



VIA CERTIFIED MAIL: NO. 7016 1970 0001 0402 6392

September 4, 2018

Mr. Adam Engelkamp
Real Estate
UNION PACIFIC RAILROAD
1400 Douglas Street, Stop 1690
Omaha, Nebraska 68179-1690

SMA Project No. 15-15011

Subject: **Notification of Analytical Results**
Folder 2893-88
DNR BRRTS Activity #02-41-532649 FID 241780880
Superior Health Linens
5005 S. Packard Avenue
Cudahy, Wisconsin

Dear Mr. Engelkamp:

On August 14, 2018, St. John – Mittelhauser & Associates, Inc. (SMA), on behalf of D&C Partners, LLC (D&C Partners), completed a soil boring within Union Pacific's right-of-way at Mile Post 77.8 in Cudahy, Wisconsin. The work was performed to further delineate the extent of chlorinated volatile organic compounds (CVOCs) previously identified in the subsurface at the southwest corner of the Superior Health Linens parcel, located at 5005 S. Packard Avenue, in Cudahy, Wisconsin.

In accordance with NR 716.14(2), SMA is submitting a copy of the soil boring log, soil boring location map, and analytical results.

Subsurface Investigation

The field activities were completed August 14, 2018. Prior to mobilizing to the site, the utilities were cleared through the one call utility locating service and Union Pacific (fiber optic locate service). The soil boring commenced on property owned by Patrick Cudahy and completed at an angle of approximately 10° to the east and continued onto Union Pacific Railroad's right-of-way a distance of 7.5 feet before terminating at a depth of approximately 40 feet below ground surface. The location of the soil borings is shown on Figure 1.

The soil boring was completed with a Geoprobe® 7822DT combo unit utilizing Dual Tube sampling methodology. Dual Tube sampling methodology permitted continuous sampling and field screening of both the saturated and unsaturated lithologies while the outer casing prevents cross contamination. Upon retrieval, the acetate liner was removed from the sample tube and cut open so the soil could be visually evaluated, logged, and scanned for the presence of volatile organic compounds (VOCs) using a Mini Rae 3000 photoionization detector (PID) equipped with a 10.6 electron volt (eV) probe. The PID, calibrated to an isobutylene standard,

measures total concentrations of organic vapors. The PID cannot identify or quantify specific components. Soil samples were split into two portions; one portion was placed in a sealed plastic bag for headspace analysis with the PID and the other portion was placed into a clean laboratory-provided jar for potential laboratory chemical analysis. The portion of the sample collected for potential VOC analysis was preserved in the field using SW-846 Method 5035.

The SMA Project Geologist made visual observations, and the soils were classified using the Unified Soil Classification System. Observations were also made for the presence of fill material and evidence to suggest impact (e.g., odors, staining, etc.). The soil sample descriptions and field screening results were recorded on boring logs (provided in Attachment A).

Based on field observations and headspace results, four (4) soil samples and four (4) groundwater samples were collected from the soil boring. The soil samples were preserved in the field using USEPA Method 5035 (one 40-ml vial with methanol). Sample containers were labeled and placed in a cooler with ice pending laboratory analysis. Appropriate chain of custody procedures were followed during sample collection and transportation. The soil sample and groundwater samples were submitted to Pace Analytical Services, Inc. (Pace) of Green Bay, Wisconsin and analyzed for the following VOC compounds in accordance with US EPA Method SW-846 8260B for VOCs:

- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
- 1,1-Dichloroethane
- 1,1-Dichloroethene
- Cis-1,2-Dichloroethene
- Trans-1,2-Dichloroethene
- 1,4-Dioxane
- Tetrachloroethene
- Trichloroethene
- Vinyl Chloride

Analytical Results

The soil and groundwater analytical results are summarized in Tables 1 and 2, respectively. A copy of the laboratory report and chain-of-custody record for the soil and groundwater samples is provided in Attachment B.

The analytical results were compared to WDNR's Residual Contaminants Levels (RCLs) for Industrial Direct Contact, Non-Industrial Direct Contact, and Protection of Groundwater. The groundwater results were compared to WDNR's Preventable Action Limits (PALs) and Enforcement Stands (ES).

Soil

The soil analytical results indicated all VOC compounds were below the method detection limits under SW-846 8260B (i.e. non-detect).

Groundwater

The groundwater analytical results indicated all VOC compounds were below the method detection limits under SW-846 8260B (i.e. non-detect).

Contact Information

The responsible party overseeing the investigation activities at 5005 S. Packard Avenue is:

Mr. William J. Nicklas
D&C Partners, LLP
W23 N7657 Cherry Hill Road
Sussex, WI 53089
(414) 940-1028

The Environmental Consultant Contact Information is:

Mr. Steven R. Swenson, PG, CHMM
St. John – Mittelhauser & Associates, Inc.
1401 Branding Avenue, Suite 315
Downers Grove, IL 60515
(630) 427-8114
SteveS@st-ma.com

The WDNR Project Manager for the Site is:

Mr. Doug Cieslak
WDNR
Waukesha Service Center
141 NW Barstow Street, Room 180
Waukesha, WI 53188
(262) 574-2182
douglas.cieslak@wisconsin.gov

Should you have any questions, please feel free to contact me at (815) 289-0400.

