

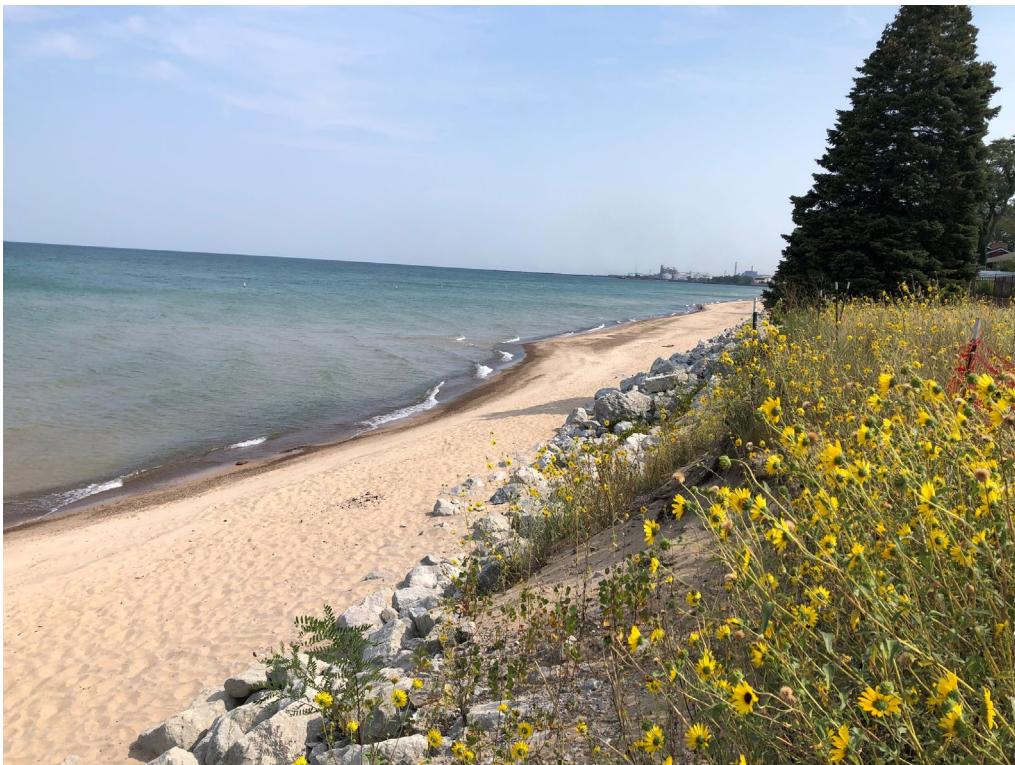
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STATE-ONLY ENVIRONMENTALLY BENEFICIAL PROJECT

LAKE MICHIGAN'S INDIANA SHORELINE SAMPLING – 2022 ANNUAL REPORT



**STATE-ONLY ENVIRONMENTALLY BENEFICIAL PROJECT
LAKE MICHIGAN'S INDIANA SHORELINE SAMPLING –
2022 ANNUAL REPORT**

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1. EXECUTIVE SUMMARY

On August 30, 2021, the U.S. District Court for the Northern District of Indiana entered the revised Consent Decree¹ between the United States of America, on behalf of the United States Environmental Protection Agency (EPA), the National Park Service of the United States Department of the Interior and the National Oceanic and Atmospheric Administration of the United States Department of Commerce; and the State of Indiana, on behalf of the Indiana Department of Environmental Management (IDEM) and the Indiana Department of Natural Resources and United States Steel Corporation (U. S. Steel) for violations at its Midwest Plant Facility in Portage, Indiana (Midwest Plant).

The revised Consent Decree included a state-only environmentally beneficial project (EBP) that requires water quality testing and reporting from seven Indiana shore locations along Lake Michigan. The goal of the state EBP is to “contribute to significant public health benefits to the communities near the plant and to those who use the popular Indiana Dunes National Park for recreation” (USEPA, 2019²). Specifically, the objective of generating the Lake Michigan water quality data is to determine, at the locations sampled, whether the water quality is safe for recreational use.

The EBP began sampling in November 2021. This Annual Report summarizes the EBP field collection program and analytical results for the calendar year 2022, as required by the Consent Decree under Section VII. Item 17. Public Reporting. It is being submitted to IDEM and will be made publicly available at <https://midwest.uss.com>³.

All seven Consent Decree-identified locations were sampled, and all required parameters were measured or analyzed. Laboratory methods that detect low levels of total chromium and hexavalent chromium, below the detection limits required by the Consent Decree, were used. Analytical results are summarized in Table 1 and include non-detect and “J-qualified” results. Non-detect results, shown with a “less than” sign (<) followed by a number, indicate that the constituent was not detected at the displayed limit of detection (LOD) capable by the laboratory method. J-qualified values indicate that the constituent was detected above the LOD, but below the limit of quantitation (LOQ) for which the laboratory can reliably quantify the concentration. Therefore, the concentrations of total chromium and hexavalent chromium in some samples are estimated.

¹ USDC IN/ND case 2:18-cv-00127-TLS-JEM document 46-1 filed 11/20/19

² United States EPA (United States Environmental Protection Agency). 2019. U. S. Steel Corporation Consent Decree. Available on-line at: <https://www.epa.gov/in/u-s-steel-corporation-consent-decree>. Site last updated on October 20, 2020; site last accessed September 22, 2021.

³ The correct web address to reach the Midwest Plant page is <https://midwest.uss.com>. “www.midwest.uss.com”, as stated in the Consent Decree, leads to an error page.

2. FIELD SAMPLING

2.1 Locations

Water quality measurements and analytical laboratory samples were collected from seven locations on along southern Lake Michigan in Indiana (Figure 1), as outlined in the revised Consent Decree. The location codes are defined as:

- a) Burns Ditch (BDXX)
- b) Burns Ditch / Lake Michigan Mixing Zone (BDMZ)
- c) Kemil Beach (KMXX)
- d) Indiana Dunes Beach – Western Area (IDBW)
- e) Michigan City (MCXX)
- f) Vicinity of American Water Intake – Gary⁴
 - Lakeside Pump House (Winter Sampling) (AWGL)
 - Breakwall (Summer Sampling) (AWGB)
- g) Vicinity of American Water Intake – Ogden (AMOG)

2.2 Methodology and Equipment

Surface water samples and water quality measurements were collected via grab sampling. Beach locations (KMXX, IDBW, MCXX, and AMOG) were sampled by dipping a jar into the water by hand, when accessible and safe. Surface water was collected from the Lakeside Pump House (AWGL) by lowering a sampling container into the intake forebay. Samples were collected from the American Water Intake Breakwall (AWGB) using a rope and bottle. A sub-surface water sampler (e.g., Van Dorn bottle) was used to collect samples from the pier at Burns Ditch/Lake Michigan Mixing Zone (BDMZ) and the platform at the Burns Ditch location (BDXX).

2.3 Schedule

The 2022 EBP included events on:

- January 4, 2022
- February 23, 2022*
- March 21, 2022
- April 4, 2022
- May 2, 2022
- May 4, 2022
- May 9, 2022
- May 11, 2022
- May 13, 2022
- May 16, 2022
- May 18, 2022
- May 23, 2022**
- May 25, 2022
- May 31, 2022
- June 1, 2022
- June 6, 2022
- June 9, 2022
- June 15, 2022
- June 20, 2022
- June 22, 2022
- June 27, 2022
- June 29, 2022
- July 5, 2022
- July 6, 2022
- July 11, 2022
- July 13, 2022
- July 18, 2022
- July 20, 2022
- July 25, 2022
- July 27, 2022
- August 1, 2022
- August 3, 2022
- August 8, 2022
- August 10, 2022
- August 15, 2022
- August 17, 2022
- August 22, 2022
- August 24, 2022
- August 29, 2022
- August 31, 2022
- September 6, 2022
- September 7, 2022
- September 14, 2022
- September 15, 2022
- September 19, 2022
- September 21, 2022
- September 29, 2022
- September 30, 2022
- October 3, 2022
- November 9, 2022***
- December 12, 2022

⁴ Samples are collected from the Lakeside Pump House intake forebay when the intake is not being chlorinated (typically the months of October/November through April/May). To avoid interference with the analyses of *E. coli* and cyanobacteria during chlorination, samples are collected from the west side of the slip breakwall when safe, during periods of intake chlorination.

