

708 Heartland Trail
Suite 3000
Madison, WI 53717

608-826-3600 PHONE
608-826-3941 FAX

www.TRCSolutions.com

January 9, 2020

Mr. Matt Thompson
Wisconsin Department of Natural Resources
1300 W. Clairemont Avenue
Eau Claire, WI 54701

Subject: 2019 Fourth Quarterly Report - Wauleco, Inc., Wausau, Wisconsin
BRRTS #02-37-000006

Dear Mr. Thompson:

On behalf of Wauleco, Inc., TRC is submitting a copy (enclosed) of the 2019 Fourth Quarterly Report for the Wauleco, Inc., site in Wausau, Wisconsin.

If you have any questions or comments regarding this information, please call me at (608) 826-3644.

Sincerely,

TRC Environmental Corporation

Bruce Iverson
Project Manager

Attachments: 2019 Fourth Quarterly Report

cc: Evan Schreiner – Wauleco, Inc. (2 copies)
David Crass – Michael Best & Friedrich, LLP (1 copy)
Tom Dushek – TRC Wauleco (1 copy)
Ken Quinn – TRC (1 copy)

**Wauleco, Inc. - Wausau, Wisconsin
Quarterly Report
Submitted January 2020**

Summary of 2019 Fourth Quarter Activities

Groundwater Extraction and Treatment System Operation

Tables 1a, b, and c summarize the extraction and treatment system performance data for this reporting period. The results of the water discharged to the municipal sewer during the fourth quarter of 2019 are summarized as follows:

- Pentachlorophenol (PCP) screening (on-site gas chromatograph) results for the system effluent samples, which represent the water discharged to the municipal sanitary sewer, averaged 1.13 µg/L in October, 1.23 µg/L in November, and 1.16 µg/L in December.
- Laboratory results for the sampling event conducted this quarter are included in Tables 1a, b, and c for each month. The laboratory results for PCP in the system effluent was <3.0 µg/L on October 16, <3.0 µg/L on November 13, and <3.0 µg/L on December 11, 2019.
- Both laboratory and on-site screening results indicate that the effluent PCP concentrations were below the monthly average permit level of 150 µg/L and the daily maximum concentration of 300 µg/L.
- Total treatment system efficiency (including carbon polishing units) removed more than 99 percent of the PCP between the influent and the effluent.

On-site screening PCP influent concentrations ranged from 3,287 µg/L to 8,097 µg/L during the quarter (Tables 1a, b, and c). PCP influent and effluent concentrations in the fluidized bed reactor (FBR) are presented graphically, both as individual data points and as moving averages, on Figure 1. FBR results included the following:

- As shown on Figure 1 and in Tables 1a, b, and c, PCP concentrations in the FBR influent fluctuated during the quarter, and generally remain within normal concentrations.
- The average PCP removal efficiency for the biological portion (*i.e.*, FBR influent to the fixed film reactor [FFR] effluent) of the system during this quarter is compared to the following:

MONTH	AVERAGE PCP REMOVAL (%)	PREVIOUS 12 MONTH AVERAGE (%)	AVERAGE 1 YEAR AGO (%)
October 2019	79	85	89
November 2019	87	85	85
December 2019	84	85	76

- The dissolved oxygen concentration in the influent to the FBR averaged 2.7 mg/L in October, 2.6 mg/L in November, and 2.2 mg/L in December 2019.

Laboratory results for the mercury analysis of the system effluent samples are included in Tables 1a, b, and c. The mercury concentration in the system effluent sample (discharged to the sanitary sewer) was 0.026 µg/L on October 16, 0.041 µg/L on November 13, and 0.029 µg/L on December 11, which are below the permit discharge limit of 1.6 µg/L. The mass loading for mercury in October was calculated at 0.00000734 lb/24 hours, 0.0000120 lb/24 hours in November, and 0.00000807 lb/24 hours in December, which are below the permit discharge limit of 0.00048 lb/24 hours.

The daily groundwater flow of the effluent to the Wausau Wastewater Treatment Plant averaged 23.49 gpm for October, 24.32 gpm for November, and 23.16 gpm for December 2019 (Tables 2a, b, and c). Since June, 2012 the pumping rate has been operated at approximately 22 gpm.

Figure 2 shows the average groundwater flow extracted and the average daily flow discharged to the Wausau Wastewater Treatment Plant.

Groundwater Monitoring

Water table elevations for the month of October 2019 are included in Table 3. Monthly water table elevations have been discontinued, with only quarterly elevations being measured, and semi-annual preparation of water table maps as discussed in the 2014 Annual Groundwater Monitoring Report dated April 16, 2015.

The product thickness data for October 2019 are summarized in Table 4. Measurements show no product present in October.

Enclosures: Tables 1a, b, and c – Above Ground Treatment System Data
Tables 2a, b, and c – Treatment System Flows
Table 3 – Groundwater Elevation Data
Table 4 – Free Product Measurements
Figure 1 – FBR Influent and Effluent PCP Concentrations
Figure 2 – Average Groundwater Extraction Rates and Water Level Deviation Versus Time

