

## Borski, Jennifer - DNR

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**From:** Krause, Jacob <JKrause@scsengineers.com>  
**Sent:** Tuesday, June 20, 2023 10:56 AM  
**To:** Mark Lahay  
**Cc:** Langdon, Robert; Borski, Jennifer - DNR; Walden, James E -DNR; Hoverman, Robert R - DNR (Rob)  
**Subject:** Sample Results Notification - So's Dry Cleaner, Appleton, WI, BRRTS #02-45-552133  
**Attachments:** 6994 Beacon Air Samples Analytical Report 06 06 2023 0728.pdf; 6994 Beacon\_Results\_Table 06 Jun 23 0728.xlsx; Figure 2. Sanitary Sewer Vapor Results\_So's.pdf; Table 1. Sanitary Sewer Gas Vapor\_So's.pdf

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To Mr. Mark Lahay, Assistant City Engineer, City of Appleton:

This message serves as notification of laboratory analytical results for vapor samples collected within sanitary manhole structures near the former So's Dry Cleaner site located at 304 West Wisconsin Avenue in the City of Appleton, Wisconsin. The sampling was completed by SCS Engineers at the request of the Wisconsin Department of Natural Resources (WDNR) through the Vapor Intrusion Zone Contract (VIZC). The laboratory analytical report, Excel file of laboratory data, a site map showing the sampling locations, and an analytical summary table are attached. SCS Engineers compared the analytical results to standards set by WDNR, Sanitary Sewer Gas Screening Levels (SSGSLs), and found that none of the results exceeded SSGSLs. However, the reported concentrations of trichloroethene (TCE) and tetrachloroethene (PCE) were greater than 10% of their respective SSGSLs, and therefore additional sampling at the same locations may be warranted per WDNR guidance. SCS Engineers will prepare a summary report for submittal to WDNR which will provide further discussion of the results and provide recommendations for additional sampling, if warranted. Once complete, the final report will be listed on the WDNR BRRTS database, which is available to the public.

Please contact Ms. Jennifer Borski ([Jennifer.Borski@wisconsin.gov](mailto:Jennifer.Borski@wisconsin.gov) or 920-360-0853) at WDNR with any questions regarding the work completed or the sample analytical results.

Thank you,

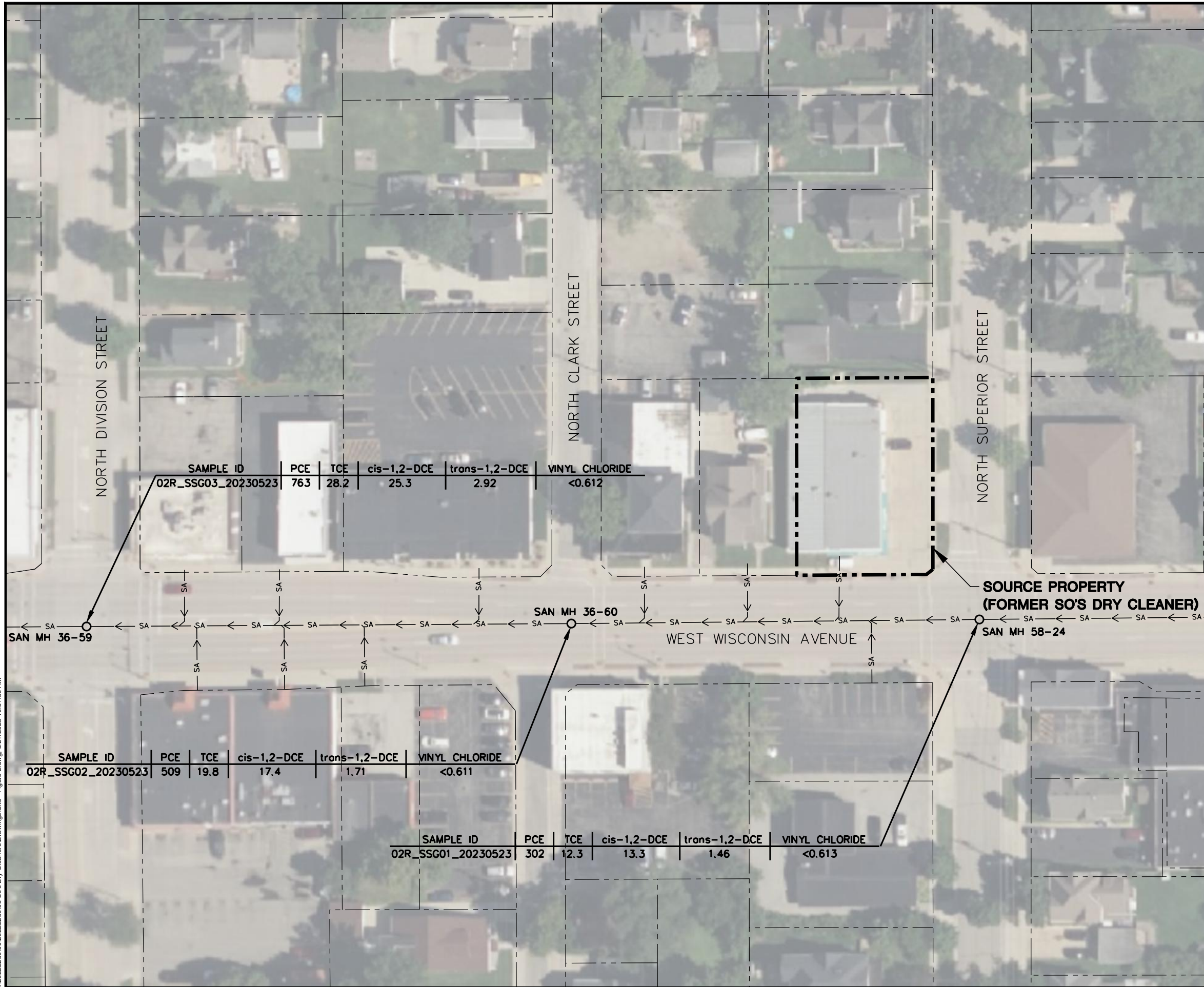
Jacob Krause, PG\*  
Project Hydrogeologist  
SCS Engineers  
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Madison, WI 53718-6751 USA  
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I:\2522269.00\2522269.03 So's Dry Cleaners\Drawings\Site - Figure 2.dwg, 6/27/2023 10:31:36 AM

