

**Via Email**

December 16, 2015

NC DEQ  
610 East Center Avenue, Suite 301  
Mooresville, NC 28115



Attn: Mr. George Adams

Subject: Sub-Slab/Indoor Air Assessment  
Former Knitronics Facility  
Cherryville, North Carolina  
H&H Project No. MOH-001

Dear George:

**1.0 Introduction**

This revised Sub-Slab/Indoor Air Assessment report has been prepared by Hart & Hickman, P.C. (H&H) on behalf of Mohican Mills, Inc. (Mohican) for the former Knitronics facility located at 1515 West Academy Street in Cherryville, North Carolina (Figure 1). The subject property is owned by Mohican and contains a 197,000 square foot warehouse building on approximately 12.13 acres. A separate wooded parcel, also owned by Mohican, contains 4.64 acres which abuts the 12.13 acre property on the east side. The warehouse building was built in 1971 for Knitronics Knitting Mills, Inc. (“Knitronics”) and served as a former textile mill for Knitronics and others. It is currently vacant in the eastern portion and used for warehouse space in the western portion.

As described below, Hart & Hickman, PC (H&H) has completed sub-slab vapor (SSV) and indoor air assessment activities to evaluate vapor intrusion at the former Knitronics facility. The assessment included in the collection and analysis of five SSV sampling points, six indoor air samples, and one background air sample. The air sampling activities were completed in general accordance with the North Carolina Department of Environmental Quality (DEQ) Vapor Intrusion Guidance dated April 2014 (VI Guidance).

Based on the August 20, 2015 report, soil and groundwater samples were collected at the site in July 2015 by the current tenant as part of its due diligence for a potential purchase to assess for potential impacts in the eastern portion of the developed property. The results of the soil analyses indicated that tetrachloroethene (PCE) was detected above the DEQ Soil-to-Groundwater Maximum Soil Contaminant Concentration (MSCC). Additionally, cis,1,2-dichloroethene (1,2-DCE), PCE, trichloroethene (TCE), chromium, and lead were detected in groundwater above DEQ standards. PCE was detected in groundwater at concentrations up to 110,000 µg/l. These chlorinated volatile organic compound (VOC) impacts were detected near the eastern portion of the facility which is currently vacant. The metal concentrations detected in groundwater were low concentrations and may be naturally occurring and/or an artifact of the sampling methods used.

## **2.0 Air Assessment Activities**

### **2.1 Sub-Slab Sampling Methods**

On November 5, 2015, H&H collected five SSV samples (SS-1 through SS-5) from the locations shown on Figure 2. The SSV samples were collected from permanent Vapor Pin™ sample points installed throughout the facility in areas of potential concern. For each SSV sample point, an initial 1 ½-inch diameter hole was drilled into the concrete slab to a depth of approximately 1 ¾ inches using a hammer drill. Then, a drill guide was placed in the hole and a hammer drill, equipped with a 5/8-inch diameter bit, was utilized to advance the borehole through the concrete slab and approximately 6 inches into the underlying soil to form a void and penetrate any existing moisture barrier plastic sheeting.

Following concrete borehole advancement, loose cuttings were removed using a bottle brush and HEPA vacuum. Then, a Vapor Pin™ assembly (brass sampling point and silicone sleeve) was placed and seated in the drilled hole by tapping the Vapor Pin™ assembly using an installation/extraction tool and a “dead blow” hammer. The sampling points were installed as flush mounted points and a protective cap was placed on the Vapor Pin™ sampling barb fitting. Each SSV monitoring point was covered using a secure stainless steel cover.

Following installation and prior to collection of the vapor samples, a leak check of each SSV monitoring point was conducted. The leak check was performed by first placing a shroud over each sample point, filling the shroud with helium gas, and using a helium gas detector to verify that the shroud was saturated with helium gas. Then, each sample point was purged using a syringe and a three-way valve to collect purged vapor into a Tedlar<sup>®</sup> bag. The purged vapor was subsequently analyzed using the helium gas detector to ensure that helium concentrations were less than 20% of the helium concentrations in the shroud. Following successful leak checks, the SSV samples were collected using one-liter stainless steel Summa canisters. The Summa canisters were allowed to fill slowly using an airflow regulator over a period of approximately one hour at each location. Vacuum readings were recorded prior to and following the sampling period to ensure adequate sample volume collected.

H&H collected measurements of ambient temperature at the beginning, middle, and end of the sample collection period in the general areas of the SSV samples. In addition, outside weather was noted during the sampling period. Weather conditions consisted of cloudy skies and temperatures in the 70s °F. Following sample collection, the Summa canisters were properly labeled, placed into laboratory-supplied shipping containers, and shipped under standard chain-of-custody protocol to Con-Test Analytical Laboratory in East Longmeadow, MA for analysis of the select VOCs cis/trans-1,2-DCE, PCE, TCE, 1,1-DCE, vinyl chloride, and 1,2-dichloroethane (1,2-DCA) by EPA Method TO-15. This compound list includes chlorinated VOCs and daughter products that may be present based on the results of prior soil and groundwater sampling at the site.

## **2.2 Indoor Air Sampling Methods**

On November 5, 2015, H&H collected five indoor air samples (IA-1 through IA-5) in the site building coincident with the SSV sampling points. In addition, one exterior background sample (labeled OA-1) was collected south of the building, which was upwind of the facility during the indoor air sampling event. An additional sample (IAS-6) was collected from an active office located on the western end of the building on November 20, 2015. The samples were collected

under normal/current operating conditions. Approximately two employees work in the office and warehouse space in the western portion of the building. The approximate locations of the indoor air samples are depicted on Figure 2.

The indoor and background air samples were collected using laboratory-supplied, six-liter stainless steel Summa canisters which were connected to in-line flow controllers with a built-in vacuum gauge (also laboratory-supplied). The flow controller was set by the laboratory to restrict flow to approximately 12.5 ml/min such that the samples were collected over an 8-hr period with the exception of IAS-6. Due to the warehouse closing early when IAS-6 was collected, this sample period was 6.5 hrs. A 3 ft long laboratory-supplied sampling cane was connected to the flow controller so that the sample intake point was positioned approximately 5 ft above grade (typical breathing zone height) when the sample canister was set on its base.

Prior to and after the indoor and background air samples were collected, vacuum in the canisters was measured using a laboratory-supplied vacuum gauge and recorded by sampling personnel. The starting and ending vacuums in each canister were recorded on the sample chain-of-custody. At the end of the sample period, the in-door air sample canister's valve was closed to stop sample collection. The sample canisters were then labeled and shipped under standard chain-of-custody procedures to Con-Test Analytical Laboratory for analysis of the select VOCs cis/trans-1,2-DCE, PCE, TCE, 1,1-DCE, vinyl chloride, and 1,2-DCA by EPA Method TO-15.

As part of the indoor air sampling activities, H&H conducted a survey of stored materials and products in the warehouse building, and periodically noted outside weather conditions. Rolls of synthetic fiber were stored in the central and western portions of the warehouse building. H&H did not identify materials or products in the office building which would likely affect chlorinated VOC indoor air sample results. During the November 5, 2015 indoor air sampling event, weather conditions consisted of cloudy skies and temperatures in the 70s °F, and during the November 20, 2105 indoor air sampling event, weather conditions consisted of clear skies and temperatures in the low 50s °F to high 60s °F. The warehouse portion of the building does not have an operable

heating, ventilating, and air conditioning (HVAC) system. Small floor/area fans are sometimes used. Indoor air sampling forms are included in Appendix B.

### **2.3 Quality Control**

For quality assurance purposes, one duplicate sample was collected from SSV sample point SS-1 and one duplicate sample was collected from an indoor air sampling location IA-2. The duplicate samples were collected to allow determination of analytical repeatability. Additionally, H&H submitted two trip blank samples (Trip Blank-1 and Trip Blank-2) for laboratory analysis on November 5, 2015. The duplicate and trip blank samples were analyzed for the same select VOCs as the SSV and indoor air samples.

## **3.0 Air Assessment Results**

### **3.1 Sub-Slab Vapor Sampling Results**

Laboratory analytical results indicated that two of the six SSV samples contained compound concentrations above the NC DEQ Inactive Hazardous Sites Branch (IHSB) Non-Residential Sub-Slab and Exterior Soil Gas Screening Levels (SGSLs). PCE was detected in vapor samples SS-1 and SS-2, and TCE was detected in SS-1 above the IHSB Non-Residential SGSLs. The maximum SSV PCE concentration detected was 27,000,000  $\mu\text{g}/\text{m}^3$  which exceeds the Non-Residential SGSL of 3,500  $\mu\text{g}/\text{m}^3$ . No other VOCs exceeded Non-Residential SGSLs in these samples, and no VOCs were detected above the Non-Residential SGSLs in SSV samples SS-3 through SS-5.

A summary of the SSV detections is provided in Table 1. The laboratory analytical report is included in Appendix A.

### 3.2 Indoor Air and Outdoor Air Sampling Results

The indoor air analytical results indicated that PCE was detected in four (IA-1 through IA-4) of six sample locations above the IHSB Non-Residential Indoor Air and Crawlspace Screening Concentration (IASL) for PCE of  $35.0 \mu\text{g}/\text{m}^3$ . The maximum indoor air PCE concentration was  $610 \mu\text{g}/\text{m}^3$ . These samples were collected in the central and eastern portions of the building. No other VOCs exceeded IASLs in these samples, and no VOCs were detected above the IASLs in air samples IA-5 and IAS-6 which were collected in the western portion of the building and in the active office.

Outdoor background air sample OA-1, collected in an upwind location, contained a low concentration PCE. Considering the predominant wind direction the day of the sampling event, it appears that this compound is present in ambient outdoor air near the facility.

A summary of the indoor and outdoor air detections is provided in Table 2 and Figure 2. The laboratory analytical reports are included in Appendix A.

### 3.3 Calculated Cumulative Risks

The default DEQ IHSB IASLs are conservative and are based upon a Lifetime Incremental Cancer Risk (LICR) of  $1 \times 10^{-5}$  for potential carcinogenic effects and a Hazard Quotient (HQ) of 0.2 for potential non-carcinogenic effects. Vapor intrusion mitigation for occupied industrial/commercial structures are not typically considered unless the LICR exceeds  $1 \times 10^{-4}$  for potential carcinogenic effects and/or a HQ of 1 for potential non-carcinogenic effects.

