

March 16, 2020



Mr. Ron Steinhorst
New London Public Library and Museum
406 South Pearl Street
New London, WI 54961

Re: Groundwater and Vapor Results
Dry Cleaners Etc.
102 East Cook Street
New London, Wisconsin
WDNR BRRTS ID # 02-69-552218
Terracon Project No. 58107028

Dear Mr. Steinhorst:

On behalf of the responsible party, ZECO, LLC, Terracon Consultants, Inc. (Terracon), is providing this letter to you to present the results of groundwater and sub-slab vapor samples collected from the Library property. The responsible party contact information follows:

Mr. Paul Zuege
ZECO LLC
P.O. Box 560
New London, Wisconsin 54961-8064
(920) 538-1849
zigjigs@gmail.com

As part of the ongoing environmental site investigation of the Dry Cleaners Etc (former) site located at 102 East Cook Street, New London, Wisconsin, a temporary groundwater monitoring well (TW-1 shallow and deep) and a sub-slab vapor point (LIB-SS-1) were sampled on the city museum property. TW-1 was sampled at the depth of the water table and at 10-15 feet below the water table (TW-1 Deep). The temporary well is located in the southeast corner of the parking lot west across Pearl Street from the library and the vapor point is located in the basement stairwell in the southeast corner of the library building (see attached Figure 1). On February 19-20, 2019, the temporary groundwater monitoring well and vapor point were sampled for volatile organic compounds (VOCs).

The results are summarized in the attached Table 1 and Table 2. The applicable portions of the laboratory report are also attached. The Wisconsin Department of Natural Resources (WDNR) has established groundwater quality standards, which are set forth in NR 140, Wisconsin Administrative Code (WAC). For each regulated compound, two standards have been established, the Enforcement Standard (ES) and the Preventive Action Limit (PAL). In general, if the regulated



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contaminant does not exceed either standard, no additional action is required. If the concentration exceeds the PAL, but is below the ES, additional investigation/continued monitoring may be required. If the regulated contaminant is above its ES, additional investigation, continued monitoring, and/or remediation may be required.

The only compound detected in TW-1 and TW-1 deep above the limit of detection was toluene, however, it was detected below its PAL.

WDNR has developed vapor quality standards, which are the vapor action limit (VAL) for ambient air and the vapor risk screening level (VRSL). The VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.03 (sub-slab) for comparison with the analytical results. If the sub-slab vapor results are above applicable VRSLs, additional sampling and mitigation may be necessary.

Sub-slab vapor sample LIB-SS-1 contained tetrachloroethene (PCE) levels above its applicable VRSL. PCE has a VRSL of 6,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and was detected at 6,780 $\mu\text{g}/\text{m}^3$. The VRSL exceedance suggests that vapor intrusion may be a potential risk. Additional vapor sampling and evaluation will likely be necessary. If additional sampling and evaluation indicate the need, a vapor mitigation system may need to be installed in the future.

In accordance with Wisconsin Administrative Code Chapter NR 714.05 (5), you may request in writing that the WDNR project manager keep you informed of approvals or rejections of the response actions undertaken at the Dry Cleaners site.

The WDNR project manager contact information follows:

BJ LeRoy
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313-6727
Bruce.LeRoy@wisconsin.gov

If you have questions please contact Scott directly at (414) 209-7640, via email to sahodgson@terracon.com, or contact our office at (414) 423-0255.

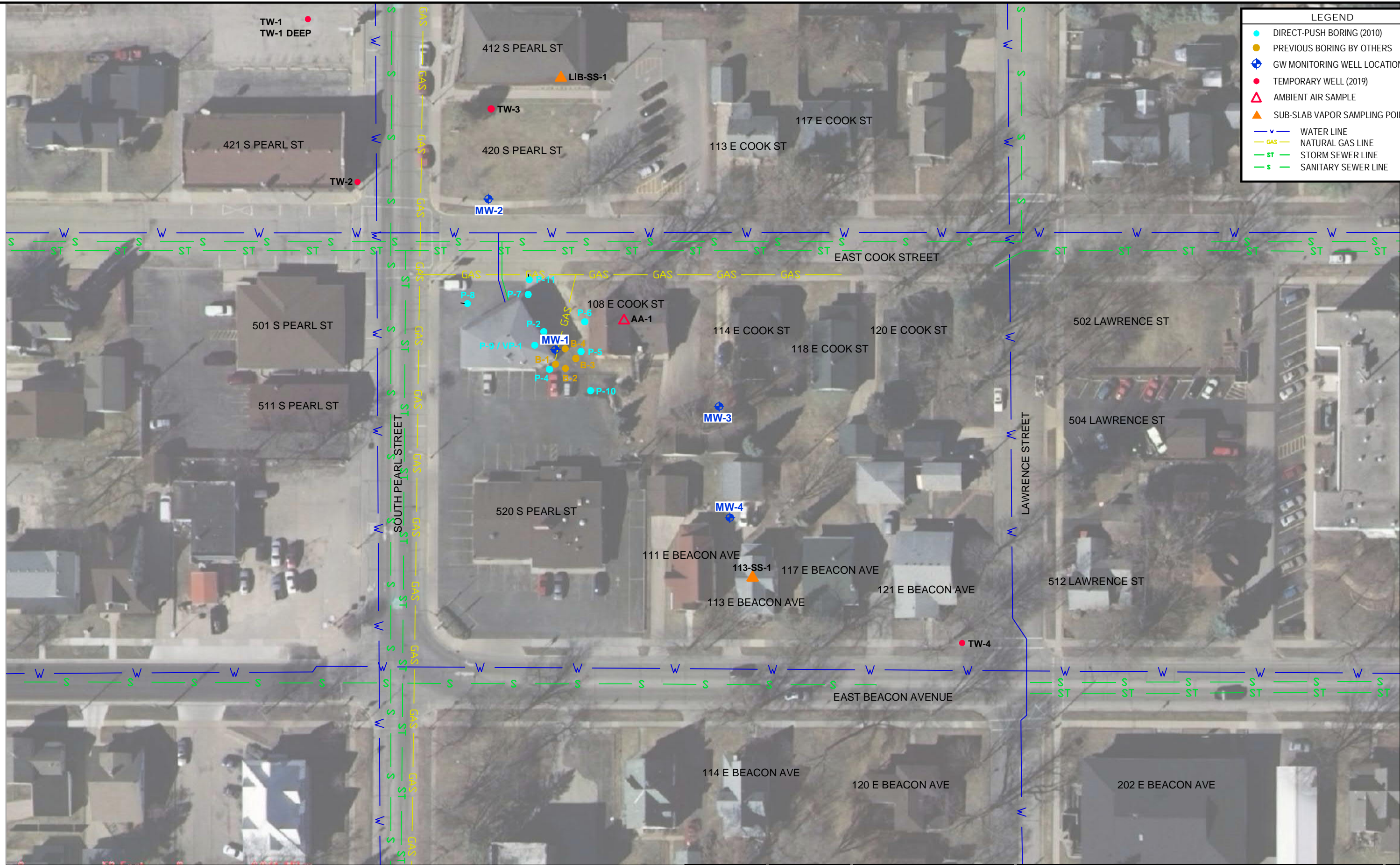
Sincerely,
Terracon Consultants, Inc.

Scott A. Hodgson, P.G.
Senior Project Manager

SAH/KLK:sah/N:\Projects\2010\58107028\Notification_Letters\Feb 2019\Library\Library_Notification.Feb2019
notification.docx

Attachments: Figure 1
Table 1
Table 2
Laboratory Analytic Test Reports

Copies to: Paul Zuege (electronic)
Chad Hoerth, City of New London (electronic)
BJ LeRoy, WDNR—Green Bay



LEGEND	
●	DIRECT-PUSH BORING (2010)
●	PREVIOUS BORING BY OTHERS
⊕	GW MONITORING WELL LOCATION
●	TEMPORARY WELL (2019)
△	AMBIENT AIR SAMPLE
▲	SUB-SLAB VAPOR SAMPLING POINT
—	WATER LINE
—	NATURAL GAS LINE
—	STORM SEWER LINE
—	SANITARY SEWER LINE

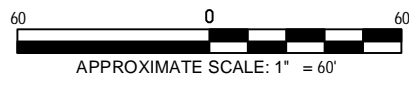


DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	TPW	Project No.:	58107028
Drawn By:	AGC/DCT	Scale:	AS SHOWN
Checked By:	TPW	File No.:	58107028 SD-2
Approved By:	TPW	Date:	11/2019

Terracon
 Consulting Engineers and Scientists
 9856 SOUTH 57th STREET FRANKLIN, WI 53132
 PH. (414) 423-0255 FAX. (414) 423-0566

SITE MAP
 DRY CLEANERS, ETC.
 102 EAST COOK STREET
 NEW LONDON, WISCONSIN

FIGURE
 1
 PDF EDITED

TABLE 1
Groundwater Analytic Test Results Summary

Dry Cleaners Etc.
New London, Wisconsin
Terracon Project No. 58107028

	Chlorinated Volatile Organic Compounds (µg/L)						Petroleum Volatile Organic Compounds + Naphthalene (µg/L)						Other Petroleum-Related VOCs (µg/L)						
	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	Chloromethane	Methylene Chloride	Benzene	Ethylbenzene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	Naphthalene	n-Butylbenzene	sec-Butylbenzene	Isopropylbenzene (cumene)	p-Isopropyltoluene	n-Propylbenzene	
Preventive Action Limit (PAL) ¹	0.5	0.5	7	0.02	3	0.5	0.5	140	200	96	400	10	NE	NE	NE	NE	NE		
Enforcement Standard (ES) ²	5	5	70	0.2	30	5.0	5	700	1,000	480	2,000	100	NE	NE	NE	NE	NE		
Sample ID	Sample Date																		
Temporary Wells																			
TW-1	2/19/2019	<0.33	<0.26	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	0.25	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81
TW-1 Deep	2/19/2019	<0.33	<0.26	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	0.44	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81

