FIRST ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT, FALL 2017 - SPRING 2019

POND 2 AND POND 3 MULTIUNIT

Leland Olds Station
Mercer County, North Dakota

Basin Electric Power Cooperative

Project Number: 60558359

July 31, 2019

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position

Distribution List

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1.0 INTRODUCTION

This is the annual groundwater monitoring and corrective action report for the Pond 2 and Pond 3 inactive coal combustion residual (CCR) impoundments (Ponds 2 and 3 Multiunit) at Leland Olds Station (LOS) in Mercer County, North Dakota.

Section 1.0 provides background information on the power generating facility, the CCR unit(s) present at the facility, and the physical setting of the CCR unit(s), specifically with regard to groundwater conditions. Section 2.0 presents an overview of the groundwater monitoring and corrective action process and requirements in the CCR rule. Section 3.0 summarizes the groundwater monitoring and corrective action activities performed between the fall of 2017 through the spring of 2019, and references attachments to this report that contain detailed documentation of those activities. Section 4.0 provides an evaluation of the condition of the groundwater monitoring system. Section 5.0 summarizes the groundwater sampling and analysis conducted during the reporting period. Section 6.0 reviews the methods and results of the statistical analysis of groundwater monitoring data. Section 7.0 reviews the anticipated schedule for the CCR program. Section 8.0 provides a Summary and Conclusions.

1.1 Regulatory Background

The 40 Code of Federal Regulations (CFR) Part 257, known as the CCR rule, became effective on October 19, 2015 and established standards for the disposal of CCR in landfills, active surface impoundments and inactive surface impoundments (CCR units). In particular, the rule set forth groundwater monitoring and corrective action requirements for these units that are to be reported in an “annual ground water monitoring and corrective action report” (GWCA). The purpose of the GWCA report is to document progress of the groundwater monitoring and corrective action program by presenting a summary of the key actions completed, findings resulting from those actions and anticipated actions for the upcoming year. The first GWCA report for landfills and active surface impoundments was due to the facility operating records by January 31, 2018. In the case of inactive surface impoundments such as the Ponds 2 and 3 Multiunit, the first GWCA is due to be submitted to the facility operating record by August 1, 2019.

This GWCA report summarizes program activities specific to the Ponds 2 and 3 inactive surface impoundment Multiunit at LOS between the fall of 2017 through the spring of 2019.

1.2 Facility Location and Operational History

LOS is a coal-fired power generating facility located adjacent to the Missouri River near the city of Stanton, North Dakota. LOS began commercial operations in 1966 and has a generating capacity of 669 megawatts. CCR produced at the facility includes fly ash, bottom ash, and flue gas desulfurization (FGD) waste. The plant consists of two generating units constructed on a site bounded by the Missouri River on the north and east, the decommissioned Great River Energy Stanton Station on the west, and agricultural properties and the permitted Glenharold CCR Landfill to the south as presented on **Figure 1**.

The CCR produced during the operation of LOS was historically treated by using water to sluice the materials into holding ponds east of the plant, including Ponds 2 and 3. In the early 1990s changes were made in the system to remove the fly ash from the waste stream by using electric motor-driven mechanical exhausters instead of water-powered hydraulic inductors. The fly ash is collected in filter receivers and transferred to a storage silo where the waste is loaded into haul trucks and disposed at the Glenharold CCR Landfill. Prior to 2015, bottom ash was transported from the boilers to a water sluice historically discharged to Pond 2. Pond 3 was primarily utilized for production water storage but may have, on occasion, received CCR during its operational

history. Beginning in 2015, bottom ash was sluiced to concrete tanks east of the plant where it is dewatered and hauled by truck to the Glenharold Landfill for disposal.

1.3 CCR Unit Description

The inactive Ponds 2 and 3 Multiunit is located on the east side of the LOS generating station (**Figure 2**). Pond 2 was primarily used for the settling of bottom ash with process water directed through Pond 3 for eventual discharge in accordance with North Dakota Pollution Discharge and Elimination System (NDPDES) Permit ND-0025232. These inactive impoundments represent the last configuration of a larger impoundment complex. LOS was converted to a dry handling with all CCR now taken to the permitted Glenharold Landfill, which is located approximately 2 miles south of the station **(Figure 1)**.

1.4 Physical Setting

The Ponds 2 and 3 Multiunit is situated immediately east of the station and south of the Missouri River. The ground surface at the Multiunit ranges from 1,678 feet above mean sea level (ft, amsl) to 1,696 ft, amsl. The natural topography in the vicinity of the Multiunit is relatively level with a gentle slope north toward the river **(Figure 2)**.

The geology underlying the Multiunit is generally comprised of a minimum of 50 feet of alluvial silt, silty sand, and gravel deposits. These are in turn underlain by the Sentinel Butte Formation, which is described as 1,000 feet or more of continental deposits consisting of dense clay, weakly cemented sandstone, and mudstone interlaced with the occasional lignite bed that typically ranges from 5 to 10 feet in thickness.

The potentiometric surface underlying the Multiunit was encountered during the baseline period at elevations ranging from a high of 1,664.86 ft, amsl at MW-2017-4 on July 23, 2018 to a low of 1,657.86 ft, amsl at MW-2017-4 on March 27, 2019. The flow of groundwater within this aquifer is strongly influenced by changes in elevation of the Missouri River. Representative potentiometric surface maps visually depict groundwater elevation and flow at the site in March 27, 2019 **(Figure 3a)**, when flow was generally toward the Missouri River, and in July 23, 2018 (**Figure 3b**), when flow was generally away from the Missouri River. The net flow of groundwater is expected to be toward the river, which is best represented on the **Figure 3a**.

Aquifer testing completed at monitoring wells MW-2017-3, MW-2017-4, MW-2017-5 and MW-2017-6 indicates hydraulic conductivity values within the monitored aquifer ranging from $1.28x10^{-2}$ to $6.94x10^{-4}$ centimeters per second (cm/sec) with a geometric mean of 2.0×10^{-3} cm/sec (5.67 feet per day [ft/day]).

2.0 GROUNDWATER MONITORING AND CORRECTIVE ACTION PROCESS OVERVIEW

The regulatory process for groundwater monitoring and corrective action is established by Section 257.90 through Section 257.98 of the CCR rule**.** The process includes a phased approach to groundwater monitoring, leading (if applicable) to the establishment of groundwater protection standards (GWPSs) for each CCR unit. Exceedances of the GWPSs that are determined to be statistically significant can trigger requirements for additional groundwater characterization and corrective action assessment followed by corrective action implementation. The following paragraphs summarize the activities performed to date, and the activities planned for future years.

Groundwater monitoring is performed using a network of monitoring wells, which includes wells to monitor both background water quality that is not potentially influenced by the presence of the CCR unit, and wells placed at the downgradient boundary of waste disposal. **Table 1** presents the lists of groundwater constituents by CCR rule sampling program.

Table 1
CCR Monitoring Program Analytical Parameter List

Appendix III (Detection)	**Appendix IV (Assessment)**
pH	Antimony (Sb)
Total Dissolved Solids (TDS)	Arsenic (As)
Boron (B)	Barium (Ba)
Calcium (Ca)	Beryllium (Be)
Chloride (Cl)	Cadmium (Cd)
Fluoride (F)	Chromium (Cr)
Sulfate (SO_4)	Cobalt (Co)
	Fluoride (F)
	Lead (Pb)
	Lithium (Li)
	Mercury (Hg)
	Molybdenum (Mo)
	Selenium (Se)
	Thallium (Tl)
	Radium 226 and 228 (combined)

The first phase of groundwater monitoring is the Detection-monitoring phase. This phase evaluates the groundwater quality based on the constituents listed in Appendix III of the CCR rule (**Table 1**). If statistically significant increases (SSIs) of any of the Appendix III constituents relative to background conditions are detected in the downgradient waste boundary wells and cannot be demonstrated to be associated with a source other than the CCR unit, then groundwater monitoring moves into the second phase, Assessment monitoring.

The second phase of groundwater monitoring focuses on the constituents listed in Appendix IV of the CCR rule (**Table 1**). Concentrations of Appendix IV constituents in downgradient wells are compared to GWPSs. The GWPSs, established for Appendix IV constituents, are the higher of either the federal Safe Drinking Water Act (SDWA) maximum contaminant level (MCL) or the background concentration for each constituent.

If exceedance of a GWPS is identified in one or more downgradient boundary wells at statistically significant levels (SSLs), and no alternative sources for the exceedances can be demonstrated, then both additional groundwater characterization and assessment of corrective measures (ACM) will be initiated. Following ACM, a remedy (or set of remedies) will be selected for the groundwater corrective action program for the CCR unit. According to the CCR rule, groundwater corrective action will continue until compliance with the GWPS has been attained in all impacted wells and sustained for a minimum of 3 consecutive years.

