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

CCR Management Unit Referred to as
Schahfer Waste Disposal 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) Waste Disposal Area (WDA, 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 WDA is an approximately 80-acre impoundment located in the southwest region of RMSGS.

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 Schahfer WDA 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 WDA 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 groundwater monitoring system for the WDA.

As shown in Figure 2, and summarized in the table below, the groundwater monitoring network for the WDA includes two background and six downgradient monitoring wells. Golder identified two existing monitoring wells (GAMW-01 and GAMW-03) 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 WDA, Golder installed six 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 should typically 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
WDA	GAMW-03* and GAMW-03B	GAMW-01*, GAMW-12, GAMW-13, GAMW-13B, GAMW-14, and GAMW-14B

*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 identified the fluoride result from the groundwater sample collected from background monitoring well GAMW-03B in November 2016 as an outlier and removed this datum from the background data set for the following reasons:

- Statistical testing, including the Dixon outlier test, identified fluoride as an outlier;
- Trend charts indicated that the fluoride result from the November 2016 monitoring event was inconsistent with concentrations detected in other background monitoring wells; and
- This fluoride result was recorded by the validators as non-detect due to blank contamination.

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.

- Beryllium concentrations detected in groundwater samples from well GAMW-03 show a downward trend;
- Boron concentrations detected in groundwater samples from well GAMW-03B show an upward trend;
- Chloride concentrations detected in groundwater samples from well GAMW-03B show an upward trend;
- Total dissolved solid concentrations detected in groundwater samples from well GAMW-03B 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-01	X						
GAMW-12							
GAMW-13							
GAMW-13B	X		X		X	X	
GAMW-14							
GAMW-14B	X		X		X	X	X

"X" represents a SSI

2.6 Problems Encountered and Follow-On Corrective Actions

The samples from three downgradient monitoring wells (GAMW-13, GAMW-13B, and GAMW-14B) collected on June 28th, 2017 for the 7th background sampling event were lost in transit and were never received by the analytical laboratory. These three locations were 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 WDA:

- 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 Waste Dipsoal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

CCR Unit	Monitoring Well ID	Installation Date	Decommission Date (If Applicable)	Location Relative to Gradient	Basis For Action
Waste Diposal Area	GAMW01	6/26/2015		Downgradient	Installed for groundwater quality monitoring*
	GAMW03	6/27/2015		Upgradient	
	GAMW03B	5/24/2016		Upgradient	
	GAMW12	5/23/2016		Downgradient	
	GAMW13	5/24/2016		Downgradient	
	GAMW13B	5/23/2016		Downgradient	
	GAMW14	5/23/2016		Downgradient	
	GAMW14B	5/23/2016		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 Waste Disposal 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	
Background Monitoring Well	GAMW03	7/13/2016	9/8/2016	11/8/2016	1/9/2017	3/1/2017	4/26/2017	6/28/2017	8/23/2017	10/4/2017	9
	GAMW03B	7/13/2016	9/8/2016	11/8/2016	1/10/2017	3/1/2017	4/26/2017	6/28/2017	8/23/2017	10/4/2017	9
Downgradient Monitoring Well	GAMW01	7/12/2016	9/8/2016	11/9/2016	1/9/2017	2/28/2017	4/25/2017	6/28/2017	8/22/2017	10/3/2017	9
	GAMW12	7/12/2016	9/7/2016	11/8/2016	1/9/2017	2/28/2017	4/25/2017	6/28/2017	8/23/2017	10/4/2017	9
	GAMW13	7/12/2016	9/7/2016	11/8/2016	1/9/2017	2/28/2017	4/25/2017	7/12/2017(1)	8/23/2017	10/3/2017	9
	GAMW13B	7/12/2016	9/7/2016	11/8/2016	1/9/2017	2/28/2017	4/25/2017	7/12/2017(1)	8/23/2017	10/3/2017	9
	GAMW14	7/12/2016	9/7/2016	11/8/2016	1/9/2017	2/28/2017	4/25/2017	6/28/2017	8/22/2017	10/3/2017	9
	GAMW14B	7/12/2016	9/7/2016	11/8/2016	1/9/2017	2/28/2017	4/25/2017	7/12/2017(1)	8/22/2017	10/3/2017	9
Total Number of Samples		8	8	8	8	8	8	9	8	8	72