Notes:

¹NR 140, Wisconsin Administrative Code, Preventive Action Limit (PAL)

²NR 140, Wisconsin Administrative Code, Enforcement Standard (ES)

VOC = Volatile Organic Compounds

µg/L = micrograms per liter

NE = Standard Not Established

TABLE 2
Vapor Analytic Test Results Summary-Sub-Slab

Dry Cleaners, Etc.
New London, Wisconsin
Terracon Project No. 58107028

Sample ID	Location	Sample Date	Sample Type	Chlorinated Volatile Organic Compounds (µg/m ³)				
				cis - 1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
Terracon Supplemental Investigation - 2019								
LIB-SS-1	Library: 412 S Pearl-Southeast Stairwell	2/20/2019	Small Commercial Sub-slab 30 minute	<0.38	<0.50	6,780	85.8	<0.22
Residential Indoor Air VAL ¹				NE	NE	42	2.1	1.7
Residential Sub-slab Vapor/Soil Gas VRSL ²				NE	NE	1,400	70	57
Small Commercial Building Indoor Air VAL ¹				NE	NE	180	8.8	28
Small Commercial Building Sub-slab Vapor/Soil Gas VRSL ²				NE	NE	6,000	290	930
Large Commercial/Industrial Building Indoor Air VAL ¹				NE	NE	180	8.8	28
Large Commercial/Industrial Building Sub-slab Vapor/Soil Gas VRSL ³				NE	NE	18,000	880	2,800

NOTES:

µg/m³ = micrograms per cubic meter

VAL = Vapor Action Level for Ambient Air

VRSL = Vapor Risk Screening Level

¹ VAL given as the lesser of 1:100,000 lifetime cancer risk or noncancer hazard index of 1 value in generic U.S EPA Tables at the web address: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm and modified for Wisconsin Vapor Intrusion Guidance PUB-RR-800 lifetime cancer risk (1:100,000)

² VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.03 (sub-slab and shallow soil gas) for comparison with the analytical results.

³ VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.01 (sub-slab and shallow soil gas) for comparison with the analytical results.

Bold Values indicate exceedance of applicable residential VALs (indoor air)

Green Shaded Values indicate exceedance of applicable residential VRSLs (sub-slab vapor and shallow soil gas)

Bold Italic Values indicate exceedance of applicable small commercial building VALs (indoor air)

Brown Shaded Values indicate exceedance of applicable small commercial building VRSLs (sub-slab vapor and shallow soil gas)

Bold Italic Underline Values indicate exceedance of applicable large commercial/industrial building VALs (indoor air)

Pink Shaded Values indicate exceedance of applicable large commercial/industrial building VRSLs (sub-slab vapor and shallow soil gas)

< = Not detected above listed limit of detection (LOD)

--- = Not analyzed

NE=Not Established

February 27, 2019

Scott Hodgson
Terracon, Inc. - Franklin
9856 South 57th Street
Franklin, WI 53132

RE: Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Dear Scott Hodgson:

Enclosed are the analytical results for sample(s) received by the laboratory on February 21, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150

Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40183427002	TW-1	Water	02/19/19 13:21	02/21/19 13:00
40183427008	TW-1 DEEP	Water	02/19/19 10:25	02/21/19 13:00

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SAMPLE ANALYTE COUNT

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40183427002	TW-1	EPA 8260	ALD	64	PASI-G
40183427008	TW-1 DEEP	EPA 8260	ALD	64	PASI-G

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SUMMARY OF DETECTION

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers

40183427002	TW-1					
EPA 8260	Toluene	0.25J	ug/L	5.0	02/22/19 15:59	

40183427008	TW-1 DEEP					
EPA 8260	Toluene	0.44J	ug/L	5.0	02/22/19 17:29	

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PROJECT NARRATIVE

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Method: EPA 8260
Description: 8260 MSV
Client: Terracon, Inc. - Franklin
Date: February 27, 2019

General Information:

8 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

- pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- TW-1 DEEP (Lab ID: 40183427008)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 314101

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40183379001

- M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1829070)
 - 1,2-Dichloroethane

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Sample: TW-1	Lab ID: 40183427002	Collected: 02/19/19 13:21	Received: 02/21/19 13:00	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.25	ug/L	1.0	0.25	1		02/22/19 15:59	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		02/22/19 15:59	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		02/22/19 15:59	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		02/22/19 15:59	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		02/22/19 15:59	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		02/22/19 15:59	74-83-9	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		02/22/19 15:59	104-51-8	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		02/22/19 15:59	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		02/22/19 15:59	98-06-6	
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		02/22/19 15:59	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		02/22/19 15:59	108-90-7	
Chloroethane	<1.3	ug/L	5.0	1.3	1		02/22/19 15:59	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		02/22/19 15:59	67-66-3	
Chloromethane	<2.2	ug/L	7.3	2.2	1		02/22/19 15:59	74-87-3	
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		02/22/19 15:59	95-49-8	
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		02/22/19 15:59	106-43-4	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		02/22/19 15:59	96-12-8	
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		02/22/19 15:59	124-48-1	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		02/22/19 15:59	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Sample: **TW-1** Lab ID: **40183427002** Collected: 02/19/19 13:21 Received: 02/21/19 13:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
Dibromomethane	<0.94	ug/L	3.1	0.94	1		02/22/19 15:59	74-95-3	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		02/22/19 15:59	95-50-1	
1,3-Dichlorobenzene	<0.63	ug/L	2.1	0.63	1		02/22/19 15:59	541-73-1	
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		02/22/19 15:59	106-46-7	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		02/22/19 15:59	75-71-8	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		02/22/19 15:59	75-34-3	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		02/22/19 15:59	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		02/22/19 15:59	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		02/22/19 15:59	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		02/22/19 15:59	156-60-5	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		02/22/19 15:59	78-87-5	
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		02/22/19 15:59	142-28-9	
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		02/22/19 15:59	594-20-7	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		02/22/19 15:59	563-58-6	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		02/22/19 15:59	10061-01-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		02/22/19 15:59	10061-02-6	
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		02/22/19 15:59	108-20-3	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		02/22/19 15:59	100-41-4	
Hexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		02/22/19 15:59	87-68-3	
Isopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		02/22/19 15:59	98-82-8	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		02/22/19 15:59	99-87-6	
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		02/22/19 15:59	75-09-2	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		02/22/19 15:59	1634-04-4	
Naphthalene	<1.2	ug/L	5.0	1.2	1		02/22/19 15:59	91-20-3	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		02/22/19 15:59	103-65-1	
Styrene	<0.47	ug/L	1.6	0.47	1		02/22/19 15:59	100-42-5	
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		02/22/19 15:59	630-20-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		02/22/19 15:59	79-34-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		02/22/19 15:59	127-18-4	
Toluene	0.25J	ug/L	5.0	0.17	1		02/22/19 15:59	108-88-3	
1,2,3-Trichlorobenzene	<0.63	ug/L	5.0	0.63	1		02/22/19 15:59	87-61-6	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		02/22/19 15:59	120-82-1	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		02/22/19 15:59	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		02/22/19 15:59	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		02/22/19 15:59	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		02/22/19 15:59	75-69-4	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		02/22/19 15:59	96-18-4	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		02/22/19 15:59	95-63-6	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		02/22/19 15:59	108-67-8	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		02/22/19 15:59	75-01-4	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		02/22/19 15:59	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		02/22/19 15:59	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/22/19 15:59	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		02/22/19 15:59	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		02/22/19 15:59	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Sample: TW-1 DEEP	Lab ID: 40183427008	Collected: 02/19/19 10:25	Received: 02/21/19 13:00	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.25	ug/L	1.0	0.25	1		02/22/19 17:29	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		02/22/19 17:29	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		02/22/19 17:29	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		02/22/19 17:29	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		02/22/19 17:29	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		02/22/19 17:29	74-83-9	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		02/22/19 17:29	104-51-8	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		02/22/19 17:29	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		02/22/19 17:29	98-06-6	
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		02/22/19 17:29	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		02/22/19 17:29	108-90-7	
Chloroethane	<1.3	ug/L	5.0	1.3	1		02/22/19 17:29	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		02/22/19 17:29	67-66-3	
Chloromethane	<2.2	ug/L	7.3	2.2	1		02/22/19 17:29	74-87-3	
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		02/22/19 17:29	95-49-8	
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		02/22/19 17:29	106-43-4	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		02/22/19 17:29	96-12-8	
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		02/22/19 17:29	124-48-1	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		02/22/19 17:29	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Sample: TW-1 DEEP Lab ID: 40183427008 Collected: 02/19/19 10:25 Received: 02/21/19 13:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
Dibromomethane	<0.94	ug/L	3.1	0.94	1		02/22/19 17:29	74-95-3	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		02/22/19 17:29	95-50-1	
1,3-Dichlorobenzene	<0.63	ug/L	2.1	0.63	1		02/22/19 17:29	541-73-1	
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		02/22/19 17:29	106-46-7	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		02/22/19 17:29	75-71-8	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		02/22/19 17:29	75-34-3	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		02/22/19 17:29	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		02/22/19 17:29	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		02/22/19 17:29	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		02/22/19 17:29	156-60-5	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		02/22/19 17:29	78-87-5	
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		02/22/19 17:29	142-28-9	
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		02/22/19 17:29	594-20-7	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		02/22/19 17:29	563-58-6	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		02/22/19 17:29	10061-01-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		02/22/19 17:29	10061-02-6	
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		02/22/19 17:29	108-20-3	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		02/22/19 17:29	100-41-4	
Hexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		02/22/19 17:29	87-68-3	
Isopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		02/22/19 17:29	98-82-8	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		02/22/19 17:29	99-87-6	
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		02/22/19 17:29	75-09-2	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		02/22/19 17:29	1634-04-4	
Naphthalene	<1.2	ug/L	5.0	1.2	1		02/22/19 17:29	91-20-3	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		02/22/19 17:29	103-65-1	
Styrene	<0.47	ug/L	1.6	0.47	1		02/22/19 17:29	100-42-5	
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		02/22/19 17:29	630-20-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		02/22/19 17:29	79-34-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		02/22/19 17:29	127-18-4	
Toluene	0.44J	ug/L	5.0	0.17	1		02/22/19 17:29	108-88-3	
1,2,3-Trichlorobenzene	<0.63	ug/L	5.0	0.63	1		02/22/19 17:29	87-61-6	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		02/22/19 17:29	120-82-1	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		02/22/19 17:29	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		02/22/19 17:29	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		02/22/19 17:29	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		02/22/19 17:29	75-69-4	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		02/22/19 17:29	96-18-4	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		02/22/19 17:29	95-63-6	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		02/22/19 17:29	108-67-8	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		02/22/19 17:29	75-01-4	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		02/22/19 17:29	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		02/22/19 17:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		02/22/19 17:29	460-00-4	HS,pH
Dibromofluoromethane (S)	113	%	70-130		1		02/22/19 17:29	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		02/22/19 17:29	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