Sincerely,

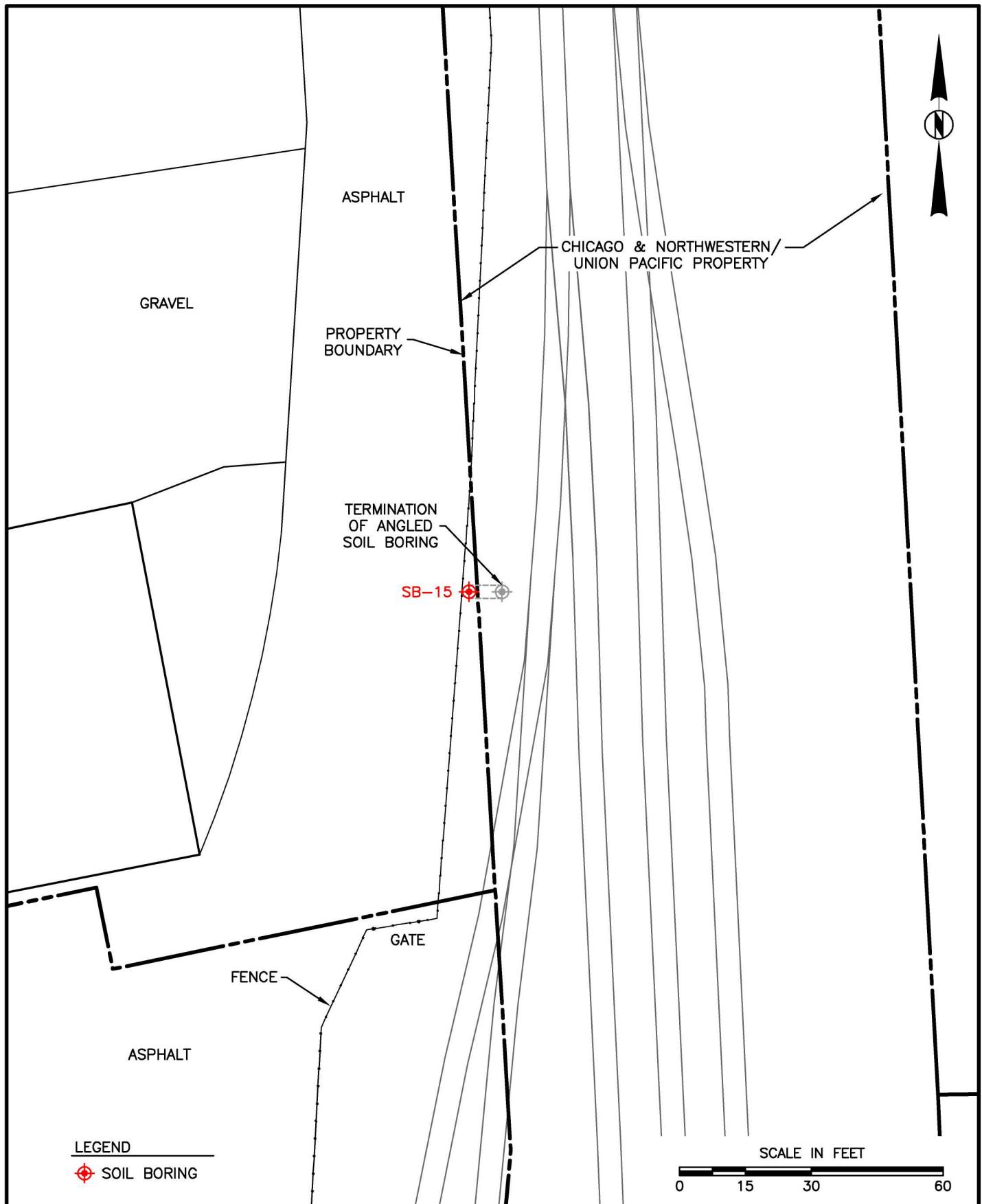


Steven R. Swenson, P.G., CHMM
Senior Geologist
St. John – Mittelhauser & Associates, Inc.

Attachments: Figure
Tables
Attachment A: Soil Boring Logs
Attachment B: Laboratory Report

Cc: Mr. Doug Cieslak, WDNR
Bill Nicklas, D&C Partners, LLP

FIGURE



CHECK BY SRS	OFF-SITE SOIL BORING LOCATION	FIGURE
DRAWN BY OS		
DATE 9-4-18		
SCALE AS SHOWN		
CAD NO. 15011.01C8	SUPERIOR HEALTH LINENS 5005 SOUTH PACKARD AVENUE CUDAHY, WISCONSIN	
PRJ NO. 15-15011		1



TABLES

TABLE 1
Soil Analytical Results
August 14, 2018

Superior Health Linens
5005 S. Packard Avenue / Cudahy, WI / BRRTS No. 02-41-532649

Constituent ¹	Industrial Direct Contact RCL	Non-Industrial Direct Contact RCL	Protection of Groundwater RCL ²	SB-15			
				8 - 9'	19 - 20'	29 - 30'	37.7 - 38.5'
1,1-Dichloroethane	22.2	4.72	0.4834	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	1190	320	0.005	<0.025	<0.025	<0.025	<0.025
Cis-1,2-Dichloroethene	2,340	156	0.0412	<0.025	<0.025	<0.025	<0.025
Trans-1,2-Dichloroethene	1,850	1,560	0.0626	<0.025	<0.025	<0.025	<0.025
Tetrachloroethane	145	33	0.0045	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	640	640	0.1402	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichloroethane	7.01	1.59	0.0032	<0.025	<0.025	<0.025	<0.025
Trichloroethene	8.41	1.3	0.0036	<0.025	<0.025	<0.025	<0.025
Vinyl Chloride	2.08	0.067	0.0001	<0.025	<0.025	<0.025	<0.025
1,4-Dioxane	26.5	5.72	0.0012	<3.01	<3.01	<3.01	<3.01

Note:

¹ Detected VOCs only

² Per NR720.07(2)(d): If the soil cleanup standard is below the limit of detection, and the constituent not detected, the soil cleanup standard shall not be considered to have been exceeded.