Notes:
Sample counts do not include QC/QA samples.
(1) Original 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 Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW01									
		2016-07-12	2016-09-08	2016-09-08	2016-11-09	2017-01-09	2017-02-28	2017-04-25	2017-06-28	2017-08-22	2017-10-03
		N	FD	N	N	N	N	N	N	N	N
Appendix III Parameters											
Boron	mg/L	0.11	1.2 J	0.36 J	0.15 J	< 0.2 U	< 0.2 U	0.5	1.2	1	0.74
Calcium	mg/L	65	240 J	83 J	74	71	83	110	110	81	81
Chloride	mg/L	4.3	28 J	12 J	5.3	5.6	8.3	18	18	12	16
Fluoride	mg/L	0.34 J+	0.25 J	0.38 J	0.34 J	0.34 J	0.3 J	0.26 J	0.35 J	0.41 J	0.38 J
Sulfate	mg/L	54 J-	500 J	100 J	62	52	54	100	200	130	110
Total Dissolved Solids	mg/L	280	1100 J	380 J	320	280	340	480	580	420	420
pH	SU	7.18		6.5	6.93	7.33	7.26	7.16	6.5	7.24	7.18
Appendix IV Parameters											
Antimony	mg/L	0.00048 J	0.0010 J	0.00068 J	0.0010 J	0.0016 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.019	0.014 J	0.039 J	0.024	0.013	0.01	0.012	0.023	0.03	
Barium	mg/L	0.059	0.078 J	0.057 J	0.064	0.053	0.07	0.065	0.093	0.077	
Beryllium	mg/L	0.00099 J	0.00068 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	0.00022 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00038 J	
Chromium	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.00038 J	< 0.002 U	0.00037 J	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00080 U	0.00053 J	0.0011	0.00087 J	0.00068 J	0.00074 J	0.0016	0.0016	0.001	
Fluoride	mg/L	0.34 J+	0.25 J	0.38 J	0.34 J	0.34 J	0.3 J	0.26 J	0.35 J	0.41 J	0.38 J
Lead	mg/L	0.00027 U	< 0.0010 U	< 0.0010 U	0.00023 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00065 J	
Lithium	mg/L	0.0031 J	< 0.0080 U	< 0.0080 U	< 0.0080 U	0.0031 J	0.0015 J	0.003 J	0.0042 J	0.0037 J	
Mercury	mg/L	< 0.00020 U	0.00035	< 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	0.025	0.022	0.011	< 0.01 U	< 0.01 U	0.017	0.033	0.045	
Radium 226 + 228	pci/L	< 5.00 U	< 0.399 U	0.771	0.403	< 0.501 U	< 0.446 U	0.551	0.692	0.835	
Radium-226	pci/L	< 1.00 U	0.118	0.328	< 0.341 U	0.247	0.148	0.304	0.658 J+	0.46	
Radium-228	pci/L	< 1.00 U	< 0.399 U	< 0.512 U	< 0.359 U	< 0.501 U	< 0.446 U	< 0.314 U	< 0.341 U	< 0.435 U	
Selenium	mg/L	0.00092 U	< 0.0050 U	< 0.0050 U	0.00075 J	0.0018 J	0.001 J	0.0016 J	0.0031 J	0.0017 J	
Thallium	mg/L	0.00018 J	0.00035 J	< 0.0010 U	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00032 J	
Field Parameters											
Dissolved Oxygen	mg/L	0.14		0.9	0.18	0.25	0.17	0.07	0.61	0.32	0.19
Oxidation-Reduction Potential	millivolts	-92.6		-21.4	-120.7	-110.5	-127.2	-102.8	98.3	-43.1	-48.2
pH	SU	7.18		6.5	6.93	7.33	7.26	7.16	6.5	7.24	7.18
Specific Conductance	uS/cm	448		604	512	416	508	707	844	650	673
Temperature	deg C	13.9		17.8	16.2	11.2	9.73	10.8	13.8	17	17.2
Turbidity	NTU	1.25		2.12	3.92	4.79	3.86	3.69	4.22	2.22	2.8

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 Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW03										
		2016-07-13	2016-09-08	2016-11-08	2017-01-09	2017-01-09	2017-03-01	2017-04-26	2017-06-28	2017-08-23	2017-08-23	2017-10-04
		N	N	N	FD	N	N	N	N	FD	N	N
Appendix III Parameters												
Boron	mg/L	0.23	0.24	0.25	0.24	0.22	0.22	0.23	0.21	0.2	0.2	0.22
Calcium	mg/L	83	87	100	110	94	100	110	87	75	77	87
Chloride	mg/L	7.7	8.6	10	9.1	9.1	8.1	6.8	10	8.2	8.3	9
Fluoride	mg/L	0.15 J+	0.19 J	< 5.0 U	0.12 J	0.12 J	0.14 J	0.13 J	0.2 J	0.17 J	0.18 J	0.12 J
Sulfate	mg/L	100 J-	100	110	110	110	120	130	83	77	77	93
Total Dissolved Solids	mg/L	400	390	500	440	430	450	510	420	370	370	430
pH	SU	6.85	6.62	6.53		6.69	6.66	6.64	6.76		7.1	6.9
Appendix IV Parameters												
Antimony	mg/L	0.00023 J	0.00091 J	< 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	0.012	0.011	0.011	0.01	0.01	0.0076	0.0076	0.015	0.012	0.013	
Barium	mg/L	0.087	0.096	0.11	0.11 J	0.081 J	0.087	0.091	0.071	0.079	0.079	
Beryllium	mg/L	0.00055 J	0.00053 J	< 0.0010 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Cadmium	mg/L	0.000088 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	< 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	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.0014	0.0043	0.01	0.011	0.011	0.013	0.015	0.0037	0.0018	0.0019	
Fluoride	mg/L	0.15 J+	0.19 J	< 5.0 U	0.12 J	0.12 J	0.14 J	0.13 J	0.2 J	0.17 J	0.18 J	0.12 J
Lead	mg/L	0.00032 U	< 0.0010 U	0.00016 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	0.00052 J	0.00045 J	< 0.001 U	
Lithium	mg/L	0.0064 J	< 0.0080 U	< 0.0080 U	0.0042 J	0.0044 J	0.0025 J	0.0045 J	0.0063 J	0.0067 J	0.0069 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	0.0087 J	0.0090 J	< 0.010 U	0.012 J+	< 0.01 U	< 0.01 U	0.0082 J	0.0084 J	0.0069 J	0.0076 J	
Radium 226 + 228	pci/L	< 5.00 U	0.696	0.873 J+	< 0.53 U	0.765	< 0.385 U	0.399	< 0.302 U	< 0.346 U	< 0.427 U	
Radium-226	pci/L	< 1.00 U	0.276	< 0.408 U	< 0.287 U	0.277	0.115	0.157	0.114 J+	0.117	0.126	
Radium-228	pci/L	< 1.00 U	< 0.539 U	0.728 J+	< 0.53 U	< 0.513 U	< 0.385 U	< 0.338 U	< 0.302 U	< 0.346 U	< 0.427 U	
Selenium	mg/L	0.00085 U	< 0.0050 U	< 0.0050 U	< 0.005 U	0.00085 J	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	
Thallium	mg/L	< 0.0010 U	0.00028 J	< 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	0.38	0.61	0.24		0.71	1.07	0.73	0.61		0.22	0.29
Oxidation-Reduction Potential	millivolts	186.5	7.4	-30.2		-34	-28.5	-21.7	-24.1		-28.5	-83.1
pH	SU	6.85	6.62	6.53		6.69	6.66	6.64	6.76		7.1	6.9
Specific Conductance	uS/cm	599	630	711		586	583	760	550		583	655
Temperature	deg C	13.4	16.2	15.5		10.8	9.02	10.4	12.7		15.2	16.1
Turbicity	NTU	2.72	4.41	2.92		4.58	4.68	4.42	4.5		2.51	4.18

