March 22, 2021

Ms. Jennifer Borski
Wisconsin Department of Natural Resources
625 East County Road Y, STE 700
Oshkosh, Wisconsin 54901-9731

Subject: **Vapor Intrusion Investigation Report**
905 S. Commercial Street, Neenah, Wisconsin
BRRTS# 02-71-110797

Dear Ms. Borski:

EnviroForensics, LLC (EnviroForensics) is pleased to provide this *Vapor Intrusion Investigation Report* for 905 South Commercial Street in Neenah, Wisconsin, which is currently occupied by Cranky Pat's restaurant. The investigation was performed to evaluate potential vapor intrusion (VI) impacts caused by dry cleaning solvent release(s) from the former Donaldson's Cleaners located at 110 W. Cecil Street in Neenah, Wisconsin. The location of the Former Donaldson's Cleaners with respect to surrounding properties is shown on **Figure 1**.

EnviroForensics completed VI investigation activities as described in the proposal dated August 21, 2020, and according to emails from January 25-28, 2021 describing the following modifications/additions to the scope of work:

- Collect a passive indoor air sample from the basement over a period of several days;
- Collect a passive outdoor air sample corresponding with the indoor air sample;
- Collect a vapor (headspace) sample from the basement sump; and
- Collect a water sample from basement sump.

The investigation procedures and a summary of the analytical results are presented below.

INVESTIGATION ACTIVITIES

Vapor intrusion investigation activities at Cranky Pat's were conducted February 9 through February 19, 2021. Activities consisted of indoor/outdoor passive air sampling followed by sampling of water and soil vapor from a basement sump, and sampling of vapor beneath the partial basement slab and through the west wall of the basement. The passive air samples were collected in sorbent tube devices supplied by Beacon Environmental and analyzed for the following compounds by US EPA Test Method TO-17: tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride. The vapor samples were submitted to ALS Environmental laboratory for analysis of the same compound list by US EPA Test Method TO-15.

N16 W23390 Stone Ridge Drive, Suite G, Waukesha, WI 53188 | P: 262-290-4001 | enviroforensics.com

Indoor/Outdoor Air Sampling

One (1) air sample was collected in a sorbent tube device deployed in the basement from February 9 to February 18, 2021. A corresponding sample of outdoor air was collected from a location near the northwest corner of the building over the same time period to evaluate background conditions. Air samples were collected from the breathing zone approximately five feet above the floor. The air samples were given the following designations:

- Outdoor: 200011-905-PAS-OA
- Basement: 200011-905-PAS-B

Approximate air sampling locations are shown on **Figure 2**. Data from the nearest fixed weather station, including temperature, wind speed, wind direction, humidity, barometric pressure, and rainfall were accessed and recorded on the field sampling form presented in **Attachment 1**. The average outdoor temperature over the nine day sampling period was 2 °F.

Sub-Slab Vapor Sampling

Quality assurance and quality control (QA/QC) testing and vapor sample collection were conducted in accordance with EnviroForensics procedures as described below. Permanent Vapor Pin® sampling ports were installed in November 2020 during the first round of VI sampling at the subject site. The approximate vapor sampling port locations are depicted on **Figure 2**. Sub-slab vapor sampling activities were completed on February 19, 2021, with an outdoor temperature of 19 °F.

Quality Control Methods

To ensure sub-slab vapor samples collected from the ports were representative of actual vapor conditions, leak testing of the sampling port seal and pressure testing of the sampling train was performed at each sample port prior to sampling. EnviroForensics performed water dam leak testing, which consisted of pouring water directly into the 1 ½-inch flush mount depression, or into a PVC pipe extension for the wall sample, to immerse the seal between the vapor pin and the concrete. The water level was observed for at least one (1) minute to determine if a leak was present. The water level did not decrease at any of the sub-slab vapor port locations, indicating there were no leaks around the seals.

Pressure testing was performed to verify the integrity of the sampling train (i.e., all tubing and fittings). The fittings and the sample canister were connected with all valves closed, and a negative pressure of approximately 15 inches of mercury was induced on the sampling train using a hand pump and held for approximately 60 seconds while being visually monitored. No pressure drops were noted during the testing, indicating no leaks were present in the sampling trains prior to sampling activities. QA/QC results were recorded on sampling forms provided as **Attachment 1**.

Vapor Sample Collection

Sub-slab vapor samples were collected through disposable polyethylene tubing connected to the sampling port. A graduated syringe was used to purge ambient air from the tubing prior to initiating sample collection. Samples were then collected using 1-liter vacuum canisters fitted with laboratory-supplied regulators that allowed a flow rate of approximately 200 milliliters per minute. The vapor samples were given the following designations:

- Basement: 200011-905-SSV-B
- West wall of basement: 200011-905-SSV-W

Initial and final pressure readings were collected from each canister and recorded on the field sampling form provided in **Attachment 1**.

Sump Headspace Sample Collection

In preparation for collecting a headspace vapor sample from the basement sump, EnviroForensics personnel completed the following activities to seal the sump without plumbing modifications:

1. Removed the metal plate covering the sump.
2. Covered the sump opening with 2-mil plastic sheeting and secured the plastic around pipes entering the sump with cable ties.
3. Replaced the metal plate over the plastic to seal around the sump edges.
4. Waited 24 hours to allow vapor to accumulate under the plastic.

A photograph of the sump prepared for vapor sampling is provided below. The headspace vapor sample (200011-905-SUMP) was collected through disposable polyethylene tubing inserted through a small cut in the plastic. The sample was collected in a 1-liter vacuum canister fitted with a laboratory-supplied regulator that allowed a flow rate of approximately 200 milliliters per minute.

Water Sampling

A sample of water in the sump was collected using a bailer. Water was transferred directly from the bailer into laboratory supplied vials containing hydrochloric acid preservative. The sample was delivered to Synergy Environmental laboratory for analysis of volatile organic compounds (VOCs) according to US EPA Test Method 8260B.

Basement sump with sealed with plastic sheeting in preparation for headspace vapor sampling.

INVESTIGATION RESULTS

The analytical results of the air and vapor samples are summarized and compared to WDNR standards on **Table 1**. The laboratory analytical reports are provided in **Attachment 2**. The contaminants of concern were not detected in the outdoor air sample. The basement indoor air sample contained PCE, TCE, and cis-1,2-DCE at concentrations below their respective vapor action levels.

The results of the sub-slab vapor samples are summarized as follows:

- The basement sub-slab and west wall vapor samples each contained PCE and TCE at concentrations below their respective vapor risk screening levels (VRSLs) for small commercial buildings.

- PCE and TCE were detected in the sump headspace vapor sample at concentrations below VRSLs. Cis-1,2-DCE was also detected in the sump vapor sample; a VRSL has not been established for cis-1,2-DCE.

The analytical results of the sump water sample are summarized and compared to WDNR standards on **Table 2**. The laboratory analytical report is included in **Attachment 2**. Chloroform and PCE were detected at concentrations above their respective preventive action limits, and bromodichloromethane was detected at an estimated concentration of 1.07 micrograms per liter (µg/L) which exceeds its enforcement standard. Both chloroform and bromodichloromethane are byproducts of municipal water disinfection using chlorine.

We appreciate the opportunity to submit this report. If you have any questions, please feel free to contact the undersigned at 262-290-4001.

Sincerely,
EnviroForensics, LLC

Brian Kappen, PG
Project Manager

Attachments:

Table 1 – 905 S. Commercial Street Vapor Intrusion Sample Results
Table 2 - 905 S. Commercial Street Sump Water Sample Results
Figure 1 – Site and Surrounding Area Layout
Figure 2 – 905 S. Commercial Street Vapor Intrusion Sampling Locations
Attachment 1 – Field Sampling Forms
Attachment 2 – Laboratory Analytical Reports

CERTIFICATION

I, Brian Kappen, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Project Manager — 3/22/21

Signature and title — Date

TABLES

Table 1

905 S. Commercial Street (Cranky Pat's) Vapor Intrusion Sample Results

Former Donaldson's Cleaners

Neenah, Wisconsin

Sample ID	Sample Location	Sample Type	Sample Date	Tetrachloroethene	Trichloroethene	cis 1,2-Dichloroethene	trans 1,2-Dichoroethene	Vinyl Chloride
Small Commercial Indoor Air Vapor Action Level				**180**	**8.8**	**NE**	**NE**	**28**
Small Commercial Sub-Slab Vapor Risk Screening Level				**6,000**	**290**	**NE**	**NE**	**930**
200011-905-OA	Outdoor	OA	11/10/2020	<3.39	<1.07	<1.98	<1.98	<1.28
200011-905-PAS-OA	Outdoor	OA	2/9/2021 - 2/18/2021	<0.357	<0.302	<0.280	<0.280	<0.350
200011-905-IA-1A	Bar Area	IA	11/10/2020	<3.39	<1.07	<1.98	<1.98	<1.28
200011-905-IA-1B	Dining Area	IA	11/10/2020	<3.39	<1.07	<1.98	<1.98	<1.28
200011-905-IA-B	Basement	IA	11/10/2020	**5.36**	<1.07	<1.98	<1.98	<1.28
200011-905-PAS-B	Basement	IA	2/9/2021 - 2/18/2021	**7.46**	**0.597**	**0.993**	<0.280	<0.350
200011-905-SSV-1	First Floor	SSV	11/11/2020	**104**	**2.15**	<1.98	<1.98	<1.28
200011-905-SSV-B	Basement	SSV	11/10/2020	**1,930**	**69.2**	**19.2**	<1.98	<1.28
			2/19/2021	**504**	**30.8**	<1.98	<1.98	<1.28
200011-905-SSV-W	West Wall	SSV	11/10/2020	**23,000**	**1,310**	**846**	**32.5**	<1.28
			2/19/2021	**414**	**43.3**	<1.98	<1.98	<1.28
200011-905-SUMP	Basement	SSV	2/19/2021	**331**	**20.3**	**28.3**	<1.98	<1.28