Therefore, to further evaluate the risks posed by the detected indoor air compounds, H&H calculated cumulative potential carcinogenic and non-carcinogenic risks for each of the sample locations. The calculations are summarized in Tables 3 and 4. Please note that the assumptions used in the calculations are based upon standard, conservative, default exposure scenarios which include a person working at the site 250 days per year for 25 years and 8 hours per day.

As indicated in Table 3, none of the calculated LICRs for the November 2015 sampling event exceeded a  $1 \times 10^{-4}$  risk level, and the LICRs were equal to or less than  $1.34 \times 10^{-5}$ . As shown in Table 4, the calculated non-carcinogenic HQs were greater than 1 in sample locations IA-1, IA-2, and IA-3 and less than 1 in sample locations IA-4, IA-5, and IAS-6. Air samples IA-1, IA-2, and IA-3 were collected in the central and eastern portions of the building, which is currently mostly vacant. There is some material storage in the central portion of the warehouse near IA-3. The areas near IA-1 and IA-2 are not occupied.

### 3.4 Quality Control Results

The quality control sample results indicate good quality datasets were collected. Duplicate and trip blank sample results are summarized in Tables 1 and 2. The duplicate sample results were similar to the original samples. No constituents were detected in the trip blank samples at concentrations above the laboratory reporting limits.

## 4.0 Summary and Recommendations

H&H completed subslab vapor and indoor air assessment activities at the former Knitronics facility located in Cherryville, North Carolina in November 2015. The assessment activities included the collection and analysis of five SSV samples, six indoor air samples, and one background air sample. The results of the assessment activities are summarized below.

- Two SSV samples on the eastern end of the building contained PCE concentrations above the Non-Residential SGSL and one SSV sample on the eastern end of the building contained TCE at a concentration above the Non-Residential SGSL. No other VOCs exceeded SGSLs in these samples, and no VOCs were detected above the SGSLs in the remaining samples.

- Four indoor air samples collected in the central and eastern portion of the building contained PCE concentrations above the Non-Residential IASL. No other VOCs exceeded IASLs in these samples, and no VOCs were detected above the IASLs in the remaining air samples.
- Calculated cancer risks did not exceed a LICR of  $1.34 \times 10^{-5}$  in the indoor air samples, and calculated non-carcinogenic HQs were greater than 1 in indoor air sample locations IA-1, IA-2, and IA-3 and less than 1 in indoor air sample locations IA-4, IA-5, and IAS-6. Air samples IA-1, IA-2, and IA-3 were collected in the central and eastern portions of the building, which is currently mostly vacant. There is some synthetic fiber storage in the central portion of the building near sample IA-3.

Based upon the results of the sub-slab vapor and indoor air assessment activities, additional assessment appears to be warranted. Vapor mitigation should be evaluated for the building, particularly if the eastern portion of the building will be utilized in the future.

Mr. George Adams  
December 16, 2015  
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Should you have any questions or require additional information concerning this report, please feel free to contact us at (704) 586-0007.

Very truly yours,

**Hart & Hickman, PC**



Stephen R. Libbey, PG  
Project Manager



Matt Bramblett, PE  
Principal



Attachments

Cc: Mr. Jim Sitterly, Mohican (via email)  
Ms. Susan Cooper, WCS&R (via email)

**Table 1**  
**Summary of Sub-Slab Air Analytical Data**  
**Former Knitronics**  
**Cherryville, North Carolina**  
**H&H Job No. MOH-001**

Sample ID	Sample Location	Sampling Date	Analytical Method	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene (trans-1,2-DCE)	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
				$\mu\text{g}/\text{m}^3$						
SS-1	Former Finishing Room	11/05/15	TO-15	<32,000	<32,000	36,000	<32,000	<b>27,000,000</b>	<b>40,000</b>	<20,000
DUP-2				<32,000	<32,000	34,000	<32,000	<b>25,000,000</b>	<b>36,000</b>	<20,000
SS-2	Warehouse (east)	11/05/15	TO-15	<16	<16	<16	<16	<b>150,000</b>	<21	<10
SS-3	Inactive Office (east)	11/05/15	TO-15	<0.81	<0.79	<0.79	<0.79	160	2.1	<0.51
SS-4	Warehouse (central)	11/05/15	TO-15	<0.81	<0.79	<0.79	<0.79	98	5.3	<0.51
SS-5	Warehouse (west)	11/05/15	TO-15	<0.81	<0.79	<0.79	<0.79	140	2.0	<0.51
Trip Blank-2	NA	11/05/15	TO-15	<0.14	<0.14	<0.14	<0.14	<0.24	<0.19	<0.090
Non-Residential Sub-Slab and Soil-Gas Screening Level <sup>(1)</sup>				472	17,500	NS	NS	3,500	175	2,790

Notes:

1) North Carolina Department of Environmental Quality (DEQ) Division of Waste Management (DWM) Non-Residential Vapor Intrusion Screening Concentrations (September 2015)

**Bold** indicates concentration exceeds Non-Residential Sub-Slab and Exterior Soil Gas Screening Level (September 2015)

Only compounds detected in at least one sample shown

NS = Not Specified; -- = Not Applicable

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

J = detected above method detection limit but below laboratory reporting limit resulting in an estimated value

**Table 2**  
**Summary of Indoor Air and Outdoor Air Analytical Data**  
**Former Knitronics**  
**Cherryville, North Carolina**  
**H&H Job No. MOH-001**

Sample ID	Sample Location	Sample Date	Analytical Method	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene (trans-1,2-DCE)	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
				µg/m <sup>3</sup>						
IA-1	Former Finishing Room	11/05/15	TO-15	<0.14	<0.14	0.83	<0.14	<b>610</b>	1.5	<0.090
IA-2	Warehouse (east)	11/05/15	TO-15	<0.14	<0.14	0.46	<0.14	<b>310</b>	0.89	<0.090
DUP-1				<0.14	<0.14	0.46	<0.14	<b>370</b>	0.90	<0.090
IA-3	Inactive Office (east)	11/05/15	TO-15	<0.14	<0.14	0.26	<0.14	<b>210</b>	0.59	<0.090
IA-4	Warehouse (central)	11/05/15	TO-15	<0.14	<0.14	0.10 J	<0.14	<b>71</b>	0.42	<0.090
IA-5	Warehouse (west)	11/05/15	TO-15	0.071 J	<0.14	<0.14	<0.14	6.5	0.13 J	<0.090
OA-1	Exterior (south-central)	11/05/15	TO-15	<0.14	<0.14	<0.14	<0.14	0.22 J	<0.19	<0.090
Trip Blank-1	NA	11/05/15	TO-15	<0.14	<0.14	<0.14	<0.14	<0.24	<0.19	<0.090
IAS-6	Active Office (west)	11/20/15	TO-15	0.057 J	<0.14	<0.14	<0.14	5.3	0.13 J	<0.090
Non-Residential Indoor Air and Crawlspace Screening Concentration <sup>(1)</sup> (TCR = $1 \times 10^{-5}$ and THQ = 0.2)				4.72	175	NS	NS	35.0	1.75	27.9

Notes:

Samples were collected at a height of approximately 5 ft above grade

1) North Carolina Department of Environmental Quality (DEQ) Division of Waste Management (DWM) Non-Residential Vapor Intrusion Screening Concentrations (September 20

**NS** indicates concentration exceeds Non-Residential Indoor Air and Crawlspace Screening Concentration (September 2015)

NS = Not Specified; Not Applicable

TCR = Target Cancer Risk; THQ = Target Hazard Quotient

µg/m<sup>3</sup> = micrograms per cubic meter

J = detected above method detection limit but below laboratory reporting limit resulting in an estimated value

**Table 3**  
**Calculated Additive Carcinogenic Risks**  
**Indoor Air Sampling November 2015**  
**Former Knitronics**  
**Cherryville, North Carolina**  
**H&H Job No. MOH-001**

**Carcinogenic Risks**

Unit	Location	Compound	Exposure Conc. ug/m <sup>3</sup>	IUR (ug/m <sup>3</sup> ) <sup>-1</sup>	AT days	EF days/yr	ED years	ET hr/hr	Risk
IA-1	Former Finishing Room	Tetrachloroethene	610	2.60E-07	25550.00	250.00	25.00	0.33	0.00001292
		Trichloroethene	1.5	4.10E-06	25550.00	250.00	25.00	0.33	0.00000050
		<b>Total</b>							<b>1.34E-05</b>
IA-2	Warehouse (east)	Tetrachloroethene	310	2.60E-07	25550.00	250.00	25.00	0.33	0.00000657
		Trichloroethene	0.89	4.10E-06	25550.00	250.00	25.00	0.33	0.00000030
		<b>Total</b>							<b>6.86E-06</b>
IA-3	Inactive Office (east)	Tetrachloroethene	210	2.60E-07	25550.00	250.00	25.00	0.33	0.00000445
		Trichloroethene	0.59	4.10E-06	25550.00	250.00	25.00	0.33	0.00000020
		<b>Total</b>							<b>4.64E-06</b>
IA-4	Warehouse (central)	Tetrachloroethene	71	2.60E-07	25550.00	250.00	25.00	0.33	0.00000150
		Trichloroethene	0.42	4.10E-06	25550.00	250.00	25.00	0.33	0.00000014
		<b>Total</b>							<b>1.64E-06</b>
IA-5	Warehouse (West)	Tetrachloroethene	6.5	2.60E-07	25550.00	250.00	25.00	0.33	0.00000014
		Trichloroethene	0.13	4.10E-06	25550.00	250.00	25.00	0.33	0.00000004
		1,2-Dichloroethane	0.071	2.60E-05	25550.00	250.00	25.00	0.33	0.00000015
		<b>Total</b>							<b>3.31E-07</b>
IAS-6	Active Office (west)	Tetrachloroethene	5.3	2.60E-07	25550.00	250.00	25.00	0.33	0.00000011
		Trichloroethene	0.13	4.10E-06	25550.00	250.00	25.00	0.33	0.00000004
		1,2-Dichloroethane	0.057	2.60E-05	25550.00	250.00	25.00	0.33	0.00000012
		<b>Total</b>							<b>2.76E-07</b>

Notes:

IUR = Inhalation Unit Rate; AT = Averaging Time; EF = Exposure Frequency; ED = Exposure Duration; ET = Exposure Time

µg/m<sup>3</sup> = microgram per cubic meter

IUR values taken from Regional Screening Level (RSL) Composite Worker Ambient Air Table dated June 2015

**Table 4**  
**Calculated Additive Non-Carcinogenic Risks**  
**Indoor Air Sampling November 2015**  
**Former Knitronics**  
**Cherryville, North Carolina**  
**H&H Job No. MOH-001**