**TABLE 1a
OCTOBER 2019**

**Above Ground Treatment System Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Parameter</u>	<u>UNIT</u>	<u>DATE</u>	<u>FBR Influent</u>	<u>FBR Effluent</u>	<u>FFR Effluent</u>	<u>Bag Filter Effluent</u>	<u>Filters1+2 Effluent</u>	<u>System Effluent</u>	<u>System Eff Dup</u>
Biological Oxygen Demand	mg/L	10/16/2019	12	2.8				<	
Chemical Oxygen Demand	mg/L	10/16/2019	63	47				39	
Chloride	mg/L	10/16/2019	160	160				160	
Dissolved Oxygen	mg/L	10/4/2019	2.4	1.9	5.8				
	mg/L	10/11/2019	2.8	1.2	6.2				
	mg/L	10/16/2019	2.8	1.3	5.7				
	mg/L	10/24/2019	2.7	1.2	6.2				
	mg/L	10/31/2019	2.7	1.4	5.8				
Nitrogen, Ammonia	mg/L	10/4/2019	0.8	0.8	0.9				
	mg/L	10/11/2019	0.9	0.7	0.7				
	mg/L	10/16/2019	1.2	1	1				
	mg/L	10/24/2019	0.6	0.5	0.5				
	mg/L	10/31/2019	0.6	0.6	0.5				
Nitrogen, Nitrate	mg/L	10/4/2019	<	<	<				
	mg/L	10/11/2019	<	<	<				
	mg/L	10/16/2019	<	<	<				
	mg/L	10/24/2019	<	<	<				
	mg/L	10/31/2019	<	<	<				
Nitrogen, Total Kjeldahl	mg/L	10/16/2019	<	<				<	
Pentachlorophenol-Screen	µg/L	10/1/2019						1	
	µg/L	10/2/2019						1	
	µg/L	10/3/2019						1	
	µg/L	10/4/2019						1	
	µg/L	10/5/2019						1	
	µg/L	10/6/2019						1	
	µg/L	10/7/2019						1	
	µg/L	10/8/2019						1	
	µg/L	10/9/2019						1	
	µg/L	10/10/2019						1	
	µg/L	10/11/2019	6258	1013	1434			1	
	µg/L	10/12/2019						2	
	µg/L	10/13/2019						2	
	µg/L	10/14/2019						2	
	µg/L	10/15/2019						2	
	µg/L	10/16/2019	5737	975	970		22	1	
	µg/L	10/17/2019						1	
	µg/L	10/18/2019						1	
	µg/L	10/19/2019						1	
	µg/L	10/20/2019						1	
	µg/L	10/21/2019						1	
	µg/L	10/22/2019						1	
	µg/L	10/23/2019						1	
	µg/L	10/24/2019	4069	995	896			1	
	µg/L	10/25/2019						1	
	µg/L	10/26/2019						1	
	µg/L	10/27/2019						1	

**TABLE 1a
OCTOBER 2019**

**Above Ground Treatment System Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Parameter</u>	<u>UNIT</u>	<u>DATE</u>	<u>FBR Influent</u>	<u>FBR Effluent</u>	<u>FFR Effluent</u>	<u>Bag Filter Effluent</u>	<u>Filters1+2 Effluent</u>	<u>System Effluent</u>	<u>System Eff Dup</u>
Pentachlorophenol-Screen	µg/L	10/28/2019						1	
	µg/L	10/29/2019						1	
	µg/L	10/30/2019						1	
	µg/L	10/31/2019	5171	1057	1049			1	
pH	S.U.	10/4/2019	6.9	7	7				
	S.U.	10/11/2019	6.85	6.75	6.85				
	S.U.	10/16/2019	6.9	6.8	6.8				
	S.U.	10/24/2019	6.9	6.75	6.75				
	S.U.	10/31/2019	6.9	6.8	6.8				
Phosphorus, Ortho	mg/L	10/16/2019	<	<				<	
Phosphorus, Phosphate	mg/L	10/4/2019	0.8	1	0.3				
	mg/L	10/11/2019	0.8	1	0.9				
	mg/L	10/16/2019	0.9	1	1				
	mg/L	10/24/2019	0.8	0.9	0.9				
	mg/L	10/31/2019	0.7	0.7	0.7				
Solids, Total Suspended	mg/L	10/16/2019	13	28				3.8	
Mercury	µg/L	10/16/2019	0.53					0.026	
Phenol									
2,3,4,6-Tetrachlorophenol	µg/L	10/16/2019	170		48		0.40	<	<
2,4,5-Trichlorophenol	µg/L	10/16/2019	<		8.6		<	<	<
2,4,6-Trichlorophenol	µg/L	10/16/2019	<		<		<	<	<
2,4-Dichlorophenol	µg/L	10/16/2019	<		<		<	<	<
2,4-Dimethylphenol	µg/L	10/16/2019	<		<		<	<	<
2,4-Dinitrophenol	µg/L	10/16/2019	<		<		<	<	<
2,6-Dichlorophenol	µg/L	10/16/2019	<		<		<	<	<
2-Chlorophenol	µg/L	10/16/2019	<		<		<	<	<
2-Methylphenol	µg/L	10/16/2019	<		<		<	<	<
2-Nitrophenol	µg/L	10/16/2019	<		<		<	<	<
3&4-Methylphenol	µg/L	10/16/2019	<		<		<	<	<
4,6-Dinitro-2-Methylphenol	µg/L	10/16/2019	<		150		<	<	<
4-Chloro-3-Methylphenol	µg/L	10/16/2019	<		<		<	<	<
4-Nitrophenol	µg/L	10/16/2019	<		<		<	<	<
Pentachlorophenol	µg/L	10/16/2019	2900		440		6.5	<	<
Phenol	µg/L	10/16/2019	<		<		<	<	<

