

**Emergency Discharges / Spills should be reported via the 24-Hour Hotline: 1-800-943-0003**

**Notice: Hazardous substance discharges must be reported immediately** according to s. 292.11 Wis. Stats. Non-emergency hazardous substance discharges may be reported by telefaxing or e-mailing a completed report to the Department, or calling or visiting a Department office in person. If you choose to notify the Department by telefax or by email, you should use this form to be sure that all necessary information is included. However, use of this form is not mandatory. Under s. 292.99, Wis. Stats., the penalty for violating the reporting requirements of ch. 292 Wis. Stats., shall be no less than \$10 nor more than \$5000 for each violation. Each day of continued violation is a separate offense. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than program administration. However, information submitted on this form may also be made available to requesters under Wisconsin's Open Records Law (ss. 19.31 – 19.39, Wis. Stats.).

Confirmatory laboratory data should be included with this form, to assist the DNR in processing this Hazardous Substance Release Notification.

Complete this form. **TYPE or PRINT LEGIBLY.** NOTIFY appropriate DNR region (see next page) **IMMEDIATELY** upon discovery of a potential release from (**check one**):

- Underground Petroleum Storage Tank System (additional information may be required for Item 6 below)
- Aboveground Petroleum Storage Tank System
- Dry Cleaner Facility
- Other - Describe: Contamination within the footprint of historic landfill site (Site ID 885300)

ATTN DNR: **R & R Program Associate** Date DNR Notified: 07/26/2019

1. Discharge Reported By		
Name Bryant Esch	Firm Waupaca Foundry, Inc.	Phone Number (include area code) (715) 258-6674
Mailing Address P.O. Box 249, Waupaca, WI 54981		Email bryant.esch@waupacafoundry.com

2. Site Information		
Name of site at which discharge occurred. Include local name of site/business, not responsible party name, unless a residence/vacant property. Waupaca Foundry, Inc. - Plant 4		
Location: Include street address, <u>not PO Box</u> . If no street address, describe as precisely as possible, i.e., 1/4 mile NW of CTHs 60 & 123 on E side of CTH 60. 805 Ogden Street		
Municipality: (City, Village, Township) Specify municipality in which the site is located, not mailing address/city. Marinette		
County Marinette	Legal Description: <u>¼ of SE ¼ Section 5</u> , Town <u>30 N</u> , Range <u>24</u> <input checked="" type="radio"/> E <input type="radio"/> W	WTM: X Y

3. Responsible Party (RP) and/or RP Representative	
Responsible Party Name: Business or owner name that is responsible for cleanup. If more than one, list all. Attach additional pages as necessary. Unknown	
<input type="checkbox"/> A local governmental unit claiming an exemption from state Spill Law and Solid Waste Management responsibilities for the discharge being reported, per Wis. Stat. §§ 292.11(9)(e) and 292.23, should: 1) check this box; 2) review <a href="#">DNR publication RR-055</a> ; and 3) provide documentation to DNR that demonstrates compliance with the statutory requirements of the liability exemptions. Local governmental units may also request a fee-based liability clarification letter from DNR by using <a href="#">DNR Form 4400-237</a> .	

Contact Person Name (if different)	Phone Number	Email
Mailing Address	City	State ZIP Code

Responsible Party Name: Business or owner name that is responsible for cleanup. If more than one, list all. Attach additional pages as necessary.

Contact Person Name (if different)	Phone Number	Email
Mailing Address	City	State ZIP Code

## Notification For Hazardous Substance Discharge (Non-Emergency Only)

Bryant Esch Waupaca Foundry, Inc.

