

Via E-Mail

September 1, 2015

Mr. Scott Stupak
North Carolina Department of Environment and
Natural Resources
Division of Waste Management, Superfund Section
Dry Cleaning Solvent Cleanup Program
1646 Mail Service Center
Raleigh, NC 27699-1646



**Re: Soil Gas Sampling Report
Cunningham Cleaners
Charlotte, Mecklenburg County
DSCA ID: DC600013
H&H Job No. DS0-76D**

Dear Scott:

1.0 Introduction

Hart & Hickman, PC (H&H) is submitting this letter report to document additional soil gas sampling activities conducted at the Cunningham Cleaners site located at 104 S. Sharon Amity Road in Charlotte, Mecklenburg County, North Carolina. In order to further evaluate the potential for vapor intrusion and allow long-term vapor monitoring, H&H installed two permanent subsurface soil gas monitoring points adjacent to the SunTrust Bank (SunTrust) building located at 207 S. Sharon Amity Road, downgradient of the Cunningham Cleaners source property. A brief discussion of previous vapor intrusion assessment activities on the SunTrust property is provided below and is followed by a description of the recent sampling activities and results.

H&H previously collected three subsurface soil gas samples (SGP-1 through SGP-3) on the SunTrust property to evaluate the potential for vapor intrusion. The analytical results indicated the dry-cleaning solvent tetrachloroethene (PCE) and its degradation product trichloroethene

(TCE) were present in each of the subsurface soil vapor samples collected at concentrations ranging from $1.5 \mu\text{g}/\text{m}^3$ to $8,100 \mu\text{g}/\text{m}^3$ for PCE and $0.49 \mu\text{g}/\text{m}^3$ to $1,900 \mu\text{g}/\text{m}^3$ for TCE. The sample locations and results are shown on Figure 2. The PCE and TCE concentrations detected in one of the samples, SGP-3, exceeded the Division of Waste Management (DWM) Residential and Non-Residential Soil Gas Screening Levels (SGSLs), and the calculated risks associated with the concentrations detected in SGP-3 exceeded acceptable levels (hazard index greater than 1 and/or carcinogenic risk greater than 1×10^{-4}) for residential and non-residential exposures. Indoor air samples collected inside SunTrust did not identify any current unacceptable exposure risks. However, the DSCA Program requested installation of permanent soil gas points to allow long-term monitoring of soil gas concentrations on the SunTrust property.

2.0 Sampling Activities

On July 27, 2015, H&H contracted Carolina Soil Investigations, LLC (CSI) to install two permanent subsurface soil vapor monitoring points (VMP-1 and VMP-2) at SunTrust. VMP-1 was installed along the northern side of the building, and VMP-2 was installed near the southwestern corner of the building. The VMPs were installed above the capillary fringe to evaluate potential vapor impacts from groundwater. The sample locations are depicted on Figure 2, and photographs are provided in Appendix A.

The VMP sampling points were installed approximately 2-3 ft above the capillary fringe at depths of approximately 5.5 ft below ground surface (bgs) utilizing hand auger methods. Each VMP was constructed with a 6-inch stainless steel screen set at the bottom of the borehole and $\frac{1}{4}$ -inch Teflon[®] tubing extending from the screen to above the ground surface. Well filter sand was placed around the annulus of the screened interval of the sample point and extended to approximately 6 inches above the top of the screen interval. A granular bentonite seal was placed above the sand pack and hydrated. The remaining portion of the borehole annulus was filled with cement grout to grade. The monitoring points were completed with flush-mount housings and 6-inch steel man-hole covers secured within a one-ft by one-ft concrete pad. Upon completion, the end of the Teflon[®] tubing sampling assembly was secured inside the flush mount

housing.

On July 28, 2015, H&H mobilized to the site to collect soil gas samples from VMP-1 and VMP-2. Prior to sample collection, each sample point was purged and a leak check was performed. A minimum of three volumes of air was purged from each location using a syringe. The purge volumes were calculated to include the screen, tubing, and sand pack for each subsurface soil vapor monitoring point. A leak check was conducted at each location by constructing a shroud around the sampling point and flooding the air within the shroud with helium gas. H&H utilized a syringe to collect a sample of the gas in the shroud into a Tedlar[®] bag and analyzed the sample for helium using a helium gas detector. Vapor from the monitoring points was collected outside of the shroud into a separate Tedlar[®] bag and analyzed using the helium gas detector to confirm that helium concentrations were less than 10% of the helium concentrations detected in the shroud. Both of the sample points passed the leak check criteria.

