

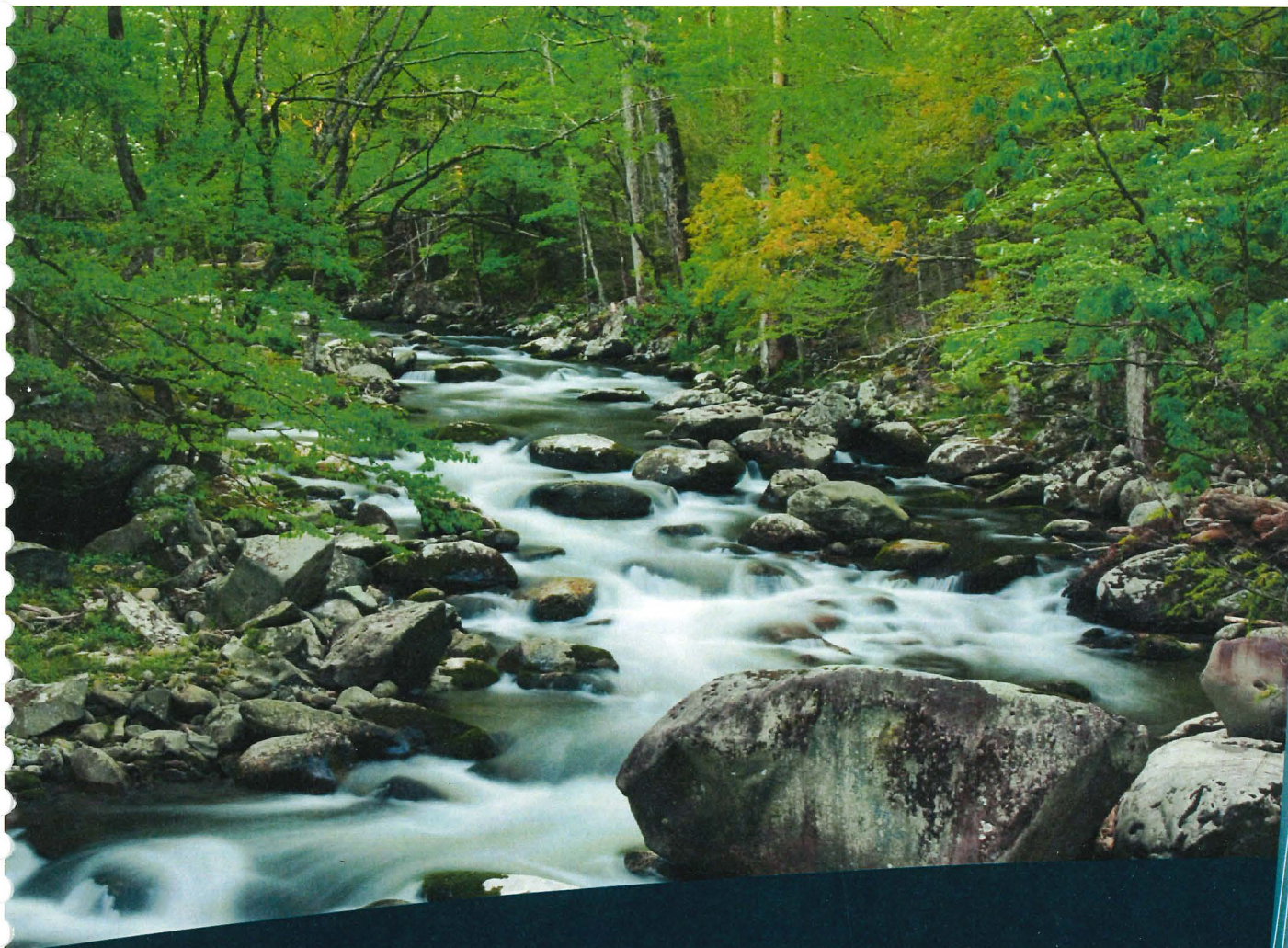


**CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING**

REI

**UPDATE REPORT
FORMER SCHLINSOG DAIRY
N7701 PELSODORF AVENUE
LOYAL, WI 54446
BRRTS #03-10-554767**

**PECFA #54446-8368-01
REI PROJECT #5357**



**COMPREHENSIVE
SERVICES WITH
PRACTICAL
SOLUTIONS**





June 10, 2016

Wisconsin Department of Natural Resources

Attn: Gena Keenan
1300 W Clairemont Ave.
Eau Claire, WI 54702



*Rec'd June 16, 2016
gjk*

Subject:

Update Report
Former Schlinsog Dairy
N7701 Pelsdorf Avenue
Loyal, WI
BRRTS #03-10-554767
PECFA #54446-8368-01-A

Dear Ms. Keenan:

Enclosed please find a copy of the above mentioned Update Report. This report documents the completion of the recently approved scope of services which included a single round of groundwater sampling at select wells.

If you have any questions or comments, please contact our office at (715) 675-9784.

Sincerely,
REI Engineering, Inc.

David N. Larsen P.G.
Hydrogeologist/Project Manager

CC: Mr. Steven Kautzer, N7701 Pelsdorf Avenue, Loyal, WI 54446



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4080 N. 20th Avenue Wausau, WI 54401
715-675-9784 REIengineering.com

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UPDATE REPORT

**FORMER SCHLINSOG DAIRY
N7701 PELSDORF AVENUE
LOYAL, WI 54446
BRRTS#03-10-554767**

**PECFA#54446-8368-01
REI #5357**

PREPARED FOR:

**Steven Kautzer
N7701 Pelsdorf Avenue
Loyal, WI 54446**

JUNE 2016

UPDATE REPORT

**FORMER SCHLINSOG DAIRY
N7701 PELSDORF AVENUE
LOYAL, WI 54446
BRRTS#03-10-554767**

**PECFA#54446-8368-01
REI #5357**

The recommendations contained in this report are based on the information obtained from our study of the site and were arrived at in accordance with accepted hydrogeologic and engineering practices at this time and location.

"I, David N. Larsen, hereby certify that I am a registered Professional Geologist in the State of Wisconsin as defined in the Wisconsin Statutes Chapter 470.01. I am also a hydrogeologist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."



"I, Scott J. Blado, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

A handwritten signature in cursive script that reads 'Scott J. Blado'.

Scott J. Blado

Date

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UPDATE REPORT

**FORMER SCHLINSOG DAIRY
N7701 PELSDORF AVENUE
LOYAL, WI 54446
BRRTS#03-10-554767**

**PECFA#54446-8368-01
REI #5357**

1.0 WORK PERFORMED THIS PERIOD

REI is submitting an Update Report covering the site activities that have taken place at the above referenced location. Events that have taken place during this period include a single groundwater sampling event at select environmental monitoring wells. The Wisconsin Department of Natural Resources (WDNR) would be collecting and analyzing the groundwater sampling from the potable water supply wells. The location of the site is shown on Figure 1. The location of the monitoring wells is presented in Figure 2.

2.0 SUMMARY OF WORK

The Former Schlinsog Dairy site is located at the intersection of Mann Road and Pelsdorf Avenue in the SE¼ of the SE ¼ of Section 27, Township 26 North, Range 01 West, Town of Loyal, Clark County, Wisconsin (Figure 1). Site investigation activities began in 2010, a remedial excavation was completed in May 2011 and the engineered remedial system (groundwater pump and treat) was started in August 2013 and operated until November 2013 when it was retrofitted and operated as a soil vapor extraction system until August 2014. Prior to system operation free product was observed in PW1 and MW2. Figure 2 presents the locations of the monitoring well network and site boundaries.

2.1 Groundwater Monitoring and Analytical Results

Following the submittal of the last report, a single groundwater sampling event (at select wells) was completed by REI personnel on May 5, 2016. An excess of four (4) well volumes was removed from each well prior to sampling by REI personnel. All purge water waste generated during this scope of services was temporarily stored in 55-gallon WDOT approved drums before final disposal at the City of Wausau waste water treatment facility. No free product has been reported in the wells following the operation of the remedial system. The former on-site potable well (PW2) was not sampled as the power to the well has been permanently disconnected.

Water elevation measurements from the REI sampling events are presented in Table 1. Figure 3 presents a groundwater contour map from the data collected on May 5, 2016. Groundwater is depicted flowing from the northeast to the southwest and is consistent with historical flow directions. Groundwater samples were submitted to a state certified laboratory for analysis. Groundwater analytical results are summarized in Tables 2a-j. The complete laboratory analytical reports are included as Appendix A.

The results from the groundwater sampling events are summarized below for each monitoring well.

MW1: Analytical results had dropped significantly during system operation and initially rebounded, but have decreased over time.

MW2: Analytical results had dropped significantly during system operation and have rebounded to less than initial concentrations. Additionally, free product has not been observed in the well following system operation.

MW3: Analytical results had both increased and decreased during system operation and have continued to decrease over time.

MW4: Analytical results have been historically non-detect, but well was not sampled in 2016.

MW5: Analytical results have been historically non-detect, but well was not sampled in 2016.