Form 4400-225 (R 06/17)

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### 4. Hazardous Substance Information

Identify hazardous substance discharged (check all that apply):

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> VOCs<br><input type="checkbox"/> PCE<br><input type="checkbox"/> TCE<br><input type="checkbox"/> Other Chlorinated<br><input type="checkbox"/> Diesel<br><input type="checkbox"/> Fuel Oil<br><input type="checkbox"/> Gasoline<br><input type="checkbox"/> Hydraulic Oil<br><input type="checkbox"/> Jet Fuel | (VOCs continued)<br><input type="checkbox"/> Mineral Oil<br><input type="checkbox"/> Waste Oil<br><input type="checkbox"/> Petroleum-Unknown Type<br><input type="checkbox"/> PAHs<br><input type="checkbox"/> PCBs<br><input type="checkbox"/> Cyanide<br><input type="checkbox"/> Leachate<br><input type="checkbox"/> Manure | <input type="checkbox"/> Metals<br><input type="checkbox"/> Arsenic<br><input type="checkbox"/> Chromium<br><input type="checkbox"/> Lead<br><input type="checkbox"/> Other: _____<br><input type="checkbox"/> Pesticides: _____<br><input type="checkbox"/> Fertilizer: _____<br><input type="checkbox"/> RCRA Hazardous Waste: _____<br><input checked="" type="checkbox"/> Other: See attached<br><input type="checkbox"/> Unknown |
|---|---|---|

### 5. Impacts to the Environment Information

Enter "K" for known/confirmed or "P" for potential for all that apply.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Air Contamination                       | <input type="checkbox"/> Fire Explosion Threat                  | <input type="checkbox"/> P Soil Contamination          |
| <input type="checkbox"/> Co-mingled (Petroleum & Non-Petroleum)  | <input type="checkbox"/> Free Product                           | <input type="checkbox"/> Soil Gas Contamination        |
| <input type="checkbox"/> Contamination in Fractured Bedrock      | <input checked="" type="checkbox"/> P Groundwater Contamination | <input type="checkbox"/> Sub-slab Vapor Contamination  |
| <input type="checkbox"/> Contamination Within 1 Meter of Bedrock | <input type="checkbox"/> Off-Site Contamination                 | <input type="checkbox"/> Surface Water Contamination   |
| <input type="checkbox"/> Contaminated Private Well               | <input type="checkbox"/> Sanitary Sewer Contamination           | <input type="checkbox"/> Within 100 ft of Private Well |
| <input type="checkbox"/> Contaminated Public Well                | <input type="checkbox"/> Storm Sewer Contamination              | <input type="checkbox"/> Within 1000 ft of Public Well |
| <input type="checkbox"/> Contamination in Right of Way           | <input type="checkbox"/> Sediment Contamination                 |  |
|  | Other (specify): _____  |  |

Contamination was discovered as a result of:

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Tank closure assessment | <input type="checkbox"/> Site assessment | <input checked="" type="checkbox"/> Other - Describe: <u>Facilitation of electrical utility work/excavation</u> |
| Date <input type="text"/>                        | Date <input type="text"/>                | Date <input type="text" value="07/26/2019"/>  |

Lab results:  Lab results will be faxed upon receipt  Lab results are attached

Additional Comments: Include a brief description of immediate actions taken to halt the release and contain or cleanup hazardous substances that have been discharged.

Contamination within of the footprint of historic landfill site (Site ID 885300) identified as the result of testing performed for the facilitation of electrical utility work/excavation at the site. See attached soil and groundwater results presented to WFI on 7/26/19.

### 6. Federal Energy Act Requirements (Section 9002(d) of the Solid Waste Disposal Act (SWDA))

	Source	Cause
For all confirmed releases from USTs occurring after 9/30/2007 please provide the following information:  <input type="checkbox"/> Does not apply.	<input type="checkbox"/> Tank <input type="checkbox"/> Piping <input type="checkbox"/> Dispenser <input type="checkbox"/> Submersible Turbine Pump <input type="checkbox"/> Delivery Problem  <input type="checkbox"/> Other (specify): _____	<input type="checkbox"/> Spill <input type="checkbox"/> Overfill <input type="checkbox"/> Corrosion <input type="checkbox"/> Physical or Mechanical Damage <input type="checkbox"/> Installation Problem <input type="checkbox"/> Other (does not fit any of above) <input type="checkbox"/> Unknown

Contact information to report non-emergency releases in DNR's five regions are as follows:

- Northeast Region (FAX: 920-662-5413); Attention -- R&R Program Associate:** DNRRRNER@wisconsin.gov  
 Brown, Calumet, Door, Fond du Lac (except City of Waupun - see South Central Region), Green Lake, Kewaunee, Manitowoc, Marinette, Marquette, Menominee, Oconto, Outagamie, Shawano, Sheboygan, Waupaca, Waushara, Winnebago counties
- Northern Region (FAX: 715-623-6773); Attention -- R&R Program Associate:** DNRRRNOR@wisconsin.gov  
 Ashland, Barron, Bayfield, Burnett, Douglas, Forest, Florence, Iron, Langlade, Lincoln, Oneida, Polk, Price, Rusk, Sawyer, Taylor, Vilas, Washburn counties
- South Central Region (FAX: 608-273-5610); Attention -- R&R Program Associate:** DNRRRSCR@wisconsin.gov  
 Columbia, Dane, Dodge, Fond du Lac (City of Waupun only), Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock, Sauk, Walworth counties
- Southeast Region (FAX: 414-263-8550); Attention -- R&R Program Associate:** DNRRRSER@wisconsin.gov  
 Kenosha, Milwaukee, Ozaukee, Racine, Washington, Waukesha counties

## Notification For Hazardous Substance Discharge (Non-Emergency Only)

Bryant Esch Waupaca Foundry, Inc.

Form 4400-225 (R 06/17)

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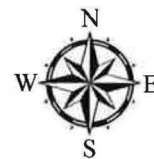
**West Central Region (FAX: 715-839-6076); Attention -- R&R Program Associate: [DNRRRWCR@wisconsin.gov](mailto:DNRRRWCR@wisconsin.gov)**

Adams, Buffalo, Chippewa, Clark, Crawford, Dunn, Eau Claire, Jackson, Juneau, LaCrosse, Marathon, Monroe, Pepin, Pierce, Portage, St. Croix, Trempealeau, Vernon, Wood counties



**Legend**

- GEI 2018 Groundwater Monitoring Wells
- SB AECOM 2015 Soil Borings



**OGDEN ST**  
**FIGURE 1:**  
**SAMPLING**  
**LOCATION MAP -**  
**WAUPACA FOUNDRY**

Drawn: KCS 7/26/2019
Approved: KCS 7/26/2019
Scale: As Shown
Project Number: 1902287
Figure Number: 2

