

March 2022 (Seventh Assessment) Semi-Annual Sampling Analytical Results  
RPL Whitewater Valley Station  
Richmond, Indiana

Chemical Name	Location ID:	UPGRADIENT								DOWNGRADIENT															
		MW-AS	MW-FS	MW-GSR	MW-BS	MW-CS	MW-CS DUP	MW-DS	MW-ES <sup>1</sup>		MW-HS	MW-IS	MW-JS	MW-KS <sup>1,2</sup>		MW-LS <sup>1,2</sup>		MW-MS <sup>1,2</sup>		MW-NS <sup>1</sup>	MW-OS <sup>1,2</sup>				
	Sample Date:	3/15/2022	3/15/2022	3/15/2022	3/16/2022	3/16/2022	3/16/2022	3/16/2022	3/15/2022	6/17/2022	3/16/2022	3/16/2022	3/16/2022	3/15/2022	6/17/2022	3/15/2022	6/17/2022	3/15/2022	6/17/2022	3/15/2022	6/17/2022	3/15/2022	3/16/2022	6/17/2022	
Unit																									
Antimony, Total <sup>3</sup>	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	NT	ND	NT	ND	ND	NT			
Arsenic, Total <sup>3</sup>	mg/L	0.0017	ND	ND	ND	0.0018	0.0018	ND	0.0057	NT	0.0198	ND	0.0015	0.0055	NT	0.0027	NT	0.0032	NT	0.0091	0.0083	NT			
Barium, Total <sup>3</sup>	mg/L	0.103	0.0201	0.0113	0.0182	0.0207	0.0207	0.0176	0.0688	NT	0.0423	0.0206	0.245	0.0405	NT	0.0419	NT	0.0507	NT	0.0913	0.0954	NT			
Beryllium, Total <sup>3</sup>	mg/L	ND	ND	ND	ND	ND	ND	ND	0.00022	NT	ND	ND	ND	0.00036	NT	ND	NT	ND	NT	0.00029	ND	NT			
Boron, Total	mg/L	0.239	12.6	0.825	4.35	2.4	2.35	5.03	5.02	NT	1.39	4.18	1.17	4.46	NT	4.46	NT	2.33	NT	1.75	2.45	NT			
Cadmium, Total <sup>3</sup>	mg/L	ND	ND	0.00021	ND	ND	ND	ND	0.00037	NT	0.00021	0.00045	0.00062	ND	NT	ND	NT	ND	NT	0.00042	0.00021	NT			
Calcium, Total	mg/L	118	435	521	345	249	238	344	406	NT	240	464	408	297	NT	393	NT	262	NT	355	289	NT			
Chloride	mg/L	142	74.9	111	162	51.4	52.6	131	41.3	NT	157	578	676	37.0	NT	128	NT	72.2	NT	40.9	70.5	NT			
Chromium, Total <sup>3</sup>	mg/L	ND	ND	ND	ND	ND	ND	ND	0.0063	NT	ND	ND	0.0022	0.0051	NT	0.0044	NT	0.0053	NT	0.0112	0.0074	NT			
Cobalt, Total <sup>3</sup>	mg/L	ND	0.0014	0.0091	0.0012	0.0011	0.0011	ND	0.0042	NT	0.0025	0.0133	0.0046	0.0025	NT	0.0025	NT	0.0035	NT	0.0064	0.0047	NT			
Fluoride <sup>3</sup>	mg/L	ND	ND	ND	0.23	0.32	0.32	ND	ND	NT	0.42	0.29	ND	ND	NT	ND	NT	ND	NT	0.12	0.16	NT			
Lead, Total <sup>3</sup>	mg/L	ND	ND	ND	ND	ND	ND	ND	0.0067	NT	ND	ND	ND	0.0072	NT	0.0034	NT	0.0043	NT	0.0110	0.0074	NT			
Lithium, Total <sup>3</sup>	mg/L	ND	0.26	0.0563	0.0765	0.0580	0.0625	0.0327	0.126	NT	0.0452	0.0326	0.0392	0.0800	NT	0.0811	NT	0.0446	NT	0.0574	0.0363	NT			
Mercury, Total <sup>3</sup>	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	NT	ND	NT	ND	ND	NT			
Molybdenum, Total <sup>3</sup>	mg/L	0.0036	0.0576	ND	0.115	0.0831	0.0822	0.0071	0.0165	NT	0.0488	0.0100	0.0114	0.0213	NT	0.0107	NT	0.0062	NT	0.0251	0.0145	NT			
pH, Lab	s.u.	7.5	7.4	7.2	7.5	7.3	7.3	7.7	7.2	NT	7.2	7.1	7.1	7.4	NT	7.3	NT	7.4	NT	7.4	7.4	NT			