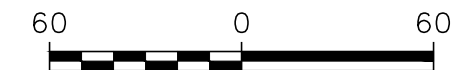


LEGEND

- PROPERTY LINE (SUBJECT PROPERTY)
- PARCEL LINE
- SANITARY SEWER
- SANITARY MANHOLE
- PCE = TETRACHLOROETHENE
- TCE = TRICHLOROETHENE
- DCE = DICHLOROETHENE

LEGEND

1. AERIAL BACKGROUND FROM BING MAPS.
2. PROPERTY LINES ARE APPROXIMATE AND WERE OBTAINED FROM THE WISCONSIN STATEWIDE PARCEL MAP INITIATIVE. INFORMATION WAS OBTAINED FROM WISCONSIN'S COUNTIES AND CITIES IN 2020 AND THUS MAY NOT BE THE MOST CURRENT, COMPREHENSIVE DATA AVAILABLE.
3. SANITARY SEWER INFORMATION FROM CITY OF APPLETON SEWER AND WATER CONSTRUCTION DRAWINGS PREPARED BY THE CITY OF APPLETON ENGINEERING DIVISION. LOCATION ARE APPROXIMATE.
4. ANALYTICAL RESULTS FROM THE BEACON ENVIRONMENTAL LABORATORY ANALYTICAL REPORT DATED JUNE 6, 2023.
5. ANALYTICAL RESULTS ARE REPORTED IN UNITS OF MICROGRAMS PER CUBIC METER.



SCALE: 1" = 60'

CLIENT		WISCONSIN DEPARTMENT OF NATURAL RESOURCES	SANITARY SEWER VAPOR ANALYTICAL RESULTS
		PROJECT NO: 2522269.03 DRAWN: 04/18/2023 REVISED: 06/19/2023	SO'S DRY CLEANERS (FORMER) 304 WEST WISCONSIN AVENUE APPLETON, WISCONSIN
ENGINEER	DRAWN BY: KP CHECKED BY: JJK APPROVED BY:	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830
SITE	PROJECT NO: 2522269.03 DRAWN: 04/18/2023 REVISED: 06/19/2023	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	FIGURE 2

**Table 1. Sanitary Sewer Gas Analytical Results Summary**  
**So's Dry Cleaner (Former), 305 W. Wisconsin Ave., Appleton, WI / SCS Engineers Project #25222269.03**  
 (Results are in  $\mu\text{g}/\text{m}^3$ )

Sample	Location	Sampler Deployment Date	Sampler Retrieval Date	Lab Notes	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
02R_SSG01_20230523	SAN MH 58-24	5/9/2023	5/23/2023	(1)	302	12.3	13.3	1.46	<0.613
02R_SSG02_20230523	SAN MH 36-60	5/9/2023	5/23/2023	--	509	19.8	17.4	1.71	<0.611
02R_SSG03_20230523	SAN MH 36-59	5/9/2023	5/23/2023	--	763 D	28.2	25.3	2.92	<0.612
Trip Blank	--	--	--	--	<1.21	<1.50	<0.934	<1.13	<0.611
Sanitary Sewer Gas Screening Level (Residential Buildings)					1,400	70	1,400	1,400	56
Sanitary Sewer Gas Screening Level (Commercial/Industrial Buildings)					5,800	290	5,800	5,800	930

Abbreviations:

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter  
 -- = Not Applicable

cis-1,2-DCE = cis-1,2-dichloroethene  
 trans-1,2-DCE = trans-1,2-dichloroethene

Notes:

1. Samples were collected using BEACON Environmental passive samplers and analyzed using the USEPA TO-17 analytical method.
2. Sanitary Sewer Gas Screening Levels (SSGSLs) are Vapor Action Levels (VALs) divided by an attenuation factor (AF) of 0.03 per WDNR's January 2023 Wisconsin Vapor Quick Look-Up Table.
3. **Bold+underlined** values meet or exceed SSGSLs for the appropriate setting (residential or commercial/industrial).