RCL = Residual Contaminant Level

Bold Exceeds Industrial Direct Contact RCLs

Bold Exceeds Non-Industrial Direct Contact RCLs

Bold Exceeds protection of Groundwater RCLs

All Values in mg/kg (parts per million)

< Below the Limits of Detection (LOD) and the Limit of Quantitation (LOQ)

TABLE 2
Groundwater Analytical Results
August 14, 2018

Superior Health Linens
5005 S. Packard Avenue / Cudahy, WI / BRRTS No. 02-41-532649

Constituents¹	ch. NR 140		SB-15			
	Enforcement Standard (ES)	Preventable Action Limits (PAL)²	27-28'	30-31'	35-36'	39-40'
1,1-Dichloroethane	850	85	<0.27	<0.27	<0.27	<0.27
1,1-Dichloroethene	7	0.7	<0.24	<0.24	<0.24	<0.24
Cis-1,2-Dichloroethene	70	7	<0.27	<0.27	<0.27	<0.27
Trans-1,2-Dichloroethene	100	20	<1.1	<1.1	<1.1	<1.1
Tetrachloroethane	5	0.5	<0.33	<0.33	<0.33	<0.33
1,1,1-Trichloroethane	200	40	<0.24	<0.24	<0.24	<0.24
1,1,2-Trichloroethane	5	0.5	<0.55	<0.55	<0.55	<0.55
Trichloroethene	5	0.5	<0.26	<0.26	<0.26	<0.26
Vinyl Chloride	0.2	0.02	<0.17	<0.17	<0.17	<0.17
1,4-Dioxane	3	0.3	<0.26	<0.26	<0.26	<0.26

Notes:

¹ Detected VOCs only

² Per NR140.14(3): If the groundwater preventative action limit or enforcement standard, and the constituent not detected, the groundwater cleanup standard shall not be considered to have been exceeded.

BOLD Exceeds NR 140 Enforcement Standards

BOLD Exceeds NR 140 Preventative Action Levels

All Values in ug/l (ppb)

All Values in mg/kg (parts per million)

< Below the Limits of Detection (LOD) and the Limit of Quantitation (LOQ)



ATTACHMENT A
SOIL BORING LOG



ATTACHMENT B
LABORATORY ANALYTICAL REPORT

BORING NO.: SB-15	PROJECT NO.: 15-15011			PROJECT NAME: Superior Health Linens														
SITE ID. NO.:	FEDERAL ID. NO.:			SITE LOCATION: Cudahy, WI														
COORDINATES:			LATITUDE: °			LONGITUDE: °												
DRILLING CO.: C.S. Drilling		QUAD.: SEC.: T.: R.:			G.S. ELEVATION:													
DRILLER: M. Natali	DRILLING EQUIP.: Geoprobe 6620DT			BOREHOLE DIA.: 2 Inches														
START DATE: 8/14/18	FINISH DATE: 8/14/18			LOGGED BY: M. Lyter														
START TIME (hours): 0940	FINISH TIME (hours): 1500			CHECKED BY: B. Taylor														
DEPTH (ft)	DESCRIPTION	GRAPHIC	ELEVATION	SAMPLES				PID (ppm)	REMARKS									
				NUMBER	RECOVERY (ft)	METHOD	MOISTURE			BLOW CNT (6")	SCAN	HEADSPACE						
0	FILL (0.0'-7.2') Black, moist, cinder like material, some silty clay, some fine grained sand			A B C D	2.4/4 HP M M	-- -- -- --	-- -- -- --	-- -- -- --	Boring completed at a 10 degree angle plunging East									
2				E F G	2.4/4 HP HP	M M M	-- -- --	0.0 0.0 0.0	1.8 2.4 0.8									
4				H	HP	M	--	0.0	1.1	*Collected soil sample from 8.0'-9.0' for select VOC analysis								
6				I	2.9/4	HP	M	--	0.0									
8	SILTY CLAY (7.2'-28.0') CL Dark brown to gray, moist, stiff, medium to high plasticity Grades brown to light brown, trace fine gravel at 7.8' Grades brown at 9.0'			J	HP	M	--	0.0	4.5									
10				K	HP	M	--	0.0	3.0									
12				L	HP	M	--	0.0	1.2									
14				M	4/4	HP	M	--	0.0									
16				N	HP	M	--	0.0	0.9									
18				O	HP	M	--	0.0	0.7									
20				P	HP	M	--	0.0	1.0									
				Q	4/4	HP	M	--	0.0	1.3								
				R	HP	M	--	0.0	1.2									
				S	HP	M	--	0.0	1.5									
				T	HP	M	--	0.0	2.1									
									3.5	*Collected soil sample from 19.0'-20.0' for select VOC analysis								