- June 14, 2022

Notes:

Per Section VII. Item 15 of the Consent Decree, from May 1 through September 30, water quality sampling occurred weekly for MCXX, AWGL or AWGB, and AMOG, and twice weekly for BDXX, BDMZ, KMXX, and IDBW. Generally, all seven locations were sampled during the first event of the week, and BDXX, BDMZ, KMXX, and IDBW were resampled during the second event.

* Partial event. Beaches were checked weekly in February, but ice precluded safe sampling. During the last week of the month, samples were collected from Burns Ditch (BDXX), Burns Ditch / Lake Michigan Mixing Zone (BDMZ), and Lakeside Pump House (AWGL).

** U. S. Steel Midwest started chlorinating the Lakeside Pump House on May 19, 2022; therefore, the Vicinity of American Water Intake – Gary sample location changed to the breakwall (AWGB).

*** U. S. Steel Midwest discontinued chlorinating the Lakeside Pump House by November 8, 2022. Therefore, samples were collected from the Vicinity of American Water – Gary (AWGB) sampling location for November and December 2022 events.

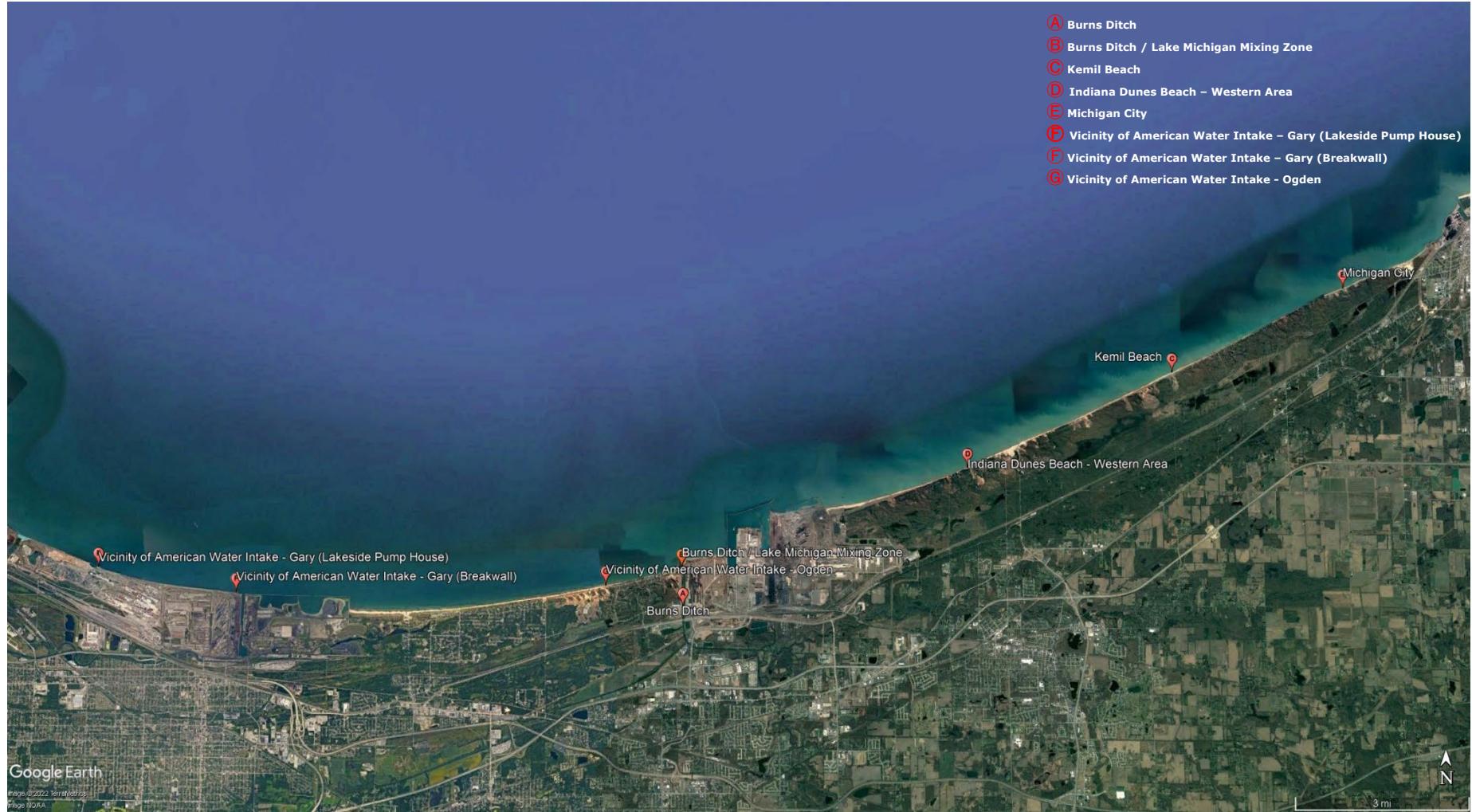


Figure 1. Sampling Locations along Southern Lake Michigan

3. WATER QUALITY PARAMETERS

Surface water collected from the sampling locations identified in Section 2.1 were measured or analyzed for the following parameters using the equipment and methodology described in the revised Consent Decree:

- i. hexavalent chromium
- ii. total chromium
- iii. cyanobacteria
- iv. *E. coli*
- v. pH
- vi. total suspended solids (TSS)
- vii. temperature
- viii. turbidity (as an indication of transparency)

pH, temperature, and turbidity were measured and recorded in the field. Hexavalent chromium, total chromium, cyanobacteria, and TSS concentrations were analyzed by ALS Valparaiso, and *E. coli* was analyzed by Utility Services from January through May 11, 2022. ALS Valparaiso received certification for *E. coli* analysis in May 2022 and subsequent samples were analyzed in-house beginning on May 16, 2022. Table 1 provides the results.