Following purging and a successful leak check, vapor samples were collected from each location using a laboratory-supplied 6-liter Summa canister and airflow regulator calibrated to collect the samples at a rate of approximately 100 mL/min. The Summa canister and airflow regulator were connected to the tubing at each monitoring point using a brass nut and ferrule assembly to form an airtight seal. Subsequently, the canister's intake valve was opened to collect the subsurface soil gas sample. Vacuum readings on the Summa canister were recorded prior to and following the sampling period to confirm adequate sample volume was collected.

After sample collection, the canisters were shipped to Con-Test Analytical Laboratory for analysis of the primary constituents of concern for the site, including PCE, TCE, cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride (VC) by EPA Method TO-15. The laboratory analytical report and chain-of-custody record are provided in Appendix C.

3.0 Analytical Results

The dry-cleaning solvent PCE and its degradation products TCE and cis-1,2-DCE were detected in each of the soil vapor samples collected adjacent to the SunTrust building and degradation products trans-1,2-DCE and VC were detected in sample VMP-1. Slightly higher concentrations were detected in VMP-1 located on the north side of the building closer to the Cunningham Cleaners source property with concentrations of 72 $\mu\text{g}/\text{m}^3$ for PCE, 81 $\mu\text{g}/\text{m}^3$ for TCE, 28 $\mu\text{g}/\text{m}^3$ for cis-1,2-DCE, 11 $\mu\text{g}/\text{m}^3$ for trans-1,2-DCE, and 7.3 $\mu\text{g}/\text{m}^3$ for VC. Slightly lower concentrations of 48 $\mu\text{g}/\text{m}^3$ for PCE, 71 $\mu\text{g}/\text{m}^3$ for TCE, and 0.18 $\mu\text{g}/\text{m}^3$ for cis-1,2-DCE were detected in VMP-2 located near the southwestern corner of the building. The concentrations detected in VMP-1 and VMP-2 are notably lower than the previous concentrations detected in SGP-1 through SGP-3. The analytical results for the current and previous soil gas samples are summarized in Table 4 and presented on Figure 2.

To further evaluate the soil gas data, H&H completed the DSCA Program's soil gas risk calculator for both a non-residential worker and a resident using the concentrations detected in each of the soil gas samples. Copies of the risk calculators are provided in Appendix C, and the results are summarized below.

Sample ID	Non-Residential Worker		Resident	
	Carcinogenic Risk	HI	Carcinogenic Risk	HI
VMP-1	3.12×10^{-7}	0.10	6.59×10^{-6}	1.22
VMP-2	2.48×10^{-7}	0.08	4.59×10^{-6}	1.06

The risk calculations indicate acceptable risk levels (carcinogenic risk less than 1×10^{-5} and HI less than 1) for a non-residential worker based on the concentrations detected in both soil vapor monitoring points. However, the risk calculations for a resident indicate the calculated HI values slightly exceed the acceptable level of 1. Because the property is currently zoned for commercial use, there is no current vapor intrusion risk. However, in order to close the site, a land use

restriction would be needed to protect against a potential future residential exposure scenario.

4.0 Summary

H&H installed and sampled two permanent soil gas monitoring points adjacent to the SunTrust Bank located downgradient of the Cunningham Cleaners source property to further evaluate the potential for vapor intrusion and allow for long-term monitoring of soil gas. The laboratory analytical results indicate the dry-cleaning solvent PCE and its degradation products (TCE, cis-1,2-DCE, trans-1,2-DCE, and VC) are present in soil gas on the SunTrust property. The detected concentrations in the newly installed monitoring points (VMP-1 and VMP-2) were notably lower than previous soil gas concentrations detected in temporary points SGP-1 through SGP-3 in 2014.

To evaluate the potential vapor intrusion risk associated with the detected soil gas concentrations, H&H calculated the carcinogenic and non-carcinogenic risks associated with concentrations detected in VMP-1 and VMP-2. The risks were within acceptable levels for non-residential exposures. However, the calculated non-carcinogenic risks for a resident associated with concentrations detected in VMP-1 (HI = 1.22) and VMP-2 (HI = 1.06) slightly exceed the acceptable level of 1. The property is currently zoned for commercial use; thus, there is no current vapor intrusion risk. However, in order to close the site, a land use restriction would be needed to protect against a potential future residential exposure scenario. Because of the slight exceedance for residential non-carcinogenic risks and the notable difference in soil gas concentrations for the previous SGP-1 through SGP-3 samples and recent VMP-1 and VMP-2 samples, H&H recommends periodic soil gas monitoring to further evaluate concentrations over time on the SunTrust property.

