Northern Indiana Public Service Company
R.M. Schahfer Generating Station
Wheatfield, Indiana

CCR Management Unit Referred to as Schahfer Material Storage Runoff Basin, Metal Cleaning Waste Basin, and Drying Area

2017 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Prepared Pursuant to 40 CFR §257.90(e) and Corresponding Regulations under 329 Indiana Administrative Code 10-9-1

January 2018

Golder Associates

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1.0 INTRODUCTION

40 Code of Federal Regulations (CFR) Parts 257 and 261, “Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule” (CCR Final Rule), as amended, and corresponding regulations under 329 Indiana Administrative Code (IAC) 10-9-1 require groundwater monitoring and annual reporting of resulting information from subject coal combustion residuals (CCR) management units. Golder Associates Inc. (Golder) on behalf of Northern Indiana Public Service Company (NIPSCO) prepared this 2017 CCR annual groundwater monitoring and corrective action report (2017 Annual Report) for the Rollin M. Schahfer Generating Station (RMSGS, Schahfer) Material Storage Runoff Basin (MSRB), Metal Cleaning Waste Basin (MCWB), and the Drying Area (together, the CCR Unit) located in Wheatfield, Indiana. RMSGS occupies an area of approximately four square miles located at 2723 E 1500 N Road, Wheatfield, Jasper County, Indiana (Latitude 41° 12' 36" and Longitude 87° 01' 48", see Figure 1). As shown in Figure 2, the Drying Area is an approximately 5.5-acre impoundment that has been completely filled with CCR. The MSRB and MCWB consist of two rectangular, approximately 15-acre impoundments located adjacent to one another. The ponds are separated by a narrow berm. While there is a perimeter slurry wall around the basins, there is no slurry wall within the narrow berm between the basins.

Due to the locations and proximity of the MSRB, MCWB, and the Drying Area to one another, and because there is no practical means of monitoring between the adjacent units, NIPSCO and Golder’s approach for these CCR surface impoundments is monitoring them as one individual unit for the purposes of compliance with the CCR Final Rule. Routine monitoring activities performed during the reporting period include inspection of wells for integrity and security, measurement of groundwater levels prior to sample collection in order to assess groundwater flow direction, and collection of samples for laboratory analysis.

In conformance with the applicable requirements of 40 CFR §257.90(e)(1) through (5) and corresponding State of Indiana requirements, the 2017 CCR Annual Report:

- Documents the status of the groundwater monitoring and corrective action program
- Provides figures showing the CCR management unit and monitoring well locations
- Summarizes key CCR groundwater activities completed during calendar years 2016 and 2017
- Includes all CCR groundwater monitoring data obtained during calendar years 2016 and 2017
- Describes any problems encountered
- Discusses actions taken to resolve the problems, if applicable
- Projects key activities for the upcoming year

Although the CCR Final Rule (specifically 40 CFR §257.90(e)) states an annual report must provide information only for the preceding calendar year, NIPSCO's consultant, Golder, conducted certain activities (e.g., installed monitoring wells) and collected data (e.g., initiated background sampling) relevant to the CCR groundwater monitoring program beginning prior to 2017. Therefore, in the interest of providing a complete data package and summary of the monitoring program, Golder is including CCR Final Rule-related information collected in calendar years 2016 and 2017 in this first (i.e., 2017) annual report.

2.0 GROUNDWATER MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

Starting in 2016 following the installation of a groundwater monitoring system and throughout calendar year 2017, Golder collected background groundwater samples and performed Detection Monitoring at the Schahfer MSRB, MCWB, and Drying Area pursuant to the requirements of 40 CFR §257.94 and corresponding State of Indiana requirements. Based upon groundwater monitoring results to date, corrective action program requirements have neither been triggered nor implemented at this CCR management unit. A summary of key program actions including completed and projected events are presented in the following subsections, along with discussions of and references to requisite CCR management unit and well location figures and data tables.

2.1 Key Actions Completed – 2016-17

NIPSCO completed the following key actions relative to CCR groundwater well installation and monitoring at RMSGS MSRB, MCWB, and Drying Area prior to the end of calendar year 2017:

- Design, construction, and development of background and downgradient groundwater monitoring wells consistent with NIPSCO written specifications and standard operating procedures (40 CFR §257.91)
- Certification of the groundwater monitoring system by a qualified professional engineer (40 CFR §257.91(f))
- Development of a groundwater sampling program including identification of statistical method(s) appropriate to the data set(s) and site conditions (40 CFR §257.91)
- Certification of the selection of appropriate statistical method(s) by a qualified professional engineer (40 CFR §257.93(f)(6))
- Collection of eight independent background groundwater samples for Appendix III and Appendix IV constituents from each background and downgradient monitoring well (40 CFR §257.94(b))
- Performance of the first Detection Monitoring event (40 CFR §257.94)

2.2 Monitoring System Design, Construction, and Development

Consistent with the requirements of 40 CFR §§257.90 and 257.91 and corresponding State of Indiana requirements, NIPSCO designed, constructed, and developed a single groundwater monitoring system for the MSRB, MCWB, and Drying Area. As noted above, these surface impoundments are being monitored as a single unit due to their close proximity to one another (i.e., immediately adjacent), because such conditions prevent the installation of separate groundwater monitoring systems for each individual CCR unit.

As shown in Figure 2, and summarized in the table below, the groundwater monitoring network for the MSRB, MCWB, and Drying Area includes four background and eight downgradient monitoring wells. Golder identified four existing monitoring wells (GAMW-04, GAMW-07, GAMW-08 and GAMW-09) that are

appropriately located and constructed to serve as CCR Rule-compliant monitoring wells. As shown in Table 1, to complete the monitoring system for the MSRB, MCWB, and Drying Area, Golder installed eight additional monitoring wells in May/June 2016, specifically in compliance with the applicable requirements of the CCR Final Rule. Golder developed all of these wells and installed dedicated bladder pumps approximately two weeks after well installation. Based on historical groundwater data, NIPSCO and Golder determined that groundwater monitoring typically should include well pairs, consisting of one shallow well to an approximate depth of 18 feet below ground surface (ft bgs) and a deep "B" designation well installed to an approximate depth of 35 ft bgs or to the top of the shale, at each location. NIPSCO obtained certification from a qualified professional engineer stating that the groundwater monitoring system was designed and constructed to meet the requirements of 40 CFR §257.91.

CCR Unit	Background Monitoring Wells	Downgradient Monitoring Wells
MSRB, MCWB, and Drying Area	GAMW-04*, GAMW-07*, GAMW-15, GAMW-15B	GAMW-08*, GAMW-09*, GAMW-9B, GAMW-16, GAMW-16B, GAMW-17, GAMW-17B, and GAMW-18

*Existing monitoring well

2.3 Background Monitoring

Between July 2016 and August 2017, Golder collected eight independent background groundwater samples from each background and downgradient well, as required by 40 CFR §257.94, at intervals of at least 42 days to account for both seasonal and spatial variability in groundwater quality. Each sample was sent to a contract laboratory in accordance with chain of custody and quality assurance/quality control procedures to be analyzed for 40 CFR Part 257 Appendix III and Appendix IV constituents. In addition, Golder personnel measured field water quality parameters specific conductance, temperature, dissolved oxygen, turbidity, oxidation-reduction potential and pH. The results of the background monitoring phase were used to develop appropriate, statistically valid background values for each constituent/monitoring well. Following completion of the eight background monitoring events, Golder collected the first Detection Monitoring groundwater samples, as described below in Section 2.5. Information including sampling dates, number of groundwater samples collected for each background and downgradient well, and the purpose of sampling is described in Table 2. All analytical results are presented in Table 3.

2.4 Development of the Background Population

Subsequent to each background monitoring event, Golder assessed the analytical data for outliers, anomalies, and trends that might be an indication of a sampling or analytical error. Outliers and anomalies are generally defined as inconsistently large or small values that can occur as a result of sampling, laboratory, transportation, or transcription errors, or even by chance alone. Significant trends may indicate natural geochemical variability, a source of systematic error, influence of an upgradient/off-site source, or an actual occurrence of CCR Unit influence. Appropriate statistical methods are used to remove outliers

from the database and manage trends with detrending routines, prior to the calculation of statistical limits. To assess the data for outliers, anomalies, and trends, Golder assessed the background data using time vs. concentration graphs, and statistical routines included in the Sanitas™ statistical analysis software package. NIPSCO obtained certification from a qualified professional engineer stating that the selected statistical method, interwell prediction limits utilizing a verification resampling plan, is appropriate for evaluating the groundwater monitoring data for the CCR management area and is consistent with the requirements of 40 CFR §257.93(f)(6).

