethylene. Any results for these three compounds are flagged with a "C", denoting an estimated sampling rate was used.

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

The results presented in this report are representative of the samples as provided to the laboratory.



General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as “*Type*” represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as “EPA Method 16-*Type*” because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.
- The acronym *MDL* represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym *LOQ* represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym *ND* following a value indicates a non-detect or analytical result below the MDL.
- The letter *J* in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter *E* in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The acronym *DF* represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of *MS* to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).
- The addition of *MSD* to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of *LD* to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of *AD* to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.



General Reporting Notes

(continued)

- The Sample ID *LCS* represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection and/or sample transport.
- **Significant Figures:** Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration:** The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was *not integrated* by the software "NI", the peak was *integrated incorrectly* by the software "II" or the *wrong peak* was integrated by the software "WP". These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.



Sample Custody



**This Is The Last Page
Of This Report.**



APPENDIX C

**INDOOR AIR AND SOIL GAS CUMULATIVE RISK
CALCULATIONS**

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 1/10/2014
 Sample ID: IA-1

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	6.71	4.72E+01	3.50E+01	1.42E-07	0.0383

Cumulative:	1.42E-07	0.04
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 8/25/2014
 Sample ID: IA-1

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	4.34	4.72E+01	3.50E+01	9.20E-08	0.0248
79-01-6	Trichloroethylene	0.0393	2.99E+00	1.75E+00	1.31E-08	0.0045

Cumulative:	1.05E-07	0.03
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 1/10/2014
 Sample ID: IA-2

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	7.46	4.72E+01	3.50E+01	1.58E-07	0.0426

Cumulative:	1.58E-07	0.04
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 8/25/2014
 Sample ID: IA-2

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	4.42	4.72E+01	3.50E+01	9.37E-08	0.0252
79-01-6	Trichloroethylene	0.0384	2.99E+00	1.75E+00	1.28E-08	0.0044

Cumulative:	1.07E-07	0.03
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 1/10/2014
 Sample ID: IA-3

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	0.313	4.72E+01	3.50E+01	6.64E-09	0.0018

Cumulative:	6.64E-09	0.00
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 8/25/2014
 Sample ID: IA-3

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	2.03	4.72E+01	3.50E+01	4.30E-08	0.0116

Cumulative:	4.30E-08	0.01
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 1/10/2014
 Sample ID: IA-4

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	0.215	4.72E+01	3.50E+01	4.56E-09	0.0012

Cumulative:	4.56E-09	0.00
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Grand Sovereign Lodge / 420 North Trade Street
 Sampling Date: 8/25/2014
 Sample ID: IA-4

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	2.65	4.72E+01	3.50E+01	5.62E-08	0.0151

Cumulative:	5.62E-08	0.02
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Marriott / 425 North Cherry Street
 Sampling Date: 5/21/2014
 Sample ID: IA-5

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	0	4.72E+01	3.50E+01	0.00E+00	0.0000

Cumulative:	0.00E+00	0.00
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Marriott / 425 North Cherry Street
 Sampling Date: 5/21/2014
 Sample ID: IA-6

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	0	4.72E+01	3.50E+01	0.00E+00	0.0000

Cumulative:	0.00E+00	0.00
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Indoor Air Risk Calculator - Cumulative Risk for Non-Residential Worker
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 N. Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Marriott / 425 North Cherry Street
 Sampling Date: 5/21/2014
 Sample ID: IA-7

CAS	Chemical Name	Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	0	4.72E+01	3.50E+01	0.00E+00	0.0000

Cumulative:	0.00E+00	0.00
--------------------	----------	------

Notes:

1. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
2. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10⁻⁶

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1.

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Forsyth County Courthouse / 50 West Fourth Street
Sampling Date: 1/2/2014
Sample ID: SGMP-5-31'

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	160	1.6	4.72E+01	3.50E+01	3.39E-08	0.0091

Cumulative:	3.39E-08	0.01
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Works
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Forsyth County Courthouse / 50 West Fourth Street
Sampling Date: 1/2/2014
Sample ID: SGMP-5-33'

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	840	8.4	4.72E+01	3.50E+01	1.78E-07	0.0479

Cumulative:	1.78E-07	0.05
--------------------	----------	------

Notes:

1. Calculated indoor air concentrations determined using the following formula:

$$\text{Calculated Indoor Air Concentration} = \text{Soil Gas Concentration} \times \text{AF}$$

Where,

AF = non-residential attenuation factor = 0.010

2. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.

3. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$\text{CR} = [(C_{\text{c}}/SL_{\text{c}}) + (C_{\text{nc}}/SL_{\text{nc}}) + (C_{\text{nc}}/SL_{\text{nc}})] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 1⁻⁶

$$\text{HI} = [(C_{\text{c}}/SL_{\text{c}}) + (C_{\text{nc}}/SL_{\text{nc}}) + (C_{\text{nc}}/SL_{\text{nc}})]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Works
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Forsyth County Courthouse / 50 West Fourth Street
Sampling Date: 1/2/2014
Sample ID: SGMP-5-36'

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	630	6.3	4.72E+01	3.50E+01	1.34E-07	0.0360

Cumulative:	1.34E-07	0.04
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Forsyth County Courthouse / 50 West Fourth Street
Sampling Date: 1/2/2014
Sample ID: SGMP-5-38'

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	110	1.1	4.72E+01	3.50E+01	2.33E-08	0.0063

Cumulative:	2.33E-08	0.01
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: NG One West 4th Street LLC / 1 West Fourth Street
Sampling Date: 1/3/2014
Sample ID: SGMP-6-31'

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	140	1.4	4.72E+01	3.50E+01	2.97E-08	0.0080
79-01-6	Trichloroethylene	7	0.07	2.99E+00	1.75E+00	2.34E-08	0.0080
Cumulative:						5.31E-08	0.02

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_i/SL_i) + (Conc_j/SL_j) + (Conc_k/SL_k)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 1×10^{-6}

$$HI = [(Conc_i/SL_i) + (Conc_j/SL_j) + (Conc_k/SL_k)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: NG One West 4th Street LLC / 1 West Fourth Street
Sampling Date: 1/3/2014
Sample ID: SGMP-6-34'

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	3200	32	4.72E+01	3.50E+01	6.78E-07	0.1826
79-01-6	Trichloroethylene	65	0.65	2.99E+00	1.75E+00	2.17E-07	0.0742
Cumulative:						8.96E-07	0.26

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.
 $CR = [(Conc_x/S�_x) + (Conc_y/S�_y) + (Conc_z/S�_z)] \times 10^{-6}$
 Where,
 Conc = indoor air concentration for constituent of concern
 S� = target indoor air concentration for constituent of concern based on carcinogenic risk of 1×10^{-6}
 $HI = [(Conc_x/S�_x) + (Conc_y/S�_y) + (Conc_z/S�_z)]$
 Where,
 Conc = indoor air concentration for constituent of concern
 S� = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Works
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: John Franklin Smithdeal / 409 North Trade Street
Sampling Date: 12/26/2013
Sample ID: SGMP-7

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	67	0.67	4.72E+01	3.50E+01	1.42E-08	0.0038

Cumulative:	1.42E-08	0.00
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: 415 North Trade Street Group / 415 North Trade Street
Sampling Date: 12/26/2013
Sample ID: SGMP-8

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	380	3.8	4.72E+01	3.50E+01	8.06E-08	0.0217

Cumulative:	8.06E-08	0.02
--------------------	----------	------

Notes:

1. Calculated indoor air concentrations determined using the following formula:

$$\text{Calculated Indoor Air Concentration} = \text{Soil Gas Concentration} \times \text{AF}$$

Where,

AF = non-residential attenuation factor = 0.010

2. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.

3. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$\text{CR} = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 1⁻⁶

$$\text{HI} = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke

Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: City of Winston Salem Bus Station / 100 West Fifth Street
Sampling Date: 12/21/2013
Sample ID: SGMP-9S

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	710	7.1	4.72E+01	3.50E+01	1.51E-07	0.0405

Cumulative:	1.51E-07	0.04
--------------------	----------	------

Notes:

1. Calculated indoor air concentrations determined using the following formula:

$$\text{Calculated Indoor Air Concentration} = \text{Soil Gas Concentration} \times \text{AF}$$

Where,

AF = non-residential attenuation factor = 0.010

2. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.

3. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$\text{CR} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 1⁻⁶

$$\text{HI} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Works
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: City of Winston Salem Bus Station / 100 West Fifth Street
Sampling Date: 12/21/2013
Sample ID: SGMP-9I

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	680	6.8	4.72E+01	3.50E+01	1.44E-07	0.0388

Cumulative:	1.44E-07	0.04
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: City of Winston Salem Bus Station / 100 West Fifth Street
Sampling Date: 12/21/2013
Sample ID: SGMP-9D

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	530	5.3	4.72E+01	3.50E+01	1.12E-07	0.0303

Cumulative:	1.12E-07	0.03
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Works
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Marriott / 425 Cherry Street
Sampling Date: 12/26/2013
Sample ID: SGMP-10

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	160000	1600	4.72E+01	3.50E+01	3.39E-05	9.1324

Cumulative:	3.39E-05	9.13
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke

Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Marriott / 425 Cherry Street
Sampling Date: 12/26/2013
Sample ID: SG MW-4

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	100000	1000	4.72E+01	3.50E+01	2.12E-05	5.7078

Cumulative:	2.12E-05	5.71
--------------------	----------	------

Notes:

1. Calculated indoor air concentrations determined using the following formula:

$$\text{Calculated Indoor Air Concentration} = \text{Soil Gas Concentration} \times \text{AF}$$

Where,

AF = non-residential attenuation factor = 0.010

2. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.

3. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$\text{CR} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 1⁻⁶

$$\text{HI} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Works
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Marriott / 425 Cherry Street
Sampling Date: 1/16/2014
Sample ID: SG MW-4 3Vol

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	46000	460	4.72E+01	3.50E+01	9.75E-06	2.6256

Cumulative:	9.75E-06	2.63
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Marriott / 425 Cherry Street
 Sampling Date: 1/15/2014
 Sample ID: SG MW-4 3Vol Bag

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	97000	970	4.72E+01	3.50E+01	2.06E-05	5.5365

Cumulative:	2.06E-05	5.54
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: City of Winston Salem Bus station / 100 West Fith Street
Sampling Date: 12/21/2013
Sample ID: SG MW-8S

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	90	0.9	4.72E+01	3.50E+01	1.91E-08	0.0051

Cumulative:	1.91E-08	0.01
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: City of Winston Salem Bus station / 100 West Fith Street
Sampling Date: 1/15/2014
Sample ID: SG MW-8S 3Vol

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	420	4.2	4.72E+01	3.50E+01	8.90E-08	0.0240

Cumulative:	8.90E-08	0.02
--------------------	----------	------

Notes:

1. Calculated indoor air concentrations determined using the following formula:

$$\text{Calculated Indoor Air Concentration} = \text{Soil Gas Concentration} \times \text{AF}$$

Where,

AF = non-residential attenuation factor = 0.010

2. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.

3. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$\text{CR} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 1⁻⁶

$$\text{HI} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: Starbucks Ventures LLC / 131 West Fourth Street
Sampling Date: 12/26/2013
Sample ID: SG MW-10S

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	34	0.34	4.72E+01	3.50E+01	7.21E-09	0.0019

Cumulative:	7.21E-09	0.00
--------------------	----------	------

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 10^{-6}

$$HI = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)]$$
 Where,
 Conc = indoor air concentration for constituent of concern
 SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
Name/Address of Sampling Location: NG One West 4th Street LLC / 1 West Fourth Street
Sampling Date: 1/3/2014
Sample ID: SG MW-15

CAS	Chemical Name	Soil Gas Concentration	Calculated Indoor Air Concentration	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2	Calculated Carcinogenic Risk	Calculated Non-Carcinogenic Hazard Quotient
		(ug/m ³)	(ug/m ³)	(ug/m3)	(ug/m3)	CR	HI
127-18-4	Tetrachloroethylene	1300	13	4.72E+01	3.50E+01	2.76E-07	0.0742
79-01-6	Trichloroethylene	23	0.23	2.99E+00	1.75E+00	7.69E-08	0.0263
Cumulative:						3.52E-07	0.10

Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = non-residential attenuation factor = 0.010
- Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.
- Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.
 $CR = [(Conc_x/S�_x) + (Conc_y/S�_y) + (Conc_z/S�_z)] \times 10^6$
 Where,
 Conc = indoor air concentration for constituent of concern
 S� = target indoor air concentration for constituent of concern based on carcinogenic risk of 1E-6
 $HI = [(Conc_x/S�_x) + (Conc_y/S�_y) + (Conc_z/S�_z)]$
 Where,
 Conc = indoor air concentration for constituent of concern
 S� = target indoor air concentration for constituent of concern based on hazard quotient of 1*
 * = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1

DSCA Soil Gas Risk Calculator - Cumulative Risk for Non-Residential Worke
Version 3, 1/16/2015

DSCA ID No: 34-0017
 Name/Address of DSCA Site: Trade Street Cleaners / 426 North Trade Street, Winston Salem, NC
 Name/Address of Sampling Location: Forsyth County Courthouse / 50 West Fourth Street
 Sampling Date: 1/2/2014
 Sample ID: SG MW-16S

CAS	Chemical Name	Soil Gas Concentration (ug/m ³)	Calculated Indoor Air Concentration (ug/m ³)	Target Indoor Air Conc. for Carcinogens @ TCR = 1E-06 (ug/m3)	Target Indoor Air Conc. for Non-Carcinogens @ THQ = 0.2 (ug/m3)	Calculated Carcinogenic Risk CR	Calculated Non-Carcinogenic Hazard Quotient HI
127-18-4	Tetrachloroethylene	1000	10	4.72E+01	3.50E+01	2.12E-07	0.0571

Cumulative:	2.12E-07	0.06
--------------------	----------	------

Notes:

1. Calculated indoor air concentrations determined using the following formula:

$$\text{Calculated Indoor Air Concentration} = \text{Soil Gas Concentration} \times \text{AF}$$

Where,

AF = non-residential attenuation factor = 0.010

2. Target indoor air concentrations calculated using the EPA Vapor Intrusion Screening Level (VISL) Calculator, which is based on the EPA Regional Screening Levels. Note that concentrations are equivalent to the Inactive Hazardous Sites Branch (IHSB) VISLs.

3. Cumulative carcinogenic risk (CR) and hazard index (HI) calculated using the following formulas, per the procedure detailed in the EPA Regional Screening Levels User's Guide.

$$\text{CR} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)] \times 10^{-6}$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on carcinogenic risk of 1⁶

$$\text{HI} = [(\text{Conc}_x/\text{SL}_x) + (\text{Conc}_y/\text{SL}_y) + (\text{Conc}_z/\text{SL}_z)]$$

Where,

Conc = indoor air concentration for constituent of concern

SL = target indoor air concentration for constituent of concern based on hazard quotient of 1*

* = Tabulated values are based on a hazard quotient of 0.2. These values are multiplied by 5 to convert to a hazard quotient of 1