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 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 Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW03B								
		2016-07-13	2016-09-08	2016-11-08	2017-01-10	2017-03-01	2017-04-25	2017-06-28	2017-08-23	2017-10-04
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	0.18	0.18	< 0.20 U	< 0.2 U	0.21	0.23	0.25	0.27	0.28
Calcium	mg/L	98	100	110	98	110	110	110	99	95
Chloride	mg/L	14	13	15	16	20	20	22	21	25
Fluoride	mg/L	0.25 J+	0.23 J	< 5.0 UO	0.24 J	0.23 J	0.2 J	0.24 J	0.24 J	0.21 J
Sulfate	mg/L	58 J-	59	58	77	67	67	66	68	84
Total Dissolved Solids	mg/L	420	410	420	440	450	480	510	450	460
pH	SU	7.01	6.74	6.53	7.08	7.04	6.97	6.81	7.29	7.07
Appendix IV Parameters										
Antimony	mg/L	0.00019 J	0.00033 J	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0015 J	0.0012 J	0.00090 J	0.0013 J	< 0.005 U	0.00085 J	0.00087 J	< 0.005 U	
Barium	mg/L	0.11	0.1	0.11	0.096	0.11	0.11	0.11	0.12	
Beryllium	mg/L	0.00044 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	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.00033 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00037 U	0.00031 J	< 0.0010 U	0.00017 J	< 0.001 U	0.00038 J	0.00021 J	< 0.001 U	
Fluoride	mg/L	0.25 J+	0.23 J	< 5.0 UO	0.24 J	0.23 J	0.2 J	0.24 J	0.24 J	0.21 J
Lead	mg/L	0.00038 U	< 0.0010 U	0.00035 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0014 J	< 0.0080 U	< 0.0080 U	0.0011 J	0.0011 J	< 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	0.0044 J	0.0043 J	< 0.010 U	< 0.01 U	< 0.01 U	0.0045 J	0.0052 J	0.0055 J	
Radium 226 + 228	pci/L	0.943	1.15	1.36 J+	1.03	0.62	0.449	1	0.643	
Radium-226	pci/L	0.642 J+	0.52	0.537	0.513	0.29	0.456	0.447 J+	0.414	
Radium-228	pci/L	< 1.00 U	0.629	0.823 J+	0.513	< 0.39 U	< 0.338 U	0.556	< 0.354 U	
Selenium	mg/L	< 0.0050 U	< 0.0050 U	< 0.0050 U	0.00066 J	< 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	0.42	1.11	0.32	0.48	0.41	0.15	0.38	0.31	0.17
Oxidation-Reduction Potential	millivolts	196.3	-26.8	-61.4	-98.9	-86.2	-77.9	-49.1	-34.5	-94.7
pH	SU	7.01	6.74	6.53	7.08	7.04	6.97	6.81	7.29	7.07
Specific Conductance	uS/cm	676	680	6.84	678	631	737	656	730	728
Temperature	deg C	12.4	13.2	13.2	12.2	11.63	12.1	12.2	13	13.3
Turbidity	NTU	3.66	4.73	2.84	2.02	3.1	2.51	1.84	1.16	0.81

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 limt (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.