Lab Notes/Qualifiers:

D = Dilution required to report within calibration Limits.  
 (1) 1,4-Dichlorobenzene-d4 = Internal Standard recovery was below laboratory and method acceptance limits, associated results with detections are biased high.

Created by: JJK  
 Last revision by: REL  
 Checked by: JJK/LMH  
 Proj Mgr QA/QC: REL

Date: 6/7/2023  
 Date: 6/16/2023  
 Date: 6/16/2023  
 Date: 6/16/2023

I:\25222269.00\25222269.03 So's Dry Cleaners\Data and Calculations\Tables\[Sanitary Sewer Gas Vapor\_short list VOCs\_Sos.xlsx]Sanitary Sewer Gas



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

## CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230503R01  
Laboratory Work Order: 0006994

### Project Description:

So's Dry Cleaner (Former)  
Appleton, WI

Client PO No.: 25222269.03-001

Prepared for:

Jacob Krause

**SCS Engineers**

2830 Dairy Drive

Madison, WI 53718-6751

---

Ryan W. Schneider  
Senior Project Manager

June 06, 2023

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:

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Steven C. Thornley  
Laboratory Director

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Peter B. Kelly  
Quality Manager

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SCS Engineers  
 2830 Dairy Drive  
 Madison, WI 53718-6751

**Site Name:** So's Dry Cleaner (Former)  
**Site Location:** Appleton, WI  
**Project Manager:** Jacob Krause

**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

### Sample Summary

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0006994-01 Sampler Type:	Trip Blank Beacon Passive Sampler	05/25/2023	TO-17 (Passive)	Air
0006994-02 Sampler Type:	02R_SSG01_20230523 Beacon Passive Sampler	05/25/2023	TO-17 (Passive)	Sewer Gas
0006994-03 Sampler Type:	02R_SSG02_20230523 Beacon Passive Sampler	05/25/2023	TO-17 (Passive)	Sewer Gas
0006994-04 Sampler Type:	02R_SSG03_20230523 Beacon Passive Sampler	05/25/2023	TO-17 (Passive)	Sewer Gas

#### Project Completeness

**Samples Received:** 4  
**Samples Analyzed:** 4

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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

### *Case Narrative*

Beacon Environmental provided thermally conditioned Beacon Samplers for sampling, with analyses following U.S. EPA Method TO-17, with analytical results reported in  $\mu\text{g}/\text{m}^3$ . 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)**

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 quantitation (LOQ) as noted in the data tables. The reported data includes LOQ limits.

#### **Calibration Verification**

All continuing calibration verification (CCV) values are within  $\pm 30\%$  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 project method quantitation limit (MQL) for each compound were observed in the Laboratory Method Blanks unless noted in the **Case Narrative**.

#### **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**.

#### **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.

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**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

***STATEMENT OF DATA QUALIFICATIONS***

***Qualifier Summary:***

**Analysis:** TO-17 (Passive) / Organics in Air by EPA TO-17 Using Beacon Sampler

**0006994-02                    02R\_SSG01\_20230523**

Compound	Q	Q Explanation
1,4-Dichlorobenzene-d4	I3	Internal Standard recovery was below laboratory and method acceptance limits, associated results with detections are biased high.



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**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

## *Analytical Results*

SCS Engineers  
 2830 Dairy Drive  
 Madison, WI 53718-6751

**Site Name:** So's Dry Cleaner (Former)  
**Site Location:** Appleton, WI  
**Project Manager:** Jacob Krause

**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

### Summary of Compound Detections- Concentration

Lab Sample ID: 0006994-02	<b>02R_SSG01_20230523</b>	Method: TO-17 (Passive)
Sewer Gas		

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
trans-1,2-Dichloroethene	156-60-5	1.46		2.746	1.13	Ka23052614.D
cis-1,2-Dichloroethene	156-59-2	13.3		3.685	0.937	Ka23052614.D
Trichloroethene	79-01-6	12.3		5.920	1.50	Ka23052614.D
Tetrachloroethene	127-18-4	302		8.161	1.21	Ka23052614.D

Lab Sample ID: 0006994-03	<b>02R_SSG02_20230523</b>	Method: TO-17 (Passive)
Sewer Gas		

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
trans-1,2-Dichloroethene	156-60-5	1.71		2.749	1.13	Ka23052615.D
cis-1,2-Dichloroethene	156-59-2	17.4		3.685	0.934	Ka23052615.D
Trichloroethene	79-01-6	19.8		5.920	1.50	Ka23052615.D
Tetrachloroethene	127-18-4	509		8.161	1.21	Ka23052615.D

Lab Sample ID: 0006994-04	<b>02R_SSG03_20230523</b>	Method: TO-17 (Passive)
Sewer Gas		

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
trans-1,2-Dichloroethene	156-60-5	2.92		2.746	1.13	Ka23052616.D
cis-1,2-Dichloroethene	156-59-2	25.3		3.685	0.935	Ka23052616.D
Trichloroethene	79-01-6	28.2		5.920	1.50	Ka23052616.D
Tetrachloroethene	127-18-4	763	D	8.158	12.1	Ka23053006.D