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
AWGL	1/4/2022	13:20	9.41	9.10	36.1	7.92	<1.0	<0.433	0.151	<1.0
AMOG	1/4/2022	11:00	9.86	5.33	36.6	8.00	<1.0	0.890 J	0.214	5.1
BDXX	1/4/2022	10:00	13.1	8.40	36.6	7.96	<1.0	1.24 J	0.0975	233.7
BDMZ	1/4/2022	10:24	11.9	11.7	35.9	7.65	<1.0	1.24 J	0.112	287
IDBW	1/4/2022	9:22	9.13	8.22	35.6	8.05	<1.0	0.520 J	0.182	<1.0
KMXX	1/4/2022	8:38	17.4	15.2	34.5	7.91	<1.0	0.602 J	0.178	<1.0
MCXX	1/4/2022	8:00	14.7	10.8	36.5	7.64	<1.0	0.593 J	0.116	<1.0
MCXX-DUP	1/4/2022	8:02	16.2	19.5	36.5	7.68	<1.0	0.995 J	0.148	<1.0
MCXX-FB	1/4/2022	7:58	N/A	0.410 J	N/A	N/A	<1.0	<0.433	0.0351	<1.0
AWGL	2/24/2022	8:59	16.1	17.1	34.3	7.97	<1.0	0.966 J	0.168	1.0
AMOG	2/24/2022	Sample not collected due to ice cover.								
BDXX	2/24/2022	7:52	41.7	33.0	32.0	7.10	<1.0	2.66	0.212	1,139
BDMZ	2/24/2022	7:33	44.1	30.2	31.8	7.47	<1.0	2.42	0.212	645.9
IDBW	2/24/2022	Sample not collected due to ice cover.								
KMXX	2/24/2022	Sample not collected due to ice cover.								
MCXX	2/24/2022	Sample not collected due to ice cover.								
AWGL-DUP	2/24/2022	8:54	12.5	17.3	33.0	7.97	<1.0	0.992 J	0.198	2.0
AWGL-FB	2/24/2022	8:50	N/A	0.321	N/A	N/A	<1.0	<0.433	<0.0130	<1.0
AWGL	3/21/2022	9:10	5.94	2.86	41.3	8.00	<1.0	0.509 J	0.213	<1.0
AMOG	3/21/2022	8:26	5.32	3.04	44.7	7.90	<1.0	0.569 J	0.246	<1.0
BDXX	3/21/2022	8:05	17.5	15.9	48.9	7.54	<1.0	1.22 J	0.222	344.7
BDMZ	3/21/2022	7:47	18.0	14.5	50.1	7.70	<1.0	1.22 J	0.163	348.8
IDBW	3/21/2022	7:06	6.28	3.60	41.3	8.11	<1.0	0.557 J	0.241	2.6
KMXX	3/21/2022	6:34	8.94	4.24	41.7	8.04	<1.0	0.568 J	0.276	2.0
MCXX	3/21/2022	5:50	10.3	5.20	40.2	8.58	<1.0	0.660 J	0.261	7.3
AWGL-DUP	3/21/2022	9:10	5.91	2.78	41.5	8.01	<1.0	1.58 J	0.189	1.0
AWGL-FB	3/21/2022	9:14	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0159 J	<1.0
AWGL	4/4/2022	8:25	7.88	3.00	44.5	7.91	<1.0	0.551 J	0.189	<1.0
AMOG	4/4/2022	7:38	8.23	10.3	43.9	7.84	<1.0	1.35 J	0.156	41.9
BDXX	4/4/2022	6:51	9.76	28.3	46.7	8.07	<1.0	2.56	0.134	1,158.8
BDMZ	4/4/2022	7:14	9.08	26.6	46.2	8.09	<1.0	2.47	0.159	922.2
IDBW	4/4/2022	6:24	8.15	4.77	43.6	8.11	<1.0	0.809 J	0.218	4.5
KMXX	4/4/2022	5:58	8.24	7.49	44.7	7.95	<1.0	0.606 J	0.190	<1.0
MCXX	4/4/2022	5:31	7.15	6.49	46.5	8.02	<1.0	0.727 J	0.190	5.5
AMOG-DUP	4/4/2022	7:59	8.20	11.0	43.8	8.04	<1.0	1.28 J	0.172	46.9
AMOG-FB	4/4/2022	7:37	N/A	<0.300	N/A	N/A	<1.0	0.524 J	0.0229 J	<1.0

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	5/2/2022	8:41	9.04	8.30	44.6	8.21	<1.0	0.603 J	0.165	2.0
KMXX	5/2/2022	8:04	9.00	12.2	46.1	8.09	<1.0	0.609 J	0.148	41.2
IDBW	5/2/2022	7:37	8.92	4.50	45.2	8.11	<1.0	0.533 J	0.174	1.0
BDMZ	5/2/2022	6:38	8.04	14.3	53.7	7.90	<1.0	0.965 J	0.0812	1230.5
BDXX	5/2/2022	6:24	8.91	17.4	53.3	8.03	<1.0	1.03 J	0.114	821.2
AMOG	5/2/2022	6:53	8.31	1.30 J	44.3	8.06	<1.0	<0.433	0.162	<1
AWGL	5/2/2022	6:03	7.73	7.44	45.1	7.84	<1.0	1.02 J	0.146	5.1
BDXX-DUP	5/2/2022	6:52	7.92	17.9	53.5	7.90	<1.0	1.06 J	0.115	637.3
BDXX-FB	5/2/2022	6:23	N/A	0.400 J	N/A	N/A	<1.0	<0.433	0.0193 J	<1
KMXX	5/4/2022	12:00	17.8	20.7	50.1	7.63	<1.0	0.697 J	0.163	14.7
IDBW	5/4/2022	11:12	14.1	23.4	50.9	7.72	<1.0	0.809 J	0.153	16.3
BDMZ	5/4/2022	10:35	28.6	25.5	53.2	7.34	<1.0	1.35 J	0.119	>2419.6
BDXX	5/4/2022	10:20	26.4	25.3	50.4	7.51	<1.0	1.58 J	0.105	>2419.6
KMXX-DUP	5/4/2022	12:01	17.6	21.7	50.1	7.60	<1.0	0.918 J	0.148	14.5
KMXX-FB	5/4/2022	11:50	N/A	0.609 J	N/A	N/A	<1.0	<0.433	0.0297 J	<1
MCXX	5/9/2022	6:50	2.87	2.50	50.1	8.20	<1.0	0.452 J	0.145	5.9
KMXX	5/9/2022	7:24	2.87	2.60	50.5	8.15	<1.0	<0.433	0.158	3.1
IDBW	5/9/2022	8:02	3.37	4.40	55.9	6.90	<1.0	<0.433	0.157	2.0
BDMZ	5/9/2022	9:41	18.0	18.4	64.9	7.12	<1.0	1.36 J	0.0794	100.8
BDXX	5/9/2022	9:19	17.8	17.3	65.3	7.46	<1.0	1.11 J	0.0794	223.1
AMOG	5/9/2022	8:40	7.88	8.80	56.1	7.63	<1.0	0.558 J	0.146	17.4
AWGL	5/9/2022	11:40	2.40	4.51	52.7	7.69	<1.0	0.438 J	0.152	2.0
BDMZ-DUP	5/9/2022	9:49	17.8	17.6	65.1	7.48	<1.0	1.12 J	0.113	339.1
BDMZ-FB	5/9/2022	9:55	N/A	0.400 J	N/A	N/A	<1.0	<0.433	0.0258 J	<1
KMXX	5/11/2022	7:07	1.45	1.51 J	56.8	7.68	<1.0	<0.433	0.143	<1
IDBW	5/11/2022	7:34	1.87	2.50	57.0	7.59	<1.0	0.440 J	0.135	<1
BDMZ	5/11/2022	8:03	12.3	11.6	72.1	7.44	<1.0	0.827 J	0.0783	52.0
BDXX	5/11/2022	8:24	10.5	12.2	70.5	7.26	<1.0	1.01 J	0.0727	81.5
BDXX-DUP	5/11/2022	8:24	11.9	17.3	72.1	7.48	<1.0	0.750 J	0.0766	62.8
BDXX-FB	5/11/2022	8:20	N/A	4.54	N/A	N/A	<1.0	<0.433	0.0187 J	<1

