



2018 Annual Groundwater Monitoring and Corrective Action Report

Monticello Steam Electric Station Bottom Ash Ponds-Mount Pleasant, Texas

Prepared for:

Luminant Generation Company LLC

Submitted by:

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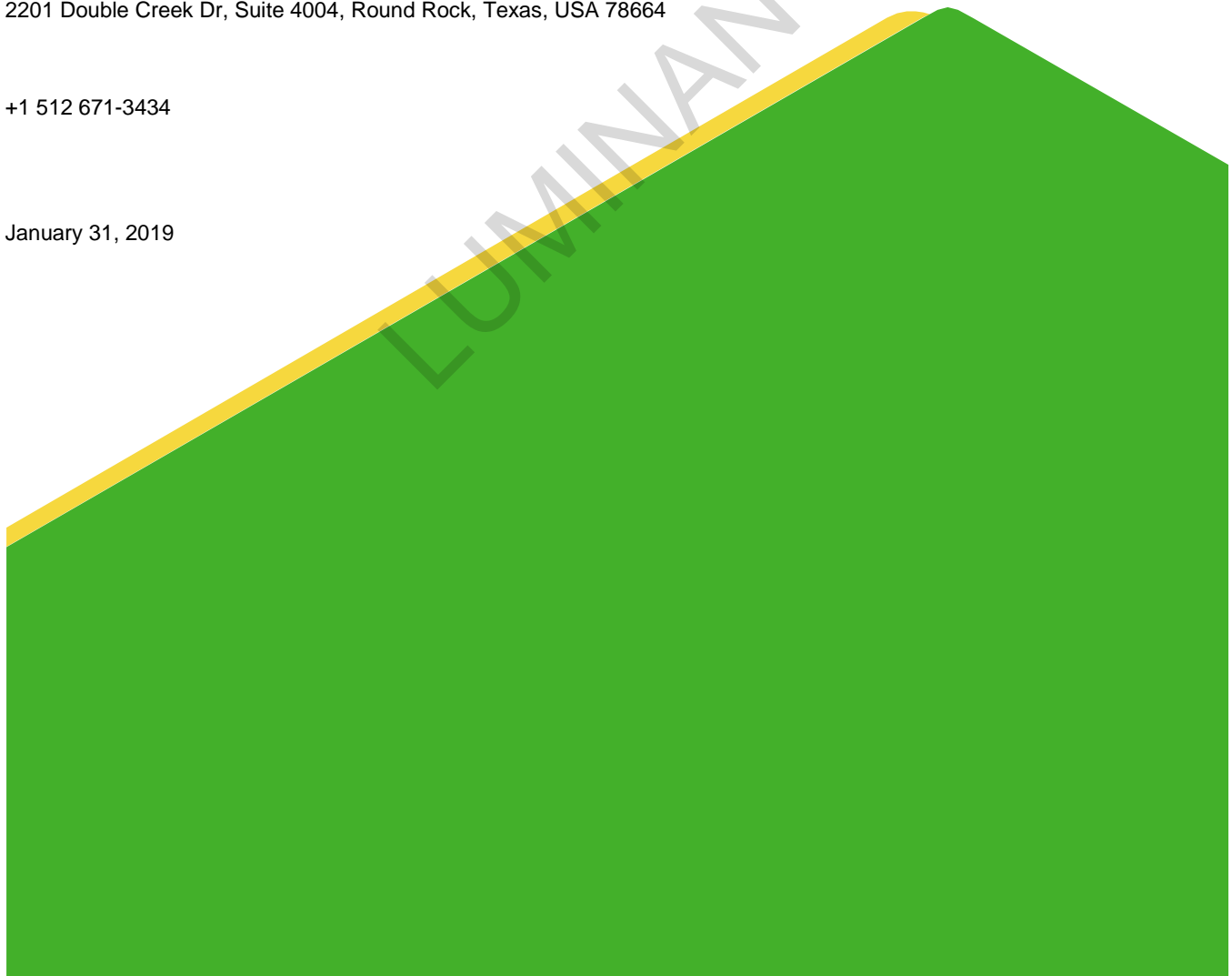