2.4.1 Outlier and Trend Assessment

Golder considers the groundwater analytical results collected from GAMW-04 in November 2016 as outliers and removed these data from the background data set for the following reasons:

- The analytical results for several parameters are higher than in any other sampling round and the inclusion of these results would result in higher limits; and
- Trend charts indicate that the November 2016 analytical results from GAMW-04 were inconsistent with other background results.

Golder identified the chromium result from the groundwater sample collected from background monitoring well GAMW-04 in January 2017 as an outlier and removed this datum from the background data set for the following reasons:

- Trend charts indicated that the chromium concentration detected during the January 2017 monitoring event was inconsistent with concentrations detected in other background monitoring wells; and
- The elevated chromium concentration is the only detection of chromium recorded in this background well.

Golder evaluated the background data for trends using Sanitas™ software. Golder will continue to monitor these trends and if this CCR Unit enters assessment monitoring, detrending routines will be performed before using this data to calculate groundwater protection standards.

- Arsenic concentrations detected in groundwater samples from well GAMW-15B show a downward trend;
- Chloride concentrations detected in groundwater samples from well GAMW-15 show a downward trend; and
- Total dissolved solid concentrations detected in groundwater samples from well GAMW-15B show an upward trend.

2.5 Detection Monitoring

Golder performed the first Detection Monitoring event in October 2017, followed by calculations and data analysis in January 2018. Groundwater samples were collected at all background and downgradient monitoring well locations and analyzed for 40 CFR Part 257 Appendix III constituents per 40 CFR §257.94. Following receipt and validation of laboratory results, Golder evaluated the results of the first Detection

Monitoring sampling event to determine the concentration of Appendix III constituents relative to facility background concentrations. Using Sanitas™ software, Golder pooled the background data to calculate prediction limits and compared the October 2017 results to the calculated prediction limits to determine statistically significant increases (SSIs). The SSIs are summarized in the table below by downgradient monitoring well and constituent. Although not required under the CCR Final Rule, this 2017 Annual Report provides the results of statistical analyses completed in early 2018. Based on these results, in 2018 NIPSCO will complete an alternative source demonstration (ASD) or establish an Assessment Monitoring program.

Monitoring Well ID	Boron	Calcium	Chloride	Fluoride	Sulfate	pH	Total Dissolved Solids
GAMW-08	X	X			X		X
GAMW-09	X						
GAMW-09B	X						X
GAMW-16							
GAMW-16B							
GAMW-17	X		X				
GAMW-17B	X						
GAMW-18					X		X

"X" represents a SSI

2.6 Problems Encountered and Follow-On Corrective Actions

The samples from one downgradient monitoring well (GAMW-18) collected on June 28th, 2017 for the 7th Background Sampling Event were lost in transit and were never received by the analytical laboratory. This location was resampled two weeks later on July 12th, 2017 and the resamples were successfully received and analyzed by the analytical laboratory.

3.0 KEY ACTIVITIES PROJECTED FOR 2018

During calendar year 2018, NIPSCO anticipates conducting the following key CCR groundwater monitoring activities for Schahfer MSRB, MCWB, and Drying Area:

- Complete an alternative source demonstration or establish an Assessment Monitoring program;
- Prepare and submit the appropriate notifications according to the CCR Rule;
- Continue sampling background and downgradient monitoring wells per CCR requirements; and,
- Inspect and maintain monitoring system including wells, pumps, and equipment.

TABLES

Table 1 Monitoring Well Network
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

CCR Unit	Monitoring Well ID	Installation Date (If Applicable)	Decommission Date (If Applicable)	Location Relative to Gradient	Basis For Action
Material Storage Runoff Basin, Metal Cleaning Water Basin, and Drying Area	GAMW-04	6/27/2015		Upgradient	Installed for groundwater quality monitoring*
	GAMW-07	6/29/2015		Upgradient	
	GAMW-08	6/28/2015		Downgradient	
	GAMW-09	6/28/2015		Downgradient	
	GAMW-09B	5/24/2016		Downgradient	
	GAMW-15	5/25/2016		Upgradient	
	GAMW-15B	5/24/2016		Upgradient	
	GAMW-16	5/26/2016		Downgradient	
	GAMW-16B	5/25/2016		Downgradient	
	GAMW-17	5/25/2016		Downgradient	
	GAMW-17B	5/25/2016		Downgradient	
	GAMW-18	5/24/2016		Downgradient	

* Per the CCR Rule requirements, Golder collected eight rounds of background data prior to October 17, 2017.

Prepared by: DFS
Checked by: CRT
Reviewed by: MAH

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Table 2 Summary of Sampling Events
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Well Purpose	Monitoring Well ID	Sample Event #1	Sample Event #2	Sample Event #3	Sample Event #4	Sample Event #5	Sample Event #6	Sample Event #7	Sample Event #8	Sample Event #9	Total Number of Samples
Purpose of Sample		Background								Detection Monitoring	
Sample Parameters		Appendix III and Appendix IV	Appendix III and Appendix IV	Appendix III and Appendix IV	Appendix III and Appendix IV	Appendix III and Appendix IV	Appendix III and Appendix IV	Appendix III and Appendix IV	Appendix III and Appendix IV	Appendix III	
Upgradient Monitoring Well	GAMW-04	7/12/2016	9/8/2016	11/9/2016	1/10/2017	3/1/2017	4/26/2017	6/28/2017	8/22/2017	10/4/2017	9
	GAMW-07	7/12/2016	9/8/2016	11/9/2016	1/10/2017	3/1/2017	4/26/2017	6/29/2017	8/23/2017	10/3/2017	9
	GAMW-15	7/13/2016	9/8/2016	11/9/2016	1/11/2017	3/2/2017	4/27/2017	6/29/2017	8/23/2017	10/3/2017	9
	GAMW-15B	7/13/2016	9/8/2016	11/9/2016	1/11/2017	3/2/2017	4/27/2017	6/29/2017	8/24/2017	10/3/2017	9
Downgradient Monitoring Well	GAMW-08	7/13/2016	9/8/2016	11/9/2016	1/10/2017	3/2/2017	4/27/2017	6/29/2017	8/23/2017	10/4/2017	9
	GAMW-09	7/13/2016	9/8/2016	11/9/2016	1/10/2017	3/1/2017	4/26/2017	6/28/2017	8/23/2017	10/3/2017	9
	GAMW-09B	7/13/2016	9/8/2016	11/9/2016	1/10/2017	3/1/2017	4/26/2017	6/28/2017	8/23/2017	10/3/2017	9
	GAMW-16	7/13/2016	9/8/2016	11/9/2016	1/11/2017	3/2/2017	4/27/2017	6/29/2017	8/24/2017	10/4/2017	9
	GAMW-16B	7/13/2016	9/8/2016	11/9/2016	1/11/2017	3/2/2017	4/27/2017	6/29/2017	8/24/2017	10/4/2017	9
	GAMW-17	7/14/2016	9/8/2016	11/9/2016	1/10/2017	3/2/2017	4/27/2017	6/29/2017	8/24/2017	10/4/2017	9
	GAMW-17B	7/13/2016	9/8/2016	11/9/2016	1/10/2017	3/2/2017	4/27/2017	6/29/2017	8/23/2017	10/4/2017	9
	GAMW-18	7/13/2016	9/8/2016	11/9/2016	1/10/2017	3/1/2017	4/26/2017	7/12/2017(1)	8/23/2017	10/3/2017	8
Total Number of Samples		12	12	12	12	12	12	12	12	12	107

Notes:
Sample counts do not include QC/QA samples.
(1) Orginial sample was lost in transit, well was resampled on the provided date.