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	5/16/2022	5:52	9.75	13.9	53.2	8.13	<1.0	0.905 J	0.216	29.0
KMXX	5/16/2022	6:21	4.09	7.11	54.6	8.20	<1.0	0.881 J	0.195	23.0
IDBW	5/16/2022	6:52	5.96	12.7	54.5	7.92	<1.0	0.891 J	0.200	107
BDMZ	5/16/2022	7:49	9.61	16.0	59.9	8.12	<1.0	1.22 J	0.0932	61.1
BDXX	5/16/2022	7:28	9.03	16.0	57.8	8.21	<1.0	1.00 J	0.0758	75.6
AMOG	5/16/2022	7:17	5.72	16.5	53.6	8.30	<1.0	0.984 J	0.176	2,330
AWGL	5/16/2022	8:35	4.34	1.21 J	51.4	8.01	<1.0	0.634 J	0.202	<1.0
IDBW-DUP	5/16/2022	6:59	5.97	11.1	54.5	7.92	<1.0	0.879 J	0.197	84.4
IDBW-FB	5/16/2022	6:50	N/A	<0.300	N/A	N/A	<1.0	0.434 J	0.0366	<1.0
KMXX	5/18/2022	9:20	5.22	8.90	51.4	7.76	<1.0	0.868 J	0.180	<1
IDBW	5/18/2022	8:40	4.61	3.90	53.9	8.03	<1.0	0.676 J	0.179	7.9
BDMZ	5/18/2022	7:57	24.0	15.8	65.3	7.91	<1.0	1.09 J	0.0694	37.3
BDXX	5/18/2022	8:13	17.7	17.9	65.4	7.76	<1.0	1.73 J	0.0740	65.5
BDMZ-DUP	5/18/2022	8:01	17.9	14.8	65.4	7.78	<1.0	1.18 J	0.0687	29.2
BDMZ-FB	5/18/2022	7:40	N/A	<0.300	N/A	N/A	<1.0	0.441 J	0.0329 J	<1
MCXX	5/23/2022	5:20	8.66	29.3	54.8	8.08	<1.0	0.772 J	0.180	18.8
KMXX	5/23/2022	5:43	9.12	14.5	54.1	8.17	<1.0	0.559 J	0.167	6.25
IDBW	5/23/2022	6:04	8.50	10.6	54.3	8.01	<1.0	0.718 J	0.168	11.2
BDMZ	5/23/2022	6:44	11.6	12.7	59.2	7.84	<1.0	1.04 J	0.0708	75
BDXX	5/23/2022	6:31	21.3	14.9	58.4	7.69	<1.0	0.761 J	0.0644	79.1
AMOG	5/23/2022	7:13	9.06	9.85	54.4	8.24	<1.0	0.525 J	0.146	9
AWGB	5/23/2022	8:41	10.3	2.50	53.9	8.21	<1.0	<0.433	0.172	1
KMXX-DUP	5/23/2022	5:53	9.12	16.7	54.0	8.18	<1.0	0.653 J	0.175	8.3
KMXX-FB	5/23/2022	5:40	N/A	<0.303	N/A	N/A	<1.0	<0.433	0.0176 J	<1
KMXX	5/25/2022	8:51	10.1	21.1	54.9	8.20	<1.0	0.679 J	0.186	11.8
IDBW	5/25/2022	8:11	9.90	19.6	55.6	8.21	<1.0	0.831 J	0.181	11.8
BDMZ	5/25/2022	7:39	14.4	15.6	58.5	8.14	<1.0	0.845 J	0.0694	55.4
BDXX	5/25/2022	7:28	11.9	19.0	58.3	8.17	<1.0	0.875 J	0.0656	62.7
IDBW-DUP	5/25/2022	8:23	10.2	18.7	55.4	8.20	<1.0	0.691 J	0.174	13.9
IDBW-FB	5/25/2022	8:10	N/A	0.500 J	N/A	N/A	<1.0	<0.433	0.0271 J	<1

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	5/31/2022	6:25	3.74	2.40	61.8	8.15	<1.0	<0.433	0.192	5.15
KMXX	5/31/2022	6:50	2.11	2.90	61.5	8.19	<1.0	0.529 J	0.185	2.50
IDBW	5/31/2022	7:23	3.38	2.90	62.0	8.22	<1.0	0.710 J	0.173	<1.0
BDMZ	5/31/2022	8:32	8.44	14.3	63.8	8.12	<1.0	1.08 J	0.0690	36.9
BDXX	5/31/2022	8:07	9.03	15.3	64.1	8.01	<1.0	1.07 J	0.0624	43.0
AMOG	5/31/2022	7:41	3.84	2.90	61.9	8.13	<1.0	0.595 J	0.176	<1.0
AWGB	5/31/2022	10:26	3.35	2.14 J	62.4	8.27	<1.0	1.02 J	0.245	<1.0
MCXX-DUP	5/31/2022	6:31	3.74	1.80 J	61.8	8.15	<1.0	0.499 J	0.174	5.15
MCXX-FB	5/31/2022	6:20	N/A	0.400 J	N/A	N/A	<1.0	<0.433	0.0305 J	<1
KMXX	6/1/2022	7:10	3.64	2.20	61.1	8.13	<1.0	0.502 J	0.186	36.4
IDBW	6/1/2022	7:58	3.81	2.00	61.4	8.17	<1.0	0.512 J	0.196	5.65
BDMZ	6/1/2022	8:38	8.95	12.7	63.2	8.07	<1.0	0.967 J	0.0492	63.4
BDXX	6/1/2022	8:19	9.23	13.1	63.3	8.11	<1.0	0.845 J	0.0737	88.7
KMXX-DUP	6/1/2022	7:14	3.60	2.40	61.2	8.13	<1.0	0.502 J	0.207	5.15
KMXX-FB	6/1/2022	7:07	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0460	<1
MCXX	6/6/2022	5:45	4.60	6.80	55.9	8.00	<1.0	0.527 J	0.198	6.25
KMXX	6/6/2022	6:05	3.20	3.20	56.2	8.20	<1.0	0.566 J	0.221	3.00
IDBW	6/6/2022	6:25	2.90	2.80	55.8	7.90	<1.0	0.679 J	0.190	3.55
BDMZ	6/6/2022	7:00	8.40	11.0	67.4	7.80	<1.0	0.949 J	0.165	55.8
BDXX	6/6/2022	6:45	9.00	12.6	68.1	7.40	<1.0	0.660 J	0.109	111
AMOG	6/6/2022	7:35	5.40	4.20	60.6	7.80	<1.0	0.451 J	0.188	11.0
AWGB	6/6/2022	8:10	9.00	1.20 J	61.7	7.80	<1.0	0.466 J	0.214	<1
AWGB-DUP	6/6/2022	8:12	8.90	1.10 J	61.8	7.80	<1.0	0.488 J	0.211	<1
AWGB-FB	6/6/2022	8:08	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0636	<1
KMXX	6/9/2022	5:29	9.76	6.90	58.1	8.20	<1.0	<0.433	0.184	20.2
IDBW	6/9/2022	5:43	10.1	5.10	58.4	8.23	<1.0	0.548 J	0.161	11.2
BDMZ	6/9/2022	6:02	22.4	15.6	62.4	8.03	<1.0	1.04 J	0.0854	572
BDXX	6/9/2022	6:21	19.8	16.6	61.7	8.07	<1.0	0.878 J	0.0806	506
BDXX-DUP	6/9/2022	6:25	21.9	17.5	62.3	8.03	<1.0	0.817 J	0.0818	661
BDXX-FB	6/9/2022	9:18	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0411	<1.0

Table 1. Analytical Results

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Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	6/14/2022	6:28	8.01	7.80	64.5	7.96	<1.0	0.609 J	0.179	2.00
KMXX	6/14/2022	7:06	3.63	1.70 J	65.1	7.82	<1.0	0.493 J	0.203	1.00
IDBW	6/14/2022	7:37	4.67	3.20	67.1	7.22	<1.0	<0.433	0.192	<1
BDMZ	6/14/2022	9:20	14.6	15.9	80.2	7.48	<1.0	1.28 J	0.324	432
BDXX	6/14/2022	9:05	13.1	22.0	81.6	7.54	<1.0	0.896 J	0.125	574
AMOG	6/14/2022	8:31	3.54	3.00	71.0	7.73	<1.0	0.664 J	0.228	5.15
AWGB	6/14/2022	10:25	1.30	1.10 J	72.6	8.10	<1.0	0.625 J	0.188	3.00
AMOG-DUP	6/14/2022	8:40	2.96	2.50	69.8	7.65	<1.0	0.706 J	0.194	4.60
AMOG-FB	6/14/2022	8:22	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0381 J	<1
KMXX	6/15/2022	9:41	3.71	1.50 J	65.4	7.79	<1.0	0.446 J	0.174	1.00
IDBW	6/15/2022	9:05	3.01	1.50 J	66.3	7.49	<1.0	0.462 J	0.161	2.00
BDMZ	6/15/2022	7:07	12.9	11.0	80.3	7.36	<1.0	0.606 J	0.119	303
BDXX	6/15/2022	6:48	13.1	10.9	80.4	7.41	<1.0	0.813 J	0.111	469
BDMZ-DUP	6/15/2022	7:10	19.0	11.8	80.5	7.45	<1.0	0.894 J	0.111	342
BDMZ-FB	6/15/2022	7:05	N/A	0.300 J	N/A	N/A	<1.0	<0.433	0.0239 J	<1
MCXX	6/20/2022	6:15	1.80	0.900 J	64.8	8.10	<1.0	0.470 J	0.225	3.55
KMXX	6/20/2022	6:40	1.41	1.00 J	65.1	8.20	<1.0	<0.433	0.233	1.00
IDBW	6/20/2022	6:58	1.60	1.00 J	66.3	7.70	<1.0	<0.433	0.217	2.00
BDMZ	6/20/2022	7:20	9.30	8.70	75.7	8.10	<1.0	0.494 J	0.125	77.2
BDXX	6/20/2022	7:40	8.20	7.80	74.8	7.90	<1.0	0.531 J	0.140	74.0
AMOG	6/20/2022	8:15	3.10	1.60 J	68.6	8.00	<1.0	0.466 J	0.242	<1
AWGB	6/20/2022	8:50	2.70	1.20 J	69.6	7.80	<1.0	1.08 J	0.305	<1
BDXX-DUP	6/20/2022	7:40	9.10	7.50	75.7	8.10	<1.0	0.496 J	0.121	91.7
BDXX-FB	6/20/2022	7:37	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0873	<1
KMXX	6/22/2022	6:20	4.03	4.95	72.1	7.40	<1.0	0.581 J	0.225	17.0
IDBW	6/22/2022	6:45	6.10	6.60	72.7	7.60	<1.0	0.473 J	0.227	14.0
BDMZ	6/22/2022	7:50	5.69	11.6	80.0	7.70	<1.0	0.670 J	0.120	60.5
BDXX	6/22/2022	8:05	4.64	9.50	79.8	7.90	<1.0	0.553 J	0.118	88.8
IDBW-DUP	6/22/2022	6:46	5.96	6.40	72.6	7.60	<1.0	0.466 J	0.186	15.9
IDBW-FB	6/22/2022	6:40	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0460	<1

