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March 12, 2020

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Ms. Demaree Collier
Remedial Project Manager
USEPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Subject: Transmittal of Data – Plume Monitoring, and Background Wells
Lemberger Landfill Sites – Fourth Quarter 2019

Dear Ms. Collier:

On behalf of the Lemberger Site Remediation Group (LSRG), and in accordance with the Environmental Monitoring Plan (EMP), Revision 4 (February 2014), and the subsequent monitoring program revisions as approved by the United States Environmental Protection Agency (USEPA) and the Wisconsin Department of Natural Resources (WDNR), TRC Environmental Corporation (TRC) is submitting the following data:

- Attachment 1: Data Validation Comments and Qualified Form 1s For All Wells
- Attachment 2: Table of Wisconsin Administrative Code Chapter NR 140 Groundwater Quality Standards (Enforcement Standards [ESs], Preventive Action Limits [PALs], Maximum Contaminant Levels [MCLs], and Secondary Maximum Contaminant Levels [SMCLs]) for the Pertinent Parameters
- Attachment 3: Tabular Summary of Analytical Results at Each Monitoring Well
- Attachment 4: Laboratory Data Qualifiers for Monitoring Wells
- Attachment 5: Tabular Summary of Groundwater Standard Exceedances at Plume Monitoring Wells

A CD containing field and laboratory data in an approved WDNR format has been attached to the copies provided to the WDNR and the USEPA, for their use. Groundwater samples were collected during December 2019, in accordance with a March 2016 revision to the post-MNA study program.

Please call if you have questions.

Sincerely,

TRC

Kristopher D. Krause, P.E.
Senior Project Manager

Meredith Westover, P.G.
Senior Hydrogeologist

Attachments

cc: Tauren Beggs – WDNR
Brian Potts – Perkins Coie, LLP
Kristin Jones – Newell Rubbermaid
Nilaksh Kothari – Manitowoc Public Utilities
Scott Karbon – Manitowoc Public Utilities
James Wallner – Red Arrow Products
James Cook – Manitowoc Cranes
Kathleen McDaniel – City of Manitowoc
David Dougherty – Subterranean Research, Inc.
John Lang – EHS Support, LLC
Tom Sullivan – EHS Support, LLC
GEMS Data Submittal Contact (w/diskette)

Attachment 1

Data Validation Comments and Qualified Form 1s For All Wells

Memorandum

To: Meredith Westover

From: Kristen Morin (Data Reviewer)
Elizabeth Denly (Peer Reviewer)

Date: February 25, 2020

Subject: Data Validation Report
VOC Groundwater Samples: 4th Quarter 2019
Lemberger Landfill and Lemberger Transport and Recycling/Franklin, Wisconsin
Laboratory Project Number 40200721

SUMMARY

Full validation (level IV) was performed on the data for eight groundwater samples, one field blank, and one trip blank collected at the Lemberger Landfill and Lemberger Transport and Recycling Site in Franklin, Wisconsin. The samples were collected on December 6 and 8, 2019. Samples were submitted to Pace Analytical Services, LLC in Green Bay, Wisconsin for analysis. The samples were analyzed for volatile organic compounds (VOCs) using SW-846 Method 8260B. The laboratory reported the results under laboratory project number 40200721.

The sample results were assessed using the *USEPA National Functional Guidelines for Organic Superfund Methods Data Review (EPA-540-R-2017-002),* January 2017 and the project-specific quality assurance project plan (QAPP), dated September 2011, Revision 1.

In general, the data are valid as reported and may be used for decision-making purposes. The following issues were noted which have a minor impact on the data usability:

- Select results were reported which were below the lowest calibration standard and quantitation limit (QL); these results were qualified as estimated (J).
- Potential uncertainty exists for the nondetect results for acetone and/or chloromethane in all samples due to continuing calibration nonconformances. These results were qualified as estimated (UJ).

SAMPLES

Samples included in this review are listed below:

- RM-002D
- RM-210D
- RM-404XXD
- TB-001
- RM-003D
- RM-401XXD
- FDUP-001[1]
- RM-003XXD
- RM-403XD
- FB-001

[1] Field duplicate of RM-003XXD

REVIEW ELEMENTS

Sample data were reviewed for the following parameters:

- Agreement of analyses conducted with chain-of-custody (COC) requests
- Data completeness
- Holding times and sample preservation
- Gas chromatography/mass spectrometry (GC/MS) tunes
- Initial and continuing calibrations
- Blanks
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) results
- Laboratory control sample (LCS) results
- Internal standard performance
- Field duplicate results
- Quantitation limits and sample results
- Target compound identification

DISCUSSION

Agreement of Analyses Conducted with Chain-of-Custody Requests

Sample reports were checked to verify that the results corresponded to analytical requests as designated on the COC. No issues were noted.

Data Completeness

The data package was found to be complete as received from the laboratory with the following exceptions.

- The laboratory only spiked a subset of the VOCs which were reported in the samples in the LCS and MS/MSDs. Thus, accuracy and/or precision could not be evaluated for select VOCs.
- The laboratory did not provide daily LCS results for the analyses of all VOCs in samples RM-002D, RM-210D, FB-001, and TB-001.
- The laboratory did not summarize the daily method blank analyzed on 12/17/2019 on a Form. The raw data for this method blank were evaluated during validation.