Prepared by: DFS
Checked by: CRT
Reviewed by: MAH

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Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW04									
		2016-07-12	2016-09-08	2016-11-09	2017-01-10	2017-01-10	2017-03-01	2017-04-26	2017-06-28	2017-08-22	2017-10-04
		N	N	N	FD	N	N	N	N	N	N
Appendix III Parameters											
Boron	mg/L	0.48	1.4	2.4 O	1.1	1	1.2	0.74	0.92	1.2	0.54
Calcium	mg/L	110	230	300 O	270	240	230	220	200	200	140
Chloride	mg/L	2.2	27	69 O	13	14	13	5.4	12	13	4.5
Fluoride	mg/L	0.92 J+	0.20 J	< 10 UO	0.19 J	0.17 J	< 5 U	< 5 U	0.19 J	0.21 J	0.24 J
Sulfate	mg/L	140 J-	460	480 O	460	470	390	470	370	440	250
Total Dissolved Solids	mg/L	420	990	1400 O	1000	1000	890	870	880	920	610
pH	SU	7.22	6.83	6.75		6.93	7.01	6.76	6.88	7.21	7.28
Appendix IV Parameters											
Antimony	mg/L	< 0.0020 U	< 0.0020 U	0.00027 JO	< 0.002 U	0.00057 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0059	0.013	0.0052 O	0.0058	0.0072	< 0.005 U	0.0099	0.012	0.012	
Barium	mg/L	0.041	0.077	0.11 O	0.095	0.079	0.089	0.069	0.084	0.09	
Beryllium	mg/L	0.00027 J	< 0.0010 U	< 0.0010 UO	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 UO	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	< 0.0020 U	< 0.0020 U	0.00036 JO	0.00036 JO	0.0052 JO	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00026 U	0.00031 J	0.00064 JO	0.0061	0.0058	0.0038	0.0049	0.003	0.0023	
Fluoride	mg/L	0.92 J+	0.20 J	< 10 UO	0.19 J	0.17 J	< 5 U	< 5 U	0.19 J	0.21 J	0.24 J
Lead	mg/L	0.00023 U	< 0.0010 U	< 0.0010 UO	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0018 J	< 0.0080 U	< 0.0080 UO	0.0021 J	0.0023 J	0.0033 J	0.0033 J	0.0062 J	0.0052 J	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 UO	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.0075 J	0.023	0.073 O	0.037	0.038	0.034	0.016	0.02	0.034	
Radium 226 + 228	pci/L	< 5.00 U	0.583	0.697 O	0.804	< 0.515 U	< 0.362 U	< 0.379 U	< 0.364 U	< 0.352 U	
Radium-226	pci/L	< 1.00 U	< 0.138 U	< 0.346 UO	< 0.301 U	< 0.242 U	< 0.121 U	< 0.117 U	0.119 J+	0.118	
Radium-228	pci/L	< 1.00 U	< 0.498 U	< 0.495 UO	0.677 J+	< 0.515 U	< 0.362 U	< 0.379 U	< 0.364 U	< 0.352 U	
Selenium	mg/L	0.00073 U	< 0.0050 U	0.00064 JO	0.0017 J	0.0021 J	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 UO	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters											
Dissolved Oxygen	mg/L	0.09	0.58	0.37		1.82	1.47	0.12	0.3	0.52	0.09
Oxidation-Reduction Potential	millivolts	59.6	-24	-6.9		-31.7	14	-57.8	-45	-27	-105.8
pH	SU	7.22	6.83	6.75		6.93	7.01	6.76	6.88	7.21	7.28
Specific Conductance	uS/cm	595	1345	1681		1109	910	1137	911	1153	813
Temperature	deg C	13	17.3	16.3		10.5	8.05	10.2	13.1	15.9	16.1
Turbidity	NTU	4.04	1.48	2.21		2.28	4.26	4.04	4.88	1.65	0.51

Note:
mg/L = milligram per liter
uS/cm = micro Siemens per centimeter
deg C = degrees Celcius
NTU = Nephelometric Turbidity Units
SU = Standard Units
pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

"J" = Indicates the result was estimated below the RL but above the MDL by the analytical laboratory; the estimated value is provided.

"J+" = Indicates the result was estimated below the RL but above the MDL and may be biased high; the estimated value is provided.

"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

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Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW07									
		2016-07-12	2016-09-08	2016-11-09	2017-01-10	2017-03-01	2017-04-26	2017-06-29	2017-08-23	2017-10-03	2017-10-03
		N	N	N	N	N	N	N	N	FD	N
Appendix III Parameters											
Boron	mg/L	1.2	1	0.91	0.91	1	0.68	0.67	0.68	0.71	0.72
Calcium	mg/L	170	190	200	170	170	190	220	190	220	220
Chloride	mg/L	7.8	6.6	5.3	6	7.6	2.8	3 J	3.2 J	3 J	3.6 J
Fluoride	mg/L	0.72 J+	0.91 J	0.80 J	0.85 J	0.66 J	0.76 J	0.79 J	0.66 J	1.1 J	0.93 J
Sulfate	mg/L	310 J-	330	320	320	290	310	360	380	460	450
Total Dissolved Solids	mg/L	770	830	840	750	710	810	970	910	970	1000
pH	SU	7.03	7.27	7.04	7.15	7.2	7.17	6.57	7.2		7.1
Appendix IV Parameters											
Antimony	mg/L	0.00035 J	0.00039 J	0.00035 J	0.00028 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U		
Arsenic	mg/L	0.0013 J	0.0016 J	0.0018 J	0.0028 J	< 0.005 U	0.0028 J	0.0025 J	0.0016 J		
Barium	mg/L	0.052	0.055	0.056	0.042	0.05	0.05	0.059	0.059		
Beryllium	mg/L	0.00011 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U		
Cadmium	mg/L	0.000085 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0003 J	0.00022 J		
Chromium	mg/L	< 0.0020 U	< 0.0020 U	0.00047 J	0.00046 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U		
Cobalt	mg/L	0.0056	0.0077	0.0055	0.0038	0.0044	0.0063	0.01	0.0095		
Fluoride	mg/L	0.72 J+	0.91 J	0.80 J	0.85 J	0.66 J	0.76 J	0.79 J	0.66 J	1.1 J	0.93 J
Lead	mg/L	0.00024 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.0007 J		
Lithium	mg/L	0.0034 J	< 0.0080 U	< 0.0080 U	0.0035 J	0.0031 J	0.0041 J	0.0037 J	0.0038 J		
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ		
Molybdenum	mg/L	0.0084 J	0.0098 J	0.0095 J	< 0.01 U	< 0.01 U	0.0083 J	0.0081 J	0.007 J		
Radium 226 + 228	pci/L	1.59	0.696	0.548	< 0.412 U	< 0.42 U	< 0.371 U	0.45	0.588		
Radium-226	pci/L	0.667 J+	0.289	0.374	< 0.237 U	0.186	0.155	0.232 J+	0.3		
Radium-228	pci/L	0.923	0.406	< 0.462 U	< 0.412 U	< 0.42 U	< 0.371 U	< 0.262 U	< 0.413 U		
Selenium	mg/L	0.0033 U	< 0.0050 U	0.0030 J	0.003 J	< 0.005 U	0.008	0.0054	0.005		
Thallium	mg/L	0.00011 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U		
Field Parameters											
Dissolved Oxygen	mg/L	0.6	1.81	0.59	0.52	0.51	1.96	1.02	0.84		0.48
Oxidation-Reduction Potential	millivolts	111.2	64.2	-6.4	71.3	65.3	76.9	291.1	8.5		95.4
pH	SU	7.03	7.27	7.04	7.15	7.2	7.17	6.57	7.2		7.1
Specific Conductance	uS/cm	966	1072	1106	928	832	1121	1151	1157		1273
Temperature	deg C	14.4	19.2	16.7	12.9	10.63	11.8	14.6	16.5		18
Turbidity	NTU	4.6	4.51	1.26	3.2	4.76	2.17	2.87	0.9		0.49

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

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"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW08								
		2016-07-13	2016-09-08	2016-11-09	2017-01-10	2017-03-02	2017-04-27	2017-06-29	2017-08-23	2017-10-04
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	3.5	3.9	3.2	3.4	3.3	3.2	2.9	2.2	3.7
Calcium	mg/L	310	310	300	260	270	310	340	270	290
Chloride	mg/L	88	71	89	99	110	86	83	39	87
Fluoride	mg/L	1.0 J+	1.2 J	0.73 J	0.87 J	0.94 J	0.92 J	1.3 J	2 J	0.68 J
Sulfate	mg/L	770 J-	690	680	610	630	770	800	640	670
Total Dissolved Solids	mg/L	1600	1500	1600	1300	1400	1700	2000	1400	1500
pH	SU	6.92	7.03	6.85	7.02	7.09	6.93	7	7.27	6.89
Appendix IV Parameters										
Antimony	mg/L	0.00073 J	0.00069 J	0.0014 J	0.00041 J	0.00043 J	< 0.002 U	0.00059 J	0.00075 J	
Arsenic	mg/L	0.0018 J	0.0019 J	0.0018 J	0.0027 J	0.0016 J	0.0031 J	0.0027 J	0.0023 J	
Barium	mg/L	0.068	0.065	0.065	0.05	0.055	0.064	0.074	0.077	
Beryllium	mg/L	0.00017 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	0.000074 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.00029 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.036	0.034	0.059	0.047	0.05	0.037	0.047	0.02	
Fluoride	mg/L	1.0 J+	1.2 J	0.73 J	0.87 J	0.94 J	0.92 J	1.3 J	2 J	0.68 J
Lead	mg/L	0.00014 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0098	0.012	0.009	0.0098	0.0093	0.012	0.011	0.012	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.034	0.036	0.024	0.02	0.019	0.038	0.049	0.083	
Radium 226 + 228	pci/L	1.07	1.08	1.09	0.581	0.777	0.632	1.11	0.762	
Radium-226	pci/L	0.501 J+	0.469	0.557	0.375	0.368	0.383	0.613 J+	0.591	
Radium-228	pci/L	< 1.00 U	0.609	0.533	< 0.43 U	< 0.423 U	< 0.365 U	0.499	< 0.341 U	
Selenium	mg/L	0.0047 U	0.0065	0.0033 J	0.0014 J	0.0032 J	0.011	0.0088	0.0081	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters										
Dissolved Oxygen	mg/L	1.9	0.38	1.62	1.27	0.96	0.63	1.96	0.93	0.21
Oxidation-Reduction Potential	millivolts	159.7	64.6	-8	58.4	49.9	60.4	242.5	61.9	-15.9
pH	SU	6.92	7.03	6.85	7.02	7.09	6.93	7	7.27	6.89
Specific Conductance	uS/cm	1925	1807	1664	1517	1494	2098	1834	1713	1840
Temperature	deg C	15.5	18.78	17.75	12.2	10.06	11.1	15.8	18.5	18.3
Turbidity	NTU	2.3	3.22	0.58	1.26	1.56	1.1	2.41	0.68	4.38