Mr. Scott Stupak
September 1, 2015
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C-1269 Engineering
C-245 Geology

H&H appreciates the opportunity to work with you on this project. If you have any questions or require additional information, please do not hesitate to contact us at 704-586-0007.

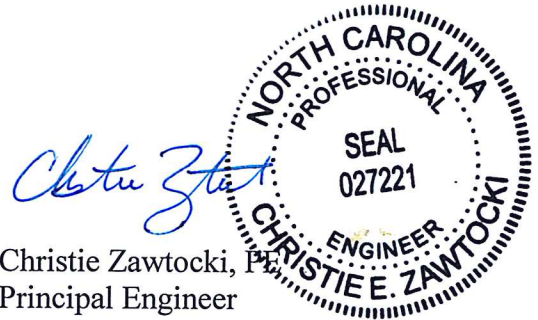
Very truly yours,

Hart & Hickman, PC



Brett Lawrence
Assistant Project Geologist

Attachments



TABLE

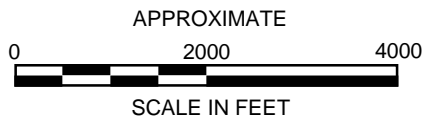
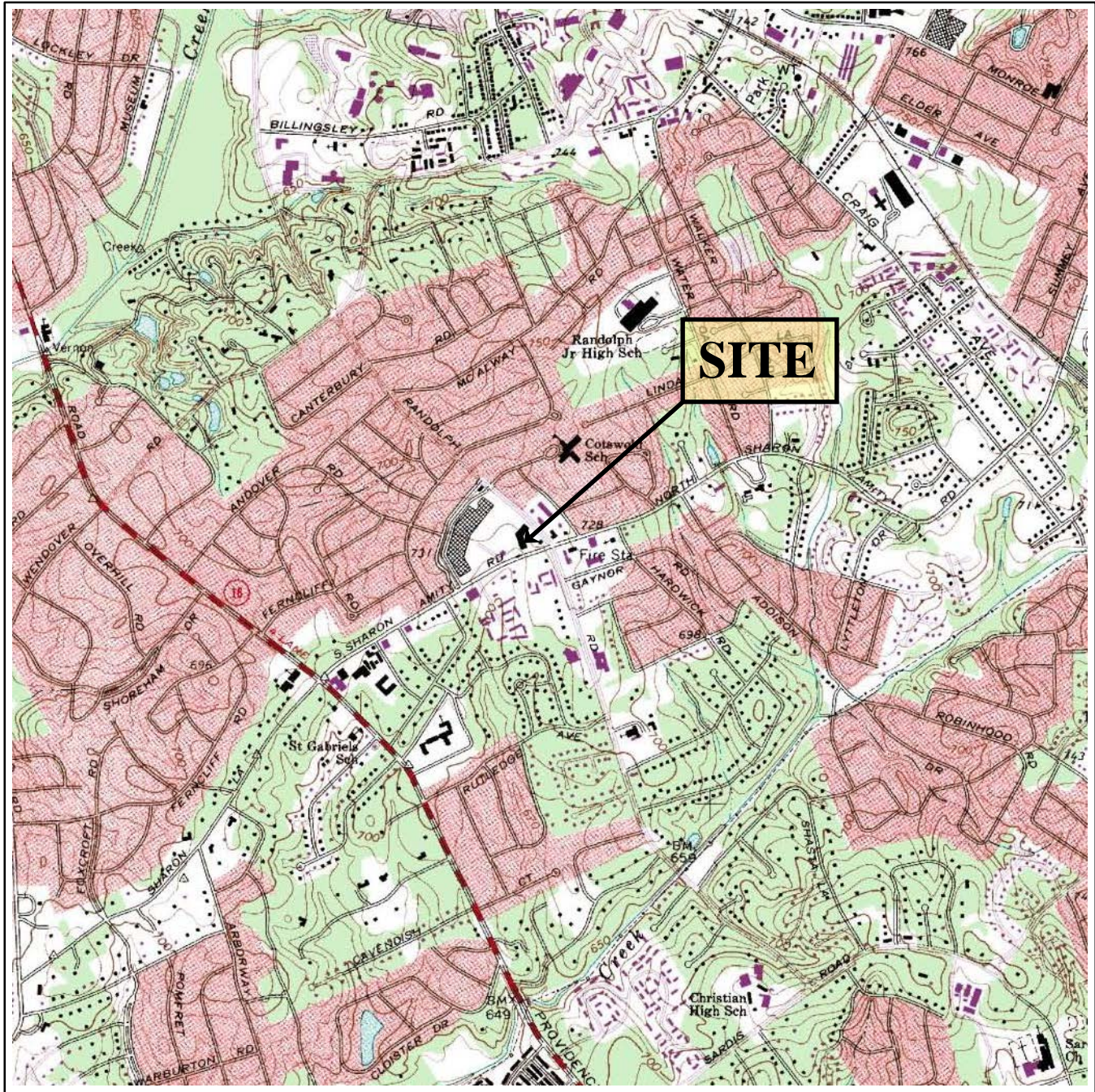
Table 4: Analytical Data for Soil Gas