No validation actions were taken on the basis of these issues.

Holding Times and Sample Preservation

All samples were analyzed within the method-specified holding time. All samples were received by the laboratory on ice and were properly preserved.

The laboratory noted that one of the two vials for sample TB-001, and one of the three vials for sample RM-003D were received with headspace; the laboratory was contacted during validation

and confirmed that vials received with headspace were not used for analysis. Therefore, no validation actions were required on the basis of this issue.

Note that samples were collected on 12/6/2019 and 12/8/2019 but were not received by the laboratory until 12/13/2019. Samples were stored in coolers, on ice, in a locked former treatment building at the site until delivery to the laboratory. No validation actions were required on this basis since the samples were kept on ice prior to delivery to the laboratory and were received on ice and at acceptable cooler temperatures by the laboratory.

GC/MS Tunes

The frequency and abundance of all bromofluorobenzene tunes were within the acceptance criteria.

Initial and Continuing Calibrations

The percent relative standard deviations, coefficients of determination, and relative response factors (RRFs) for all target compounds were within the laboratory acceptance criteria in the initial calibration.

All RRFs were within the acceptance criteria in the continuing calibrations (CCs). The following table summarizes the percent differences or percent drifts (%Ds) which were outside of the laboratory acceptance criteria in the CCs and the associated samples.

CC	Compound	%D	Associated Samples	Validation Actions
40MSV8 12/16/19 @12:48	Acetone	-33.2301	RM-003D, RM-003XXD, RM-401XXD, RM-403XD, RM-404XXD, FDUP-001	The nondetect results for the listed VOCs were qualified as estimated (UJ) in the associated samples.
	Chloromethane	-20.3801		
40MSV8 12/17/19 @09:28	Acetone	-30.4545	RM-002D, RM-210D, FB-001, TB-001	

Blanks

Target analytes were not detected in the trip blank. The following table summarizes the concentrations of the compounds that were detected in one of the method blanks and the field blank, the associated samples, and the resulting validation actions.

Compound	Blank Concentration (µg/L)	QL (µg/L)	Blank ID: Associated Samples	Validation Actions
Methylene chloride	0.61	5.0	Method blank 12/17/2019 @ 10:16: RM-002D, RM-210D, FB-001, TB-001	No qualification was required since methylene chloride was not detected in the associated samples.
Toluene	2.1 J	5.0	FB-001: RM-002D, RM-003D, RM-003XXD, RM-210D, RM-401XXD, RM-403XD, RM-404XXD, FDUP-001	No qualification was required since toluene and ethylbenzene were not detected in the associated samples.
Ethylbenzene	0.22 J	1.0		

Surrogate Spike Recoveries

The percent recoveries (%Rs) of the surrogates were within the laboratory acceptance criteria for all samples.

MS/MSD Results

MS/MSD analyses were performed on sample RM-003D. The %Rs and relative percent difference (RPD) criteria were met.

Note that the laboratory only spiked a subset of the VOCs which were reported in the samples in the MS/MSDs. Thus, accuracy and precision could not be evaluated for the following VOCs (which were not spiked) in groundwater sample RM-003D: 2-butanone, 2-hexanone, 4-methyl-2-pentanone, and acetone. No validation action was taken on this basis.

LCS Results

An LCS was performed each day prior to sample analysis with the following exception. The laboratory did not provide daily LCS results for samples RM-002D, RM-210D, FB-001, and TB-001; the laboratory reported a batch LCS that was analyzed >12 hours prior to these samples. The results for VOCs in the batch LCS associated with these samples were used to evaluate the results. No validation action was taken on this basis. All %R criteria were met.

Note that the laboratory only spiked a subset of the VOCs that were reported in the samples in the LCS. Thus, accuracy could not be evaluated for the following VOCs (which were not spiked) in the LCS: 2-butanone, 2-hexanone, 4-methyl-2-pentanone, and acetone. No validation action was taken on this basis.

Internal Standard Performance

Internal standards were within the method acceptance criteria in all sample analyses.

Field Duplicate Results

Samples RM-003XXD and FDUP-001 were submitted as the field duplicate pair with this data set. The following table summarizes the RPDs of the detected VOC results; all criteria were met.

Compound	QL (µg/L)	RM-003XXD (µg/L)	FDUP-001 (µg/L)	RPD (%)	Validation Action
1,1,1-Trichloroethane	1.0	2.8	2.4	15.4	None; all criteria were met.
1,1-Dichloroethane	1.0	0.81 J	0.66 J	20.4	
cis-1,2-Dichloroethene	1.0	0.65 J	0.45 J	36.4	
Trichloroethene	1.0	0.62 J	0.66 J	6.3	

Criteria:

- When both results are > 5x the QL, RPDs must be ≤ 35%.
- When one or both results are < 5x the QL, absolute difference must be < the QL.

Quantitation Limits and Sample Results

Sample calculations were spot-checked; there were no errors noted. There were no dilutions performed on the samples in this data set.

Select results were reported which were below the lowest calibration standard level and QL (or limit of quantitation [LOQ]). These results were qualified as estimated (J) by the laboratory.

The laboratory's limit of detection (LOD) for select VOCs was above one or both of the project action limits specified in the QAPP; the affected VOCs, project action limits, and current laboratory LODs are summarized in the table below.