**Non-Carcinogenic Risks**

Unit	Location	Compound	Exposure Conc. ug/m <sup>3</sup>	Rfc mg/m <sup>3</sup>	AT days	EF days/yr	ED years	ET hr/hr	Hazard Quotient
IA-1	Former Finishing Room	Tetrachloroethene	610	4.00E-02	9125.00	250.00	25.00	0.33	3.47825342
		Trichloroethene	1.5	2.00E-03	9125.00	250.00	25.00	0.33	0.17106164
		<b>Total</b>							
IA-2	Warehouse (east)	Tetrachloroethene	310	4.00E-02	9125.00	250.00	25.00	0.33	1.76763699
		Trichloroethene	0.89	2.00E-03	9125.00	250.00	25.00	0.33	0.10149658
		<b>Total</b>							
IA-3	Inactive Office (east)	Tetrachloroethene	210	4.00E-02	9125.00	250.00	25.00	0.33	1.19743151
		Trichloroethene	0.59	2.00E-03	9125.00	250.00	25.00	0.33	0.06728425
		<b>Total</b>							
IA-4	Warehouse (central)	Tetrachloroethene	71	4.00E-02	9125.00	250.00	25.00	0.33	0.40484589
		Trichloroethene	0.42	2.00E-03	9125.00	250.00	25.00	0.33	0.04789726
		<b>Total</b>							
IA-5	Warehouse (West)	Tetrachloroethene	6.5	4.00E-02	9125.00	250.00	25.00	0.33	0.03706336
		Trichloroethene	0.13	2.00E-03	9125.00	250.00	25.00	0.33	0.01482534
		1,2-Dichloroethane	0.071	7.00E-03	9125.00	250.00	25.00	0.33	0.00231341
		<b>Total</b>							
IAS-6	Active Office (west)	Tetrachloroethene	5.3	4.00E-02	9125.00	250.00	25.00	0.33	0.03022089
		Trichloroethene	0.13	2.00E-03	9125.00	250.00	25.00	0.33	0.01482534
		1,2-Dichloroethane	0.057	7.00E-03	9125.00	250.00	25.00	0.33	0.00185724
		<b>Total</b>							

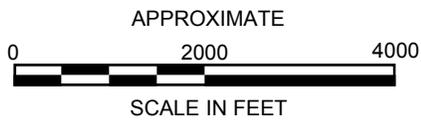
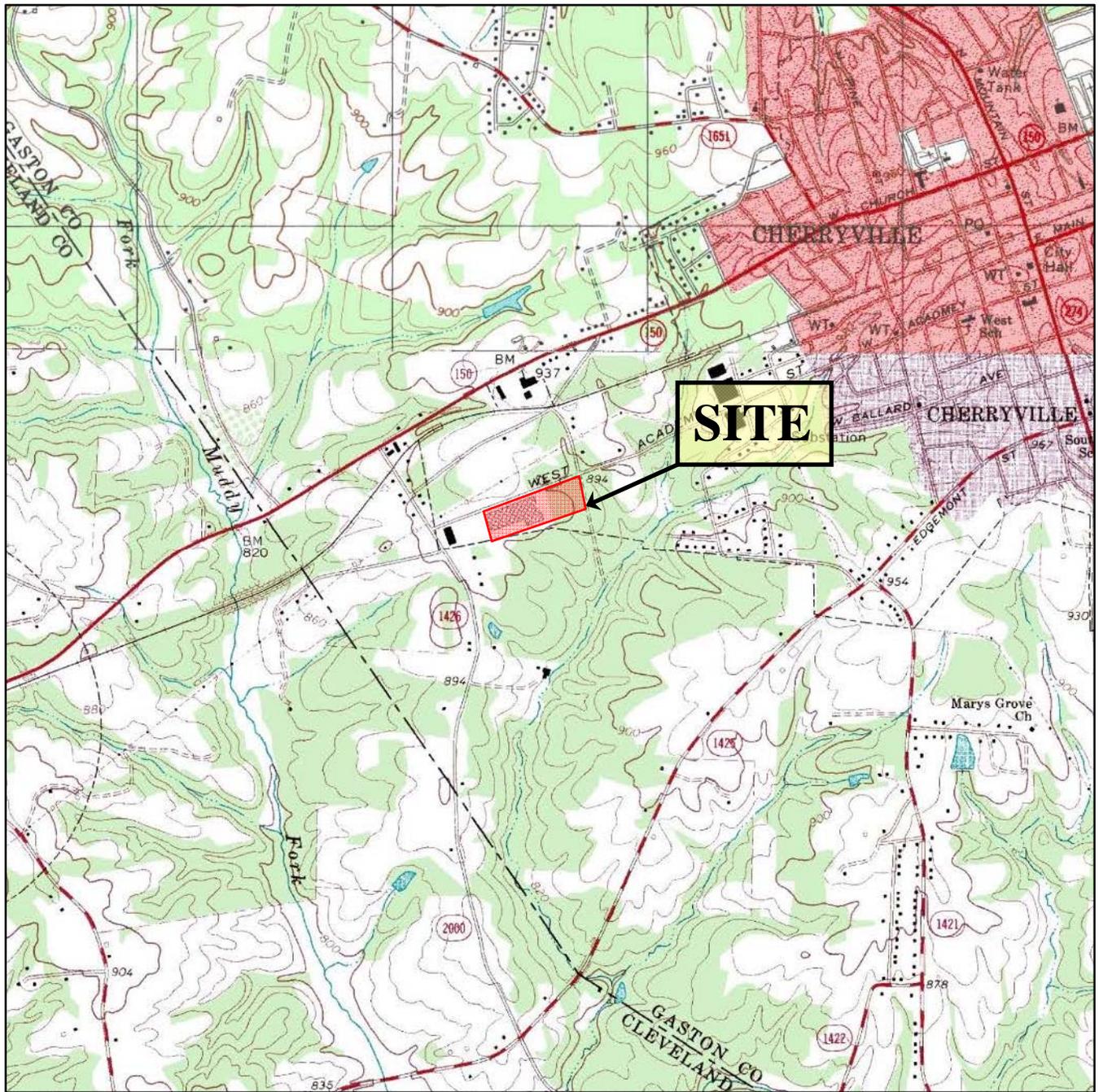
Notes:

Rfc = Reference Concentration; AT = Averaging Time; EF = Exposure Frequency; ED = Exposure Duration; ET = Exposure Time

mg/m<sup>3</sup> = milligram per cubic meter

µg/m<sup>3</sup> = microgram per cubic meter

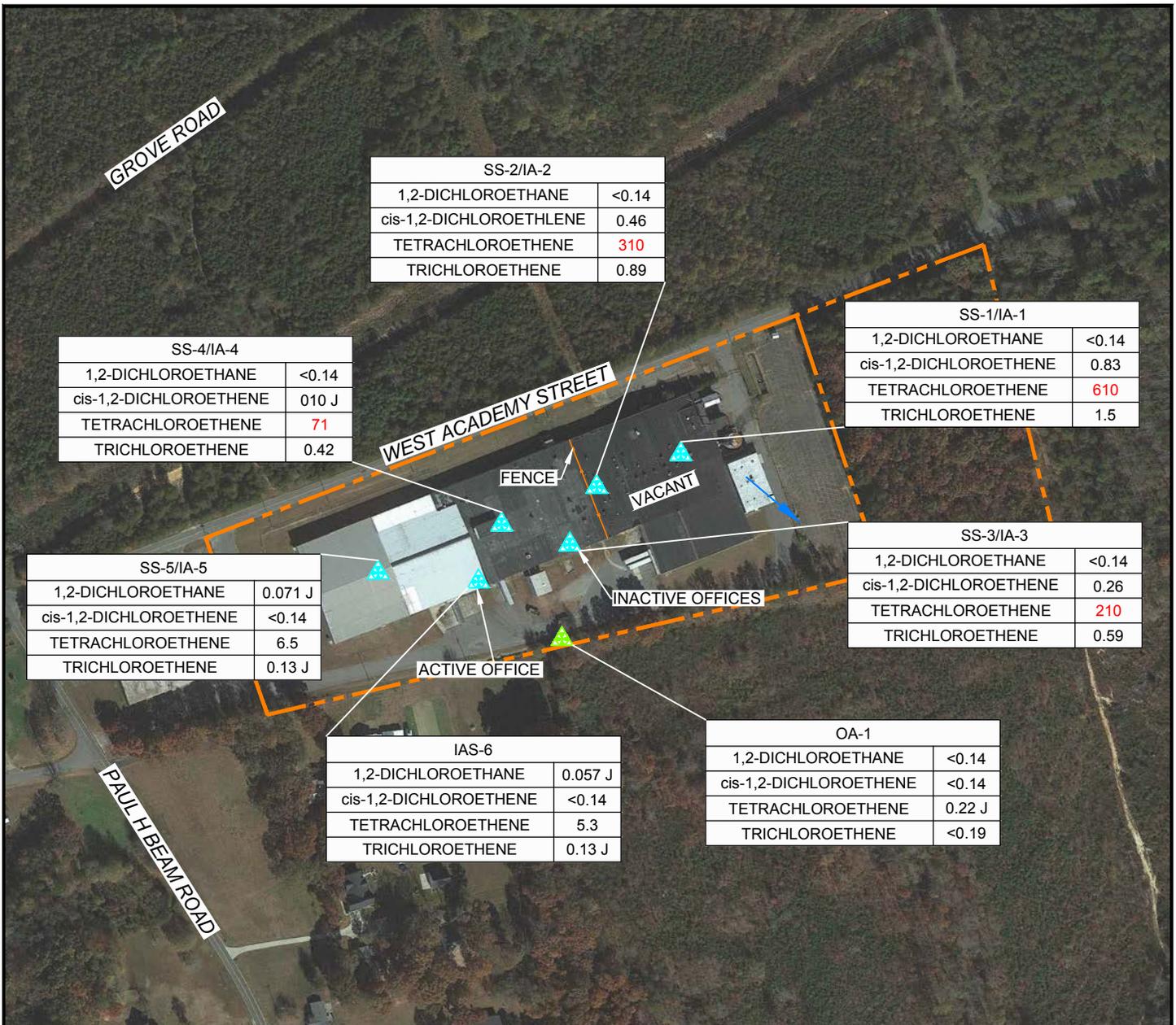
Rfc values taken from Regional Screening Level (RSL) Composite Worker Ambient Air Table dated June 2015