**SCS Engineers**  
2830 Dairy Drive  
Madison, WI 53718-6751**Site Name:** So's Dry Cleaner (Former)  
**Site Location:** Appleton, WI  
**Project Manager:** Jacob Krause**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023***Data Summary Table- Concentration***

<b>Compound</b>	<b>Frequency</b>	<b>LOQ (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Max Value (<math>\mu\text{g}/\text{m}^3</math>)</b>
trans-1,2-Dichloroethene	3	1.13	2.92
cis-1,2-Dichloroethene	3	0.934	25.3
Trichloroethene	3	1.50	28.2
Tetrachloroethene	3	1.21	763

SCS Engineers  
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Site Name: So's Dry Cleaner (Former)  
Site Location: Appleton, WI  
Project Manager: Jacob Krause

Beacon Proposal: 230503R01  
Lab Work Order: 0006994  
Reported: 06/06/2023

*Detailed Analytical Results*

**SCS Engineers**  
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**Site Location:** Appleton, WI  
**Project Manager:** Jacob Krause

**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

Lab Sample ID: 0006994-01

**Trip Blank**

Method: TO-17 (Passive)

Air

Analyte	CAS#	Result ( $\mu\text{g}/\text{m}^3$ )	Q	LOQ ( $\mu\text{g}/\text{m}^3$ )	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.611		0.611	05/26/2023 15:11	Ka23052613.D
trans-1,2-Dichloroethene	156-60-5	<1.13		1.13	05/26/2023 15:11	Ka23052613.D
cis-1,2-Dichloroethene	156-59-2	<0.934		0.934	05/26/2023 15:11	Ka23052613.D
Trichloroethene	79-01-6	<1.50		1.50	05/26/2023 15:11	Ka23052613.D
Tetrachloroethene	127-18-4	<1.21		1.21	05/26/2023 15:11	Ka23052613.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	94.8%	70-130		05/26/2023 15:11	Ka23052613.D
Surrogate: Toluene-d8	2037-26-5	95.9%	70-130		05/26/2023 15:11	Ka23052613.D
Surrogate: Bromofluorobenzene	460-00-4	103%	70-130		05/26/2023 15:11	Ka23052613.D

**SCS Engineers**  
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**Project Manager:** Jacob Krause

**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

Lab Sample ID: 0006994-02

**02R\_SSG01\_20230523**

Method: TO-17 (Passive)

Sewer Gas

Analyte	CAS#	Result ( $\mu\text{g}/\text{m}^3$ )	Q	LOQ ( $\mu\text{g}/\text{m}^3$ )	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.613		0.613	05/26/2023 15:39	Ka23052614.D
<b>trans-1,2-Dichloroethene</b>	156-60-5	<b>1.46</b>		1.13	05/26/2023 15:39	Ka23052614.D
<b>cis-1,2-Dichloroethene</b>	156-59-2	<b>13.3</b>		0.937	05/26/2023 15:39	Ka23052614.D
<b>Trichloroethene</b>	79-01-6	<b>12.3</b>		1.50	05/26/2023 15:39	Ka23052614.D
<b>Tetrachloroethene</b>	127-18-4	<b>302</b>		1.21	05/26/2023 15:39	Ka23052614.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	96.2%	70-130		05/26/2023 15:39	Ka23052614.D
Surrogate: Toluene-d8	2037-26-5	91.6%	70-130		05/26/2023 15:39	Ka23052614.D
Surrogate: Bromofluorobenzene	460-00-4	104%	70-130		05/26/2023 15:39	Ka23052614.D

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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

Lab Sample ID: 0006994-03

**02R\_SSG02\_20230523**

Method: TO-17 (Passive)

Sewer Gas

Analyte	CAS#	Result ( $\mu\text{g}/\text{m}^3$ )	Q	LOQ ( $\mu\text{g}/\text{m}^3$ )	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.611		0.611	05/26/2023 16:07	Ka23052615.D
<b>trans-1,2-Dichloroethene</b>	156-60-5	<b>1.71</b>		1.13	05/26/2023 16:07	Ka23052615.D
<b>cis-1,2-Dichloroethene</b>	156-59-2	<b>17.4</b>		0.934	05/26/2023 16:07	Ka23052615.D
<b>Trichloroethene</b>	79-01-6	<b>19.8</b>		1.50	05/26/2023 16:07	Ka23052615.D
<b>Tetrachloroethene</b>	127-18-4	<b>509</b>		1.21	05/26/2023 16:07	Ka23052615.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	96.3%	70-130		05/26/2023 16:07	Ka23052615.D
Surrogate: Toluene-d8	2037-26-5	93.6%	70-130		05/26/2023 16:07	Ka23052615.D
Surrogate: Bromofluorobenzene	460-00-4	107%	70-130		05/26/2023 16:07	Ka23052615.D

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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

Lab Sample ID: 0006994-04

**02R\_SSG03\_20230523**

Method: TO-17 (Passive)