**Table 1 - Fill Sampling Analytical Test Results Summary**

ATC - Ogden Street Networking Project						Sample Location	6 Ogden SS1 (North of Ogden St SS)	7 Ogden SS2 (STR 142076)	8/1 (STR 145388)	7/RiverXing2 (STR 145387)
Waupaca Foundry Property - Fill Sampling Results		Wisconsin Regulatory Standards <sup>1,2</sup>				Sample Date	11/3/15	11/3/15	11/2/15	11/4/15
Project Number: 1902287	CAS #	BTV	Non-Industrial DC	Industrial DC	GW	Sample Depth (ft)	2.5-4	2.5-4	7.5-9	2.5-4
<b>Indicator Parameters (µg/kg)<sup>3</sup></b>										
PID		NE	NE	NE	NE		2.2	0.0	0.0	0.0
<b>METALS (detected analytes)<sup>3,4</sup> (mg/kg)</b>										
Arsenic	7440382	8	0.677	3	0.584		<b>37.2*</b>	7.1	5.8	<3.5
Barium	7440393	634	15,300	100,000	164.8		10.1	20.2	38.7	5.6
Cadmium	7440439	1	71.1	985	0.752		<1.2	0.14J	0.32J	0.15J
Chromium <sup>5</sup>	16065831	44	100,000/0.301	100,000/6.36	360,000*		593*	10	8.4	4.9
Lead	7439921	52	400	800	27		18.6	18.3	<b>56.7*</b>	4.5
Mercury	Varies	NE	3.13	3.13	0.208		0.005J	0.02	0.04	0.006J
Selenium	7782-49-2	NE	391	5,840	0.52		<b>8J</b>	<1.2	<0.84	<0.84
Silver	7440-22-4	NE	391	5,840	0.8491		<b>4.5J</b>	0.8J	0.42J	0.59J
<b>PAHs (detected analytes)<sup>3</sup> (µg/kg)</b>										
Acenaphthene	83329	NE	3,590,000	45,200,000	NE		<9	<13.9	43.1	<9.2
Acenaphthylene	208968	NE	NE	NE	NE		<8.1	<12.4	35.9	<8.2
Anthracene	120127	NE	17,900,000	100,000,000	196,949		<9.4	19.5J	91.9	<9.5
Benzo(a)anthracene	56553	NE	1,140	20,800	NE		7.5J	43.8	130	<6.4
Benzo(a)pyrene	50328	NE	115	2,110	470		7.5J	43.2	140	<6.6
Benzo(b)fluoranthene	205992	NE	1,150	21,100	478		9.3J	44.4	116	<9.2
Benzo(g,h,i)perylene	191242	NE	NE	NE	NE		<6.9	47.6	76.8	<7
Benzo(k)fluoranthene	207089	NE	11,500	211,000	NE		<10	34.2	127	<10.2
Chrysene	218019	NE	115,000	21,110,000	144		9.3J	50.9	<b>151</b>	8.9J
Dibenzo(a,h)anthracene	53703	NE	115	2,110	NE		<6.6	<10.2	29.4	<6.7
Fluoranthene	206440	NE	2,390,000	30,100,000	88,877.8		14J	71.2	288	<9.2
Fluorene	86737	NE	2,390,000	30,100,000	14,829.9		<9	<13.9	67.4	<9.2
Indeno(1,2,3-cd)pyrene	193395	NE	1,150	21,100	NE		<6.9	24.2J	70.1	<7
1-Methylnaphthalene	90-12-0	NE	17,600	72,700	NE		14.4J	147	68	<9.2
2-Methylnaphthalene	91576	NE	239,000	3,010,000	NE		21.5	205	102	<9.2
Naphthalene	91203	NE	5,520	24,100	658.2		24.8	160	268	<9.2
Phenanthrene	85018	NE	NE	NE	NE		15.1	110	210	<9.2
Pyrene	129000	NE	1,790,000	22,600,000	54,545.5		11.6	62.6	239	<9.2
<b>VOCs (detected analytes)<sup>3</sup> (µg/kg)</b>										
Benzene	71-43-2	NE	1,600	7,070	5.1		<b>67.1</b>	<25.0	<25.0	<33.8
Ethylbenzene	100414	NE	7,470	37,000	1,570.0		40.9J	<25.0	29.1J	<33.8
Naphthalene	91-20-3	NE	5,520	24,100	658.2		<40.0	<40.0	98J	<54.1
Toluene	108883	NE	818,000	818,000	1,107.2		94.2	50.7J	45.4	<33.8
<b>PCBs (detected analytes)<sup>3</sup> (µg/kg) - None Tested</b>										

**Notes**

(mg/kg) = milligrams per kilogram; (µg/kg) = micrograms per kilogram; -- = not analyzed;  
 < = not detected above method detection limit; DC = Direct Contact; GW = Groundwater  
 J = concentration between detection limit and reporting limit; NE = Not Established;  
 PAHs = Polycyclic Aromatic Hydrocarbons; VOCs = Volatile Organic Compounds;

<sup>1</sup> NR 720 RCL = Chapter NR 720, Wisconsin Administrative Code, Residual Contaminant Level;

<sup>2</sup> RCLs & BTVs, PAHs, and VOCs are based on USEPA methodology; presented in WDNR Guidance, Soil RCL Determinations using USEPA Regional Screening Level Web Calculator (RR-890) and summarized in the WDNR's R&R Program RCL Spreadsheet (December 2018).

<sup>3</sup> Only detected analytes are listed; refer to the laboratory analytical report for a full list of assessed analytes

<sup>4</sup> Metal concentrations above an RCL, but not noted as such on this table, are considered to be representative of background conditions in Wisconsin soils.

Any exceedance

<sup>5</sup> RCLs for chromium reported as Chromium III/Chromium VI; based on property history, it is anticipated that chromium detected on the Property is Chromium III, and as such, sample result was not considered an exceedance of the RCL.