MW6: Analytical results had dropped significantly during system operation and have continued to decrease.

PZ1: Analytical results have been historically non-detect, but well was not sampled in 2016.

PZ2: Low level analytical detections were reported in 2013 and the subsequent two (2) sample events were non-detect for all analyzed parameters.

PW1: Analytical results had dropped significantly during system operation and have rebounded to less than initial concentrations. Additionally, free product has not been observed in the well following system operation. This well is not to be used for drinking water purposes.

PW2: Well has not been sampled since 2010 as well was disconnected from service.

PW3: Current water supply well for Kautzer residence. Well has been non-detect for all analyzed parameters since install with the exception of the low level toluene detections, which have been noted in other new well installations.

Contaminant concentrations over time were compared to water level elevation and plotted on Figures 4a-c.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The groundwater contaminant concentrations continue to decrease and free product was not reported in any of the monitoring wells after the May 6, 2016 sampling date. The WDNR will be completing the potable well sampling and will provide analytical data when available. While the analytical data suggests that the contaminant concentrations in the downgradient wells (MW6 and PZ2) is decreasing, additional sampling data will be required to document the decreasing contaminant trend.

REI is recommending four (4) quarters of select groundwater sampling. REI is recommending that the well be analyzed for PVOC, naphthalene and 1,2-DCA. REI will continue to work with the WDNR project manager to complete the investigation with the limited PECFA funding remaining.



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Table 1
Depth to Water and Water Table Elevations
Former Schlinsog Dairy
Loyal, Wisconsin

Depth to Water (feet) below Reference Elevation

Date	MW1	MW2	MW3	MW4	MW5	MW6	PZ1	PZ2	PW1
7/8/2010	49.03	48.98							
8/18/2010	47.82	48.12	47.73						
8/19/2010	47.61	47.83	47.56						
1/3/2011	45.32	46.61		44.37	43.84		64.31		
5/13/2011		45.09*	43.86						
5/31/2011	43.95	45.32*	43.96	43.15	42.75		64.21		45.27
10/7/2011	44.47	45.99*	44.55	43.00	42.65		65.25		46.47*
2/16/2012	45.86	48.8*	45.85	44.20	43.37		66.45		
8/27/2013	48.42	50.05*	47.66	45.99	45.98		67.69		
5/20/2014	46.04	46.66	47.06	45.73	46.04	45.50	64.74	44.81	
8/20/2014	46.24	46.54	46.38	44.87	45.13	45.01	70.70	45.54	
5/5/2016	40.52	40.61	40.73			39.42		40.13	42.39

Measuring Point Elevations

Initial Survey (8-18-10)	99.99	100.24	99.26	97.76	100.30		99.98		99.98
Re-survey 5-20-14)						97.86		97.20	

Ground Surface Elevation

Initial Survey (8-18-10)	100.45	100.62	99.60	98.38	101.05		100.61		100.61
Re-survey 5-20-14)						98.17		97.36	

Depth to Water (feet) below Ground Surface

Average	46.39	46.86	45.87	45.09	45.00		66.82		44.46
Maximum	49.49	49.36	48.07	46.61	46.79		71.33		45.90
Minimum	40.98	40.99	41.07	43.62	43.40		64.84		43.02
Range	8.51	8.37	7	2.99	3.39		6.49		2.88

Water Level Elevation (feet MSL)

Date	MW1	MW2	MW3	MW4	MW5	MW6	PZ1	PZ2	PW1
7/8/2010	50.96	51.26							
8/18/2010	52.17	52.12	51.53						
8/19/2010	52.38	52.41	51.70						
1/3/2011	54.67	53.63		53.39	56.46		35.67		
5/13/2011		55.15*	55.40						
5/31/2011	56.04	54.92*	55.30	54.61	57.55		35.77		54.71
10/7/2011	55.52	54.25*	54.71	54.76	57.65		34.73		53.51*
2/16/2012	54.13	51.44*	53.41	53.56	56.93		33.53		
8/27/2013	51.57	50.19	51.60	51.77	54.32		32.29		
5/20/2014	53.95	53.58	52.20	52.03	54.26	52.36	35.24	52.39	
8/20/2014	53.75	53.70	52.88	52.89	55.17	52.85	29.28	51.66	99.98
5/5/2016	59.47	59.63	58.53			58.44		57.07	57.59

Witness Mark as benchmark (assume 100')

Table 2a
Summary of Groundwater Analytical Results
MW1
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	7/7/2010	1/3/2011	5/31/2011	10/7/2011	2/16/2012	8/14/2013	8/27/2013	11/20/2013
VOC Parameters											
Benzene	5	0.5	µg/l	1,750	23,500	15,800	9,620	24,000	Initiate groundwater extraction system at PW1	18,500	Convert remedial system to SVE at MW1 and MW2
Toluene	800	160	µg/l	2,040	28,800	19,500	12,200	28,000		19,200	
Ethylbenzene	700	140	µg/l	200	1,440	1,360	1,190	2,300		1,670	
Xylenes (mixed isomers)	2,000	400	µg/l	1,001	9,730	6,320	5,690	10,000		8,120	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 15.2	< 152	< 152	< 47.6	< 18		< 46.4	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	198.3	618	625	1,180	1,770		1,451	
Naphthalene	100	10	µg/l	< 22.2	< 222	< 222	262	810		260	
1,2-Dibromoethane	0.05	0.005	µg/l	38.2	872	672	NA	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	204	3,210	< 90	NA	NA		NA	
n-Propylbenzene			µg/l	23*	< 202	< 202	NA	NA		NA	

	ES	PAL	Units	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters							
Benzene	5	0.5	µg/l	2,510	Remove SVE system from MW1 and MW2	13,400	8,990
Toluene	800	160	µg/l	3,010		15,500	13,400
Ethylbenzene	700	140	µg/l	333		1,770	597
Xylenes (mixed isomers)	2,000	400	µg/l	4,110		13,110	5,720
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 4.8		< 60.6	< 34.8
Trimethylbenzenes (mixed isomers)	480	96	µg/l	1,781		2,851	1,304
Naphthalene	100	10	µg/l	431		491	< 500
1,2-Dibromoethane	0.05	0.005	µg/l	NA		NA	NA
1,2-Dichloroethane	5	0.5	µg/l	NA		NA	746
n-Propylbenzene			µg/l	NA		NA	NA

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

Table 2b
Summary of Groundwater Analytical Results
MW2
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	7/7/2010	1/3/2011**	5/31/2011**	10/7/2011**	2/16/2012**	8/14/2013	8/27/2013**	11/20/2013
VOC Parameters											
Benzene	5	0.5	µg/l	1,650	Free	11,500	11,700	12,000	Initiate groundwater extraction system at PW1	6,820	Convert remedial system to SVE at MW1 and MW2
Toluene	800	160	µg/l	1,430	Product	22,700	20,600	21,000		9,830	
Ethylbenzene	700	140	µg/l	<i>158</i>		2,650	2,770	3,000		2,270	
Xylenes (mixed isomers)	2,000	400	µg/l	<i>805</i>	Not	12,740	12,440	14,000		10,200	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 6.1	Sampled	< 122	< 47.6	< 18		< 18.6	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	<i>139.7</i>		2,199	2,370	2,620		2,627	
Naphthalene	100	10	µg/l	<i>25.7*</i>		425*	526	920		511	
1,2-Dibromoethane	0.05	0.005	µg/l	38.2		290	NA	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	141		< 72	NA	NA		NA	
n-Propylbenzene			µg/l	<i>18.4</i>		236	NA	NA		NA	

	ES	PAL	Units	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters							
Benzene	5	0.5	µg/l	2,620	Remove SVE system from MW1 and MW2	7,580	7,030
Toluene	800	160	µg/l	5,140		11,700	15,100
Ethylbenzene	700	140	µg/l	769		2,140	2,550
Xylenes (mixed isomers)	2,000	400	µg/l	7,280		11,560	12,450
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 48.5		<i>30.8*</i>	< 34.8
Trimethylbenzenes (mixed isomers)	480	96	µg/l	2,130		3,085	1,784
Naphthalene	100	10	µg/l	271		533	< 500
1,2-Dibromoethane	0.05	0.005	µg/l	NA		NA	NA
1,2-Dichloroethane	5	0.5	µg/l	NA		NA	323
n-Propylbenzene			µg/l	NA		NA	NA

Notes:

ES = NR140.10 Enforcement Standards

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NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

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** = Free product in well - removed prior to sampling

Table 2c
Summary of Groundwater Analytical Results
MW3
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	8/18/2010	1/3/2011	5/31/2011	10/7/2011	2/16/2012	8/14/2013	8/27/2013	11/20/2013
VOC Parameters											
Benzene	5	0.5	µg/l	2,310	Under 6'	86.8	125	340	Initiate groundwater extraction system at PW1	512	Convert remedial system to SVE at MW1 and MW2
Toluene	800	160	µg/l	230	Snow & Ice	7.9	31	66		73.9	
Ethylbenzene	700	140	µg/l	346		3	72.3	180		358	
Xylenes (mixed isomers)	2,000	400	µg/l	748	Not	50.5	150.3	380		479	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 6.1	Sampled	< 0.61	4.2	< 0.23		7.7*	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	401		22.2	108.5	243		605	
Naphthalene	100	10	µg/l	70.6		7.7	23.2	53		117	
1,2-Dibromoethane	0.05	0.005	µg/l	8.3*		< 0.56	NA	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	251		14.3	NA	NA		NA	
n-Propylbenzene			µg/l	40.2		1.2	NA	NA		NA	