QC Batch: 314101 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40183427002, 40183427003, 40183427004, 40183427005, 40183427008

METHOD BLANK: 1829064 Matrix: Water
Associated Lab Samples: 40183427002, 40183427003, 40183427004, 40183427005, 40183427008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	02/22/19 09:38	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	02/22/19 09:38	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	02/22/19 09:38	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	02/22/19 09:38	
1,1-Dichloroethane	ug/L	<0.27	1.0	02/22/19 09:38	
1,1-Dichloroethene	ug/L	<0.24	1.0	02/22/19 09:38	
1,1-Dichloropropene	ug/L	<0.54	1.8	02/22/19 09:38	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	02/22/19 09:38	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	02/22/19 09:38	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	02/22/19 09:38	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	02/22/19 09:38	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	02/22/19 09:38	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	02/22/19 09:38	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	02/22/19 09:38	
1,2-Dichloroethane	ug/L	<0.28	1.0	02/22/19 09:38	
1,2-Dichloropropane	ug/L	<0.28	1.0	02/22/19 09:38	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	02/22/19 09:38	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	02/22/19 09:38	
1,3-Dichloropropane	ug/L	<0.83	2.8	02/22/19 09:38	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	02/22/19 09:38	
2,2-Dichloropropane	ug/L	<2.3	7.6	02/22/19 09:38	
2-Chlorotoluene	ug/L	<0.93	5.0	02/22/19 09:38	
4-Chlorotoluene	ug/L	<0.76	2.5	02/22/19 09:38	
Benzene	ug/L	<0.25	1.0	02/22/19 09:38	
Bromobenzene	ug/L	<0.24	1.0	02/22/19 09:38	
Bromochloromethane	ug/L	<0.36	5.0	02/22/19 09:38	
Bromodichloromethane	ug/L	<0.36	1.2	02/22/19 09:38	
Bromoform	ug/L	<4.0	13.2	02/22/19 09:38	
Bromomethane	ug/L	<0.97	5.0	02/22/19 09:38	
Carbon tetrachloride	ug/L	<0.17	1.0	02/22/19 09:38	
Chlorobenzene	ug/L	<0.71	2.4	02/22/19 09:38	
Chloroethane	ug/L	<1.3	5.0	02/22/19 09:38	
Chloroform	ug/L	<1.3	5.0	02/22/19 09:38	
Chloromethane	ug/L	<2.2	7.3	02/22/19 09:38	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	02/22/19 09:38	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	02/22/19 09:38	
Dibromochloromethane	ug/L	<2.6	8.7	02/22/19 09:38	
Dibromomethane	ug/L	<0.94	3.1	02/22/19 09:38	
Dichlorodifluoromethane	ug/L	<0.50	5.0	02/22/19 09:38	
Diisopropyl ether	ug/L	<1.9	6.3	02/22/19 09:38	
Ethylbenzene	ug/L	<0.22	1.0	02/22/19 09:38	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

METHOD BLANK: 1829064 Matrix: Water
Associated Lab Samples: 40183427002, 40183427003, 40183427004, 40183427005, 40183427008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	02/22/19 09:38	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	02/22/19 09:38	
m&p-Xylene	ug/L	<0.47	2.0	02/22/19 09:38	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	02/22/19 09:38	
Methylene Chloride	ug/L	<0.58	5.0	02/22/19 09:38	
n-Butylbenzene	ug/L	<0.71	2.4	02/22/19 09:38	
n-Propylbenzene	ug/L	<0.81	5.0	02/22/19 09:38	
Naphthalene	ug/L	<1.2	5.0	02/22/19 09:38	
o-Xylene	ug/L	<0.26	1.0	02/22/19 09:38	
p-Isopropyltoluene	ug/L	<0.80	2.7	02/22/19 09:38	
sec-Butylbenzene	ug/L	<0.85	5.0	02/22/19 09:38	
Styrene	ug/L	<0.47	1.6	02/22/19 09:38	
tert-Butylbenzene	ug/L	<0.30	1.0	02/22/19 09:38	
Tetrachloroethene	ug/L	<0.33	1.1	02/22/19 09:38	
Toluene	ug/L	<0.17	5.0	02/22/19 09:38	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	02/22/19 09:38	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	02/22/19 09:38	
Trichloroethene	ug/L	<0.26	1.0	02/22/19 09:38	
Trichlorofluoromethane	ug/L	<0.21	1.0	02/22/19 09:38	
Vinyl chloride	ug/L	<0.17	1.0	02/22/19 09:38	
4-Bromofluorobenzene (S)	%	95	70-130	02/22/19 09:38	
Dibromofluoromethane (S)	%	110	70-130	02/22/19 09:38	
Toluene-d8 (S)	%	98	70-130	02/22/19 09:38	

LABORATORY CONTROL SAMPLE: 1829065

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	53.2	106	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	58.3	117	67-130	
1,1,2-Trichloroethane	ug/L	50	55.9	112	70-130	
1,1-Dichloroethane	ug/L	50	57.6	115	70-134	
1,1-Dichloroethene	ug/L	50	51.6	103	75-132	
1,2,4-Trichlorobenzene	ug/L	50	48.8	98	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.2	94	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	50.4	101	70-130	
1,2-Dichlorobenzene	ug/L	50	54.3	109	70-130	
1,2-Dichloroethane	ug/L	50	62.6	125	73-134	
1,2-Dichloropropane	ug/L	50	58.9	118	79-128	
1,3-Dichlorobenzene	ug/L	50	53.0	106	70-130	
1,4-Dichlorobenzene	ug/L	50	54.1	108	70-130	
Benzene	ug/L	50	57.3	115	69-137	
Bromodichloromethane	ug/L	50	58.3	117	70-130	
Bromoform	ug/L	50	48.9	98	64-133	
Bromomethane	ug/L	50	51.3	103	29-123	

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

LABORATORY CONTROL SAMPLE: 1829065

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	55.7	111	73-142	
Chlorobenzene	ug/L	50	54.7	109	70-130	
Chloroethane	ug/L	50	50.5	101	59-133	
Chloroform	ug/L	50	59.0	118	80-129	
Chloromethane	ug/L	50	38.8	78	27-125	
cis-1,2-Dichloroethene	ug/L	50	54.0	108	70-134	
cis-1,3-Dichloropropene	ug/L	50	52.1	104	70-130	
Dibromochloromethane	ug/L	50	53.5	107	70-130	
Dichlorodifluoromethane	ug/L	50	29.9	60	12-127	
Ethylbenzene	ug/L	50	57.2	114	86-127	
Isopropylbenzene (Cumene)	ug/L	50	56.6	113	70-130	
m&p-Xylene	ug/L	100	111	111	70-131	
Methyl-tert-butyl ether	ug/L	50	44.4	89	65-136	
Methylene Chloride	ug/L	50	57.0	114	72-133	
o-Xylene	ug/L	50	52.6	105	70-130	
Styrene	ug/L	50	55.8	112	70-130	
Tetrachloroethene	ug/L	50	52.4	105	70-130	
Toluene	ug/L	50	56.1	112	84-124	
trans-1,2-Dichloroethene	ug/L	50	52.5	105	70-133	
trans-1,3-Dichloropropene	ug/L	50	50.8	102	67-130	
Trichloroethene	ug/L	50	53.2	106	70-130	
Trichlorofluoromethane	ug/L	50	56.1	112	69-147	
Vinyl chloride	ug/L	50	44.5	89	48-134	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			104	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1829070 1829071