TABLE OF CONTENTS

LIST OF FIGURES II

LIST OF TABLES..... II

ACRONYMS AND ABBREVIATIONS III

1.0 INTRODUCTION..... 1

2.0 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS 2

3.0 KEY ACTIONS COMPLETED IN 2018..... 3

4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS..... 4

5.0 KEY ACTIVITIES PLANNED FOR 2019 5

6.0 REFERENCES..... 6

LIST OF FIGURES

Figure 1 Detailed Site Plan

LIST OF TABLES

Table 1 Statistical Background Values

Table 2 Appendix III Analytical Results

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ACRONYMS AND ABBREVIATIONS

CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
GWPS	Groundwater Protection Standard
MCL	Maximum Concentration Level
mg/L	Milligrams per Liter
MOSES	Monticello Steam Electric Station
NA	Not Applicable
SSI	Statistically Significant Increase
USEPA	United States Environmental Protection Agency

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1.0 INTRODUCTION

Golder Associates, Inc. (Golder) has prepared this report on behalf of Luminant Generation Company LLC (Luminant) to satisfy annual groundwater monitoring and corrective action reporting requirements of the Coal Combustion Residuals (CCR) Rule for the Northeast Ash Water Retention Pond, West Ash Settling Pond, and Southwest Ash Settling Pond (Bottom Ash Ponds) at the Monticello Steam Electric Station (MOSES) in Mount Pleasant, Texas. The CCR units and CCR monitoring well network are shown on Figure 1.

The CCR Rule (40 CFR 257 Subpart D - *Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments*) has been promulgated by the United States Environmental Protection Agency (USEPA) to regulate the management and disposal of CCRs as solid waste under Resource Conservation and Recovery Act (RCRA) Subtitle D. For existing CCR landfills and surface impoundments, the CCR Rule requires that the owner or operator prepare an annual groundwater monitoring and corrective action report to document the status of the groundwater monitoring and corrective action program for the CCR unit for the previous calendar year. Per 40 CFR 257.90(e) of the CCR Rule, the report should contain the following information, to the extent available:

- (1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;
- (2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
- (3) In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
- (4) A narrative discussion of any transition between monitoring programs (*e.g.*, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and
- (5) Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.

2.0 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The MOSES CCR Bottom Ash Ponds are currently in the Detection Monitoring Program. Golder collected the initial Detection Monitoring Program groundwater samples from the Bottom Ash Ponds CCR monitoring well network in September 2017. Detection groundwater samples were also collected from the CCR groundwater monitoring network on a semi-annual basis in 2018, as required by the CCR Rule. The first 2018 semi-annual Detection Monitoring Program sampling event was conducted in June 2018. The second 2018 semi-annual Detection Monitoring Program sampling event was conducted in September 2018. All CCR groundwater monitoring wells were sampled for Appendix III constituents during the 2018 semi-annual sampling events. The following table provides a summary of the Detection Monitoring Program:

Detection Monitoring Program Summary

Sampling Dates	Parameters	SSIs	Assessment Monitoring Program Established
09/20/2017	Appendix III	No	No
06/08/2018	Appendix III	Not Applicable	Not Applicable
09/20/2018	Appendix III	To Be Determined	To Be Determined

The statistical background values and Appendix III analytical data are presented in Tables 1 and 2, respectively. There were no SSIs of Appendix III parameters in September 2017; therefore, the CCR units remained in Detection Monitoring in 2018. The analytical data from the 2018 Detection Monitoring sampling events were evaluated using procedures described in the Statistical Analysis Plan to identify SSIs of Appendix III parameters over background concentrations. Since the Detection Monitoring Program data evaluation was completed in January 2019, the results of that evaluation will be presented in the 2019 Annual Groundwater Monitoring and Corrective Action Report.

3.0 KEY ACTIONS COMPLETED IN 2018

Detection Monitoring Program groundwater monitoring events were completed in June and September 2018. Statistical background values for the Appendix III parameters are summarized in Table 1 and analytical results for the groundwater samples collected in 2018 are summarized in Table 2. A map showing the CCR units and all upgradient and downgradient monitoring wells for the CCR units is provided as Figure 1.