Notes:

Concentrations reported in units of micrograms per cubic meter (µg/m³)

Bolded values are above laboratory method detection limits

Bolded and Blue Shaded values exceed the Vapor Risk Screening Level

IA = Indoor Air

NE = Not Established

OA = Outdoor Air

SSV = Sub-Slab Vapor

Table 2
905 S. Commercial Street (Cranky Pat's) Sump Water Sample Results
Former Donaldson's Cleaners
Neenah, Wisconsin

Sample Identification	Sample Date	Tetrachloroethene	cis-1,2-Dichloroethene	Chloroform	Bromodicloromethane
Enforcement Standard (µg/L)		**5**	**70**	**6**	**0.6**
Preventive Action Limit (µg/L)		**0.5**	**7**	**0.6**	**0.06**
200011-905-SUMP	2/18/2021	**1.04 J**	**0.43 J**	**4.5**	**1.07 J**

Notes:

µg/L = micrograms per liter

J = Analyte concentration is above the method detection limit and below the reporting limit

Bolded values are above method detection limits

Bolded and orange shaded values exceed the Enforcement Standard

Bolded and blue shaded values exceed the Preventive Action Limit

FIGURES

Legend

N

NOT TO SCALE

SITE AND SURROUNDING AREA LAYOUT

Former Donaldson's Cleaners

Date:	12/29/20
Designed:	BK
Drawn:	BK
Checked:	BK
DWG file:	200011-0096

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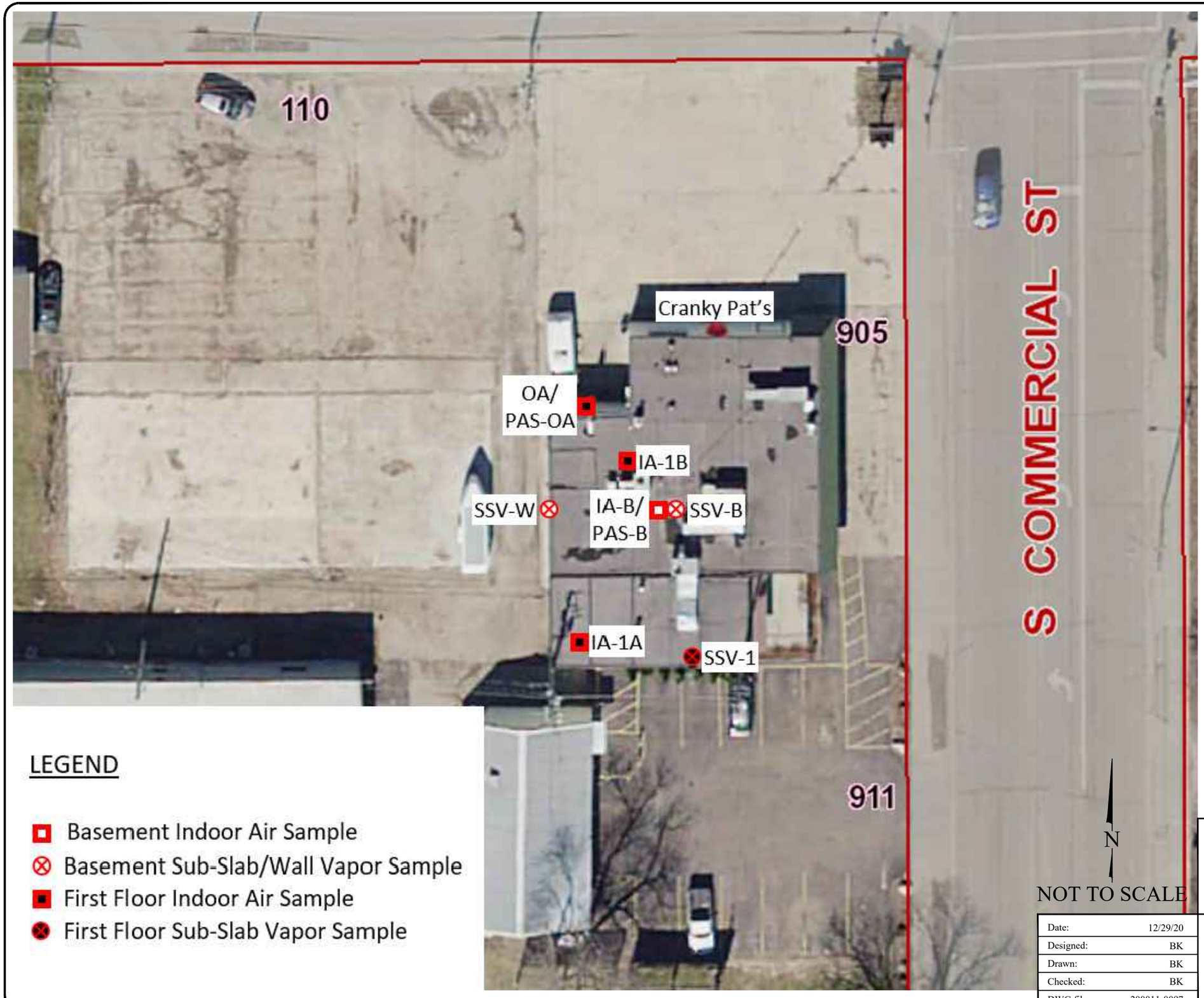
Figure
1
Project
200011



LEGEND

- Basement Indoor Air Sample
- Basement Sub-Slab/Wall Vapor Sample
- First Floor Indoor Air Sample
- First Floor Sub-Slab Vapor Sample

N

NOT TO SCALE

905 SOUTH COMMERCIAL STREET VAPOR INTRUSION SAMPLING LOCATIONS

WDNR Donaldson's Site

Date:	12/29/20
Designed:	BK
Drawn:	BK
Checked:	BK
DWG file:	200011-0097

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EnviroForensics.com

Figure 2

Project 200011

ATTACHMENT 1

Field Sampling Forms

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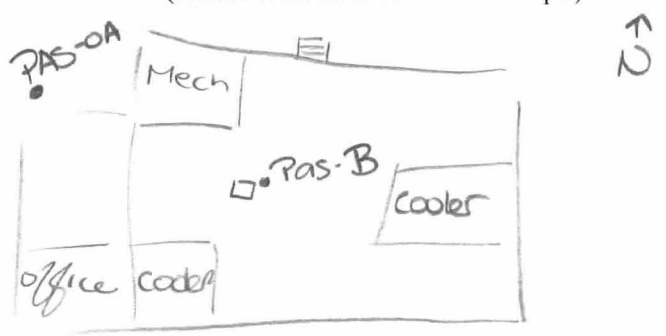
Indoor/Outdoor Air Field Sampling Form

825 N Capitol Avenue
Indianapolis, IN 46204
(317) 972-7870

Project Name: Former Donaldsons Cleaners
Project Number: 200011
Project Address: 905 S Commercial St
Client/Contact: David
Property Address: 110 W Cecil St, Neenah, WI
OA Sample Location:
Sampler(s): R. Brown

Sample ID	Canister ID	Flow Controller ID	Date Start mm/dd/yy	Time Start hh:mm	Date End mm/dd/yy	Time End hh:mm	Vacuum Reading Initial in. Hg	Vacuum Reading Final in. Hg
200011-905-PAS-B	1099590	—	2-9-21	14:39	2-18-21	9:36	—	—
200011-905-PAS-OA	1099512	—	2-9-21	14:45	2-18-21	9:30	—	—

Sketch (include location of outdoor air sample)



	Wind Direction	Wind Speed mph	Temperature °F	Relative Humidity %	Barometric Pressure in. of Hg
Start	SW	12	9	40	29.28
End	NNE	5	18	49	29.36

Notes:

Duplicate ID:

*All indoor air samples collected from one property will be recorded on the same Indoor Air Sampling Form.
*Outdoor air samples will be recorded on separate Indoor Air Sampling Forms due to changing weather conditions.