**TABLE 1b
NOVEMBER 2019**

**Above Ground Treatment System Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Parameter</u>	<u>UNIT</u>	<u>DATE</u>	<u>FBR Influent</u>	<u>FBR Effluent</u>	<u>FFR Effluent</u>	<u>Bag Filter Effluent</u>	<u>Filters1+2 Effluent</u>	<u>System Effluent</u>	<u>System Eff Dup</u>
Biological Oxygen Demand	mg/L	11/13/2019	11	<				<	
Chemical Oxygen Demand	mg/L	11/13/2019	99	32				23	
Chloride	mg/L	11/13/2019	180	180				180	
Dissolved Oxygen	mg/L	11/7/2019	2.8	1.3	5.6				
	mg/L	11/13/2019	2.4	1.2	6.4				
	mg/L	11/21/2019	2.6	1.4	5.8				
	mg/L	11/27/2019	2.6	1.5	6.8				
Nitrogen, Ammonia	mg/L	11/7/2019	0.8	0.7	0.6				
	mg/L	11/13/2019	0.7	0.6	0.6				
	mg/L	11/21/2019	0.8	0.3	0.3				
	mg/L	11/27/2019	1.2	0.3	0.3				
Nitrogen, Nitrate	mg/L	11/7/2019	<	<	<				
	mg/L	11/13/2019	<	<	<				
	mg/L	11/21/2019	<	<	<				
	mg/L	11/27/2019	<	<	<				
Nitrogen, Total Kjeldahl	mg/L	11/13/2019	<	<				<	
Pentachlorophenol-Screen	µg/L	11/1/2019						1	
	µg/L	11/2/2019						1	
	µg/L	11/3/2019						2	
	µg/L	11/4/2019						2	
	µg/L	11/5/2019						3	
	µg/L	11/6/2019						3	
	µg/L	11/7/2019	8097	1871	1756			1	
	µg/L	11/8/2019						2	
	µg/L	11/9/2019						1	
	µg/L	11/10/2019						1	
	µg/L	11/11/2019						1	
	µg/L	11/12/2019						1	
	µg/L	11/13/2019	7349	1233	541		14	1	
	µg/L	11/14/2019						1	
	µg/L	11/15/2019						1	
	µg/L	11/16/2019						1	
	µg/L	11/17/2019						1	
	µg/L	11/18/2019						1	
	µg/L	11/19/2019						1	
	µg/L	11/20/2019						1	
	µg/L	11/21/2019	6535	870	675			1	
	µg/L	11/22/2019						1	
	µg/L	11/23/2019						1	
	µg/L	11/24/2019						1	
	µg/L	11/25/2019						1	
	µg/L	11/26/2019						1	
	µg/L	11/27/2019	5214	484	713			1	

**TABLE 1b
NOVEMBER 2019**

**Above Ground Treatment System Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Parameter</u>	<u>UNIT</u>	<u>DATE</u>	<u>FBR Influent</u>	<u>FBR Effluent</u>	<u>FFR Effluent</u>	<u>Bag Filter Effluent</u>	<u>Filters1+2 Effluent</u>	<u>System Effluent</u>	<u>System Eff Dup</u>
Pentachlorophenol-Screen	µg/L	11/28/2019						1	
	µg/L	11/29/2019						1	
	µg/L	11/30/2019						1	
pH	S.U.	11/7/2019	6.9	6.75	6.8				
	S.U.	11/13/2019	6.95	6.8	6.85				
	S.U.	11/21/2019	6.85	6.8	6.8				
	S.U.	11/27/2019	6.8	6.65	6.75				
Phosphorus, Ortho	mg/L	11/13/2019	<	<				<	
Phosphorus, Phosphate	mg/L	11/7/2019	1	1.1	0.8				
	mg/L	11/13/2019	0.8	0.8	0.7				
	mg/L	11/21/2019	1.1	0.8	1.2				
	mg/L	11/27/2019	0.7	0.6	0.6				
Solids, Total Suspended	mg/L	11/13/2019	8.4	20				3.8	
Mercury	µg/L	11/13/2019						0.041	
Phenol									
2,3,4,6-Tetrachlorophenol	µg/L	11/13/2019	350	47	37			<	<
2,4,5-Trichlorophenol	µg/L	11/13/2019	<	9.0	7.2			<	<
2,4,6-Trichlorophenol	µg/L	11/13/2019	<	<	<			<	<
2,4-Dichlorophenol	µg/L	11/13/2019	<	<	<			<	<
2,4-Dimethylphenol	µg/L	11/13/2019	<	<	<			<	<
2,4-Dinitrophenol	µg/L	11/13/2019	<	<	<			<	<
2,6-Dichlorophenol	µg/L	11/13/2019	<	<	<			<	<
2-Chlorophenol	µg/L	11/13/2019	<	<	<			<	<
2-Methylphenol	µg/L	11/13/2019	<	<	<			<	<
2-Nitrophenol	µg/L	11/13/2019	<	<	<			<	<
3&4-Methylphenol	µg/L	11/13/2019	<	<	<			<	<
4,6-Dinitro-2-Methylphenol	µg/L	11/13/2019	<	140	<			<	<
4-Chloro-3-Methylphenol	µg/L	11/13/2019	<	<	<			<	<
4-Nitrophenol	µg/L	11/13/2019	<	<	<			<	<
Pentachlorophenol	µg/L	11/13/2019	3900	370	300			<	<
Phenol	µg/L	11/13/2019	<	<	<			<	<