The process described above relies on appropriate sampling locations (wells), baseline data and statistical methods to establish local background concentrations of the constituents in both Appendices III and IV, and comparison of the concentrations in downgradient wells to background concentrations and/or MCLs. For each inactive CCR unit that stopped receiving CCR prior to October 17, 2015, but was not yet closed, the rule required the following to have been completed no later than April 17, 2019:

- Installed and certified a groundwater monitoring system (GWMS) in the uppermost aquifer (and lower aquifers that are hydraulically interconnected to the uppermost aquifer) that underlies the unit;
- Developed a groundwater sampling and analysis program, including selection of statistical procedures; and
- Collected and analyzed a minimum of eight rounds of independent samples from the background and downgradient wells in the monitoring system by April 17, 2019.

The CCR Rule stipulates that evaluation of the data obtained from the certified GWMS for an inactive impoundment, in support of baseline monitoring for the Appendix III constituents, is to be submitted as an Annual GWCA report no later than August 1, 2019 (this report).

The following activities will be performed in the remainder of calendar year 2019:

- August 2019: Initiate semi-annual Detection monitoring of groundwater for Appendix III and optionally for Appendix IV constituents [257-90(b)(1)(iii)-(iv); 257.94b];
- November 2019: Complete statistical evaluations to determine if SSIs of the Appendix III constituents are detected in downgradient wells within 90 days after completion of Detection monitoring [257.93(h)(2)];

If upon completion of the statistical evaluation an Appendix III SSI is indicated, a Detection-mode Alternative Source Demonstration (ASD) will be initiated with a report describing the activities and findings of the demonstration completed within 90 days thereafter [257.94(e)(2)]. The activities undertaken in support of the Ponds 2 and 3 Multiunit for the remainder of 2019 will be presented in an Annual GWCA report due on or before January 31, 2020 [257.93(h)(2)].

3.0 GROUNDWATER ACTIVITIES IN FALL 2017 – SPRING 2019

The following section summarizes the tasks completed in support of the CCR rule that began in the fall of 2017 and continued through the spring of 2019. Those tasks consisted of the following:

- Monitoring Well Installation, Development, and Testing
    - Site review and preparation
    - Project safety preparations and utility clearance
    - Well installation
    - Well development
    - Well hydraulic testing
- Monitoring Activities
    - Well sampling
    - Laboratory analysis
    - Preparation of the CCR GWMS Report (sometimes referred to as the Well Installation Report), dated April 17, 2019.

3.1 Monitoring Well Installation, Development, and Testing

Eight monitoring wells were installed between November 13 and December 7, 2017 by a driller licensed in the State of North Dakota employed by Terracon Drilling. All eight wells were installed in accordance with applicable State of North Dakota regulations for groundwater monitoring wells. One of these monitoring wells, MW-2017-8 was removed from the CCR monitoring network in November 2018 because it was determined to be not hydraulically connected to the uppermost aquifer underlying the LOS Pond 2 and 3 Multiunit. The location of the wells installed in the fall of 2017 and select previously existing monitoring wells at the site are presented on **Figure 2**.

Aquifer testing was performed on November 8, 2018 at monitoring wells MW-2017-3, MW-2017-4, MW-2017-5 and MW-2017-6. The results of the testing indicate a range of hydraulic conductivity within the uppermost aquifer ranging from $1.28x10^{-2}$ to $6.94x10^{-4}$ cm/sec.

The CCR GWMS Report contains a complete record of the construction, development, and testing of the monitoring wells at the LOS Ponds 2 and 3 Multiunit.

3.2 Monitoring Activities

Groundwater monitoring events for the reporting period include eight baseline Detection monitoring events, beginning with the first event on March 12, 2018 and concluding with the eighth event on April 12, 2019. Each event involved collection of representative samples from program monitoring wells, as detailed in the table below:

Table 2

Ponds 2 and 3 Multiunit Groundwater Sampling Summary, Spring 2018 - Spring 2019

Event Date	Background Samples	Downgradient Samples	QA/QC Samples	Monitoring Mode
3/12/2018*	1	5	1	Baseline
4/17/2018	1	7	1	Baseline
6/14/2018	1	7	1	Baseline
7/24/2018	1	7	1	Baseline
8/28/2019	1	7	1	Baseline
11/1/2018*	0	2	0	Baseline
3/12/2019**	1	6	1	Baseline
3/27/2019**	1	6	1	Baseline
4/12/2019**	1	6	1	Baseline

* = MW-2017-5 and MW-2017-6 inaccessible due to high water. A supplemental event was completed in November 2018.

** = Event completed after removal of MW-2017-8 from the monitoring network.

Each of these monitoring events was conducted in general accordance with procedures established in Section 257.93.

4.0 MONITORING SYSTEM EVALUATION

Wells are located in an aboveground locking steel casing set in a 2 x 2-foot concrete pad and are protected by a minimum of three steel bollards. Well data sheets completed during the most recent sampling event (completed April 12, 2019), noted that all wells were in good condition with all dedicated sampling equipment in good working order.

Water level measurements collected during the period indicate a groundwater flow direction that was generally from the southwest to the northeast. The elevation of water levels within the monitoring wells is essentially flat with elevations ranging from 0.2 feet difference (April 17, 2018) to 1.06 feet difference (April 27, 2019) across the site. As a result, groundwater flow direction is strongly influenced by year-round daily changes in the elevation of the Missouri River and more significant seasonal snow melt contribution in late spring and early summer. The most responsive well at the site during the period was MW-2017-4 which varied by 7.00 feet ranging from a measured high of 1,664.86 on July 23, 2018 to a measured low of 1657.86 on April 9, 2019.

The only monitoring well found to be consistently upgradient of the Ponds 2 and 3 Multiunit is MW-2017-1. The hydrostatic position of the remaining six monitoring wells, relative to the Ponds 2 and 3 Multiunit, changes depending on site conditions at the time the measurements were collected. Examples of the potentiometric surfaces when the river is near normal pool stage and when the river is elevated are presented as **Figure 3a** and **Figure 3b**, respectively.

The hydraulic position of each CCR program monitoring well during the monitoring period, in relation to the Multiunit, are as follows:

- Background: MW-2017-1
- Variably Downgradient: MW-2017-2, MW-2017-3, MW-2017-4, MW-2017-5, MW-2017-6 and MW-2017-7

5.0 MONITORING RESULTS

The data obtained during the baseline monitoring events is provided in the Sampling and Analysis Report presented herein as **Attachment A**. This report presents the results for each of the monitoring events of the reporting period, including presentation of a representative potentiometric surface map for the uppermost aquifer, groundwater flow direction, field measurements, and results of the laboratory analysis for Appendix III and IV parameters.

6.0 STATISTICAL PROCEDURES AND RESULTS

The Appendix III groundwater quality data were evaluated using an interwell approach that will statistically compare constituent concentrations at downgradient monitoring wells to those present at the background monitoring well. For the Ponds 2 and 3 Multiunit, monitoring well MW-2017-1 is designated as the background well because it is consistently located hydraulically upgradient of the Multiunit. The remaining monitoring wells (MW-2017-2, MW-2017-3, MW-2017-4, MW-2017-5, MW-2017-6 and MW-2017-7) are located at variably downgradient positions relative to the Multiunit, meaning that they are occasionally sidegradient or upgradient, but are generally downgradient at some point during the year and are most likely to detect potential release from the Multiunit. For the purpose of statistical evaluation, these wells will be assigned downgradient positions relative to the Ponds 2 and 3 Multiunit.

Background upper prediction limits (UPLs) with retesting were developed for each Appendix III constituent from monitoring well MW-2017-1 based on the frequency of non-detect values and whether the background data for that constituent exhibited a normal, lognormal, or nonparametric distribution. For the statistical analysis, non-detect values were represented as one-half the detection limit. Analytical data from background monitoring well MW-2017-1, collected between March 2018 and April 2019, were used to develop a UPL for the Appendix III constituents at 95 percent confidence. The data collected from the downgradient monitoring wells during upcoming detection monitoring events will be compared to these UPL's to identify SSIs over background, if any. Mann-Kendall trend analysis will be used to identify whether any of the Appendix III constituents exhibit a statistically significant increasing trend. ProUCL Version 5.1 will be used to store the data and run the statistical analyses. The results of the statistical analyses, including the background UPLs, are provided in **Table 3**.