BORING NO.: SB-15		PROJECT NO.: 15-15011				PROJECT NAME: Superior Health Linens					
DEPTH (ft)	DESCRIPTION	GRAPHIC	ELEVATION	SAMPLES			PID (ppm)		HEADSPACE	REMARKS	
				NUMBER	RECOVERY (ft)	METHOD	MOISTURE	BLOW CNT (6")	SCAN		
22	Grades gray, stiff, high plasticity at 21.4'			U	4/4	HP	M	--	0.0	1.0	
22				V		HP	M	--	0.1	1.2	
24	Grades trace fine grained sand at 23.8'			W		HP	M	--	0.1	1.0	
24				X		HP	M	--	0.0	0.7	
26	Grades some fine grained sand at 26.0'			Y	4/4	HP	M	--	0.0	1.0	
26	Grades soft at 26.6'			Z		HP	M	--	0.0	1.1	
28	Sand seam: Wet to saturated, fine to medium grained, trace coarse grained sand from 27.8'-27.9'			AA		HP	M/W S/M	--	0.0	1.6	*Collected groundwater grab sample from 27.0'-28.0' for select VOC analysis
28	SAND (28.0'-29.4') SP Gray, saturated, fine grained, dense Sandy silt seam: Gray, Saturated, soft from 28.6'-28.8'			BB		HP	M/W S/M	--	0.0	2.2	
30	Grades to trace coarse grained sand, trace clay at 28.8'			CC	4/4	HP	S	--	0.0	1.9	*Collected soil sample from 29.0'-30.0' for select VOC analysis
30	Grades to no coarse grained sand, no clay at 28.9'			DD		HP	S/M W	--	0.0	2.8	
30	CLAYEY SILT (29.4'-30.4') ML Gray, moist to wet, stiff, low plasticity			EE		HP	M/W S/M	--	0.1	3.8	*Collected groundwater grab sample from 30.0'-31.0' for select VOC analysis
32	SAND (30.4'-30.9') SP Gray, saturated, fine to coarse grained sand, some fine gravel			FF		HP	M/W	--	0.0	2.5	
32	SILTY CLAY (30.9'-36.0') CL Gray, moist, stiff, medium to high plasticity Clayey silt seam: Gray, moist to wet, stiff, low plasticity from 31.8'-32.0'			GG	4/4	HP	M	--	0.0	1.4	
34	Grades to high plasticity at 32.0' Clayey silt seam from 33.9-34.1'			HH		HP	M	--	0.0	1.9	
34	Clayey silt seam from 35.2'-35.3'			II		HP	M	--	0.0	1.6	
36	Grades very stiff at 35.6'			JJ		HP	M	--	0.0	1.4	
36	CLAYEY SILT (36.0'-37.1') ML Gray, moist, dense			KK	4/4	HP	M	--	0.0	1.9	
38	SAND (37.1'-37.6') SP Gray, saturated, fine grained sand, some silt			LL		HP	M/S M/M	--	0.0	2.3	*Collected soil sample from 37.7'-38.5' for select VOC analysis
38	SILTY CLAY (37.6'-40.0') CL Gray, moist, stiff, medium to high plasticity Grades to high plasticity at 38.0'			MM		HP	M	--	0.0	2.5	*Collected groundwater grab sample from 39.0'-40.0' for select VOC analysis
40	Clayey silt seam: Gray, moist, stiff from 39.5-39.7'			NN		HP	M	--	0.0	2.2	
40	End of Boring at 40.0'										
42											

August 24, 2018

Steve Swenson
St. John-Mittelhauser & Associates
1893 S. Trainer Road
Rockford, IL 61108

RE: Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Dear Steve Swenson:

Enclosed are the analytical results for sample(s) received by the laboratory on August 16, 2018. 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,



Steven Mleczko for
Laurie Woelfel
laurie.woelfel@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 15-15011 SUPERIOR HEALTH LINEN
 Pace Project No.: 40174174

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485	Minnesota Certification #: 027-053-137
A2LA Certification #: 2926.01	Minnesota Dept of Ag Certification #: via MN 027-053-137
Alabama Certification #: 40770	Minnesota Petrofund Certification #: 1240
Alaska Contaminated Sites Certification #: 17-009	Mississippi Certification #: MN00064
Alaska DW Certification #: MN00064	Montana Certification #: CERT0092
Arizona Certification #: AZ0014	Nebraska Certification #: NE-OS-18-06
Arkansas DW Certification #: MN00064	Nevada Certification #: MN00064
Arkansas WW Certification #: 88-0680	New Hampshire Certification #: 2081
California Certification #: 2929	New Jersey Certification #: MN002
CNMI Saipan Certification #: MP0003	New York Certification #: 11647
Colorado Certification #: MN00064	North Carolina DW Certification #: 27700
Connecticut Certification #: PH-0256	North Carolina WW Certification #: 530
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137	North Dakota Certification #: R-036
Florida Certification #: E87605	Ohio DW Certification #: 41244
Georgia Certification #: 959	Ohio VAP Certification #: CL101
Guam EPA Certification #: MN00064	Oklahoma Certification #: 9507
Hawaii Certification #: MN00064	Oregon NwTPH Certification #: MN300001
Idaho Certification #: MN00064	Oregon Secondary Certification #: MN200001
Illinois Certification #: 200011	Pennsylvania Certification #: 68-00563
Indiana Certification #: C-MN-01	Puerto Rico Certification #: MN00064
Iowa Certification #: 368	South Carolina Certification #: 74003001
Kansas Certification #: E-10167	Tennessee Certification #: TN02818
Kentucky DW Certification #: 90062	Texas Certification #: T104704192
Kentucky WW Certification #: 90062	Utah Certification #: MN00064
Louisiana DEQ Certification #: 03086	Virginia Certification #: 460163
Louisiana DW Certification #: MN00064	Washington Certification #: C486
Maine Certification #: MN00064	West Virginia DW Certification #: 9952 C
Maryland Certification #: 322	West Virginia DEP Certification #: 382
Massachusetts Certification #: M-MN064	Wisconsin Certification #: 999407970
Michigan Certification #: 9909	Wyoming UST Certification #: via A2LA 2926.01

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302	Virginia VELAP ID: 460263
Florida/NELAP Certification #: E87948	South Carolina Certification #: 83006001
Illinois Certification #: 200050	Texas Certification #: T104704529-14-1
Kentucky UST Certification #: 82	Wisconsin Certification #: 405132750
Louisiana Certification #: 04168	Wisconsin DATCP Certification #: 105-444
Minnesota Certification #: 055-999-334	USDA Soil Permit #: P330-16-00157
New York Certification #: 12064	Federal Fish & Wildlife Permit #: LE51774A-0
North Dakota Certification #: R-150	

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40174174001	SB-15/GW(27-28FT)/081418	Water	08/14/18 11:50	08/16/18 08:55
40174174002	SB-15/GW(30-31FT)/081418	Water	08/14/18 12:40	08/16/18 08:55
40174174003	SB-15/GW(39-40FT)/081418	Water	08/14/18 14:40	08/16/18 08:55
40174174004	SB-15 (8-9FT)/081418	Solid	08/14/18 15:20	08/16/18 08:55
40174174005	SB-15 (19-20FT)/081418	Solid	08/14/18 15:25	08/16/18 08:55
40174174006	SB-15 (29-30FT)/081418	Solid	08/14/18 15:30	08/16/18 08:55
40174174007	SB-15 (37.7FT-38.5FT)/081418	Solid	08/14/18 15:35	08/16/18 08:55
40174174008	TB-001/081418	Water	08/14/18 00:00	08/16/18 08:55
40174174009	SB-15/GW(35-36FT)/081418	Water	08/14/18 13:15	08/16/18 08:55