Exceeds the NR 720 Non-Industrial Direct Contact RCL: **100** Exceeds the NR 720 Industrial Direct Contact RCL: **100** Exceeds the NR 720 Groundwater Pathway RCL: **100** Exceeds the BTV: **100\***

**Table 2 - Groundwater Sampling Analytical Test Results Summary**

ATC - Ogdon Street Networking Project		Wisconsin Regulatory Standards <sup>1,2</sup>		City of Marinette Waste-Water Discharge Limits	City of Marinette Waste-Water Surcharge Limits	City of Menominee Waste-Water Discharge Limits	Sample Location	S-PZ	S-PZ	S-MW	S-MW	S-MW	N-PZ	N-PZ	N-MW	N-MW	N-MW	
Waupaca Foundry - Groundwater Sampling Results							Sample Date	2/7/18	7/10/19	2/7/18	7/2/19	7/10/19	2/7/18	7/10/19	2/7/18	7/2/19	7/10/19	
Project Number: 1902287		CAS #	NR 140 PAL <sup>1</sup>	NR 140 ES <sup>2</sup>	Discharge Limits	Surcharge Limits	Discharge Limits	Filtration	Not Filtered	Filtered	Not Filtered	Not Filtered	Filtered	Not Filtered	Filtered	Not Filtered	Not Filtered	Filtered
Indicator Parameters (µg/L - except for pH)							Groundwater Elevation (ft)	7.91	6.91	7.59	6.92	6.85	3.77	3.11	3.58	2.35	2.94	
Oil and Grease		NE	NE	100,000	NE	100,000		--	--	--	<710	--	--	--	--	<710	--	
BOD		NE	NE	None	275,000	200,000		--	--	--	5,300	--	--	--	--	6,100	--	
pH (Standard units)		NE	NE	6.0-9.0	NE	NE					7.2					7.2		
Total Suspended Solids		NE	NE	None	355,000	250,000		--	--	--	27,100	--	--	--	--	32,600	--	
<b>METALS (detected analytes)<sup>3</sup> (µg/L)</b>																		
Arsenic	7440-38-2	1	10	100	NE	NE		<b>627</b>	<b>16.1</b>	<b>27.9</b>	<b>21.0</b>	<b>16.0</b>	<b>20.3J</b>	<b>19.9</b>	<b>12.8J</b>	<b>10.1</b>	<b>14.6</b>	
Barium	7440-39-3	400	2,000	NE	NE	NE		332	--	285	--	--	270	--	292	--	--	
Beryllium	7440417	0.4	4	NE	NE	5		--	<0.18	--	<0.18	<0.18	--	<0.18	--	<0.18	<0.18	
Cadmium	7440-43-9	0.5	5	140	NE	2,000		<1.3	<0.15	<b>1.6J</b>	<0.15	<0.15	<1.3	<0.15	<1.3	<0.15	<0.15	
Chromium <sup>5</sup>	16065-83-1/18540-29-9	10	100	2,410	NE	4,000		<b>16</b>	<1.0	<b>20.4</b>	2.0J	<1.0	2.9J	<1.0	<b>20.4</b>	<1.0	<1.0	