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

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"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW09										
		2016-07-13	2016-09-08	2016-11-09	2017-01-10	2017-03-01	2017-03-01	2017-04-26	2017-04-26	2017-06-28	2017-08-23	2017-10-03
		N	N	N	N	FD	N	FD	N	N	N	N
Appendix III Parameters												
Boron	mg/L	5.7	4.7	7.3	5.3	7.7	7.6	5.9	6.1	4.9	7.9	7.3
Calcium	mg/L	320	240	210	210	200	200	220	240	270	280	220
Chloride	mg/L	63	55	58	58	75	73	71	67	53	39	64
Fluoride	mg/L	0.15 J+	< 10 U	< 10 U	0.22 J	0.13 J	0.14 J	0.16 J	0.13 J	0.18 J	2 J	0.21 J
Sulfate	mg/L	910 J-	570	360	500	440	420	460	460	600	740	540
Total Dissolved Solids	mg/L	1500	1100	880	980	1000	990	1000	960	1300	1400	1100
pH	SU	7.27	7.25	7.12	6.68		7.44		7.15	7.25	7.31	7.3
Appendix IV Parameters												
Antimony	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0015 J	0.0013 J	0.00076 J	0.0031 J	< 0.005 U	< 0.005 U	0.0028 J	0.0029 J	0.002 J	0.0027 J	
Barium	mg/L	0.059	0.043	0.036	0.039	0.035	0.037	0.039	0.042	0.047	0.054	
Beryllium	mg/L	0.00012 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00036 J	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	0.0036	< 0.0020 U	0.00062 J	0.0013 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	0.0011 J	0.0015 J	
Cobalt	mg/L	0.00015 U	0.00018 J	0.00020 J	0.0002 J	< 0.001 U	< 0.001 U	0.00029 J	0.00025 J	< 0.001 U	< 0.001 U	
Fluoride	mg/L	0.15 J+	< 10 U	< 10 U	0.22 J	0.13 J	0.14 J	0.16 J	0.13 J	0.18 J	2 J	0.21 J
Lead	mg/L	0.00014 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0019 J	< 0.0080 U	< 0.0080 U	0.0016 J	0.0011 J	0.0012 J	< 0.008 U	< 0.008 U	0.0017 J	0.0018 J	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.02	0.017	0.029	0.023	0.027	0.027	0.021	0.021	0.028	0.032	
Radium 226 + 228	pci/L	1.5	0.568	< 0.477 U	< 0.467 U	0.55	0.469	0.593	0.414	0.707	0.803	
Radium-226	pci/L	0.506 J+	0.231	< 0.397 U	0.257	0.134	0.166	0.194	0.205	0.255 J+	0.357	
Radium-228	pci/L	0.994	< 0.349 U	< 0.477 U	< 0.467 U	< 0.427 U	< 0.432 U	0.398	< 0.36 U	0.452	0.446	
Selenium	mg/L	0.014	0.0091	0.0049 J	0.011	0.014	0.014	0.019	0.02	0.013	0.027	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters												
Dissolved Oxygen	mg/L	3.59	6.69	1.98	6.1		3.41		3.92	5.27	3.24	5.98
Oxidation-Reduction Potential	millivolts	-1.4	75.7	27.6	236		90.5		152.6	280.8	58.9	139.5
pH	SU	7.27	7.25	7.12	6.68		7.44		7.15	7.25	7.31	7.3
Specific Conductance	uS/cm	1671	736	1110	822		1041		1209	702	1542	1331
Temperature	deg C	14.4	18.4	16.9	11.9		10.75		11.9	14.7	17.2	18.2
Turbidity	NTU	1.59	3.92	1.15	1.34		3.12		1.88	1.91	0.91	0.39

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

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"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Golder Associates

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW09B										
		2016-07-13	2016-07-13	2016-09-08	2016-11-09	2017-01-10	2017-03-01	2017-04-26	2017-06-28	2017-08-23	2017-08-23	2017-10-03
		FD	N	N	N	N	N	N	N	FD	N	N
Appendix III Parameters												
Boron	mg/L	24	25	25	16	11	11	11	12	16	16	16
Calcium	mg/L	260	280	270	190	200	170	170	180	180	180	160
Chloride	mg/L	210	180	190	130	110	120	130	150	170	160	140
Fluoride	mg/L	0.54 J+	0.55 J+	0.67 J	0.68 J	0.1 J	1.3 J	1.2 J	1.4 J	1.2 J	0.37 J	1.5 J
Sulfate	mg/L	970 J-	1000 J-	960	740	670 J+	550	570	640	630	650	550
Total Dissolved Solids	mg/L	2100	2000	2100	1700	1300	1200	1200	1500	1500	1500	1300
pH	SU		7.08	7.15	6.96	7.36	7.44	7.29	7.36		7.46	7.36
Appendix IV Parameters												
Antimony	mg/L	0.00053 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0024 J	0.0026 J	0.0020 J	0.0014 J	0.0027 J	< 0.005 U	0.004 J	0.004 J	0.0031 J	0.0031 J	
Barium	mg/L	0.069	0.071	0.076	0.062	0.048	0.04	0.046	0.055	0.062	0.058	
Beryllium	mg/L	0.00012 J	0.000091 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	0.00027 J	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00093 U	0.00090 U	0.00069 J	0.00028 J	0.00045 J	< 0.001 U	0.00028 J	0.00045 J	0.00041 J	0.00041 J	
Fluoride	mg/L	0.54 J+	0.55 J+	0.67 J	0.68 J	0.1 J	1.3 J	1.2 J	1.4 J	1.2 J	0.37 J	1.5 J
Lead	mg/L	0.00052 U	0.00025 U	< 0.0010 U	0.00017 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0055 J	0.0065 J	< 0.0080 U	< 0.0080 U	0.0049 J	0.0045 J	0.0056 J	0.0054 J	0.0047 J	0.0042 J	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.0086 U	0.0079 J	0.0075 J	0.0097 J	0.013	0.015	0.015	0.013	0.0094 J	0.01	
Radium 226 + 228	pci/L	1.12	1.86	1.65	1.14	0.453	1.09	0.774	1.85	1.01	1.27	
Radium-226	pci/L	0.809 J+	0.947 J+	0.907	0.579	0.476	0.585	0.316	0.781 J+	0.585	0.709	
Radium-228	pci/L	< 1.00 U	0.913	0.743	0.559	< 0.41 U	0.508	0.458	1.07	0.422	0.563	
Selenium	mg/L	0.0017 U	0.0011 U	< 0.0050 U	< 0.0050 U	0.002 J	< 0.005 U	0.0014 J	0.001 J	0.0015 J	0.0016 J	
Thallium	mg/L	0.00030 J	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters												
Dissolved Oxygen	mg/L		0.44	1.06	0.43	0.38	0.44	0.61	0.71		0.57	0.45
Oxidation-Reduction Potential	millivolts		-57.7	67.3	-76.4	-100.1	-80.6	-102.6	68.2		19.7	-46.8
pH	SU		7.08	7.15	6.96	7.36	7.44	7.29	7.36		7.46	7.36
Specific Conductance	uS/cm		2356	2435	2088	1559	1352	1592	1561		1922	1722
Temperature	deg C		14.1	14.7	15.1	13.6	13.45	14.5	14.8		15.5	16
Turbidity	NTU		3.48	4.29	2.17	0.99	2.58	1.88	1.69		2.54	1.96

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephalometric Turbidity Units

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"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