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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 Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW12									
		2016-07-12	2016-07-12	2016-09-07	2016-11-08	2017-01-09	2017-02-28	2017-04-25	2017-06-28	2017-08-23	2017-10-04
		FD	N	N	N	N	N	N	N	N	N
Appendix III Parameters											
Boron	mg/L	0.07	0.073	0.075	< 0.20 U	< 0.2 U	< 0.2 U	0.092 J	< 0.2 U	< 0.2 U	0.079 J
Calcium	mg/L	88	93	91	97	90	97	97	100	89	87
Chloride	mg/L	2.3	3.8	6.1	9.6	11	10	10	7.6	5.2	3.2
Fluoride	mg/L	0.11 J+	0.24 J+	0.23 J	< 5.0 U	0.23 J	0.19 J	0.17 J	0.21 J	0.23 J	0.21 J
Sulfate	mg/L	5.9 J-	7.5 J-	15	6.8	17	12	14	11	11	11
Total Dissolved Solids	mg/L	380	390	390	430	400	410	390	400	400	390
pH	SU		6.75	6.85	6.81	6.87	6.89	6.87	6.67	6.69	6.91
Appendix IV Parameters											
Antimony	mg/L	0.00023 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	
Arsenic	mg/L	0.0086	0.0097	0.0079	0.011	0.0058	0.0058	0.0059	0.016	0.017	
Barium	mg/L	0.14	0.14	0.15	0.14	0.11	0.14	0.12	0.14	0.13	
Beryllium	mg/L	< 0.0010 U	0.00021 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	< 0.0010 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	< 0.0020 U	< 0.002 U	0.0007 J	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.0026	0.0029	0.0041	0.0025	0.0032	0.003	0.0028	0.0031	0.0027	
Fluoride	mg/L	0.11 J+	0.24 J+	0.23 J	< 5.0 U	0.23 J	0.19 J	0.17 J	0.21 J	0.23 J	0.21 J
Lead	mg/L	0.00019 U	0.00022 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	0.0025 J	0.0030 J	< 0.0080 U	< 0.0080 U	0.0029 J	0.0026 J	0.0032 J	0.0034 J	0.003 J	
Mercury	mg/L	0.00019 J+	< 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	0.0019 U	0.0020 J	0.0037 J	< 0.010 U	< 0.01 U	< 0.01 U	0.004 J	0.003 J	0.0029 J	
Radium 226 + 228	pci/L	0.921	0.735	0.823	2.14 J+	0.721	0.79	0.441	0.6	1.42	
Radium-226	pci/L	0.591 J+	0.476 J+	0.472	1.12	0.3	0.38	0.262	0.426 J+	0.529	
Radium-228	pci/L	< 1.00 U	< 1.00 U	< 0.423 U	1.02 J+	< 0.423 U	0.409	< 0.354 U	< 0.305 U	0.893	
Selenium	mg/L	0.00042 U	0.00072 U	< 0.0050 U	< 0.0050 U	0.00054 J	0.0007 J	< 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		0.57	2.06	0.25	0.31	0.25	0.1	0.4	0.32	0.46
Oxidation-Reduction Potential	millivolts		-47.5	-44.9	-71.8	-50.3	-74	-66.7	-75.8	-30.1	-101.1
pH	SU		6.75	6.85	6.81	6.87	6.89	6.87	6.67	6.69	6.91
Specific Conductance	uS/cm		634	688	660	569	605	564	645	667	665
Temperature	deg C		14.7	19.5	16.2	10.6	9.38	10.8	14.3	17.2	17.5
Turbidity	NTU		2.97	3.11	4.9	4.44	4.61	4.46	3.78	3.33	3.41

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.

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Table 3: Analytical Data
CCR Unit Schahfer Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW13								
		2016-07-12	2016-09-07	2016-11-08	2017-01-09	2017-02-28	2017-04-25	2017-07-12	2017-08-23	2017-10-03
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	0.2	0.27	0.4	< 0.2 U	< 0.2 U	0.18 J	0.21	0.24	0.18 J
Calcium	mg/L	85	86	86	80	94	100	87	88	86
Chloride	mg/L	13	15	18	4.6	7.4	8.2	10	10	11
Fluoride	mg/L	0.32 J+	0.35 J	< 5.0 U	0.19 J	0.19 J	0.22 J	0.27 J	0.31 J	0.28 J
Sulfate	mg/L	14 J-	47	62	40	43	52	25	15	25
Total Dissolved Solids	mg/L	340	400	430	320	360	380	340	370	360
pH	SU	6.71	6.76	6.78	6.72	6.76	6.74	6.81	6.46	6.8
Appendix IV Parameters										
Antimony	mg/L	0.00016 J	0.00028 J	< 0.0020 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.01	0.014	0.013	0.0076	0.0052	0.006	0.0082	0.0087	
Barium	mg/L	0.13	0.14	0.14	0.092	0.11	0.13	0.16	0.14	
Beryllium	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	
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	0.00097 J	< 0.0020 U	< 0.0020 U	< 0.002 U	0.00068 J	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00088 U	0.0016	0.0014	0.0015	0.00077 J	0.00074 J	0.0005 J	0.00042 J	
Fluoride	mg/L	0.32 J+	0.35 J	< 5.0 U	0.19 J	0.19 J	0.22 J	0.27 J	0.31 J	0.28 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	0.0012 J	< 0.0080 U	< 0.0080 U	0.00047 J	< 0.008 U	< 0.008 U	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	0.0021 J	0.0074 J	0.013	< 0.01 U	< 0.01 U	0.004 J	0.0033 J	0.0022 J	
Radium 226 + 228	pci/L	1.45	1.02	1.54 J+	< 0.382 U	0.644	0.807	0.502	0.713	
Radium-226	pci/L	1.04 J+	0.538	0.455	< 0.302 U	0.208	0.23	0.461 J+	0.34	
Radium-228	pci/L	< 1.00 U	0.435	1.09 J+	< 0.382 U	0.436	0.577	< 0.375 U	0.373	
Selenium	mg/L	0.00061 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	0.23	0.95	6.77	0.43	0.6	0.28	0.91	0.28	0.41
Oxidation-Reduction Potential	millivolts	-92.2	-70.8	-95.5	-66.2	-84.8	-96	-4.1	16.8	-34.8
pH	SU	6.71	6.76	6.78	6.72	6.76	6.74	6.81	6.46	6.8
Specific Conductance	uS/cm	6.14	717	694	538	593	664	630	661	655
Temperature	deg C	16.3	20.5	16.6	10.4	9.14	11.2	16	17.6	17.8
Turbidity	NTU	4.75	2.41	3.92	1.59	1.51	2.11	3.16	1.28	2.05