Table 1. Analytical Results

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Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	6/27/2022	5:31	10.2	9.70	67.4	8.04	<1.0	1.07 J	0.175	11.6
KMXX	6/27/2022	6:02	9.40	4.70	66.8	7.96	<1.0	0.572 J	0.166	4.50
IDBW	6/27/2022	6:30	9.80	5.20	66.8	8.02	<1.0	0.696 J	0.177	2.00
BDMZ	6/27/2022	7:10	17.6	17.0	69.3	7.63	<1.0	1.23 J	0.289	294
BDXX	6/27/2022	6:52	18.5	15.7	69.5	7.71	<1.0	1.49 J	0.0736	485
AMOG	6/27/2022	7:28	11.3	9.00	65.2	8.03	<1.0	1.51 J	0.205	11.9
AWGB	6/27/2022	7:59	20.3	17.8	65.4	7.96	<1.0	0.944 J	0.199	144
BDMZ-DUP	6/27/2022	7:12	17.9	15.7	69.4	7.70	<1.0	1.42 J	0.278	299
BDMZ-FB	6/27/2022	7:08	N/A	0.300 J	N/A	N/A	<1.0	<0.433	<0.0130	<1
KMXX	6/29/2022	5:54	4.13	1.70 J	66.4	8.08	<1.0	0.523 J	0.218	2.00
IDBW	6/29/2022	6:28	2.87	1.72 J	66.5	8.11	<1.0	0.667 J	0.197	1.50
BDMZ	6/29/2022	8:48	10.1	12.4	68.5	7.54	<1.0	0.652 J	0.111	471
BDXX	6/29/2022	8:59	9.82	14.3	68.8	8.63	<1.0	0.695 J	0.116	314
KMXX-DUP	6/29/2022	5:59	4.00	2.25 J	66.1	8.08	<1.0	0.544 J	0.203	3.00
KMXX-FB	6/29/2022	5:51	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0413	<1
MCXX	7/5/2022	9:31	3.82	0.700 J	67.1	8.13	<1.0	0.462 J	0.190	<1
KMXX	7/5/2022	8:59	4.22	0.400 J	67.3	8.01	<1.0	<0.433	0.193	4.10
IDBW	7/5/2022	8:09	2.71	0.600 J	66.9	7.90	<1.0	0.623 J	0.188	3.60
BDMZ	7/5/2022	7:12	10.3	13.1	69.6	7.57	<1.0	0.602 J	0.0621	710
BDXX	7/5/2022	7:36	9.76	12.7	69.9	7.64	<1.0	0.515 J	0.0662	511
AMOG	7/5/2022	6:50	3.21	0.600 J	66.8	7.94	<1.0	<0.433	0.186	<1
AWGB	7/5/2022	6:10	5.63	0.400 J	67.2	7.91	<1.0	<0.433	0.179	1.50
IDBW-DUP	7/5/2022	8:14	3.03	0.700 J	67.0	7.93	<1.0	<0.433	0.191	<1
IDBW-FB	7/5/2022	8:05	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0315 J	<1
KMXX	7/6/2022	5:12	4.18	7.00	66.1	8.04	<1.0	0.599 J	0.205	66.6
IDBW	7/6/2022	5:47	3.00	6.80	65.9	7.76	<1.0	0.829 J	0.245	39.0
BDMZ	7/6/2022	8:18	8.51	14.4	71.2	7.66	<1.0	0.536 J	0.0872	168
BDXX	7/6/2022	7:56	8.12	13.3	70.8	7.45	<1.0	0.578 J	0.0919	2,190
BDXX-DUP	7/6/2022	7:59	8.92	12.2	70.7	7.67	<1.0	0.638 J	0.100	2,760
BDXX-FB	7/6/2022	7:53	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0448 J	<1

Table 1. Analytical Results

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Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	7/11/2022	6:22	2.71	1.80 J	66.3	8.01	<1.0	0.746 J	0.201	14.7
KMXX	7/11/2022	6:51	3.83	1.60 J	66.8	8.00	<1.0	0.696 J	0.192	<1
IDBW	7/11/2022	7:34	2.01	1.70 J	67.1	7.93	<1.0	0.783 J	0.182	2.00
BDMZ	7/11/2022	8:20	8.12	17.7	69.8	7.54	<1.0	0.923 J	0.0921	262
BDXX	7/11/2022	8:01	8.11	12.2	69.3	7.36	<1.0	0.803 J	0.0924	162
AMOG	7/11/2022	8:31	3.07	1.80 J	67.4	7.91	<1.0	0.692 J	0.156	1.00
AWGB	7/11/2022	9:01	4.60	1.30 J	66.9	7.82	<1.0	0.975 J	0.217	2.00
KMXX-DUP	7/11/2022	6:56	3.40	1.40 J	66.8	8.01	<1.0	0.691 J	0.196	<1
KMXX-FB	7/11/2022	6:49	N/A	<0.300	N/A	N/A	<1.0	0.463 J	0.0395 J	<1
KMXX	7/13/2022	7:29	3.27	4.70	70.5	8.06	<1.0	0.665 J	0.173	3.00
IDBW	7/13/2022	6:58	3.39	4.70	70.3	8.02	<1.0	0.520 J	0.165	5.60
BDMZ	7/13/2022	8:25	9.44	8.50	78.9	9.49	<1.0	0.475 J	0.0704	161
BDXX	7/13/2022	8:39	9.02	9.40	79.1	9.02	<1.0	<0.433	0.0713	112
BDMZ-DUP	7/13/2022	8:27	9.00	8.90	78.8	9.00	<1.0	<0.433	0.0712	126
BDMZ-FB	7/13/2022	8:22	N/A	0.600 J	N/A	N/A	<1.0	<0.433	0.0351 J	<1
MCXX	7/18/2022	6:03	7.61	16.8	70.4	7.96	<1.0	0.731 J	0.188	4.05
KMXX	7/18/2022	6:18	8.12	19.2	70.8	7.81	<1.0	0.697 J	0.184	16.6
IDBW	7/18/2022	6:40	8.93	9.10	70.5	7.90	<1.0	0.671 J	0.187	2.00
BDMZ	7/18/2022	7:14	14.4	5.20	74.4	7.57	<1.0	0.620 J	0.103	190
BDXX	7/18/2022	7:04	18.5	5.50	74.9	7.41	<1.0	0.528 J	0.0822	397
AMOG	7/18/2022	7:37	19.0	11.7	70.2	7.88	<1.0	<0.433	0.179	<1
AWGB	7/18/2022	8:19	8.08	3.31	71.1	7.62	<1.0	0.641 J	0.183	2.00
MCXX-DUP	7/18/2022	6:05	7.70	18.6	70.3	7.96	<1.0	0.631 J	0.187	4.15
MCXX-FB	7/18/2022	5:59	N/A	<0.300	N/A	N/A	<1.0	0.471 J	0.0231 J	<1
KMXX	7/20/2022	6:56	2.02	1.60 J	70.2	7.82	<1.0	<0.433	0.172	3.1
IDBW	7/20/2022	6:34	2.16	1.60 J	70.5	7.87	<1.0	0.510 J	0.175	1.00
BDMZ	7/20/2022	7:41	9.11	6.77	75.1	7.53	<1.0	0.465 J	0.0845	132
BDXX	7/20/2022	7:30	9.07	6.80	74.9	7.49	<1.0	0.454 J	0.0885	235
IDBW-DUP	7/20/2022	6:38	2.10	1.60 J	70.2	7.87	<1.0	<0.433	0.184	1.00
IDBW-FB	7/20/2022	6:33	N/A	<0.370	N/A	N/A	<1.0	<0.433	0.0271 J	<1