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Sub-Slab Vapor Field Sampling Form

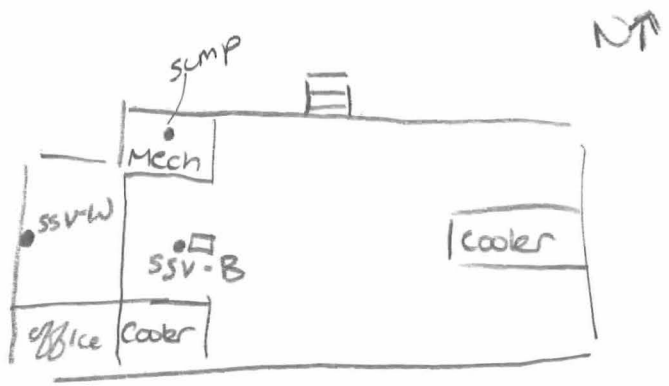
825 N Capitol Avenue
Indianapolis, IN 46204
(317) 972-7870

Project Name: WDNR Donaldson's Cleaners
Project Number: 200011
Project Address: 110 W Cecil St, Neenah
Client/Contact: J. Borski

Property Address: Cranky Pats, 905 S. Commercial St, Neenah, WI
Sampler(s): R Brown

Sample ID	Canister ID	Flow Controller ID	Date mm/dd/yy	Time Start hh:mm	Time End hh:mm	Vacuum Reading Initial in. Hg	Vacuum Reading Final in. Hg	Sub-Slab Pressure in H_2O	Negative Pressure Test: Induced -15 in Hg on sample train and pressure held? (yes/no)		Water Dam Test: Water Dam Test passed? (air bubbles not observed or water level did not drop) (yes/no)	
200011-905-SSV-W	109931	109127	2-19-21	12:57	1302	-28	-4	0.00	(yes)	no	(yes)	no
200011-905-SSV-B	109240	119731	2-19-21	1309	13:15	-27	-3	0.00	(yes)	no	(yes)	no
200011-905-SUMP	109234	119732	2-19-21	13:43	13:48	-30	-6	—	yes	no	yes	no
									yes	no	yes	no
									yes	no	yes	no
									yes	no	yes	no

Sketch



Wind Direction	Wind Speed mph	Temperature °F	Relative Humidity %	Barometric Pressure in. of Hg
W	12	18	63	29.19

Notes:

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INDOOR AIR BUILDING SURVEY FORM

Date 2-18-21

Site # 200011

Site Name WDNR Donaldson's Site

Address 110 W Cecil St, Neenah, WI

Occupant Information

Owner Name David Earle, Cranky Pat's

Occupant Name

Address 905 S Commercial St, Neenah, WI

Telephone No (920) 540-6741 Home/Work/Mobile

( ) Home/Work/Mobile

Number and Age of Occupants 15 & employees, customers

Does anyone smoke inside the building? No

Building Characteristics

Type of building: (circle) Residential/Industrial/School/Commercial/Multi-use/Other?

If residential, what type (circle) Single family/Condo/Multi-family/Other?

If the property is commercial, indicate the business ? Restaurant

How many floors does the building have? 1

Does the building have a (circle) Basement/Crawl space/Slab-on-grade/Other?

Is the basement used as a living/work space area? NO

What type of foundation does the building have (circle) Field stone/Poured concrete/Concrete block Other?

Is there an attached garage? No Is there a fuel tank? No

Is there a wood stove? No Is there a fireplace? No

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Describe the heating system: (circle) Forced air furnace/ Boiler/ Window air conditioner/Other?_____

If forced air heating, answer the following questions:

Is there a fresh air exchange? If so, details: _____

Are air ducts located within the crawl space of the property? yes

Are there additional vents within the property? (Non-powered vent/ bathroom vent/etc.) _____

Table 1: Potential vapor migration entry point information

Potential Vapor Entry Points	Present (Yes/No)	Field Screening Results (ppm)	Picture	Comments
Foundation penetrations in floor or walls	No			
Cracks in foundation floor or walls	No			
Sump	yes			
Floor drain	yes			
Other				
Other				

Sampling Information

Sample Date 12-18-21 / 12-19-21

Sampler Type Sorbent SUMMA Passive (Please circle one)

Analysis Method Mass APH TO-15Standard TO-15LL TO-15-SIM TO-17 Other: (Please circle one)

Contact Person (Project Manager) B Kappen

Telephone No (___) _____

Laboratory ALS

Telephone No (___) _____

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Table 2: Pre-Sampling Background Screening and Inspection Information

List products or items which may be considered potential sources of VOCs such as paint cans, gasoline cans, gasoline powered equipment, cleaning solvents, furniture polish, moth balls, etc.

Date and time of pre-sampling inspection _____

Sampling Inspection Product Inventory

Potential Source/ Trade Name	**Location** (Floor/Room)	**Active/Main Ingredient**	**Picture**	**Removed (Y/N)**

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Sampling Information

Table 3: Sorbent Tube Sampler Information

Sample ID#	Floor	Room	Tube ID#	Pump ID#	Volume (liters)	Duration (minutes)	Comments
200011-905-PAS-A	outside	–	1099152				
200011-905-PAS-B	Basement	basement	109950				

Table 4: Canister Sampler Information

Sample ID#	Floor	Room	Canister ID#	Initial On-site Pressure*	Final On-Site Pressure*
200011-905-SSV-B	Basement	Basement	109240	-27	-3
200011-905-SSV-W	↓	↓	109931	-28	-4
200011-905-SUMP			109234	-30	-6

*Indicate pressure in units of inches of mercury.
Please provide a sketch of building and sample locations on the following page.

Was the building ventilated prior to sample collection? NO

How long was the ventilation process? _____

Were vapor control methods in effect while the samples were being collected?

Windows open? Yes / (No) Ventilation fans? Yes / (No) Vapor barriers? Yes / (No) Doors open frequently

Vapor phase carbon treatment system? Yes / (No) SSDS? Yes / (No) Other site control measures _____

Weather Conditions during Sampling

Outside temperature (°F) High: 25 Low: 14 Inside temperature (°F) 70

Prevailing wind speed and direction SW / 5mph

Describe the general weather conditions (e.g. sunny, cloudy, rain) Cloudy

Significant precipitation (1 inches or more) within 72 hours of the sampling event? No

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General Comments and Sketch Area

Is there any information you feel is important related to this site and the samples collected which would facilitate an accurate interpretation of the indoor air quality? Sketch floor plan, sample locations, location of background sources.

Comments: _____

Sketch:

ATTACHMENT 2

Laboratory Analytical Reports

10-Mar-2021

Brian Kappen
EnviroForensics
N16W23390 Stone Ridge Dr
Waukesha, WI 53188

Re: **WDNR Former Donaldson's; PN.: 200011** Work Order: **21021056**

Dear Brian,

ALS Environmental received 3 samples on 25-Feb-2021 04:40 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 10-Mar-21

Client: EnviroForensics
Project: WDNR Former Donaldson's; PN.: 200011
Work Order: **21021056**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
21021056-01	200011-905-SSV-B	Air		2/19/2021 13:15	2/25/2021 16:40	☐
21021056-02	200011-905-SSV-W	Air		2/19/2021 13:02	2/25/2021 16:40	☐
21021056-03	200011-905-SUMP	Air		2/19/2021 13:48	2/25/2021 16:40	☐

ALS Environmental

Date: 10-Mar-21

Client:	EnviroForensics
Project:	WDNR Former Donaldson's; PN.: 200011
Work Order:	21021056

Case Narrative

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Results relate only to the items tested and are not blank corrected unless indicated.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

ALS is an EPA recognized NLLAP laboratory for lead paint, soil, and dust wipe analyses under its AIHA-LAP accreditation.

ALS Environmental

Date: *10-Mar-21*

Client: EnviroForensics
Project: WDNR Former Donaldson's; PN.: 200011
Work Order: 21021056
Sample ID: 200011-905-SSV-B
Lab ID: 21021056-01
Collection Date: 2/19/2021 01:15 PM
Matrix: AIR

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TO-15 BY GC/MS			**ETO-15**			Analyst: **MRJ**
cis-1,2-Dichloroethene	ND		0.50	ppbv	1	3/3/2021 08:47 AM
Tetrachloroethene	**74**		**5.0**	**ppbv**	10	3/4/2021 01:26 PM
trans-1,2-Dichloroethene	ND		0.50	ppbv	1	3/3/2021 08:47 AM
Trichloroethene	**5.7**		**0.20**	**ppbv**	1	3/3/2021 08:47 AM
Vinyl chloride	ND		0.50	ppbv	1	3/3/2021 08:47 AM
Surr: Bromofluorobenzene	*96.1*		*60-140*	*%REC*	1	3/3/2021 08:47 AM
TO-15 BY GC/MS			**ETO-15**			Analyst: **MRJ**
cis-1,2-Dichloroethene	ND		1.98	µg/m3	1	3/3/2021 08:47 AM
Tetrachloroethene	**504**		**33.9**	**µg/m3**	10	3/4/2021 01:26 PM
trans-1,2-Dichloroethene	ND		1.98	µg/m3	1	3/3/2021 08:47 AM
Trichloroethene	**30.8**		**1.07**	**µg/m3**	1	3/3/2021 08:47 AM
Vinyl chloride	ND		1.28	µg/m3	1	3/3/2021 08:47 AM
Surr: Bromofluorobenzene	*96.1*		*60-140*	*%REC*	1	3/3/2021 08:47 AM

Note:

ALS Environmental

Date: *10-Mar-21*

Client: EnviroForensics
Project: WDNR Former Donaldson's; PN.: 200011
Work Order: 21021056
Sample ID: 200011-905-SSV-W
Lab ID: 21021056-02
Collection Date: 2/19/2021 01:02 PM
Matrix: AIR