Table 3 Statistical Analysis Methods and Background Upper Prediction Limits

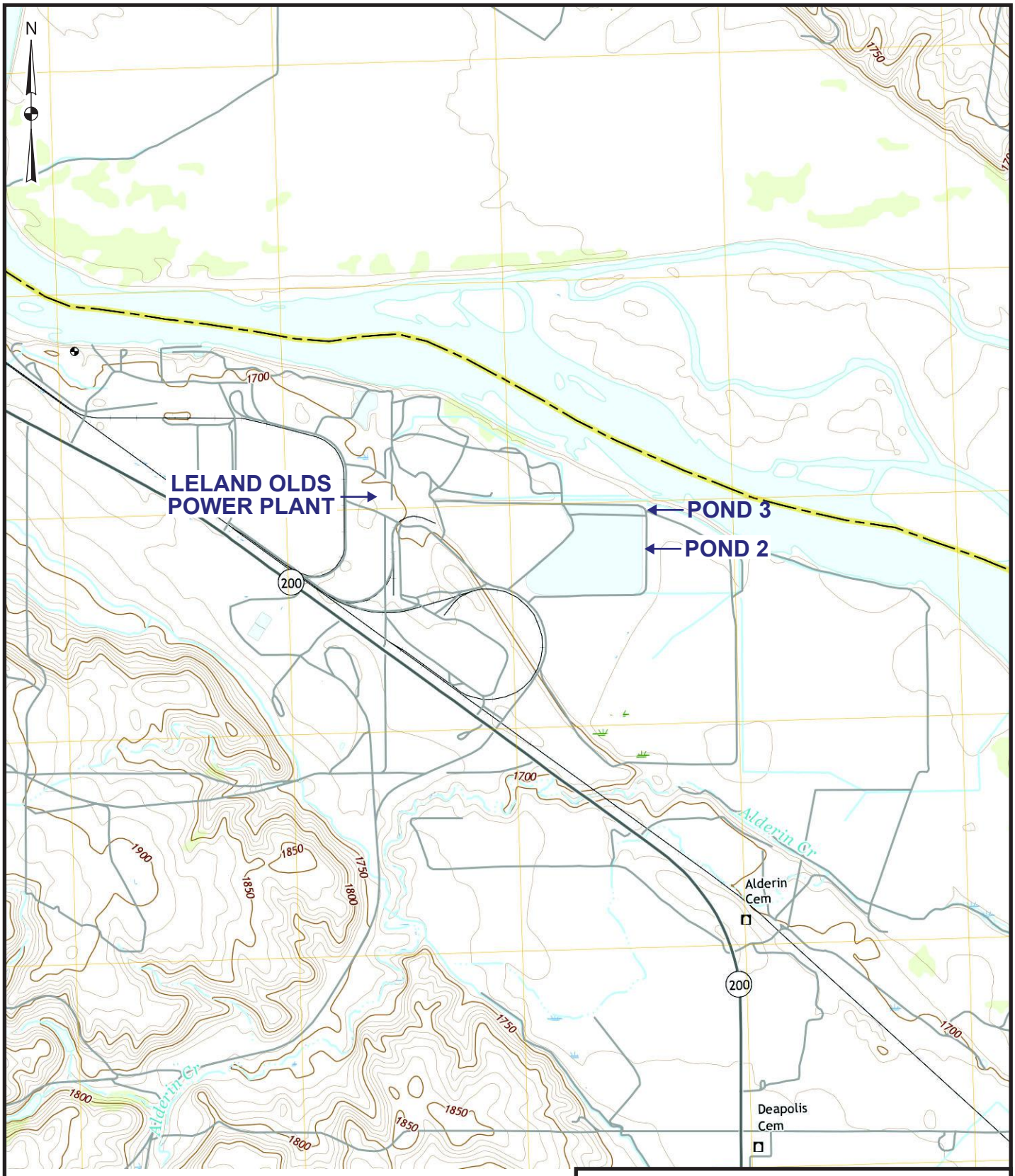
Parameter (Units)	Number of Samples	Percent Nondetects	Normal/ Lognormal Distribution?	Statistical Method	Background UPL
Boron (mg/L)	8	0	Yes/Yes	Parametric 95% UPL	2.45
Calcium (mg/L)	8	0	Yes/Yes	Parametric 95% UPL	110
Chloride (mg/L)	8	0	Yes/Yes	Parametric 95% UPL	9.4
Fluoride (mg/L)	8	100	No/No	Nonparametric 95% UPL	0.5
pH (std units)	8	0	Yes/Yes	Parametric 95% UPL	7.49
Sulfate (mg/L)	8	0	Yes/Yes	Parametric 95% UPL	229
TDS (mg/L)	8	0	Yes/Yes	Parametric 95% UPL	765

mg/L = milligrams per Liter; std units = standard units

7.0 CCR PROGRAM SCHEDULE

The next monitoring event at LOS Ponds 2 and 3 Multiunit will be for semi-annual Detection monitoring, supplemented with Appendix IV analysis, which is anticipated to be completed in August 2019. The results from this event will be evaluated for Appendix III SSIs in the variably downgradient wells relative to background. If no SSIs are identified, then Detection monitoring will continue semi-annually. If an SSI is identified a Detection-mode ASD and statistical evaluation of the Appendix IV results will be initiated. The activities and findings completed at the Ponds 2 and 3 Multiunit for the remainder of 2019 will be presented in an Annual GWCA report due by January 31, 2020.

Figures



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0 2,000 4,000

APPROXIMATE SCALE IN FEET

ND

Quadrangle Location

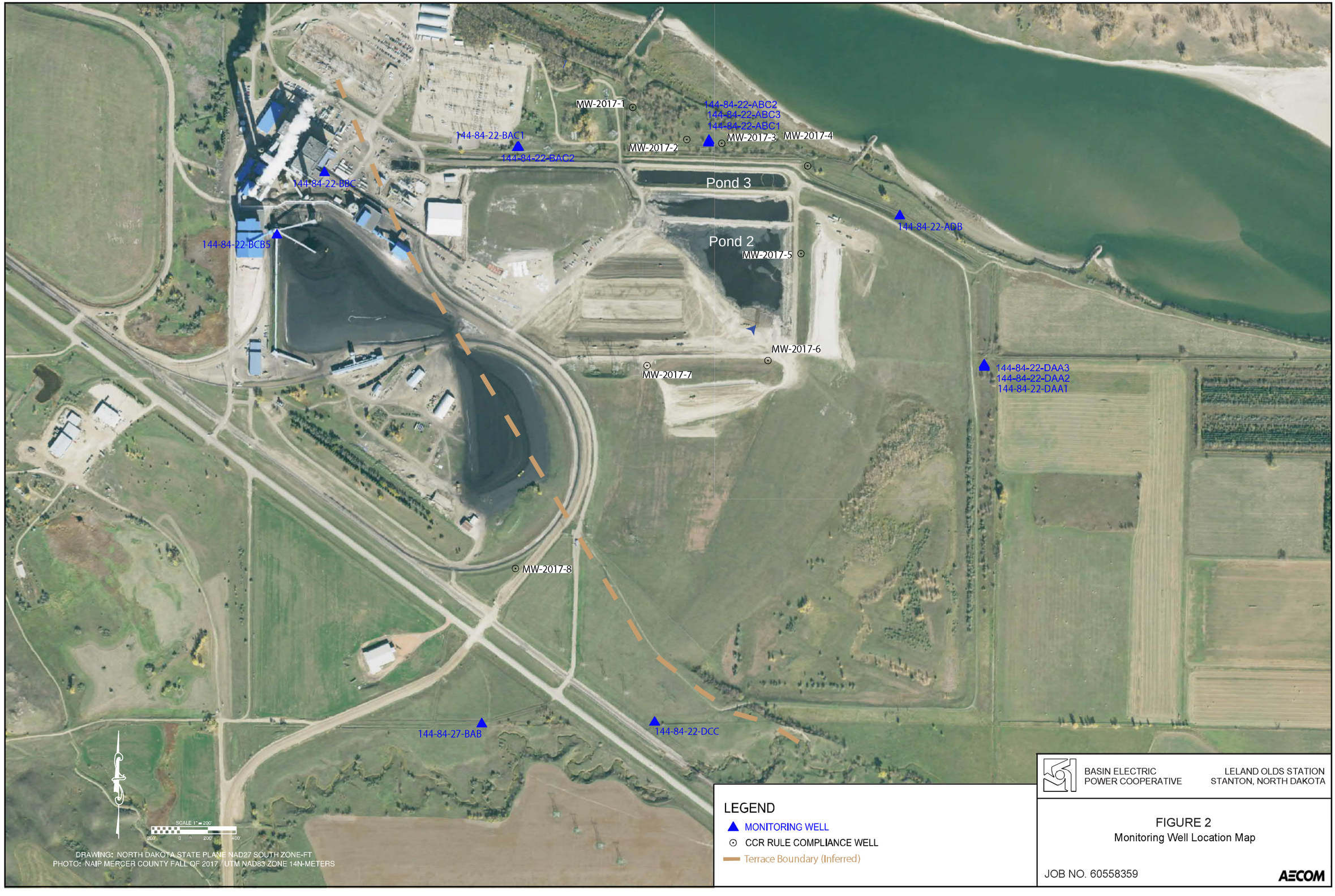
BASE MAP SOURCE: USGS 7½ minute topographic quadrangle mapStanton SE, North Dakota 2018.