Copper	7440508	130	1,300	1,400	NE	3,000		--	<1.1	--	2.8J	<1.1	--	<1.1	--	<1.1	<1.1	
Lead	7439-92-1	1.5	15	2,020	NE	1,000		<b>23.3</b>	<0.24	<b>798</b>	<b>67.8</b>	1.1	<b>12.9J</b>	<0.24	<b>35.6</b>	0.52J	<0.24	
Mercury	7439-97-6	0.2	2	10	NE	1		<0.13	<0.084	<b>0.46</b>	<0.084	<0.084	<0.13	<0.084	0.15J	<0.084	<0.084	
Nickel	7440020	20	100	1,350	NE	3,000		--	0.73J	--	1.6	<0.40	--	<0.40	--	0.76J	0.49J	
Selenium	7782492	10	50	120	NE	NE		--	<0.32	--	0.39J	<0.32	--	<0.32	--	<0.32	<0.32	
Silver	7440224	10	50	500	NE	NE		--	<0.10	--	<0.10	<0.10	--	<0.10	--	<0.10	<0.10	
Zinc	7440666	2,500	5,000	2,250	NE	3,000		--	6.4J	--	132	<4.6	--	<4.6	--	<4.6	<4.6	
<b>VOCs (detected analytes)<sup>3</sup> (µg/L)</b>																		
Benzene	71-43-2	0.5	5	150	NE	NE		<0.50	--	<b>1.4</b>	0.28J	--	<0.50	--	<0.50	<0.25	--	
Bromomethane	74-83-9	1	10	NE	NE	NE		<2.4	--	<2.4	<b>1.3J</b>	--	<2.4	--	<2.4	<b>1.2J</b>	--	
n-Butylbenzene	104-51-8	NE	NE	NE	NE	NE		<0.50	--	1.3	<0.71	--	<0.50	--	<0.50	<0.71	--	
Chlorobenzene	108-90-7	NE	NE	NE	NE	NE		<0.50	--	18.9	1.3J	--	<0.50	--	<0.50	<0.71	--	
Chloromethane	74-87-3	3	30	NE	NE	NE		<0.50	--	<0.50	<b>6.4J</b>	--	<0.50	--	<0.50	<b>7.8</b>	--	
1,3-Dichlorobenzene	541-73-1	120	600	NE	NE	NE		<0.50	--	1.7	<0.63	--	<0.50	--	<0.50	<0.71	--	
Dichlorodifluoromethane	75-71-8	200	1,000	NE	NE	NE		<0.22	--	0.29J	<0.50	--	<0.22	--	<0.22	<0.50	--	
Isopropylbenzene (Cumene)	98-82-8	NE	NE	NE	NE	NE		<0.23	--	5.0	<0.39	--	<0.14	--	<0.14	<0.39	--	
Styrene	100-42-5	10	100	NE	NE	NE		<0.50	--	5.8	<0.47	--	<0.50	--	<0.50	<0.47	--	
Toluene	108-88-3	160	800	150	NE	NE		<0.50	--	4.7	<0.17	--	<0.50	--	<0.50	<0.17	--	
1,2,4-Trimethylbenzene	95-63-6	96	480	NE	NE	NE		<0.50	--	9.2	0.91J	--	<0.50	--	<0.50	<0.84	--	
m&p-Xylene	1330-20-7	400	2,000	150	NE	NE		<1.0	--	1.8J	<0.47	--	<1.0	--	<1.0	<0.47	--	
<b>Other Substances (µg/L)</b>																		
Phenols	108952	400	2,000	25,000	NE	NE		--	--	--	<9.6	--	--	--	--	<9.6	--	
Phosphorus	7723140	NE	NE	None	8,000	NE		--	--	--	1900	--	--	--	--	130J	--	
Cyanide	57125	40	200	190	NE	1,000		--	--	--	19J	--	--	--	--	26J	--	