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"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW15									
		2016-07-13	2016-09-08	2016-09-08	2016-11-09	2017-01-11	2017-03-02	2017-04-27	2017-06-29	2017-08-23	2017-10-03
		N	FD	N	N	N	N	N	N	N	N
Appendix III Parameters											
Boron	mg/L	0.75	0.45 J	1.0 J	1.1	0.6	0.44	0.45	0.87	0.91	0.66
Calcium	mg/L	100	130	120	100	82	81	95	160	150	77
Chloride	mg/L	28	31	31	27	28	27	27	27	25	19
Fluoride	mg/L	1.2 J+	0.85 J	0.85 J	0.74 J	0.8 J	0.77 J	0.74 J	0.82 J	0.82 J	0.93 J
Sulfate	mg/L	160 J-	260	260	150	140	140	160	300	330	260
Total Dissolved Solids	mg/L	570	660	630	520	400	400	420	780	750	660
pH	SU	6.88		6.98	6.83	6.96	6.99	6.76	6.61	6.96	6.88
Appendix IV Parameters											
Antimony	mg/L	< 0.0020 U	0.00041 J	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.056	0.072	0.069	0.078	0.076	0.054	0.062	0.059	0.066	
Barium	mg/L	0.044	0.053	0.053	0.039	0.032	0.031	0.034	0.054	0.058	
Beryllium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.00027 J	0.00028 J	0.00029 J	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.0019	0.0022	0.0022	0.0021	0.0019	0.0018	0.0022	0.0029	0.0027	
Fluoride	mg/L	1.2 J+	0.85 J	0.85 J	0.74 J	0.8 J	0.77 J	0.74 J	0.82 J	0.82 J	0.93 J
Lead	mg/L	0.00067 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0053 J	< 0.0080 U	< 0.0080 U	< 0.0080 U	0.004 J	0.0024 J	0.0041 J	0.0058 J	0.005 J	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.02	0.027	0.026	0.023	0.022	0.022	0.026	0.017	0.019	
Radium 226 + 228	pci/L	< 5.00 U	0.479	0.513	< 0.646 U	0.555 J+	< 0.339 U	< 0.463 U	0.335	< 0.342 U	
Radium-226	pci/L	< 1.00 U	0.202	0.145	< 0.337 U	0.38	< 0.127 U	0.1	0.0965 J+	0.104	
Radium-228	pci/L	< 1.00 U	< 0.397 U	< 0.382 U	< 0.646 U	< 0.401 U	< 0.339 U	< 0.463 U	< 0.278 U	< 0.342 U	
Selenium	mg/L	0.00048 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters											
Dissolved Oxygen	mg/L	0.48		0.48	0.14	0.25	0.16	0.19	1	0.32	0.29
Oxidation-Reduction Potential	millivolts	-79.2		-60.1	-111	-114.3	-104.1	-104.4	-46.9	-43.7	-13.8
pH	SU	6.88		6.98	6.83	6.96	6.99	6.76	6.61	6.96	6.88
Specific Conductance	uS/cm	779		909	733	594	584	674	9.32	1004	901
Temperature	deg C	15.3		20.3	19.9	14.6	12.1	11.6	14.6	16.6	18.1
Turbidity	NTU	4.48		2.96	3.41	3.98	4.4	4.92	4.2	3.1	4.11

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

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"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW15B								
		2016-07-13	2016-09-08	2016-11-09	2017-01-11	2017-03-02	2017-04-27	2017-06-29	2017-08-24	2017-10-03
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	1.1	1.7	2	3.7	3.3	3.6	3.1	2.1	2.1
Calcium	mg/L	160	160	160	180	160	170	190	170	73
Chloride	mg/L	52	58	62	81	64	65	71	64	64
Fluoride	mg/L	0.65 J+	0.62 J	0.46 J	0.74 J	0.77 J	0.75 J	0.72 J	0.61 J	0.5 J
Sulfate	mg/L	380 J-	390	340	500	390	460	530	540	500
Total Dissolved Solids	mg/L	830	800	840	1000	890	980	1200	1100	1100
pH	SU	7.81	7.49	7.04	7.52	7.48	7.11	7.26	7.37	7.42
Appendix IV Parameters										
Antimony	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0030 J	0.0011 J	0.0014 J	0.0022 J	0.0011 J	0.00098 J	0.00084 J	0.00081 J	
Barium	mg/L	0.054	0.053	0.056	0.056	0.051	0.052	0.064	0.069	
Beryllium	mg/L	0.000078 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	0.00062 J	< 0.0020 U	< 0.0020 U	0.00033 J	0.00034 J	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00040 U	< 0.0010 U	< 0.0010 U	< 0.001 U	0.00016 J	< 0.001 U	< 0.001 U	< 0.001 U	
Fluoride	mg/L	0.65 J+	0.62 J	0.46 J	0.74 J	0.77 J	0.75 J	0.72 J	0.61 J	0.5 J
Lead	mg/L	0.00084 U	< 0.0010 U	0.00023 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0069 J	< 0.0080 U	< 0.0080 U	0.0077 J	0.0053 J	0.0082	0.0082	0.0077 J	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.011	0.013	0.01	0.012	0.015	0.014	0.014	0.012	
Radium 226 + 228	pci/L	1.26	0.594	0.61	1.14 J+	0.876	0.687	0.789	0.872	
Radium-226	pci/L	0.607 J+	0.442	< 0.361 U	0.785	0.441	0.442	0.537 J+	0.547	
Radium-228	pci/L	< 1.00 U	< 0.389 U	< 0.498 U	< 0.502 U	0.435	< 0.378 U	< 0.329 U	< 0.363 U	
Selenium	mg/L	0.00027 U	< 0.0050 U	< 0.0050 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters										
Dissolved Oxygen	mg/L	0.22	0.91	0.56	0.22	0.46	0.3	0.43	0.64	0.23
Oxidation-Reduction Potential	millivolts	-129.7	-21.6	-94.6	-132.6	-81.7	-79.6	-21.3	-36.5	-42.6
pH	SU	7.81	7.49	7.04	7.52	7.48	7.11	7.26	7.37	7.42
Specific Conductance	uS/cm	834	1049	1060	1237	940	1096	1099	1110	1294
Temperature	deg C	12.71	15.9	16.1	13.9	13.6	13	13.8	14.2	14.5
Turbidity	NTU	4.72	1.56	1.48	3.8	2.23	3.65	3.16	1.78	0.4

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

"J" = Indicates the result was estimated below the RL but above the MDL by the analytical laboratory; the estimated value is provided.

"J+" = Indicates the result was estimated below the RL but above the MDL and may be biased high; the estimated value is provided.

"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW15								
		2016-07-13	2016-09-08	2016-11-09	2017-01-11	2017-03-02	2017-04-27	2017-06-29	2017-08-24	2017-10-04
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	1.1	1.8	1.6	1.2	0.89	1.3	1	1.4	1.1
Calcium	mg/L	230	180	170	120	160	210	220	240	57
Chloride	mg/L	53	37	30	28	24	25	28	31	42
Fluoride	mg/L	1.4 J+	1.6 J	1.3 J	1.5	1.3 J	1.3 J	1.2 J	1.3 J	1.5 J
Sulfate	mg/L	530 J-	400	320	47	300	500	480	630	520
Total Dissolved Solids	mg/L	1100	810	790	570	670	930	1000	1100	980
pH	SU	7.92	7.18	7.48	7.5	7.58	7.17	7.36	7.06	7.62
Appendix IV Parameters										
Antimony	mg/L	< 0.0020 U	< 0.0020 U	0.00028 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.011	0.0077	0.012	0.0084	0.0079	0.006	0.008	0.0096	
Barium	mg/L	0.049	0.042	0.035	0.024	0.029	0.043	0.044	0.054	
Beryllium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	0.00062 J	< 0.0020 U	< 0.0020 U	0.0031	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00096 U	0.00068 J	0.00051 J	0.00046 J	0.00055 J	0.00092 J	0.00094 J	0.0011	
Fluoride	mg/L	1.4 J+	1.6 J	1.3 J	1.5	1.3 J	1.3 J	1.2 J	1.3 J	1.5 J
Lead	mg/L	0.00033 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.00043 J	< 0.0080 U	< 0.0080 U	0.00023 J	< 0.008 U	< 0.008 U	< 0.008 U	< 0.008 U	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.024	0.036	0.045	0.044	0.03	0.027	0.023	0.024	
Radium 226 + 228	pci/L	1.68	0.543	< 0.527 U	< 0.629 U	0.648	< 0.392 U	< 0.339 U	0.429	
Radium-226	pci/L	0.537 J+	0.249	< 0.363 U	< 0.256 U	< 0.129 U	0.094	0.106 J+	0.246	
Radium-228	pci/L	1.14	< 0.395 U	< 0.527 U	< 0.629 U	0.528	< 0.392 U	< 0.339 U	< 0.322 U	
Selenium	mg/L	0.00064 U	< 0.0050 U	0.00050 J	0.0005 J	< 0.005 U	0.0012 J	< 0.005 U	< 0.005 U	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters										
Dissolved Oxygen	mg/L	0.16	0.27	0.48	0.31	0.36	0.14	0.5	0.14	0.06
Oxidation-Reduction Potential	millivolts	-18.06	711.6	-124.8	-78.8	-136.9	-73.6	-114.2	9.6	-158.4
pH	SU	7.92	7.18	7.48	7.5	7.58	7.17	7.36	7.06	7.62
Specific Conductance	uS/cm	1331	1112	927	751	821	1257	1123	1406	1254
Temperature	deg C	15.02	18.8	18.15	12.1	9.72	10.6	15.41	18	17.8
Turbidity	NTU	3.89	2.16	1.93	3.16	4.14	3.25	4.33	2.45	4.95

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

"J" = Indicates the result was estimated below the RL but above the MDL by the analytical laboratory; the estimated value is provided.