BASIN ELECTRIC POWER COOPERATIVE

FIGURE 1
SITE VICINITY MAP
LOS POND 2 AND POND 3 MULTIUNIT

JOB NO. 60558359

AECOM


MW-2017-1
144-84-22-ABC2
144-84-22-ABC3
144-84-22-ABC1
MW-2017-3
MW-2017-4
144-84-22-BAC1
144-84-22-BAC2
MW-2017-2
144-84-22-BBC
Pond 3
144-84-22-ADB
144-84-22-BCB5
Pond 2
MW-2017-5
MW-2017-6
MW-2017-7
144-84-22-DAA3
144-84-22-DAA2
144-84-22-DAA1
MW-2017-8
144-84-27-BAB
144-84-22-DCC
SCALE 1" = 200'
200' 0 200' 400'
DRAWING: NORTH DAKOTA STATE PLANE NAD27 SOUTH ZONE-FT
PHOTO: NAIP MERCER COUNTY FALL OF 2017 / UTM NAD83 ZONE 14N-METERS
LEGEND
MONITORING WELL
CCR RULE COMPLIANCE WELL
Terrace Boundary (Inferred)
BASIN ELECTRIC POWER COOPERATIVE
LELAND OLDS STATION
STANTON, NORTH DAKOTA
FIGURE 2
Monitoring Well Location Map
JOB NO. 60558359
AECOM

River Elevation
1658.24

MW-2017-1
1659.09

MW-2017-2
1658.86

MW-2017-3
1658.80

MW-2017-4
1658.73

MW-2017-5
1659.08

MW-2017-6
1659.48

MW-2017-7
1659.58

(MW-2017-8)
NM

1659.00'

1659.25'

1659.50'

1658.75'

1659.00'

1659.25'

1659.50'

SCALE 1" = 200'
200' 0 200' 400'

DRAWING: NORTH DAKOTA STATE PLANE NAD27 SOUTH ZONE-FT
PHOTO: NAIP MERCER COUNTY FALL OF 2017 / UTM NAD83 ZONE 14N-METERS

LEGEND

- CCR RULE COMPLIANCE WELL
- POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED) March 27, 2019
- GROUNDWATER FLOW DIRECTION
- Terrace Boundary (Inferred)

BASIN ELECTRIC POWER COOPERATIVE

LELAND OLDS STATION
STANTON, NORTH DAKOTA

FIGURE 3a
BASIN LELAND OLDS STATION
POTENTIOMETRIC SURFACE MAP

JOB NO. 60558359

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LEGEND

- CCR RULE COMPLIANCE WELL
- POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED) JULY 23, 2018
- GROUNDWATER FLOW DIRECTION
- Terrace Boundary (Inferred)

BASIN ELECTRIC POWER COOPERATIVE

LELAND OLDS STATION
STANTON, NORTH DAKOTA

FIGURE 3b
BASIN LELAND OLDS STATION
POTENTIOMETRIC SURFACE MAP

JOB NO. 60558359

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Attachment A

Sampling and Analysis Report, Fall 2017 – Spring 2019

SAMPLING AND ANALYSIS REPORT
CCR MONITORING PROGRAM

POND 2 AND POND 3 MULTIUNIT

Leland Olds Station
Mercer County, North Dakota

Basin Electric Power Cooperative

Project Number: 60558359

July 31, 2019

Quality information

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Revision History

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CONTENTS

List of Appendices

1.0 INTRODUCTION

This Coal Combustion Residuals (CCR) groundwater Sampling and Analysis Report was developed by AECOM Technical Services, Inc. (AECOM) for the Basin Electric Power Cooperative (Basin Electric) Leland Olds Station (LOS) inactive CCR Surface Impoundments identified as the Pond 2 and Pond 3 Multiunit. The report presents the results of groundwater sampling and analysis conducted in accordance with the monitoring requirements of the CCR rule (40 Code of Federal Regulations [CFR] Section 257.90 to 98); specifically, the data collected for the eight Baseline Monitoring events at inactive impoundments completed prior to April 17, 2019.

2.0 GROUNDWATER FLOW

As required by 40 CFR 257.93(c), groundwater elevations were measured in each well immediately prior to purging, each time groundwater was sampled. The measurements, presented in **Appendix I**, were used to create potentiometric surface maps for the uppermost aquifer for each of the monitoring events. The maps were used to evaluate the direction and rate of groundwater flow for the subject CCR unit as summarized on the table below. Representative potentiometric maps are included in **Appendix II**.

Groundwater Gradient and Seepage Velocity						
Date of event	**d_l (ft)**	**d_h (ft)**	**i (ft/ft)**	**n_e**	**K (ft/day)**	**v_s (ft/day)**
3/12/2018	Insufficient Data: Limited site access due to high water					
4/17/2018	307	0.25	-0.00081	0.33	1.16E+01	2.86E-02
6/14/2018*	493	0.25	-0.00051	0.33	1.16E+01	1.78E-02
7/23/2018*	397	0.5	-0.00126	0.33	1.16E+01	4.43E-02
9/27/2018*	480	0.25	-0.00052	0.33	1.16E+01	1.83E-02
3/12/2019	337	0.5	-0.00148	0.33	1.16E+01	5.22E-02
3/27/2019	300	0.5	-0.00167	0.33	1.16E+01	5.86E-02
4/9/2019	303	0.75	-0.00248	0.33	1.16E+01	8.70E-02

* = Elevated river stage potentiometric flow condition event

d_l = Horizontal separation between upgradient and downgradient locations perpendicular to potentiometric contours

d_h = Change in hydraulic head between upgradient and downgradient locations

i = Hydraulic gradient (change in elevation over distance)

n_e = Site estimated porosity of 33 percent

K = Site average hydraulic conductivity of 11.6 feet per day (ft/day) from slug tests at site

v_s = Seepage Velocity (ft/day)

Hydraulic Gradient Governing Equation[1] $i = {}^{dh}/_{dl}$

Seepage Velocity Governing Equation[2] $v_s = {}^{K * i}/_{n_e}$

Based on the groundwater flow conditions documented in this section the relative function of the monitoring wells employed in the groundwater monitoring system is as follows:

Groundwater Monitoring System	
Background Well	MW-2017-1
Variably Downgradient Wells	MW-2017-2, MW-2017-3, MW-2017-4, MW-2017-5, MW-2017-6, MW-2017-7

3.0 GROUNDWATER QUALITY

The groundwater quality data collected during the reporting period are included in laboratory reports located in Basin Electric's Operating Record. The laboratory reports were reviewed for completeness against the project-required methods and the chain-of-custody forms. Reports were also reviewed for holding times, and that the data was appropriately flagged based on the quality assurance/quality control (QA/QC) data provided. A summary of the final field measurements and laboratory analytical results is provided in **Appendix I**. Copies of the final laboratory reports for the Baseline events are provided in **Appendix III**.

Appendix I
Summary Tables
Groundwater Elevations and Analytical Results

APPENDIX I - A

BASELINE GROUNDWATER MONITORING WATER LEVELS AND ELEVATIONS
LOS POND 2 AND POND 3 (MULTIUNIT) CCR MONITORING WELL NETWORK
LELAND OLDS STATION - STANTON, NORTH DAKOTA