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SAMPLE ANALYTE COUNT

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40174174001	SB-15/GW(27-28FT)/081418	EPA 8260	HNW	12	PASI-G
		EPA 8260B Mod.	DS2	2	PASI-M
40174174002	SB-15/GW(30-31FT)/081418	EPA 8260	HNW	12	PASI-G
		EPA 8260B Mod.	DS2	2	PASI-M
40174174003	SB-15/GW(39-40FT)/081418	EPA 8260	HNW	12	PASI-G
		EPA 8260B Mod.	DS2	2	PASI-M
40174174004	SB-15 (8-9FT)/081418	EPA 8260	SMT	13	PASI-G
		ASTM D2974-87	JXM	1	PASI-G
40174174005	SB-15 (19-20FT)/081418	EPA 8260	SMT	13	PASI-G
		ASTM D2974-87	JXM	1	PASI-G
40174174006	SB-15 (29-30FT)/081418	EPA 8260	SMT	13	PASI-G
		ASTM D2974-87	JXM	1	PASI-G
40174174007	SB-15 (37.7FT-38.5FT)/081418	EPA 8260	SMT	13	PASI-G
		ASTM D2974-87	JXM	1	PASI-G
40174174008	TB-001/081418	EPA 8260	HNW	12	PASI-G
40174174009	SB-15/GW(35-36FT)/081418	EPA 8260	HNW	12	PASI-G
		EPA 8260B Mod.	DS2	2	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Method: **EPA 8260**

Description: 8260 MSV Med Level Full List

Client: St. John-Mittelhauser & Associates

Date: August 24, 2018

General Information:

4 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.

Hold Time:

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

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B 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.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Method: **EPA 8260**
Description: 8260 MSV

Client: St. John-Mittelhauser & Associates
Date: August 24, 2018

General Information:

5 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.

- SB-15/GW(27-28FT)/081418 (Lab ID: 40174174001)
- SB-15/GW(30-31FT)/081418 (Lab ID: 40174174002)
- SB-15/GW(35-36FT)/081418 (Lab ID: 40174174009)
- SB-15/GW(39-40FT)/081418 (Lab ID: 40174174003)

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.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

Method: EPA 8260B Mod.

Description: 8260 MSV SIM

Client: St. John-Mittelhauser & Associates

Date: August 24, 2018

General Information:

4 samples were analyzed for EPA 8260B Mod.. 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.

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.

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Sample: SB-15/GW(27-28FT)/081418 Lab ID: 40174174001 Collected: 08/14/18 11:50 Received: 08/16/18 08:55 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		08/17/18 15:29	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		08/17/18 15:29	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		08/17/18 15:29	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		08/17/18 15:29	156-60-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		08/17/18 15:29	127-18-4	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		08/17/18 15:29	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		08/17/18 15:29	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		08/17/18 15:29	79-01-6	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		08/17/18 15:29	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		08/17/18 15:29	460-00-4	HS,pH
Dibromofluoromethane (S)	108	%	70-130		1		08/17/18 15:29	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		08/17/18 15:29	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (SIM)	<0.26	ug/L	3.0	0.26	1		08/21/18 20:37	123-91-1	
Surrogates									
Toluene-d8 (S)	107	%.	75-125		1		08/21/18 20:37	2037-26-5	HS

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Sample: SB-15/GW(30-31FT)/081418 Lab ID: 40174174002 Collected: 08/14/18 12:40 Received: 08/16/18 08:55 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		08/17/18 15:51	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		08/17/18 15:51	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		08/17/18 15:51	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		08/17/18 15:51	156-60-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		08/17/18 15:51	127-18-4	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		08/17/18 15:51	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		08/17/18 15:51	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		08/17/18 15:51	79-01-6	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		08/17/18 15:51	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		08/17/18 15:51	460-00-4	HS,pH
Dibromofluoromethane (S)	107	%	70-130		1		08/17/18 15:51	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		08/17/18 15:51	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (SIM)	<0.26	ug/L	3.0	0.26	1		08/21/18 20:55	123-91-1	
Surrogates									
Toluene-d8 (S)	108	%.	75-125		1		08/21/18 20:55	2037-26-5	HS

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Sample: SB-15/GW(39-40FT)/081418 Lab ID: 40174174003 Collected: 08/14/18 14:40 Received: 08/16/18 08:55 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		08/17/18 17:21	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		08/17/18 17:21	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		08/17/18 17:21	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		08/17/18 17:21	156-60-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		08/17/18 17:21	127-18-4	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		08/17/18 17:21	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		08/17/18 17:21	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		08/17/18 17:21	79-01-6	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		08/17/18 17:21	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		1		08/17/18 17:21	460-00-4	HS,pH
Dibromofluoromethane (S)	108	%	70-130		1		08/17/18 17:21	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		08/17/18 17:21	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (SIM)	<0.26	ug/L	3.0	0.26	1		08/21/18 21:14	123-91-1	
Surrogates									
Toluene-d8 (S)	109	%.	75-125		1		08/21/18 21:14	2037-26-5	HS