"J+" = Indicates the result was estimated below the RL but above the MDL and may be biased high; the estimated value is provided.

"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying P
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW16B									
		2016-07-13	2016-09-08	2016-11-09	2016-11-09	2017-01-11	2017-03-02	2017-04-27	2017-06-29	2017-08-24	2017-10-04
		N	N	FD	N	N	N	N	N	N	N
Appendix III Parameters											
Boron	mg/L	1.8	1.6	1.4	1.4	1.4	1.4	1.1	3.4	6.5	2.9
Calcium	mg/L	230	190	180	180	210	210	270	220	260	100
Chloride	mg/L	63	56	57	55	57	47	71	71	120	78
Fluoride	mg/L	1.1 J+	1.1 J	0.84 J	0.73 J	0.99 J	0.87 J	0.83 J	0.76 J	0.78 J	1 J
Sulfate	mg/L	580 J-	480	500	440	50	470	730	720	640	580
Total Dissolved Solids	mg/L	1100	1000	1000	1000	1000	1000	1300	1200	1400	1200
pH	SU	7.76	7.47		7.41	7.57	7.55	7.3	7.51	7.28	7.54
Appendix IV Parameters											
Antimony	mg/L	< 0.0020 U	< 0.0020 U	0.00057 J	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0068	0.0064	0.011	0.011	0.012	0.0095	0.012	0.0096	0.0081	
Barium	mg/L	0.072	0.04	0.036	0.035	0.038	0.039	0.055	0.043	0.046	
Beryllium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	< 0.0020 U	< 0.0020 U	0.00029 J	< 0.0020 U	0.00026 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00019 U	0.00016 J	0.00019 J	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Fluoride	mg/L	1.1 J+	1.1 J	0.84 J	0.73 J	0.99 J	0.87 J	0.83 J	0.76 J	0.78 J	1 J
Lead	mg/L	0.00026 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0055 J	< 0.0080 U	0.0032 J	0.0022 J	0.0058 J	0.0035 J	0.0072 J	0.006 J	0.0061 J	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.013	0.012	0.012	0.012	0.012	0.013	0.023	0.016	0.013	
Radium 226 + 228	pci/L	1.31	1.05	0.866	0.794	0.998 J+	0.577	1.23	0.795	1.21	
Radium-226	pci/L	0.651 J+	0.458	0.427	< 0.412 U	0.507	0.348	0.635	0.54 J+	0.559	
Radium-228	pci/L	0.66	0.59	< 0.467 U	< 0.435 U	0.491 J+	< 0.399 U	0.597	< 0.287 U	0.647	
Selenium	mg/L	0.00071 U	< 0.0050 U	0.00061 J	< 0.0050 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters											
Dissolved Oxygen	mg/L	1.23	1.63		0.39	0.3	0.21	0.12	0.32	0.16	0.15
Oxidation-Reduction Potential	millivolts	-122.6	-89		-126.3	-148.5	-132.2	-130.2	-123.1	-32.7	-135.8
pH	SU	7.76	7.47		7.41	7.57	7.55	7.3	7.51	7.28	7.54
Specific Conductance	uS/cm	1147	1297		1158	1230	1192	1645	1333	1665	1461
Temperature	deg C	13.04	14.44		15.27	14.3	13.37	12.3	13.48	14.3	15
Turbidity	NTU	4.1	3.99		1.8	2.76	4.21	4.58	3.27	2.48	3.9

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

"J" = Indicates the result was estimated below the RL but above the MDL by the analytical laboratory; the estimated value is provided.

"J+" = Indicates the result was estimated below the RL but above the MDL and may be biased high; the estimated value is provided.

"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Golder Associates

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW17								
		2016-07-14	2016-09-08	2016-11-09	2017-01-10	2017-03-02	2017-04-27	2017-06-29	2017-08-24	2017-10-04
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	12	12	11	11	11	8.9	7.6	12	12
Calcium	mg/L	150	160	170	180	200	180	120	150	64
Chloride	mg/L	110	100	130	150	140	81	170	130	160
Fluoride	mg/L	1.8 J+	2.2 J	2.0 J	1.9 J	1.6 J	1.6 J	0.79 J	1.9 J	2.4 J
Sulfate	mg/L	330 J-	330	360	390	390	390	520	250	350
Total Dissolved Solids	mg/L	940	920	940	1000	1100	950	1400	890	1000
pH	SU	7.56	7.27	7.21	7.33	7.54	7.23	7.4	7.16	7.22
Appendix IV Parameters										
Antimony	mg/L	0.00034 J	0.00032 J	0.00032 J	< 0.002 U	0.00028 J	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0054	0.0056	0.0042 J	0.0069	0.0055	0.0054	0.0035 J	0.0028 J	
Barium	mg/L	0.047	0.056	0.054	0.05	0.054	0.048	0.044	0.06	
Beryllium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Chromium	mg/L	0.0015 J	< 0.0020 U	0.0011 J	0.0011 J	0.0012 J	0.0012 J	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.000063 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Fluoride	mg/L	1.8 J+	2.2 J	2.0 J	1.9 J	1.6 J	1.6 J	0.79 J	1.9 J	2.4 J
Lead	mg/L	0.00018 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U
Lithium	mg/L	0.0047 J	< 0.0080 U	0.0036 J	0.0047 J	0.0024 J	0.0045 J	0.0058 J	0.0076 J	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.015	0.012	0.011	< 0.01 U	0.01	0.011	0.018	0.024	
Radium 226 + 228	pci/L	0.569	< 0.451 U	< 0.447 U	< 0.553 U	0.428	0.477	< 0.403 U	0.71	
Radium-226	pci/L	< 1.00 U	0.331	< 0.415 U	< 0.246 U	0.222	0.23	0.191 J+	0.215	
Radium-228	pci/L	< 1.00 U	< 0.451 U	< 0.447 U	< 0.553 U	< 0.402 U	< 0.406 U	< 0.403 U	0.495	
Selenium	mg/L	0.019	0.03	0.018	0.023	0.028	0.026	0.0081	0.0032 J	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters										
Dissolved Oxygen	mg/L	5.78	1.7	1.8	1.01	2.35	7.33	3.18	4.33	3.3
Oxidation-Reduction Potential	millivolts	45.8	825.9	6.1	82.3	6.6	67.9	23.3	8	57.9
pH	SU	7.56	7.27	7.21	7.33	7.54	7.23	7.4	7.16	7.22
Specific Conductance	uS/cm	1059	1287	1141	1272	1541	1290	902	1151	1357
Temperature	deg C	17.23	20.6	18.63	13.6	10.95	11.8	17.71	24.4	22.3
Turbidity	NTU	1.56	1.09	0.58	2.58	0.44	2.21	1.02	1.5	2.51

Note:

mg/L = milligram per liter

uS/cm = micro Siemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

SU = Standard Units

pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

"J" = Indicates the result was estimated below the RL but above the MDL by the analytical laboratory; the estimated value is provided.

"J+" = Indicates the result was estimated below the RL but above the MDL and may be biased high; the estimated value is provided.