**Notes**  
 (µg/L) = micrograms per liter; -- = not analyzed;  
 < = not detected above method detection limit;  
 J = concentration between detection limit and reporting limit; NE = Not Established;  
 VOCs = Volatile Organic Compounds;  
<sup>1</sup> NR 140 PAL = Chapter NR 140, Wisconsin Administrative Code, Preventive Action Limit;  
<sup>2</sup> NR 140 ES = Chapter NR 140, Wisconsin Administrative Code, Enforcement Standard;  
<sup>3</sup> Only detected analytes are listed; refer to the laboratory analytical report for a full list of assessed analytes

Exceeds NR 140 ES standards **100**  
 Exceeds NR 140 PAL standards **100**  
 Exceeds the City of Marinette Waste-Water Discharge Limits **150** **Any exceedance**  
 Exceeds the City of Menominee Waste-Water Discharge Limits **150**  
 Groundwater samples were submitted for analyses based on established City of Marinette Waste-Water Discharge Limits (Code of Ordinances 7.02113 A) and VOCs.  
 Groundwater samples were sampled using low-flow techniques and were not field filtered.

**Table 3 - PFAS Groundwater Sampling Analytical Test Results Summary**

ATC - Ogden Street Networking Project Waupaca Foundry - Groundwater Sampling Results - PFAS		Proposed Wisconsin Regulatory Standards <sup>1,2</sup>		Michigan Regulatory Standards <sup>3</sup>		Sample Location	Tubing Blank	S-MW (STR 145388)	N-MW (STR 145387)	N-MW Duplicate (STR 145387)
		CAS #	NR 140 PAL <sup>1,4</sup>	NR 140 ES <sup>2,4</sup>	Non-Residential Criteria <sup>3,4</sup>	Groundwater Surface Water Interface Criteria <sup>3,4</sup>	Sample Date	7/2/19	7/2/19	7/2/19
Project Number: 1902287						Groundwater Elevation (ft)	NA	9.3	9.6	9.6
<b>PFAS Compounds ( ng/L)</b>										
Perfluorobutanoic acid (PFBA)	375-22-4	NE	NE	NE	NE		<0.33	49	52	51
Perfluoropentanoic acid (PFPeA)	2706-90-3	NE	NE	NE	NE		<0.46	120	150	140
Perfluorohexanoic acid (PFHxA)	307-24-4	NE	NE	NE	NE		<0.54	110	140	150
Perfluoroheptanoic acid (PFHpA)	375-85-9	NE	NE	NE	NE		<0.23	32	100	98
Perfluorooctanoic acid (PFOA)	335-67-1	2	20	70	12,000		<0.79	<b>110</b>	<b>1100</b>	<b>1000</b>
Perfluorononanoic acid (PFNA)	375-95-1	NE	NE	NE	NE		<0.25	1.4J	6.8	6.6
Perfluorodecanoic acid (PFDA)	335-76-2	NE	NE	NE	NE		<0.29	0.98J	0.93	0.82J
Perfluoroundecanoic acid (PFUnA)	2058-94-8	NE	NE	NE	NE		<1.0	<1.0	<1.0	<0.99
Perfluorododecanoic acid (PFDoA)	307-55-1	NE	NE	NE	NE		<0.51	<0.50	<0.50	<0.49
Perfluorotridecanoic acid (PFTriA)	72629-94-8	NE	NE	NE	NE		<1.2	<1.2	<1.2	<1.2
Perfluorotetradecanoic acid (PFTeA)	376-06-7	NE	NE	NE	NE		<0.27	<0.27	<2.6	<0.26
Perfluorobutanesulfonic acid (PFBS)	375-73-5	NE	NE	NE	NE		<0.19	0.83J	1.9	1.9
Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	NE	NE	NE	NE		<0.28	<0.27	1.2J	1.2J
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	NE	NE	NE	NE		0.30J*	3.3*	9.9*	9.7*
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NE	NE	NE	NE		<0.18	1.8	1.7J	1.8
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	2	20	70	12		<0.50	<b>200</b>	<b>20</b>	<b>21</b>
Perfluorononanesulfonic acid (PFNS)	474511-07-4	NE	NE	NE	NE		<0.15	<0.15	<0.15	<0.14
Perfluorodecanesulfonic acid (PFDS)	335-77-3	NE	NE	NE	NE		<0.30	<0.29	<0.29	<0.29
Perfluorooctanesulfonamide (FOSA)	754-91-6	NE	NE	NE	NE		<0.33	1.5J	<0.32	<0.31
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)		NE	NE	NE	NE		<2.9	<2.8	<2.8	<2.8
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)		NE	NE	NE	NE		<1.8	32	<1.7	<1.7
4:2 FTS		NE	NE	NE	NE		<4.9	<4.8	<4.8	<4.7
6:2 FTS		NE	NE	NE	NE		<1.9	<1.8	12J	12J
8:2 FTS		NE	NE	NE	NE		<1.9	<1.8	<1.8	<1.8

**Notes**

(ng/L) = micrograms per kilogram; -- = not analyzed; PFASs = Per- and Polyfluoroalkyl Substances;  
 < = not detected above method detection limit;  
 J = concentration between detection limit and reporting limit; NE = Not Established; NA= Not Applicable

<sup>1</sup> Proposed NR 140 PAL = Chapter NR 140, Wisconsin Administrative Code, Preventive Action Limit;  
<sup>2</sup> Proposed NR 140 ES = Chapter NR 140, Wisconsin Administrative Code, Enforcement Standard;  
<sup>3</sup> Nonresidential Criteria = R 299.44, Department of Environment, Great lakes and Energy, Nonresidential Drinking Water Criteria (June 2018)

Exceeds the proposed NR 140 ES standards **100**  
 Exceeds the proposed NR 140 PAL standards 100

**Any exceedance**

\*Perfluorohexanesulfonic acid (PFHxS) was also detected in the laboratory's method blank.