Compound	Affected Samples	WAC Chapter NR 140 PAL (µg/L)	WAC Chapter NR 140 ES (µg/L)	Laboratory LOD (µg/L)
1,1,2,2-Tetrachloroethane	All samples in this data set	0.02	0.2	0.28
1,1,2-Trichloroethane		0.5	5*	0.55
Bromodichloromethane		0.06	0.6*	0.36
Bromoform		0.44	4.4*	4
Chloroform		0.6	6*	1.3
cis-1,3-Dichloropropene		0.02	0.2	3.6
Methylene chloride		0.5	5*	0.58
trans-1,3-Dichloropropene		0.02	0.2	4.4
Vinyl chloride		0.02	0.2*	0.17
* Laboratory LOD is below action limit				

Target Compound Identification

All criteria were met.

QUALIFIED FORM 1s

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: RM-003D **Lab ID: 40200721001** Collected: 12/06/19 09:36 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**28.8**	ug/L	1.0	0.24	1		12/16/19 15:51	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 15:51	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/16/19 15:51	79-00-5	
1,1-Dichloroethane	**16.9**	ug/L	1.0	0.27	1		12/16/19 15:51	75-34-3	
1,1-Dichloroethene	**3.8**	ug/L	1.0	0.24	1		12/16/19 15:51	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 15:51	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 15:51	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/16/19 15:51	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/16/19 15:51	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/16/19 15:51	108-10-1	
Acetone	**<2.7**	UJ ug/L	20.0	2.7	1		12/16/19 15:51	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/16/19 15:51	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/16/19 15:51	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/16/19 15:51	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/16/19 15:51	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/16/19 15:51	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 15:51	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/16/19 15:51	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/16/19 15:51	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/16/19 15:51	67-66-3	
Chloromethane	**<2.2**	UJ ug/L	7.3	2.2	1		12/16/19 15:51	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/16/19 15:51	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/16/19 15:51	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/16/19 15:51	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/16/19 15:51	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/16/19 15:51	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/16/19 15:51	108-88-3	
Trichloroethene	**4.2**	ug/L	1.0	0.26	1		12/16/19 15:51	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 15:51	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/16/19 15:51	1330-20-7	
cis-1,2-Dichloroethene	**6.2**	ug/L	1.0	0.27	1		12/16/19 15:51	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/16/19 15:51	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/16/19 15:51	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/16/19 15:51	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		12/16/19 15:51	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		12/16/19 15:51	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		12/16/19 15:51	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: RM-003XXD Lab ID: **40200721002** Collected: 12/06/19 10:52 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**2.8**	ug/L	1.0	0.24	1		12/16/19 16:14	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 16:14	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/16/19 16:14	79-00-5	
1,1-Dichloroethane	**0.81J**	ug/L	1.0	0.27	1		12/16/19 16:14	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/16/19 16:14	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 16:14	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 16:14	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/16/19 16:14	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/16/19 16:14	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/16/19 16:14	108-10-1	
Acetone	**<2.7** UJ	ug/L	20.0	2.7	1		12/16/19 16:14	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/16/19 16:14	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/16/19 16:14	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/16/19 16:14	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/16/19 16:14	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/16/19 16:14	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 16:14	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/16/19 16:14	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/16/19 16:14	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/16/19 16:14	67-66-3	
Chloromethane	**<2.2** UJ	ug/L	7.3	2.2	1		12/16/19 16:14	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/16/19 16:14	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/16/19 16:14	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/16/19 16:14	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/16/19 16:14	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/16/19 16:14	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/16/19 16:14	108-88-3	
Trichloroethene	**0.62J**	ug/L	1.0	0.26	1		12/16/19 16:14	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 16:14	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/16/19 16:14	1330-20-7	
cis-1,2-Dichloroethene	**0.65J**	ug/L	1.0	0.27	1		12/16/19 16:14	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/16/19 16:14	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/16/19 16:14	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/16/19 16:14	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		12/16/19 16:14	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		12/16/19 16:14	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		12/16/19 16:14	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: RM-404XXD **Lab ID: 40200721003** Collected: 12/06/19 13:06 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**1.0J**	ug/L	1.0	0.24	1		12/16/19 16:38	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 16:38	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/16/19 16:38	79-00-5	
1,1-Dichloroethane	**0.50J**	ug/L	1.0	0.27	1		12/16/19 16:38	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/16/19 16:38	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 16:38	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 16:38	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/16/19 16:38	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/16/19 16:38	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/16/19 16:38	108-10-1	
Acetone	**<2.7** UJ	ug/L	20.0	2.7	1		12/16/19 16:38	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/16/19 16:38	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/16/19 16:38	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/16/19 16:38	75-25-2	
Bromomethane	**1.0J**	ug/L	5.0	0.97	1		12/16/19 16:38	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/16/19 16:38	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 16:38	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/16/19 16:38	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/16/19 16:38	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/16/19 16:38	67-66-3	
Chloromethane	**<2.2** UJ	ug/L	7.3	2.2	1		12/16/19 16:38	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/16/19 16:38	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/16/19 16:38	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/16/19 16:38	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/16/19 16:38	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/16/19 16:38	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/16/19 16:38	108-88-3	
Trichloroethene	**0.43J**	ug/L	1.0	0.26	1		12/16/19 16:38	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 16:38	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/16/19 16:38	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		12/16/19 16:38	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/16/19 16:38	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/16/19 16:38	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/16/19 16:38	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		12/16/19 16:38	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		12/16/19 16:38	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		12/16/19 16:38	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: RM-403XD **Lab ID: 40200721004** Collected: 12/06/19 14:50 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**49.3**	ug/L	1.0	0.24	1		12/16/19 17:02	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:02	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/16/19 17:02	79-00-5	
1,1-Dichloroethane	**27.9**	ug/L	1.0	0.27	1		12/16/19 17:02	75-34-3	
1,1-Dichloroethene	**3.2**	ug/L	1.0	0.24	1		12/16/19 17:02	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:02	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:02	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/16/19 17:02	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/16/19 17:02	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/16/19 17:02	108-10-1	
Acetone	**<2.7** U3	ug/L	20.0	2.7	1		12/16/19 17:02	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/16/19 17:02	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/16/19 17:02	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/16/19 17:02	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/16/19 17:02	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/16/19 17:02	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 17:02	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/16/19 17:02	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/16/19 17:02	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/16/19 17:02	67-66-3	
Chloromethane	**<2.2** U3	ug/L	7.3	2.2	1		12/16/19 17:02	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/16/19 17:02	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/16/19 17:02	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/16/19 17:02	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/16/19 17:02	100-42-5	
Tetrachloroethene	**0.46J**	ug/L	1.1	0.33	1		12/16/19 17:02	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/16/19 17:02	108-88-3	
Trichloroethene	**5.2**	ug/L	1.0	0.26	1		12/16/19 17:02	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 17:02	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/16/19 17:02	1330-20-7	
cis-1,2-Dichloroethene	**3.6**	ug/L	1.0	0.27	1		12/16/19 17:02	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/16/19 17:02	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/16/19 17:02	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/16/19 17:02	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		12/16/19 17:02	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		12/16/19 17:02	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		12/16/19 17:02	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: FDUP-001 **Lab ID: 40200721005** Collected: 12/06/19 00:00 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**2.4**	ug/L	1.0	0.24	1		12/16/19 17:25	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:25	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/16/19 17:25	79-00-5	
1,1-Dichloroethane	**0.66J**	ug/L	1.0	0.27	1		12/16/19 17:25	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/16/19 17:25	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:25	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:25	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/16/19 17:25	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/16/19 17:25	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/16/19 17:25	108-10-1	