U.S.G.S. QUADRANGLE MAP  
**WACO, NORTH CAROLINA, 1976**

QUADRANGLE  
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE	<b>SITE LOCATION MAP</b>	
PROJECT	FORMER KNITRONICS 1515 WEST ACADEMY STREET CHERRYVILLE, NC	
	 2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007 (p) 704-586-0373 (f)	
	SMARTER ENVIRONMENTAL SOLUTIONS	
DATE:	12-1-15	REVISION NO: 0
JOB NO:	MOH-001	FIGURE: 1



SS-2/IA-2	
1,2-DICHLOROETHANE	<0.14
cis-1,2-DICHLOROETHYLENE	0.46
TETRACHLOROETHENE	310
TRICHLOROETHENE	0.89

SS-4/IA-4	
1,2-DICHLOROETHANE	<0.14
cis-1,2-DICHLOROETHENE	010 J
TETRACHLOROETHENE	71
TRICHLOROETHENE	0.42

SS-1/IA-1	
1,2-DICHLOROETHANE	<0.14
cis-1,2-DICHLOROETHENE	0.83
TETRACHLOROETHENE	610
TRICHLOROETHENE	1.5

SS-5/IA-5	
1,2-DICHLOROETHANE	0.071 J
cis-1,2-DICHLOROETHENE	<0.14
TETRACHLOROETHENE	6.5
TRICHLOROETHENE	0.13 J

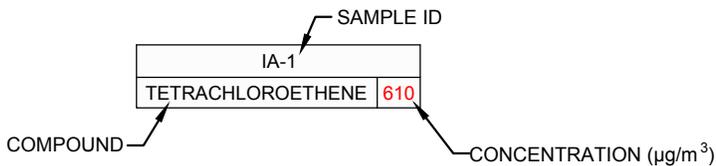
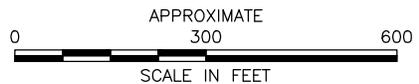
SS-3/IA-3	
1,2-DICHLOROETHANE	<0.14
cis-1,2-DICHLOROETHENE	0.26
TETRACHLOROETHENE	210
TRICHLOROETHENE	0.59

IAS-6	
1,2-DICHLOROETHANE	0.057 J
cis-1,2-DICHLOROETHENE	<0.14
TETRACHLOROETHENE	5.3
TRICHLOROETHENE	0.13 J

OA-1	
1,2-DICHLOROETHANE	<0.14
cis-1,2-DICHLOROETHENE	<0.14
TETRACHLOROETHENE	0.22 J
TRICHLOROETHENE	<0.19

**LEGEND**

- SITE PROPERTY BOUNDARY
- SUB-SLAB AND/OR INDOOR AIR SAMPLE LOCATION
- BACKGROUND AIR SAMPLE LOCATION
- ASSUMED SHALLOW GROUNDWATER FLOW DIRECTION



**NOTES:**

1. ONLY COMPOUNDS DETECTED IN AT LEAST ONE SAMPLE SHOWN.
2. RED VALUE = CONCENTRATION EXCEEDS DEQ INDOOR AIR AND CRAWLSPACE SCREENING CONCENTRATION.

<b>TITLE</b> INDOOR/BACKGROUND AIR SAMPLE RESULTS	
<b>PROJECT</b> FORMER KNITRONICS 1515 WEST ACADEMY STREET CHERRYVILLE, NC	
<b>SMARTER ENVIRONMENTAL SOLUTIONS</b>	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: 12-8-15	REVISION NO. 0
JOB NO. MOH-001	FIGURE NO. 2

**Appendix A**  
**Laboratory Analytical Data**

November 17, 2015

Steve Libbey  
Hart & Hickman - Charlotte, NC  
2923 South Tryon Street, Suite 100  
Charlotte, NC 28203

Project Location: Cherryville, NC  
Client Job Number:  
Project Number: [none]  
Laboratory Work Order Number: 15K0349

Enclosed are results of analyses for samples received by the laboratory on November 6, 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: Steve Libbey

REPORT DATE: 11/17/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 15K0349

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

PROJECT LOCATION: Cherryville, NC

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IA-1	15K0349-01	Indoor air		EPA TO-15	
IA-2	15K0349-02	Indoor air		EPA TO-15	
IA-3	15K0349-03	Indoor air		EPA TO-15	
IA-4	15K0349-04	Indoor air		EPA TO-15	
IA-5	15K0349-05	Indoor air		EPA TO-15	
OA-1	15K0349-06	Ambient Air		EPA TO-15	
DUP-01	15K0349-07	Indoor air		EPA TO-15	
Trip Blank-1	15K0349-08	Air		EPA TO-15	
SS-1	15K0349-09	Sub Slab		EPA TO-15	
DUP-02	15K0349-10	Sub Slab		EPA TO-15	
SS-2	15K0349-11	Sub Slab		EPA TO-15	
SS-3	15K0349-12	Sub Slab		EPA TO-15	
SS-4	15K0349-13	Sub Slab		EPA TO-15	
SS-5	15K0349-14	Sub Slab		EPA TO-15	
Trip Blank	15K0349-15	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.

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.

A handwritten signature in black ink, appearing to read "Daren J. Damboragian", is written over a light gray rectangular background.

Daren J. Damboragian  
Laboratory Manager

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: IA-1**  
**Sample ID: 15K0349-01**  
 Sample Matrix: Indoor air  
 Sampled: 11/5/2015 16:28

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1984  
 Canister Size: 6 liter  
 Flow Controller ID: 3582  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -9  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/12/15 22:25	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/12/15 22:25	CMR
cis-1,2-Dichloroethylene	0.21	0.035	0.013		0.83	0.14	0.702	11/12/15 22:25	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/12/15 22:25	CMR
Tetrachloroethylene	91	0.20	0.057		610	1.4	4	11/17/15 12:25	CMR
Trichloroethylene	0.28	0.035	0.010		1.5	0.19	0.702	11/12/15 22:25	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/12/15 22:25	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	87.4	70-130	11/12/15 22:25
4-Bromofluorobenzene (1)	87.3	70-130	11/17/15 12:25

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: IA-2**  
**Sample ID: 15K0349-02**  
 Sample Matrix: Indoor air  
 Sampled: 11/5/2015 16:17

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2038  
 Canister Size: 6 liter  
 Flow Controller ID: 4606  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -9.3  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/12/15 23:16	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/12/15 23:16	CMR
cis-1,2-Dichloroethylene	0.12	0.035	0.013		0.46	0.14	0.702	11/12/15 23:16	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/12/15 23:16	CMR
Tetrachloroethylene	46	0.10	0.028		310	0.68	2	11/17/15 13:09	CMR
Trichloroethylene	0.16	0.035	0.010		0.89	0.19	0.702	11/12/15 23:16	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/12/15 23:16	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	86.6	70-130	11/17/15 13:09
4-Bromofluorobenzene (1)	86.7	70-130	11/12/15 23:16

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: IA-3**  
**Sample ID: 15K0349-03**  
 Sample Matrix: Indoor air  
 Sampled: 11/5/2015 16:25

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2210  
 Canister Size: 6 liter  
 Flow Controller ID: 3583  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -9.3  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/13/15 0:07	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/13/15 0:07	CMR
cis-1,2-Dichloroethylene	0.066	0.035	0.013		0.26	0.14	0.702	11/13/15 0:07	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/13/15 0:07	CMR
Tetrachloroethylene	30	0.035	0.010		210	0.24	0.702	11/13/15 0:07	CMR
Trichloroethylene	0.11	0.035	0.010		0.59	0.19	0.702	11/13/15 0:07	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/13/15 0:07	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	86.9	70-130	11/13/15 0:07

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: IA-4**  
**Sample ID: 15K0349-04**  
 Sample Matrix: Indoor air  
 Sampled: 11/5/2015 16:07

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2013  
 Canister Size: 6 liter  
 Flow Controller ID: 3562  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -9  
 Receipt Vacuum(in Hg): -9.4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/13/15 0:59	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/13/15 0:59	CMR
cis-1,2-Dichloroethylene	0.026	0.035	0.013	J	0.10	0.14	0.702	11/13/15 0:59	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/13/15 0:59	CMR
Tetrachloroethylene	10	0.035	0.010		71	0.24	0.702	11/13/15 0:59	CMR
Trichloroethylene	0.079	0.035	0.010		0.42	0.19	0.702	11/13/15 0:59	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/13/15 0:59	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	86.8	70-130	11/13/15 0:59

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: IA-5**  
**Sample ID: 15K0349-05**  
 Sample Matrix: Indoor air  
 Sampled: 11/5/2015 16:05

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2017  
 Canister Size: 6 liter  
 Flow Controller ID: 3563  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -9.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Date/Time			Analyst
	Results	RL	MDL		Results	RL	Dilution	Analyzed		
1,2-Dichloroethane	0.018	0.035	0.0098	J	0.071	0.14	0.702	11/13/15	1:49	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/13/15	1:49	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	11/13/15	1:49	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/13/15	1:49	CMR
Tetrachloroethylene	0.95	0.035	0.010		6.5	0.24	0.702	11/13/15	1:49	CMR
Trichloroethylene	0.025	0.035	0.010	J	0.13	0.19	0.702	11/13/15	1:49	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/13/15	1:49	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	86.3	70-130	11/13/15 1:49

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: OA-1**  
**Sample ID: 15K0349-06**  
 Sample Matrix: Ambient Air  
 Sampled: 11/5/2015 16:37

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2016  
 Canister Size: 6 liter  
 Flow Controller ID: 3259  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/13/15 2:37	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/13/15 2:37	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	11/13/15 2:37	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/13/15 2:37	CMR
Tetrachloroethylene	0.033	0.035	0.010	J	0.22	0.24	0.702	11/13/15 2:37	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	11/13/15 2:37	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/13/15 2:37	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	86.7	70-130	11/13/15 2:37

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: DUP-01**  
**Sample ID: 15K0349-07**  
 Sample Matrix: Indoor air  
 Sampled: 11/5/2015 00:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1810  
 Canister Size: 6 liter  
 Flow Controller ID: 4606  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -9.3  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/13/15 3:29	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/13/15 3:29	CMR
cis-1,2-Dichloroethylene	0.12	0.035	0.013		0.46	0.14	0.702	11/13/15 3:29	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/13/15 3:29	CMR
Tetrachloroethylene	54	0.10	0.028		370	0.68	2	11/17/15 13:53	CMR
Trichloroethylene	0.17	0.035	0.010		0.90	0.19	0.702	11/13/15 3:29	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/13/15 3:29	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	86.0	70-130	11/17/15 13:53
4-Bromofluorobenzene (1)	86.0	70-130	11/13/15 3:29