	ES	PAL	Units	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters							
Benzene	5	0.5	µg/l	2,070	Remove SVE system from MW1 and MW2	1,230	3.8
Toluene	800	160	µg/l	407		41.9	4.1
Ethylbenzene	700	140	µg/l	158		108	35.0
Xylenes (mixed isomers)	2,000	400	µg/l	387.5		119	67.2
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	4.6*		< 4.8	< 0.35
Trimethylbenzenes (mixed isomers)	480	96	µg/l	164.1		100.2	22.8
Naphthalene	100	10	µg/l	60.1		39.9	7.4*
1,2-Dibromoethane	0.05	0.005	µg/l	NA		NA	NA
1,2-Dichloroethane	5	0.5	µg/l	NA		NA	3.8
n-Propylbenzene			µg/l	NA		NA	NA

Notes:

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NA = Not Analyzed

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Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

Table 2d
Summary of Groundwater Analytical Results
MW4
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	1/3/2011	5/31/2011	10/7/2011	2/16/2012	8/14/2013	8/27/2013	11/20/2013
VOC Parameters										
Benzene	5	0.5	µg/l	< 0.41	< 0.41	< 0.39	< 0.25	Initiate groundwater extraction system at PW1	< 0.34	Convert remedial system to SVE at MW1 and MW2
Toluene	800	160	µg/l	< 0.67	< 0.67	< 0.42	< 0.25		< 0.34	
Ethylbenzene	700	140	µg/l	< 0.54	< 0.54	< 0.41	0.37*		< 0.34	
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.8	< 1.8	< 0.87	0.72*		< 0.71	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.61	< 0.61	< 0.38	< 0.23		< 0.37	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.97	< 0.97	< 0.43	0.87*		< 0.36	
Naphthalene	100	10	µg/l	< 0.89	< 0.89	< 0.40	3.8		< 0.37	
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.56	< 0.56	NA	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	< 0.57	< 0.57	NA	NA		NA	
n-Propylbenzene			µg/l	< 0.81	< 0.81	NA	NA		NA	

	ES	PAL	Units	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters							
Benzene	5	0.5	µg/l	< 0.40	Remove SVE system from MW1 and MW2	< 0.40	Not Sampled
Toluene	800	160	µg/l	< 0.39		< 0.39	
Ethylbenzene	700	140	µg/l	< 0.39		< 0.39	
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.80		< 0.80	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.48		< 0.48	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.42		< 0.42	
Naphthalene	100	10	µg/l	< 0.42		< 0.42	
1,2-Dibromoethane	0.05	0.005	µg/l	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	NA		NA	
n-Propylbenzene			µg/l	NA		NA	

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

Table 2e
Summary of Groundwater Analytical Results
MW5
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	1/3/2011	5/31/2011	10/7/2011	2/16/2012	8/14/2013	8/27/2013	11/20/2013
VOC Parameters										
Benzene	5	0.5	µg/l	< 0.41	< 0.41	< 0.39	< 0.25	Initiate groundwater extraction system at PW1	< 0.34	Convert remedial system to SVE at MW1 and MW2
Toluene	800	160	µg/l	< 0.67	< 0.67	< 0.42	< 0.25		< 0.34	
Ethylbenzene	700	140	µg/l	< 0.54	< 0.54	< 0.41	< 0.22		< 0.34	
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.8	< 1.8	< 0.87	< 0.39		< 0.71	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.61	< 0.61	< 0.38	< 0.23		< 0.37	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.97	< 0.97	< 0.43	< 0.25		< 0.36	
Naphthalene	100	10	µg/l	< 0.89	< 0.89	< 0.40	0.59*		< 0.37	
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.56	< 0.56	NA	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	< 0.57	< 0.57	NA	NA		NA	
n-Propylbenzene			µg/l	< 0.81	< 0.81	NA	NA		NA	

	ES	PAL	Units	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters							
Benzene	5	0.5	µg/l	< 0.40	Remove SVE system from MW1 and MW2	< 0.40	Not Sampled
Toluene	800	160	µg/l	< 0.39		< 0.39	
Ethylbenzene	700	140	µg/l	< 0.39		< 0.39	
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.80		< 0.80	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.48		< 0.48	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.42		< 0.42	
Naphthalene	100	10	µg/l	< 0.42		< 0.42	
1,2-Dibromoethane	0.05	0.005	µg/l	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	NA		NA	
n-Propylbenzene			µg/l	NA		NA	

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

Table 2f
Summary of Groundwater Analytical Results
MW6
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	11/20/2013	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters								
Benzene	5	0.5	µg/l	Convert remedial system to SVE at MW1 and MW2	4,350	Remove SVE system from MW1 and MW2	1,510	8.9
Toluene	800	160	µg/l		3,440		2,830	2.3
Ethylbenzene	700	140	µg/l		1,510		979	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l		4,880		7,220	5.2
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 7.0		< 4.4	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l		1,358		903	5.2
Naphthalene	100	10	µg/l		265		NA	3.5*
1,2-Dichloroethane	5	0.5	µg/l		194		94.4	0.36*

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

Table 2g
Summary of Groundwater Analytical Results
PZ1
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	1/3/2011	5/31/2011	10/7/2011	2/16/2012	8/14/2013	8/27/2013	11/20/2013
VOC Parameters										
Benzene	5	0.5	µg/l	< 0.41	< 0.41	< 0.39	< 0.25	Initiate groundwater extraction system at PW1	< 0.34	Convert remedial system to SVE at MW1 and MW2
Toluene	1,000	200	µg/l	< 0.67	< 0.67	< 0.42	< 0.25		< 0.34	
Ethylbenzene	700	140	µg/l	< 0.54	< 0.54	< 0.41	< 0.22		< 0.34	
Xylenes (mixed isomers)	10,000	1,000	µg/l	< 1.8	< 1.8	< 0.87	< 0.39		< 0.71	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.61	< 0.61	< 0.38	0.38*		< 0.37	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.97	< 0.97	< 0.43	< 0.25		< 0.36	
Naphthalene	100	10	µg/l	< 0.89	< 0.89	< 0.40	< 0.50		< 0.37	
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.56	< 0.56	NA	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	< 0.57	< 0.57	NA	NA		NA	
n-Propylbenzene			µg/l	< 0.81	< 0.81	NA	NA		NA	

	ES	PAL	Units	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters							
Benzene	5	0.5	µg/l	< 0.40	Remove SVE system from MW1 and MW2	< 0.40	Not Sampled
Toluene	800	160	µg/l	< 0.39		< 0.39	
Ethylbenzene	700	140	µg/l	< 0.39		< 0.39	
Xylenes (mixed isomers)	2,000	400	µg/l	< 0.80		< 0.80	
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.48		< 0.48	
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.42		< 0.42	
Naphthalene	100	10	µg/l	< 0.42		< 0.42	
1,2-Dibromoethane	0.05	0.005	µg/l	NA		NA	
1,2-Dichloroethane	5	0.5	µg/l	NA		NA	
n-Propylbenzene			µg/l	NA		NA	

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

Table 2h
Summary of Groundwater Analytical Results
PZ2
Former Schlinsog Dairy
Loyal, WI

	ES	PAL	Units	11/20/2013	5/20/2014	8/20/2014	8/20/2014	5/5/2016
VOC Parameters								
Benzene	5	0.5	µg/l	Convert remedial system to SVE at MW1 and MW2	16.5	Remove SVE system from MW1 and MW2	< 0.50	< 0.50
Toluene	800	160	µg/l		43.9		< 0.50	< 0.50
Ethylbenzene	700	140	µg/l		4.5		< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l		15.8		< 1.5	< 1.5
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l		< 0.17		< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l		< 0.55		< 0.50	< 0.50
Naphthalene	100	10	µg/l		< 2.5		< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l		0.84*		< 0.17	< 0.17

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

Table 2i
Summary of Groundwater Analytical Results
Potable Wells
Former Schlinsog Dairy
Loyal, WI