No CCR wells were installed or decommissioned in 2018.

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4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the CCR groundwater monitoring program in 2018.

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5.0 KEY ACTIVITIES PLANNED FOR 2019

The following key activities are planned for 2019:

- Continue the Detection Monitoring Program in accordance with 40 CFR § 257.94.
- Complete evaluation of Appendix III analytical data from the downgradient wells and compare results to statistical background values to determine whether an SSI has occurred.
- If an SSI is identified, potential alternate sources (i.e., a source other than the CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated. If an alternate source is identified to be the cause of the SSI, a written demonstration will be completed within 90 days of SSI determination and included in the 2019 Annual Groundwater Monitoring and Corrective Action Report.
- If an alternate source is not identified to be the cause of the SSI, an Assessment Monitoring Program will be established in accordance with 40 CFR § 257.94(e)(2).

6.0 REFERENCES

Pastor, Behling & Wheeler, LLC, 2017. Coal Combustion Residual Rule Statistical Analysis Plan, Monticello Steam Electric Station, Ash Ponds, Mount Pleasant, Texas.

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FIGURES

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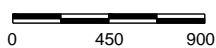


EXPLANATION

 CCR Monitoring Well Location



Scale in Feet



SOURCE:
Imagery from Google Earth dated 12/2/2015.

MONTICELLO STEAM ELECTRIC STATION
MT. PLEASANT, TEXAS

Figure 1

DETAILED SITE PLAN

PROJECT: 5164C

BY: AJD

REVISIONS

DATE: SEPT., 2017

CHECKED: PJB

TABLES

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Table 1
Statistical Background Values
MOSES Bottom Ash Ponds

Parameter	Statistical Background Value
Boron (mg/L)	8.52
Calcium (mg/L)	311
Chloride (mg/L)	184
Fluoride (mg/L)	2.93
	4.99
field pH (s.u.)	7.14
Sulfate (mg/L)	1,190
Total Dissolved Solids (mg/L)	2,150

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Table 2
Appendix III Analytical Results
MOSES Bottom Ash Ponds

Sample Location	Date Sampled	B	Ca	Cl	Fl	field pH	SO ₄	TDS
Upgradient Wells								
W-31	09/20/17	3.88	96.3	49.8	<0.100	6.72	316	696
	06/08/18	3.28	86.3	48.6	0.302 J	6.72	577	925
	09/10/18	3.19	86.5	46.3	0.215 J	4.84	595	973
W-32	09/20/17	5.81	270	118	0.375 J	6.79	901	1,920
	06/08/18	5.79	380	149	1.71	6.74	1,340	2,390
	09/10/18	5.38	370	140	1.19	6.56	1,270	2,200
W-33	09/20/17	5.89	271	112	2.04	6.73	863	1,970
	06/08/18	6.01	364	142	3.59	6.55	1,200	2,230
	09/10/18	5.45	351	132	2.99	6.78	1,160	2,120
Downgradient Wells								
W-29	09/20/17	4.84	128	80.6	<0.100	6.85	882	1,540
	06/08/18	3.70	127	87.9	0.374 J	6.62	694	1,310
	09/10/18	4.14	140	81.5	0.405	6.30	858	1,630
W-30	09/20/17	5.76	127	76.5	0.394 J	6.85	734	1,570
	06/08/18	5.06	127	87.8	0.916	6.78	724	1,280
	09/10/19	4.53	115	81.1	0.906	5.25	713	1,230
W-34	09/20/17	5.36	181	117	0.244 J	6.75	873	1,720
	06/08/18	4.95	180	116	0.902	6.85	835	1,540
	09/10/18	4.53	161	114	0.656	6.64	819	1,530
W-35	09/20/17	6.27	186	120	<0.100	6.74	854	1,650
	06/08/18	5.81	200	128	0.163 J	6.55	925	1,660
	09/10/18	5.7	204	132	<0.100	5.42	940	1,580

Notes:

1. All concentrations in milligrams per liter except pH, which is in standard units.
2. J - concentration is below sample quantitation limit; result is an estimate.

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