Well ID	Measurement Date	Reference Elevation Top of Inner Casing (feet, NAVD 88)	Depth to Water Feet Below Top of Inner Casing	Groundwater Elevation (feet, NAVD 88)
MW-2017-1	**3/12/2019**	1,683.86	24.62	1,659.24
MW-2017-2	**3/13/2019**	1,681.03	22.05	1,658.98
MW-2017-3	**3/14/2019**	1,682.36	23.54	1,658.82
MW-2017-4	**3/15/2019**	1,684.13	25.05	1,659.08
MW-2017-5	**3/16/2019**	1,691.72	NM	NM
MW-2017-6	**3/17/2019**	1,693.44	NM	NM
MW-2017-7	**3/18/2019**	1,698.25	38.76	1,659.49
MW-2017-8	**3/19/2019**	1,717.23	29.37	1,687.86
Missouri River	**3/20/2019**	1,650.00	9.17	1,659.17
MW-2017-1	**4/17/2018**	1,683.86	23.63	1,660.23
MW-2017-2	**4/17/2018**	1,681.03	20.84	1,660.19
MW-2017-3	**4/17/2018**	1,682.36	22.13	1,660.23
MW-2017-4	**4/17/2018**	1,684.13	23.84	1,660.29
MW-2017-5	**4/17/2018**	1,691.72	31.63	1,660.09
MW-2017-6	**4/17/2018**	1,693.44	33.33	1,660.11
MW-2017-7	**4/17/2018**	1,698.25	38.00	1,660.25
MW-2017-8	**4/17/2018**	1,717.23	29.44	1,687.79
Missouri River	**4/17/2018**	1,650.00	10.84	1,660.84
MW-2017-1	**6/14/2018**	1,683.86	21.26	1,662.60
MW-2017-2	**6/14/2018**	1,681.03	18.49	1,662.54
MW-2017-3	**6/14/2018**	1,682.36	19.81	1,662.55
MW-2017-4	**6/14/2018**	1,684.13	21.52	1,662.61
MW-2017-5	**6/14/2018**	1,691.72	29.30	1,662.42
MW-2017-6	**6/14/2018**	1,693.44	31.20	1,662.24
MW-2017-7	**6/14/2018**	1,698.25	35.99	1,662.26
MW-2017-8	**6/14/2018**	1,717.23	29.25	1,687.98
Missouri River	**6/14/2018**	1,650.00	13.46	1,663.46
MW-2017-1	**7/23/2018**	1,683.86	19.05	1,664.81
MW-2017-2	**7/23/2018**	1,681.03	16.35	1,664.68
MW-2017-3	**7/23/2018**	1,682.36	17.67	1,664.69
MW-2017-4	**7/23/2018**	1,684.13	19.27	1,664.86
MW-2017-5	**7/23/2018**	1,691.72	27.25	1,664.47
MW-2017-6	**7/23/2018**	1,693.44	29.28	1,664.16
MW-2017-7	**7/23/2018**	1,698.25	34.09	1,664.16
MW-2017-8	**7/23/2018**	1,717.23	29.31	1,687.92
Missouri River	**7/23/2018**	1,650.00	15.85	1,665.85
MW-2017-1	**8/27/2018**	1,683.86	20.46	1,663.40
MW-2017-2	**8/27/2018**	1,681.03	17.92	1,663.11
MW-2017-3	**8/27/2018**	1,682.36	19.26	1,663.10
MW-2017-4	**8/27/2018**	1,684.13	21.00	1,663.13
MW-2017-5	**8/27/2018**	1,691.72	28.66	1,663.06
MW-2017-6	**8/27/2018**	1,693.44	30.50	1,662.94
MW-2017-7	**8/27/2018**	1,698.25	35.28	1,662.97
MW-2017-8	**8/27/2018**	1,717.23	29.35	1,687.88
Missouri River	**8/27/2018**	1,650.00	13.87	1,663.87
MW-2017-1	**3/21/2019**	1,683.86	23.31	1660.55
MW-2017-2	**3/21/2019**	1,681.03	20.66	1660.37
MW-2017-3	**3/21/2019**	1,682.36	22.04	1660.32
MW-2017-4	**3/21/2019**	1,684.13	24.11	1660.02
MW-2017-5	**3/21/2019**	1,691.72	31.44	1660.28
MW-2017-6	**3/21/2019**	1,693.44	32.90	1660.54
MW-2017-7	**3/21/2019**	1,698.25	37.54	1660.71
MW-2017-8	**3/21/2019**	1,717.23	NM	NM
Missouri River	**3/21/2019**	1,650.00	9.89	1659.89
MW-2017-1	**3/27/2019**	1,683.86	24.77	1659.09
MW-2017-2	**3/27/2019**	1,681.03	22.17	1658.86
MW-2017-3	**3/27/2019**	1,682.36	23.56	1658.80
MW-2017-4	**3/27/2019**	1,684.13	25.40	1658.73
MW-2017-5	**3/27/2019**	1,691.72	32.64	1659.08
MW-2017-6	**3/27/2019**	1,693.44	33.96	1659.48
MW-2017-7	**3/27/2019**	1,698.25	38.67	1659.58
MW-2017-8	**3/27/2019**	1,717.23	NM	NM
Missouri River	**3/27/2019**	1,650.00	8.24	1658.24
MW-2017-1	**4/9/2019**	1,683.86	25.47	1658.39
MW-2017-2	**4/9/2019**	1,681.03	22.90	1658.13
MW-2017-3	**4/9/2019**	1,682.36	24.27	1658.09
MW-2017-4	**4/9/2019**	1,684.13	26.27	1657.86
MW-2017-5	**4/9/2019**	1,691.72	33.40	1658.32
MW-2017-6	**4/9/2019**	1,693.44	34.67	1658.77
MW-2017-7	**4/9/2019**	1,698.25	39.33	1658.92
MW-2017-8	**4/9/2019**	1,717.23	NM	NM
Missouri River	**4/9/2019**	1,650.00	7.42	1657.42

NM = Measurement not available
Missouri River elevation as reported by USGS Gauge 06340700, Stanton, ND at 1200 on date of event.

Appendix I

Groundwater Monitoring Analytical Results
CCR Monitoring Wells Events 1-8
LOS Pond 2 and Pond 3 (Multiunit)
Leland Olds Station - Stanton, North Dakota

				Appendix III Constituents							Appendix IV Constituents														
		Event	Date	Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH S.U.	Sulfate mg/L	TDS mg/L	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L	Fluoride mg/L	Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L	Radium 226/228 pCi/L
Background	MW-2017-1	1	3/12/18	2 F1	100	8.8	< 0.50 U	6.95	210	710	< 0.0020 U	0.0096	0.064 ^	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.058	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	< 0.504 U
	MW-2017-1	2	4/17/18	2.1 F1	96	9.4	< 0.50 U	6.86	200	680	< 0.0020 U	0.0068	0.054	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.053 F1	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.375
	MW-2017-1	3	6/14/18	2.2	89	8.2	< 0.50 U	7.06	220	690 H	< 0.0020 U	< 0.0050 U	0.042 F1	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.051	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	< 0.429 U
	MW-2017-1	4	7/25/18	2.36 F1	91.1	8.73	< 0.500 U	7.21	218	710	< 0.00200 U	0.00507	0.0431	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0543	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.421
	MW-2017-1	5	8/27/18	2.37	89.6	8.65	< 0.500 U	7.38	219	707	< 0.00200 U^	0.0051	0.0471	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0552	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.775
	MW-2017-1	6	3/12/19	2.15	103	8.5 H	< 0.500 UH	7.19	217 H	735	< 0.00200 U^	0.00926	0.0643	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 UH	< 0.00100 U	0.0549	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.448 U
	MW-2017-1	7	3/27/19	2.02	98.3	8.53 H F1	< 0.500 UH	7.26	212 H	718	< 0.00200 U^	0.0109	0.0561	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 UH	< 0.00100 U	0.0547	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.529 U
	MW-2017-1	8	4/9/19	2.02	107	8.91	< 0.500 U	7.23	221	761 H	< 0.00200 U^	0.011	0.0593 F1	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0563	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.454 U
	MW-2017-1 Dup	1	3/12/18	2.1	110	8.8	< 0.50 U	6.95	210	710 H	< 0.0020 U^	0.0097	0.064 ^	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.058	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	< 0.501 U
	MW-2017-1 Dup	2	4/17/18	2.1	97	8.7	< 0.50 U	6.86	190	720	< 0.0020 U	0.007	0.053	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.052	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	< 0.342 U
	MW-2017-1 Dup	3	6/14/18	2.3	92	8.2	< 0.50 U		220	720	< 0.0020 U	0.0056	0.045	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.054	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	< 0.407 U
	MW-2017-1 Dup	4	7/25/18	2.34	90.3	8.74	< 0.500 U		215	710	< 0.00200 U	0.00538	0.0449	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0528	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.376 U
	MW-2017-1 Dup	5	8/27/18	2.42	91.1	8.73	< 0.500 U		220	717	< 0.00200 U^	< 0.00500 U	0.0402	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0511	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.784
	MW-2017-1 Dup	6	3/12/19	2.18	106	9.23 H	< 0.500 UJH		219 H	742	< 0.00200 U	0.00991	0.0713	< 0.00100 U	< 0.00100 U	< 0.00200 U	0.0011	< 0.500 UJH	0.00121	0.0547	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.602
	MW-2017-1 Dup	7	3/27/19	2.25	106	8.46 H	< 0.500 UH		211 H	740	< 0.00200 U	0.0105	0.0588	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 UH	< 0.00100 U	0.0621	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.379 U
	MW-2017-1 Dup	8	4/9/19	2.02	109	9	< 0.500 U		218	773 H	< 0.00200 U	0.0116	0.06	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0602	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.415 U
Variably Downgradient	MW-2017-2	1	3/12/18	1.6	120	12	< 0.50 U	6.88	320	920	< 0.0020 U^	0.0056 ^	0.067	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.048	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.693
	MW-2017-2	2	4/17/18	1.4	130	12	< 0.50 U	7.37	330	930	< 0.0020 U	0.0059	0.059	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.049	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.387
	MW-2017-2	3	6/14/18	1.3	130	10	< 0.50 U	7.04	320	890	< 0.0020 U	0.0057	0.054	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.05	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.574
	MW-2017-2	4	7/23/18	1.6	73.7	10.6	0.608	7.19	262	690	< 0.00200 U	< 0.00500 U	0.0334	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.608	< 0.00100 U	0.0422	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.398 U
	MW-2017-2	5	8/27/18	1.61	74.1	10.5	0.537	7.49	261	< 10.0 U	< 0.00200 U	0.00567	0.0368	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.537	< 0.00100 U	0.0429	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.556
	MW-2017-2	6	3/12/19	1.18	120	11.8 H	< 0.500 UH	7.19	323 H	910	< 0.00200 U	0.00807	0.0631	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 UH	< 0.00100 U	0.0459	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.697 U
	MW-2017-2	7	3/27/19	1.13	122	11.2 H	< 0.500 UH	7.12	336 H	948	< 0.00200 U	0.00807	0.0613	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 UH	< 0.00100 U	0.052	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.460 U
	MW-2017-2	8	4/9/19	1.22	121	11.3	< 0.500 U	7.25	308 H	853	< 0.00200 U	0.0081	0.0493	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0457	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.531 U
	MW-2017-3	1	3/12/18	1.6	84	11	0.5	6.71	190	760	< 0.0020 U^	0.011 ^	0.07	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	0.5	0.0015	0.05	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.586
	MW-2017-3	2	4/17/18	1.6	87	11	< 0.50 U	7.04	190	750	< 0.0020 U	0.015	0.078	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.0013	< 0.50 U	0.0014	0.048	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.764
	MW-2017-3	3	6/14/18	1.6	84	9.4	< 0.50 U	7.1	200	750 H	< 0.0020 U	0.0077	0.061	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.049	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.554
	MW-2017-3	4	7/23/18	1.57	87.2	10.6	< 0.500 U	7.09	184	770	< 0.00200 U	0.00929	0.0616	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0513	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.395 U
	MW-2017-3	5	8/27/18	1.61	81.4	10.5	< 0.500 U	7.35	187	765	< 0.00200 U	0.00772	0.0606	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0501	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.448
	MW-2017-3	6	3/12/19	1.63	81.1	10.7 H	< 0.500 UH	7.25	190 H	765	< 0.00200 U	0.0144	0.0828	< 0.00100 U	< 0.00100 U	0.00228	0.00146	< 0.500 UH	0.00185	0.0448	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.805
	MW-2017-3	7	3/27/19	1.75 F1	80.3	10.6 H	0.516 H	7.15	182 H	756	< 0.00200 U	0.0126	0.0669	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.516 H	0.00123	0.0489	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.425
	MW-2017-3	8	4/9/19	1.71	84.7	10.9	0.523	7.3	190	739 H	< 0.00200 U	0.0132	0.0622	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.523	< 0.00100 U	0.0438	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.444 U
	MW-2017-4	1	3/12/18	1.4	140	9.8	0.75	6.82	300	830	< 0.0020 U^	0.01 ^	0.071	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.0014	0.75	0.0021	0.058	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.748
	MW-2017-4	2	4/17/18	1.2	140	10	0.77	6.64	310	860	< 0.0020 U	0.01	0.072	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	0.77	< 0.0010 U	0.05	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.412
	MW-2017-4	3	6/14/18	1.2	140	9.3	0.59	7.02	300	870 H	< 0.0020 U	0.0096	0.061	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	0.59	< 0.0010 U	0.053	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.667
	MW-2017-4	4	7/25/18	1.13	128	10.4	0.791	7.06	252	800	< 0.00200 U	0.0156	0.0636	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.791	< 0.00100 U	0.0494	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.65
	MW-2017-4	5	8/28/18	1.15	127	10.3	0.79	7.31	292	818	< 0.00200 U	0.012	0.0592	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.79	< 0.00100 U	0.0528	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.487
	MW-2017-4	6	3/12/19	1.35	139	10.1 H	0.716 H	7.1	307 H	788	< 0.00200 U	0.0151	0.109	< 0.00100 U	< 0.00100 U	0.00352	0.00253	0.716 H	0.00303	0.0582	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.677
	MW-2017-4	7	3/27/19	1.47	133	9.55 H	0.725 H	7.06	294 H	850	< 0.00200 U	0.0163	0.0835	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.725 H	0.00157	0.062	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.548 U
	MW-2017-4	8	4/9/19	1.6	154	9.75	0.747	7.07	294	854 H	< 0.00200 U	0.0116	0.0769	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.747	< 0.00100 U	0.0664	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.510 U