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

Sample: SB-15 (8-9FT)/081418 Lab ID: 40174174004 Collected: 08/14/18 15:20 Received: 08/16/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	75-34-3	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	156-60-5	W
1,4-Dioxane (p-Dioxane)	<3010	ug/kg	12500	3010	1	08/17/18 10:15	08/17/18 18:42	123-91-1	W
Tetrachloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	127-18-4	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	79-01-6	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 18:42	75-01-4	W
Surrogates									
Dibromofluoromethane (S)	84	%	57-148		1	08/17/18 10:15	08/17/18 18:42	1868-53-7	
Toluene-d8 (S)	84	%	58-142		1	08/17/18 10:15	08/17/18 18:42	2037-26-5	
4-Bromofluorobenzene (S)	79	%	48-130		1	08/17/18 10:15	08/17/18 18:42	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	19.2	%	0.10	0.10	1			08/17/18 15:36	

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

Sample: SB-15 (19-20FT)/081418 Lab ID: 40174174005 Collected: 08/14/18 15:25 Received: 08/16/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	75-34-3	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	156-60-5	W
1,4-Dioxane (p-Dioxane)	<3010	ug/kg	12500	3010	1	08/17/18 10:15	08/17/18 19:05	123-91-1	W
Tetrachloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	127-18-4	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	79-01-6	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:05	75-01-4	W
Surrogates									
Dibromofluoromethane (S)	86	%	57-148		1	08/17/18 10:15	08/17/18 19:05	1868-53-7	
Toluene-d8 (S)	88	%	58-142		1	08/17/18 10:15	08/17/18 19:05	2037-26-5	
4-Bromofluorobenzene (S)	80	%	48-130		1	08/17/18 10:15	08/17/18 19:05	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	12.5	%	0.10	0.10	1			08/17/18 15:36	

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

Sample: SB-15 (29-30FT)/081418 Lab ID: 40174174006 Collected: 08/14/18 15:30 Received: 08/16/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	75-34-3	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	156-60-5	W
1,4-Dioxane (p-Dioxane)	<3010	ug/kg	12500	3010	1	08/17/18 10:15	08/17/18 19:27	123-91-1	W
Tetrachloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	127-18-4	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	79-01-6	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:27	75-01-4	W
Surrogates									
Dibromofluoromethane (S)	89	%	57-148		1	08/17/18 10:15	08/17/18 19:27	1868-53-7	
Toluene-d8 (S)	90	%	58-142		1	08/17/18 10:15	08/17/18 19:27	2037-26-5	
4-Bromofluorobenzene (S)	81	%	48-130		1	08/17/18 10:15	08/17/18 19:27	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	18.5	%	0.10	0.10	1			08/17/18 15:36	

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Sample: SB-15 (37.7FT-
38.5FT)/081418 Lab ID: 40174174007 Collected: 08/14/18 15:35 Received: 08/16/18 08:55 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Full List	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	75-34-3	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	156-60-5	W
1,4-Dioxane (p-Dioxane)	<3010	ug/kg	12500	3010	1	08/17/18 10:15	08/17/18 19:50	123-91-1	W
Tetrachloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	127-18-4	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	79-01-6	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	08/17/18 10:15	08/17/18 19:50	75-01-4	W
Surrogates									
Dibromofluoromethane (S)	88	%	57-148		1	08/17/18 10:15	08/17/18 19:50	1868-53-7	
Toluene-d8 (S)	89	%	58-142		1	08/17/18 10:15	08/17/18 19:50	2037-26-5	
4-Bromofluorobenzene (S)	80	%	48-130		1	08/17/18 10:15	08/17/18 19:50	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	17.5	%	0.10	0.10	1			08/17/18 15:36	

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Sample: TB-001/081418 Lab ID: 40174174008 Collected: 08/14/18 00:00 Received: 08/16/18 08:55 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		08/17/18 10:11	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		08/17/18 10:11	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		08/17/18 10:11	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		08/17/18 10:11	156-60-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		08/17/18 10:11	127-18-4	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		08/17/18 10:11	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		08/17/18 10:11	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		08/17/18 10:11	79-01-6	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		08/17/18 10:11	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		08/17/18 10:11	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		1		08/17/18 10:11	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		08/17/18 10:11	2037-26-5	

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ANALYTICAL RESULTS

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Sample: SB-15/GW(35-36FT)/081418 Lab ID: 40174174009 Collected: 08/14/18 13:15 Received: 08/16/18 08:55 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		08/17/18 16:13	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		08/17/18 16:13	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		08/17/18 16:13	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		08/17/18 16:13	156-60-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		08/17/18 16:13	127-18-4	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		08/17/18 16:13	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		08/17/18 16:13	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		08/17/18 16:13	79-01-6	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		08/17/18 16:13	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		1		08/17/18 16:13	460-00-4	HS,pH
Dibromofluoromethane (S)	107	%	70-130		1		08/17/18 16:13	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		08/17/18 16:13	2037-26-5	
8260 MSV SIM	Analytical Method: EPA 8260B Mod.								
1,4-Dioxane (SIM)	<0.26	ug/L	3.0	0.26	1		08/21/18 21:33	123-91-1	
Surrogates									
Toluene-d8 (S)	96	%.	75-125		1		08/21/18 21:33	2037-26-5	HS

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

QC Batch:	297548	Analysis Method:	EPA 8260
QC Batch Method:	EPA 5035/5030B	Analysis Description:	8260 MSV Med Level Full List
Associated Lab Samples:	40174174004, 40174174005, 40174174006, 40174174007		

METHOD BLANK: 1737642 Matrix: Solid

Associated Lab Samples: 40174174004, 40174174005, 40174174006, 40174174007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	08/17/18 14:57	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	08/17/18 14:57	
1,1-Dichloroethane	ug/kg	<17.6	50.0	08/17/18 14:57	
1,1-Dichloroethene	ug/kg	<17.6	50.0	08/17/18 14:57	
1,4-Dioxane (p-Dioxane)	ug/kg	<3010	12500	08/17/18 14:57	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	08/17/18 14:57	
Tetrachloroethene	ug/kg	<12.9	50.0	08/17/18 14:57	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	08/17/18 14:57	
Trichloroethene	ug/kg	<23.6	50.0	08/17/18 14:57	
Vinyl chloride	ug/kg	<21.1	50.0	08/17/18 14:57	
4-Bromofluorobenzene (S)	%	89	48-130	08/17/18 14:57	
Dibromofluoromethane (S)	%	98	57-148	08/17/18 14:57	
Toluene-d8 (S)	%	97	58-142	08/17/18 14:57	