Sewer Gas

Analyte	CAS#	Result (µg/m <sup>3</sup> )	Q	LOQ (µg/m <sup>3</sup> )	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.612		0.612	05/26/2023 16:36	Ka23052616.D
<b>trans-1,2-Dichloroethene</b>	156-60-5	<b>2.92</b>		1.13	05/26/2023 16:36	Ka23052616.D
<b>cis-1,2-Dichloroethene</b>	156-59-2	<b>25.3</b>		0.935	05/26/2023 16:36	Ka23052616.D
<b>Trichloroethene</b>	79-01-6	<b>28.2</b>		1.50	05/26/2023 16:36	Ka23052616.D
<b>Tetrachloroethene</b>	127-18-4	<b>763</b>	D	12.1	05/30/2023 13:44	Ka23053006.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	95.3%	70-130		05/30/2023 13:44	Ka23053006.D
Surrogate: 1,2-DCA-d4	17060-07-0	95.4%	70-130		05/26/2023 16:36	Ka23052616.D
Surrogate: Toluene-d8	2037-26-5	102%	70-130		05/30/2023 13:44	Ka23053006.D
Surrogate: Toluene-d8	2037-26-5	93.9%	70-130		05/26/2023 16:36	Ka23052616.D
Surrogate: Bromofluorobenzene	460-00-4	109%	70-130		05/26/2023 16:36	Ka23052616.D
Surrogate: Bromofluorobenzene	460-00-4	100%	70-130		05/30/2023 13:44	Ka23053006.D



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## *QC Information/Summary*

SCS Engineers  
 2830 Dairy Drive  
 Madison, WI 53718-6751

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**Project Manager:** Jacob Krause

**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E038 - Instrument: K System - File ID: Kc23051215.D**

*B23E038-ICV1 (LCSD/Second Source Verification/CALV)*

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	44.1	10	ng	50.0		88.2	70-130			
trans-1,2-Dichloroethene	51.6	10	ng	50.0		103	70-130			
cis-1,2-Dichloroethene	48.9	10	ng	50.0		97.8	70-130			
Trichloroethene	48.4	10	ng	50.0		96.8	70-130			
Tetrachloroethene	47.6	10	ng	50.0		95.2	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>50.1</i>		<i>ng</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>50.8</i>		<i>ng</i>	<i>50.0</i>		<i>102</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>49.1</i>		<i>ng</i>	<i>50.0</i>		<i>98.2</i>	<i>70-130</i>			

**SCS Engineers**  
 2830 Dairy Drive  
 Madison, WI 53718-6751

**Site Name:** So's Dry Cleaner (Former)  
**Site Location:** Appleton, WI  
**Project Manager:** Jacob Krause

**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E038 - Instrument: K System - File ID: Kc23051218.D**
***B23E038-ICB1 (Lab Blank/Initial Calibration Blank)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
<i>Surrogate: 1,2-DCA-d4</i>	<i>101</i>		<i>ng</i>	<i>100</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>103</i>		<i>ng</i>	<i>100</i>		<i>103</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>95.4</i>		<i>ng</i>	<i>100</i>		<i>95.4</i>	<i>70-130</i>			

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**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E060 - Batch: 23E0042 - Instrument: K System - File ID: Ka23052602.D**
**23E0042-BS1 (LCS, Calibration Source Verification)**

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	47.1	10	ng	50.0		94.1	70-130			
trans-1,2-Dichloroethene	52.6	10	ng	50.0		105	70-130			
cis-1,2-Dichloroethene	49.6	10	ng	50.0		99.2	70-130			
Trichloroethene	48.2	10	ng	50.0		96.3	70-130			
Tetrachloroethene	48.9	10	ng	50.0		97.7	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>49.0</i>		<i>ng</i>	<i>50.0</i>		<i>98.0</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>52.0</i>		<i>ng</i>	<i>50.0</i>		<i>104</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>49.9</i>		<i>ng</i>	<i>50.0</i>		<i>99.8</i>	<i>70-130</i>			

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**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E060 - Batch: 23E0042 - Instrument: K System - File ID: Ka23052603.D**
**23E0042-BLK1 (Lab Blank)**

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.611	0.611	µg/m <sup>3</sup>							U
trans-1,2-Dichloroethene	<1.13	1.13	µg/m <sup>3</sup>							U
cis-1,2-Dichloroethene	<0.934	0.934	µg/m <sup>3</sup>							U
Trichloroethene	<1.50	1.50	µg/m <sup>3</sup>							U
Tetrachloroethene	<1.21	1.21	µg/m <sup>3</sup>							U
<i>Surrogate: 1,2-DCA-d4</i>	<i>98.7</i>		<i>ng</i>	<i>100</i>		<i>98.7</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>101</i>		<i>ng</i>	<i>100</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>95.9</i>		<i>ng</i>	<i>100</i>		<i>95.9</i>	<i>70-130</i>			

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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E060 - Instrument: K System - File ID: Ka23052604.D**
***B23E060-ICV1 (LCSD/Second Source Verification/CALV)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	53.5	10	ng	50.0		107	70-130			
trans-1,2-Dichloroethene	54.0	10	ng	50.0		108	70-130			
cis-1,2-Dichloroethene	50.8	10	ng	50.0		102	70-130			
Trichloroethene	49.2	10	ng	50.0		98.4	70-130			
Tetrachloroethene	49.3	10	ng	50.0		98.6	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>48.3</i>		<i>ng</i>	<i>50.0</i>		<i>96.7</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>51.1</i>		<i>ng</i>	<i>50.0</i>		<i>102</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>48.1</i>		<i>ng</i>	<i>50.0</i>		<i>96.2</i>	<i>70-130</i>			