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.

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Table 3: Analytical Data
CCR Unit Schahfer Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW13B										
		2016-07-12	2016-09-07	2016-11-08	2017-01-09	2017-02-28	2017-02-28	2017-04-25	2017-04-25	2017-07-12	2017-08-23	2017-10-03
		N	N	N	N	FD	N	FD	N	N	N	N
Appendix III Parameters												
Boron	mg/L	0.71	0.76	0.73	0.78	0.74	0.78	0.74	0.76	0.73	0.73	0.79
Calcium	mg/L	80	70	78	76	76	79	78	77	75	72	78
Chloride	mg/L	24	25	25	25	25	25	25	26	26	27	28
Fluoride	mg/L	0.28 J+	0.29 J	< 5.0 U	0.3 J	0.29 J	0.29 J	0.32 J	0.28 J	0.23 J	0.27 J	0.26 J
Sulfate	mg/L	150 J-	150	150	150	150	150	150	150	150	160	170
Total Dissolved Solids	mg/L	440	410	410	390	420	420	400	390	390	430	440
pH	SU	7.31	7.48	7.17	7.45		7.47		7.42	7.31	7.06	7.5
Appendix IV Parameters												
Antimony	mg/L	0.00033 J	< 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	0.0021 J	0.0011 J	0.0011 J	0.0015 J	0.0013 J	0.0013 J	0.0016 J	0.0014 J	0.0013 J	0.00092 J	
Barium	mg/L	0.093	0.08	0.084	0.084	0.093	0.097	0.091	0.093	0.089	0.086	
Beryllium	mg/L	0.00063 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	< 0.001 U	
Cadmium	mg/L	0.00020 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	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.002 U	< 0.002 U	0.00036 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00039 U	< 0.0010 U	< 0.0010 U	0.00018 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Fluoride	mg/L	0.28 J+	0.29 J	< 5.0 U	0.3 J	0.29 J	0.29 J	0.32 J	0.28 J	0.23 J	0.27 J	0.26 J
Lead	mg/L	0.00055 U	< 0.0010 U	0.00042 J	< 0.001 U	0.00034 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0023 J	< 0.0080 U	< 0.0080 U	0.0019 J	0.0013 J	0.0016 J	0.0018 J	0.0017 J	0.0034 J	0.0021 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	0.023	0.021	0.022	0.019 J+	0.02	0.02	0.021	0.021	0.022	0.021	
Radium 226 + 228	pci/L	< 5.00 U	< 0.66 U	1.16 J-	0.946	< 0.571 U	0.902	0.911 J	0.515 J	0.595	1.06	
Radium-226	pci/L	0.438 J+	0.511	0.665	0.64	0.387	0.404	0.603 J	0.316 J	0.41 J+	0.573	
Radium-228	pci/L	< 1.00 U	< 0.66 U	0.495 J+	< 0.416 U	< 0.571 U	0.497	< 0.353 U	< 0.36 U	< 0.308 U	0.489	
Selenium	mg/L	0.00095 U	< 0.0050 U	< 0.0050 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.005 U	
Thallium	mg/L	0.00015 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	< 0.001 U	
Field Parameters												
Dissolved Oxygen	mg/L	0.65	1.05	0.44	0.226		0.69		0.22	0.56	0.63	0.34
Oxidation-Reduction Potential	millivolts	-86.5	-92.3	-110.1	-111.5		-114.4		-125.7	-72.6	1.1	-72.1
pH	SU	7.31	7.48	7.17	7.45		7.47		7.42	7.31	7.06	7.5
Specific Conductance	uS/cm	634	634	624	575		611		604	613	652	681
Temperature	deg C	14.7	16.8	14.5	12.7		12.8		13.2	13.9	14.4	14.4
Turbidity	NTU	4.94	1.94	1.57	2.86		4.55		4.5	3.86	1.8	0.42

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.