Table 1. Analytical Results

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Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	7/25/2022	6:11	8.11	6.00	76.2	7.55	<1.0	0.525 J	0.197	12.2
KMXX	7/25/2022	6:38	8.03	6.50	76.5	7.58	<1.0	<0.433	0.182	4.05
IDBW	7/25/2022	7:04	7.77	5.30	76.1	7.69	<1.0	0.606 J	0.157	3.60
BDMZ	7/25/2022	7:36	14.1	11.5	78.0	7.51	<1.0	1.25 J	0.102	858
BDXX	7/25/2022	7:21	13.2	10.5	78.4	7.59	<1.0	0.496 J	0.141	875
AMOG	7/25/2022	7:51	8.12	6.40	75.2	7.88	<1.0	0.780 J	0.172	5.15
AWGB	7/25/2022	8:27	5.19	5.70	76.4	7.87	<1.0	0.609 J	0.182	9.50
AWGB-DUP	7/25/2022	7:30	5.49	6.30	76.1	7.84	<1.0	0.597 J	0.176	9.45
AWGB-FB	7/25/2022	8:25	N/A	<0.300	N/A	N/A	<1.0	<0.433	<0.0130	<1
KMXX	7/27/2022	7:45	4.60	1.60 J	73.6	7.49	<1.0	<0.433	0.215	3.00
IDBW	7/27/2022	8:30	5.70	1.90 J	74.3	7.71	<1.0	0.436 J	0.188	4.10
BDMZ	7/27/2022	9:35	14.1	11.7	78.9	7.84	<1.0	0.884 J	0.235	148
BDXX	7/27/2022	9:55	12.7	9.10	79.6	7.73	<1.0	0.550 J	0.135	280
KMXX-DUP	7/27/2022	7:45	4.10	1.90 J	73.2	7.29	<1.0	0.439 J	0.187	1.00
KMXX-FB	7/27/2022	7:40	N/A	<0.300	N/A	N/A	<1.0	0.674 J	0.0407 J	<1
MCXX	8/1/2022	5:48	2.04	3.30	70.4	7.83	<1.0	<0.433	0.201	12.8
KMXX	8/1/2022	6:11	2.13	1.60 J	72.3	7.65	<1.0	0.473 J	0.194	11.2
IDBW	8/1/2022	6:38	3.83	0.900 J	72.9	7.72	<1.0	0.988 J	0.190	2.00
BDMZ	8/1/2022	7:20	10.1	7.10	73.1	7.67	<1.0	1.00 J	0.123	97.3
BDXX	8/1/2022	7:08	8.99	7.50	72.6	7.61	<1.0	0.944 J	0.110	133
AMOG	8/1/2022	7:57	4.16	2.10	72.2	7.70	<1.0	0.543 J	0.159	4.60
AWGB	8/1/2022	8:37	2.47	1.60 J	72.2	7.88	<1.0	0.678 J	0.224	4.15
AMOG-DUP	8/1/2022	8:04	4.06	3.10	72.1	7.56	<1.0	0.576 J	0.174	6.70
AMOG-FB	8/1/2022	7:55	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0338 J	<1
KMXX	8/3/2022	8:52	2.12	1.70 J	72.3	7.81	<1.0	0.496 J	0.210	<1
IDBW	8/3/2022	8:16	2.41	1.70 J	72.5	7.88	<1.0	<0.433	0.187	<1
BDMZ	8/3/2022	7:14	7.79	10.3	77.6	7.57	<1.0	0.551 J	0.106	130
BDXX	8/3/2022	6:59	7.11	12.6	78.1	7.59	<1.0	0.555 J	0.0913	12.1
BDXX-DUP	8/3/2022	7:04	7.15	11.3	78.0	7.61	<1.0	0.698 J	0.0916	156
BDXX-FB	8/3/2022	6:56	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0218 J	<1

Table 1. Analytical Results

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Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	8/8/2022	5:52	3.16	2.20	73.1	8.01	<1.0	0.468 J	0.194	9.80
KMXX	8/8/2022	6:11	3.84	1.40 J	73.4	7.96	<1.0	0.544 J	0.199	5.65
IDBW	8/8/2022	6:38	2.89	1.40 J	72.6	7.88	<1.0	0.558 J	0.194	1.00
BDMZ	8/8/2022	7:30	10.1	8.00	75.1	7.54	<1.0	0.551 J	0.105	159
BDXX	8/8/2022	7:04	9.91	7.10	75.8	7.55	<1.0	0.582 J	0.105	182
AMOG	8/8/2022	8:01	4.16	1.20 J	72.8	7.68	<1.0	0.935 J	0.184	15.4
AWGB	8/8/2022	8:49	4.03	1.20 J	73.0	7.68	<1.0	0.590 J	0.227	5.10
BDXX-DUP	8/8/2022	7:06	9.82	7.60	75.4	7.55	<1.0	0.643 J	0.129	199
BDXX-FB	8/8/2022	7:02	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0271 J	<1
KMXX	8/10/2022	7:29	2.11	9.50	83.6	7.81	<1.0	0.590 J	0.158	9.30
IDBW	8/10/2022	6:54	2.26	9.10	82.3	7.92	<1.0	0.790 J	0.162	10.6
BDMZ	8/10/2022	8:26	9.39	7.70	86.1	7.64	<1.0	0.590 J	0.0650	495
BDXX	8/10/2022	8:18	8.14	8.40	85.2	7.61	<1.0	0.547 J	0.0468	515
BDMZ-DUP	8/10/2022	8:28	9.41	7.30	86.0	7.57	<1.0	0.700 J	0.0541	283
BDMZ-FB	8/10/2022	8:25	N/A	0.300 J	N/A	N/A	<1.0	<0.433	0.0239 J	<1
MCXX	8/15/2022	6:31	8.64	11.0	83.7	8.04	<1.0	0.658 J	0.178	6.80
KMXX	8/15/2022	6:57	8.91	16.6	84.2	7.92	<1.0	0.747 J	0.162	32.1
IDBW	8/15/2022	7:36	8.99	10.0	84.9	8.09	<1.0	0.606 J	0.175	12.8
BDMZ	8/15/2022	8:01	16.3	6.80	87.5	7.86	<1.0	0.487 J	0.114	51.2
BDXX	8/15/2022	8:21	14.1	6.70	87.3	7.92	<1.0	0.632 J	0.0736	101
AMOG	8/15/2022	8:40	9.02	8.30	84.1	7.91	<1.0	0.879 J	0.162	16.1
AWGB	8/15/2022	9:05	9.31	3.50	84.4	7.88	<1.0	0.840 J	0.161	2.50
BDMZ-DUP	8/15/2022	8:04	16.3	7.20	83.9	7.86	<1.0	0.792 J	0.124	77.5
BDMZ-FB	8/15/2022	8:00	N/A	0.300 J	N/A	N/A	<1.0	0.433 J	0.0293 J	<1
KMXX	8/17/2022	7:58	8.88	2.80	83.4	7.94	<1.0	0.463 J	0.164	5.70
IDBW	8/17/2022	7:18	7.58	3.90	83.1	7.92	<1.0	0.638 J	0.157	4.60
BDMZ	8/17/2022	9:11	14.7	7.50	83.8	7.43	<1.0	0.572 J	0.0940	99.4
BDXX	8/17/2022	8:59	13.2	8.40	84.1	7.51	<1.0	0.600 J	0.0988	51.5
IDBW-DUP	8/17/2022	7:20	7.57	3.90	83.0	7.92	<1.0	0.610 J	0.140	2.00
IDBW-FB	8/17/2022	7:58	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0222 J	<1