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40183379001 Result	Spike Conc.	Spike Conc.	Conc.								
1,1,1-Trichloroethane	ug/L	<0.24	50	50	50	60.3	54.6	121	109	70-136	10	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	50	60.4	57.8	121	116	67-133	4	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	50	59.8	57.3	120	115	70-130	4	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	50	63.3	59.4	127	119	70-139	6	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	50	58.0	54.3	116	109	72-137	7	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	50	53.1	51.9	106	104	68-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	50	54.8	52.7	110	105	60-130	4	21	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	50	52.5	50.7	105	101	70-130	3	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	50	57.3	54.0	115	108	70-130	6	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	50	69.5	62.6	139	125	71-137	10	20	M1
1,2-Dichloropropane	ug/L	<0.28	50	50	50	60.1	57.7	120	115	78-130	4	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	50	55.0	54.3	110	109	70-130	1	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	50	57.4	56.1	115	112	70-130	2	20	

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Parameter	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1829070		1829071									
	Units	40183379001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.25	50	50	62.2	58.3	124	117	66-143	6	20	
Bromodichloromethane	ug/L	<0.36	50	50	61.2	58.9	122	118	70-130	4	20	
Bromoform	ug/L	<4.0	50	50	49.8	45.1	100	90	64-134	10	20	
Bromomethane	ug/L	<0.97	50	50	60.0	54.1	120	108	29-136	10	25	
Carbon tetrachloride	ug/L	<0.17	50	50	61.7	57.2	123	114	73-142	8	20	
Chlorobenzene	ug/L	<0.71	50	50	56.2	54.5	112	109	70-130	3	20	
Chloroethane	ug/L	<1.3	50	50	59.0	56.6	118	113	58-138	4	20	
Chloroform	ug/L	<1.3	50	50	63.8	60.6	128	121	80-131	5	20	
Chloromethane	ug/L	<2.2	50	50	41.3	37.2	83	74	24-125	11	20	
cis-1,2-Dichloroethene	ug/L	1.1	50	50	58.8	55.2	116	108	68-137	6	22	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	52.8	52.0	106	104	70-130	2	20	
Dibromochloromethane	ug/L	<2.6	50	50	53.0	52.6	106	105	70-131	1	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	33.8	32.3	68	65	10-127	5	20	
Ethylbenzene	ug/L	<0.22	50	50	59.1	58.3	118	117	81-136	1	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	57.4	56.3	115	113	70-132	2	20	
m&p-Xylene	ug/L	<0.47	100	100	111	108	111	108	70-135	3	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	47.8	41.9	96	84	58-142	13	23	
Methylene Chloride	ug/L	<0.58	50	50	61.0	55.4	122	111	69-137	10	20	
o-Xylene	ug/L	<0.26	50	50	53.5	53.0	107	106	70-132	1	20	
Styrene	ug/L	<0.47	50	50	57.0	54.1	114	108	70-130	5	20	
Tetrachloroethene	ug/L	<0.33	50	50	51.8	49.7	104	99	70-132	4	20	
Toluene	ug/L	<0.17	50	50	59.3	57.0	119	114	81-130	4	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	58.1	54.6	116	109	70-136	6	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	51.7	50.8	103	102	67-130	2	20	
Trichloroethene	ug/L	<0.26	50	50	56.7	55.6	113	111	70-131	2	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	63.7	57.5	127	115	66-150	10	20	
Vinyl chloride	ug/L	<0.17	50	50	49.3	45.1	99	90	46-134	9	20	
4-Bromofluorobenzene (S)	%						95	99	70-130			
Dibromofluoromethane (S)	%						109	106	70-130			
Toluene-d8 (S)	%						101	104	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

QC Batch: 314102 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40183427001, 40183427006, 40183427007

METHOD BLANK: 1829066 Matrix: Water
Associated Lab Samples: 40183427001, 40183427006, 40183427007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	02/22/19 14:37	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	02/22/19 14:37	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	02/22/19 14:37	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	02/22/19 14:37	
1,1-Dichloroethane	ug/L	<0.27	1.0	02/22/19 14:37	
1,1-Dichloroethene	ug/L	<0.24	1.0	02/22/19 14:37	
1,1-Dichloropropene	ug/L	<0.54	1.8	02/22/19 14:37	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	02/22/19 14:37	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	02/22/19 14:37	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	02/22/19 14:37	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	02/22/19 14:37	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	02/22/19 14:37	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	02/22/19 14:37	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	02/22/19 14:37	
1,2-Dichloroethane	ug/L	<0.28	1.0	02/22/19 14:37	
1,2-Dichloropropane	ug/L	<0.28	1.0	02/22/19 14:37	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	02/22/19 14:37	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	02/22/19 14:37	
1,3-Dichloropropane	ug/L	<0.83	2.8	02/22/19 14:37	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	02/22/19 14:37	
2,2-Dichloropropane	ug/L	<2.3	7.6	02/22/19 14:37	
2-Chlorotoluene	ug/L	<0.93	5.0	02/22/19 14:37	
4-Chlorotoluene	ug/L	<0.76	2.5	02/22/19 14:37	
Benzene	ug/L	<0.25	1.0	02/22/19 14:37	
Bromobenzene	ug/L	<0.24	1.0	02/22/19 14:37	
Bromochloromethane	ug/L	<0.36	5.0	02/22/19 14:37	
Bromodichloromethane	ug/L	<0.36	1.2	02/22/19 14:37	
Bromoform	ug/L	<4.0	13.2	02/22/19 14:37	
Bromomethane	ug/L	<0.97	5.0	02/22/19 14:37	
Carbon tetrachloride	ug/L	<0.17	1.0	02/22/19 14:37	
Chlorobenzene	ug/L	<0.71	2.4	02/22/19 14:37	
Chloroethane	ug/L	<1.3	5.0	02/22/19 14:37	
Chloroform	ug/L	<1.3	5.0	02/22/19 14:37	
Chloromethane	ug/L	<2.2	7.3	02/22/19 14:37	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	02/22/19 14:37	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	02/22/19 14:37	
Dibromochloromethane	ug/L	<2.6	8.7	02/22/19 14:37	
Dibromomethane	ug/L	<0.94	3.1	02/22/19 14:37	
Dichlorodifluoromethane	ug/L	<0.50	5.0	02/22/19 14:37	
Diisopropyl ether	ug/L	<1.9	6.3	02/22/19 14:37	
Ethylbenzene	ug/L	<0.22	1.0	02/22/19 14:37	

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

METHOD BLANK: 1829066 Matrix: Water
Associated Lab Samples: 40183427001, 40183427006, 40183427007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	02/22/19 14:37	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	02/22/19 14:37	
m&p-Xylene	ug/L	<0.47	2.0	02/22/19 14:37	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	02/22/19 14:37	
Methylene Chloride	ug/L	<0.58	5.0	02/22/19 14:37	
n-Butylbenzene	ug/L	<0.71	2.4	02/22/19 14:37	
n-Propylbenzene	ug/L	<0.81	5.0	02/22/19 14:37	
Naphthalene	ug/L	<1.2	5.0	02/22/19 14:37	
o-Xylene	ug/L	<0.26	1.0	02/22/19 14:37	
p-Isopropyltoluene	ug/L	<0.80	2.7	02/22/19 14:37	
sec-Butylbenzene	ug/L	<0.85	5.0	02/22/19 14:37	
Styrene	ug/L	<0.47	1.6	02/22/19 14:37	
tert-Butylbenzene	ug/L	<0.30	1.0	02/22/19 14:37	
Tetrachloroethene	ug/L	<0.33	1.1	02/22/19 14:37	
Toluene	ug/L	<0.17	5.0	02/22/19 14:37	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	02/22/19 14:37	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	02/22/19 14:37	
Trichloroethene	ug/L	<0.26	1.0	02/22/19 14:37	
Trichlorofluoromethane	ug/L	<0.21	1.0	02/22/19 14:37	
Vinyl chloride	ug/L	<0.17	1.0	02/22/19 14:37	
4-Bromofluorobenzene (S)	%	92	70-130	02/22/19 14:37	
Dibromofluoromethane (S)	%	97	70-130	02/22/19 14:37	
Toluene-d8 (S)	%	99	70-130	02/22/19 14:37	

LABORATORY CONTROL SAMPLE: 1829067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.1	100	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	51.3	103	67-130	
1,1,2-Trichloroethane	ug/L	50	54.0	108	70-130	
1,1-Dichloroethane	ug/L	50	65.1	130	70-134	
1,1-Dichloroethene	ug/L	50	53.5	107	75-132	
1,2,4-Trichlorobenzene	ug/L	50	52.7	105	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	43.8	88	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	52.7	105	70-130	
1,2-Dichlorobenzene	ug/L	50	52.8	106	70-130	
1,2-Dichloroethane	ug/L	50	50.0	100	73-134	
1,2-Dichloropropane	ug/L	50	49.1	98	79-128	
1,3-Dichlorobenzene	ug/L	50	52.3	105	70-130	
1,4-Dichlorobenzene	ug/L	50	53.1	106	70-130	
Benzene	ug/L	50	52.9	106	69-137	
Bromodichloromethane	ug/L	50	53.2	106	70-130	
Bromoform	ug/L	50	49.0	98	64-133	
Bromomethane	ug/L	50	28.0	56	29-123	