**TABLE 1c
DECEMBER 2019**

**Above Ground Treatment System Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Parameter</u>	<u>UNIT</u>	<u>DATE</u>	<u>FBR Influent</u>	<u>FBR Effluent</u>	<u>FFR Effluent</u>	<u>Bag Filter Effluent</u>	<u>Filters1+2 Effluent</u>	<u>System Effluent</u>	<u>System Eff Dup</u>
Biological Oxygen Demand	mg/L	12/11/2019	8.0	4.9				<	
Chemical Oxygen Demand	mg/L	12/11/2019	43	31				21	
Chloride	mg/L	12/11/2019	180	180				180	
Dissolved Oxygen	mg/L	12/4/2019	2.1	1	6.6				
	mg/L	12/11/2019	2.4	1.2	6.8				
	mg/L	12/18/2019	2	1.1	7.1				
	mg/L	12/26/2019	2.2	1.1	7				
Nitrogen, Ammonia	mg/L	12/4/2019	0.8	0.7	1.1				
	mg/L	12/11/2019	0.4	0.4	0.3				
	mg/L	12/18/2019	0.5	0.5	0.4				
	mg/L	12/26/2019	0.5	0.3	0.4				
Nitrogen, Nitrate	mg/L	12/4/2019	<	<	<				
	mg/L	12/11/2019	<	<	<				
	mg/L	12/18/2019	<	<	<				
	mg/L	12/26/2019	<	<	<				
Nitrogen, Total Kjeldahl	mg/L	12/11/2019	<	<				<	
Pentachlorophenol-Screen	µg/L	12/1/2019						1	
	µg/L	12/2/2019						1	
	µg/L	12/3/2019						1	
	µg/L	12/4/2019	4301	713	908			1	
	µg/L	12/5/2019						2	
	µg/L	12/6/2019						2	
	µg/L	12/7/2019						1	
	µg/L	12/8/2019						1	
	µg/L	12/9/2019						1	
	µg/L	12/10/2019						1	
	µg/L	12/11/2019	5219	716	678		74	1	
	µg/L	12/12/2019						2	
	µg/L	12/13/2019						1	
	µg/L	12/14/2019						1	
	µg/L	12/15/2019						1	
	µg/L	12/16/2019						1	
	µg/L	12/17/2019						1	
	µg/L	12/18/2019	3287	488	409			1	
	µg/L	12/19/2019						2	
	µg/L	12/20/2019						1	
	µg/L	12/21/2019						1	
	µg/L	12/22/2019						1	
	µg/L	12/23/2019						1	
	µg/L	12/24/2019						1	
	µg/L	12/25/2019						1	
	µg/L	12/26/2019	4253	698	706			1	
	µg/L	12/27/2019						2	
	µg/L	12/28/2019						1	

**TABLE 1c
DECEMBER 2019**

**Above Ground Treatment System Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Parameter</u>	<u>UNIT</u>	<u>DATE</u>	<u>FBR Influent</u>	<u>FBR Effluent</u>	<u>FFR Effluent</u>	<u>Bag Filter Effluent</u>	<u>Filters1+2 Effluent</u>	<u>System Effluent</u>	<u>System Eff Dup</u>
Pentachlorophenol-Screen	µg/L	12/29/2019						1	
	µg/L	12/30/2019						1	
	µg/L	12/31/2019						1	
pH	S.U.	12/4/2019	6.85	6.8	6.85				
	S.U.	12/11/2019	6.9	6.8	6.8				
	S.U.	12/18/2019	6.85	6.8	6.8				
	S.U.	12/26/2019	6.95	6.95	6.95				
Phosphorus, Ortho	mg/L	12/11/2019	<	<				<	
Phosphorus, Phosphate	mg/L	12/4/2019	0.8	0.6	0.7				
	mg/L	12/11/2019	0.6	0.5	0.3				
	mg/L	12/18/2019	0.8	0.5	0.5				
	mg/L	12/26/2019	0.8	0.5	0.6				
Solids, Total Suspended	mg/L	12/11/2019	9.0	22				3.2	
Mercury	µg/L	12/11/2019						0.029	
Phenol									
2,3,4,6-Tetrachlorophenol	µg/L	12/11/2019	280		51			<	<
2,4,5-Trichlorophenol	µg/L	12/11/2019	<		20			<	<
2,4,6-Trichlorophenol	µg/L	12/11/2019	<		<			<	<
2,4-Dichlorophenol	µg/L	12/11/2019	<		<			<	<
2,4-Dimethylphenol	µg/L	12/11/2019	<		<			<	<
2,4-Dinitrophenol	µg/L	12/11/2019	<		<			<	<
2,6-Dichlorophenol	µg/L	12/11/2019	<		<			<	<
2-Chlorophenol	µg/L	12/11/2019	<		<			<	<
2-Methylphenol	µg/L	12/11/2019	<		<			<	<
2-Nitrophenol	µg/L	12/11/2019	<		<			<	<
3&4-Methylphenol	µg/L	12/11/2019	<		<			<	<
4,6-Dinitro-2-Methylphenol	µg/L	12/11/2019	<		<			<	<
4-Chloro-3-Methylphenol	µg/L	12/11/2019	<		<			<	<
4-Nitrophenol	µg/L	12/11/2019	<		<			<	<
Pentachlorophenol	µg/L	12/11/2019	3800		490			<	<
Phenol	µg/L	12/11/2019	<		<			<	<

TABLE 2a
OCTOBER 2019

Treatment System Flows
Wauleco, Inc.
Wausau, Wisconsin

Date	Influent Groundwater Flow Rate ⁽¹⁾⁽³⁾ (gpm)	POTW Discharge Flow Rate ⁽¹⁾⁽⁴⁾ (gpm)	POTW Totalized Discharge ⁽³⁾ (gal)
10/1/2019	21.86	23.80	80509779
10/2/2019	21.21	24.18	80544596
10/3/2019	21.40	23.78	80578841
10/4/2019	21.33	23.32	80612423
10/5/2019	21.39	22.50	80644829
10/6/2019	21.11	22.54	80677286
10/7/2019	21.16	21.04	80707577
10/8/2019	21.31	21.35	80738315
10/9/2019	21.68	21.48	80769247
10/10/2019	21.57	21.18	80799746
10/11/2019	21.40	21.00	80829982
10/12/2019	21.52	20.39	80859350
10/13/2019	20.55	20.75	80889224
10/14/2019	17.95	20.62	80918917
10/15/2019	22.29	21.97	80950555
10/16/2019	22.72	21.66	80981749
10/17/2019	22.83	21.35	81012488
10/18/2019	23.11	25.26	81048859
10/19/2019	23.53	26.00	81086298
10/20/2019	23.43	26.01	81123749
10/21/2019	23.36	25.76	81160849
10/22/2019	23.45	25.74	81197910
10/23/2019	23.20	25.80	81235061
10/24/2019	23.26	25.82	81272242
10/25/2019	23.42	25.59	81309093
10/26/2019	22.87	25.22	81345416
10/27/2019	22.05	24.85	81381198
10/28/2019	21.94	24.71	81416775
10/29/2019	22.02	24.80	81452489
10/30/2019	21.85	24.94	81488405
10/31/2019	21.66	24.75	81524051
Average For The Month	22.01	23.49	
Total ⁽²⁾ :			1,048,547