LABORATORY CONTROL SAMPLE: 1737643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2270	91	70-130	
1,1,2-Trichloroethane	ug/kg	2500	2330	93	70-130	
1,1-Dichloroethane	ug/kg	2500	2500	100	67-132	
1,1-Dichloroethene	ug/kg	2500	2200	88	67-128	
cis-1,2-Dichloroethene	ug/kg	2500	2310	92	70-130	
Tetrachloroethene	ug/kg	2500	2470	99	70-130	
trans-1,2-Dichloroethene	ug/kg	2500	2380	95	70-130	
Trichloroethene	ug/kg	2500	2520	101	70-130	
Vinyl chloride	ug/kg	2500	2050	82	52-122	
4-Bromofluorobenzene (S)	%			93	48-130	
Dibromofluoromethane (S)	%			95	57-148	
Toluene-d8 (S)	%			93	58-142	

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QUALITY CONTROL DATA

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

QC Batch:	297459	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV
Associated Lab Samples:	40174174001, 40174174002, 40174174003, 40174174008, 40174174009		

METHOD BLANK: 1737277 Matrix: Water

Associated Lab Samples: 40174174001, 40174174002, 40174174003, 40174174008, 40174174009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.24	1.0	08/17/18 08:42	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	08/17/18 08:42	
1,1-Dichloroethane	ug/L	<0.27	1.0	08/17/18 08:42	
1,1-Dichloroethene	ug/L	<0.24	1.0	08/17/18 08:42	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	08/17/18 08:42	
Tetrachloroethene	ug/L	<0.33	1.1	08/17/18 08:42	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	08/17/18 08:42	
Trichloroethene	ug/L	<0.26	1.0	08/17/18 08:42	
Vinyl chloride	ug/L	<0.17	1.0	08/17/18 08:42	
4-Bromofluorobenzene (S)	%	89	70-130	08/17/18 08:42	
Dibromofluoromethane (S)	%	106	70-130	08/17/18 08:42	
Toluene-d8 (S)	%	98	70-130	08/17/18 08:42	

LABORATORY CONTROL SAMPLE: 1737278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	53.9	108	70-133	
1,1,2-Trichloroethane	ug/L	50	53.6	107	70-130	
1,1-Dichloroethane	ug/L	50	54.2	108	70-134	
1,1-Dichloroethene	ug/L	50	51.7	103	75-132	
cis-1,2-Dichloroethene	ug/L	50	53.2	106	70-134	
Tetrachloroethene	ug/L	50	50.6	101	70-130	
trans-1,2-Dichloroethene	ug/L	50	52.6	105	70-133	
Trichloroethene	ug/L	50	55.0	110	70-130	
Vinyl chloride	ug/L	50	42.1	84	48-134	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			105	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1737391 1737392

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40174172004 Result	Spike Conc.	Spike Conc.	MS Result						
1,1,1-Trichloroethane	ug/L	<0.24	50	50	52.2	53.6	104	107	70-136	3	20
1,1,2-Trichloroethane	ug/L	<0.55	50	50	51.3	52.7	103	105	70-130	3	20
1,1-Dichloroethane	ug/L	<0.27	50	50	52.4	53.9	105	108	70-139	3	20
1,1-Dichloroethene	ug/L	<0.24	50	50	50.9	52.4	102	105	72-137	3	20
cis-1,2-Dichloroethene	ug/L	11.8	50	50	63.1	64.6	103	106	68-137	2	22

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QUALITY CONTROL DATA

Project: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1737391		1737392									
Parameter	Units	MS		MSD		MS	MSD	% Rec	MSD	% Rec	% Rec	Max	
		40174172004	Spike Conc.	Spike Conc.	Result						Limits	RPD	RPD
Tetrachloroethene	ug/L	<0.33	50	50	51.4	52.0	103	104	70-132	1	20		
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	51.7	53.7	102	106	70-136	4	20		
Trichloroethene	ug/L	<0.26	50	50	52.7	54.0	105	108	70-131	2	20		
Vinyl chloride	ug/L	1.4	50	50	41.2	42.1	80	81	46-134	2	20		
4-Bromofluorobenzene (S)	%						103	104	70-130				
Dibromofluoromethane (S)	%						103	104	70-130				
Toluene-d8 (S)	%						99	100	70-130				

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QUALITY CONTROL DATA

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

QC Batch: 558053 Analysis Method: EPA 8260B Mod.

QC Batch Method: EPA 8260B Mod. Analysis Description: 8260 MSV SIM

Associated Lab Samples: 40174174001, 40174174002, 40174174003, 40174174009

METHOD BLANK: 3029728 Matrix: Water

Associated Lab Samples: 40174174001, 40174174002, 40174174003, 40174174009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dioxane (SIM)	ug/L	<0.26	3.0	08/21/18 18:08	
Toluene-d8 (S)	%.	108	75-125	08/21/18 18:08	

LABORATORY CONTROL SAMPLE: 3029729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (SIM)	ug/L	20	24.0	120	75-125	
Toluene-d8 (S)	%.			109	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029769 3029770

Parameter	Units	92396367007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD RPD	Max Qual
1,4-Dioxane (SIM)	ug/L	ND	20	20	19.5	24.0	98	120	60-138	21	30
Toluene-d8 (S)	%.						104	112	75-125		

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QUALITY CONTROL DATA

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

QC Batch: 297564 Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 40174174004, 40174174005, 40174174006, 40174174007

SAMPLE DUPLICATE: 1737821

Parameter	Units	40174174007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.5	17.6	0	10	

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QUALIFIERS

Project: 15-15011 SUPERIOR HEALTH LINEN

Pace Project No.: 40174174

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 and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

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

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

W Non-detect results are reported on a wet weight basis.