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

LABORATORY CONTROL SAMPLE: 1829067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	48.5	97	73-142	
Chlorobenzene	ug/L	50	52.9	106	70-130	
Chloroethane	ug/L	50	45.1	90	59-133	
Chloroform	ug/L	50	51.8	104	80-129	
Chloromethane	ug/L	50	38.1	76	27-125	
cis-1,2-Dichloroethene	ug/L	50	50.7	101	70-134	
cis-1,3-Dichloropropene	ug/L	50	47.4	95	70-130	
Dibromochloromethane	ug/L	50	50.4	101	70-130	
Dichlorodifluoromethane	ug/L	50	27.3	55	12-127	
Ethylbenzene	ug/L	50	55.6	111	86-127	
Isopropylbenzene (Cumene)	ug/L	50	56.4	113	70-130	
m&p-Xylene	ug/L	100	110	110	70-131	
Methyl-tert-butyl ether	ug/L	50	56.7	113	65-136	
Methylene Chloride	ug/L	50	57.2	114	72-133	
o-Xylene	ug/L	50	54.8	110	70-130	
Styrene	ug/L	50	54.4	109	70-130	
Tetrachloroethene	ug/L	50	54.5	109	70-130	
Toluene	ug/L	50	54.4	109	84-124	
trans-1,2-Dichloroethene	ug/L	50	61.1	122	70-133	
trans-1,3-Dichloropropene	ug/L	50	47.7	95	67-130	
Trichloroethene	ug/L	50	54.5	109	70-130	
Trichlorofluoromethane	ug/L	50	54.9	110	69-147	
Vinyl chloride	ug/L	50	39.0	78	48-134	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1829072 1829073

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40183422006 Result	Spike Conc.	Spike Conc.	MS Result								
1,1,1-Trichloroethane	ug/L	<0.24	50	50	50.2	50.6	100	101	70-136	1	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	51.7	50.2	103	100	67-133	3	20		
1,1,2-Trichloroethane	ug/L	<0.55	50	50	54.7	54.9	109	110	70-130	0	20		
1,1-Dichloroethane	ug/L	<0.27	50	50	65.3	66.5	131	133	70-139	2	20		
1,1-Dichloroethene	ug/L	<0.24	50	50	54.6	55.0	109	110	72-137	1	20		
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	53.0	52.9	106	106	68-130	0	20		
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	44.0	43.7	88	87	60-130	1	21		
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	52.7	53.9	105	108	70-130	2	20		
1,2-Dichlorobenzene	ug/L	<0.71	50	50	53.2	53.6	106	107	70-130	1	20		
1,2-Dichloroethane	ug/L	<0.28	50	50	51.7	51.2	103	102	71-137	1	20		
1,2-Dichloropropane	ug/L	<0.28	50	50	49.9	50.1	100	100	78-130	0	20		
1,3-Dichlorobenzene	ug/L	<0.63	50	50	53.6	53.8	107	108	70-130	0	20		
1,4-Dichlorobenzene	ug/L	<0.94	50	50	53.6	53.9	107	108	70-130	1	20		

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QUALITY CONTROL DATA

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1829072		1829073		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40183422006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									
Benzene	ug/L	<0.25	50	50	53.6	53.9	107	108	66-143	0	20			
Bromodichloromethane	ug/L	<0.36	50	50	53.9	54.5	108	109	70-130	1	20			
Bromoform	ug/L	<4.0	50	50	49.0	49.9	98	100	64-134	2	20			
Bromomethane	ug/L	<0.97	50	50	29.9	29.6	60	59	29-136	1	25			
Carbon tetrachloride	ug/L	<0.17	50	50	49.8	49.9	100	100	73-142	0	20			
Chlorobenzene	ug/L	<0.71	50	50	53.2	54.3	106	109	70-130	2	20			
Chloroethane	ug/L	<1.3	50	50	46.2	45.9	92	92	58-138	1	20			
Chloroform	ug/L	<1.3	50	50	52.2	53.0	104	106	80-131	1	20			
Chloromethane	ug/L	<2.2	50	50	37.6	37.6	75	75	24-125	0	20			
cis-1,2-Dichloroethene	ug/L	0.62J	50	50	52.2	52.9	103	105	68-137	1	22			
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	48.1	49.4	96	99	70-130	3	20			
Dibromochloromethane	ug/L	<2.6	50	50	50.5	51.0	101	102	70-131	1	20			
Dichlorodifluoromethane	ug/L	<0.50	50	50	27.4	27.6	55	55	10-127	1	20			
Ethylbenzene	ug/L	<0.22	50	50	56.5	57.1	113	114	81-136	1	20			
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	56.5	58.4	113	117	70-132	3	20			
m&p-Xylene	ug/L	<0.47	100	100	111	114	111	114	70-135	3	20			
Methyl-tert-butyl ether	ug/L	<1.2	50	50	57.3	58.1	115	116	58-142	1	23			
Methylene Chloride	ug/L	<0.58	50	50	56.7	57.3	113	115	69-137	1	20			
o-Xylene	ug/L	<0.26	50	50	54.8	57.0	110	114	70-132	4	20			
Styrene	ug/L	<0.47	50	50	54.6	56.4	109	113	70-130	3	20			
Tetrachloroethene	ug/L	<0.33	50	50	55.3	56.4	111	113	70-132	2	20			
Toluene	ug/L	<0.17	50	50	55.3	56.1	111	112	81-130	1	20			
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	62.0	62.4	124	125	70-136	1	20			
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	47.7	49.1	95	98	67-130	3	20			
Trichloroethene	ug/L	<0.26	50	50	54.4	55.1	109	110	70-131	1	20			
Trichlorofluoromethane	ug/L	<0.21	50	50	55.7	55.4	111	111	66-150	1	20			
Vinyl chloride	ug/L	0.79J	50	50	39.7	39.9	78	78	46-134	1	20			
4-Bromofluorobenzene (S)	%						97	98	70-130					
Dibromofluoromethane (S)	%						100	99	70-130					
Toluene-d8 (S)	%						99	100	70-130					

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above LOD.
J - Estimated concentration at or above the LOD and below the LOQ.
LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.
LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 58107028 DRY CLEANERS
Pace Project No.: 40183427

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40183427002	TW-1	EPA 8260	314101		
40183427008	TW-1 DEEP	EPA 8260	314101		

REPORT OF LABORATORY ANALYSIS

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Sample Preservation Receipt Form

Client Name: Terracon

Project # 40187427

All containers needing preservation have been checked and noted below: Yes No N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/Time:

Pace Lab #	Glass						Plastic						Vials				Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)						
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU								WPFU	SP5T	ZPLC	GN		
001																	3																		2.5 / 5 / 10
002																	3																		2.5 / 5 / 10
003																	3																		2.5 / 5 / 10
004																	3																		2.5 / 5 / 10
005																	3																		2.5 / 5 / 10
006																	3																		2.5 / 5 / 10
007																	3																		2.5 / 5 / 10
008																	3																		2.5 / 5 / 10
009																	3																		2.5 / 5 / 10
010																																			2.5 / 5 / 10
011																																			2.5 / 5 / 10
012																																			2.5 / 5 / 10
013																																			2.5 / 5 / 10
014																																			2.5 / 5 / 10
015																																			2.5 / 5 / 10
016																																			2.5 / 5 / 10
017																																			2.5 / 5 / 10
018																																			2.5 / 5 / 10
019																																			2.5 / 5 / 10
020																																			2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm): Yes No N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	



1241 Bellevue Street, Green Bay, WI 54302

Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: 25Apr2018

Document No.: F-GB-C-031-Rev.07

Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Terracon

Project #:

WO#: **40183427**



Courier: CS Logistics Fed Ex Speedee UPS Walco
 Client Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used SR - NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: _____

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Person examining contents:
Date: 2-21-19
Initials: JK

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>No matrix, pg #</u> <u>2-21-19 JK</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. <u>008 Heavy sediment</u> <u>2-21-19 JK</u>
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>004 time 1243 kg 2/21/19</u>
-Includes date/time/ID/Analysis Matrix: <u>kt 2/21/19 W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Person Contacted: _____ Date/Time: _____ If checked, see attached form for additional comments
Comments/ Resolution: _____

Project Manager Review: [Signature] Date: 2/22/19

March 01, 2019

Scott Hodgson
Terracon WI
9856 57th. St.
Franklin, WI 53132

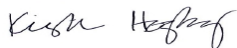
RE: Project: 5810728 Dry Cleaners ETC
Pace Project No.: 10465027

Dear Scott Hodgson:

Enclosed are the analytical results for sample(s) received by the laboratory on February 23, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Kirsten Hogberg
kirsten.hogberg@pacelabs.com
(612)607-1700
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 5810728 Dry Cleaners ETC

Pace Project No.: 10465027

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #:74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia DEP Certification #: 382

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 5810728 Dry Cleaners ETC

Pace Project No.: 10465027

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10465027001	SS-1	Air	02/20/19 10:17	02/23/19 09:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 5810728 Dry Cleaners ETC

Pace Project No.: 10465027

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10465027001	SS-1	TO-15	CH1	5	PASI-M

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 5810728 Dry Cleaners ETC

Pace Project No.: 10465027

Sample: SS-1 **Lab ID: 10465027001** Collected: 02/20/19 10:17 Received: 02/23/19 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<0.38	ug/m3	1.4	0.38	1.75		02/27/19 22:29	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.75		02/27/19 22:29	156-60-5	
Tetrachloroethene	6780	ug/m3	96.5	44.0	140		02/28/19 12:30	127-18-4	
Trichloroethene	85.8	ug/m3	0.96	0.45	1.75		02/27/19 22:29	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.46	0.22	1.75		02/27/19 22:29	75-01-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 5810728 Dry Cleaners ETC

Pace Project No.: 10465027

QC Batch: 591662	Analysis Method: TO-15
QC Batch Method: TO-15	Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10465027001	

METHOD BLANK: 3199360 Matrix: Air
Associated Lab Samples: 10465027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	02/27/19 13:38	
Tetrachloroethene	ug/m3	<0.31	0.69	02/27/19 13:38	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	02/27/19 13:38	
Trichloroethene	ug/m3	<0.26	0.55	02/27/19 13:38	
Vinyl chloride	ug/m3	<0.13	0.26	02/27/19 13:38	

LABORATORY CONTROL SAMPLE: 3199361

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	41.9	39.4	94	70-130	
Tetrachloroethene	ug/m3	70.3	63.3	90	70-130	
trans-1,2-Dichloroethene	ug/m3	41.5	40.2	97	70-130	
Trichloroethene	ug/m3	56.3	56.5	100	70-130	
Vinyl chloride	ug/m3	28.1	25.3	90	70-130	

SAMPLE DUPLICATE: 3200024

Parameter	Units	10464894001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	5.4	4.8	12	25	
Tetrachloroethene	ug/m3	4.8	4.8	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.44		25	
Trichloroethene	ug/m3	46.8	47.5	2	25	
Vinyl chloride	ug/m3	ND	<0.20		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 5810728 Dry Cleaners ETC

Pace Project No.: 10465027

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 5810728 Dry Cleaners ETC
Pace Project No.: 10465027

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10465027001	SS-1	TO-15	591662		

REPORT OF LABORATORY ANALYSIS

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AIR WO#: 10465027
The Chain-of

Test Document
accurately.



Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: <u>Terracem</u>		Report To: <u>Scott Hodgson</u>		Attention: <u>same</u>	
Address: <u>Milwaukee</u>		Copy To:		Company Name:	
Email To: <u>Scott.Hodgson@terracem.com</u>		Purchase Order No.:		Address:	
Phone: <u>414-208-7610</u> Fax:		Project Name: <u>Dry Cleaners ETC</u>		Pace Quote Reference:	
Requested Due Date/TAT:		Project Number: <u>5810708</u>		Pace Project Manager/Sales Rep.	
				Pace Profile #: <u>31924</u>	

7809 Page: 1 of 1

Program

UST Superfund Emissions Clean Air Act

Voluntary Clean Up Dry Clean RCRA Other

Location of Sampling by State _____

Reporting Units
 ug/m³ _____ mg/m³ _____
 PPBV _____ PPMV _____
 Other _____

Report Level: II. _____ III. _____ IV. _____ Other _____

ITEM #	Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method:	Pace Lab ID								
				COMPOSITE START		COMPOSITE - END/GRAB								PM10	3c - Fixed Gas (%)	To-3 BTEX	To-9M (Methane)	To-14	To-15 Full List VOCs	To-15 Short List BTEX	To-15 Short List Chlorinated
				DATE	TIME	DATE	TIME														
1	SS-1	6LC-10		2/20/19	0947	2/20/19	1017	29	8	17091152		001									
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
<u>Kristen Anderson</u>	<u>2/20/19</u>	<u>1535</u>	<u>Scott A. Hodgson</u>	<u>2/20/19</u>	<u>1535</u>		Y/N	Y/N	Y/N	Y/N
<u>Scott A. Hodgson</u>	<u>2/21/19</u>	<u>0930</u>	<u>Cara Muller</u>	<u>2/21/19</u>	<u>0949</u>		Y/N	Y/N	Y/N	Y/N
<u>John PA-CO</u>	<u>2/21/19</u>	<u>1300</u>	<u>Chif fan</u>	<u>2/23/19</u>	<u>9:00</u>	AMS	Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: _____

SIGNATURE of SAMPLER: _____

DATE Signed (MM / DD / YY) _____

Temp in °C _____

Received on Ice _____

Custody Sealed Cooler _____

Samples Intact _____

ORIGINAL



Document Name:
Air Sample Condition Upon Receipt

Document No.:
F-MN-A-106-rev.18

Document Revised: 31Jan2019
Page 1 of 1

Issuing Authority:
Pace Minnesota Quality Office

WO#: 10465027

PM: KNH Due Date: 03/04/19
CLIENT: Terracon-WI

Air Sample Condition Upon Receipt Client Name: Terracon Project #:

Courier: Fed Ex UPS USPS Client
 Pace Speedee Commercial See Exception

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____ Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermometer Used: G87A9170600254 G87A9155100842

Temp should be above freezing to 6°C Correction Factor: _____ Date & Initials of Person Examining Contents: CLH 2/23/19

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: Air Can Airbag Filter TDT Passive		11. Individually Certified Cans Y <input checked="" type="radio"/> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	13.

Samples Received: _____ Pressure Gauge # 10AIR34 10AIR35

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SS-1			-7	+5					

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kirsten Hojberg Date: 2/25/2019

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 16, 2020



Mr. Christopher E. and Mrs. D. Fifi Moy
108 E Cook Street
New London, Wisconsin 54961

Re: Vapor Results-March 2019
Dry Cleaners Etc.
102 East Cook Street
New London, Wisconsin
WDNR BRRTS ID # 02-69-552218
Terracon Project No. 58107028

Dear Mr. and Mrs. Moy:

On behalf of the responsible party, ZECO, LLC, Terracon Consultants, Inc. (Terracon), is providing this letter to you to present the results of ambient air vapor samples collected from your property. The responsible party contact information follows:

Mr. Paul Zuege
ZECO LLC
P.O. Box 560
New London, Wisconsin 54961-8064
(920) 538-1849
zigjigs@gmail.com

As part of the ongoing environmental site investigation of the Dry Cleaners Etc (former) site located at 102 East Cook Street, New London, Wisconsin, an ambient air point (AA-1) was sampled on the 108 East Cook Street property (see attached Figure 1). The ambient air sample was located in the center of the basement room. On March 26-27, 2019, the 24-hour ambient air was sampled for volatile organic compounds (VOCs) by EPA Method TO-15.

The results are summarized in the attached Table 1. The applicable portions of the laboratory report are also attached.

The Wisconsin Department of Natural Resources (WDNR) has developed vapor quality standards, which include the vapor action limit (VAL) for individual compounds in ambient air. If the results are above the VAL, additional sampling and mitigation may be necessary.

There were no compounds detected above the laboratory limits of detection in the sample collected from your basement. At this time additional vapor sampling is not necessary. However, additional

Terracon Consultants, Inc. 9856 S. 57th Street Franklin, Wisconsin 53132
P (414) 423-0255 F (414) 423-0566 terracon.com



sampling may be required in the future to confirm the results.

In accordance with Wisconsin Administrative Code Chapter NR 714.05 (5), you may request in writing that the Wisconsin Department of Natural Resources (WDNR) project manager keep you informed of approvals or rejections of the response actions undertaken at the Dry Cleaners site.

The WDNR project manager contact information follows:

BJ LeRoy
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313-6727
Bruce.LeRoy@wisconsin.gov

If you have questions please contact Scott directly at (414) 209-7640, via email to Scott.Hodgson@terracon.com, or contact our office at (414) 423-0255.

Sincerely,
Terracon Consultants, Inc.

Scott A. Hodgson, P.G.
Senior Project Manager

SAH/KLK:sah/N:\Projects\2010\58107028\Notification_Letters\Feb 2019\108Cook\108Ecook_Notification.Feb2019 notification.docx

Attachments: Figure 1
Table 1
Table 2
Laboratory Analytic Test Reports

Copies to: Paul Zuege, ZECO LLC (electronic)
BJ LeRoy, WDNR—Green Bay

March 16, 2020



Ms. Julie A. Brigham
113 E Beacon Avenue
New London, Wisconsin 54961

Re: Groundwater and Vapor Results
Dry Cleaners Etc.
102 East Cook Street
New London, Wisconsin
WDNR BRRTS ID # 02-69-552218
Terracon Project No. 58107028

Dear Ms. Brigham:

On behalf of the responsible party, ZECO, LLC, Terracon Consultants, Inc. (Terracon), is providing this letter to you to present the results of groundwater and sub-slab vapor samples collected from your property at 113 East Beacon Avenue property. The responsible party contact information follows:

Mr. Paul Zuege
ZECO LLC
P.O. Box 560
New London, Wisconsin 54961-8064
(920) 538-1849
ziqjigs@gmail.com

As part of the ongoing environmental site investigation of the Dry Cleaners Etc (former) site located at 102 East Cook Street, New London, Wisconsin, a groundwater monitoring well (MW-4) and a sub-slab vapor point (113-SS-1) were sampled on the 113 E Beacon Avenue Property. The monitoring well is located northwest of the house in front of the garage and the vapor point is located in the basement (see attached Figure 1). On February 20, 2019, the monitoring well was sampled for volatile organic compounds (VOCs) by EPA Method 8260. The sub-slab vapor point was sampled on March 27, 2019, and analyzed for the VOC dry-cleaner list by EPA Method TO-15.

The results are summarized in the attached Table 1 and Table 2. The applicable portions of the laboratory report are also attached. The Wisconsin Department of Natural Resources (WDNR) has established groundwater quality standards, which are set forth in Chapter NR 140, Wisconsin Administrative Code (WAC). For each regulated compound, two standards have been established, the Enforcement Standard (ES) and the Preventive Action Limit (PAL). In general, if the regulated contaminant does not exceed either standard, no additional action is required. If the concentration



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Geotechnical



Environmental



Construction Materials



Facilities

exceeds the PAL, but is below the ES, additional investigation/continued monitoring may be required. If the regulated contaminant is above its ES, additional investigation, continued monitoring, and/or remediation may be required.