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	8/22/2022	6:02	7.16	14.8	83.2	7.84	<1.0	0.740 J	0.0823	28.2
KMXX	8/22/2022	6:21	8.87	15.2	83.7	8.01	<1.0	0.649 J	0.178	22.4
IDBW	8/22/2022	6:33	8.61	11.7	83.6	8.00	<1.0	0.696 J	0.170	33.2
BDMZ	8/22/2022	7:24	18.2	6.80	86.5	7.49	<1.0	0.880 J	0.0834	63.9
BDXX	8/22/2022	7:08	14.4	6.40	86.1	7.51	<1.0	1.40 J	0.146	83.6
AMOG	8/22/2022	7:41	9.12	9.60	83.5	7.73	<1.0	1.30 J	0.117	41.4
AWGB	8/22/2022	8:28	8.11	6.10	83.4	7.77	<1.0	0.693 J	0.179	2.00
IDBW-DUP	8/22/2022	6:34	8.60	11.1	83.2	8.01	<1.0	0.496 J	0.177	35.4
IDBW-FB	8/22/2022	6:32	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0467	<1
KMXX	8/24/2022	8:39	2.18	1.60 J	82.7	7.81	<1.0	0.503 J	0.241	5.65
IDBW	8/24/2022	7:54	2.40	2.10	82.9	7.85	<1.0	0.538 J	0.192	9.15
BDMZ	8/24/2022	6:59	8.90	7.20	84.9	7.52	<1.0	0.514 J	0.137	63.8
BDXX	8/24/2022	6:53	8.66	7.50	84.7	7.43	<1.0	0.475 J	0.132	73.3
KMXX-DUP	8/24/2022	8:41	2.20	1.70 J	82.7	7.81	<1.0	0.458 J	0.177	11.8
KMXX-FB	8/24/2022	8:38	N/A	0.600 J	N/A	N/A	<1.0	<0.433	0.0458	<1
MCXX	8/29/2022	6:22	2.90	2.20	79.4	8.01	<1.0	<0.433	0.190	6.15
KMXX	8/29/2022	7:16	1.68	1.50 J	73.4	8.23	<1.0	0.449 J	0.212	2.00
IDBW	8/29/2022	7:52	1.46	2.00	71.4	8.10	<1.0	0.487 J	0.188	3.00
BDMZ	8/29/2022	8:57	7.80	9.84	77.7	7.92	<1.0	0.593 J	0.0768	71.2
BDXX	8/29/2022	9:18	6.24	7.38	79.7	7.90	<1.0	0.499 J	0.121	74.2
AMOG	8/29/2022	9:34	1.42	1.89 J	76.2	8.06	<1.0	<0.433	0.170	7.35
AWGB	8/29/2022	10:15	1.49	1.80 J	76.8	8.31	<1.0	1.33 J	0.244	3.55
KMXX-DUP	8/29/2022	7:18	1.68	1.20 J	73.4	8.22	<1.0	<0.433	0.219	2.50
KMXX-FB	8/29/2022	7:15	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0444	<1
KMXX	8/31/2022	6:52	1.66	5.10	71.6	8.16	<1.0	<0.433	0.170	3.55
IDBW	8/31/2022	6:29	1.42	5.10	72.1	8.22	<1.0	0.438 J	0.169	3.60
BDMZ	8/31/2022	8:00	8.92	7.20	74.9	7.84	<1.0	0.705 J	0.111	214
BDXX	8/31/2022	7:48	8.37	7.37	74.3	7.90	<1.0	0.454 J	0.0739	7.05
BDXX-DUP	8/31/2022	7:49	8.30	7.53	74.3	7.90	<1.0	1.16 J	0.0728	1.00
BDXX-FB	8/31/2022	7:46	N/A	<0.300	N/A	N/A	<1.0	<0.433	<0.0130	<1

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	9/6/2022	6:04	8.44	9.40	72.3	8.21	<1.0	0.555 J	0.226	3.05
KMXX	9/6/2022	6:22	9.01	21.5	72.1	8.20	<1.0	0.629 J	0.217	15.3
IDBW	9/6/2022	6:45	9.46	13.3	72.7	8.10	<1.0	0.508 J	0.200	13.5
BDMZ	9/6/2022	7:40	17.9	4.80	77.8	7.74	<1.0	0.507 J	0.153	140
BDXX	9/6/2022	7:23	18.3	6.20	76.7	7.80	<1.0	<0.433	0.0976	158
AMOG	9/6/2022	7:51	10.2	5.40	72.3	8.22	<1.0	0.530 J	0.194	44.4
AWGB	9/6/2022	8:34	9.11	2.20	72.0	8.19	<1.0	0.570 J	0.199	1.50
AWGB-DUP	9/6/2022	8:36	9.11	2.80	72.1	8.19	<1.0	0.554 J	0.196	6.70
AWGB-FB	9/6/2022	8:33	N/A	0.500 J	N/A	N/A	<1.0	<0.433	0.0617	<1
KMXX	9/7/2022	7:38	8.89	4.20	71.4	8.18	<1.0	0.654 J	0.233	6.15
IDBW	9/7/2022	7:07	8.93	6.20	71.3	8.24	<1.0	0.513 J	0.217	12.4
BDMZ	9/7/2022	8:29	14.6	7.50	75.4	7.70	<1.0	0.449 J	0.110	78.2
BDXX	9/7/2022	8:44	14.7	4.80	74.9	7.71	<1.0	0.493 J	0.123	47.8
BDMZ-DUP	9/7/2022	8:31	14.6	5.00	75.3	7.70	<1.0	0.514 J	0.117	47.8
BDMZ-FB	9/7/2022	8:28	N/A	0.300 J	N/A	N/A	<1.0	<0.433	0.0386	<1
MCXX	9/14/2022	7:17	8.90	50.4	71.4	8.18	<1.0	1.18 J	0.183	13.6
KMXX	9/14/2022	6:57	8.92	16.8	71.1	8.27	<1.0	0.870 J	0.171	34.8
IDBW	9/14/2022	6:33	8.89	17.2	71.1	8.21	<1.0	0.676 J	0.158	7.25
BDMZ	9/14/2022	8:29	16.7	7.80	75.3	7.91	<1.0	0.849 J	0.104	93.8
BDXX	9/14/2022	8:16	16.6	7.60	75.5	7.84	<1.0	0.620 J	0.0960	135
AMOG	9/14/2022	8:54	9.10	15.2	71.3	8.22	<1.0	0.602 J	0.175	2.00
AWGB	9/14/2022	10:11	9.09	13.3	71.2	8.18	<1.0	0.564 J	0.152	113
AMOG-DUP	9/14/2022	8:56	9.10	16.5	71.3	8.22	<1.0	0.721 J	0.171	8.90
AMOG-FB	9/14/2022	8:52	N/A	0.300 J	N/A	N/A	<1.0	<0.433	0.0309 J	<1
KMXX	9/15/2022	5:30	9.84	13.0	71.1	8.20	<1.0	0.647 J	0.191	4.15
IDBW	9/15/2022	5:49	9.87	6.52	71.3	8.24	<1.0	0.618 J	0.174	4.15
BDMZ	9/15/2022	6:18	16.0	9.60	74.5	7.92	<1.0	0.557 J	0.0936	82.3
BDXX	9/15/2022	6:27	15.9	6.40	74.6	7.89	<1.0	0.547 J	0.0932	87.2
IDBW-DUP	9/15/2022	5:50	9.87	6.81	71.3	8.23	<1.0	0.661 J	0.180	1.00
IDBW-FB	9/15/2022	6:48	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0142 J	<1.0