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**Site Name:** So's Dry Cleaner (Former)  
**Site Location:** Appleton, WI  
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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E060 - Instrument: K System - File ID: Ka23052611.D**
***B23E060-CCV1 (LCS, Closing Calibration Verification)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	47.3	10	ng	50.0		94.6	70-130			
trans-1,2-Dichloroethene	51.9	10	ng	50.0		104	70-130			
cis-1,2-Dichloroethene	49.5	10	ng	50.0		99.0	70-130			
Trichloroethene	49.2	10	ng	50.0		98.4	70-130			
Tetrachloroethene	47.3	10	ng	50.0		94.5	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>49.2</i>		<i>ng</i>	<i>50.0</i>		<i>98.3</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>49.9</i>		<i>ng</i>	<i>50.0</i>		<i>99.9</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>50.6</i>		<i>ng</i>	<i>50.0</i>		<i>101</i>	<i>70-130</i>			

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**Site Name:** So's Dry Cleaner (Former)  
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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E060 - Instrument: K System - File ID: Ka23052612.D**
***B23E060-CCB1 (Lab Blank)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
<i>Surrogate: 1,2-DCA-d4</i>	<i>97.5</i>		<i>ng</i>	<i>100</i>		<i>97.5</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>96.8</i>		<i>ng</i>	<i>100</i>		<i>96.8</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>97.5</i>		<i>ng</i>	<i>100</i>		<i>97.5</i>	<i>70-130</i>			



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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E060 - Instrument: K System - File ID: Ka23052617.D**
***B23E060-CCV2 (Continuing Calibration Verification)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	42.7	10	ng	50.0		85.4	70-130			
trans-1,2-Dichloroethene	50.2	10	ng	50.0		100	70-130			
cis-1,2-Dichloroethene	48.7	10	ng	50.0		97.3	70-130			
Trichloroethene	50.1	10	ng	50.0		100	70-130			
Tetrachloroethene	47.6	10	ng	50.0		95.2	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>47.9</i>		<i>ng</i>	<i>50.0</i>		<i>95.7</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>49.2</i>		<i>ng</i>	<i>50.0</i>		<i>98.3</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>51.7</i>		<i>ng</i>	<i>50.0</i>		<i>103</i>	<i>70-130</i>			

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**Site Name:** So's Dry Cleaner (Former)  
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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E060 - Instrument: K System - File ID: Ka23052618.D**
***B23E060-CCB2 (Lab Blank)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
<i>Surrogate: 1,2-DCA-d4</i>	<i>98.1</i>		<i>ng</i>	<i>100</i>		<i>98.1</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>98.5</i>		<i>ng</i>	<i>100</i>		<i>98.5</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>99.4</i>		<i>ng</i>	<i>100</i>		<i>99.4</i>	<i>70-130</i>			

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**Site Name:** So's Dry Cleaner (Former)  
**Site Location:** Appleton, WI  
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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E065 - Batch: 23E0047 - Instrument: K System - File ID: Ka23053002.D**
**23E0047-BS1 (LCS, Calibration Source Verification)**

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	39.4	10	ng	50.0		78.9	70-130			
trans-1,2-Dichloroethene	52.4	10	ng	50.0		105	70-130			
cis-1,2-Dichloroethene	50.1	10	ng	50.0		100	70-130			
Trichloroethene	50.1	10	ng	50.0		100	70-130			
Tetrachloroethene	46.7	10	ng	50.0		93.5	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>49.1</i>		<i>ng</i>	<i>50.0</i>		<i>98.2</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>50.6</i>		<i>ng</i>	<i>50.0</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>51.4</i>		<i>ng</i>	<i>50.0</i>		<i>103</i>	<i>70-130</i>			

**SCS Engineers**  
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**Site Location:** Appleton, WI  
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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E065 - Instrument: K System - File ID: Ka23053004.D**
***B23E065-ICV1 (LCSD/Second Source Verification/CALV)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	50.2	10	ng	50.0		100	70-130			
trans-1,2-Dichloroethene	53.4	10	ng	50.0		107	70-130			
cis-1,2-Dichloroethene	51.7	10	ng	50.0		103	70-130			
Trichloroethene	51.0	10	ng	50.0		102	70-130			
Tetrachloroethene	48.7	10	ng	50.0		97.4	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>48.2</i>		<i>ng</i>	<i>50.0</i>		<i>96.3</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>50.1</i>		<i>ng</i>	<i>50.0</i>		<i>100</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>50.0</i>		<i>ng</i>	<i>50.0</i>		<i>99.9</i>	<i>70-130</i>			

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**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E065 - Batch: 23E0047 - Instrument: K System - File ID: Ka23053005.D**
**23E0047-BLK1 (Lab Blank)**