Footnotes:

- ⁽¹⁾ Influent and POTW discharge flow rates are daily averages. These may not be equal due to balancing in the treatment system and calibration of individual flowmeters. The influent groundwater flow rate is calculated by adding the instantaneous flow rate from each pumping well (i.e., 16 meters). The POTW discharge flow rate is recorded directly from the effluent meter.
- ⁽²⁾ Total is the cumulative gallons discharged to the POTW during the reporting period. This number is calculated by subtracting the total of the previous month's last day from the total of the current month's last day, see previous month's report for the number used. The total from the first day of the current month is not used in the calculation.
- ⁽³⁾ Totalizers were reset to 0 on August 23, 2012 during the system shutdown for maintenance.
- ⁽⁴⁾ A new effluent meter was installed in April, 2017 during the system shutdown for maintenance.

TABLE 2b
NOVEMBER 2019

Treatment System Flows
Wauleco, Inc.
Wausau, Wisconsin

Date	Influent Groundwater Flow Rate ⁽¹⁾⁽³⁾ (gpm)	POTW Discharge Flow Rate ⁽¹⁾⁽⁴⁾ (gpm)	POTW Totalized Discharge ⁽³⁾ (gal)
11/1/2019	21.53	24.84	81559826
11/2/2019	21.38	24.39	81594948
11/3/2019	21.68	24.84	81630716
11/4/2019	20.62	23.78	81664963
11/5/2019	20.55	24.00	81699526
11/6/2019	20.58	24.04	81734150
11/7/2019	20.68	24.03	81768749
11/8/2019	20.67	24.53	81804070
11/9/2019	20.55	25.87	81841317
11/10/2019	20.60	25.84	81878532
11/11/2019	20.70	25.58	81915366
11/12/2019	20.72	25.84	81952569
11/13/2019	20.70	25.59	81989413
11/14/2019	20.60	25.35	82025915
11/15/2019	20.61	25.66	82062863
11/16/2019	20.47	25.35	82099374
11/17/2019	20.45	25.54	82136150
11/18/2019	20.37	24.87	82171959
11/19/2019	18.23	23.81	82206241
11/20/2019	18.14	23.68	82240339
11/21/2019	18.16	23.39	82274024
11/22/2019	18.09	23.54	82307919
11/23/2019	18.02	23.24	82341389
11/24/2019	18.04	23.37	82375048
11/25/2019	18.00	23.07	82408273
11/26/2019	18.04	23.03	82441435
11/27/2019	18.03	23.06	82474643
11/28/2019	18.02	23.08	82507881
11/29/2019	18.08	23.17	82541247
11/30/2019	18.12	23.24	82574714
Average For The Month	19.68	24.32	
Total ⁽²⁾ :			1,050,663

Footnotes:

- ⁽¹⁾ Influent and POTW discharge flow rates are daily averages. These may not be equal due to balancing in the treatment system and calibration of individual flowmeters. The influent groundwater flow rate is calculated by adding the instantaneous flow rate from each pumping well (i.e., 16 meters). The POTW discharge flow rate is recorded directly from the effluent meter.
- ⁽²⁾ Total is the cumulative gallons discharged to the POTW during the reporting period. This number is calculated by subtracting the total of the previous month's last day from the total of the current month's last day, see previous month's report for the number used. The total from the first day of the current month is not used in the calculation.
- ⁽³⁾ Totalizers were reset to 0 on August 23, 2012 during the system shutdown for maintenance.
- ⁽⁴⁾ A new effluent meter was installed in April, 2017 during the system shutdown for maintenance.

TABLE 2c
DECEMBER 2019

Treatment System Flows
Wauleco, Inc.
Wausau, Wisconsin

Date	Influent Groundwater Flow Rate ^{(1) (3)} (gpm)	POTW Discharge Flow Rate ^{(1) (4)} (gpm)	POTW Totalized Discharge ⁽³⁾ (gal)
12/1/2019	18.08	22.98	82607805
12/2/2019	18.08	23.12	82641095
12/3/2019	18.03	22.70	82673782
12/4/2019	17.86	22.67	82706425
12/5/2019	17.92	22.91	82739422
12/6/2019	18.05	23.20	82772830
12/7/2019	18.04	22.96	82805892
12/8/2019	18.07	23.23	82839347
12/9/2019	17.99	22.98	82872431
12/10/2019	18.14	22.97	82905501
12/11/2019	18.18	23.02	82938646
12/12/2019	17.65	22.70	82971341
12/13/2019	17.22	22.60	83003882
12/14/2019	17.24	22.41	83036153
12/15/2019	17.26	22.57	83068660
12/16/2019	17.23	22.51	83101080
12/17/2019	17.24	22.59	83133603
12/18/2019	17.27	22.75	83166360
12/19/2019	17.26	22.73	83199096
12/20/2019	16.19	21.98	83230740
12/21/2019	17.59	23.25	83264218
12/22/2019	18.07	23.92	83298669
12/23/2019	18.06	23.86	83333029
12/24/2019	18.03	23.95	83367518
12/25/2019	18.02	24.04	83402136
12/26/2019	18.05	24.21	83437003
12/27/2019	18.04	24.03	83471609
12/28/2019	17.99	23.99	83506156
12/29/2019	18.05	24.24	83541067
12/30/2019	18.03	23.98	83575596
12/31/2019	17.17	22.86	83608513
Average For The Month	17.75	23.16	
Total ⁽²⁾ :			1,033,799