DSCA ID No.: DC600013

Sample ID	Depth [feet bgs]	Sample Duration	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]																
SGP-1	5.5	1 hr	07/09/14	NA	<0.40	NA	NA	NA	1.5	NA	<0.40	0.49 J	0.62	NA						
SGP-2	5.5	1 hr	07/09/14	NA	0.17 J	NA	NA	NA	720	NA	<0.40	9.9	0.43	NA						
SGP-3	5.5	1 hr	07/09/14	NA	20	NA	NA	NA	8,100	NA	<0.40	1,900	<0.26	NA						
VMP-1	5.5	1 hr 25 min	07/28/15	NA	28	NA	NA	NA	72	NA	11	81	7.3	NA						
VMP-2	5.5	54 min	07/28/15	NA	0.18 J	NA	NA	NA	48	NA	<0.20	71	<0.13	NA						
DWM Residential SGSL				--	NE	--	--	--	278	--	NE	13.9	55.9	--						
DWM Non-Residential SGSL				--	NE	--	--	--	3,500	--	NE	175	2,790	--						

Notes:
 1. NE = Not Established; DWM = Division of Waste Management; SGSL = soil gas screening levels
 2. J flag denotes estimated concentration between the laboratory reporting limit and method detection limit
 3. Helium gas was used to perform a leak check on each sample location. No helium was detected during the leak checks.
 4. Samples were collected into 6-liter Summa cannisters and were analyzed using EPA Method TO-15.