Monitoring well MW-4 contained concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) above the limit of detection. PCE was detected at a concentration of 19.6 micrograms per liter ($\mu\text{g/L}$) which is above its ES value ($5 \mu\text{g/L}$) while TCE ($1.2 \mu\text{g/L}$) was detected above its PAL value ($0.5 \mu\text{g/L}$), but below its ES. Both the PCE and TCE concentrations decreased significantly from the previous sampling round (February 2011).

WDNR has developed vapor quality standards, which include the vapor action limit (VAL) and vapor risk screening level (VRSL) for individual compounds. The VAL is applied directly to the ambient air. The VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.03 (sub-slab) for comparison with the analytical results. If the sub-slab vapor results are above applicable VRSLs, additional sampling and mitigation may be necessary. In general, results must be below the VRSL during two rounds of sampling, one round collected during the “heating” season and one during the summer to verify that a vapor intrusion pathway has not been completed.

The only compounds detected in sub-slab vapor sample 113-SS-1 above the laboratory limit of detection were PCE and TCE, however, they both were detected below their VRSL. Additional testing is not recommended at this time; however, additional testing may be required in the future to confirm the results.

In accordance with Wisconsin Administrative Code Chapter NR 714.05 (5), you may request in writing that the Wisconsin Department of Natural Resources (WDNR) project manager keep you informed of approvals or rejections of the response actions undertaken at the Dry Cleaners site.

The WDNR project manager contact information follows:

BJ LeRoy
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313-6727
Bruce.LeRoy@wisconsin.gov

If you have questions please contact Scott directly at (414) 209-7640, via email to Scott.Hodgson@terracon.com, or contact our office at (414) 423-0255.

Sincerely,
Terracon Consultants, Inc.

Scott A. Hodgson, P.G.
Senior Project Manager

SAH/KLK:sah/N:\Projects\2010\58107028\Notification_Letters\Feb 2019\113E Beacon\113EBeacon_Notification.Feb2019
notification.docx

Attachments: Figure 1
Table 1
Table 2
Laboratory Analytic Test Reports

Copies to: Paul Zuege, ZECO LLC (electronic)
BJ LeRoy, WDNR—Green Bay

March 16, 2020



Mr. Chad Hoerth
Director of Public Services
215 N. Shawano Street
New London, WI 54961

Re: Groundwater Results
Dry Cleaners Etc.
102 East Cook Street
New London, Wisconsin
WDNR BRRTS ID # 02-69-552218
Terracon Project No. 58107028

Dear Mr. Hoerth:

On behalf of the responsible party, ZECO, LLC, Terracon Consultants, Inc. (Terracon), is providing this letter to you to present the results of groundwater samples collected from the city property. The responsible party contact information follows:

Mr. Paul Zuege
ZECO LLC
P.O. Box 560
New London, Wisconsin 54961-8064
(920) 538-1849
zigjigs@gmail.com

As part of the ongoing environmental site investigation of the Dry Cleaners Etc (former) site located at 102 East Cook Street, New London, Wisconsin, an existing groundwater table observation well (MW-2) and three new temporary monitoring wells (TW2 through TW4) that lie on city property were sampled. The observation well and one temporary well (TW-3) are located at 420 South Pearl St, one temporary well (TW-2) is located in the right-of-way near 421 South Pearl Street, and one temporary well is located in the right-of-way near 121 E Beacon Ave (see attached Figure 1). On February 19-20, 2019, the wells were sampled for volatile organic compounds (VOCs) by EPA Method 8260B.

The results are summarized in the attached Table 1. The applicable portions of the laboratory report are also attached. The Wisconsin Department of Natural Resources (WDNR) has established groundwater quality standards, which are set forth in NR 140, Wisconsin Administrative Code (WAC). For each regulated compound, two standards have been established, the Enforcement Standard (ES) and the Preventive Action Limit (PAL). In general, if the regulated contaminant does not exceed either standard, no additional action is required. If the concentration exceeds the PAL,

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but is below the ES, additional investigation/continued monitoring may be required. If the regulated contaminant is above its ES, additional investigation, continued monitoring, and/or remediation may be required.

The compounds detected in MW-2 were tetrachloroethene (PCE), trichloroethene (TCE), ethylbenzene, isopropylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, total xylenes, and naphthalene. The PCE and TCE concentrations (13,100 micrograms per liter [$\mu\text{g/L}$] and 725 $\mu\text{g/L}$, respectively) were detected above their respective ES values (5 $\mu\text{g/L}$). Naphthalene was detected at a concentration of 26.7 $\mu\text{g/L}$, which is above its PAL of 10 $\mu\text{g/L}$. The other VOCs detected were at concentrations below their PAL.

PCE, TCE, and toluene were detected in TW-2 and TW-4. Toluene was detected below its PAL in both wells. PCE was detected above its ES of 5 $\mu\text{g/L}$ in TW-2 at 79 $\mu\text{g/L}$ and TW-4 at 7.0 $\mu\text{g/L}$. TCE was detected above its PAL of 0.5 $\mu\text{g/L}$ in TW-2 at 2.8 $\mu\text{g/L}$ and TW-4 at 0.83 $\mu\text{g/L}$.

The analytic test results indicate that toluene was the only VOC detected above the laboratory limit of detection in TW-3, however, it did not exceed its PAL or ES value.

In accordance with Wisconsin Administrative Code Chapter NR 714.05 (5), you may request in writing that the Wisconsin Department of Natural Resources (WDNR) project manager keep you informed of approvals or rejections of the response actions undertaken at the Dry Cleaners site.

The WDNR project manager contact information follows:

BJ LeRoy
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313-6727
Bruce.LeRoy@wisconsin.gov

If you have questions please contact Scott directly at (414) 209-7640, via email to Scott.Hodgson@terracon.com, or contact our office at (414) 423-0255.

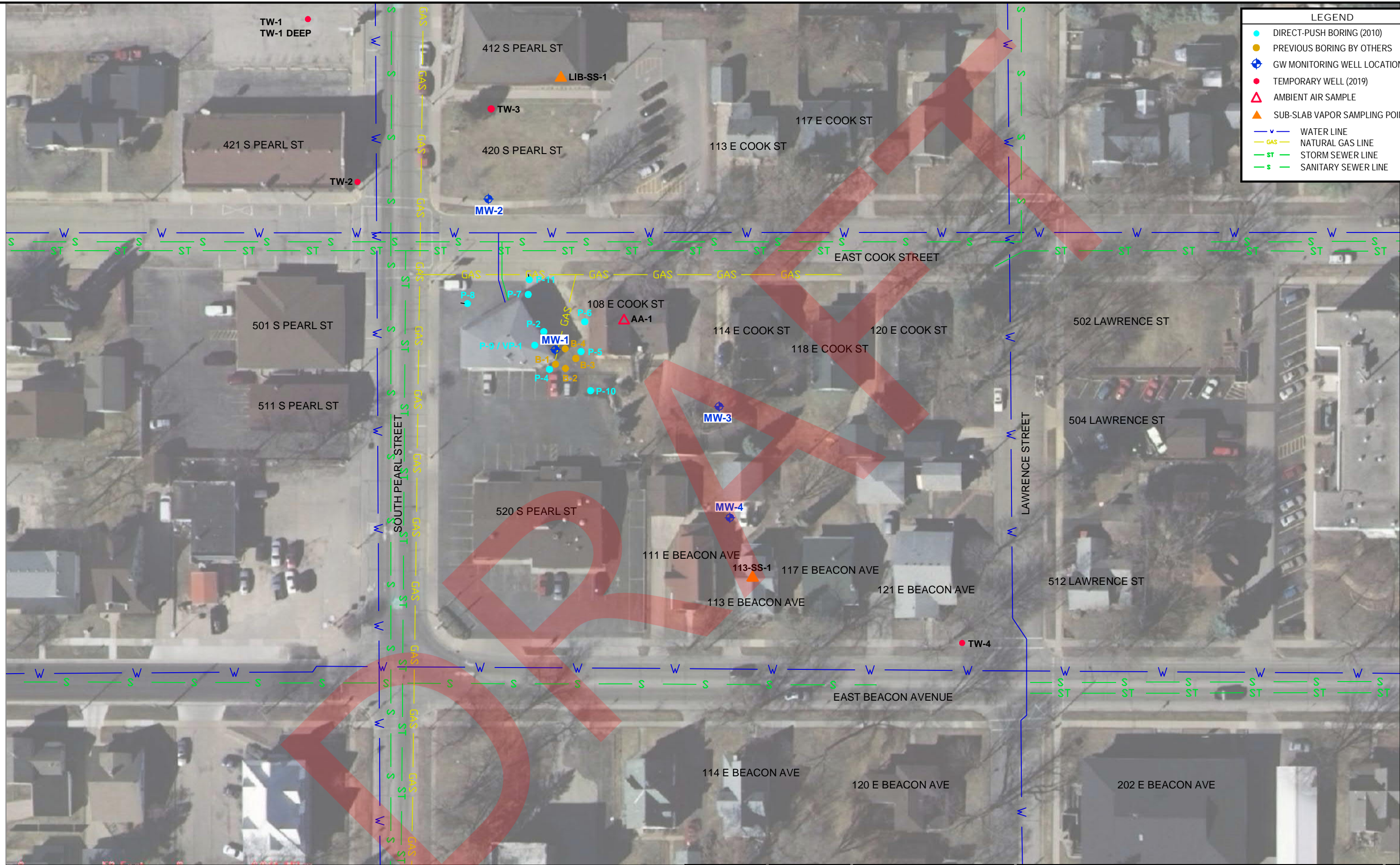
Sincerely,
Terracon Consultants, Inc.