Footnotes:

- (1) Influent and POTW discharge flow rates are daily averages. These may not be equal due to balancing in the treatment system and calibration of individual flowmeters. The influent groundwater flow rate is calculated by adding the instantaneous flow rate from each pumping well (i.e., 16 meters). The POTW discharge flow rate is recorded directly from the effluent meter.
- (2) Total is the cumulative gallons discharged to the POTW during the reporting period. This number is calculated by subtracting the total of the previous month's last day from the total of the current month's last day, see previous month's report for the number used. The total from the first day of the current month is not used in the calculation.
- (3) Totalizers were reset to 0 on August 23, 2012 during the system shutdown for maintenance.
- (4) A new effluent meter was installed in April, 2017 during the system shutdown for maintenance.

TABLE 3

**Groundwater Elevation Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Well</u>	<u>October 18, 2019 (ft msl)</u>	<u>November 2019</u>	<u>December 2019</u>
PW01	1165.56	----	----
PW02	Abandoned	----	----
PW03	1165.17	----	----
PW3S	1164.69	----	----
PW04	1164.47	----	----
PW05	1164.51	----	----
PW06	1164.69	----	----
PW07	1164.51	----	----
PW08	1165.65	----	----
PW09I	----	----	----
PW09O	1164.55	----	----
PW10	1164.87	----	----
PW11	1163.49	----	----
PW12	1165.56	----	----
PW13	1164.65	----	----
PW14	1164.01	----	----
PW15	1164.2	----	----
PW16	1163.80	----	----
PW17	1163.97	----	----
PW18	1164.59	----	----
PW19	1163.66	----	----
PW20	1163.63	----	----
PW21	1163.92	----	----
PW22	1164.52	----	----
PW23	1164.41	----	----
PW24	1163.05	----	----
PW25	1161.83	----	----
PW26	1162.61	----	----
PW27	1160.82	----	----
PW28	1165.22	----	----
PW29	1165.37	----	----
P01	1164.46	----	----
OW01	1166.75	----	----
W01A	1165.96	----	----
W01B	1165.99	----	----
W02	1164.94	----	----
W03A	1163.59	----	----
W03B	1163.18	----	----
W04A	1164.77	----	----
W04B	1164.72	----	----
W05	1164.53	----	----
W06R	1165.87	----	----
W07	1165.62	----	----
W08	1175.15	----	----
W09	1163.5	----	----
W10A	1161.76	----	----
W10B	1161.8	----	----
W11	1161.59	----	----
W12	1161.1	----	----
W13	1162.62	----	----
W14	1161.33	----	----
W16	1163.36	----	----
W17	1163.77	----	----
W18	1161.77	----	----
W19	Abandoned	----	----

TABLE 3 (continued)

**Groundwater Elevation Data
Wauleco, Inc.
Wausau, Wisconsin**

<u>Well</u>	<u>October 18, 2019 (ft msl)</u>	<u>November 2019</u>	<u>December 2019</u>
W21	1161.31	----	----
W22	1163.46	----	----
W23	1161.42	----	----
W24A	1161.4	----	----
W25	1165.94	----	----
W26/W26R	1161.69	----	----
W27	1162.79	----	----
W28	1161.76	----	----
W29/W29R	1161.49	----	----
W30	1164.47	----	----
W31	1161.37	----	----
W32	1161.38	----	----
W33	1164.54	----	----
W34	1164.51	----	----
W35	1164.73	----	----
W36	1165.1	----	----
W39	Abandoned	----	----
W40/W40R	1163.11	----	----
W41	1164.17	----	----
W42	1165.22	----	----
W44	1164.43	----	----
W45	1164.58	----	----
W46	1164.35	----	----
W47	1163.52	----	----
W48	1163.75	----	----
W49	1164.2	----	----
W66	1165.61	----	----
W67	1165.57	----	----
W68A	1165.64	----	----
W68B	1165.48	----	----
W69	1165.14	----	----
W70B	Abandoned	----	----
River	-----	----	----
IW01	1164.55	----	----
IW01A	1164.5	----	----
FP01	1162.96	----	----
FP02	1163.10	----	----
FP03	1161.81	----	----
FP04	1163.21	----	----
3M Basin	Water in both Basins	----	----
DFOWM 5	-----	----	----
DFOWM 9	Abandoned	----	----
DFOWM 10A	Abandoned	----	----
DFOWM 11	-----	----	----
DFOWM 12	-----	----	----
W71	1167.06	----	----
W72	1166.37	----	----
W73	1164.88	----	----
W74	1164.08	----	----

Notes:

1. ft msl = feet mean sea level
2. PW09O denotes the outer well and PW09I denotes the inner well
3. ----- = Well not measured
4. Groundwater elevations have been adjusted for product thickness.
5. Top of casing elevations were resurveyed for the on-site wells on December 4, 2009 . Use of the new data began in January 2010.