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: Trip Blank-1**  
**Sample ID: 15K0349-08**  
 Sample Matrix: Air  
 Sampled: 11/5/2015 00:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2135  
 Canister Size: 6 liter  
 Flow Controller ID: 3258  
 Sample Type: 8 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -29.9  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/12/15 20:50	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/12/15 20:50	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	11/12/15 20:50	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/12/15 20:50	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	11/12/15 20:50	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	11/12/15 20:50	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/12/15 20:50	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	84.4	70-130	11/12/15 20:50

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: SS-1**  
**Sample ID: 15K0349-09**  
 Sample Matrix: Sub Slab  
 Sampled: 11/5/2015 11:05

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2119  
 Canister Size: 1 liter  
 Flow Controller ID: 3105  
 Sample Type: 1 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	8000	2200		ND	32000	160000	11/15/15 23:03	CMR
1,1-Dichloroethylene	ND	8000	2000		ND	32000	160000	11/15/15 23:03	CMR
cis-1,2-Dichloroethylene	9000	8000	3000		36000	32000	160000	11/15/15 23:03	CMR
trans-1,2-Dichloroethylene	ND	8000	2100		ND	32000	160000	11/15/15 23:03	CMR
Tetrachloroethylene	4000000	8000	2300		27000000	54000	160000	11/15/15 23:03	CMR
Trichloroethylene	7400	8000	2400	J	40000	43000	160000	11/15/15 23:03	CMR
Vinyl Chloride	ND	8000	3400		ND	20000	160000	11/15/15 23:03	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	112	70-130	11/15/15 23:03

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: DUP-02**  
**Sample ID: 15K0349-10**  
 Sample Matrix: Sub Slab  
 Sampled: 11/5/2015 00:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2122  
 Canister Size: 1 liter  
 Flow Controller ID: 3105  
 Sample Type: 1 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.9  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	8000	2200		ND	32000	160000	11/15/15 22:24	CMR
1,1-Dichloroethylene	ND	8000	2000		ND	32000	160000	11/15/15 22:24	CMR
cis-1,2-Dichloroethylene	8500	8000	3000		34000	32000	160000	11/15/15 22:24	CMR
trans-1,2-Dichloroethylene	ND	8000	2100		ND	32000	160000	11/15/15 22:24	CMR
Tetrachloroethylene	3600000	8000	2300		25000000	54000	160000	11/15/15 22:24	CMR
Trichloroethylene	6700	8000	2400	J	36000	43000	160000	11/15/15 22:24	CMR
Vinyl Chloride	ND	8000	3400		ND	20000	160000	11/15/15 22:24	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	112	70-130	11/15/15 22:24

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: SS-2**  
**Sample ID: 15K0349-11**  
 Sample Matrix: Sub Slab  
 Sampled: 11/5/2015 11:25

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2115  
 Canister Size: 1 liter  
 Flow Controller ID: 3071  
 Sample Type: 1 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -9  
 Receipt Vacuum(in Hg): -11.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	4.0	1.1		ND	16	80	11/15/15 19:49	CMR
1,1-Dichloroethylene	ND	4.0	0.98		ND	16	80	11/15/15 19:49	CMR
cis-1,2-Dichloroethylene	ND	4.0	1.5		ND	16	80	11/15/15 19:49	CMR
trans-1,2-Dichloroethylene	ND	4.0	1.1		ND	16	80	11/15/15 19:49	CMR
Tetrachloroethylene	22000	40	11		150000	270	800	11/15/15 21:46	CMR
Trichloroethylene	ND	4.0	1.2		ND	21	80	11/15/15 19:49	CMR
Vinyl Chloride	ND	4.0	1.7		ND	10	80	11/15/15 19:49	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	112	70-130	11/15/15 21:46
4-Bromofluorobenzene (1)	116	70-130	11/15/15 19:49

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: SS-3**  
**Sample ID: 15K0349-12**  
 Sample Matrix: Sub Slab  
 Sampled: 11/5/2015 12:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2114  
 Canister Size: 1 liter  
 Flow Controller ID: 3072  
 Sample Type: 1 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -6.3  
 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		
1,2-Dichloroethane	ND	0.20	0.056		ND	0.81	4	11/16/15	0:59	CMR
1,1-Dichloroethylene	ND	0.20	0.049		ND	0.79	4	11/16/15	0:59	CMR
cis-1,2-Dichloroethylene	ND	0.20	0.076		ND	0.79	4	11/16/15	0:59	CMR
trans-1,2-Dichloroethylene	ND	0.20	0.053		ND	0.79	4	11/16/15	0:59	CMR
Tetrachloroethylene	24	0.20	0.057		160	1.4	4	11/16/15	0:59	CMR
Trichloroethylene	0.39	0.20	0.059		2.1	1.1	4	11/16/15	0:59	CMR
Vinyl Chloride	ND	0.20	0.086		ND	0.51	4	11/16/15	0:59	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	115	70-130	11/16/15 0:59

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: SS-4**  
**Sample ID: 15K0349-13**  
 Sample Matrix: Sub Slab  
 Sampled: 11/5/2015 13:47

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2090  
 Canister Size: 1 liter  
 Flow Controller ID: 3278  
 Sample Type: 1 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -27  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -6.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.20	0.056		ND	0.81	4	11/16/15 0:21	CMR
1,1-Dichloroethylene	ND	0.20	0.049		ND	0.79	4	11/16/15 0:21	CMR
cis-1,2-Dichloroethylene	ND	0.20	0.076		ND	0.79	4	11/16/15 0:21	CMR
trans-1,2-Dichloroethylene	ND	0.20	0.053		ND	0.79	4	11/16/15 0:21	CMR
Tetrachloroethylene	14	0.20	0.057		98	1.4	4	11/16/15 0:21	CMR
Trichloroethylene	0.99	0.20	0.059		5.3	1.1	4	11/16/15 0:21	CMR
Vinyl Chloride	ND	0.20	0.086		ND	0.51	4	11/16/15 0:21	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	114	70-130	11/16/15 0:21

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: SS-5**  
**Sample ID: 15K0349-14**  
 Sample Matrix: Sub Slab  
 Sampled: 11/5/2015 14:10

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2109  
 Canister Size: 1 liter  
 Flow Controller ID: 3042  
 Sample Type: 1 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -25  
 Final Vacuum(in Hg): -3  
 Receipt Vacuum(in Hg): -7  
 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		
1,2-Dichloroethane	ND	0.20	0.056		ND	0.81	4	11/15/15 23:42	CMR	
1,1-Dichloroethylene	ND	0.20	0.049		ND	0.79	4	11/15/15 23:42	CMR	
cis-1,2-Dichloroethylene	ND	0.20	0.076		ND	0.79	4	11/15/15 23:42	CMR	
trans-1,2-Dichloroethylene	ND	0.20	0.053		ND	0.79	4	11/15/15 23:42	CMR	
Tetrachloroethylene	20	0.20	0.057		140	1.4	4	11/15/15 23:42	CMR	
Trichloroethylene	0.37	0.20	0.059		2.0	1.1	4	11/15/15 23:42	CMR	
Vinyl Chloride	ND	0.20	0.086		ND	0.51	4	11/15/15 23:42	CMR	

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	114	70-130	11/15/15 23:42

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/6/2015  
**Field Sample #: Trip Blank**  
**Sample ID: 15K0349-15**  
 Sample Matrix: Air  
 Sampled: 11/5/2015 00:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 2108  
 Canister Size: 1 liter  
 Flow Controller ID: 3043  
 Sample Type: 1 hr

**Work Order: 15K0349**  
 Initial Vacuum(in Hg): -  
 Final Vacuum(in Hg): -  
 Receipt Vacuum(in Hg): -29.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Date/Time		Analyst
		RL	MDL		Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	11/12/15 21:34	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/12/15 21:34	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	11/12/15 21:34	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/12/15 21:34	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	11/12/15 21:34	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	11/12/15 21:34	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/12/15 21:34	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	84.8	70-130	11/12/15 21:34

**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
15K0349-01 [IA-1]	B135653	1.5	1	N/A	1000	400	855	11/12/15
15K0349-02 [IA-2]	B135653	1.5	1	N/A	1000	400	855	11/12/15
15K0349-03 [IA-3]	B135653	1.5	1	N/A	1000	400	855	11/12/15
15K0349-04 [IA-4]	B135653	1.5	1	N/A	1000	400	855	11/12/15
15K0349-05 [IA-5]	B135653	1.5	1	N/A	1000	400	855	11/12/15
15K0349-06 [OA-1]	B135653	1.5	1	N/A	1000	400	855	11/12/15
15K0349-07 [DUP-01]	B135653	1.5	1	N/A	1000	400	855	11/12/15
15K0349-08 [Trip Blank-1]	B135653	1	1	N/A	1000	400	570	11/12/15
15K0349-15 [Trip Blank]	B135653	1	1	N/A	1000	400	570	11/12/15

**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
15K0349-09 [SS-1]	B135672	2	2000	0.5	1000	400	10	11/15/15
15K0349-10 [DUP-02]	B135672	2	2000	0.5	1000	400	10	11/15/15
15K0349-11 [SS-2]	B135672	2	1	N/A	1000	400	10	11/15/15
15K0349-11RE1 [SS-2]	B135672	2	200	5	1000	400	200	11/15/15
15K0349-12 [SS-3]	B135672	2	1	N/A	1000	400	200	11/15/15
15K0349-13 [SS-4]	B135672	2	1	N/A	1000	400	200	11/15/15
15K0349-14 [SS-5]	B135672	2	1	N/A	1000	400	200	11/15/15

**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
15K0349-01RE1 [IA-1]	B135675	1.5	1	N/A	1000	400	150	11/16/15
15K0349-02RE1 [IA-2]	B135675	1.5	1	N/A	1000	400	300	11/16/15
15K0349-07RE1 [DUP-01]	B135675	1.5	1	N/A	1000	400	300	11/16/15

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

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

Batch B135653 - TO-15 Prep

Blank (B135653-BLK1)

Prepared & Analyzed: 11/12/15

1,2-Dichloroethane	ND	0.035									
1,1-Dichloroethylene	ND	0.035									
cis-1,2-Dichloroethylene	ND	0.035									
trans-1,2-Dichloroethylene	ND	0.035									
Tetrachloroethylene	ND	0.035									
Trichloroethylene	ND	0.035									
Vinyl Chloride	ND	0.035									