Parameter	ES	PAL	Units	PW1							
				8/18/2010	2/16/2012	8/14/2013	8/15/2013	8/19/2013	8/20/2013	8/27/2013	9/5/2013
VOC Parameters				during pump test							
Benzene	5	0.5	µg/l	522	4,300	Initiate groundwater extraction system at PW1	881	581	633	366	137
Toluene	800	160	µg/l	399	2,600		220	172	266	294	56
Ethylbenzene	700	140	µg/l	113	<i>560</i>		<i>52.1</i>	<i>42</i>	<i>65.7</i>	<i>55.3</i>	<i>10.9</i>
Xylenes (mixed isomers)	2,000	400	µg/l	692	4,600		228	198	328	543	139
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	3.6*	< 2.3		< 2.5	< 2.5	< 2.5	< 2.5	< 0.49
Trimethylbenzenes (mixed isomers)	480	96	µg/l	255.5	3,120		142.9	36.2	219.2	737	138.8
Naphthalene	100	10	µg/l	31.5	1,100		19.2	0.0	24.7	41.3	10.4
1,2-Dibromoethane	0.05	0.005	µg/l	NA	NA		NA	NA	NA	NA	NA
1,2-Dichloroethane	5	0.5	µg/l	NA	NA		NA	NA	NA	NA	NA

Parameter	ES	PAL	Units	PW1					
				9/19/2013	10/15/2013	11/20/2013	8/20/2014	8/20/2014	5/5/2016
VOC Parameters									
Benzene	5	0.5	µg/l	116	116	Convert remedial system to SVE at MW1 and MW2	Remove SVE system from MW1 and MW2	Not Sampled	2,660
Toluene	800	160	µg/l	32.7	29				897
Ethylbenzene	700	140	µg/l	<i>4.9</i>	<i>4.9</i>				<i>145</i>
Xylenes (mixed isomers)	2,000	400	µg/l	49.6	43.3				<i>1,020</i>
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.49	< 0.49				< 7.0
Trimethylbenzenes (mixed isomers)	480	96	µg/l	16.2	14.3				479
Naphthalene	100	10	µg/l	NA	3.9				< 100
1,2-Dibromoethane	0.05	0.005	µg/l	NA	NA				NA
1,2-Dichloroethane	5	0.5	µg/l	NA	NA				111

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

Italicized PAH limits are non-enforceable guidance limits only

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

*** = samples collected and reported by WDNR

Table 2j
Summary of Groundwater Analytical Results
Potable Wells
Former Schlinsog Dairy
Loyal, WI

Parameter	ES	PAL	Units	PW2	Hubing	
				3/8/2010	***	2/16/2012
VOC Parameters						
Benzene	5	0.5	µg/l	14.4	0.77	2.30
Toluene	800	160	µg/l	0.44*		< 0.50
Ethylbenzene	700	140	µg/l	1.75		< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	3.51		< 0.50
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.50		< 0.50
Trimethylbenzenes (mixed isomers)	480	96	µg/l	3.37		< 0.20
Naphthalene	100	10	µg/l	< 1.0		< 0.25
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.80		< 0.20
1,2-Dichloroethane	5	0.5	µg/l	1.34	0.56	0.63*

Parameter	ES	PAL	Units	PW3 (current potable well)				
				1/3/2011	5/31/2011	10/7/2011	2/16/2012	8/27/2013
VOC Parameters								
Benzene	5	0.5	µg/l	< 0.41	< 0.41	< 0.39	< 0.20	< 0.50
Toluene	800	160	µg/l	6.70	3.00	1.5	< 0.50	< 0.44
Ethylbenzene	700	140	µg/l	< 0.54	< 0.54	< 0.41	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.8	< 1.8	< 0.87	< 0.50	< 0.82
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.61	< 0.61	< 0.38	< 0.50	< 0.49
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.97	< 0.97	< 0.43	< 0.20	< 2.5
Naphthalene	100	10	µg/l	< 0.89	< 0.89	< 0.40	< 0.25	< 2.5
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.56	< 0.56	NA	< 0.20	< 0.38
1,2-Dichloroethane	5	0.5	µg/l	< 0.57	< 0.57	NA	< 0.50	< 0.28

Notes:

ES = NR140.10 Enforcement Standards

PAL = NR140.10 Preventive Action Limits

Italicized PAH limits are non-enforceable guidance limits only

NA = Not Analyzed

* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Enforcement Standard exceeded

BOLD

Preventive Action Limit exceeded

Italics

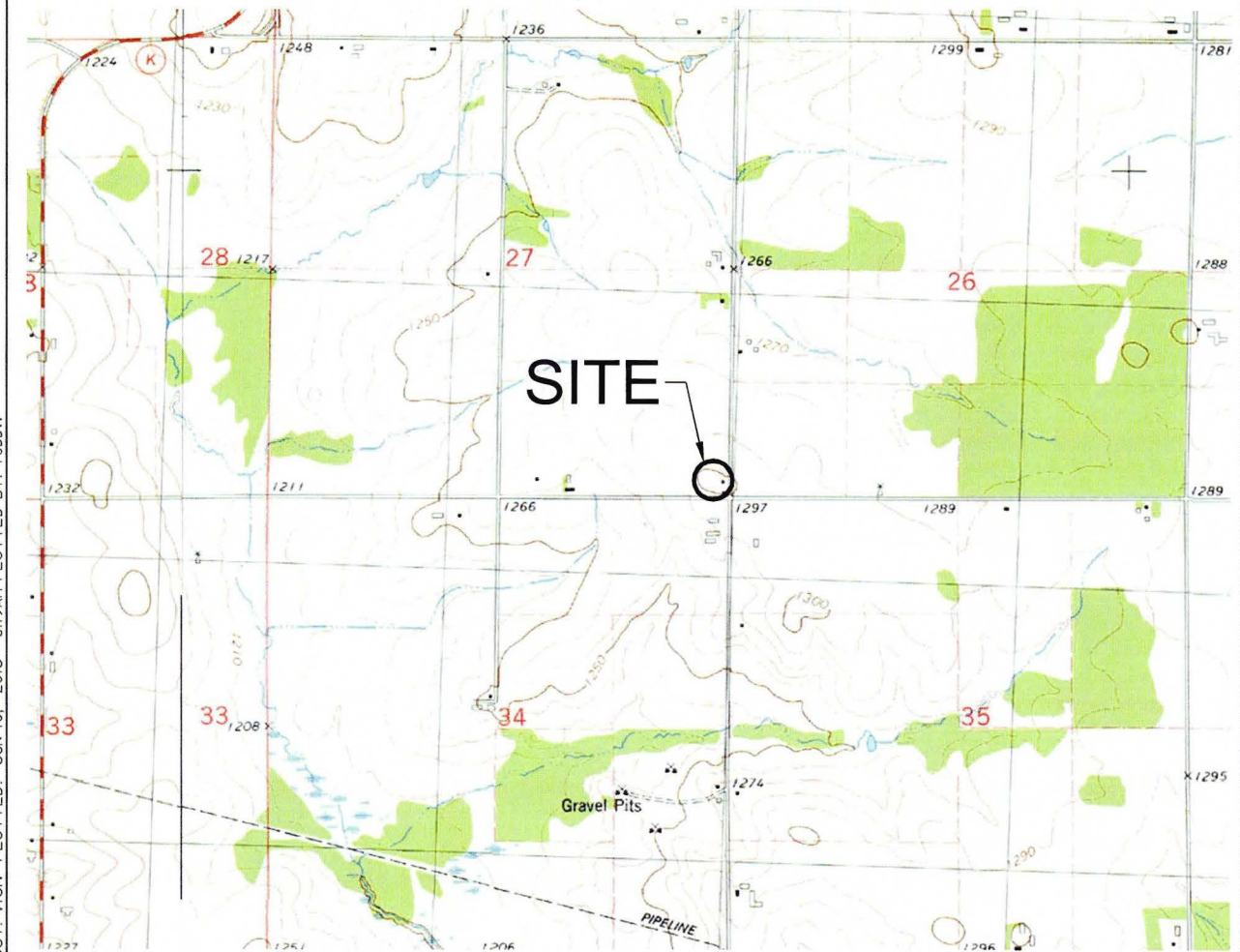
*** = samples collected and reported by WDNR



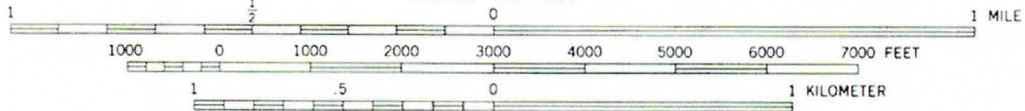
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DRAWING FILE: P:\5300-5399\5357-FORMER_SCHLINSOG\DWG\5357-VICINITY.DWG LAYOUT: VICN PLOTTED: JUN 10, 2016 - 8:19AM PLOTTED BY: TODDW



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



QUADRANGLE LOCATION



UTM GRID AND 1979 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

LOYAL EAST, WIS.

NW/4 GRANTON 15' QUADRANGLE
N4437.5-W9022.5/7.5

1979

DMA 2973 III NW-SERIES V861

REI Engineering, INC.