FIGURES

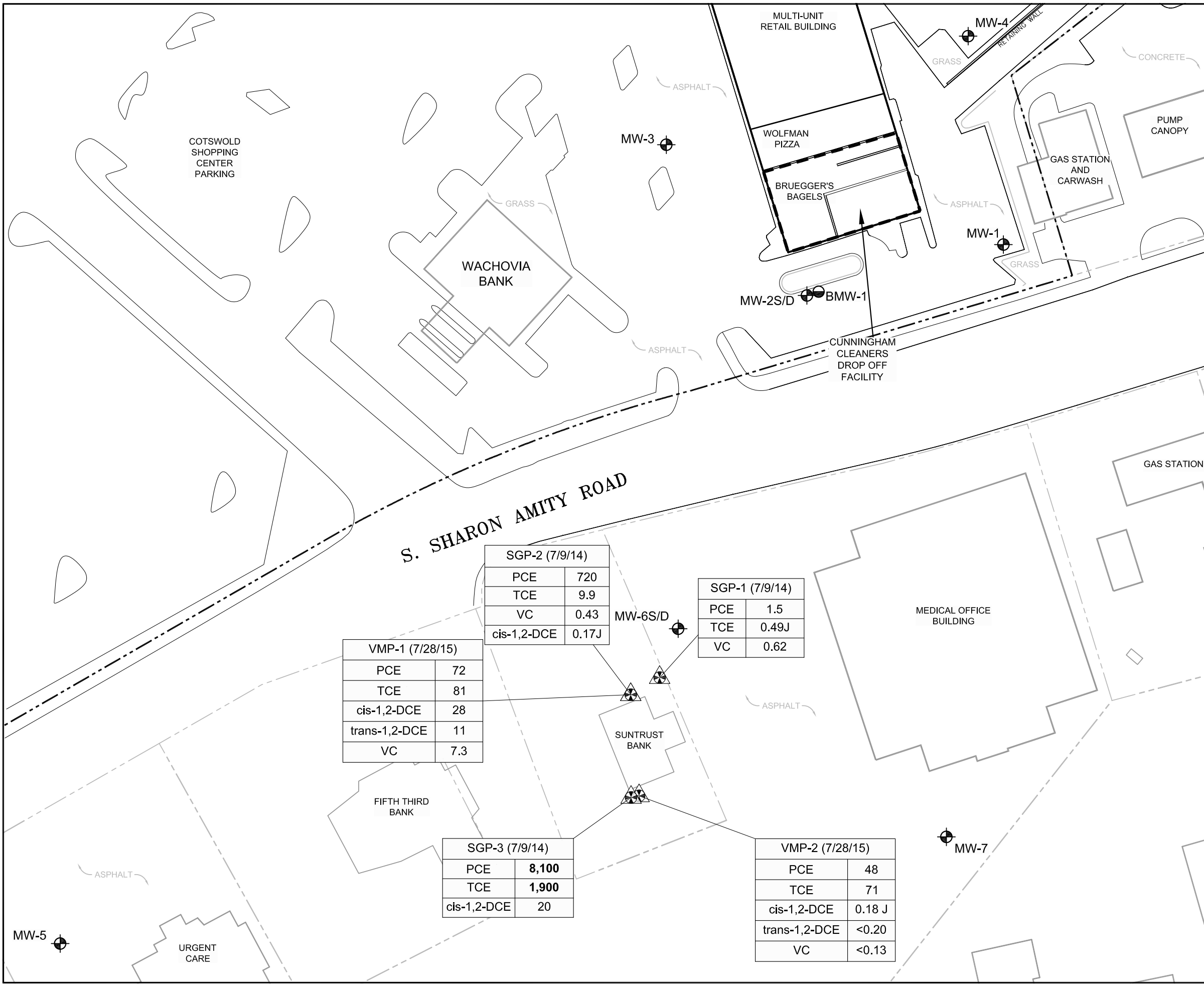


U.S.G.S. QUADRANGLE MAP
CHARLOTTE EAST, NORTH CAROLINA (1991)

QUADRANGLE
 7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE	SITE LOCATION MAP		
PROJECT	CUNNINGHAM CLEANERS DSCA ID: DC600013 104 SOUTH SHARON AMITY ROAD CHARLOTTE, MECKLENBURG COUNTY		
			2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f)
DATE:	08-11-15	REVISION NO:	0
JOB NO:	DS0-76	FIGURE:	1

S:\AAA-Master Projects\DSCA - DSO\DSO-76 Cunningham Cleaners\Reports\07-15 Vapor Intrusion\Figures\DC600013_20150901_VIFigure.dwg



LEGEND

- FORMER CUNNINGHAM CLEANERS
- SOURCE PROPERTY BOUNDARY
- OFF-SITE BUILDING
- PARCEL LINE
- TYPE-II MONITORING WELL
- TYPE-III MONITORING WELL
- SOIL GAS MONITORING POINT

SAMPLE ID (SAMPLE DATE)

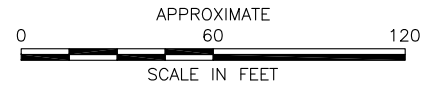
VMP-1 (7/28/15)	
PCE	72
TCE	81
cis-1,2-DCE	28
trans-1,2-DCE	11
VC	7.3

CONCENTRATION (µg/m³)

CONSTITUENT

NOTES

1. SGP-1, SGP-2, AND SGP-3 WERE TEMPORARY SOIL GAS MONITORING POINTS THAT WERE ABANDONED AFTER SAMPLING. VMP-1 AND VMP-2 ARE PERMANENT SOIL GAS MONITORING POINTS.
2. J FLAG DENOTES ESTIMATED CONCENTRATION BETWEEN LABORATORY REPORTING METHOD & METHOD DETECTION LIMIT.
3. PCE = TETRACHLOROETHYLENE
TCE = TRICHLOROETHYLENE
DCE = DICHLOROETHYLENE
VC = VINYL CHLORIDE



TITLE	SUBSURFACE SOIL GAS CONTAMINANT CONCENTRATION MAP	
PROJECT	CUNNINGHAM CLEANERS DSCA ID: DC600013 104 S. SHARON AMITY ROAD CHARLOTTE, MECKLENBURG COUNTY	
		2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f) License # C-1269 / #C-245 Geology
DATE:	09-01-15	REVISION NO. 0
JOB NO.	DSO-76	FIGURE NO. 2

APPENDIX A
PHOTOGRAPHIC LOG



Photograph 1: VMP-1, following installation.



Photograph 2: VMP-2, following installation.



Photograph 3: VMP-1, during sampling activities.



Photograph 4: VMP-2, during sampling activities.