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Table 3: Analytical Data
CCR Unit Schahfer Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW14									
		2016-07-12	2016-09-07	2016-11-08	2017-01-09	2017-02-28	2017-04-25	2017-06-28	2017-06-28	2017-08-22	2017-10-03
		N	N	N	N	N	N	FD	N	N	N
Appendix III Parameters											
Boron	mg/L	0.27	0.36	0.25	0.3	0.26	0.28	0.26	0.24	0.24	0.23
Calcium	mg/L	69	69	72	55	65	57	58	58	63	73
Chloride	mg/L	15	11	8.7	7.6	8.4	5.1	2	2.1	1.7 J	1.8
Fluoride	mg/L	0.27 J+	0.24 J	< 2.0 U	0.23 J	0.19 J	0.2 J	0.2 J	0.22 J	0.21 J	0.21 J
Sulfate	mg/L	100 J-	88	52	74	79	77	52	48	54	54
Total Dissolved Solids	mg/L	360	310	310	250 J+	310	260	270	260	300	340
pH	SU	6.32	6.88	6.59	5.99	6.77	6.85		6.93	6.77	6.77
Appendix IV Parameters											
Antimony	mg/L	0.00036 J	0.00032 J	< 0.0020 U	0.00039 J	< 0.002 U	0.00091 J	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0033 J	0.0029 J	0.0055	0.0023 J	0.0024 J	0.0018 J	0.0017 J	0.0018 J	0.003 J	
Barium	mg/L	0.065	0.068	0.065	0.059	0.07	0.071	0.065	0.066	0.069	
Beryllium	mg/L	0.00013 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	< 0.0010 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	< 0.002 U	0.00046 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.012	0.01	0.015	0.0052	0.015	0.023	0.022	0.023	0.026	
Fluoride	mg/L	0.27 J+	0.24 J	< 2.0 U	0.23 J	0.19 J	0.2 J	0.2 J	0.22 J	0.21 J	0.21 J
Lead	mg/L	0.00016 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	
Lithium	mg/L	0.00046 J	< 0.0080 U	< 0.0080 U	0.00038 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	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 UJ	
Molybdenum	mg/L	0.0088 J	0.011	< 0.010 U	0.013 J+	0.011	0.0098 J	0.008 J	0.0082 J	0.0078 J	
Radium 226 + 228	pci/L	< 5.00 U	0.553	1.03 J+	< 0.375 U	< 0.413 U	< 0.447 U	0.72	< 0.287 U	< 0.4 U	
Radium-226	pci/L	0.282 J+	< 0.16 U	0.486	< 0.24 U	< 0.114 U	0.12	0.13 J+	0.11 J+	0.151	
Radium-228	pci/L	< 1.00 U	0.426	< 0.598 U	< 0.375 U	< 0.413 U	< 0.447 U	0.59	< 0.287 U	< 0.4 U	
Selenium	mg/L	0.00068 U	< 0.0050 U	< 0.0050 U	0.00058 J	0.0011 J	0.00095 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	< 0.001 U	
Field Parameters											
Dissolved Oxygen	mg/L	0.39	1.24	0.78	1.68	3.38	0.6		3.1	1.19	0.46
Oxidation-Reduction Potential	millivolts	179.6	163.9	75.6	2303	225.8	82.1		268.3	110.1	89.5
pH	SU	6.32	6.88	6.59	5.99	6.77	6.85		6.93	6.77	6.77
Specific Conductance	uS/cm	501	512	505	360	430	400		404	466	578
Temperature	deg C	14.7	18.6	15.5	11.2	9.85	10.9		13.5	16.2	16.7
Turbidity	NTU	2.33	1.33	0.57	0.91	4.14	2.71		3.23	3.71	2.61

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 Waste Disposal Area
NIPSCO Rollin M. Schahfer Generating Station
Wheatfield, Indiana

Analyte	Unit	GAMW14B								
		2016-07-12	2016-09-07	2016-11-08	2017-01-09	2017-02-28	2017-04-25	2017-07-12	2017-08-22	2017-10-03
		N	N	N	N	N	N	N	N	N
Appendix III Parameters										
Boron	mg/L	2.8	2.4	3.4	2.9	2.9	2.9	2.8	3	2.9
Calcium	mg/L	150	130	140	84	95	110	120	120	120
Chloride	mg/L	100	100	120	94	100	100	83	100	110
Fluoride	mg/L	0.29 J+	0.27 J	< 20 U	0.39 J	< 10 U	0.3 J	< 10 U	0.35 J	0.25 J
Sulfate	mg/L	1200 J-	950	1100	790	860	900	780	960	880
Total Dissolved Solids	mg/L	1900	2000	2000	1700	1700	1700	1500	1800	1800
pH	SU	7.26	7.38	7.11	7.48	7.41	7.39	6.96	7.44	7.47
Appendix IV Parameters										
Antimony	mg/L	0.00016 J	< 0.0020 U	0.00071 J	0.0013 J	< 0.002 U	< 0.002 U	< 0.002 U	< 0.002 U	
Arsenic	mg/L	0.0029 J	0.00095 J	0.0010 J	0.0015 J	0.00092 J	0.0015 J	0.0011 J	0.0009 J	
Barium	mg/L	0.13	0.12	0.12	0.081	0.089	0.096	0.11	0.1	
Beryllium	mg/L	0.00015 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	0.00094 J	< 0.0020 U	< 0.0020 U	< 0.002 U	0.0007 J	< 0.002 U	< 0.002 U	< 0.002 U	
Cobalt	mg/L	0.00069 U	0.00023 J	< 0.0010 U	0.00045 J	0.0002 J	< 0.001 U	0.00019 J	0.00028 J	
Fluoride	mg/L	0.29 J+	0.27 J	< 20 U	0.39 J	< 10 U	0.3 J	< 10 U	0.35 J	0.25 J
Lead	mg/L	0.0012	< 0.0010 U	0.00040 J	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	< 0.001 U	
Lithium	mg/L	0.0050 J	< 0.0080 U	< 0.0080 U	0.0053 J	0.0046 J	0.0054 J	0.0065 J	0.0051 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	0.035	0.035	0.023	0.031 J+	0.03	0.028	0.014	0.015	
Radium 226 + 228	pci/L	3.26	2.47	3.11 J+	1.45	2.17	1.65	1.17	1.73	
Radium-226	pci/L	2.06 J+	1.32	1.69	1.04	0.861	0.795	0.715 J+	0.967	
Radium-228	pci/L	1.2	1.15	1.42 J+	0.402	1.31	0.856	0.452	0.759	
Selenium	mg/L	0.00057 U	< 0.0050 U	0.00087 J	0.00083 J	0.00061 J	< 0.005 U	< 0.005 U	0.00099 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	0.00025 J	
Field Parameters										
Dissolved Oxygen	mg/L	0.3	1.28	0.44	0.35	0.27	0.11	1.02	0.76	0.31
Oxidation-Reduction Potential	millivolts	-60.6	29.7	-76.7	-79.8	-81.4	-112.8	31.4	58	-93.4
pH	SU	7.26	7.38	7.11	7.48	7.41	7.39	6.96	7.44	7.47
Specific Conductance	uS/cm	2425	2515	2557	2019	1990	2211	2156	2177	2295
Temperature	deg C	14.6	16.3	14	12.4	12.5	13.3	13.5	14	14.1
Turbidity	NTU	4.7	1.94	0.97	1.48	4.05	4.13	1.26	0.63	0.48