FORMER SCHLINSOG DAIRY
N7701 PELSDORF AVENUE
LOYAL, WI 54446

FIGURE 1 : SITE VICINITY MAP

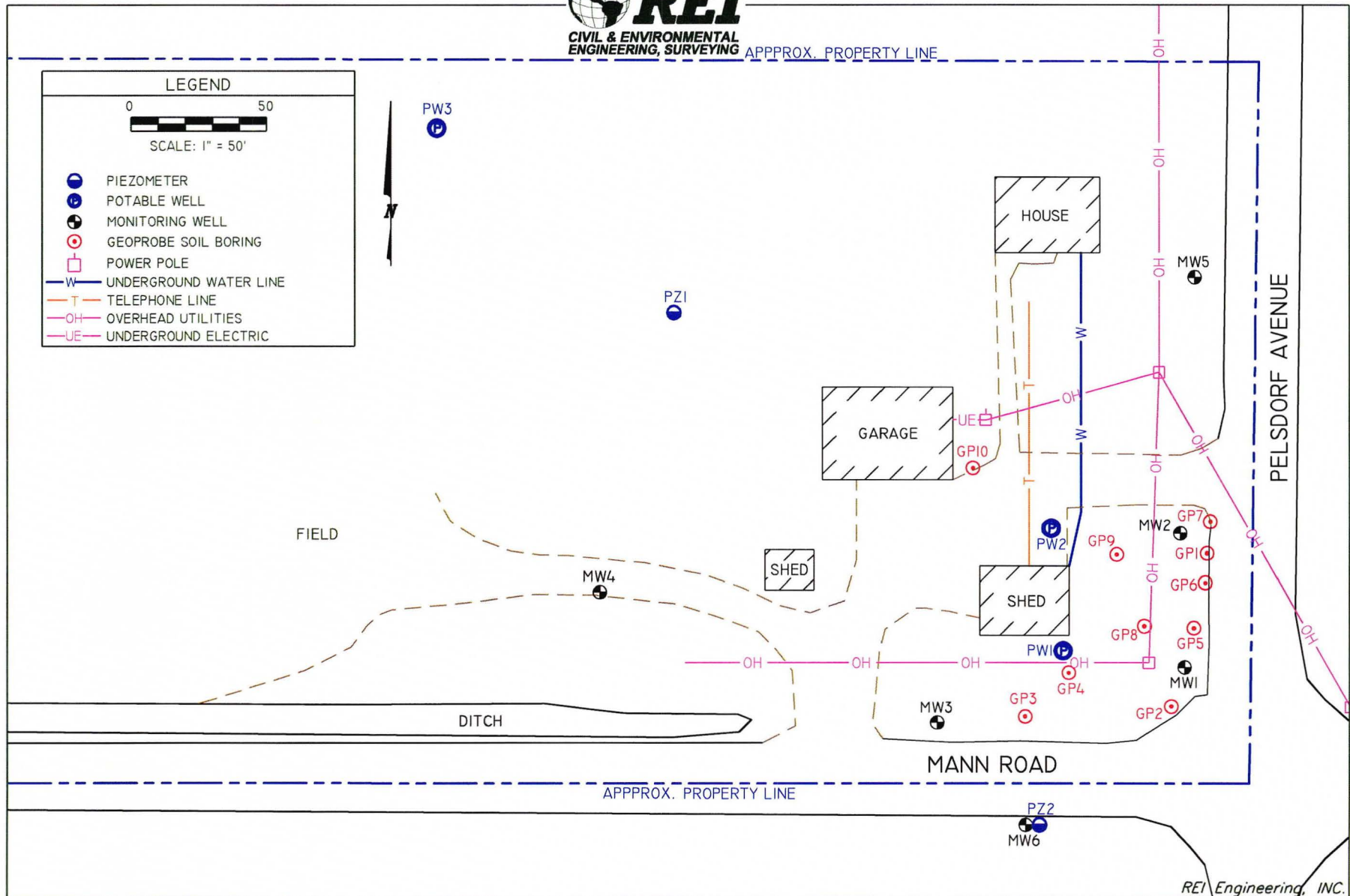
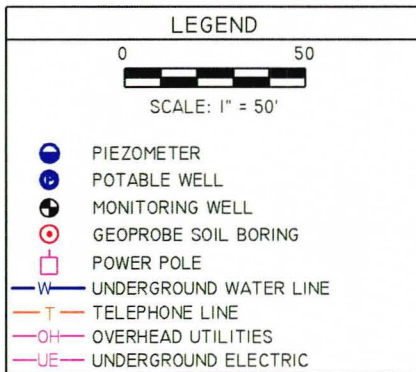
PROJECT NO.

5357

DRAWN BY:
GSW

DATE:
6/10/2016

APPROX. PROPERTY LINE



REI Engineering, INC.

FORMER SCHLINSOG DAIRY
N7701 PELSDORF AVENUE
LOYAL, WISCONSIN 54446

FIGURE 2 :SITE MAP WITH UPDATED WELL LOCATIONS

PROJECT NO.

5357

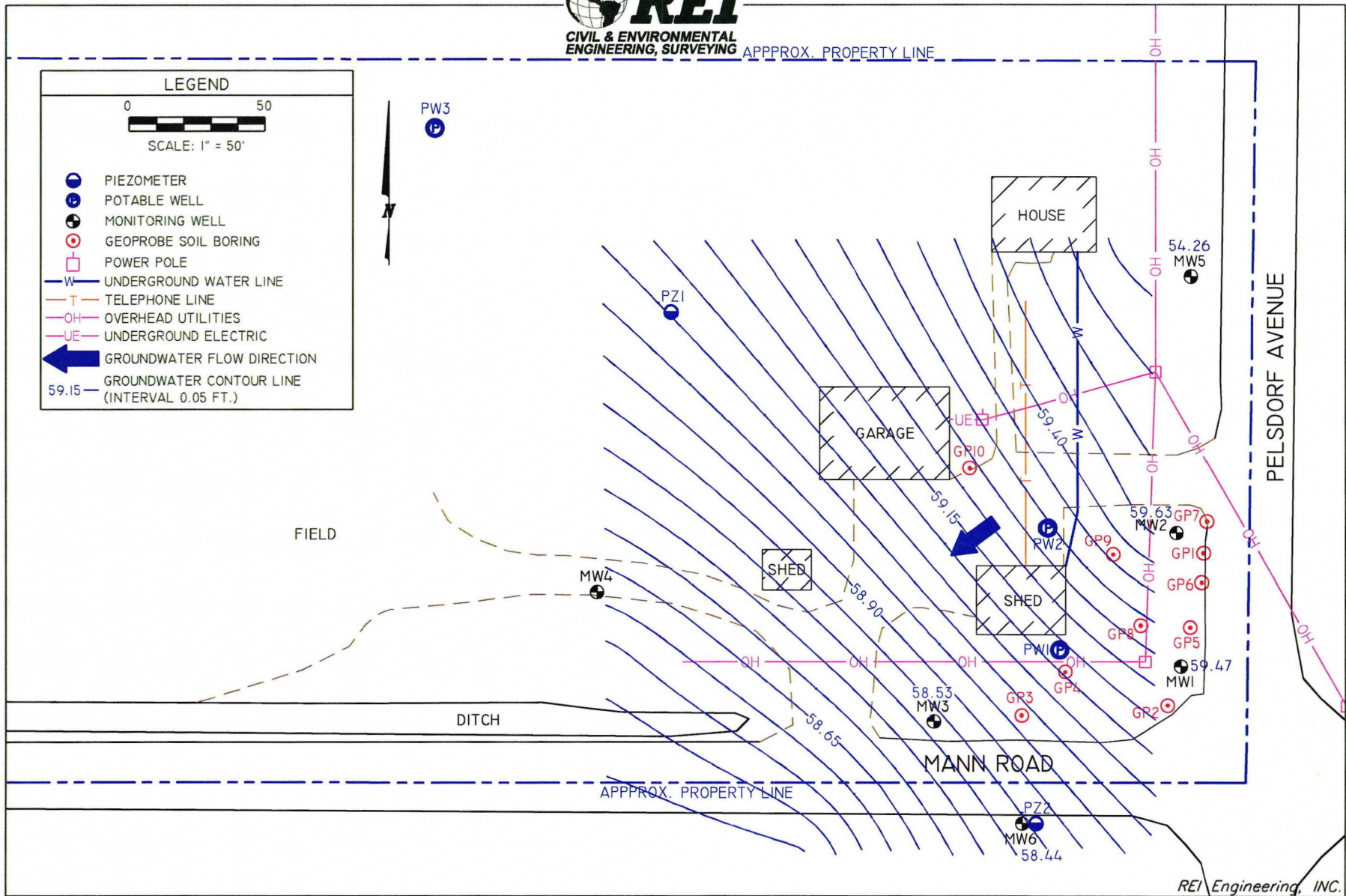
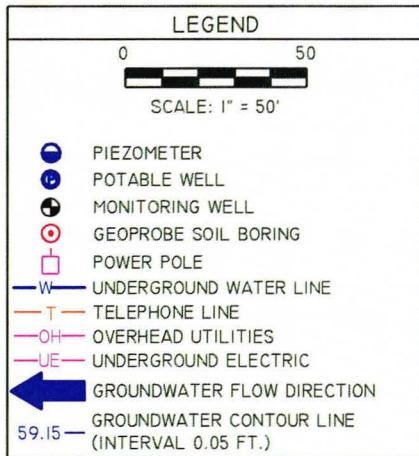
DRAWN BY:

TAW

DATE:

6/10/2016

APPROX. PROPERTY LINE



REI Engineering, INC.