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TO-15 BY GC/MS			**ETO-15**			Analyst: **MRJ**
cis-1,2-Dichloroethene	ND		0.50	ppbv	1	3/4/2021 11:57 AM
Tetrachloroethene	**61**		**10**	**ppbv**	20	3/4/2021 04:19 PM
trans-1,2-Dichloroethene	ND		0.50	ppbv	1	3/4/2021 11:57 AM
Trichloroethene	**8.0**		**0.20**	**ppbv**	1	3/4/2021 11:57 AM
Vinyl chloride	ND		0.50	ppbv	1	3/4/2021 11:57 AM
Surr: Bromofluorobenzene	*95.6*		*60-140*	*%REC*	1	3/4/2021 11:57 AM
TO-15 BY GC/MS			**ETO-15**			Analyst: **MRJ**
cis-1,2-Dichloroethene	ND		1.98	µg/m3	1	3/4/2021 11:57 AM
Tetrachloroethene	**414**		**67.8**	**µg/m3**	20	3/4/2021 04:19 PM
trans-1,2-Dichloroethene	ND		1.98	µg/m3	1	3/4/2021 11:57 AM
Trichloroethene	**43.3**		**1.07**	**µg/m3**	1	3/4/2021 11:57 AM
Vinyl chloride	ND		1.28	µg/m3	1	3/4/2021 11:57 AM
Surr: Bromofluorobenzene	*95.6*		*60-140*	*%REC*	1	3/4/2021 11:57 AM

Note:

ALS Environmental

Date: *10-Mar-21*

Client: EnviroForensics

Project: WDNR Former Donaldson's; PN.: 200011

Work Order: 21021056

Sample ID: 200011-905-SUMP

Lab ID: 21021056-03

Collection Date: 2/19/2021 01:48 PM

Matrix: AIR

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TO-15 BY GC/MS			**ETO-15**			Analyst: **MRJ**
cis-1,2-Dichloroethene	**7.1**		**0.50**	**ppbv**	1	3/4/2021 12:42 PM
Tetrachloroethene	**49**		**5.0**	**ppbv**	10	3/4/2021 06:29 PM
trans-1,2-Dichloroethene	ND		0.50	ppbv	1	3/4/2021 12:42 PM
Trichloroethene	**3.8**		**0.20**	**ppbv**	1	3/4/2021 12:42 PM
Vinyl chloride	ND		0.50	ppbv	1	3/4/2021 12:42 PM
Surr: Bromofluorobenzene	*97.9*		*60-140*	*%REC*	1	3/4/2021 12:42 PM
TO-15 BY GC/MS			**ETO-15**			Analyst: **MRJ**
cis-1,2-Dichloroethene	**28.3**		**1.98**	**µg/m3**	1	3/4/2021 12:42 PM
Tetrachloroethene	**331**		**33.9**	**µg/m3**	10	3/4/2021 06:29 PM
trans-1,2-Dichloroethene	ND		1.98	µg/m3	1	3/4/2021 12:42 PM
Trichloroethene	**20.3**		**1.07**	**µg/m3**	1	3/4/2021 12:42 PM
Vinyl chloride	ND		1.28	µg/m3	1	3/4/2021 12:42 PM
Surr: Bromofluorobenzene	*97.9*		*60-140*	*%REC*	1	3/4/2021 12:42 PM

Note:

Batch ID: **R189252** Instrument ID **VMS4** Method: **ETO-15**

MBLK Sample ID: **MBLK-R189252** Units: **ppbv** Analysis Date: **3/2/2021 01:18 PM**

Client ID: Run ID: **VMS4_210302A** SeqNo: **2407785** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	0.50								
1,1,2,2-Tetrachloroethane	ND	0.50								
1,1,2-Trichloroethane	ND	0.20								
1,1-Dichloroethane	ND	0.50								
1,1-Dichloroethene	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.50								
1,2,4-Trimethylbenzene	ND	0.50								
1,2-Dibromoethane	ND	0.20								
1,2-Dichlorobenzene	ND	0.50								
1,2-Dichloroethane	ND	0.20								
1,2-Dichloropropane	ND	0.50								
1,3,5-Trimethylbenzene	ND	0.50								
1,3-Butadiene	ND	0.20								
1,3-Dichlorobenzene	ND	0.50								
1,4-Dichlorobenzene	ND	0.20								
1,4-Dioxane	ND	1.0								
2-Butanone	ND	1.0								
2-Hexanone	ND	1.0								
2-Propanol	ND	1.0								
4-Ethyltoluene	ND	0.50								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	1.0								
Benzene	ND	0.50								
Benzyl chloride	ND	1.0								
Bromodichloromethane	ND	0.20								
Bromoform	ND	0.50								
Bromomethane	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.50								
Chlorobenzene	ND	0.50								
Chloroethane	ND	0.50								
Chloroform	ND	0.20								
Chloromethane	ND	0.50								
cis-1,2-Dichloroethene	ND	0.50								
cis-1,3-Dichloropropene	ND	0.50								
Cumene	ND	0.50								
Cyclohexane	ND	0.50								
Dibromochloromethane	ND	0.50								
Dichlorodifluoromethane	ND	0.50								
Ethyl acetate	ND	0.50								
Ethylbenzene	ND	0.50								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **R189252** Instrument ID **VMS4** Method: **ETO-15**

Freon 113	ND	0.50					
Freon 114	ND	0.50					
Heptane	ND	0.50					
Hexachlorobutadiene	ND	0.20					
Hexane	ND	0.50					
m,p-Xylene	ND	0.50					
Methylene chloride	ND	2.0					
MTBE	ND	0.50					
Naphthalene	ND	0.20					
o-Xylene	ND	0.50					
Propene	ND	0.50					
Styrene	ND	0.50					
Tetrahydrofuran	ND	0.50					
Toluene	ND	0.50					
trans-1,2-Dichloroethene	ND	0.50					
trans-1,3-Dichloropropene	ND	0.50					
Trichloroethene	ND	0.20					
Trichlorofluoromethane	ND	0.50					
Vinyl acetate	ND	0.50					
Vinyl chloride	ND	0.50					
Surr: Bromofluorobenzene	*9.27*	0	*10*	0	*92.7*	*60-140*	0

Client: EnviroForensics
Work Order: 21021056
Project: WDNR Former Donaldson's; PN.: 200011

QC BATCH REPORT

Batch ID: **R189252** Instrument ID **VMS4** Method: **ETO-15**

LCS Sample ID: **LCS-R189252** Units: **ppbv** Analysis Date: **3/2/2021 12:35 PM**
Client ID: Run ID: **VMS4_210302A** SeqNo: **2407784** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	8.93	0.50	10	0	89.3	58.8-163	0			
1,1,2,2-Tetrachloroethane	10.38	0.50	10	0	104	60-140	0			
1,1,2-Trichloroethane	10.42	0.20	10	0	104	60-140	0			
1,1-Dichloroethane	8.97	0.50	10	0	89.7	60-140	0			
1,1-Dichloroethene	9.15	0.50	10	0	91.5	60-140	0			
1,2,4-Trichlorobenzene	8.06	0.50	10	0	80.6	49.3-150	0			
1,2,4-Trimethylbenzene	9.97	0.50	10	0	99.7	50.1-162	0			
1,2-Dibromoethane	10.39	0.20	10	0	104	60-140	0			
1,2-Dichlorobenzene	9.77	0.50	10	0	97.7	41.9-141	0			
1,2-Dichloroethane	8.38	0.20	10	0	83.8	60-140	0			
1,2-Dichloropropane	9.68	0.50	10	0	96.8	60-140	0			
1,3,5-Trimethylbenzene	9.84	0.50	10	0	98.4	60-140	0			
1,3-Butadiene	11.44	0.20	10	0	114	50.6-140	0			
1,3-Dichlorobenzene	10.03	0.50	10	0	100	60-140	0			
1,4-Dichlorobenzene	9.69	0.20	10	0	96.9	55.1-145	0			
1,4-Dioxane	8.76	1.0	10	0	87.6	60-140	0			
2-Butanone	10.14	1.0	10	0	101	60-140	0			
2-Hexanone	10.33	1.0	10	0	103	56.2-162	0			
2-Propanol	9.47	1.0	10	0	94.7	60-140	0			
4-Ethyltoluene	10.21	0.50	10	0	102	60-140	0			
4-Methyl-2-pentanone	10.27	1.0	10	0	103	60-140	0			
Acetone	9.83	1.0	10	0	98.3	60-140	0			
Benzene	9.95	0.50	10	0	99.5	60-140	0			
Benzyl chloride	8.71	1.0	10	0	87.1	31.9-174	0			
Bromodichloromethane	10.1	0.20	10	0	101	60-140	0			
Bromoform	10.01	0.50	10	0	100	60-140	0			
Bromomethane	10.13	0.50	10	0	101	60-140	0			
Carbon disulfide	10.18	0.50	10	0	102	60-140	0			
Carbon tetrachloride	8.76	0.50	10	0	87.6	60-140	0			
Chlorobenzene	9.62	0.50	10	0	96.2	60-140	0			
Chloroethane	9.99	0.50	10	0	99.9	60-140	0			
Chloroform	9.49	0.20	10	0	94.9	60-140	0			
Chloromethane	9.59	0.50	10	0	95.9	60-140	0			
cis-1,2-Dichloroethene	9.54	0.50	10	0	95.4	60-140	0			
cis-1,3-Dichloropropene	10.22	0.50	10	0	102	60-140	0			
Cumene	10.03	0.50	10	0	100	60-140	0			
Cyclohexane	9.61	0.50	10	0	96.1	60-140	0			
Dibromochloromethane	10.55	0.50	10	0	106	60-140	0			
Dichlorodifluoromethane	9.75	0.50	10	0	97.5	60-140	0			
Ethyl acetate	9.65	0.50	10	0	96.5	60-140	0			
Ethylbenzene	9.79	0.50	10	0	97.9	60-140	0			
Freon 113	10.09	0.50	10	0	101	60-140	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EnviroForensics
Work Order: 21021056
Project: WDNR Former Donaldson's; PN.: 200011