Appendix I

Groundwater Monitoring Analytical Results
CCR Monitoring Wells Events 1-8
LOS Pond 2 and Pond 3 (Multiunit)
Leland Olds Station - Stanton, North Dakota

		Event	Date	Appendix III Constituents							Appendix IV Constituents														
				Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH S.U.	Sulfate mg/L	TDS mg/L	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L	Fluoride mg/L	Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L	Radium 226/228 pCi/L
Variably Downgradient	MW-2017-5	1		NA	NA	NA	NA	NA	NA	NA	NA U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-2017-5	01 Supp	11/1/18	0.93	85.4	10.8	0.64	7.22	321	1130	< 0.00200 U	< 0.00500 U	0.106	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.64	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	1.58
	MW-2017-5	2	4/18/18	0.64	82	11	< 0.50 U	7.17	300	660	< 0.0020 U	< 0.0050 U	0.14	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	< 0.020 U	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.893
	MW-2017-5	3	6/14/18	0.74	82	9.5	< 0.50 U	6.98	290	650 H	< 0.0020 U	< 0.0050 U	0.12	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	0.0013	< 0.020 U	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.537
	MW-2017-5	4	7/25/18	0.753	82.2	10.5	< 0.500 U	7.04	361	670	< 0.00200 U	< 0.00500 U	0.116	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	< 0.0200 U	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.524
	MW-2017-5	5	8/28/18	0.87	84.1	10.4	0.514	7.34	304	676	< 0.00200 U	< 0.00500 U	0.109	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.514	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.666
	MW-2017-5	6	3/12/19	0.89	86.8	10.7 H	0.711 H	7.7	315 H	685	< 0.00200 U	< 0.00500 U	0.0993	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.711 H	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.897
	MW-2017-5	7	3/27/19	0.897	79.7	11.1 H	0.778 H	7.49	314 H	659	< 0.00200 U	< 0.00500 U	0.106	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.778 H	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.59
	MW-2017-5	8	4/9/19	0.963	87.6	11.3	0.784	7.4	310	668 H	< 0.00200 U	< 0.00500 U	0.1	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.784	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.82
	MW-2017-6	1		NA	NA	NA	NA	NA	NA	NA	NA U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-2017-6	01 Supp	11/1/18	1.1	53.9	11.7	< 0.500 U	10.02	221	435	< 0.00200 U	0.00997	0.0562	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0208	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	1.65
	MW-2017-6	2	4/18/18	2.6	87	8.3	< 0.50 U	11.79	220	630	< 0.0020 U	0.0076	0.1	< 0.0010 U	< 0.0010 U	0.006	< 0.0010 U	< 0.50 U	< 0.0010 U	0.027	< 0.00020 U	< 0.020 U	0.019	< 0.0010 U	< 0.325 U
	MW-2017-6	3	6/14/18	1.2	63	10	< 0.50 U	11.66	220	430 H	< 0.0020 U	0.0081	0.076	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.025	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	< 0.508 U
	MW-2017-6	4	7/25/18	1.06	65.8	11	0.503	10.08	212	470	< 0.00200 U	0.0114	0.0782	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.503	< 0.00100 U	0.0275	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.804
	MW-2017-6	5	8/28/18	1.05	56.4	11.1	0.54	10.05	197	490	< 0.00200 U	0.0116	0.0692	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.54	< 0.00100 U	0.0274	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.480 U
	MW-2017-6	6	3/12/19	1.26	55.5	11.1 H	0.545 H	9.52	205 H	534	< 0.00200 U	0.0172	0.0716	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.545 H	< 0.00100 U	0.0234	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.86
	MW-2017-6	7	3/27/19	11.4	60.6	5.03 H	0.634 H	11.52	502 H	619	< 0.00200 U	0.0194	0.313	< 0.00100 U	< 0.00100 U	0.0428	< 0.00100 U	0.634 H	< 0.00100 U	< 0.0200 U	< 0.000200 U	0.0412	0.095	< 0.00100 U	< 0.383 U
	MW-2017-6	8	4/9/19	5.06	46.5	9.17	< 0.500 U	11.81	270	618 H	< 0.00200 U	0.0199	0.194	< 0.00100 U	< 0.00100 U	0.0123	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0327	< 0.000200 U	< 0.0200 U	0.0304	< 0.00100 U	< 0.446 U
	MW-2017-7	1	3/14/18	1.9	65	11	1	6.58	310	690	< 0.0020 U^	< 0.0050 U	0.1 ^	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	1	0.0013	< 0.020 U	< 0.00020 U	0.07	< 0.0050 U	< 0.0010 U	0.699
	MW-2017-7	2	4/17/18	2	70	11	1	7.35	320	690	< 0.0020 U	< 0.0050 U	0.1	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	1	0.0021	< 0.020 U	< 0.00020 U	0.077	< 0.0050 U	< 0.0010 U	0.526
	MW-2017-7	3	6/15/18	1.9	66	< 30 U	< 5.0 U	7.54	280	720 H	< 0.0020 U	< 0.0050 U	0.11	< 0.0010 U	< 0.0010 U	0.0022	0.0012	< 5.0 U	0.0058	< 0.020 U	< 0.00020 U	0.092	< 0.0050 U	< 0.0010 U	< 0.804 U
	MW-2017-7	4	7/25/18	2	67.5	< 15.0 U	< 2.50 U	7.48	291	750	< 0.00200 U	< 0.00500 U	0.102	< 0.00100 U	< 0.00100 U	0.00257	0.00129	< 2.50 U	0.00798	< 0.0200 U	< 0.00020 U	0.109	< 0.00500 U	< 0.00100 U	< 0.913 U
	MW-2017-7	5	8/28/18	2.07	65.2	< 30.0 U	< 5.00 U	7.78	300	696	< 0.00200 U	< 0.00500 U	0.0939	< 0.00100 U	< 0.00100 U	0.00236	0.00113	< 5.00 U	0.00471	< 0.0200 U	< 0.000200 U	0.094	< 0.00500 U	< 0.00100 U	0.972
	MW-2017-7	6	3/12/19	2.05	67.8	11.1 H	1.26 H	7.34	315 H	722	< 0.00200 U	< 0.00500 U	0.115	< 0.00100 U	< 0.00100 U	0.00427	0.00164	1.26 H	0.00406	< 0.0200 U	< 0.000200 U	0.0894	< 0.00500 U	< 0.00100 U	1.63
	MW-2017-7	7	3/27/19	1.96	63.1	11.1 H	1.39 H	7.96	302 H	701	< 0.00200 U	< 0.00500 U	0.105	< 0.00100 U	< 0.00100 U	0.00315	0.00135	1.39 H	0.00601	< 0.0200 U	< 0.000200 U	0.0855	< 0.00500 U	< 0.00100 U	< 0.504 U
	MW-2017-7	8	4/9/19	2.04	67.2	< 300 U	< 50.0 U	7.37	1030	896 H	< 0.00200 U	0.00519	0.112	< 0.00100 U	< 0.00100 U	0.00358	0.00189	< 50.0 U	0.00836	< 0.0200 U	< 0.000200 U	0.113	< 0.00500 U	< 0.00100 U	< 0.927 U
	MW-2017-8	1	3/14/18	0.48	150	25	< 1.0 U	7.03	2000	3800	< 0.0020 U^	0.0058	0.052 ^	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.0016	< 1.0 U	< 0.0010 U	0.12	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.749
	MW-2017-8	2	4/18/18	0.46	150	25	< 1.0 U	7.38	2100	4000	< 0.0020 U	0.0073	0.064	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.0015	< 1.0 U	< 0.0010 U	0.11	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.82
	MW-2017-8	3	6/15/18	0.46	140	22	< 1.0 U	7.19	2100	4000 H	< 0.0020 U	0.007	0.049	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.001	< 1.0 U	< 0.0010 U	0.12	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.699
	MW-2017-8	4	7/25/18	0.465	145	24.3	< 1.00 U	7.23	2010	3900	< 0.00200 U	0.00743	0.0395	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 1.00 U	< 0.00100 U	0.123	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.936
	MW-2017-8	5	8/28/18	0.468	140	24	< 1.00 U	7.52	2020	3880 H	< 0.00200 U	0.00734	0.0489	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 1.00 U	< 0.00100 U	0.116	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.694