APPENDIX B

LABORATORY ANALYTICAL REPORT

August 31, 2015

Brett Lawrence
Hart & Hickman - Charlotte, NC
2923 South Tryon Street, Suite 100
Charlotte, NC 28203

Project Location: Charlotte, NC
Client Job Number:
Project Number: DS0-76
Laboratory Work Order Number: 15H0014

Enclosed are results of analyses for samples received by the laboratory on July 30, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

Hart & Hickman - Charlotte, NC
2923 South Tryon Street, Suite 100
Charlotte, NC 28203
ATTN: Brett Lawrence

REPORT DATE: 8/31/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: DS0-76

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15H0014

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

PROJECT LOCATION: Charlotte, NC

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
VMP-1	15H0014-01	Air		EPA TO-15	
VMP-2	15H0014-02	Air		EPA TO-15	

CASE NARRATIVE SUMMARY

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

REVISED REPORT 08-31-15: The final air can pressure has been revised on the CoC in accordance with the client's field log.

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.



Lisa A. Worthington
Project Manager

ANALYTICAL RESULTS

Project Location: Charlotte, NC
 Date Received: 7/30/2015
Field Sample #: VMP-1
Sample ID: 15H0014-01
 Sample Matrix: Air
 Sampled: 7/28/2015 16:43

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1094
 Canister Size: 6 liter
 Flow Controller ID: 4137
 Sample Type: 1 hr

Work Order: 15H0014
 Initial Vacuum(in Hg): -25
 Final Vacuum(in Hg): -5
 Receipt Vacuum(in Hg): -10.5
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
cis-1,2-Dichloroethylene	7.2	0.050	0.019		28	0.20	1	8/5/15	2:32	TPH
trans-1,2-Dichloroethylene	2.7	0.050	0.013		11	0.20	1	8/4/15	18:30	TPH
Tetrachloroethylene	11	0.050	0.014		72	0.34	1	8/5/15	2:32	TPH
Trichloroethylene	15	0.050	0.015		81	0.27	1	8/5/15	2:32	TPH
Vinyl Chloride	2.9	0.050	0.021		7.3	0.13	1	8/4/15	18:30	TPH
Surrogates	% Recovery		% REC Limits							
4-Bromofluorobenzene (1)	93.8		70-130		8/5/15 2:32					
4-Bromofluorobenzene (1)	93.6		70-130		8/4/15 18:30					

ANALYTICAL RESULTS

Project Location: Charlotte, NC
 Date Received: 7/30/2015
Field Sample #: VMP-2
Sample ID: 15H0014-02
 Sample Matrix: Air
 Sampled: 7/28/2015 16:17

Sample Description/Location:
 Sub Description/Location:
 Canister ID: 1223
 Canister Size: 6 liter
 Flow Controller ID: 4136
 Sample Type: 1 hr

Work Order: 15H0014
 Initial Vacuum(in Hg): -30
 Final Vacuum(in Hg): -9
 Receipt Vacuum(in Hg): -5.8
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
cis-1,2-Dichloroethylene	0.046	0.050	0.019	J	0.18	0.20	1	8/4/15 19:10	TPH
trans-1,2-Dichloroethylene	ND	0.050	0.013		ND	0.20	1	8/4/15 19:10	TPH
Tetrachloroethylene	7.1	0.050	0.014		48	0.34	1	8/5/15 3:12	TPH
Trichloroethylene	13	0.050	0.015		71	0.27	1	8/4/15 19:10	TPH
Vinyl Chloride	ND	0.050	0.021		ND	0.13	1	8/4/15 19:10	TPH

Surrogates	% Recovery	% REC Limits	Date/Time Analyzed
4-Bromofluorobenzene (1)	93.0	70-130	8/5/15 3:12
4-Bromofluorobenzene (1)	97.9	70-130	8/4/15 19:10

Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15H0014-01 [VMP-1]	B128126	1	1	N/A	1000			08/04/15
15H0014-01RE1 [VMP-1]	B128126	1	1	N/A	1000			08/04/15
15H0014-02 [VMP-2]	B128126	1	1	N/A	1000			08/04/15
15H0014-02RE1 [VMP-2]	B128126	1	1	N/A	1000			08/04/15

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	RPD	Limit	

Batch B128126 - TO-15 Prep

Blank (B128126-BLK1)

Prepared & Analyzed: 08/04/15

cis-1,2-Dichloroethylene	ND	0.050								
trans-1,2-Dichloroethylene	ND	0.050								
Tetrachloroethylene	ND	0.050								
Trichloroethylene	ND	0.050								
Vinyl Chloride	ND	0.050								