QC BATCH REPORT

Batch ID: **R189252**	Instrument ID **VMS4**		Method: **ETO-15**				
Freon 114	10.43	0.50	10	0	104	60-140	0
Heptane	9.56	0.50	10	0	95.6	60-140	0
Hexachlorobutadiene	8.67	0.20	10	0	86.7	60-140	0
Hexane	8.74	0.50	10	0	87.4	60-140	0
m,p-Xylene	20.66	0.50	20	0	103	60-140	0
Methylene chloride	8.18	2.0	10	0	81.8	60-140	0
MTBE	9.59	0.50	10	0	95.9	60.8-151	0
Naphthalene	8.61	0.20	10	0	86.1	53.1-152	0
o-Xylene	10.22	0.50	10	0	102	60-140	0
Propene	9.91	0.50	10	0	99.1	34.4-139	0
Styrene	10.93	0.50	10	0	109	60-140	0
Tetrahydrofuran	9.84	0.50	10	0	98.4	60-140	0
Toluene	10.12	0.50	10	0	101	60-140	0
trans-1,2-Dichloroethene	9.67	0.50	10	0	96.7	60-140	0
trans-1,3-Dichloropropene	9.66	0.50	10	0	96.6	60-140	0
Trichloroethene	10.27	0.20	10	0	103	60-140	0
Trichlorofluoromethane	13.26	0.50	10	0	133	60-140	0
Vinyl acetate	9.29	0.50	10	0	92.9	48.4-145	0
Vinyl chloride	12.28	0.50	10	0	123	60-140	0
Surr: Bromofluorobenzene	*9.81*	0	*10*	0	*98.1*	*60-140*	0

The following samples were analyzed in this batch: 21021056-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EnviroForensics
Work Order: 21021056
Project: WDNR Former Donaldson's; PN.: 200011

QC BATCH REPORT

Batch ID: **R189348** Instrument ID **VMS4** Method: **ETO-15**

MBLK Sample ID: **MBLK-R189348** Units: **ppbv** Analysis Date: **3/4/2021 11:05 AM**
Client ID: Run ID: **VMS4_210304A** SeqNo: **2409207** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	ND	0.50								
Tetrachloroethene	ND	0.50								
trans-1,2-Dichloroethene	ND	0.50								
Trichloroethene	ND	0.20								
Vinyl chloride	ND	0.50								
Surr: Bromofluorobenzene	*9.34*	0	*10*	0	*93.4*	*60-140*	0			

LCS Sample ID: **LCS-R189348** Units: **ppbv** Analysis Date: **3/4/2021 10:23 AM**
Client ID: Run ID: **VMS4_210304A** SeqNo: **2409206** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	8.92	0.50	10	0	89.2	60-140	0			
Tetrachloroethene	9.48	0.50	10	0	94.8	60-140	0			
trans-1,2-Dichloroethene	9.11	0.50	10	0	91.1	60-140	0			
Trichloroethene	9.36	0.20	10	0	93.6	60-140	0			
Vinyl chloride	9.45	0.50	10	0	94.5	60-140	0			
Surr: Bromofluorobenzene	*9.91*	0	*10*	0	*99.1*	*60-140*	0			

The following samples were analyzed in this batch: 21021056-01A 21021056-02A 21021056-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 10-Mar-21

Client: EnviroForensics
Project: WDNR Former Donaldson's; PN.: 200011
WorkOrder: **21021056**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
µg/m3	
ppbv	

ALS Environmental

Sample Receipt Checklist

Client Name: **ENVIROFORENSICS-WAKESHA** Date/Time Received: **25-Feb-21 16:40**

Work Order: **21021056** Received by: **RDN**

Checklist completed by Jan Wilcox 26-Feb-21 Reviewed by: Rob Nieman 01-Mar-21

eSignature / Date / eSignature / Date

Matrices: air

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):			
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Air Canister - Chain of Custody Record / Analytical Service Request

Page 1 of 1

03309

Ship To: **ALS Environmental**
4388 Glendale Milford Rd.
Cincinnati, Ohio 45242
Phone: (513) 733-5336
Fax: (513) 733-5347

>1021056

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

ALS Project No.

OH VAP: ○ Yes ○ No
OH BUSTR: ○ Yes ○ No

Company Name & Address (Reporting Information): N16W23390 Stone Ridge Dr Enviroforensics Suite G Waukesha, WI 53188

Project Name: WDNR Former Donaldson's

Project Number: 200011

Project Manager: Brian Kappen

P.O. # / Billing Information: ~~2021-0092~~ 2021-0093

Phone: 262-290-4001

Fax:

accountspayable@enviroforensics.com

Email Address for Result Reporting: bkappen@enviroforensics.com

Sampler (Print & Sign): R. Brown RR

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	PID	Analysis Method: TO15 VOCs	Type: SS = SubSlab, IA = Indoor Air, SG = Soil Gas, O = Other, AA = Ambient Air, SVE = Soil Vapor Extract	Comments / Specific Instructions (ie: water or pressure issues)
200011-905-SSV-B	01	2-19-21	1315	109240	119731	-27	-3			SS	
200011-905-SSV-W	02	↓	1308	109931	109127	-28	-4			SS	
200011-905-SUMP	03	↓	1348	109234	119732	-30	-6			SS	

There will be additional charges for damaged equipment

Report QC Levels _____
EDD required Yes / No
Type: _____ Units: _____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
RR	2-22-21	16:30	FedEx	2-22-21	16:30
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				2/25/21	16:40

Cooler / Blank Temperature ___°C

Beacon Environmental
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 210128R02

Laboratory Work Order: 0005636

Project Description:
Former Donaldson's Cleaners
Appleton, WI

Client PO No.: 2021-0042

Prepared for:
Brian Kappen
EnviroForensics
N16W23390 Stone Ridge Dr, Suite G
Waukesha, WI 53188

Ryan W. Schneider
Senior Project Manager

March 08, 2021

All data meet requirements as specified in the Beacon Environmental Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Interim Quality Manager

Table of Contents

BEACON ENVIRONMENTAL

2203A Commerce Road, Suite 1
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CERTIFICATE OF ANALYSIS

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Sample Summary

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0005636-01	200011-905-PAS-B	02/23/2021	TO-17 (Passive)	Indoor Air
Sampler Type:	Sorbent Tube			
0005636-02	200011-905-PAS-OA	02/23/2021	TO-17 (Passive)	Ambient Air
Sampler Type:	Sorbent Tube			

Project Completeness

Samples Received: 2
Samples Analyzed: 2

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Case Narrative

Beacon Environmental provided thermally conditioned ChloroSorbers for sampling, with analyses following U.S. EPA Method TO-17, with analytical results reported in µg/m3. Beacon calculated concentration results using the exposure period, target analyte mass, and the following procedures detailed in ISO 16017-2, *Indoor, ambient and workplace air-Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography-Part 2: Diffusive sampling.*

Beacon reports results and reporting limits to three significant digits.

Reporting Limits (RLs) for EPA Method TO-17

The RLs represent a baseline above which results meet laboratory-determined limits of precision and accuracy. Beacon performed dilution analysis when results exceeded the upper calibration limit, bringing all reported results within the calibration range. The project method quantitation limit (MQL) is the limit of detection (LOD) as noted in the data tables.

Calibration Verification

All continuing calibration verification (CCV) values are within ±30% of the true values as defined by the initial calibration and met the requirements specified in BEACON's Quality Manual.

Internal Standards and Surrogates

Internal standards and surrogates are spiked on all blanks (ICB, BLK), field samples and laboratory control samples (ICV/CALV, BS, ICV and CCV). Acceptance criteria for internal standards are 60 to 140 percent and surrogate recoveries are 70 to 130 percent; all internal standards and surrogates are within the acceptance criteria unless noted in the **Case Narrative**.

Blank Contamination

No targeted compounds above the limit of detection (LOD) for each compound were observed in the Laboratory Method Blanks.

Laboratory Control Samples

Acceptance criteria for surrogate and analytes recoveries are 70 to 130 percent; all recoveries are within the acceptance criteria unless noted in the **Case Narrative** section.

Discussion

Samples were received in proper condition and laboratory control parameters were met unless otherwise noted below. The work performed was in accordance with ISO/IEC 17025:2017.