Acetone	**<2.7** UJ	ug/L	20.0	2.7	1		12/16/19 17:25	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/16/19 17:25	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/16/19 17:25	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/16/19 17:25	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/16/19 17:25	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/16/19 17:25	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 17:25	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/16/19 17:25	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/16/19 17:25	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/16/19 17:25	67-66-3	
Chloromethane	**<2.2** UJ	ug/L	7.3	2.2	1		12/16/19 17:25	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/16/19 17:25	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/16/19 17:25	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/16/19 17:25	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/16/19 17:25	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/16/19 17:25	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/16/19 17:25	108-88-3	
Trichloroethene	**0.66J**	ug/L	1.0	0.26	1		12/16/19 17:25	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 17:25	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/16/19 17:25	1330-20-7	
cis-1,2-Dichloroethene	**0.45J**	ug/L	1.0	0.27	1		12/16/19 17:25	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/16/19 17:25	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/16/19 17:25	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/16/19 17:25	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		12/16/19 17:25	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		12/16/19 17:25	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		12/16/19 17:25	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: RM-401XXD Lab ID: **40200721006** Collected: 12/08/19 08:53 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**1.6**	ug/L	1.0	0.24	1		12/16/19 17:49	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:49	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/16/19 17:49	79-00-5	
1,1-Dichloroethane	**1.1**	ug/L	1.0	0.27	1		12/16/19 17:49	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/16/19 17:49	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:49	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/16/19 17:49	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/16/19 17:49	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/16/19 17:49	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/16/19 17:49	108-10-1	
Acetone	**<2.7**	ug/L	20.0	2.7	1		12/16/19 17:49	67-64-1	U3
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/16/19 17:49	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/16/19 17:49	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/16/19 17:49	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/16/19 17:49	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/16/19 17:49	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 17:49	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/16/19 17:49	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/16/19 17:49	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/16/19 17:49	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/16/19 17:49	74-87-3	U3
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/16/19 17:49	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/16/19 17:49	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/16/19 17:49	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/16/19 17:49	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/16/19 17:49	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/16/19 17:49	108-88-3	
Trichloroethene	**0.38J**	ug/L	1.0	0.26	1		12/16/19 17:49	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/16/19 17:49	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/16/19 17:49	1330-20-7	
cis-1,2-Dichloroethene	**1.2**	ug/L	1.0	0.27	1		12/16/19 17:49	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/16/19 17:49	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/16/19 17:49	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/16/19 17:49	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		12/16/19 17:49	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		12/16/19 17:49	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		12/16/19 17:49	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: RM-210D **Lab ID: 40200721007** Collected: 12/08/19 12:12 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**8.7**	ug/L	1.0	0.24	1		12/17/19 10:40	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 10:40	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/17/19 10:40	79-00-5	
1,1-Dichloroethane	**5.5**	ug/L	1.0	0.27	1		12/17/19 10:40	75-34-3	
1,1-Dichloroethene	**1.8**	ug/L	1.0	0.24	1		12/17/19 10:40	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 10:40	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 10:40	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/17/19 10:40	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/17/19 10:40	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/17/19 10:40	108-10-1	
Acetone	**<2.7**	ug/L	20.0	2.7	1		12/17/19 10:40	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/17/19 10:40	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/17/19 10:40	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/17/19 10:40	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/17/19 10:40	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/17/19 10:40	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 10:40	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/17/19 10:40	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/17/19 10:40	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/17/19 10:40	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/17/19 10:40	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/17/19 10:40	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/17/19 10:40	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/17/19 10:40	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/17/19 10:40	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/17/19 10:40	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/17/19 10:40	108-88-3	
Trichloroethene	**1.6**	ug/L	1.0	0.26	1		12/17/19 10:40	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 10:40	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/17/19 10:40	1330-20-7	
cis-1,2-Dichloroethene	**2.6**	ug/L	1.0	0.27	1		12/17/19 10:40	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/17/19 10:40	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/17/19 10:40	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/17/19 10:40	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		12/17/19 10:40	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		12/17/19 10:40	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		12/17/19 10:40	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: RM-002D **Lab ID: 40200721008** Collected: 12/08/19 14:19 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**6.0**	ug/L	1.0	0.24	1		12/17/19 11:03	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:03	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/17/19 11:03	79-00-5	
1,1-Dichloroethane	**6.5**	ug/L	1.0	0.27	1		12/17/19 11:03	75-34-3	
1,1-Dichloroethene	**1.4**	ug/L	1.0	0.24	1		12/17/19 11:03	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:03	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:03	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/17/19 11:03	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/17/19 11:03	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/17/19 11:03	108-10-1	
Acetone	**<2.7** U3	ug/L	20.0	2.7	1		12/17/19 11:03	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/17/19 11:03	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/17/19 11:03	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/17/19 11:03	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/17/19 11:03	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/17/19 11:03	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 11:03	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/17/19 11:03	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/17/19 11:03	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/17/19 11:03	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/17/19 11:03	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/17/19 11:03	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/17/19 11:03	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/17/19 11:03	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/17/19 11:03	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/17/19 11:03	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/17/19 11:03	108-88-3	
Trichloroethene	**1.6**	ug/L	1.0	0.26	1		12/17/19 11:03	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 11:03	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/17/19 11:03	1330-20-7	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	0.27	1		12/17/19 11:03	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/17/19 11:03	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/17/19 11:03	156-60-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		12/17/19 11:03	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		12/17/19 11:03	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		12/17/19 11:03	1868-53-7	
Toluene-d8 (S)	91	%	70-130		1		12/17/19 11:03	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: FB-001 **Lab ID: 40200721009** Collected: 12/08/19 15:30 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/17/19 11:27	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:27	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/17/19 11:27	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		12/17/19 11:27	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/17/19 11:27	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:27	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:27	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/17/19 11:27	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/17/19 11:27	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/17/19 11:27	108-10-1	
Acetone	**<2.7** U3	ug/L	20.0	2.7	1		12/17/19 11:27	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/17/19 11:27	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/17/19 11:27	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/17/19 11:27	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/17/19 11:27	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/17/19 11:27	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 11:27	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/17/19 11:27	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/17/19 11:27	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/17/19 11:27	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/17/19 11:27	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/17/19 11:27	124-48-1	
Ethylbenzene	**0.22J**	ug/L	1.0	0.22	1		12/17/19 11:27	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/17/19 11:27	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/17/19 11:27	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/17/19 11:27	127-18-4	
Toluene	**2.1J**	ug/L	5.0	0.17	1		12/17/19 11:27	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/17/19 11:27	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 11:27	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/17/19 11:27	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		12/17/19 11:27	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/17/19 11:27	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/17/19 11:27	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/17/19 11:27	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		12/17/19 11:27	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		12/17/19 11:27	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		12/17/19 11:27	2037-26-5	