FORMER SCHLINSOG DAIRY
N7701 PELSDORF AVENUE
LOYAL, WISCONSIN 54446

FIGURE 3 : GROUNDWATER CONTOUR MAP (5/5/2016)

PROJECT NO.

5357

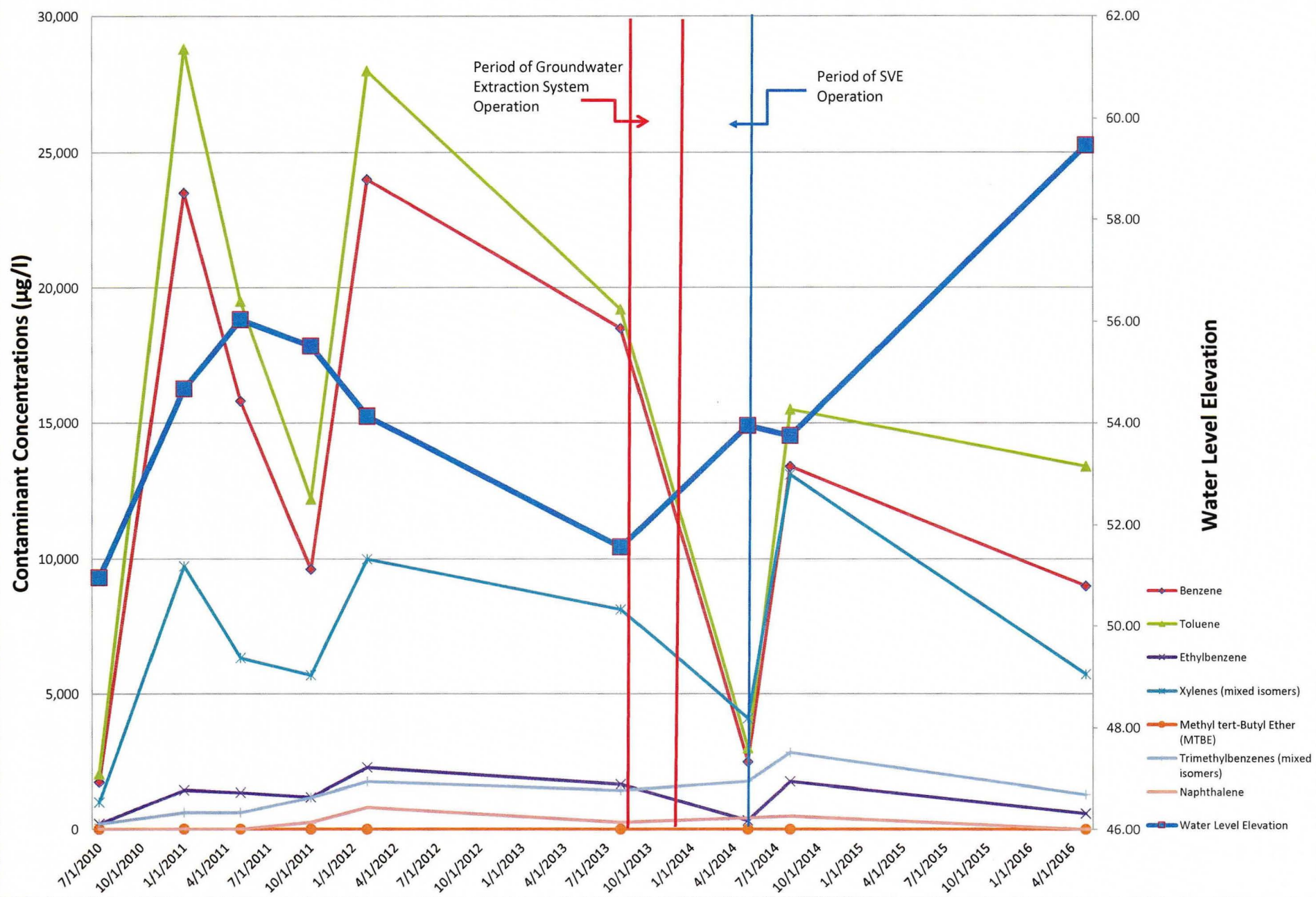
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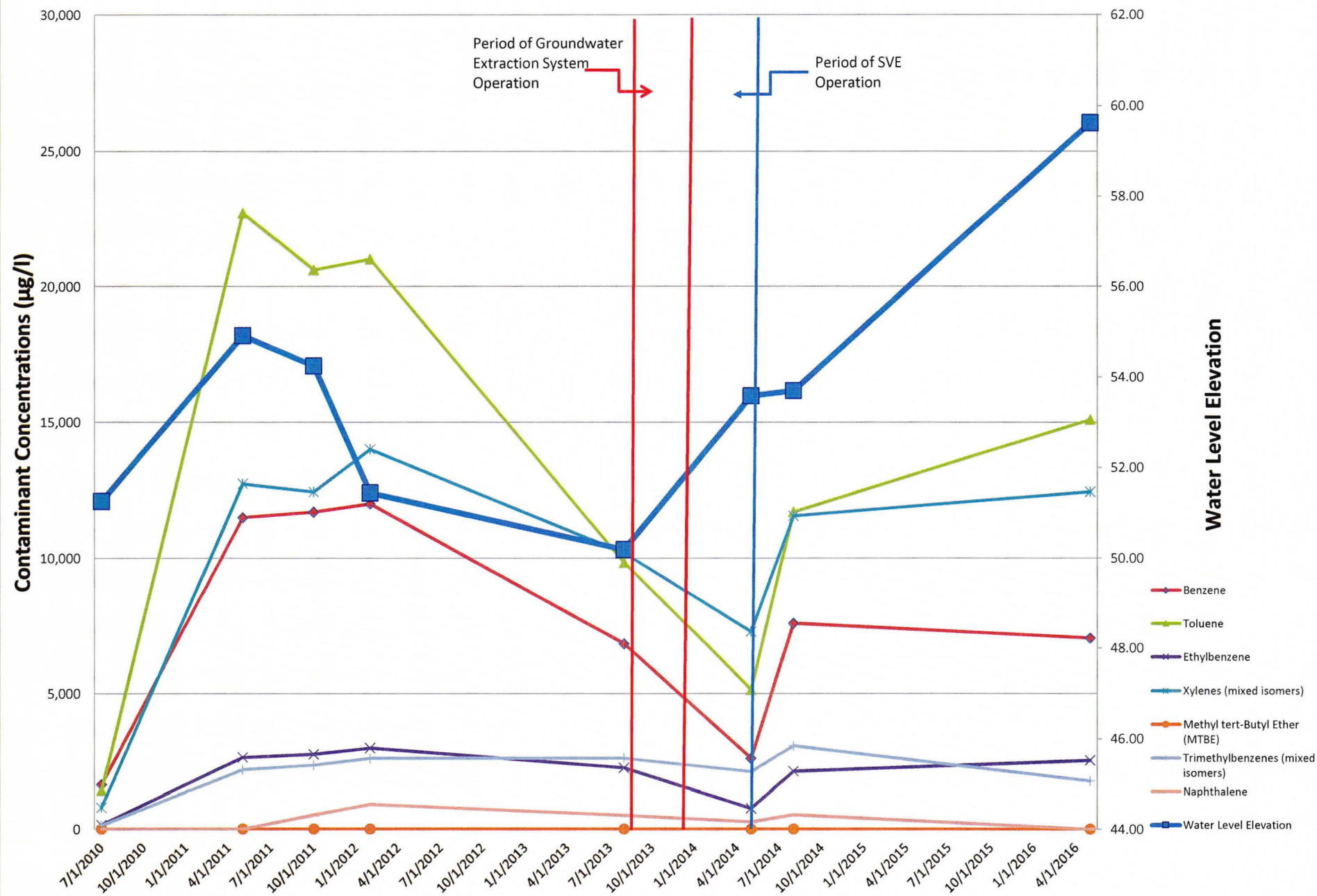
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6/10/2016