End of Case Narrative

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Analytical Results

2203A Commerce Road, Suite 1
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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Summary of Compound Detections- Concentration

Lab Sample ID: 0005636-01

200011-905-PAS-B

Indoor Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	LOD (µg/m³)	File ID
cis-1,2-Dichloroethene	156-59-2	**0.993**		3.655	0.560	0.280	Ab21022605.D
Trichloroethene	79-01-6	**0.597**	J	5.970	0.603	0.302	Ab21022605.D
Tetrachloroethene	127-18-4	**7.46**	D	8.195	1.19	0.595	Aa21030105.D

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1.410.838.8780

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Data Summary Table- Concentration

Compound	Frequency	LOD (µg/m³)	Max Value (µg/m³)
cis-1,2-Dichloroethene	1	0.280	0.993
Trichloroethene	1	0.302	0.597
Tetrachloroethene	1	0.595	7.46

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Detailed Analytical Results

BEACON ENVIRONMENTAL

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
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CERTIFICATE OF ANALYSIS

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Lab Sample ID: 0005636-01

200011-905-PAS-B

Indoor Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	LOD (µg/m³)	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.350	U	0.350	0.700	02/26/2021 16:45	Ab21022605.D
trans-1,2-Dichloroethene	156-60-5	<0.280	U	0.280	0.560	02/26/2021 16:45	Ab21022605.D
cis-1,2-Dichloroethene	156-59-2	**0.993**		0.280	0.560	02/26/2021 16:45	Ab21022605.D
Trichloroethene	79-01-6	**0.597**	J	0.302	0.603	02/26/2021 16:45	Ab21022605.D
Tetrachloroethene	127-18-4	**7.46**	D	0.595	1.19	03/01/2021 10:47	Aa21030105.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*113%*	*70-130*		*02/26/2021 16:45*	*Ab21022605.D*
Surrogate: 1,2-DCA-d4	17060-07-0	*102%*	*70-130*		*03/01/2021 10:47*	*Aa21030105.D*
Surrogate: Toluene-d8	2037-26-5	*113%*	*70-130*		*03/01/2021 10:47*	*Aa21030105.D*
Surrogate: Toluene-d8	2037-26-5	*116%*	*70-130*		*02/26/2021 16:45*	*Ab21022605.D*

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CERTIFICATE OF ANALYSIS

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Lab Sample ID: 0005636-02

200011-905-PAS-OA

Ambient Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	LOD (µg/m³)	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.350	U	0.350	0.701	02/26/2021 17:14	Ab21022606.D
trans-1,2-Dichloroethene	156-60-5	<0.280	U	0.280	0.561	02/26/2021 17:14	Ab21022606.D
cis-1,2-Dichloroethene	156-59-2	<0.280	U	0.280	0.561	02/26/2021 17:14	Ab21022606.D
Trichloroethene	79-01-6	<0.302	U	0.302	0.604	02/26/2021 17:14	Ab21022606.D
Tetrachloroethene	127-18-4	<0.357	U	0.357	0.714	02/26/2021 17:14	Ab21022606.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*95.4%*	*70-130*		*02/26/2021 17:14*	*Ab21022606.D*
Surrogate: Toluene-d8	2037-26-5	*98.6%*	*70-130*		*02/26/2021 17:14*	*Ab21022606.D*

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

QC Information/Summary

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21B024 - Instrument: A System - File ID: A21020817.D

B21B024-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	10.6	5	2.5	ng	10.0		106	70-130			
trans-1,2-Dichloroethene	10.7	5	2.5	ng	10.0		107	70-130			
cis-1,2-Dichloroethene	10.6	5	2.5	ng	10.0		106	70-130			
Trichloroethene	12.2	5	2.5	ng	10.0		122	70-130			
Tetrachloroethene	10.6	5	2.5	ng	10.0		106	70-130			
Surrogate: 1,2-DCA-d4	*11.4*			*ng*	10.0		*114*	*70-130*			
Surrogate: Toluene-d8	*12.8*			*ng*	10.0		*128*	*70-130*			

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CERTIFICATE OF ANALYSIS

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21B024 - Instrument: A System - File ID: A21020819.D

B21B024-ICB1 (Lab Blank/Initial Calibration Blank)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<2.5	5	2.5	ng							U
trans-1,2-Dichloroethene	<2.5	5	2.5	ng							U
cis-1,2-Dichloroethene	<2.5	5	2.5	ng							U
Trichloroethene	<2.5	5	2.5	ng							U
Tetrachloroethene	<2.5	5	2.5	ng							U
Surrogate: 1,2-DCA-d4	*20.1*			*ng*	20.0		*101*	*70-130*			
Surrogate: Toluene-d8	*25.2*			*ng*	20.0		*126*	*70-130*			

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21C001 - Batch: 21C0001 - Instrument: A System - File ID: Aa21030102.D

21C0001-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	9.69	5	2.5	ng	10.0		96.9	70-130			
trans-1,2-Dichloroethene	9.84	5	2.5	ng	10.0		98.4	70-130			
cis-1,2-Dichloroethene	9.96	5	2.5	ng	10.0		99.6	70-130			
Trichloroethene	12.7	5	2.5	ng	10.0		127	70-130			
Tetrachloroethene	9.33	5	2.5	ng	10.0		93.3	70-130			
Surrogate: 1,2-DCA-d4	*10.5*			*ng*	10.0		*105*	*70-130*			
Surrogate: Toluene-d8	*11.9*			*ng*	10.0		*119*	*70-130*			

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21C001 - Batch: 21C0001 - Instrument: A System - File ID: Aa21030103.D

21C0001-BLK1 (Lab Blank)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.350	0.700	0.350	µg/m³							U
trans-1,2-Dichloroethene	<0.280	0.560	0.280	µg/m³							U
cis-1,2-Dichloroethene	<0.280	0.560	0.280	µg/m³							U
Trichloroethene	<0.302	0.603	0.302	µg/m³							U
Tetrachloroethene	<0.357	0.713	0.357	µg/m³							U
Surrogate: 1,2-DCA-d4	*17.1*			*ng*	20.0		*85.3*	*70-130*			
Surrogate: Toluene-d8	*21.7*			*ng*	20.0		*109*	*70-130*			

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21C001 - Instrument: A System - File ID: Aa21030104.D

B21C001-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	9.81	5	2.5	ng	10.0		98.1	70-130			
trans-1,2-Dichloroethene	9.86	5	2.5	ng	10.0		98.6	70-130			
cis-1,2-Dichloroethene	9.98	5	2.5	ng	10.0		99.8	70-130			
Trichloroethene	12.8	5	2.5	ng	10.0		128	70-130			
Tetrachloroethene	9.39	5	2.5	ng	10.0		93.9	70-130			
Surrogate: 1,2-DCA-d4	*9.82*			*ng*	10.0		*98.2*	*70-130*			
Surrogate: Toluene-d8	*12.3*			*ng*	10.0		*123*	*70-130*			

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CERTIFICATE OF ANALYSIS

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21C001 - Instrument: A System - File ID: Aa21030106.D

B21C001-CCV1 (LCS, Closing Calibration Verification)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	12.1	5	2.5	ng	10.0		121	70-130			
trans-1,2-Dichloroethene	9.59	5	2.5	ng	10.0		95.9	70-130			
cis-1,2-Dichloroethene	9.88	5	2.5	ng	10.0		98.8	70-130			
Trichloroethene	12.0	5	2.5	ng	10.0		120	70-130			
Tetrachloroethene	9.16	5	2.5	ng	10.0		91.6	70-130			
Surrogate: 1,2-DCA-d4	*10.0*			*ng*	10.0		*100*	*70-130*			
Surrogate: Toluene-d8	*12.2*			*ng*	10.0		*122*	*70-130*			

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21B088 - Batch: 21B0072 - Instrument: A System - File ID: Ab21022602.D

21B0072-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	13.0	5	2.5	ng	10.0		130	70-130			
trans-1,2-Dichloroethene	11.2	5	2.5	ng	10.0		112	70-130			
cis-1,2-Dichloroethene	10.5	5	2.5	ng	10.0		105	70-130			
Trichloroethene	12.6	5	2.5	ng	10.0		126	70-130			
Tetrachloroethene	9.42	5	2.5	ng	10.0		94.2	70-130			
Surrogate: 1,2-DCA-d4	*11.4*			*ng*	10.0		*114*	*70-130*			
Surrogate: Toluene-d8	*12.6*			*ng*	10.0		*126*	*70-130*			

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21B088 - Batch: 21B0072 - Instrument: A System - File ID: Ab21022603.D

21B0072-BLK1 (Lab Blank)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.350	0.700	0.350	µg/m³							U
trans-1,2-Dichloroethene	<0.280	0.560	0.280	µg/m³							U
cis-1,2-Dichloroethene	<0.280	0.560	0.280	µg/m³							U
Trichloroethene	<0.302	0.603	0.302	µg/m³							U
Tetrachloroethene	<0.357	0.713	0.357	µg/m³							U
Surrogate: 1,2-DCA-d4	*20.9*			*ng*	20.0		*104*	*70-130*			
Surrogate: Toluene-d8	*23.2*			*ng*	20.0		*116*	*70-130*			

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21B088 - Instrument: A System - File ID: Ab21022604.D

B21B088-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	12.7	5	2.5	ng	10.0		127	70-130			
trans-1,2-Dichloroethene	11.0	5	2.5	ng	10.0		110	70-130			
cis-1,2-Dichloroethene	10.4	5	2.5	ng	10.0		104	70-130			
Trichloroethene	12.0	5	2.5	ng	10.0		120	70-130			
Tetrachloroethene	9.62	5	2.5	ng	10.0		96.2	70-130			
Surrogate: 1,2-DCA-d4	*11.5*			*ng*	10.0		*115*	*70-130*			
Surrogate: Toluene-d8	*12.8*			*ng*	10.0		*128*	*70-130*			

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Trace Organics in Air by EPA TO-17 Using Beacon ChloroSorber Tube - Quality Control Summary