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ANALYTICAL RESULTS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

Sample: TB-001 **Lab ID: 40200721010** Collected: 12/08/19 00:00 Received: 12/13/19 06:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/17/19 11:50	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:50	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/17/19 11:50	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		12/17/19 11:50	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/17/19 11:50	75-35-4	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:50	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/17/19 11:50	78-87-5	
2-Butanone (MEK)	**<2.9**	ug/L	20.0	2.9	1		12/17/19 11:50	78-93-3	
2-Hexanone	**<2.5**	ug/L	8.2	2.5	1		12/17/19 11:50	591-78-6	
4-Methyl-2-pentanone (MIBK)	**<1.5**	ug/L	5.1	1.5	1		12/17/19 11:50	108-10-1	
Acetone	**<2.7** U5	ug/L	20.0	2.7	1		12/17/19 11:50	67-64-1	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/17/19 11:50	71-43-2	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/17/19 11:50	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/17/19 11:50	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/17/19 11:50	74-83-9	
Carbon disulfide	**<0.37**	ug/L	5.0	0.37	1		12/17/19 11:50	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 11:50	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/17/19 11:50	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/17/19 11:50	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/17/19 11:50	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/17/19 11:50	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/17/19 11:50	124-48-1	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/17/19 11:50	100-41-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/17/19 11:50	75-09-2	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/17/19 11:50	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/17/19 11:50	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/17/19 11:50	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/17/19 11:50	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/17/19 11:50	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/17/19 11:50	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		12/17/19 11:50	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/17/19 11:50	10061-01-5	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/17/19 11:50	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/17/19 11:50	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		12/17/19 11:50	460-00-4	
Dibromofluoromethane (S)	116	%	70-130		1		12/17/19 11:50	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		12/17/19 11:50	2037-26-5	