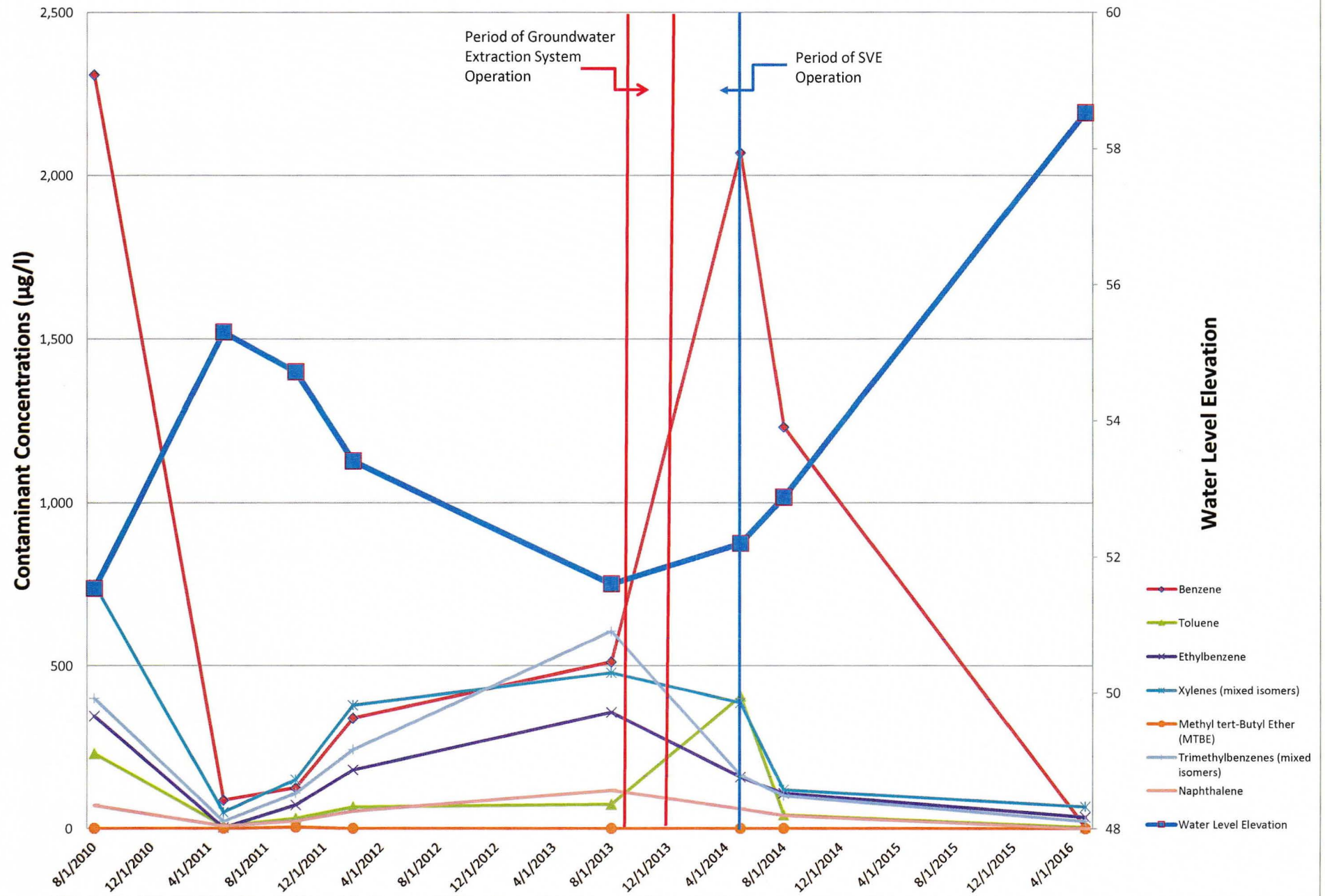
Contaminant Concentration over Time vs Water Level Elevation



Contaminant Concentration over Time vs Water Level Elevation



Contaminant Concentration over Time vs Water Level Elevation





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APPENDIX A

GROUNDWATER ANALYTICAL RESULTS



May 12, 2016

DAVID LARSEN
REI
4080 NORTH 20TH AVENUE
Wausau, WI 54401

RE: Project: 5357AXUC SCHLINSOG
Pace Project No.: 40132091

Dear DAVID LARSEN:

Enclosed are the analytical results for sample(s) received by the laboratory on May 11, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,



Brian Basten
brian.basten@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 5357AXUC SCHLINSOG
Pace Project No.: 40132091

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150

South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP Certification ID: 460263
Virginia VELAP ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

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SAMPLE SUMMARY

Project: 5357AXUC SCHLINSOG
Pace Project No.: 40132091

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40132091001	MW1	Water	05/05/16 12:30	05/11/16 08:40
40132091002	MW2	Water	05/05/16 13:00	05/11/16 08:40
40132091003	MW3	Water	05/05/16 10:30	05/11/16 08:40
40132091004	MW6	Water	05/05/16 11:30	05/11/16 08:40
40132091005	PZ2	Water	05/05/16 11:00	05/11/16 08:40
40132091006	PW1	Water	05/05/16 12:00	05/11/16 08:40

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SAMPLE ANALYTE COUNT

Project: 5357AXUC SCHLINSOG
Pace Project No.: 40132091

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40132091001	MW1	EPA 8260	HNW	14
40132091002	MW2	EPA 8260	HNW	14
40132091003	MW3	EPA 8260	HNW	14
40132091004	MW6	EPA 8260	HNW	14
40132091005	PZ2	EPA 8260	HNW	14
40132091006	PW1	EPA 8260	HNW	14

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

ANALYTICAL RESULTS

Project: 5357AXUC SCHLINSOG

Pace Project No.: 40132091

Sample: MW1 Lab ID: 40132091001 Collected: 05/05/16 12:30 Received: 05/11/16 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	8990	ug/L	200	100	200		05/12/16 08:56	71-43-2	
1,2-Dichloroethane	746	ug/L	200	33.6	200		05/12/16 08:56	107-06-2	
Ethylbenzene	597	ug/L	200	100	200		05/12/16 08:56	100-41-4	
Methyl-tert-butyl ether	<34.8	ug/L	200	34.8	200		05/12/16 08:56	1634-04-4	
Naphthalene	<500	ug/L	1000	500	200		05/12/16 08:56	91-20-3	
Toluene	13400	ug/L	200	100	200		05/12/16 08:56	108-88-3	
1,2,4-Trimethylbenzene	973	ug/L	200	100	200		05/12/16 08:56	95-63-6	
1,3,5-Trimethylbenzene	331	ug/L	200	100	200		05/12/16 08:56	108-67-8	
Xylene (Total)	5710	ug/L	600	300	200		05/12/16 08:56	1330-20-7	
m&p-Xylene	4040	ug/L	400	200	200		05/12/16 08:56	179601-23-1	
o-Xylene	1680	ug/L	200	100	200		05/12/16 08:56	95-47-6	
Surrogates									
Dibromofluoromethane (S)	92	%	70-130		200		05/12/16 08:56	1868-53-7	
Toluene-d8 (S)	98	%	70-130		200		05/12/16 08:56	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		200		05/12/16 08:56	460-00-4	

Sample: MW2 Lab ID: 40132091002 Collected: 05/05/16 13:00 Received: 05/11/16 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	7030	ug/L	200	100	200		05/12/16 09:18	71-43-2	
1,2-Dichloroethane	323	ug/L	200	33.6	200		05/12/16 09:18	107-06-2	
Ethylbenzene	2550	ug/L	200	100	200		05/12/16 09:18	100-41-4	
Methyl-tert-butyl ether	<34.8	ug/L	200	34.8	200		05/12/16 09:18	1634-04-4	
Naphthalene	<500	ug/L	1000	500	200		05/12/16 09:18	91-20-3	
Toluene	15100	ug/L	200	100	200		05/12/16 09:18	108-88-3	
1,2,4-Trimethylbenzene	1390	ug/L	200	100	200		05/12/16 09:18	95-63-6	
1,3,5-Trimethylbenzene	394	ug/L	200	100	200		05/12/16 09:18	108-67-8	
Xylene (Total)	12400	ug/L	600	300	200		05/12/16 09:18	1330-20-7	
m&p-Xylene	9380	ug/L	400	200	200		05/12/16 09:18	179601-23-1	
o-Xylene	3070	ug/L	200	100	200		05/12/16 09:18	95-47-6	
Surrogates									
Dibromofluoromethane (S)	102	%	70-130		200		05/12/16 09:18	1868-53-7	
Toluene-d8 (S)	99	%	70-130		200		05/12/16 09:18	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		200		05/12/16 09:18	460-00-4	

Sample: MW3 Lab ID: 40132091003 Collected: 05/05/16 10:30 Received: 05/11/16 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	48.7	ug/L	2.0	1.0	2		05/12/16 10:03	71-43-2	

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Date: 05/12/2016 03:12 PM

Page 5 of 13

ANALYTICAL RESULTS

Project: 5357AXUC SCHLINSOG

Pace Project No.: 40132091

Sample: MW3		Lab ID: 40132091003		Collected: 05/05/16 10:30		Received: 05/11/16 08:40		Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
1,2-Dichloroethane	3.8	ug/L	2.0	0.34	2		05/12/16 10:03	107-06-2	
Ethylbenzene	35.0	ug/L	2.0	1.0	2		05/12/16 10:03	100-41-4	
Methyl-tert-butyl ether	<0.35	ug/L	2.0	0.35	2		05/12/16 10:03	1634-04-4	
Naphthalene	7.4J	ug/L	10.0	5.0	2		05/12/16 10:03	91-20-3	
Toluene	4.1	ug/L	2.0	1.0	2		05/12/16 10:03	108-88-3	
1,2,4-Trimethylbenzene	14.8	ug/L	2.0	1.0	2		05/12/16 10:03	95-63-6	
1,3,5-Trimethylbenzene	8.0	ug/L	2.0	1.0	2		05/12/16 10:03	108-67-8	
Xylene (Total)	33.8	ug/L	6.0	3.0	2		05/12/16 10:03	1330-20-7	
m&p-Xylene	33.4	ug/L	4.0	2.0	2		05/12/16 10:03	179601-23-1	
o-Xylene	<1.0	ug/L	2.0	1.0	2		05/12/16 10:03	95-47-6	
Surrogates									
Dibromofluoromethane (S)	98	%	70-130		2		05/12/16 10:03	1868-53-7	D3
Toluene-d8 (S)	99	%	70-130		2		05/12/16 10:03	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		2		05/12/16 10:03	460-00-4	