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.611	0.611	µg/m <sup>3</sup>							U
trans-1,2-Dichloroethene	<1.13	1.13	µg/m <sup>3</sup>							U
cis-1,2-Dichloroethene	<0.934	0.934	µg/m <sup>3</sup>							U
Trichloroethene	<1.50	1.50	µg/m <sup>3</sup>							U
Tetrachloroethene	<1.21	1.21	µg/m <sup>3</sup>							U
<i>Surrogate: 1,2-DCA-d4</i>	<i>98.1</i>		<i>ng</i>	<i>100</i>		<i>98.1</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>104</i>		<i>ng</i>	<i>100</i>		<i>104</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>98.1</i>		<i>ng</i>	<i>100</i>		<i>98.1</i>	<i>70-130</i>			

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**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E065 - Instrument: K System - File ID: Ka23053007.D**

***B23E065-CCV1 (LCS, Closing Calibration Verification)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	48.7	10	ng	50.0		97.5	70-130			
trans-1,2-Dichloroethene	49.3	10	ng	50.0		98.7	70-130			
cis-1,2-Dichloroethene	48.5	10	ng	50.0		96.9	70-130			
Trichloroethene	49.3	10	ng	50.0		98.5	70-130			
Tetrachloroethene	47.0	10	ng	50.0		94.0	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>48.4</i>		<i>ng</i>	<i>50.0</i>		<i>96.8</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>49.6</i>		<i>ng</i>	<i>50.0</i>		<i>99.2</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>49.5</i>		<i>ng</i>	<i>50.0</i>		<i>99.0</i>	<i>70-130</i>			

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**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary*

**Sequence: B23E065 - Instrument: K System - File ID: Ka23053008.D**
***B23E065-CCB1 (Lab Blank)***

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
<i>Surrogate: 1,2-DCA-d4</i>	<i>97.4</i>		<i>ng</i>	<i>100</i>		<i>97.4</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>101</i>		<i>ng</i>	<i>100</i>		<i>101</i>	<i>70-130</i>			
<i>Surrogate: Bromofluorobenzene</i>	<i>98.5</i>		<i>ng</i>	<i>100</i>		<i>98.5</i>	<i>70-130</i>			

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**Site Name:** So's Dry Cleaner (Former)  
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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*TO-17 (Passive) - LCS/LCSD RPD Quality Control Summary*
**LCS: 23E0042-BS1 File ID: Ka23052602.D**

Analyzed: 5/26/23 10:15

**LCSD: B23E060-ICV1 File ID: Ka23052604.D**

Analyzed: 5/26/23 9:27

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	47.06	94.12	50	53.49	107.00	70-130	12.79	30	
trans-1,2-Dichloroethene	156-60-5	52.56	105.12	50	53.97	108.00	70-130	2.65	30	
cis-1,2-Dichloroethene	156-59-2	49.61	99.22	50	50.79	102.00	70-130	2.35	30	
Trichloroethene	79-01-6	48.16	96.32	50	49.2	98.40	70-130	2.14	30	
Tetrachloroethene	127-18-4	48.86	97.72	50	49.3	98.60	70-130	0.90	30	



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**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*TO-17 (Passive) - LCS/LCSD RPD Quality Control Summary*
**LCS: 23E0047-BS1 File ID: Ka23053002.D**  
**LCSD: B23E065-ICV1 File ID: Ka23053004.D**

 Analyzed: 5/30/23 12:14  
 Analyzed: 5/30/23 11:25

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	39.44	78.88	50	50.18	100.00	70-130	23.97	30	
trans-1,2-Dichloroethene	156-60-5	52.43	104.86	50	53.36	107.00	70-130	1.76	30	
cis-1,2-Dichloroethene	156-59-2	50.14	100.28	50	51.69	103.00	70-130	3.04	30	
Trichloroethene	79-01-6	50.08	100.16	50	51.01	102.00	70-130	1.84	30	
Tetrachloroethene	127-18-4	46.74	93.48	50	48.68	97.40	70-130	4.07	30	

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**Project Manager:** Jacob Krause

**Beacon Proposal:** 230503R01  
**Lab Work Order:** 0006994  
**Reported:** 06/06/2023

*Additional QC Information*

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### 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/m <sup>3</sup>	File ID
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<b>Lab ID:</b> 0006994-01	<b>Sample Name:</b> Trip Blank
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Vinyl Chloride	20,202	1.00	0.810	U	U	Ka23052613.D
trans-1,2-Dichloroethene	20,202	1.00	0.440	U	U	Ka23052613.D
cis-1,2-Dichloroethene	20,202	1.00	0.530	U	U	Ka23052613.D
Trichloroethene	20,202	1.00	0.330	U	U	Ka23052613.D
Tetrachloroethene	20,202	1.00	0.410	U	U	Ka23052613.D

<b>Lab ID:</b> 0006994-02	<b>Sample Name:</b> 02R_SSG01_20230523
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Vinyl Chloride	20,145	1.00	0.810	U	U	Ka23052614.D
trans-1,2-Dichloroethene	20,145	1.00	0.440	12.97	1.46	Ka23052614.D
cis-1,2-Dichloroethene	20,145	1.00	0.530	141.68	13.3	Ka23052614.D
Trichloroethene	20,145	1.00	0.330	81.64	12.3	Ka23052614.D
Tetrachloroethene	20,145	1.00	0.410	2498.35	302	Ka23052614.D