Radium-226 <sup>3</sup>	pCi/L	0.440	0.220	0.245	0.0487	0.101	-0.0404	0.584	NA <sup>1</sup>	0.399	0.0811	0.185	1.27	NA <sup>1</sup>	0.183	NA <sup>1</sup>	0.466	NA <sup>1</sup>	0.479	0.378	NA <sup>1</sup>	0.626			
Radium-228 <sup>3</sup>	pCi/L	0.255	0.178	0.792	0.602	1.03	0.493	0.541	NA <sup>1</sup>	0.508	0.540	0.732	-0.254	NA <sup>1</sup>	0.339	NA <sup>1</sup>	0.513	NA <sup>1</sup>	0.384	-1.15	NA <sup>1</sup>	0.680			
Total Radium <sup>3</sup>	pCi/L	0.695	0.398	1.04	0.651	1.13	0.493	1.13	NA <sup>1</sup>	0.907	0.621	0.917	1.27	NA <sup>1</sup>	0.522	NA <sup>1</sup>	0.979	NA <sup>1</sup>	0.863	0.378	NA <sup>1</sup>	1.31			
Selenium, Total <sup>3</sup>	mg/L	ND	ND	ND	ND	0.0108	0.0114	ND	0.0020	NT	0.0187	ND	0.0048	0.0025	NT	ND	NT	0.0015	NT	0.0057	0.0029	NT			
Sulfate	mg/L	87.8	1220	1640	1010	519	529	809	1110	NT	550	1220	1020	595	NT	989	NT	530	NT	381	458	NT			
Thallium, Total <sup>3</sup>	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	NT	ND	ND	ND	ND	NT	ND	NT	ND	NT	ND	ND	NT			
Total Dissolved Solids, Lab	mg/L	654	2080	2810	2070	1290	1250	1860	1930	NT	1600	3460	2530	1380	NT	1960	NT	1220	NT	946	1180	NT			
<b>Field Parameters<sup>4</sup></b>																									
Temperature	°C	13.95	13.47	13.33	13.05	14.75	14.75	13.77	12.55	15.00	11.05	9.52	9.70	9.41	15.22	9.92	15.41	10.51	15.77	10.41	13.60	15.21			
Conductivity	mS/cm	1.24	0.381	3.37	2.75	1.77	1.77	2.41	2.38	2.41	2.43	4.57	4.64	0.827	2.27	2.37	2.30	1.81	1.45	1.38	1.66	1.51			
pH	s.u.	7.20	7.20	7.15	7.37	7.15	7.15	7.41	6.90	7.21	6.99	7.15	7.04	6.93	7.29	6.96	7.42	7.08	7.51	7.28	7.06	7.58			
Turbidity	NTU	5.54	2.75	2.20	0.81	0.88	0.88	4.81	332	172	1.14	6.09	29.6	299	98	155	86.2	222	230	55.1	392	213			
Total Dissolved Solids	g/L	0.797	1.56	1.35	1.76	1.13	1.13	1.54	1.52	1.54	1.55	2.92	2.97	0.499	1.54	1.52	1.47	1.16	0.93	0.881	1.06	0.968			
Dissolved Oxygen	mg/L	2.00	7.41	2.10	1.95	7.81	7.81	4.99	4.44	2.65	2.80	3.47	3.88	3.01	3.11	12.31	4.01	5.22	3.17	4.51	4.11	5.05			
Oxygen-Reduction Potential	mV	128	172	128	195	173	173	172	183	175	251	160	268	158	176	168	161	166	151	184	145	178			

- Notes:
- 1 Due to uncharacteristically high Radium results at MW-ES, MW-KS, MW-LS, MW-MS, and MW-OS during the March sampling event, samples were resampled for Radium on 6/17/2022.
  - 2 MW-KS, MW-LS, MW-MS, MW-NS, and MW-OS were installed in July 2020.
  - 3 Shading of the chemical name indicates that the parameter is included in "Appendix IV to Part 257-Constituents for Assessment Monitoring" of the CCR Rule.
  - 4 Field measurements recorded when the readings stabilized during purging.

mg/L - milligrams per liter  
CaCO<sub>3</sub> - calcium carbonate  
s.u. - Standard Units  
pCi/L - Picocuries per liter  
°C - degrees Celsius  
NTU - Nephelometric Turbidity Unit  
g/L - grams per liter  
mV - millivolts