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Attachment 2

Table of Wisconsin Administrative Code Chapter NR 140 Groundwater Quality Standards (Enforcement Standards [ESs], Preventive Action Limits [PALs], Maximum Contaminant Levels [MCLs], and Secondary Maximum Contaminant Levels [SMCLs]) for the Pertinent Parameters

Attachment 2
Groundwater Quality Standards

Parameter Name	Units	MCL	SMCL	NR PAL	NR ES
1,1,1,2-Tetrachloroethane	µg/L			7	70
1,1,1-Trichloroethane	µg/L	200		40	200
1,1,2-Trichloroethane	µg/L	5		0.5	5
1,1-Dichloroethene	µg/L	7		0.7	7
1,2,3-Trichloropropane	µg/L			12	60
1,2,4-Trichlorobenzene	µg/L	70		14	70
1,2-Dichlorobenzene	µg/L	600		60	600
1,2-Dichloroethane	µg/L	5		0.5	5
1,2-Dichloropropane	µg/L	5		0.5	5
1,4-Dichlorobenzene	µg/L	75		15	75
2,3,7,8-TCDD	ng/L	0.03		0.003	0.03
Alpha-chlordane	µg/L	2		0.2	2
Anthracene	µg/L			600	3000
Antimony, dissolved	µg/L	6		1.2	6
Antimony, total	µg/L	6		1.2	6
Aroclor-1016	µg/L	0.5		0.003	0.03
Aroclor-1221	µg/L	0.5		0.003	0.03
Aroclor-1232	µg/L	0.5		0.003	0.03
Aroclor-1242	µg/L	0.5		0.003	0.03
Aroclor-1248	µg/L	0.5		0.003	0.03
Aroclor-1254	µg/L	0.5		0.003	0.03
Aroclor-1260	µg/L	0.5		0.003	0.03
Arsenic, dissolved	µg/L	10		1	10
Arsenic, total	µg/L	10		1	10
Barium, dissolved	µg/L	2000		400	2000
Barium, total	µg/L	2000		400	2000
Bentazon	µg/L			60	300
Benzene	µg/L	5		0.5	5
Benzo(a)pyrene	µg/L	0.2		0.02	0.2
Benzo(b)fluoranthene	µg/L			0.02	0.2
Beryllium, dissolved	µg/L	4		0.4	4
Beryllium, total	µg/L	4		0.4	4
bis(2-ethylhexyl)Phthalate	µg/L	6		0.6	6
Cadmium, dissolved	µg/L	5		0.5	5
Cadmium, total	µg/L	5		0.5	5

Attachment 2 (continued)
Groundwater Quality Standards

Parameter Name	Units	MCL	SMCL	NR PAL	NR ES
Carbon disulfide	µg/L			200	1000
Carbon tetrachloride	µg/L	5		0.5	5
Chlordane, technical	µg/L	2		0.2	2
Chloride	mg/L		250	125	250
Chlorobenzene	µg/L	100		20	100
Chromium, dissolved	µg/L	100		10	100
Chromium, total	µg/L	100		10	100
Chrysene	µg/L			0.02	0.2
cis-1,2-Dichloroethene	µg/L	70		7	70
Cobalt, dissolved	µg/L			8	40
Cobalt, total	µg/L			8	40
Copper, dissolved	µg/L	1300	1000	130	1300
Copper, total	µg/L	1300	1000	130	1300
Cyanazine	µg/L			0.1	1
Cyanide, total	mg/L	0.2		0.04	0.2
Di-n-butylphthalate	µg/L			100	1000
Endrin	µg/L	2		0.4	2
Ethylbenzene	µg/L	700		140	700
Fluoranthene	µg/L			80	400
Gamma-BHC (lindane)	µg/L	0.2		0.02	0.2
Gamma-chlordane	µg/L	2		0.2	2
Heptachlor	µg/L	0.4		0.04	0.4
Heptachlor epoxide	µg/L	0.2		0.02	0.2
Hexachlorobenzene	µg/L	1		0.1	1
Hydrogen sulfide	µg/L			6	30
Iron, dissolved	µg/L		300	150	300
Iron, total	µg/L		300	150	300
Lead, dissolved	µg/L	15		1.5	15
Lead, total	µg/L	15		1.5	15
Manganese, dissolved	µg/L		50	60	300
Manganese, total	µg/L		50	60	300
Mercury, dissolved	µg/L	2		0.2	2
Mercury, total	µg/L	2		0.2	2
Methanol	µg/L			1000	5000
Methoxychlor	µg/L	40		4	40
Methylene chloride	µg/L	5		0.5	5