TDS = Total Dissolved Solids
mg/L = milligrams per liter
S.U. = Standard units
pCi/L = picoCurie/liter
U = Analyte analyzed for but not detected
F1 = MS and/or MSD Recovery is outside acceptance limits
H = Sample was prepped or analyzed beyond the specified holdilng time
^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI< CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits
NA = Not Analyzed due to access limitations encountered (ponded water)

Appendix I

Groundwater Monitoring Analytical Results
CCR Monitoring Wells Events 1-8
LOS Pond 2 and Pond 3 (Multiunit)
Leland Olds Station - Stanton, North Dakota

				Appendix III Constituents							Appendix IV Constituents														
		Event	Date	Boron mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	pH S.U.	Sulfate mg/L	TDS mg/L	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Chromium mg/L	Cobalt mg/L	Fluoride mg/L	Lead mg/L	Lithium mg/L	Mercury mg/L	Molybdenum mg/L	Selenium mg/L	Thallium mg/L	adium 226/2 pCi/L
Variably Downgradient	MW-2017-5	1		NA	NA	NA	NA	NA	NA	NA	NA U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-2017-5	01 Supp	11/1/18	0.93	85.4	10.8	0.64	7.22	321	1130	< 0.00200 U	< 0.00500 U	0.106	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.64	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	1.58
	MW-2017-5	2	4/18/18	0.64	82	11	< 0.50 U	7.17	300	660	< 0.0020 U	< 0.0050 U	0.14	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	< 0.020 U	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.893
	MW-2017-5	3	6/14/18	0.74	82	9.5	< 0.50 U	6.98	290	650 H	< 0.0020 U	< 0.0050 U	0.12	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	0.0013	< 0.020 U	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.537
	MW-2017-5	4	7/25/18	0.753	82.2	10.5	< 0.500 U	7.04	361	670	< 0.00200 U	< 0.00500 U	0.116	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	< 0.0200 U	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.524
	MW-2017-5	5	8/28/18	0.87	84.1	10.4	0.514	7.34	304	676	< 0.00200 U	< 0.00500 U	0.109	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.514	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.666
	MW-2017-5	6	3/12/19	0.89	86.8	10.7 H	0.711 H	7.7	315 H	685	< 0.00200 U	< 0.00500 U	0.0993	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.711 H	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.897
	MW-2017-5	7	3/27/19	0.897	79.7	11.1 H	0.778 H	7.49	314 H	659	< 0.00200 U	< 0.00500 U	0.106	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.778 H	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.59
	MW-2017-5	8	4/9/19	0.963	87.6	11.3	0.784	7.4	310	668 H	< 0.00200 U	< 0.00500 U	0.1	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.784	< 0.00100 U	< 0.0200 U	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.82
	MW-2017-6	1		NA	NA	NA	NA	NA	NA	NA	NA U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-2017-6	01 Supp	11/1/18	1.1	53.9	11.7	< 0.500 U	10.02	221	435	< 0.00200 U	0.00997	0.0562	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0208	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	1.65
	MW-2017-6	2	4/18/18	2.6	87	8.3	< 0.50 U	11.79	220	630	< 0.0020 U	0.0076	0.1	< 0.0010 U	< 0.0010 U	0.006	< 0.0010 U	< 0.50 U	< 0.0010 U	0.027	< 0.00020 U	< 0.020 U	0.019	< 0.0010 U	< 0.325 U
	MW-2017-6	3	6/14/18	1.2	63	10	< 0.50 U	11.66	220	430 H	< 0.0020 U	0.0081	0.076	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.50 U	< 0.0010 U	0.025	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	< 0.508 U
	MW-2017-6	4	7/25/18	1.06	65.8	11	0.503	10.08	212	470	< 0.00200 U	0.0114	0.0782	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.503	< 0.00100 U	0.0275	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.804
	MW-2017-6	5	8/28/18	1.05	56.4	11.1	0.54	10.05	197	490	< 0.00200 U	0.0116	0.0692	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.54	< 0.00100 U	0.0274	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	< 0.480 U
	MW-2017-6	6	3/12/19	1.26	55.5	11.1 H	0.545 H	9.52	205 H	534	< 0.00200 U	0.0172	0.0716	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	0.545 H	< 0.00100 U	0.0234	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.86
	MW-2017-6	7	3/27/19	11.4	60.6	5.03 H	0.634 H	11.52	502 H	619	< 0.00200 U	0.0194	0.313	< 0.00100 U	< 0.00100 U	0.0428	< 0.00100 U	0.634 H	< 0.00100 U	< 0.0200 U	< 0.000200 U	0.0412	0.095	< 0.00100 U	< 0.383 U
	MW-2017-6	8	4/9/19	5.06	46.5	9.17	< 0.500 U	11.81	270	618 H	< 0.00200 U	0.0199	0.194	< 0.00100 U	< 0.00100 U	0.0123	< 0.00100 U	< 0.500 U	< 0.00100 U	0.0327	< 0.000200 U	< 0.0200 U	0.0304	< 0.00100 U	< 0.446 U
	MW-2017-7	1	3/14/18	1.9	65	11	1	6.58	310	690	< 0.0020 U^	< 0.0050 U	0.1 ^	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	1	0.0013	< 0.020 U	< 0.00020 U	0.07	< 0.0050 U	< 0.0010 U	0.699
	MW-2017-7	2	4/17/18	2	70	11	1	7.35	320	690	< 0.0020 U	< 0.0050 U	0.1	< 0.0010 U	< 0.0010 U	< 0.0020 U	< 0.0010 U	1	0.0021	< 0.020 U	< 0.00020 U	0.077	< 0.0050 U	< 0.0010 U	0.526
	MW-2017-7	3	6/15/18	1.9	66	< 30 U	< 5.0 U	7.54	280	720 H	< 0.0020 U	< 0.0050 U	0.11	< 0.0010 U	< 0.0010 U	0.0022	0.0012	< 5.0 U	0.0058	< 0.020 U	< 0.00020 U	0.092	< 0.0050 U	< 0.0010 U	< 0.804 U
	MW-2017-7	4	7/25/18	2	67.5	< 15.0 U	< 2.50 U	7.48	291	750	< 0.00200 U	< 0.00500 U	0.102	< 0.00100 U	< 0.00100 U	0.00257	0.00129	< 2.50 U	0.00798	< 0.0200 U	< 0.00020 U	0.109	< 0.00500 U	< 0.00100 U	< 0.913 U
	MW-2017-7	5	8/28/18	2.07	65.2	< 30.0 U	< 5.00 U	7.78	300	696	< 0.00200 U	< 0.00500 U	0.0939	< 0.00100 U	< 0.00100 U	0.00236	0.00113	< 5.00 U	0.00471	< 0.0200 U	< 0.000200 U	0.094	< 0.00500 U	< 0.00100 U	0.972
	MW-2017-7	6	3/12/19	2.05	67.8	11.1 H	1.26 H	7.34	315 H	722	< 0.00200 U	< 0.00500 U	0.115	< 0.00100 U	< 0.00100 U	0.00427	0.00164	1.26 H	0.00406	< 0.0200 U	< 0.000200 U	0.0894	< 0.00500 U	< 0.00100 U	1.63
	MW-2017-7	7	3/27/19	1.96	63.1	11.1 H	1.39 H	7.96	302 H	701	< 0.00200 U	< 0.00500 U	0.105	< 0.00100 U	< 0.00100 U	0.00315	0.00135	1.39 H	0.00601	< 0.0200 U	< 0.000200 U	0.0855	< 0.00500 U	< 0.00100 U	< 0.504 U
	MW-2017-7	8	4/9/19	2.04	67.2	< 300 U	< 50.0 U	7.37	1030	896 H	< 0.00200 U	0.00519	0.112	< 0.00100 U	< 0.00100 U	0.00358	0.00189	< 50.0 U	0.00836	< 0.0200 U	< 0.000200 U	0.113	< 0.00500 U	< 0.00100 U	< 0.927 U
	MW-2017-8	1	3/14/18	0.48	150	25	< 1.0 U	7.03	2000	3800	< 0.0020 U^	0.0058	0.052 ^	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.0016	< 1.0 U	< 0.0010 U	0.12	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.749
	MW-2017-8	2	4/18/18	0.46	150	25	< 1.0 U	7.38	2100	4000	< 0.0020 U	0.0073	0.064	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.0015	< 1.0 U	< 0.0010 U	0.11	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.82
	MW-2017-8	3	6/15/18	0.46	140	22	< 1.0 U	7.19	2100	4000 H	< 0.0020 U	0.007	0.049	< 0.0010 U	< 0.0010 U	< 0.0020 U	0.001	< 1.0 U	< 0.0010 U	0.12	< 0.00020 U	< 0.020 U	< 0.0050 U	< 0.0010 U	0.699
	MW-2017-8	4	7/25/18	0.465	145	24.3	< 1.00 U	7.23	2010	3900	< 0.00200 U	0.00743	0.0395	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 1.00 U	< 0.00100 U	0.123	< 0.00020 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.936
	MW-2017-8	5	8/28/18	0.468	140	24	< 1.00 U	7.52	2020	3880 H	< 0.00200 U	0.00734	0.0489	< 0.00100 U	< 0.00100 U	< 0.00200 U	< 0.00100 U	< 1.00 U	< 0.00100 U	0.116	< 0.000200 U	< 0.0200 U	< 0.00500 U	< 0.00100 U	0.694