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.

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

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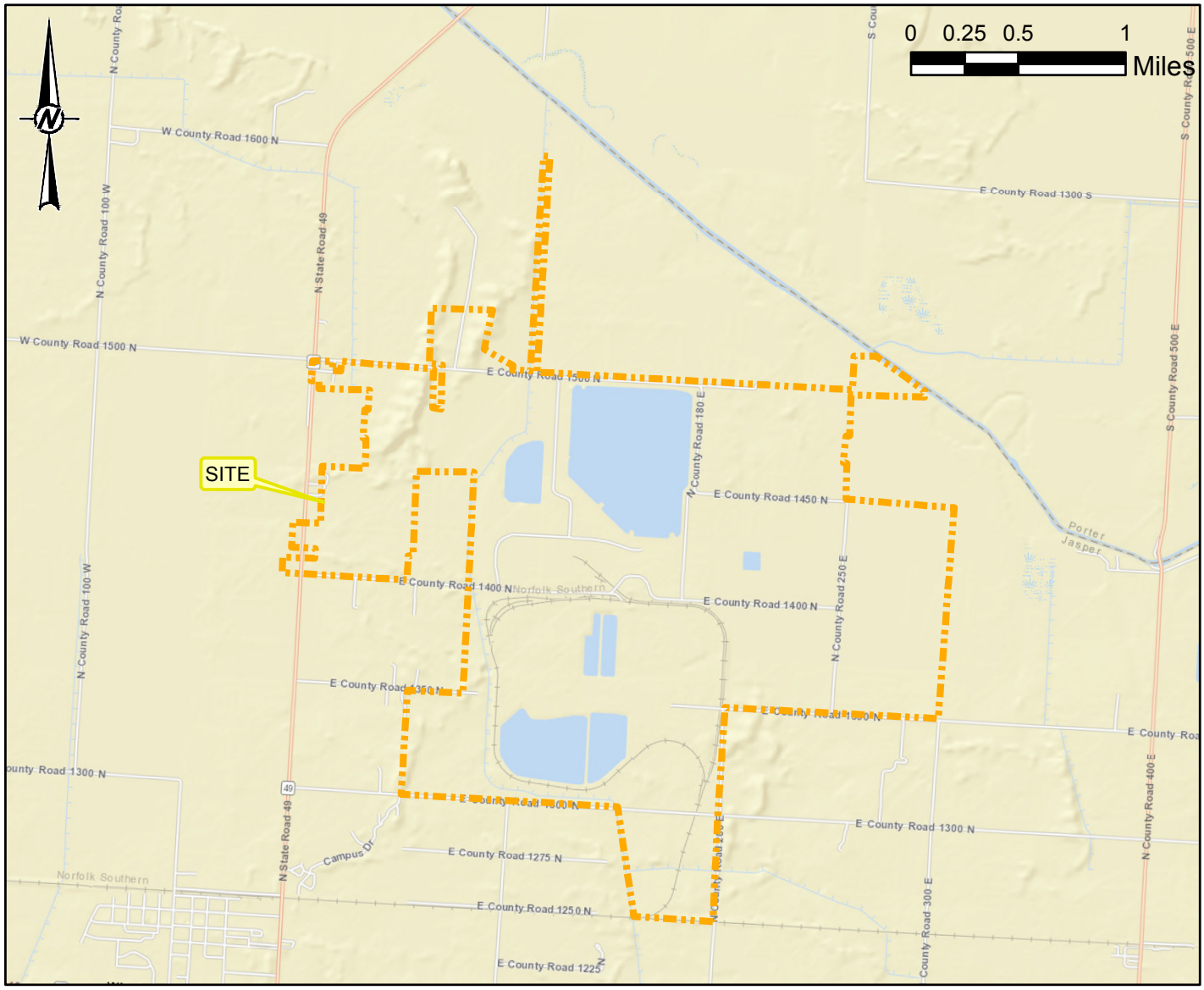
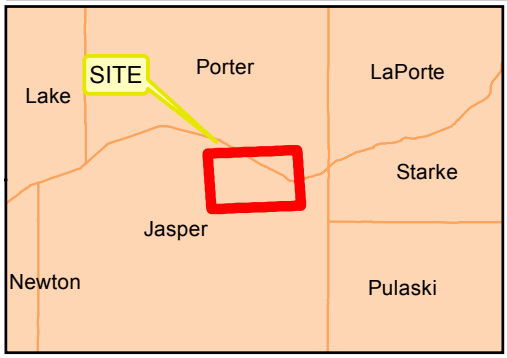
FIGURES