"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW17B								
		2016-07-13	2016-09-08	2016-11-09	2017-01-10	2017-03-02	2017-04-27	2017-06-29	2017-08-23	2017-10-04
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	18	19	19	21	22	20	16	13	11
Calcium	mg/L	230	250	240	250	270	250	240	160	57
Chloride	mg/L	180	170	180	190	200	200	71	99	130
Fluoride	mg/L	0.90 J+	0.98 J	0.68 J	0.58 J	0.6 J	0.6 J	2.1 J	1.3 J	1.1 J
Sulfate	mg/L	710 J-	680	710	740	710	680	300	380	420
Total Dissolved Solids	mg/L	1500	1400	1400	1500	1700	1500	660	1000	960
pH	SU	7.43	7.37	7.1	7.24	7.44	7.02	7.25	7.19	7.38
Appendix IV Parameters										
Antimony	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0024 J	0.0021 J	0.0024 J	0.0035 J	0.0023 J	0.0022 J	0.0023 J	0.0026 J	
Barium	mg/L	0.078	0.079	0.086	0.092	0.1	0.089	0.065	0.06	
Beryllium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Chromium	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00025 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Fluoride	mg/L	0.90 J+	0.98 J	0.68 J	0.58 J	0.6 J	0.6 J	2.1 J	1.3 J	1.1 J
Lead	mg/L	0.00038 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0017 J	< 0.0080 U	< 0.0080 U	0.0019 J	0.00046 J	0.0021 J	0.0019 J	< 0.008 U	
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.024	0.021	0.013	0.011	0.012	0.011	0.017	0.021	
Radium 226 + 228	pci/L	1.79	1.84	2.53	2.58	1.25	1.94	1.03	2.4	
Radium-226	pci/L	0.882 J+	0.864	1.28	1.4	1.01	1.09	0.639 J+	0.867	
Radium-228	pci/L	0.913	0.98	1.25	1.17	< 0.423 U	0.846	0.395	1.53	
Selenium	mg/L	0.00087 U	< 0.0050 U	< 0.0050 U	0.00053 J	0.00051 J	< 0.005 U	< 0.005 U	< 0.005 U	
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Field Parameters										
Dissolved Oxygen	mg/L	0.33	0.24	0.67	0.36	0.13	0.13	0.18	0.14	0.09
Oxidation-Reduction Potential	millivolts	-115	654	-100.8	-119.6	-91.8	102.3	-98.6	-51.1	-129.4
pH	SU	7.43	7.37	7.1	7.24	7.44	7.02	7.25	7.19	7.38
Specific Conductance	uS/cm	1525	1734	1568	171.9	2251	1950	1488	1244	1337
Temperature	deg C	15.29	16.16	15.77	15	14.8	14.4	15.62	16.5	16.6
Turbidity	NTU	4.09	2.48	0.62	0.92	0.58	2.11	2.35	1.86	3.45

Note:
mg/L = milligram per liter
uS/cm = micro Siemens per centimeter
deg C = degrees Celcius
NTU = Nephelometric Turbidity Units
SU = Standard Units
pci/L = picocuries per liter

"U" = Indicates the result is not detected abcve the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

"J" = Indicates the result was estimated below the RL but above the MDL by the analytical laboratory; the estimated value is provided.

"J+" = Indicates the result was estimated below the RL but above the MDL and may be biased high; the estimated value is provided.

"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

"O" = Indicates the result was identified as an outlier and removed from the background data set.

Table 3: Analytical Data
CCR Unit Schahfer MSRB, MCWB, and Drying A
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW18											
		2016-07-13	2016-09-08	2016-11-09	2016-11-09	2017-01-10	2017-03-01	2017-04-26	2017-07-12	2017-07-12	2017-08-23	2017-10-03	2017-10-03
		N	N	FD	N	N	N	N	FD	N	N	FD	N
Appendix III Parameters													
Boron	mg/L	1.8	3.5	1.9	1.8	1.3	1	0.77	1.2	1.2	1.5	1.9	1.9
Calcium	mg/L	320	610	370	360	330	280	210	280	290	300	380 J	64 J
Chloride	mg/L	17	39	17	17	9.3	5	4.3	10	10	11	23	23
Fluoride	mg/L	0.047 J+	0.036 J	< 10 U	< 10 U	< 5 U	< 5 U	< 2 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Sulfate	mg/L	760 J-	1400	850	830	640	540	370	600	610	690	960	950
Total Dissolved Solids	mg/L	1300	2200	1500	1500	1200	1000	730	1100	1100	1300	1600	1500
pH	SU	6.95	6.83		6.7	6.88	7.11	6.6		6.96	7.02		6.91
Appendix IV Parameters													
Antimony	mg/L	< 0.0020 U	< 0.0020 U	0.00096 J	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U		
Arsenic	mg/L	0.0014 J	0.0023 J	0.0014 J	0.00091 J	0.0014 J	< 0.005 U	0.0015 J	0.0021 J	0.0021 J	0.0011 J		
Barium	mg/L	0.038	0.047	0.041	0.039	0.037	0.024	0.021	0.051	0.052	0.055		
Beryllium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U		
Cadmium	mg/L	0.000081 J	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U		
Chromium	mg/L	< 0.0020 U	< 0.0020 U	0.00067 J	0.00046 J	0.0005 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U		
Cobalt	mg/L	0.00019 U	0.00023 J	0.00047 J	0.00020 J	0.00024 J	< 0.001 U	0.00023 J	< 0.001 U	< 0.001 U	< 0.001 U		
Fluoride	mg/L	0.047 J+	0.036 J	< 10 U	< 10 U	< 5 U	< 5 U	< 2 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Lead	mg/L	0.00024 U	< 0.0010 U	0.00051 J	0.00025 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U		
Lithium	mg/L	0.00096 J	< 0.0080 U	< 0.0080 U	< 0.0080 U	0.00042 J	< 0.008 U	< 0.008 U	< 0.008 U	< 0.008 U	< 0.008 U		
Mercury	mg/L	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.00020 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ		
Molybdenum	mg/L	0.11	0.18	0.14	0.13	0.094	0.1	0.1	0.1	0.11	0.1		
Radium 226 + 228	pci/L	< 5.00 U	0.803	0.474	0.449	< 0.581 U	< 0.398 U	< 0.384 U	0.493	< 0.337 U	0.629		
Radium-226	pci/L	< 1.00 U	0.348	< 0.334 U	< 0.33 U	0.325	0.13	< 0.131 U	0.166 J+	0.179 J+	0.332		
Radium-228	pci/L	< 1.00 U	< 0.49 U	< 0.455 U	< 0.413 U	< 0.581 U	< 0.398 U	< 0.384 U	< 0.381 U	< 0.337 U	< 0.369 U		
Selenium	mg/L	0.01	0.018	0.0065	0.0052	0.0099	0.011	0.0053	0.012	0.012	0.006		
Thallium	mg/L	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U		
Field Parameters													
Dissolved Oxygen	mg/L	4.83	4.77		5.93	7.52	8.86	7.79		6.04	4.52		5.32
Oxidation-Reduction Potential	millivolts	98.9	76.8		28.7	106.8	97.9	209.2		203.2	24.7		121.9
pH	SU	6.95	6.83		6.7	6.88	7.11	6.6		6.96	7.02		6.91
Specific Conductance	uS/cm	1474	2362		1740	1255	986	970		1299	1414		1760
Temperature	deg C	16.3	20.1		16.6	9.65	8.47	11.2		17.9	19.8		19.3
Turbidity	NTU	3.32	1.63		2.38	3.05	4.44	2.48		1.71	1.03		4.16

Note:
mg/L = milligram per liter
uS/cm = micro Siemens per centimeter
deg C = degrees Celcius
NTU = Nephelometric Turbidity Units
SU = Standard Units
pci/L = picocuries per liter

"U" = Indicates the result is not detected above the method detection limit (MDL) for the sample; the quantitation limit (RL) is provided.

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"J-" = Indicates the result was estimated below the RL but above the MDL and may be biased low; the estimated value is provided.