<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.31</i>				<i>8.00</i>		<i>91.4</i>		<i>70-130</i>	
--	-------------	--	--	--	-------------	--	-------------	--	---------------	--

LCS (B128126-BS1)

Prepared & Analyzed: 08/04/15

cis-1,2-Dichloroethylene	5.35				5.00		107		70-130	
trans-1,2-Dichloroethylene	5.19				5.00		104		70-130	
Tetrachloroethylene	4.81				5.00		96.1		70-130	
Trichloroethylene	6.05				5.00		121		70-130	
Vinyl Chloride	4.82				5.00		96.4		70-130	

<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.97</i>				<i>8.00</i>		<i>99.6</i>		<i>70-130</i>	
--	-------------	--	--	--	-------------	--	-------------	--	---------------	--

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.
- J Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA
Tetrachloroethylene	AIHA,FL,NJ,NY,VA
Trichloroethylene	AIHA,FL,NJ,NY,VA
Vinyl Chloride	AIHA,FL,NJ,NY,VA

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	06/30/2016
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	09/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015



FedEx® Tracking

807531352200

Ship date :
Thur 7/30/2015

Actual delivery :
Fri 7/31/2015 10:13 am



CHAU S

Delivered

MA US

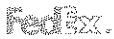
Signed for by: P.BLAKE

Travel History

Date/Time	Activity	Location
7/31/2015 - Friday		
10:13 am	Delivered	MA
7:53 am	On FedEx vehicle for delivery	WINDSOR LOCKS CT
7:47 am	At local FedEx facility	WINDSOR LOCKS CT
6:26 am	At destination sort facility	EAST GRANBY CT
4:51 am	Departed FedEx location	INDIANAPOLIS IN
12:56 am	Arrived at FedEx location	INDIANAPOLIS IN
7/30/2015 - Thursday		
9:07 pm	Left FedEx origin facility	CHARLOTTE NC
4:33 pm	Picked up	CHARLOTTE NC

Shipment Facts

Tracking number	807531352200	Service	FedEx Standard Overnight
Weight	14 lbs / 6.35 kgs	Dimensions	22x14x9 in.
Delivered To	Shipping/Receiving	Total pieces	1
Total shipment weight	14 lbs / 6.35 kgs	Packaging	Your Packaging
Special handling section	Deliver Weekday		



Customer Focus
 New Customer Center
 Small Business Center
 Service Guide
 Customer Support

Featured Services
 FedEx One Rate
 FedEx SameDay
 FedEx Home Delivery
 Healthcare Solutions
 Online Retail Solutions
 Packaging Services
 Ancillary Clearance Services

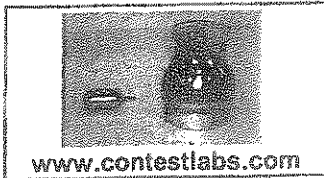
Companies
 FedEx Express
 FedEx Ground
 FedEx Office
 FedEx Freight
 FedEx Custom Critical
 FedEx Trade Networks
 FedEx SupplyChain
 FedEx TechConnect

Follow FedEx

United States - English

Company Information
 About FedEx
 Careers
 Investor Relations

Other Resources
 FedEx Compatible
 Developer Resource Center
 FedEx Ship Manager Software
 FedEx Mobile



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

AIR Only Receipt Checklist

CLIENT NAME: Hart + Hickman RECEIVED BY: PB DATE: 7-31-15

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 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) Are there any samples "On Hold"? Yes No Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified _____ Date _____ Time _____

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

7) Number of cans Individually Certified or Batch Certified? NONE

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)	2	6 Lit
Tedlar Bags		
TO-17 Tubes		
Regulators	2	1 hr
Restrictors		
Hg/Hopcalite Tube (NIOSH 6009)		
(TO-4A/ TO-10A/TO-13) PUFs		
PCB Florisil Tubes (NIOSH 5503)		
Air cassette		
PM 2.5/PM 10		
TO-11A Cartridges		
Other		

Unused Summas/PUF Media:

Unused Regulators:

- 1) Was all media (used & unused) checked into the WASP?
- 2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments: 1094 4136
1223 4137