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

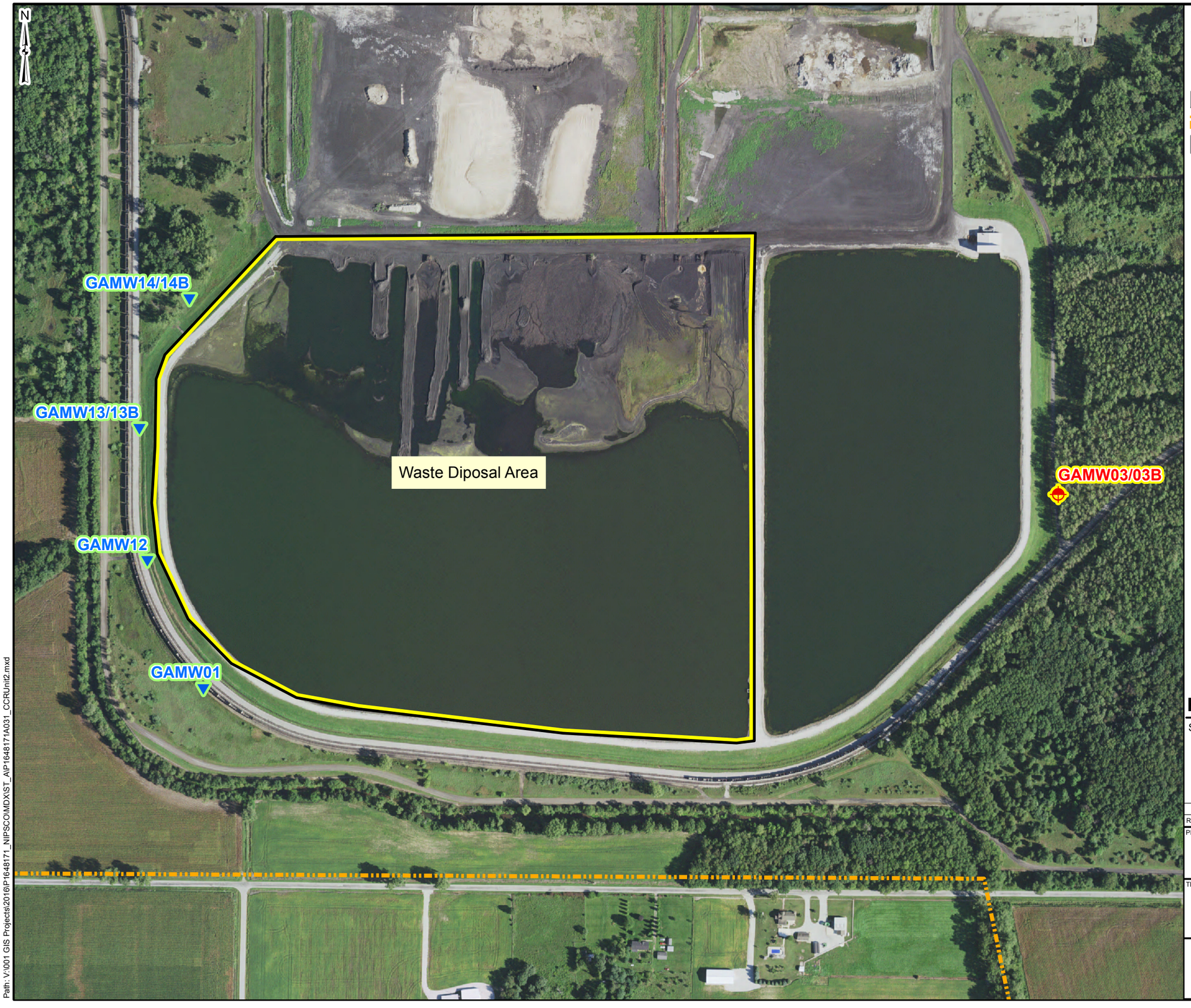
PROJECT
R.M. SCHAHFER GENERATING STATION
WHEATFIELD, INDIANA

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

360 180 0 360
Feet

REFERENCES

Service Layer Credits: ESRI, USDA Farm Service Agency

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
WASTE DISPOSAL AREA

Golder Associates
Manchester, New Hampshire

PROJECT No.		164-8174	FILE No.	1648171A031_CCRUnit2	
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_AP1648171A031_CCRUnit2.mxd