Sequence: B21B088 - Instrument: A System - File ID: Ab21022607.D

B21B088-CCV1 (LCS, Closing Calibration Verification)

Analyte	Result	LOQ	LOD	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	9.74	5	2.5	ng	10.0		97.4	70-130			
trans-1,2-Dichloroethene	10.6	5	2.5	ng	10.0		106	70-130			
cis-1,2-Dichloroethene	10.1	5	2.5	ng	10.0		101	70-130			
Trichloroethene	11.8	5	2.5	ng	10.0		118	70-130			
Tetrachloroethene	9.29	5	2.5	ng	10.0		92.9	70-130			
Surrogate: 1,2-DCA-d4	*11.1*			*ng*	10.0		*111*	*70-130*			
Surrogate: Toluene-d8	*12.7*			*ng*	10.0		*127*	*70-130*			

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CERTIFICATE OF ANALYSIS

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

TO-17 (Passive) - LCS/LCSD Quality Control Summary

LCS: 21C0001-BS1 File ID: Aa21030102.D Analyzed: 3/1/21 10:06
LCSD: B21C001-ICV1 File ID: Aa21030104.D Analyzed: 3/1/21 9:14

Analyte	CAS#	LCS Result (ng)	%REC	Q	Spike Level (ng)	LCSD Result (ng)	%REC	%REC Limits	RPD	RPD Limit	Q
Vinyl Chloride	75-01-4	9.69	96.9		10	9.81	98.10	70-130	1.23	30	
trans-1,2-Dichloroethene	156-60-5	9.84	98.4		10	9.86	98.60	70-130	0.20	30	
cis-1,2-Dichloroethene	156-59-2	9.96	99.6		10	9.98	99.80	70-130	0.20	30	
Trichloroethene	79-01-6	12.72	127.2		10	12.77	128.00	70-130	0.39	30	
Tetrachloroethene	127-18-4	9.33	93.3		10	9.39	93.90	70-130	0.64	30	

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CERTIFICATE OF ANALYSIS

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

TO-17 (Passive) - LCS/LCSD Quality Control Summary

LCS: 21B0072-BS1 ***File ID: Ab21022602.D*** Analyzed: 2/26/21 16:16
LCSD: B21B088-ICV1 ***File ID: Ab21022604.D*** Analyzed: 2/26/21 15:23

Analyte	CAS#	LCS Result (ng)	%REC	Q	Spike Level (ng)	LCSD Result (ng)	%REC	%REC Limits	RPD	RPD Limit	Q
Vinyl Chloride	75-01-4	13.00	130		10	12.74	127.00	70-130	2.02	30	
trans-1,2-Dichloroethene	156-60-5	11.21	112.1		10	11	110.00	70-130	1.89	30	
cis-1,2-Dichloroethene	156-59-2	10.47	104.7		10	10.42	104.00	70-130	0.48	30	
Trichloroethene	79-01-6	12.59	125.9		10	11.98	120.00	70-130	4.97	30	
Tetrachloroethene	127-18-4	9.42	94.2		10	9.62	96.20	70-130	2.10	30	

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Additional QC Information

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Sample Result Calculation Summary (Concentration)

TO-17 (Passive)

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial Result ng	C Calculated Result µg/m³	File ID
Lab ID: 0005636-01 **Sample Name:** 200011-905-PAS-B					**x̄ Temp (°C):** 21.00	
Vinyl Chloride	12,657	1.00	0.564	U	U	Ab21022605.D
trans-1,2-Dichloroethene	12,657	1.00	0.705	U	U	Ab21022605.D
cis-1,2-Dichloroethene	12,657	1.00	0.705	8.86	0.993	Ab21022605.D
Trichloroethene	12,657	1.00	0.655	4.95	0.597	Ab21022605.D
Tetrachloroethene	12,657	1.67	0.554	31.33	7.46	Aa21030105.D
Lab ID: 0005636-02 **Sample Name:** 200011-905-PAS-OA					**x̄ Temp (°C):** 21.00	
Vinyl Chloride	12,645	1.00	0.564	U	U	Ab21022606.D
trans-1,2-Dichloroethene	12,645	1.00	0.705	U	U	Ab21022606.D
cis-1,2-Dichloroethene	12,645	1.00	0.705	U	U	Ab21022606.D
Trichloroethene	12,645	1.00	0.655	U	U	Ab21022606.D
Tetrachloroethene	12,645	1.00	0.554	U	U	Ab21022606.D

Calculations:

$$C = \frac{1000 \times M \times DF}{Uc \times t}$$

$$Uc = U * \left(\left(\frac{Ts + 273.15}{Tu + 273.15}\right)^{1/2}\right)$$

where: C = concentration (µg/m^3)
M = mass (ng)
DF = dilution factor
Uc = uptake rate (ml/min), corrected
t = sampling time (minutes)
U = compound specific uptake rate
Tu = uptake rate study temperature
Ts = sample average temperature

Note: Tu is 16.65°C

[g] Uptake rate determined using Graham's Law of Diffusion.

Reference: Federal Register/Vol. 79, No. 125/June 30, 2014

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Forest Hill, MD 21050 USA
1.410.838.8780

EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Method Detection and Reporting Limit Calculations (Concentration)

TO-17 (Passive)

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial (ng) LOQ	M Initial (ng) LOD	C Calculated (µg/m³) LOQ	C Calculated (µg/m³) LOD
Lab ID: 0005636-01	**Sample Name:** 200011-905-PAS-B					**x̄ Temp (°C):** 21.00	
Vinyl Chloride	12,657	1.00	0.564	5.0	2.50	0.700	0.350
trans-1,2-Dichloroethene	12,657	1.00	0.705	5.0	2.50	0.560	0.280
cis-1,2-Dichloroethene	12,657	1.00	0.705	5.0	2.50	0.560	0.280
Trichloroethene	12,657	1.00	0.655	5.0	2.50	0.603	0.302
Tetrachloroethene	12,657	1.67	0.554	5.0	2.50	1.19	0.595
Lab ID: 0005636-02	**Sample Name:** 200011-905-PAS-OA					**x̄ Temp (°C):** 21.00	
Vinyl Chloride	12,645	1.00	0.564	5.0	2.50	0.701	0.350
trans-1,2-Dichloroethene	12,645	1.00	0.705	5.0	2.50	0.561	0.280
cis-1,2-Dichloroethene	12,645	1.00	0.705	5.0	2.50	0.561	0.280
Trichloroethene	12,645	1.00	0.655	5.0	2.50	0.604	0.302
Tetrachloroethene	12,645	1.00	0.554	5.0	2.50	0.714	0.357

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Laboratory Certification List

Certification ID	Certification No.	Description	Expires	Project Required
Alaska CS-LAP	19-002	Alaska Department of Environmental Conservation	01/31/2023	
DoD-ELAP	L20-532	United States Department of Defense Environmental Laboratory Accreditation	12/31/2022	
ISO/IEC 17025:2017	L20-532	General Requirements for the competence of Testing and Calibration Laboratories	12/31/2022	
NY-NELAC	12097	New York Department of Health	04/01/2021	
Utah-NELAC	MD01091	Utah Department of Health	12/31/2021	

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Qualifiers/Notes and Definitions

General Definitions:

DF	Dilution Factor
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
NA	Not Applicable
Q	Qualifier
RPD	Relative Percent Difference
RT	Retention Times in Minutes
RRT	Evaluation of Relative Retention Times in RRT Units (qualified if outside $\pm$0.06 control limits)
3σ	Uncertainty
∉	Compound not on scope of accreditation
+	values are outside method/contract required QC limits
∅	Compound not on scope of accreditation and analyzed with a one-point calibration

Sample/Sample Receipt Qualifiers and Notes:

D	Dilution required to report within calibration Limits.
J	Value reported below limit of quantitation (LOQ).
U	Analyte was not detected and is reported as less than the limit of detection (LOD). The LOD has been adjusted for any dilution or concentration of the sample.