Surrogate: 4-Bromofluorobenzene (1)	6.85				8.00		85.6	70-130			
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LCS (B135653-BS1)

Prepared & Analyzed: 11/12/15

1,2-Dichloroethane	4.26				5.00		85.1	70-130			
1,1-Dichloroethylene	5.21				5.00		104	70-130			
cis-1,2-Dichloroethylene	4.53				5.00		90.6	70-130			
trans-1,2-Dichloroethylene	4.43				5.00		88.5	70-130			
Tetrachloroethylene	3.84				5.00		76.8	70-130			
Trichloroethylene	5.07				5.00		101	70-130			
Vinyl Chloride	4.75				5.00		94.9	70-130			

Surrogate: 4-Bromofluorobenzene (1)	7.15				8.00		89.4	70-130			
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Batch B135672 - TO-15 Prep

Blank (B135672-BLK1)

Prepared & Analyzed: 11/15/15

1,2-Dichloroethane	ND	0.034									
1,1-Dichloroethylene	ND	0.034									
cis-1,2-Dichloroethylene	ND	0.034									
trans-1,2-Dichloroethylene	ND	0.034									
Tetrachloroethylene	ND	0.034									
Trichloroethylene	ND	0.034									
Vinyl Chloride	ND	0.034									

Surrogate: 4-Bromofluorobenzene (1)	8.99				8.00		112	70-130			
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**QUALITY CONTROL**

**Air Toxics by EPA Compendium Methods - Quality Control**

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

**Batch B135672 - TO-15 Prep**

**LCS (B135672-BS1)**

Prepared & Analyzed: 11/15/15

1,2-Dichloroethane	5.64				5.00		113	70-130			
1,1-Dichloroethylene	5.00				5.00		100	70-130			
cis-1,2-Dichloroethylene	4.68				5.00		93.6	70-130			
trans-1,2-Dichloroethylene	4.53				5.00		90.6	70-130			
Tetrachloroethylene	4.60				5.00		91.9	70-130			
Trichloroethylene	4.16				5.00		83.1	70-130			
Vinyl Chloride	4.14				5.00		82.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>9.39</i>				<i>8.00</i>		<i>117</i>	<i>70-130</i>			

**Batch B135675 - TO-15 Prep**

**Blank (B135675-BLK1)**

Prepared & Analyzed: 11/16/15

Tetrachloroethylene	ND	0.035									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>6.71</i>				<i>8.00</i>		<i>83.8</i>	<i>70-130</i>			

**LCS (B135675-BS1)**

Prepared & Analyzed: 11/16/15

Tetrachloroethylene	3.79				5.00		75.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.60</i>				<i>8.00</i>		<i>95.0</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>	
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,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	06/30/2016
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
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	06/30/2016
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	09/6/2016

15k0349

con-test<sup>®</sup>  
 ANALYTICAL LABORATORY  
 Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Company Name: **MARK HICKMAN**  
 Address: **2923 S. Tryon St., Charlotte, NC**  
 Phone: **704 586 0007**  
 Project Name: **Former TRAVIS KNITS FACILITY**  
 Project Location: **Cherryville, NC**  
 Project Number: **MOH-001**  
 Project Manager: **Steve Libbey**  
 Con-Test Bid:  
 Invoice Recipient: **Cynthia Adams**  
 Sampled By: **Grabe Steil**

Requested Turnaround Time:  
 7-Day  10-Day   
 Other: **STO**  
 Rush Approval Required:  
 1-Day  3-Day   
 2-Day  4-Day   
 Data Delivery:  
 Format: PDF  EXCEL   
 Other:  
 Enhanced Data Package Required:   
 Email To: **SLibbey@hickman.com**  
 Fax To #:

Lab Use	Client Use	Collection Data	Duration	Flow Rate	Matrix	Volume
Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Total Minutes Sampled	m <sup>3</sup> /min L/min	Code	Liters m <sup>3</sup>
01	IA-1	11/5/15 820	480		IA	
02	IA-2	817				
03	IA-3	825				
04	IA-4	807				
05	IA-5	805				
06	OA-1	837			O	
07	DUP01					
08	TRIP Blank-1				IA	
09	SS-1	1105	60		SS	

Initial Pressure	Final Pressure	Lab Receipt Pressure	Summa Can ID	Flow Controller ID
29	8.9	" Hg	1984	3582
29	8.9		2038	4606
29	8.9		2210	3583
30	9.4		2013	3562
29	8.9		2017	3563
30	8.0		2016	3259
29	8.9		1810	4606
-	-		2135	3258
30	5.5		2119	3105

Comments:  
 TO-15\*100 = cis/trans-1,2-DCE, PCE, TCE,  
 1,1 DCE, vinyl chloride and 1,2-dichloroethane

Matrix Codes:  
 SG = SOIL GAS  
 IA = INDOOR AIR  
 AMB = AMBIENT  
 SS = SUB SLAB  
 D = DUP  
 BL = BLANK  
 O = Other Outdoor

Enhanced Data Package Required:   
 MA MCP Required:   
 CT RCP Required:   
 Enhanced Data Package Required:

Relinquished by: (signature)	Date/Time	Detection Limit Requirements	Special Requirements
<i>[Signature]</i>	11/15/15 9:00	MA	
<i>[Signature]</i>	11/16/15 10:00		
<i>[Signature]</i>	11/16/15 11:00		
<i>[Signature]</i>	11/17/15 9:54		
<i>[Signature]</i>	11/17/15		
Relinquished by: (signature)	Date/Time:		
Received by: (signature)	Date/Time:		

http://www.contestlabs.com  
 CHAIN OF CUSTODY RECORD (AIR)

15K0348  
 Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Company Name: **Robert Herzman**  
 Address: **2423 S. JAPAN ST**  
 Phone: **708 546 4607**  
 Project Name: **Former Tennis Club Facility**  
 Project Location: **Cherryville, NC**  
 Project Number: **MOX-001**  
 Project Manager: **Steve Libbey**  
 Con-Test Bid:   
 Invoice Recipient:   
 Sampled By: **Greg Stork**

Requested Turnaround Time: **STO**  7-Day  10-Day  Other:   
 Rush-Approval Required  1-Day  3-Day  2-Day  4-Day    
 Data Delivery:  PDF  EXCEL  Other:   
 Enhanced Data Package Required:    
 Email To: **stobac@tdh.com**   
 Fax To #:   
 ANALYSIS REQUESTED

Lab Use	Client Use	Collection Data	Duration	Flow Rate	Matrix	Volume
Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Total Minutes Sampled	m <sup>3</sup> /min L/min	Code	Liters m <sup>3</sup>
10	Dupe 2	11/15	60		SS	
11	SS-2	1025				
12	SS-3	1100				
13	SS-4	1247				
14	SS-5	1310				
15	TRIP BLANK-2				BL	

Defection Limit Requirements	Special Requirements
MA <input type="checkbox"/>	MA MCP Required <input type="checkbox"/>
CT <input type="checkbox"/>	CT RCP Required <input type="checkbox"/>
Other <input type="checkbox"/>	Enhanced Data Package Required <input type="checkbox"/>

Comments: **STO-15 VOL 2 = 03/11/15-12 DEC, REG, TCE 1**  
**11-DEC, VC, 112-DCM**

Reinquisitioned by: (signature)	Date/Time:
<i>[Signature]</i>	11/15-9:00
Received by: (signature)	Date/Time:
<i>[Signature]</i>	11/15 1:00
Reinquisitioned by: (signature)	Date/Time:
<i>[Signature]</i>	11/15 1:00
Received by: (signature)	Date/Time:
<i>[Signature]</i>	11/15 9:54
Reinquisitioned by: (signature)	Date/Time:
<i>[Signature]</i>	11/15
Received by: (signature)	Date/Time:
<i>[Signature]</i>	

Initial Pressure	Final Pressure	Lab Receipt Pressure	" Hg
30	5	2122	3105
28	9	2115	3071
29	6	2114	3072
27	4	2090	3278
25	3	2109	3042
-	-	2108	3043

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
 H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:  
 SG = SOIL GAS  
 IA = INDOOR AIR  
 AMB = AMBIENT  
 SS = SUB SLAB  
 D = DUP  
 BL = BLANK  
 O = Other

NEIAC and AHA-LAP, LLC Accredited

TURNAROUND TIME (BUSINESS DAYS) STARTS AT 9:00 AM THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON THIS CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME CANNOT START UNTIL ALL QUESTIONS HAVE BEEN ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT



FedEx® Tracking

774918064318

Ship date

**Fri 11/06/2015**

Actual delivery

**Sat 11/07/2015 9:54 am**

CHARLOTTE, NC US

**Delivered**

*Signed for by: R.FAUST*

EAST LONGMEADOW, MA US

Travel History

Date/Time	Activity	Location
<b>11/07/2015 - Saturday</b>		
9:54 am	Delivered	EAST LONGMEADOW, MA
8:17 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
7:51 am	At local FedEx facility	WINDSOR LOCKS, CT
6:32 am	At destination sort facility	EAST GRANBY, CT
3:38 am	Departed FedEx location	MEMPHIS, TN
<b>11/06/2015 - Friday</b>		
11:13 pm	Arrived at FedEx location	MEMPHIS, TN
9:07 pm	Left FedEx origin facility	CHARLOTTE, NC
12:16 pm	Picked up	CHARLOTTE, NC
9:54 am	Shipment information sent to FedEx	

Shipment Facts

<b>Tracking number</b>	774918064318	<b>Service</b>	FedEx Priority Overnight
<b>Weight</b>	35 lbs / 15.88 kgs	<b>Dimensions</b>	21x18x14 in
<b>Delivered To</b>	Shipping/Receiving	<b>Total pieces</b>	1
<b>Total shipment weight</b>	35 lbs / 15.88 kgs	<b>Shipper reference</b>	60
<b>Packaging</b>	Your Packaging	<b>Special handling section</b>	For Saturday Delivery



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- Small Business Center
- Service Guide
- Customer Support

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- FedEx SameDay
- FedEx Home Delivery
- Healthcare Solutions
- Online Retail Solutions
- Packaging Services
- Ancillary Clearance Services

**Other Resources**

- FedEx Compatible
- Developer Resource Center
- FedEx Ship Manager Software
- FedEx Mobile

**Companies**

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- FedEx Freight
- FedEx Custom Critical
- FedEx Trade Networks
- FedEx SupplyChain
- FedEx TechConnect

**Follow FedEx**

United States - English



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: PR DATE: 11-7-15

- 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:  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)	15	8 6lt / 7 1lt
Tedlar Bags		
TO-17 Tubes		
Regulators	13	7 8hr / 6 1hr
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:  
3 Nut/Ferrule x 11  
Over night shipping = \$601.29

- 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:	2013	2135	2114	3258	3582	3278	3072
6 lit	1984	2017	2119	2090	3259	3583	3105
	2038	2016	2122	2107	3562	4606	3071
	2210	1810	2115	2108	3563		3043

1 lit

**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 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: 11-7-15  
9:54

November 30, 2015

Steve Libbey  
Hart & Hickman - Charlotte, NC  
2923 South Tryon Street, Suite 100  
Charlotte, NC 28203

Project Location: Cherryville, NC  
Client Job Number:  
Project Number: MOH-001  
Laboratory Work Order Number: 15K1004

Enclosed are results of analyses for samples received by the laboratory on November 20, 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: Steve Libbey

REPORT DATE: 11/30/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: MOH-001

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 15K1004

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

PROJECT LOCATION: Cherryville, NC

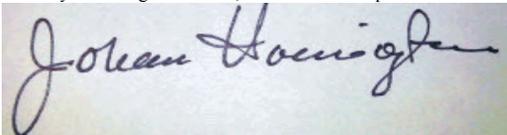
FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IAS-6	15K1004-01	Indoor air		EPA TO-15	

**CASE NARRATIVE SUMMARY**

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

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.