Login Sample Receipt Checklist

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

<u>Question</u>	<u>Answer (True/False)</u>	<u>Comment</u>
	T/F/NA	
1) The coolers'/boxes' custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	NA	
4) Cooler Temperature is acceptable.	NA	
5) Cooler Temperature is recorded.	NA	
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) Samples are received within Holding Time.	T	
10) Sample containers have legible labels.	T	
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T	
12) Sample collection date/times are provided.	T	
13) Appropriate sample/media containers are used.	T	
14) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	
15) Trip blanks provided if applicable.	NA	

Doc #278 Rev. 5 October 2014

Who notified of False statements?
 Log-in Technician Initials: PB

Date/Time:
 Date/Time: 7.31.15
 10:13

APPENDIX C

DSCA RISK CALCULATORS

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

DSCA ID No: DC600013
Name/Address of DSCA Site: Cunningham Cleaners, 104 S. Sharon Amity Road, Charlotte, Mecklenburg County
Name/Address of Sampling Location: Sun Trust Bank, 207 S. Sharon Amity Road, Charlotte, Mecklenburg County
Sampling Date: 7/28/2015
Sample ID: VMP-1

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	72	0.72	4.72E+01	3.50E+01	1.53E-08	0.0041
79-01-6	Trichloroethylene	81	0.81	2.99E+00	1.75E+00	2.71E-07	0.0925
75-01-4	Vinyl Chloride	7.3	0.073	2.79E+00	8.76E+01	2.62E-08	0.0002
Cumulative:						3.12E-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.

$$CR = [(Conc_x/SL_x) + (Conc_y/SL_y) + (Conc_z/SL_z)] \times 10^{-6}$$
 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 Resident
Version 3, 1/16/2015

DSCA ID No: DC600013
 Name/Address of DSCA Site: Cunningham Cleaners, 104 S. Sharon Amity Road, Charlotte, Mecklenburg County
 Name/Address of Sampling Location: Sun Trust Bank, 207 S. Sharon Amity Road, Charlotte, Mecklenburg County

Sampling Date: 7/28/2015
 Sample ID: VMP-1

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	72	2.160	1.08E+01	8.34E+00	2.00E-07	0.0518
79-01-6	Trichloroethylene	81	2.430	4.78E-01	4.17E-01	5.08E-06	1.1651
75-01-4	Vinyl Chloride	7.3	0.219	1.68E-01	2.09E+01	1.31E-06	0.0021

Cumulative:	6.59E-06	1.22
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Notes:

- Calculated indoor air concentrations determined using the following formula:
 Calculated Indoor Air Concentration = Soil Gas Concentration x AF
 Where,
 AF = residential attenuation factor = 0.03
- 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 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 Worker
Version 3, 1/16/2015

DSCA ID No: DC600013
 Name/Address of DSCA Site: Cunningham Cleaners, 104 S. Sharon Amity Road, Charlotte, Mecklenburg County
 Name/Address of Sampling Location: Sun Trust Bank, 207 S. Sharon Amity Road, Charlotte, Mecklenburg County
 Sampling Date: 7/28/2015
 Sample ID: VMP-2

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	48	0.48	4.72E+01	3.50E+01	1.02E-08	0.0027
79-01-6	Trichloroethylene	71	0.71	2.99E+00	1.75E+00	2.37E-07	0.0811

Cumulative:	2.48E-07	0.08
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Notes:

- 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

- 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.

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

Where,

Conc = indoor air concentration for constituent of concern

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

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

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 Resident
Version 3, 1/16/2015

DSCA ID No: DC600013
Name/Address of DSCA Site: Cunningham Cleaners, 104 S. Sharon Amity Road, Charlotte, Mecklenburg County
Name/Address of Sampling Location: Sun Trust Bank, 207 S. Sharon Amity Road, Charlotte, Mecklenburg County
Sampling Date: 7/28/2015
Sample ID: VMP-2

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	48	1.440	1.08E+01	8.34E+00	1.33E-07	0.0345
79-01-6	Trichloroethylene	71	2.130	4.78E-01	4.17E-01	4.45E-06	1.0212

Cumulative:	4.59E-06	1.06
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Notes:

- Calculated indoor air concentrations determined using the following formula:

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

Where,
AF = residential attenuation factor = 0.03
- 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.

$$\text{CR} = [(\text{Conc}_1/\text{SL}_1) + (\text{Conc}_2/\text{SL}_2) + (\text{Conc}_3/\text{SL}_3)] \times 10^{-6}$$

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

$$\text{HI} = [(\text{Conc}_1/\text{SL}_1) + (\text{Conc}_2/\text{SL}_2) + (\text{Conc}_3/\text{SL}_3)]$$

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.