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: 15-15011 SUPERIOR HEALTH LINEN
Pace Project No.: 40174174

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40174174004	SB-15 (8-9FT)/081418	EPA 5035/5030B	297548	EPA 8260	297555
40174174005	SB-15 (19-20FT)/081418	EPA 5035/5030B	297548	EPA 8260	297555
40174174006	SB-15 (29-30FT)/081418	EPA 5035/5030B	297548	EPA 8260	297555
40174174007	SB-15 (37.7FT-38.5FT)/081418	EPA 5035/5030B	297548	EPA 8260	297555
40174174001	SB-15/GW(27-28FT)/081418	EPA 8260	297459		
40174174002	SB-15/GW(30-31FT)/081418	EPA 8260	297459		
40174174003	SB-15/GW(39-40FT)/081418	EPA 8260	297459		
40174174008	TB-001/081418	EPA 8260	297459		
40174174009	SB-15/GW(35-36FT)/081418	EPA 8260	297459		
40174174001	SB-15/GW(27-28FT)/081418	EPA 8260B Mod.	558053		
40174174002	SB-15/GW(30-31FT)/081418	EPA 8260B Mod.	558053		
40174174003	SB-15/GW(39-40FT)/081418	EPA 8260B Mod.	558053		
40174174009	SB-15/GW(35-36FT)/081418	EPA 8260B Mod.	558053		
40174174004	SB-15 (8-9FT)/081418	ASTM D2974-87	297564		
40174174005	SB-15 (19-20FT)/081418	ASTM D2974-87	297564		
40174174006	SB-15 (29-30FT)/081418	ASTM D2974-87	297564		
40174174007	SB-15 (37.7FT-38.5FT)/081418	ASTM D2974-87	297564		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name:	St. John-Mittelhauser & Assoc.	
Branch/Location:	Downers Grove IL	
Project Contact:	Steve Swenson	
Phone:	630-427-8100	
Project Number:	15 - 15011	
Project Name:	Superior Health Liners	
Project State:	WI	
Sampled By (Print):	Matt Lyster	
Sampled By (Sign):		
PO #:		Regulatory Program:



CHAIN OF CUSTODY

***Preservation Codes**

A=None	B=HCl	C=H ₂ SO ₄	D=HNO ₃	E=DI Water	F=Methanol	G=NaOH
H=Sodium Bisulfate Solution			I=Sodium Thiosulfate	J=Other		

FILTERED?
(YES/NO)
PRESERVATION
(CODE)*

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Relinquished By:  Date/Time: 8/15/18 1250
Relinquished By:  Date/Time: 8/15/18 1700

Received By: Kathmandu Date/Time: 8/15/18 1250
Received By: Logistics Date/Time: 8/15/18

PACE Project No.

Y0174174

Receipt Temp = 76 °C

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Relinquished By: CS Logistics Date/Time: 8/15/18 0855
Relinquished By: _____ Date/Time: _____

Received By: J. S. Price Date/Time: 8/16/18 0855
Received By: _____ Date/Time: _____

Sample Receipt pH
OK / Adjusted

Samples on HOLD are subject to special retains and release of liability.

Relinquished By: _____ **Date/Time:** _____

Received By: _____ Date/Time: _____

Present / Not Present

Intact / Not Intact

ORIGINAL

**St. John-Mittelhauser & Associates
Superior Health Linens COC Analytical list
PO 15-15011**

Soils Analysis

- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
- 1,1-Dichloroethane
- 1,1-Dichloroethene
- Cis-1,2-Dichloroethene
- Trans-1,2-Dichloroethene
- Tetrachloroethene
- Trichloroethene
- Vinyl Chloride
- 1, 4 Dioxin (8260 SIM) *Low limit*

Groundwater Analysis

- 1,1,1-Trichloroethane
- 1,1,2-Trichloroethane
- 1,1-Dichloroethane
- 1,1-Dichloroethene
- Cis-1,2-Dichloroethene
- Trans-1,2-Dichloroethene
- Tetrachloroethene
- Trichloroethene
- Vinyl Chloride
- 1, 4 Dioxin (8260 SIM)

Sample Preservation Receipt Form

Client Name: SMA

Project # Y0171174

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																	1											2.5 / 5 / 10	
005																	1											2.5 / 5 / 10	
006																	1											2.5 / 5 / 10	
007																	1											2.5 / 5 / 10	
008																2												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:	

Document Name:
Sample Condition Upon Receipt (SCUR)

Document Revised: 25Apr2018

Document No.:
F-GB-C-031-Rev.07Issuing Authority:
Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #:

Client Name: St Johnnitter, Hauser & Assoc. (SMA)

WO# : 40174174

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

40174174

Tracking #:

Custody Seal on Cooler/Box Present: yes no Seals intact: yes noCustody Seal on Samples Present: yes no Seals intact: yes noPacking Material: Bubble Wrap Bubble Bags None OtherThermometer Used SR - N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begunCooler Temperature Uncorr: 20 /Corr:Temp Blank Present: yes noBiological Tissue is Frozen: yes no

Person examining contents:

Date: 8/16/18Initials: JM

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. no mailing label JM 8/16/18
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: - VOA Samples frozen upon receipt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. 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: 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	8.	
Correct Containers Used: -Pace Containers Used: -Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. + Non-Pace JM 8/16/18
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. ① All V69M-label covering mass JM 8/16/18
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	395	

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted:

Date/Time:

Comments/ Resolution: ① lab added sample point 009 to COC - Received w/ shipment
- client returned 4 w/pts, 3 ESC HCl vials, 4 - MeOH vials JM 8/16/18
JM 8/16/18

Project Manager Review:

LW

Date: 8/14/18