<b>Lab ID:</b> 0006994-03	<b>Sample Name:</b> 02R_SSG02_20230523
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Vinyl Chloride	20,202	1.00	0.810	U	U	Ka23052615.D
trans-1,2-Dichloroethene	20,202	1.00	0.440	15.16	1.71	Ka23052615.D
cis-1,2-Dichloroethene	20,202	1.00	0.530	185.84	17.4	Ka23052615.D
Trichloroethene	20,202	1.00	0.330	132.19	19.8	Ka23052615.D
Tetrachloroethene	20,202	1.00	0.410	4215.09	509	Ka23052615.D

<b>Lab ID:</b> 0006994-04	<b>Sample Name:</b> 02R_SSG03_20230523
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Vinyl Chloride	20,175	1.00	0.810	U	U	Ka23052616.D
trans-1,2-Dichloroethene	20,175	1.00	0.440	25.94	2.92	Ka23052616.D
cis-1,2-Dichloroethene	20,175	1.00	0.530	270.77	25.3	Ka23052616.D
Trichloroethene	20,175	1.00	0.330	188.01	28.2	Ka23052616.D
Tetrachloroethene	20,175	10.01	0.410	630.62	763	Ka23053006.D

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Calculations:

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

$$U_c = U * \left( \frac{T_s + 273.15}{T_u + 273.15} \right)^{1/2}$$

where: C = concentration ( $\mu\text{g}/\text{m}^3$ )  
M = mass (ng)  
DF = dilution factor  
U<sub>c</sub> = uptake rate (ml/min), corrected  
t = sampling time (minutes)  
U = compound specific uptake rate  
T<sub>u</sub> = uptake rate study temperature  
T<sub>s</sub> = sample average temperature

**Note:** T<sub>u</sub> is 16.65°C*Reference: Federal Register/Vol. 79, No. 125/June 30, 2014*

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### Method Detection and Reporting Limit Calculations (Concentration)

#### TO-17 (Passive)

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial LOQ ng	C Calculated LOQ µg/m <sup>3</sup>
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Lab ID: 0006994-01      Sample Name: Trip Blank

Vinyl Chloride	20,202	1.00	0.810	10.0	0.611
trans-1,2-Dichloroethene	20,202	1.00	0.440	10.0	1.13
cis-1,2-Dichloroethene	20,202	1.00	0.530	10.0	0.934
Trichloroethene	20,202	1.00	0.330	10.0	1.50
Tetrachloroethene	20,202	1.00	0.410	10.0	1.21

Lab ID: 0006994-02      Sample Name: 02R\_SSG01\_20230523

Vinyl Chloride	20,145	1.00	0.810	10.0	0.613
trans-1,2-Dichloroethene	20,145	1.00	0.440	10.0	1.13
cis-1,2-Dichloroethene	20,145	1.00	0.530	10.0	0.937
Trichloroethene	20,145	1.00	0.330	10.0	1.50
Tetrachloroethene	20,145	1.00	0.410	10.0	1.21

Lab ID: 0006994-03      Sample Name: 02R\_SSG02\_20230523

Vinyl Chloride	20,202	1.00	0.810	10.0	0.611
trans-1,2-Dichloroethene	20,202	1.00	0.440	10.0	1.13
cis-1,2-Dichloroethene	20,202	1.00	0.530	10.0	0.934
Trichloroethene	20,202	1.00	0.330	10.0	1.50
Tetrachloroethene	20,202	1.00	0.410	10.0	1.21

Lab ID: 0006994-04      Sample Name: 02R\_SSG03\_20230523

Vinyl Chloride	20,175	1.00	0.810	10.0	0.612
trans-1,2-Dichloroethene	20,175	1.00	0.440	10.0	1.13
cis-1,2-Dichloroethene	20,175	1.00	0.530	10.0	0.935
Trichloroethene	20,175	1.00	0.330	10.0	1.50
Tetrachloroethene	20,175	10.01	0.410	10.0	12.1

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### *Laboratory Certification List*

<b>Certification ID</b>	<b>Certification No.</b>	<b>Description</b>	<b>Expires</b>	<b>Project Required</b>
Alaska CS-LAP	19-002	Alaska Department of Environmental Conservation	12/30/2024	
DoD-ELAP	72690/L22-563	United States Department of Defense Environmental Laboratory Accreditation	11/30/2024	
ISO/IEC 17025:2017	72690/L22-563	General Requirements for the Competence of Testing and Calibration Laboratories	11/30/2024	
NEFAP	72690/L22-564	TNI National Environmental Field Activities Program (NEFAP)	11/30/2024	
NY-NELAC	12097	New York Department of Health	04/01/2024	
Utah-NELAC	MD010912022-12	Utah Department of Health	12/31/2023	

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### 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)
$3\sigma$	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.
I3	Internal Standard recovery was below laboratory and method acceptance limits, associated results with detections are biased high.

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## *Sample Management Records*