Sample: MW6		Lab ID: 40132091004		Collected: 05/05/16 11:30		Received: 05/11/16 08:40		Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	8.9	ug/L	1.0	0.50	1		05/12/16 10:25	71-43-2	
1,2-Dichloroethane	0.36J	ug/L	1.0	0.17	1		05/12/16 10:25	107-06-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		05/12/16 10:25	100-41-4	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		05/12/16 10:25	1634-04-4	
Naphthalene	3.5J	ug/L	5.0	2.5	1		05/12/16 10:25	91-20-3	
Toluene	2.3	ug/L	1.0	0.50	1		05/12/16 10:25	108-88-3	
1,2,4-Trimethylbenzene	3.6	ug/L	1.0	0.50	1		05/12/16 10:25	95-63-6	
1,3,5-Trimethylbenzene	1.6	ug/L	1.0	0.50	1		05/12/16 10:25	108-67-8	
Xylene (Total)	5.2	ug/L	3.0	1.5	1		05/12/16 10:25	1330-20-7	
m&p-Xylene	2.0J	ug/L	2.0	1.0	1		05/12/16 10:25	179601-23-1	
o-Xylene	3.2	ug/L	1.0	0.50	1		05/12/16 10:25	95-47-6	
Surrogates									
Dibromofluoromethane (S)	101	%	70-130		1		05/12/16 10:25	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		05/12/16 10:25	2037-26-5	
4-Bromofluorobenzene (S)	92	%	70-130		1		05/12/16 10:25	460-00-4	

Sample: PZ2		Lab ID: 40132091005		Collected: 05/05/16 11:00		Received: 05/11/16 08:40		Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		05/12/16 10:48	71-43-2	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		05/12/16 10:48	107-06-2	

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ANALYTICAL RESULTS

Project: 5357AXUC SCHLINSOG

Pace Project No.: 40132091

Sample: PZ2 Lab ID: 40132091005 Collected: 05/05/16 11:00 Received: 05/11/16 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		05/12/16 10:48	100-41-4	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		05/12/16 10:48	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		05/12/16 10:48	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		05/12/16 10:48	108-88-3	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		05/12/16 10:48	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		05/12/16 10:48	108-67-8	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		05/12/16 10:48	1330-20-7	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		05/12/16 10:48	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		05/12/16 10:48	95-47-6	
Surrogates									
Dibromofluoromethane (S)	102	%	70-130		1		05/12/16 10:48	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		05/12/16 10:48	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1		05/12/16 10:48	460-00-4	

Sample: PW1 Lab ID: 40132091006 Collected: 05/05/16 12:00 Received: 05/11/16 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	2660	ug/L	40.0	20.0	40		05/12/16 09:40	71-43-2	
1,2-Dichloroethane	111	ug/L	40.0	6.7	40		05/12/16 09:40	107-06-2	
Ethylbenzene	145	ug/L	40.0	20.0	40		05/12/16 09:40	100-41-4	
Methyl-tert-butyl ether	<7.0	ug/L	40.0	7.0	40		05/12/16 09:40	1634-04-4	
Naphthalene	<100	ug/L	200	100	40		05/12/16 09:40	91-20-3	
Toluene	897	ug/L	40.0	20.0	40		05/12/16 09:40	108-88-3	
1,2,4-Trimethylbenzene	334	ug/L	40.0	20.0	40		05/12/16 09:40	95-63-6	
1,3,5-Trimethylbenzene	145	ug/L	40.0	20.0	40		05/12/16 09:40	108-67-8	
Xylene (Total)	1020	ug/L	120	60.0	40		05/12/16 09:40	1330-20-7	
m&p-Xylene	676	ug/L	80.0	40.0	40		05/12/16 09:40	179601-23-1	
o-Xylene	348	ug/L	40.0	20.0	40		05/12/16 09:40	95-47-6	
Surrogates									
Dibromofluoromethane (S)	105	%	70-130		40		05/12/16 09:40	1868-53-7	
Toluene-d8 (S)	98	%	70-130		40		05/12/16 09:40	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		40		05/12/16 09:40	460-00-4	

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QUALITY CONTROL DATA

Project: 5357AXUC SCHLINSOG
Pace Project No.: 40132091

QC Batch: MSV/33417 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40132091001, 40132091002, 40132091003, 40132091004, 40132091005, 40132091006

METHOD BLANK: 1333617 Matrix: Water
Associated Lab Samples: 40132091001, 40132091002, 40132091003, 40132091004, 40132091005, 40132091006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	05/11/16 15:57	
1,2-Dichloroethane	ug/L	<0.17	1.0	05/11/16 15:57	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	05/11/16 15:57	
Benzene	ug/L	<0.50	1.0	05/11/16 15:57	
Ethylbenzene	ug/L	<0.50	1.0	05/11/16 15:57	
m&p-Xylene	ug/L	<1.0	2.0	05/11/16 15:57	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	05/11/16 15:57	
Naphthalene	ug/L	<2.5	5.0	05/11/16 15:57	
o-Xylene	ug/L	<0.50	1.0	05/11/16 15:57	
Toluene	ug/L	<0.50	1.0	05/11/16 15:57	
Xylene (Total)	ug/L	<1.5	3.0	05/11/16 15:57	
4-Bromofluorobenzene (S)	%	88	70-130	05/11/16 15:57	
Dibromofluoromethane (S)	%	109	70-130	05/11/16 15:57	
Toluene-d8 (S)	%	98	70-130	05/11/16 15:57	

LABORATORY CONTROL SAMPLE: 1333618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	20	18.5	93	70-130	
Benzene	ug/L	20	17.1	86	60-135	
Ethylbenzene	ug/L	20	18.2	91	70-136	
m&p-Xylene	ug/L	40	40.5	101	70-138	
Methyl-tert-butyl ether	ug/L	20	14.0	70	66-138	
o-Xylene	ug/L	20	17.2	86	70-134	
Toluene	ug/L	20	20.0	100	70-130	
Xylene (Total)	ug/L	60	57.7	96	70-135	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1333763 1333764

Parameter	Units	40132037001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	<0.17	50	50	48.4	48.9	97	98	70-130	1	20	
Benzene	ug/L	<0.50	50	50	46.0	46.6	92	93	57-138	1	20	
Ethylbenzene	ug/L	<0.50	50	50	52.6	54.3	105	109	70-138	3	20	
m&p-Xylene	ug/L	<1.0	100	100	108	114	108	114	70-140	5	20	

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

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QUALITY CONTROL DATA

Project: 5357AXUC SCHLINSOG

Pace Project No.: 40132091

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1333763 1333764											
Parameter	Units	40132037001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Methyl-tert-butyl ether	ug/L	<0.17	50	50	38.3	38.9	77	78	66-139	2	20
o-Xylene	ug/L	<0.50	50	50	52.0	53.2	104	106	70-134	2	20
Toluene	ug/L	<0.50	50	50	53.4	55.2	107	110	70-130	3	20
Xylene (Total)	ug/L	<1.5	150	150	160	167	107	111	70-135	4	20
4-Bromofluorobenzene (S)	%						104	106	70-130		
Dibromofluoromethane (S)	%						106	106	70-130		
Toluene-d8 (S)	%						96	99	70-130		

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QUALIFIERS

Project: 5357AXUC SCHLINSOG
Pace Project No.: 40132091

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.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 5357AXUC SCHLINSOG

Pace Project No.: 40132091

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40132091001	MW1	EPA 8260	MSV/33417		
40132091002	MW2	EPA 8260	MSV/33417		
40132091003	MW3	EPA 8260	MSV/33417		
40132091004	MW6	EPA 8260	MSV/33417		
40132091005	PZ2	EPA 8260	MSV/33417		
40132091006	PW1	EPA 8260	MSV/33417		

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Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: REI

Project #:

WO#: **40132091**



Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Walter

Tracking #: 1053851-1

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

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

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used: N/A

Type of Ice: Wet Blue Dry None

☒ Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: 201 /Corr:

Biological Tissue is Frozen: ☐ yes

Temp Blank Present: ☐ yes ☒ no

☐ no

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Comments:

Person examining contents:

Date: 5/11/16

Initials: JL

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
- VOA Samples frozen upon receipt	☐ Yes ☐ No	Date/Time:
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
-Pace IR Containers Used:	☐ Yes ☐ No ☒ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>5/11/16 SW</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☐ Yes ☐ No ☒ N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐ Yes ☒ No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	14.
Trip Blank Present:	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 5-11-16