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EnviroForensics	**Site Name:** Former Donaldson's Cleaners	**Beacon Proposal:** 210128R02
N16W23390 Stone Ridge Dr, Suite G	**Site Location:** Appleton, WI	**Lab Work Order:** 0005636
Waukesha, WI 53188	**Project Manager:** Brian Kappen	**Reported:** 03/08/2021

Sample Management Records

BEACON ENVIRONMENTAL
2203A Commerce Rd, Suite 1
Forest Hill, MD 21050, USA
1-410-838-8780
800-878-5510 Toll Free

PASSIVE AIR SAMPLING - SORBENT TUBE | CHAIN-OF-CUSTODY

Client Information			
Company: EnviroForensics	Project Manager: Brian Kappen	Client PO: 2021-0042	
Address: N16W23390 Stone Ridge Dr Suite G	Project Name: Former Donaldson's	Turn around time (check one): [X] Normal [ ] Rush (specify) ____ days	
City / State / Zip: Waukesha, WI 53188	Location: Appleton		
Phone: 262-290-4001	Submitted by: R. Brown	Analysis: [X] Method TO-17 [ ] Method 325	
	Email: bkappen@enviroforensics.com		

Location ID	Tube ID	Start Date	Start Time	Stop Date	Stop Time	Aver Temp (C)	Notes	INDOOR AIR	AMBIENT AIR	CRAWL SPACE	SEWER GAS
200011-905-PAS-B	1099590	2-9-21	14:39	2-18-21	9:36	21		X			
200011-905-PAS-OA	1099512	2-9-21	14:45	2-18-21	9:30	21			X		

Special Notes / Instructions:

Relinquished by (signature): TZL	Date / Time: 2-18-21/	Received by (signature): FedEx	Date / Time: 2-18-21/
Relinquished by (signature):	Date / Time:	Received by (signature): allison Felter	Date / Time: 02/23/2021 1630
For Lab Use Only	Beacon Job No: 5636	Beacon Proposal: 210128R02	
Courier Name: FedEx	Shipment Condition: Good	Custody Seal Intact: [ ] Yes [ ] No [X] n/a	Custody Seal No:

Synergy Environmental Lab, INC

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

BRIAN KAPPEN
ENVIROFORENSICS
N16 W 23390 STONERIDGE DR
WAUKESHA WI 53188

Report Date *03-Mar-21*

Project Name WDNR FMR DONALDSONS CLEANERS **Invoice #** E39077
Project # 200011

Lab Code 5039077A
Sample ID 200011-905-SUMP
Sample Matrix Water
Sample Date 2/18/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.38	ug/l	0.38	1.55	1	8260B		2/26/2021	CJR	1
Bromobenzene	< 0.4	ug/l	0.4	1.65	1	8260B		2/26/2021	CJR	1
Bromodichloromethane	1.07 "J"	ug/l	0.47	1.93	1	8260B		2/26/2021	CJR	1
Bromoform	< 0.46	ug/l	0.46	1.87	1	8260B		2/26/2021	CJR	1
tert-Butylbenzene	< 0.45	ug/l	0.45	1.84	1	8260B		2/26/2021	CJR	1
sec-Butylbenzene	< 0.31	ug/l	0.31	1.28	1	8260B		2/26/2021	CJR	1
n-Butylbenzene	< 0.46	ug/l	0.46	1.88	1	8260B		2/26/2021	CJR	1
Carbon Tetrachloride	< 0.44	ug/l	0.44	1.79	1	8260B		2/26/2021	CJR	1
Chlorobenzene	< 0.38	ug/l	0.38	1.53	1	8260B		2/26/2021	CJR	1
Chloroethane	< 0.78	ug/l	0.78	3.16	1	8260B		2/26/2021	CJR	1
Chloroform	4.5	ug/l	0.4	1.64	1	8260B		2/26/2021	CJR	1
Chloromethane	< 0.84	ug/l	0.84	3.42	1	8260B		2/26/2021	CJR	1
2-Chlorotoluene	< 0.36	ug/l	0.36	1.47	1	8260B		2/26/2021	CJR	1
4-Chlorotoluene	< 0.4	ug/l	0.4	1.62	1	8260B		2/26/2021	CJR	1
1,2-Dibromo-3-chloropropane	< 0.54	ug/l	0.54	2.2	1	8260B		2/26/2021	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.85	1	8260B		2/26/2021	CJR	1
1,4-Dichlorobenzene	< 0.48	ug/l	0.48	1.97	1	8260B		2/26/2021	CJR	1
1,3-Dichlorobenzene	< 0.38	ug/l	0.38	1.54	1	8260B		2/26/2021	CJR	1
1,2-Dichlorobenzene	< 0.44	ug/l	0.44	1.81	1	8260B		2/26/2021	CJR	1
Dichlorodifluoromethane	< 0.55	ug/l	0.55	2.24	1	8260B		2/26/2021	CJR	1
1,2-Dichloroethane	< 0.44	ug/l	0.44	1.81	1	8260B		2/26/2021	CJR	1
1,1-Dichloroethane	< 0.48	ug/l	0.48	1.95	1	8260B		2/26/2021	CJR	1
1,1-Dichloroethene	< 0.55	ug/l	0.55	2.25	1	8260B		2/26/2021	CJR	1
cis-1,2-Dichloroethene	0.43 "J"	ug/l	0.39	1.59	1	8260B		2/26/2021	CJR	1
trans-1,2-Dichloroethene	< 0.6	ug/l	0.6	2.46	1	8260B		2/26/2021	CJR	1

Project Name WDNR FMR DONALDSONS CLEANERS **Invoice #** E39077
Project # 200011

Lab Code 5039077A
Sample ID 200011-905-SUMP
Sample Matrix Water
Sample Date 2/18/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2-Dichloropropane	< 0.38	ug/l	0.38	1.54	1	8260B		2/26/2021	CJR	1
1,3-Dichloropropane	< 0.4	ug/l	0.4	1.64	1	8260B		2/26/2021	CJR	1
trans-1,3-Dichloropropene	< 0.45	ug/l	0.45	1.82	1	8260B		2/26/2021	CJR	1
cis-1,3-Dichloropropene	< 0.51	ug/l	0.51	2.07	1	8260B		2/26/2021	CJR	1
Di-isopropyl ether	< 0.47	ug/l	0.47	1.93	1	8260B		2/26/2021	CJR	1
EDB (1,2-Dibromoethane)	< 0.47	ug/l	0.47	1.9	1	8260B		2/26/2021	CJR	1
Ethylbenzene	< 0.37	ug/l	0.37	1.51	1	8260B		2/26/2021	CJR	1
Hexachlorobutadiene	< 0.75	ug/l	0.75	3	1	8260B		2/26/2021	CJR	1
Isopropylbenzene	< 0.3	ug/l	0.3	1.24	1	8260B		2/26/2021	CJR	1
p-Isopropyltoluene	< 0.43	ug/l	0.43	1.76	1	8260B		2/26/2021	CJR	1
Methylene chloride	< 0.89	ug/l	0.89	3.38	1	8260B		2/26/2021	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.46	ug/l	0.46	1.88	1	8260B		2/26/2021	CJR	1
Naphthalene	< 1.4	ug/l	1.4	5.67	1	8260B		2/26/2021	CJR	1
n-Propylbenzene	< 0.44	ug/l	0.44	1.79	1	8260B		2/26/2021	CJR	1
1,1,2,2-Tetrachloroethane	< 0.36	ug/l	0.36	1.46	1	8260B		2/26/2021	CJR	1
1,1,1,2-Tetrachloroethane	< 0.76	ug/l	0.76	3.1	1	8260B		2/26/2021	CJR	1
Tetrachloroethene	1.04 "J"	ug/l	0.54	2.22	1	8260B		2/26/2021	CJR	1
Toluene	< 0.42	ug/l	0.42	1.71	1	8260B		2/26/2021	CJR	1
1,2,4-Trichlorobenzene	< 0.67	ug/l	0.67	2.73	1	8260B		2/26/2021	CJR	1
1,2,3-Trichlorobenzene	< 0.66	ug/l	0.66	2.82	1	8260B		2/26/2021	CJR	1
1,1,1-Trichloroethane	< 0.41	ug/l	0.41	1.69	1	8260B		2/26/2021	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.96	1	8260B		2/26/2021	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.92	1	8260B		2/26/2021	CJR	1
Trichlorofluoromethane	< 0.49	ug/l	0.49	2.01	1	8260B		2/26/2021	CJR	1
1,2,4-Trimethylbenzene	< 0.35	ug/l	0.35	1.4	1	8260B		2/26/2021	CJR	1
1,3,5-Trimethylbenzene	< 0.38	ug/l	0.38	1.55	1	8260B		2/26/2021	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.65	1	8260B		2/26/2021	CJR	1
m&p-Xylene	< 0.77	ug/l	0.77	3.14	1	8260B		2/26/2021	CJR	1
o-Xylene	< 0.44	ug/l	0.44	1.8	1	8260B		2/26/2021	CJR	1
SUR - Toluene-d8	116	REC %			1	8260B		2/26/2021	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		2/26/2021	CJR	1
SUR - 4-Bromofluorobenzene	94	REC %			1	8260B		2/26/2021	CJR	1
SUR - Dibromofluoromethane	103	REC %			1	8260B		2/26/2021	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF CUSTODY RECORD

Synergy Environmental Lab, Inc.

www.synergy-lab.net
1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • mrsynergy@wi.twcbc.com

Chain # No 38950

Page 1 of 1

Lab I.D. #	
QUOTE #:	8242
Project #:	200011
Sampler: (signature)	TRT

Sample Handling Request

_____ Rush Analysis Date Required: _____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Project (Name / Location):	WDNR Former Donaldson's Cleaners		
Reports To:	Brian Kappen	Invoice To:	Accounts Payable
Company	EnviroForensics	Company	EnviroForensics
Address	N16W23390 Stone Ridge DR Suite G	Address	
City State Zip	Waukesha, WI 53188	City State Zip	
Phone	262-290-4001	Phone	
Email	bkappen@enviroforensics.com	Email	accountspayable@enviroforensics.com

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation
	~~200011-109 - RB~~						
503907FA	200011-905-Sump	2-18-21	9:45	N	3	GW	HCL

Analysis Requested

DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	VOC AIR (TO - 15)	8-RCRA METALS
												X		

Other Analysis

PID/FID

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge, etc.)

Sample Integrity - To be completed by receiving lab.

Method of Shipment: Client

Temp. of Temp. Blank: _____ °C On Ice: Y

Cooler seal intact upon receipt: X Yes ___ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
TRT	13:53	2-18-21			

Received in Laboratory By: Client Time: 1:53 Date: 2/18/21