A handwritten signature in black ink, appearing to read "Johanna K. Harrington", is written over a light-colored rectangular background.

Johanna K. Harrington  
Manager, Laboratory Reporting

**ANALYTICAL RESULTS**

Project Location: Cherryville, NC  
 Date Received: 11/20/2015  
**Field Sample #: IAS-6**  
**Sample ID: 15K1004-01**  
 Sample Matrix: Indoor air  
 Sampled: 11/20/2015 15:15

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1138  
 Canister Size: 6 liter  
 Flow Controller ID: 3170  
 Sample Type: 8 hr

**Work Order: 15K1004**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -10  
 Receipt Vacuum(in Hg): -10.1  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag	ug/m3		Date/Time		Analyst
		RL	MDL			Results	RL	Dilution	Analyzed	
1,2-Dichloroethane	0.014	0.035	0.0098	J	0.057	0.14	0.702	11/21/15 11:57	TPH	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	11/21/15 11:57	TPH	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	11/21/15 11:57	TPH	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	11/21/15 11:57	TPH	
Tetrachloroethylene	0.79	0.035	0.010		5.3	0.24	0.702	11/21/15 11:57	TPH	
Trichloroethylene	0.025	0.035	0.010	J	0.13	0.19	0.702	11/21/15 11:57	TPH	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	11/21/15 11:57	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	112	70-130	11/21/15 11:57

**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
15K1004-01 [IAS-6]	B136451	1.5	1	N/A	1000	400	855	11/20/15

**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	Limits	Limit	

**Batch B136451 - TO-15 Prep**

**Blank (B136451-BLK1)**

Prepared & Analyzed: 11/20/15

1,2-Dichloroethane	ND	0.020								
1,1-Dichloroethylene	ND	0.020								
cis-1,2-Dichloroethylene	ND	0.020								
trans-1,2-Dichloroethylene	ND	0.020								
Tetrachloroethylene	0.019	0.020								J
Trichloroethylene	ND	0.020								
Vinyl Chloride	ND	0.020								

*Surrogate: 4-Bromofluorobenzene (1)*      9.18      8.00      115      70-130

**LCS (B136451-BS1)**

Prepared & Analyzed: 11/20/15

1,2-Dichloroethane	4.74				5.00	94.8	70-130			
1,1-Dichloroethylene	4.78				5.00	95.7	70-130			
cis-1,2-Dichloroethylene	4.61				5.00	92.2	70-130			
trans-1,2-Dichloroethylene	4.16				5.00	83.1	70-130			
Tetrachloroethylene	5.84				5.00	117	70-130			
Trichloroethylene	5.03				5.00	101	70-130			
Vinyl Chloride	5.88				5.00	118	70-130			

*Surrogate: 4-Bromofluorobenzene (1)*      9.78      8.00      122      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.
- 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>	
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,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	06/30/2016
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
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	06/30/2016
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	09/6/2016

15K004

con-test ANALYTICAL LABORATORY Phone: 413-525-2332 Fax: 413-525-6405 Email: info@contestlabs.com

Company Name: HARI HICKMAN Address: 2523 South Lynn St Suite 100 Phone: 704 586 0007 Project Name: Former Knitronics Project Location: Cherryville, NC Project Number: 2194 MOH-001 Project Manager: Steve Libbey / Matt Brantley Con-Test Bid: Invoice Recipient: Sampled By: J. LEAVER

Requester: [blank] 10-Day [checked] 3-Day [ ] 4-Day [ ] Other: Need results by 11/30 Rush Approval Required [ ] Data Delivery: EXCEL [ ] PDF [ ] Other: a.mbramblett@earthlink.net, conn Enhanced Data Package Required: [ ] Email To: Slibbey@earthlink.net, conn Fax To #: [ ]

Table with columns: Lab Use, Client Use, Collection Data, Duration, Flow Rate, Matrix, Volume, and Analysis Requested. Row 1: Con-Test Work Order# 01, Client Sample ID / Description IAS-6, Beginning Date/Time 11/20/15, Ending Date/Time 11/20/15, Total Minutes Sampled 420, Flow Rate [blank], Matrix IA, Volume 6L, Analysis Requested: cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, TetraChloroethylene.

Comments: Need results by 11/30 1,2 Dichloroethylene, 1,1-Dichloroethylene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, TetraChloroethylene. Relinquished by: [signature] Date/Time: 11/20/15. Received by: [signature] Date/Time: 11-20-15. Relinquished by: [signature] Date/Time: [blank]. Received by: [signature] Date/Time: [blank]. Relinquished by: [signature] Date/Time: [blank]. Received by: [signature] Date/Time: [blank].

Lab Receipt Pressure: Initial Pressure 30, Final Pressure 10, Lab Receipt Pressure 10. Matrix Codes: SG = SOIL GAS, IA = INDOOR AIR, AMB = AMBIENT, SS = SUB SLAB, D = DUP, BL = BLANK, O = Other. Turnaround Time (Business Days) Starts at 9:00 AM the day after sample receipt unless there are questions on this chain. If this form is not filled out completely or is incorrect, turnaround time cannot start until all questions have been answered.

FedEx® Tracking

**781759533617**

Ship date:

**Fri 11/20/2015**

CHARLOTTE, NC US



**Delivered**

Signed for by: R.FAUST

Actual delivery:

**Sat 11/21/2015 9:11 am**

EAST LONGMEADOW, MA US

Travel History

Date/Time	Activity	Location
<b>11/21/2015 - Saturday</b>		
9:11 am	Delivered	EAST LONGMEADOW, MA
8:29 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
8:15 am	At local FedEx facility	WINDSOR LOCKS, CT
6:56 am	At destination sort facility	EAST GRANBY, CT
3:46 am	Departed FedEx location	MEMPHIS, TN
<b>11/20/2015 - Friday</b>		
11:20 pm	Arrived at FedEx location	MEMPHIS, TN
9:20 pm	Left FedEx origin facility	CHARLOTTE, NC
8:38 pm	Picked up	PINEVILLE, NC
4:39 pm	Picked up	CHARLOTTE, NC
	Tendered at FedEx Office	
3:46 pm	Shipment information sent to FedEx	

Shipment Facts

Tracking number	781759533617	Service	FedEx Priority Overnight
Weight	9 lbs / 4.08 kgs	Dimensions	17x10x10 in.
Delivered To	Shipping/Receiving	Total pieces	1
Total shipment weight	9 lbs / 4.08 kgs	Packaging	Your Packaging
Special handling section	For Saturday Delivery		



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**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 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: **PRB**

Date/Time:  
 Date/Time: **11-21-15**  
**9:11**



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: 11-21-15

- 1) Was the chain(s) of custody relinquished and signed?  Yes  No
- 2) Does the chain agree with the samples?  
 If not, explain:  Yes  No
- 3) Are all the samples in good condition?  
 If not, explain:  Yes  No
- 4) Are there any samples "On Hold"? Yes  No  Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples?  
 Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  Yes  No

6) Location where samples are stored:   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)	1	6 lit
Tedlar Bags		
TO-17 Tubes		
Regulators	1	8 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: 1138 3170

**Appendix B**  
**Indoor Air Building Survey and Sampling Forms**

DWM INDOOR AIR BUILDING SURVEY  
and SAMPLING FORM

Site Name: Former Knitronics DSCAID#: —  
Preparer's name: Ebbe Steil Date: 11/5/15  
Preparer's affiliation: HART + HICKMAN Phone #: 704 586 0007

Part I - Occupants

Building Address: 1515 W. Academy St., Cherryville, NC  
Property Contact: Pandy John Owner / Renter / other: —  
Contact's Phone: home ( ) — work ( ) — cell ( ) —  
# of Building occupants: Children under age 13 0 Children age 13-18 0 Adults —

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial *Former textile mill*  
Describe building: Warehouse (Active) + offices Year constructed: 1971  
Sensitive population: day care / nursing home / hospital / school / other (specify): No  
Number of floors below grade: 0 (full basement / crawl space / slab on grade)  
Number of floors at or above grade: 1  
Depth of basement below grade surface: — ft. Basement size: — ft<sup>2</sup>  
Basement floor construction: concrete / dirt / floating / stone / other (specify): NA  
Foundation walls: poured concrete / cinder blocks / stone / other (specify) + metal walls  
Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No  
Type of heating system (circle all that apply):  
hot air circulation hot air radiation wood steam radiation  
heat pump hot water radiation kerosene heater electric baseboard  
other (specify): none; former elec.  
Type of ventilation system (circle all that apply):  
central air conditioning mechanical fans bathroom ventilation fans  
individual air conditioning units kitchen range hood fan outside air intake  
other (specify): Floor FANS  
Type of fuel utilized (circle all that apply): NA  
Natural gas / electric / fuel oil / wood / coal / solar / kerosene  
Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes / No

Is there a whole house fan? Yes / No

Septic system? Yes / Yes (but not used) / No NA

Irrigation/private well? Yes / Yes (but not used) / No NA

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) \_\_\_\_\_

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No

Type of barrier: \_\_\_\_\_

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): NO

Heavy vehicular traffic nearby (or other mobile sources): Truck deliveries

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes/No/NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans	<u>East Warehouse - near SS-1</u>	<u>NO</u>
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		
Hobbies - glues, paints, etc.		NA