Attachment 2 (continued)
Groundwater Quality Standards

Parameter Name	Units	MCL	SMCL	NR PAL	NR ES
N-hexane	µg/L			120	600
Nickel, dissolved	µg/L	100		20	100
Nickel, total	µg/L	100		20	100
Nitrogen, ammonia	mg/L			0.97	9.7
N-nitrosodiphenylamine	µg/L			0.7	7
Pentachlorophenol	µg/L	1		0.1	1
Prometon	µg/L			20	100
Pyrene	µg/L			50	250
Pyridine	µg/L			2	10
Selenium, dissolved	µg/L	50		10	50
Selenium, total	µg/L	50		10	50
Silver, dissolved	µg/L		100	10	50
Silver, total	µg/L		100	10	50
Styrene	µg/L	100		10	100
Tetrachloroethene	µg/L	5		0.5	5
Thallium, dissolved	µg/L	2		0.4	2
Thallium, total	µg/L	2		0.4	2
Toluene	µg/L	1000		160	800
Toxaphene	µg/L	3		0.3	3
trans-1,2-Dichloroethene	µg/L	100		20	100
Trichloroethene	µg/L	5		0.5	5
Trimethylbenzenes, total	µg/L			96	480
Vanadium, dissolved	µg/L			6	30
Vanadium, total	µg/L			6	30
Vinyl chloride	µg/L	2		0.02	0.2
Xylenes, total	µg/L	10000		400	2000
Zinc, dissolved	µg/L		5000	2500	5000
Zinc, total	µg/L		5000	2500	5000

Note:
Table updated January 2018 to reflect February 2017 register (WDNR) and latest USEPA MCLs.

Attachment 3

Tabular Summary of Analytical Results at Each Monitoring Well

LEMBERGER LANDFILL
MONITORING WELL VOLATILE ORGANIC ANALYSIS RESULTS
DECEMBER 2019

PARAMETER	UNITS	RM-002D 12/8/2019 40200721008	RM-003D 12/6/2019 40200721001	RM-003XXD 12/6/2019 40200721002	RM-003XXD DUP 12/6/2019 40200721005	RM-210D 12/8/2019 40200721007	RM-401XXD 12/8/2019 40200721006	RM-403XD 12/6/2019 40200721004	RM-404XXD 12/6/2019 40200721003
1,1,1-TRICHLOROETHANE	UG/L	6.0	28.8	2.8	2.4	8.7	1.6	49.3	1.0 J
1,1,2,2-TETRACHLOROETHANE	UG/L	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
1,1,2-TRICHLOROETHANE	UG/L	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55
1,1-DICHLOROETHANE	UG/L	6.5	16.9	0.81 J	0.66 J	5.5	1.1	27.9	0.50 J
1,1-DICHLOROETHENE	UG/L	1.4	3.8	< 0.24	< 0.24	1.8	< 0.24	3.2	< 0.24
1,2-DICHLOROETHANE	UG/L	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
1,2-DICHLOROPROPANE	UG/L	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
2-BUTANONE	UG/L	< 2.9	< 2.9	< 2.9	< 2.9	< 2.9	< 2.9	< 2.9	< 2.9
2-HEXANONE	UG/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
4-METHYL-2-PENTANONE	UG/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
ACETONE	UG/L	< 2.7 j	< 2.7 j	< 2.7 j	< 2.7 j	< 2.7 j	< 2.7 j	< 2.7 j	< 2.7 j
BENZENE	UG/L	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
BROMODICHLOROMETHANE	UG/L	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
BROMOFORM	UG/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
BROMOMETHANE	UG/L	< 0.97	< 0.97	< 0.97	< 0.97	< 0.97	< 0.97	< 0.97	1.0 J
CARBON DISULFIDE	UG/L	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37
CARBON TETRACHLORIDE	UG/L	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
CHLOROBENZENE	UG/L	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71
CHLORODIBROMOMETHANE	UG/L	< 2.6	< 2.6	< 2.6	< 2.6	< 2.6	< 2.6	< 2.6	< 2.6
CHLOROETHANE	UG/L	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
CHLOROFORM	UG/L	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
CHLOROMETHANE	UG/L	< 2.2	< 2.2 j	< 2.2 j	< 2.2 j	< 2.2	< 2.2 j	< 2.2 j	< 2.2 j
CIS-1,2-DICHLOROETHENE	UG/L	1.7	6.2	0.65 J	0.45 J	2.6	1.2	3.6	< 0.27
CIS-1,3-DICHLOROPROPENE	UG/L	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6	< 3.6
ETHYLBENZENE	UG/L	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22
METHYLENE CHLORIDE	UG/L	< 0.58	< 0.58	< 0.58	< 0.58	< 0.58	< 0.58	< 0.58	< 0.58
STYRENE	UG/L	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47	< 0.47
TETRACHLOROETHENE	UG/L	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	0.46 J	< 0.33
TOLUENE	UG/L	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
TRANS-1,2-DICHLOROETHENE	UG/L	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1
TRANS-1,3-DICHLOROPROPENE	UG/L	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4	< 4.4
TRICHLOROETHENE	UG/L	1.6	4.2	0.62 J	0.66 J	1.6	0.38 J	5.2	0.43 J
VINYL CHLORIDE	UG/L	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
XYLENE, TOTAL	UG/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5

NOTES:
Laboratory data qualifiers are included in Attachment 4. See specific laboratory report for Sample Delivery Group (SDG) definition.
Non-detect results are reported as "< Limit of Detection (LOD)"