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	9/19/2022	7:59	9.02	2.55	71.1	8.07	<1.0	0.702 J	0.174	2.00
KMXX	9/19/2022	7:38	9.15	1.80 J	71.5	8.10	<1.0	0.618 J	0.180	4.10
IDBW	9/19/2022	7:12	8.90	2.60	71.4	8.07	<1.0	0.494 J	0.175	6.70
BDMZ	9/19/2022	7:35	18.9	11.8	75.1	7.65	<1.0	0.698 J	0.129	112
BDXX	9/19/2022	7:59	17.4	13.3	75.3	7.67	<1.0	0.706 J	0.127	177
AMOG	9/19/2022	7:00	8.71	2.70	71.2	8.19	<1.0	0.883 J	0.336	6.80
AWGB	9/19/2022	6:25	8.26	2.46	71.1	8.16	<1.0	0.796 J	0.295	6.30
BDXX-DUP	9/19/2022	8:12	17.4	12.5	75.3	7.67	<1.0	0.763 J	0.128	148
BDXX-FB	9/19/2022	7:58	N/A	<0.321	N/A	N/A	<1.0	0.435 J	0.0239 J	<1.0
KMXX	9/21/2022	6:59	5.11	3.40	70.8	8.14	<1.0	0.945 J	0.179	5.20
IDBW	9/21/2022	6:34	4.72	3.70	71.3	8.16	<1.0	0.769 J	0.159	1.00
BDMZ	9/21/2022	7:56	9.00	9.90	73.2	7.90	<1.0	0.743 J	0.0920	83.6
BDXX	9/21/2022	7:45	9.18	9.80	73.5	7.88	<1.0	0.728 J	0.0939	64.0
KMXX-DUP	9/21/2022	7:02	5.21	3.70	70.9	8.14	<1.0	0.592 J	0.162	3.55
KMXX-FB	9/21/2022	6:58	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0382	<1.0
MCXX	9/29/2022	6:47	17.3	17.7	77.0	7.64	<1.0	0.637 J	0.155	5.70
KMXX	9/29/2022	7:29	20.3	28.2	54.9	8.06	<1.0	0.755 J	0.136	6.85
IDBW	9/29/2022	8:18	16.7	22.4	59.7	8.40	<1.0	0.648 J	0.133	4.65
BDMZ	9/29/2022	9:36	5.94	6.38	65.8	7.38	<1.0	1.10 J	0.0983	46.0
BDXX	9/29/2022	9:56	6.95	7.24	67.6	7.76	<1.0	0.471 J	0.0955	46.1
AMOG	9/29/2022	10:24	6.72	8.00	64.6	7.91	<1.0	0.542 J	0.119	3.50
AWGB	9/29/2022	11:28	4.63	5.41	66.9	7.48	<1.0	0.611 J	0.128	2.00
BDMZ-DUP	9/29/2022	9:37	5.55	6.20	65.8	7.38	<1.0	0.670 J	0.104	77.8
BDMZ-FB	9/29/2022	9:35	N/A	<0.316	N/A	N/A	<1.0	<0.433	0.0150 J	<1
KMXX	9/30/2022	7:39	4.71	4.55	58.6	8.03	<1.0	0.721 J	0.144	1.00
IDBW	9/30/2022	7:08	4.28	4.69	58.8	7.74	<1.0	<0.433	0.156	1.00
BDMZ	9/30/2022	6:43	5.71	5.52	62.7	7.61	<1.0	0.572 J	0.0716	62.9
BDXX	9/30/2022	6:28	5.56	5.45	61.2	7.70	<1.0	1.78 J	0.0624	56.5
BDXX-DUP	9/30/2022	6:30	5.56	5.33	61.2	7.70	<1.0	0.621 J	0.0689	46.5
BDXX-FB	9/30/2022	6:27	N/A	<0.305	N/A	N/A	<1.0	<0.433	0.0395	<1

Table 1. Analytical Results

Ramboll - State-Only Environmentally Beneficial Project

Sampling Location	Sampling Date	Sampling Time	Turbidity (NTU)	TSS (mg/L)	Temperature (°F)	pH (s.u.)	Cyanobacteria (µg/L)	Chromium (µg/L)	Hex. Chromium (µg/L)	E. coli (MPN/100 mL)
MCXX	10/3/2022	8:44	3.16	11.0	63.5	7.99	<1.0	0.533 J	0.186	3.55
KMXX	10/3/2022	8:29	2.94	10.6	63.3	8.03	<1.0	0.709 J	0.167	2.55
IDBW	10/3/2022	8:05	3.01	8.20	63.5	8.02	<1.0	0.546 J	0.159	4.10
BDMZ	10/3/2022	6:37	5.09	6.40	64.8	7.58	<1.0	0.613 J	0.129	73.5
BDXX	10/3/2022	6:29	5.92	6.20	64.6	7.66	<1.0	0.444 J	0.128	53.4
AMOG	10/3/2022	6:53	4.16	8.90	63.3	8.04	<1.0	0.500 J	0.172	3.55
AWGB	10/3/2022	7:27	3.99	8.90	62.8	8.09	<1.0	0.537 J	0.158	7.25
IDBW-DUP	10/3/2022	8:07	3.01	10.7	63.5	8.02	<1.0	0.561 J	0.170	3.00
IDBW-FB	10/3/2022	8:04	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.101	<1
MCXX	11/9/2022	11:15	7.10	2.90	53.4	7.70	<1.0	0.962 J	0.147	1.50
KMXX	11/9/2022	11:52	7.10	4.20	52.7	7.70	<1.0	0.692 J	0.137	2.00
IDBW	11/9/2022	12:30	11.4	4.20	53.4	7.60	<1.0	0.495 J	0.147	1.00
BDMZ	11/9/2022	10:00	9.00	7.80	56.5	7.10	<1.0	0.981 J	0.0866	109
BDXX	11/9/2022	10:20	5.60	21.9	58.3	7.54	<1.0	0.681 J	0.0955	157
AMOG	11/9/2022	13:10	3.90	2.90	54.7	7.60	<1.0	0.586 J	0.155	9.60
AWGL	11/9/2022	8:50	2.80	3.10	54.7	7.70	<1.0	0.610 J	0.135	<1
KMXX-DUP	11/9/2022	11:52	7.10	4.30	52.7	7.70	<1.0	0.549 J	0.155	1.00
KMXX-FB	11/9/2022	11:50	N/A	<0.300	N/A	N/A	<1.0	<0.433	0.0215 J	<1
MCXX	12/12/2022	13:35	16.9	8.10	40.8	7.40	<1.0	1.03 J	0.153	13.1
KMXX	12/12/2022	12:58	17.0	9.10	41.6	7.50	<1.0	1.04 J	0.154	2.00
IDBW	12/12/2022	12:32	10.9	7.16	42.6	7.30	<1.0	1.40 J	0.159	<1
BDMZ	12/12/2022	11:26	7.28	5.40	47.6	7.50	<1.0	0.710 J	0.0699	28.8
BDXX	12/12/2022	11:08	7.64	6.43	48.6	7.50	<1.0	0.922 J	0.0626	76.2
AMOG	12/12/2022	12:05	4.95	4.40	42.5	7.52	<1.0	0.701 J	0.138	2.00
AWGL	12/12/2022	10:27	6.29	2.80	42.1	7.80	<1.0	0.820 J	0.145	<1
MCXX-DUP	12/12/2022	13:37	16.8	10.0	40.8	7.44	<1.0	0.997 J	0.144	14.6
MCXX-FB	12/12/2022	13:33	N/A	0.308 J	N/A	N/A	<1.0	<0.433	0.0274 J	<1

Abbreviations:

TSS = total suspended solids

Hex. Chromium = hexavalent chromium

N/A = not applicable

<#.# = not detected at the limit of detection shown

J = the analyte was detected, but below the limit of quantitation

DUP = field duplicate

FB = field blank

Locations:

AWGL = American Water Intake - Gary Lakeside Pump House

AWGB = American Water Intake - Breakwall

AMOG = American Water Intake - Ogden

BDXX = Burns Ditch

BDMZ = Burns Ditch / Lake Michigan Mixing Zone

IDBW = Indiana Dunes Beach - Western Area

KMXX = Kemil Beach

MCXX = Michigan City

Units:

NTU = nephelometric turbidity unit

mg/L = milligrams per liter

°C = degrees Celcius

s.u. = standard units

µg/L = micrograms per liter

MPN = Most Probable Number per 100 milliliters