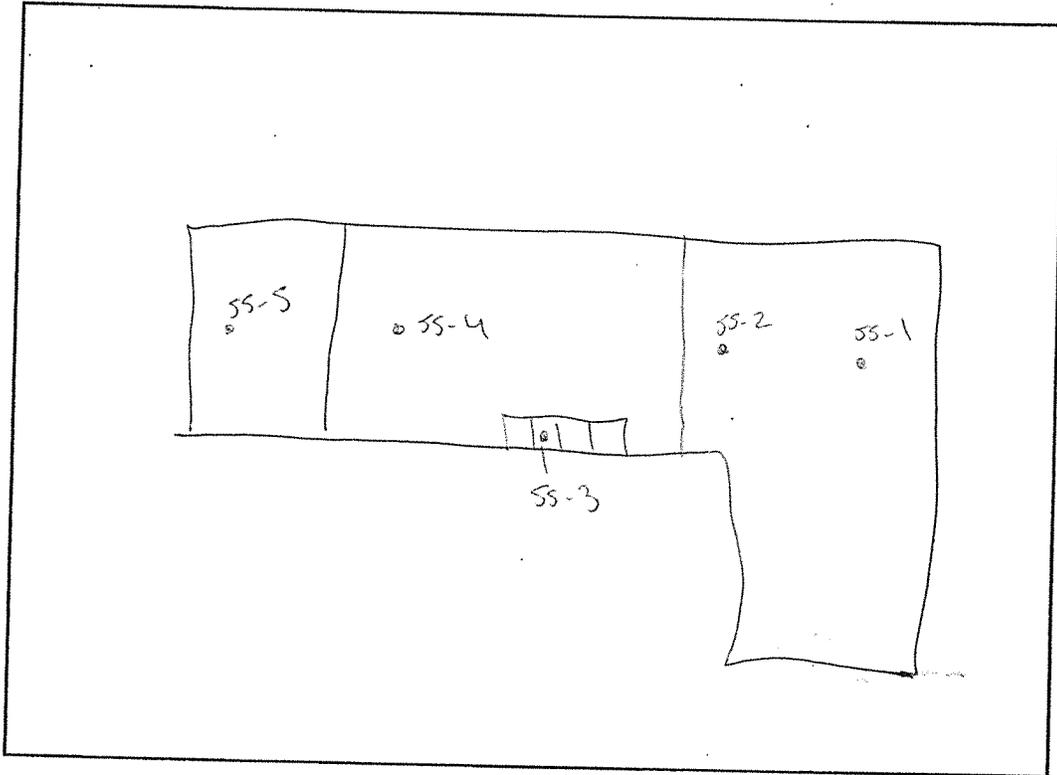
Part V - Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? \_\_\_\_\_  
Last time someone smoked in the building? NA hours / days ago  
Does the building have an attached garage directly connected to living space? Yes / No  
If so, is a car usually parked in the garage? Yes / No  
Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No  
Do the occupants of the building have their clothes dry cleaned? Yes / No  
If yes, how often? weekly / monthly / 3-4 times a year  
Do any of the occupants use solvents in work? Yes / No  
If yes, what types of solvents are used? \_\_\_\_\_  
If yes, are their clothes washed at work? Yes / No  
Have any pesticides/herbicides been applied around the building or in the yard? Yes / No  
If so, when and which chemicals? no report  
Has there ever been a fire in the building? Yes / No If yes, when? no report  
Has painting or staining been done in the building in the last 6 months? Yes / No  
If yes, when \_\_\_\_\_ and where? \_\_\_\_\_

Part VI - Sampling Information

Sample Technician: Gabe Steel Phone number: (704) 586 - 0007  
Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas  
Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): \_\_\_\_\_  
Analytical Method: TO-15 / TO-17 / other: \_\_\_\_\_ Cert. Laboratory: Contest  
Sample locations (floor, room): see field notes - SS-1 -> SS-5  
IA-1 -> IA-5  
Field ID # \_\_\_\_\_ - \_\_\_\_\_ Field ID # \_\_\_\_\_ - \_\_\_\_\_  
Field ID # \_\_\_\_\_ - \_\_\_\_\_ Field ID # \_\_\_\_\_ - \_\_\_\_\_  
Were "Instructions for Occupants" followed? Yes / No  
If not, describe modifications: None

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event?

Yes  No

Describe the general weather conditions:

70°s - cloudy

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

PROPANE TANKS used for forklifts stored outside west warehouse - could smell odor/leak in vicinity of TANKS. Warehouse doors open on west side for deliveries

(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)

INDOOR AIR BUILDING SURVEY  
and SAMPLING FORM

Site Name: Former Knitronics DSCA ID#: \_\_\_\_\_  
Preparer's name: SLWEANER Date: 11/20/15  
Preparer's affiliation: HART HICKMAN Phone #: 704 586 0007

Part I - Occupants

Building Address: 1515 West Academy St  
Property Contact: \_\_\_\_\_ Owner / Renter / other: \_\_\_\_\_  
Contact's Phone: home ( ) \_\_\_\_\_ work ( ) \_\_\_\_\_ cell ( ) \_\_\_\_\_  
# of Building occupants: Children under age 13 NA Children age 13-18 NA Adults 3-5

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: Warehouse, offices Year constructed: 1971

Sensitive population: day care / nursing home / hospital / school / other (specify): NA

Number of floors below grade: 0 (full basement / crawl space / slab on grade)

Number of floors at or above grade: 1

Depth of basement below grade surface: NA ft. Basement size: NA ft<sup>2</sup>

Basement floor construction: concrete / dirt / floating / stone / other (specify): NA

Foundation walls: poured concrete / cinder blocks / stone / other (specify) prefab walls, metal

Basement sump present? NA / Yes / No Sump pump? NA / Yes / No Water in sump? NA / Yes / No

Type of heating system (circle all that apply):

hot air circulation      hot air radiation      wood      steam radiation  
heat pump      hot water radiation      kerosene heater      electric baseboard  
other (specify): NO HEAT

Type of ventilation system (circle all that apply):

central air conditioning      mechanical fans      bathroom ventilation fans  
individual air conditioning units      kitchen range hood fan      outside air intake  
other (specify): Floor Fans

Type of fuel utilized (circle all that apply): NA

Natural gas / electric / fuel oil / wood / coal / solar / kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings?

Yes No

Is there a whole house fan? Yes / No

Septic system? Yes / Yes (but not used) / No NA

Irrigation/private well? Yes / Yes (but not used) / No NA

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) \_\_\_\_\_

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes No

Type of barrier: Unknown

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): No

Heavy vehicular traffic nearby (or other mobile sources): semi rigs load/unload cargo @ bay doors  
delistamin

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

propane for fork lifts

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes (No) How often? NA

Last time someone smoked in the building? NA hours / days ago

Does the building have an attached garage directly connected to living space? Yes / (No)

If so, is a car usually parked in the garage? Yes / No NA

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No NA

Do the occupants of the building have their clothes dry cleaned? Yes / (No)

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / (No)

If yes, what types of solvents are used? NA

If yes, are their clothes washed at work? Yes / (No)

Have any pesticides/herbicides been applied around the building or in the yard? Yes / (No)

If so, when and which chemicals? NA

Has there ever been a fire in the building? Yes / No If yes, when? No report

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when No report and where? No report

Part VI – Sampling Information

Sample Technician: JLWEAVER Phone number: (704) 586 - 0007

Sample Source: (Indoor Air) / Crawlspace Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / (Stainless Steel Canister) / Other (specify): \_\_\_\_\_

Analytical Method: TO-15 / TO-17 / other: X Cert. Laboratory: CONTEST

Sample locations (floor, room): see Fieldbook

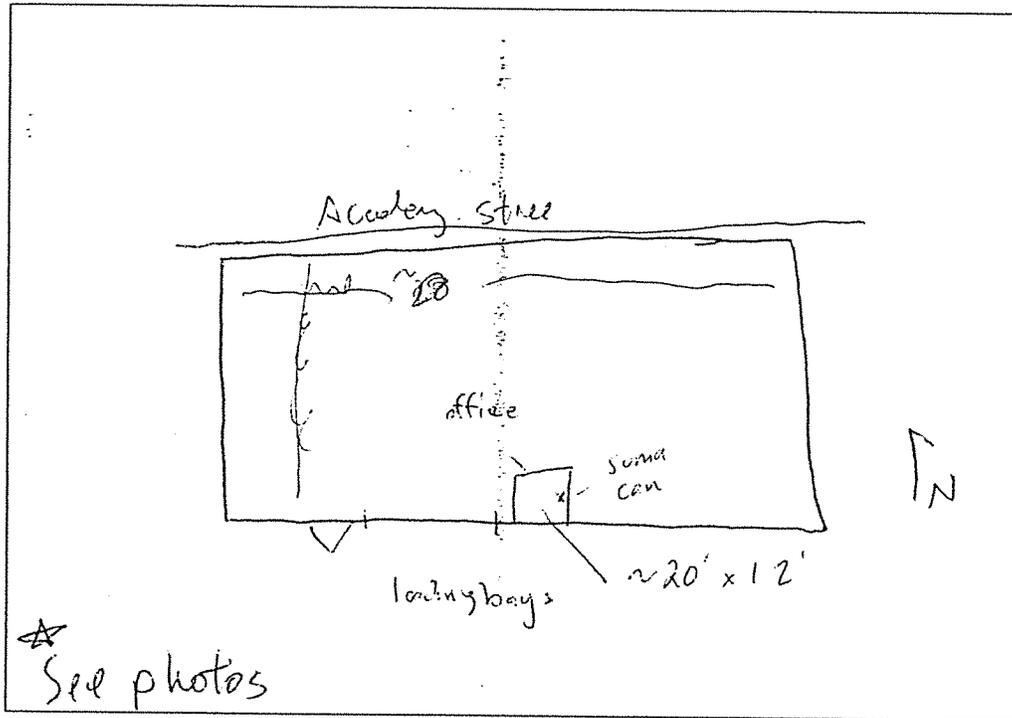
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Field ID # \_\_\_\_\_ - \_\_\_\_\_ Field ID # \_\_\_\_\_ - \_\_\_\_\_

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: No mods.

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes  No

Describe the general weather conditions: clear, low humidity low 50s to high 60s

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process (e.g., observed that drycleaner operated with door or windows propped open for ventilation).

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(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)