TDS = Total Dissolved Solids
mg/L = milligrams per liter
S.U. = Standard units
pCi/L = picoCurie/liter
U = Analyte analyzed for but not detected
F1 = MS and/or MSD Recovery is outside acceptance limits
H = Sample was prepped or analyzed beyond the specified holdilng time
^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI< CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits
NA = Not Analyzed due to access limitations encountered (ponded water)

Appendix II
Representative Potentiometric Surface Maps

MW-2017-1
1664.81

River Elevation
1665.81

MW-2017-2
1664.68

MW-2017-3
1664.69

MW-2017-4
1664.86

MW-2017-5
1664.47

1664.75'

1664.50'

1664.25'

MW-2017-7
1664.16

MW-2017-6
1664.16

MW-2017-8
1687.92

SCALE 1" = 200'
200' 0 200' 400'

DRAWING: NORTH DAKOTA STATE PLANE NAD27 SOUTH ZONE-FT
PHOTO: NAIP MERCER COUNTY FALL OF 2017 / UTM NAD83 ZONE 14N-METERS

LEGEND

- CCR RULE COMPLIANCE WELL
- POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED) JULY 23, 2018
- GROUNDWATER FLOW DIRECTION
- Terrace Boundary (Inferred)

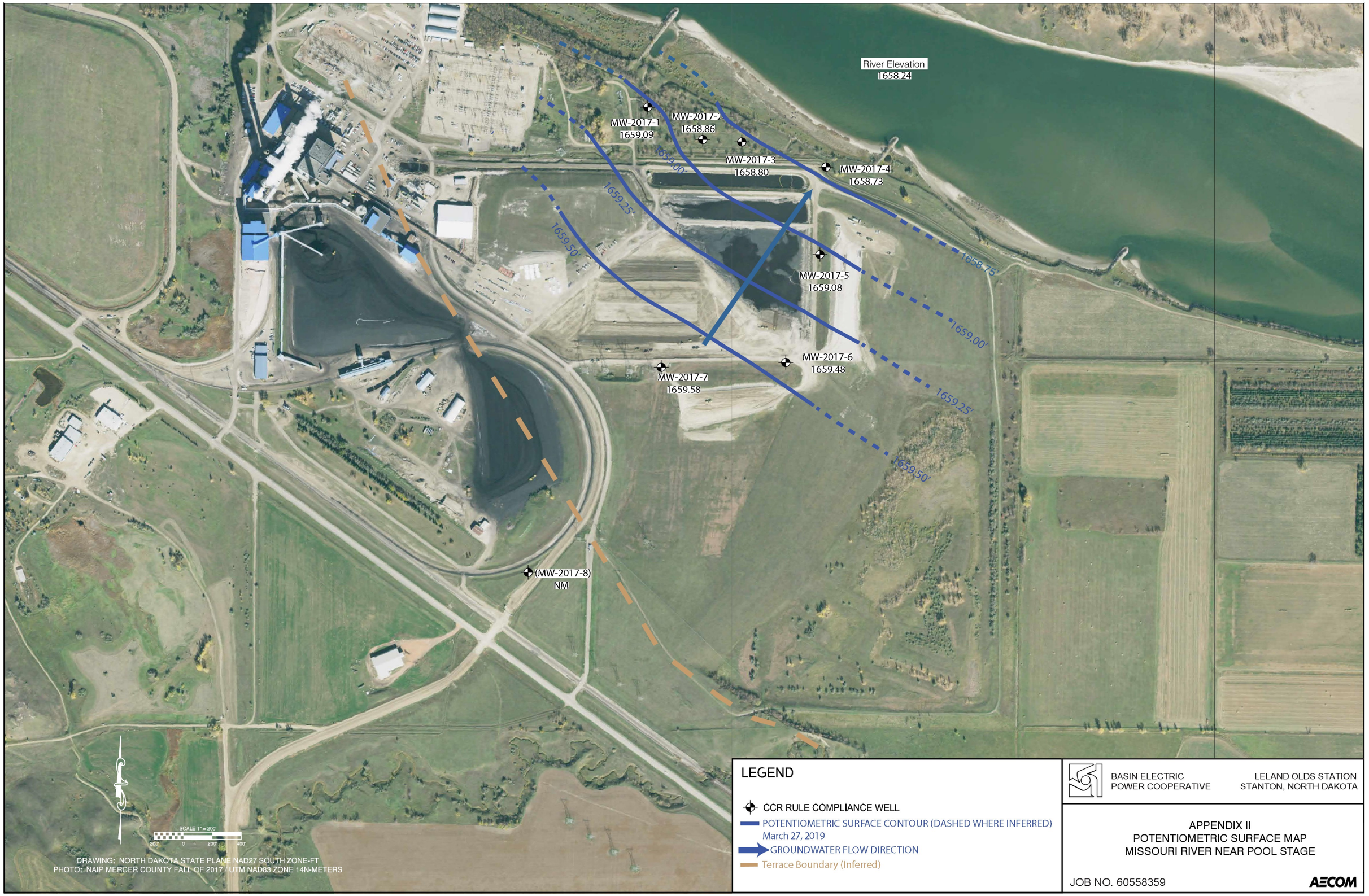
BASIN ELECTRIC POWER COOPERATIVE

LELAND OLDS STATION
STANTON, NORTH DAKOTA

APPENDIX II
POTENTIOMETRIC SURFACE MAP
MISSOURI RIVER ELEVATED STAGE

JOB NO. 60558359

AECOM



LEGEND

- CCR RULE COMPLIANCE WELL
- POTENTIOMETRIC SURFACE CONTOUR (DASHED WHERE INFERRED) March 27, 2019
- GROUNDWATER FLOW DIRECTION
- Terrace Boundary (Inferred)

BASIN ELECTRIC POWER COOPERATIVE

LELAND OLDS STATION
STANTON, NORTH DAKOTA

APPENDIX II
POTENTIOMETRIC SURFACE MAP
MISSOURI RIVER NEAR POOL STAGE

JOB NO. 60558359

AECOM

Appendix III
Analytical Laboratory Reports