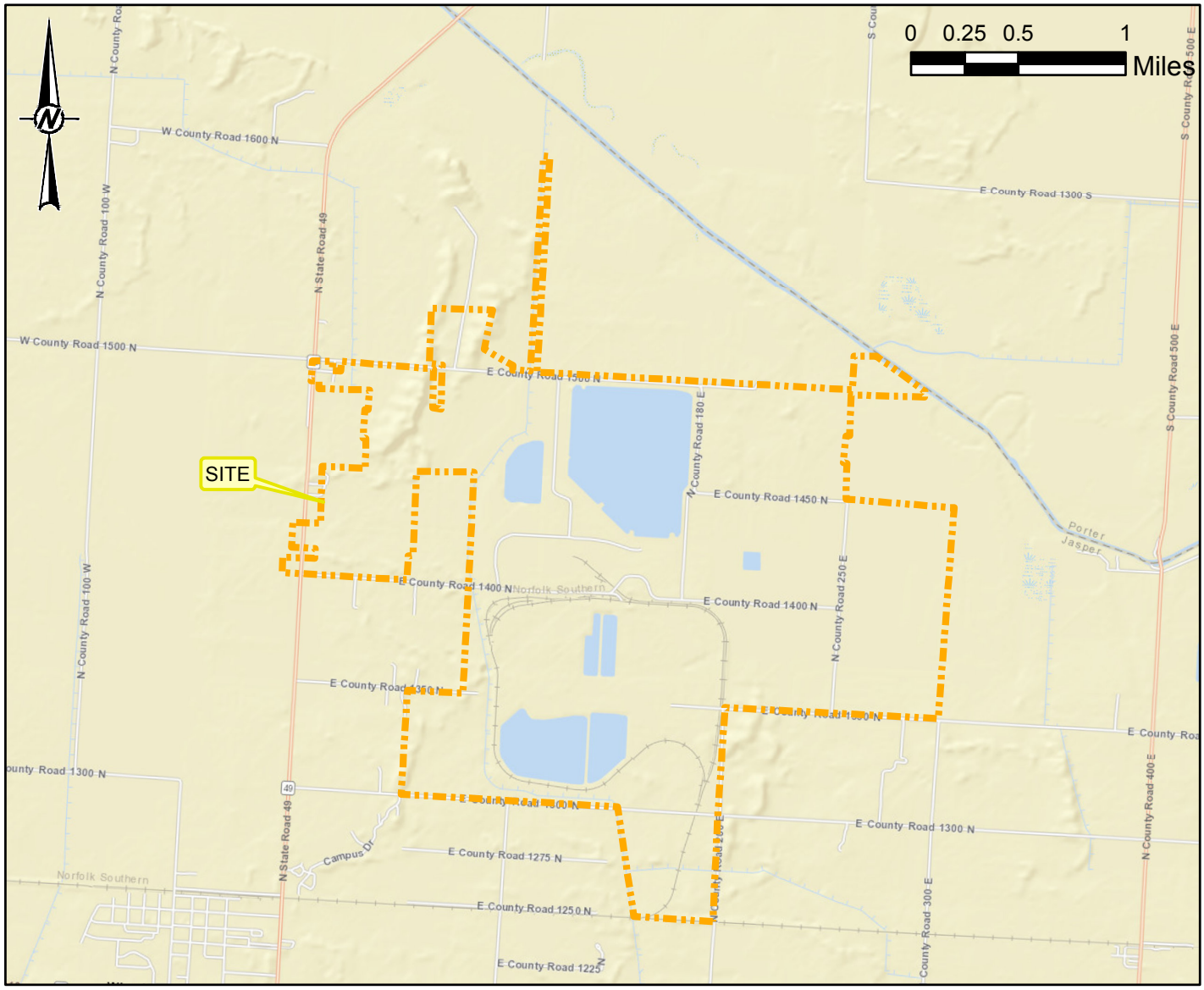
"UJ" = Indicates the result was not detected above the MDL, the estimated RL is provided.

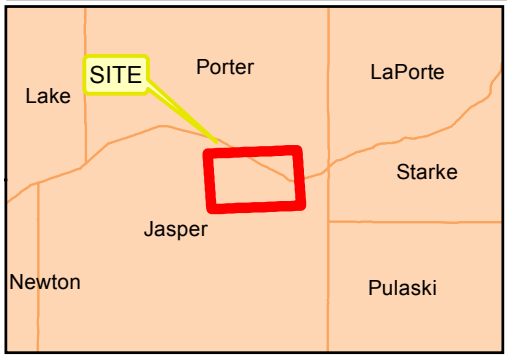
"O" = Indicates the result was identified as an outlier and removed from the background data set.

Prepared by: DFS
Checked by: SHL
Reviewed by: MAH

Golder Associates

FIGURES





REFERENCE(S)
SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, DELORME, USGS, INTERMAP, INCREMENT P CORP., NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI (THAILAND), MAPMYINDIA, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
NORTHERN INDIANA PUBLIC SERVICE COMPANY

CONSULTANT
Golder Associates

YYYY-MM-DD	2018-01-24
DESIGNED	DFS
PREPARED	SHL
REVIEWED	DFS
APPROVED	MAH

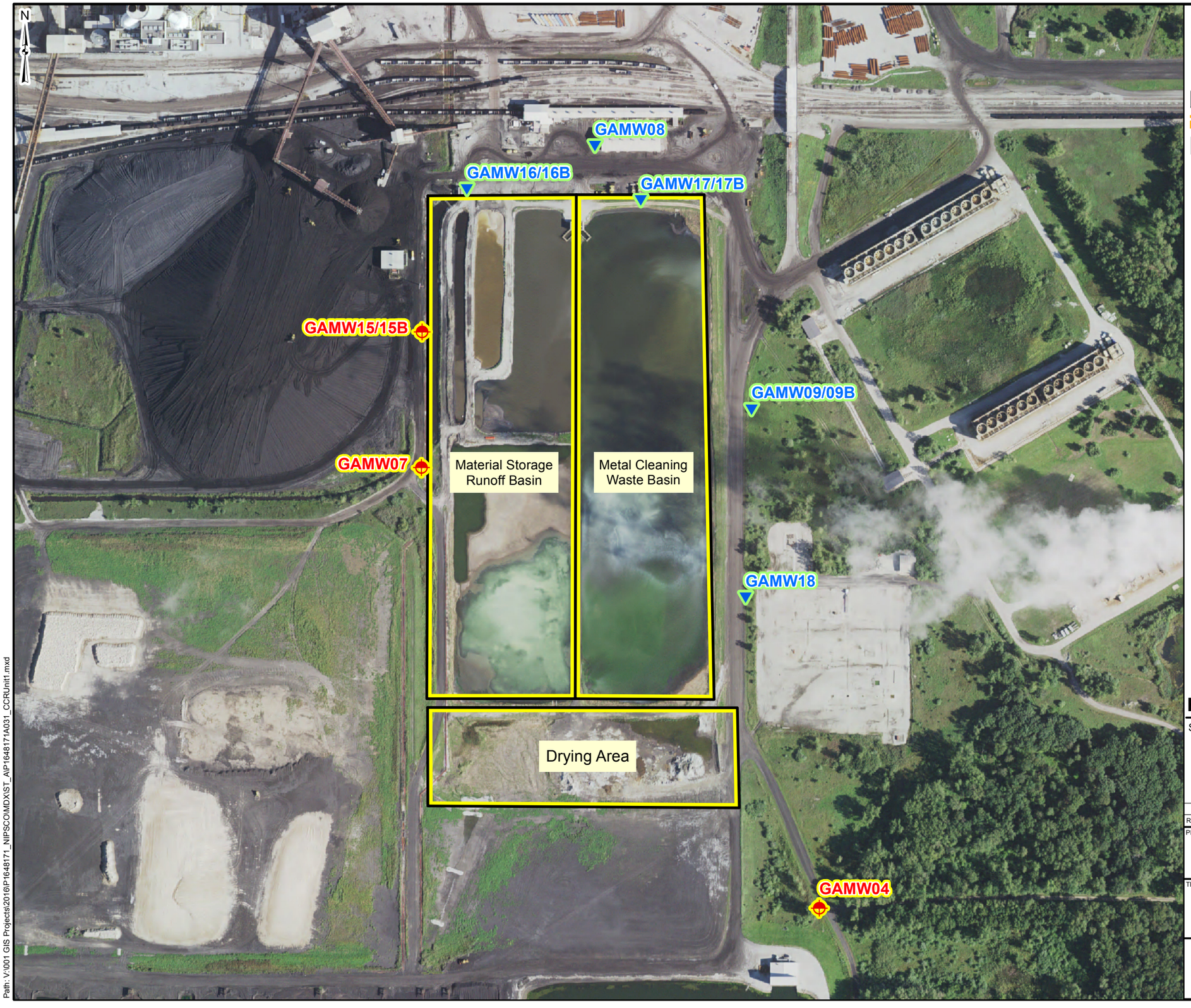
PROJECT
R.M. SCHAHFER GENERATING STATION
WHEATFIELD, INDIANA

TITLE
SITE LOCATION MAP

PROJECT NO.	CONTROL	REV.	FIGURE
164-8171	B	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH-V:\001 GIS Projects\2016\P1648171 - NIPSCO\MXDs\ St. B Figure 1s\1648171B002.mxd



LEGEND

- CCR Backgound Monitoring Well
- CCR Downgradient Monitoring Well
- CCR Units
- Approximate Property Line
- PHASE V — CCR Unit Designation

300 150 0 300
Feet

REFERENCES

Service Layer Credits:

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

NORTHERN INDIANA PUBLIC SERVICE COMPANY
R.M. SCHAHFER GENERATING STATION
WHEATFIELD, INDIANA

TITLE

MONITORING WELL LOCATIONS
DRYING AREA, MSRB, AND MCWB

Golder Associates
Manchester, New Hampshire

PROJECT No.		164-8174	FILE No.	1648171A031_CCRUnit1
DESIGN	DFS	1/24/2018	SCALE: AS SHOWN	REV. 0
GIS	SHL	1/24/2018		
CHECK	DFS	1/24/2018		
REVIEW	MAH	1/24/2018		

FIGURE 2

Path: V:\001 GIS Projects\2016\P1648171_NIPSCO\MDX\ST_AIP1648171A031_CCRUnit1.mxd