Scott A. Hodgson, P.G.
Senior Project Manager

SAH/KLK:sah/N:\Projects\2010\58107028\Notification_Letters\Feb 2019\City\CityNotification.Feb2019 notification.docx

Attachments: Figure 1
Table 1
Laboratory Analytic Test Reports

Copies to: Paul Zuege, ZECO LLC (electronic)
BJ LeRoy, WDNR—Green Bay



LEGEND	
●	DIRECT-PUSH BORING (2010)
●	PREVIOUS BORING BY OTHERS
⊕	GW MONITORING WELL LOCATION
●	TEMPORARY WELL (2019)
△	AMBIENT AIR SAMPLE
▲	SUB-SLAB VAPOR SAMPLING POINT
—	WATER LINE
—	NATURAL GAS LINE
—	STORM SEWER LINE
—	SANITARY SEWER LINE

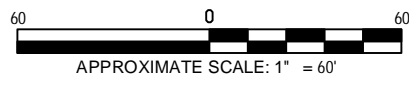


DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mng:	TPW	Project No:	58107028
Drawn By:	AGC/DCT	Scale:	AS SHOWN
Checked By:	TPW	File No:	58107028 SD-2
Approved By:	TPW	Date:	11/2019

Terracon
 Consulting Engineers and Scientists
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SITE MAP

DRY CLEANERS, ETC.
 102 EAST COOK STREET
 NEW LONDON, WISCONSIN

FIGURE
 1
 PDF EDITED

TABLE 1
Groundwater Analytic Test Results Summary

Dry Cleaners Etc.
New London, Wisconsin
Terracon Project No. 58107028

	Sample ID	Sample Date	Chlorinated Volatile Organic Compounds (µg/L)						Petroleum Volatile Organic Compounds + Naphthalene (µg/L)						Other Petroleum-Related VOCs (µg/L)					
			Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	Chloromethane	Methylene Chloride	Benzene	Ethylbenzene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	Naphthalene	n-Butylbenzene	sec-Butylbenzene	Isopropylbenzene (cumene)	p-Isopropyltoluene	n-Propylbenzene
	Preventive Action Limit (PAL) ¹		0.5	0.5	7	0.02	3	0.5	0.5	140	200	96	400	10	NE	NE	NE	NE	NE	
	Enforcement Standard (ES) ²		5	5	70	0.2	30	5.0	5	700	1,000	480	2,000	100	NE	NE	NE	NE	NE	
Temporary Wells																				
	P-2	8/31/2010	4.3	0.85	<0.83	<0.18	<0.24	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	P-4	8/31/2010	<0.45	<0.48	<0.83	<0.18	<0.24	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	P-5	9/1/2010	29.5	4.0	<0.83	<0.18	<0.24	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	P-8	9/1/2010	3.5	<0.48	<0.83	<0.18	1.7	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	P-10	9/2/2010	101	13.8	<0.83	<0.18	<0.24	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	P-11	9/2/2010	61.0	11.0	<0.83	<0.18	<0.24	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	TW-1	2/19/2019	<0.33	<0.26	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	0.25	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81
	TW-1 Deep	2/19/2019	<0.33	<0.26	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	0.44	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81
	TW-2	2/19/2019	79.0	2.8	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	0.26	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81
	TW-3	2/19/2019	<0.33	<0.26	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	0.18	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81
	TW-4	2/19/2019	7.0	0.83	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	0.38	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81
NR 141 Monitoring Wells																				
	MW-1	2/24/2011	1.5	<0.48	<0.83	<0.18	0.36	0.49	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	MW-2	2/24/2011	1,270	<0.48	<0.83	<0.18	<0.24	2.5	<2.0	<2.7	<3.4	<4.8	<4.2	<13.2	<4.4	<4.6	<4.4	<3.0	<3.4	<4.0
	MW-2	2/19/2019	13,100	725	<1.4	<0.87	<10.9	<2.9	<1.2	5.1	<0.86	12.5	6.8	27.8	26.7	<3.5	<4.2	5.1	<4.0	<4.1
	MW-2 (DUP-1)	2/19/2019	13,100	749	1.30	<0.17	<2.2	<0.58	<0.25	5.3	0.25	13.4	7.1	28.9	25.5	0.93	1	5.3	2.8	2.3
	MW-3	2/24/2011	51.1	8.5	<0.83	<0.18	<0.24	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	MW-4	2/24/2011	41.5	3.4	<0.83	<0.18	<0.24	<0.43	<0.41	<0.54	<0.67	<0.97	<0.83	<2.63	<0.89	<0.93	<0.89	<0.59	<0.67	<0.81
	MW-4	2/19/2019	19.6	1.2	<0.27	<0.17	<2.2	<0.58	<0.25	<0.22	<0.17	<0.84	<0.87	<0.73	<1.2	<0.71	<0.85	<0.39	<0.80	<0.81

Notes:

¹NR 140, Wisconsin Administrative Code, Preventive Action Limit (PAL)

²NR 140, Wisconsin Administrative Code, Enforcement Standard (ES)

VOC = Volatile Organic Compounds

µg/L = micrograms per liter

NE = Standard Not Established

TABLE 2
Vapor Analytic Test Results Summary-Sub-Slab

Dry Cleaners, Etc.
New London, Wisconsin
Terracon Project No. 58107028

Sample ID	Location	Sample Date	Sample Type	Chlorinated Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)				
				cis - 1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
Terracon Investigation - 2010								
VP-1	102 E Cook-East Side Near DCM	2/24/2011	Small Commercial Sub-slab 30 minute	<86.8	<0.43	9,270	740	<27.9
Terracon Supplemental Investigation - 2019								
LIB-SS-1	Library: 412 S Pearl- Southeast Stairwell	2/20/2019	Small Commercial Sub-slab 30 minute	<0.38	<0.50	6,780	85.8	<0.22
113-SS-1	113 E Beacon- Basement	3/27/2019	Residential Sub-slab-30 minute	<0.40	<0.52	28.6	2.0	<0.23
Residential Indoor Air VAL ¹				NE	NE	42	2.1	1.7
Residential Sub-slab Vapor/Soil Gas VRSL ²				NE	NE	1,400	70	57
Small Commercial Building Indoor Air VAL ¹				NE	NE	180	8.8	28
Small Commercial Building Sub-slab Vapor/Soil Gas VRSL ²				NE	NE	6,000	290	930
Large Commercial/Industrial Building Indoor Air VAL ¹				NE	NE	180	8.8	28
Large Commercial/Industrial Building Sub-slab Vapor/Soil Gas VRSL ³				NE	NE	18,000	880	2,800

NOTES:

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

VAL = Vapor Action Level for Ambient Air (given for information only)

VRSL = Vapor Risk Screening Level

¹ VAL given as the lesser of 1:100,000 lifetime cancer risk or noncancer hazard index of 1 value in generic U.S EPA Tables at the web address: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm and modified for Wisconsin Vapor Intrusion Guidance PUB-RR-800 lifetime cancer risk (1:100,000)

² VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.03 (sub-slab and shallow soil gas) for comparison with the analytical results.

³ VRSL is the VAL adjusted for sub-slab vapor to indoor air by applying an attenuation factor of 0.01 (sub-slab and shallow soil gas) for comparison with the analytical results.

Bold Values indicate exceedance of applicable residential VALs (indoor air)

Green Shaded Values indicate exceedance of applicable residential VRSLs (sub-slab vapor and shallow soil gas)

Bold Italic Values indicate exceedance of applicable small commercial building VALs (indoor air)

Brown Shaded Values indicate exceedance of applicable small commercial building VRSLs (sub-slab vapor and shallow soil gas)

Bold Italic Underline Values indicate exceedance of applicable large commercial/industrial building VALs (indoor air)

Pink Shaded Values indicate exceedance of applicable large commercial/industrial building VRSLs (sub-slab vapor and shallow soil gas)

< = Not detected above listed limit of detection (LOD)

--- = Not analyzed

NE=Not Established

TABLE 3
Vapor Analytic Test Results Summary-Ambient Air

Dry Cleaners, Etc.
 New London, Wisconsin
 Terracon Project No. 58107028

Sample ID	Location	Sample Date	Sample Type	Chlorinated Volatile Organic Compounds ($\mu\text{g}/\text{m}^3$)				
				cis - 1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Vinyl Chloride
Terracon Supplemental Investigation - 2019								
AA-1	108 Cook Street - Center Basement	3/27/2019	Residential Ambient Air 24-hour	<0.33	<0.42	<0.47	<0.38	<0.19
Residential Indoor Air VAL ¹				NE	NE	42	2.1	1.7
Small Commercial Building Indoor Air VAL ¹				NE	NE	180	8.8	28
Large Commercial/Industrial Building Indoor Air VAL ¹				NE	NE	180	8.8	28

NOTES:

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

VAL = Vapor Action Level for Ambient Air

¹ VAL given as the lesser of 1:100,000 lifetime cancer risk or noncancer hazard index of 1 value in generic U.S EPA Tables at the web address: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm and modified for Wisconsin Vapor Intrusion Guidance PUB-RR-800 lifetime cancer risk (1:100,000)

Bold Values indicate exceedance of applicable residential VALs (indoor air)

Bold Italic Values indicate exceedance of applicable small commercial building VALs (indoor air)

Bold Italic Underline Values indicate exceedance of applicable large commercial/industrial building VALs (indoor air)

< = Not detected above listed limit of detection (LOD)

--- = Not analyzed

NE=Not Established