Data Validation Qualifiers:
j = the result is estimated

LEMBERGER LANDFILL
MONITORING WELL INDICATOR PARAMETERS AND FIELD DATA
DECEMBER 2019

PARAMETER	UNITS	RM-002D 12/8/2019 40200721008	RM-003D 12/6/2019 40200721001	RM-003XXD 12/6/2019 40200721002	RM-210D 12/8/2019 40200721007	RM-401XXD 12/8/2019 40200721006	RM-403XD 12/6/2019 40200721004	RM-404XXD 12/6/2019 40200721003
COLOR, FIELD		NONE	NONE	NONE	NONE	NONE	NONE	NONE
CONDUCTANCE, SPECIFIC	UMHOS/CM	557	736	713	767	735	772	703
DEPTH TO WATER	FEET	21.41	13.72	11.11	27.66	22.30	34.17	41.21
DISSOLVED OXYGEN, FIELD	MG/L	2.64	1.44	1.61	0.78	3.87	2.05	1.53
ODOR, FIELD		NONE	NONE	NONE	NONE	NONE	NONE	NONE
OXIDATION REDUCTION POTENTIAL	MV	54	149	116	116	183	169	178
PH, FIELD	SU	7.73	7.51	7.33	7.72	7.69	7.72	7.73
TEMPERATURE	DEG C	6.0	8.4	7.7	5.5	6.4	7.2	7.9
TURBIDITY, FIELD NTU	NTU	4	0	3	6	0	0	7
WATER ELEVATION	FEET	794.3	806.41	810.42	800.2	810.55	810.33	820.45

Attachment 4

Laboratory Data Qualifiers for Monitoring Wells

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 322766 PH 5 LEMBERGER LF-SENTI
Pace Project No.: 40200721

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

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Attachment 5

Tabular Summary of Groundwater Standard Exceedances at Plume Monitoring Wells

Summary of Groundwater Standard Exceedances at Plume Monitoring Wells
Lemberger Landfill Sites
4th Quarter 2019

Well ID	Parameter	Result	Data Qualifiers	Units	Standard[1]		Well Location
					ES[2]	PAL[3]	
RM-002D	1,1-Dichloroethene	1.4		UG/L		X	2,900' northwest of LL site
RM-002D	Trichloroethene	1.6		UG/L		X	2,900' northwest of LL site
RM-003D	1,1-Dichloroethene	3.8		UG/L		X	1,000' west of LL site
RM-003D	Trichloroethene	4.2		UG/L		X	1,000' west of LL site
RM-003XXD	Trichloroethene	0.62	J	UG/L		X	1,000' west of LL site
RM-003XXD DUP	Trichloroethene	0.66	J	UG/L		X	1,000' west of LL site
RM-210D	1,1-Dichloroethene	1.8		UG/L		X	3,600' north of LL site
RM-210D	Trichloroethene	1.6		UG/L		X	3,600' north of LL site
RM-403XD	1,1,1-Trichloroethane	49.3		UG/L		X	400' West of LTR site
RM-403XD	1,1-Dichloroethene	3.2		UG/L		X	400' West of LTR site
RM-403XD	Trichloroethene	5.2		UG/L	X		400' West of LTR site
RM-404XXD	Bromomethane	1	J	UG/L		X	1,200' Northwest of LL Site

Notes:

[1] Table includes exceedences where the reported concentration is between the Limit of Detection and Limit of Quantitation ("J' data qualifier).

[2] ES =Wisconsin Administrative Code NR140 Enforcement Standard

[3] PAL =Wisconsin Administrative Code NR140 Preventive Action Limit

[4] LTR = Lemberger Transport and Recycling

[5] LL = Lemberger Landfill

Laboratory qualifiers are included in the sample-specific laboratory reports. See laboratory reports for the SDG-specific definitions.

State of Wisconsin
Department of Natural Resources

Environmental Monitoring Data Certification

Form 4400-231(R 1/04)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats.
When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to: GEMS Data Submittal Contact - WA/5
  Bureau of Waste Management
  Wisconsin Department of Natural Resources
  101 South Webster Street
  Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

TRC Environmental Corp.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Meredith Westover Phone: (608) 826-3667

E-mail: mwestover@trccompanies.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
Lemberger Landfill	00753	436016790	10/31, 11/15, 11/30, 12/6, 12/8, 12/31, 2019

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

October, November, and December 2019

Type of Data Submitted (Check all that apply)

- [x] Groundwater monitoring data from monitoring wells
- [ ] Groundwater monitoring data from private water supply wells
- [x] Leachate monitoring data
- [x] Gas monitoring data
- [ ] Air monitoring data
- [ ] Other (specify) _____

Notification attached?

- [ ] No. No groundwater standards or explosive gas limits were exceeded.
- [x] Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- [ ] Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Meredith Westover	Database Manager	(608) 826-3667
Facility Representative Name (Print)	Title	(Area Code) Telephone No.

Signature _____ Date 8/3/2020

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

- [ ] **Found uploading problems on** _____ **Initials**
- [ ] **Notified contact of problems on** _____ **Uploaded data successfully on** _____

EDD format(s): [ ] **Diskette** [ ] **CD (initial submittal and follow-up)** [ ] **E-mail (follow-up only)** [ ] **Other**