**Free Product Measurements
Wauleco, Inc.
Wausau, Wisconsin**

<u>Well</u>	October 18, 2019 (ft)	November 2019	December 2019
PW01	0.00	----	----
PW02	Abandoned	----	----
PW03	0.00	----	----
PW3S	0.00	----	----
PW04	0.00	----	----
PW05	0.00	----	----
PW06	0.00	----	----
PW07	0.00	----	----
PW08	0.00	----	----
PW09I	-----	----	----
PW09O	0.00	----	----
PW10	0.00	----	----
PW11	0.00	----	----
PW12	0.00	----	----
PW13	0.00	----	----
PW14	0.00	----	----
PW15	0.00	----	----
PW16	0.00	----	----
PW17	0.00	----	----
PW18	0.00	----	----
PW19	0.00	----	----
PW20	0.00	----	----
PW21	0.00	----	----
PW22	0.00	----	----
PW23	0.00	----	----
PW24	0.00	----	----
PW25	0.00	----	----
PW26	0.00	----	----
PW27	0.00	----	----
PW28	0.00	----	----
PW29	0.00	----	----
P01	0.00	----	----
OW01	0.00	----	----
W01A	0.00	----	----
W01B	0.00	----	----
W02	0.00	----	----
W03A	0.00	----	----
W03B	0.00	----	----
W04A	0.00	----	----
W04B	0.00	----	----
W05	0.00	----	----
W06R	0.00	----	----
W07	0.00	----	----
W08	0.00	----	----
W09	0.00	----	----
W10A	0.00	----	----
W10B	0.00	----	----
W11	0.00	----	----
W12	0.00	----	----
W13	0.00	----	----
W14	0.00	----	----
W16	0.00	----	----
W17	0.00	----	----

Table 4 (continued)

Free Product Measurements
 Wauleco, Inc.
 Wausau, Wisconsin

Well	October 18, 2019 (ft)	November 2019	December 2019
W18	0.00	----	----
W19	Abandoned	----	----
W21	0.00	----	----
W22	0.00	----	----
W23	0.00	----	----
W24A	0.00	----	----
W25	0.00	----	----
W26/W26R	0.00	----	----
W27	0.00	----	----
W28	0.00	----	----
W29/W29R	0.00	----	----
W30	0.00	----	----
W31	0.00	----	----
W32	0.00	----	----
W33	0.00	----	----
W34	0.00	----	----
W35	0.00	----	----
W36	0.00	----	----
W39	Abandoned	----	----
W40/W40R	0.00	----	----
W41	0.00	----	----
W42	0.00	----	----
W44	0.00	----	----
W45	0.00	----	----
W46	0.00	----	----
W47	0.00	----	----
W48	0.00	----	----
W49	0.00	----	----
W66	0.00	----	----
W67	0.00	----	----
W68A	0.00	----	----
W68B	0.00	----	----
W69	0.00	----	----
W70B	Abandoned	----	----
River	----	----	----
IW01	0.00	----	----
IW01A	0.00	----	----
FP01	0.00	----	----
FP02	0.00	----	----
FP03	0.00	----	----
FP04	0.00	----	----
3M Basin	0.00	----	----
DFOWM 5	----	----	----
DFOWM 9	Abandoned	----	----
DFOWM 10A	Abandoned	----	----
DFOWM 11	----	----	----
DFOWM 12	----	----	----
W71	0.00	----	----
W72	0.00	----	----
W73	0.00	----	----
W74	0.00	----	----

Notes:

1. PW09O denotes the outer well and PW09I denotes the inner well
2. ---- = Well not measured

FIGURE 1
FBR Influent and Effluent PCP Concentrations
Wauleco, Inc.
Wausau, WI

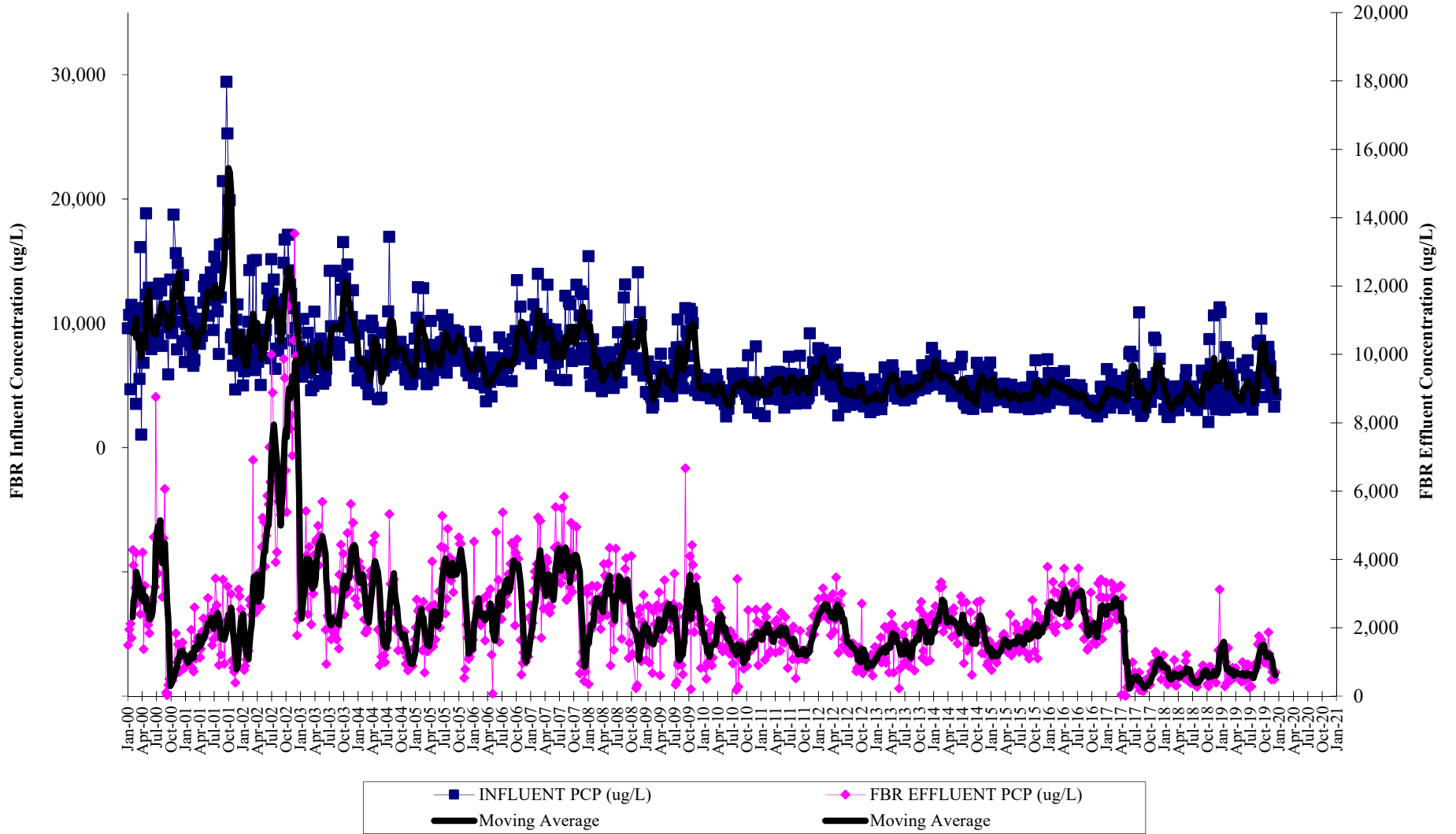
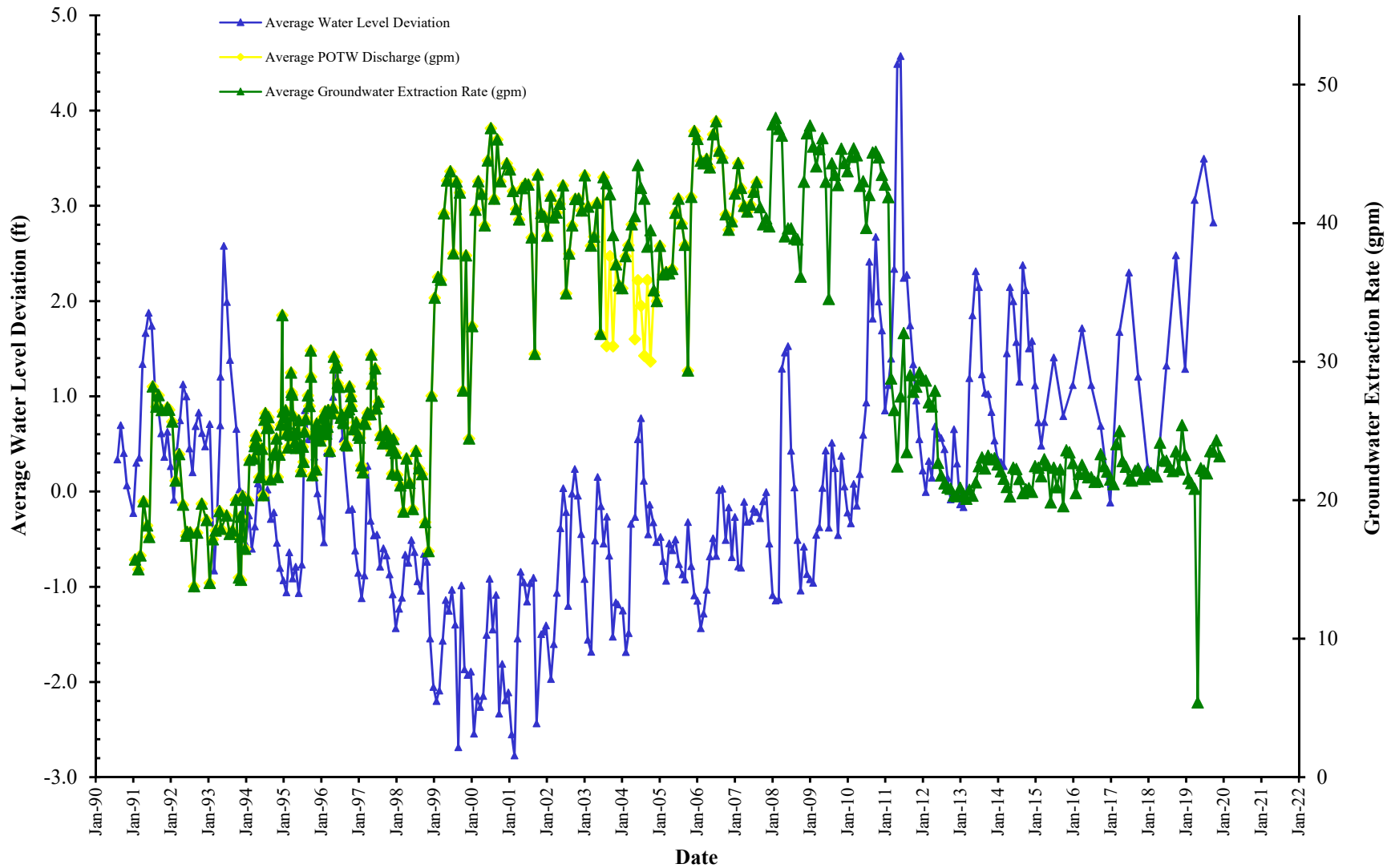


FIGURE 2

**Average Groundwater Extraction Rates and Water Level Deviation Versus Time
Wauleco, Inc.
Wausau, WI**



Note: The Average Groundwater Extraction Rate is a monthly average of the flow into the treatment system. The monthly average POTW discharge is less than the total extraction rate during the PPT pilot test due to the injection of treated water into IW01.