

Intended for  
**WEC Business Services, LLC**

Date  
**January 31, 2022**

Project No.  
**1940100325**

# **2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT**

## **WESTON DISPOSAL SITE NO. 3 LANDFILL**

**2021 ANNUAL GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT  
WESTON DISPOSAL SITE NO. 3 LANDFILL**

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## CONTENTS

<b>2021 Monitoring Program Summary</b>	<b>3</b>
<b>1. Introduction</b>	<b>4</b>
<b>2. Monitoring and Corrective Action Program Status</b>	<b>5</b>
<b>3. Key Actions Completed in 2021</b>	<b>6</b>
<b>4. Problems Encountered and Actions to Resolve Problems</b>	<b>7</b>
<b>5. Key Activities for 2022</b>	<b>8</b>
<b>6. References</b>	<b>9</b>

## TABLES

Table 1	Detection Monitoring Program Summary
Table 2	Weston Disposal Site No. 3 Landfill: Appendix III Analytical Results

## FIGURES

Figure 1	Groundwater Sampling Well Location Map
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## APPENDICES

Appendix A	<i>40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 7, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill</i>
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## ACRONYMS AND ABBREVIATIONS

ASD	Alternate Source Demonstration
B	Boron
Ca	Calcium
CCR	Coal Combustion Residuals
Cl	Chloride
CFR	Code of Federal Regulations
F	Fluoride
mg/L	milligrams per liter
NRT	Natural Resource Technology, an OBG Company
OBG	O'Brien & Gere Engineers, Inc.
Ramboll	Ramboll Americas Engineering Solutions, Inc
SO <sub>4</sub>	Sulfate
SSI	Statistically Significant Increase
TBD	To be Determined
TDS	Total Dissolved Solids
WDS3	Weston Disposal Site No. 3 Landfill
WPSC	Wisconsin Public Service Corporation

## 2021 MONITORING PROGRAM SUMMARY

The Weston Disposal Site No. 3 (WDS3) Landfill operated in the Detection Monitoring Program in accordance with Title 40 of the Code of Federal Regulations (40 CFR) 257.94 for the calendar year 2021. In 2021, groundwater analytical data was evaluated for statistically significant increases (SSIs) over background concentrations for Appendix III constituents in groundwater monitoring wells at the WDS3 Landfill. The following constituents and wells had SSIs reported in 2021:

- Boron – LS-106
- Calcium – LS-105, LS-106, and LS-107
- Chloride – LS-107
- Fluoride – LS-105 and LS-106
- Sulfate – LS-100, LS-105, and LS-107
- Total Dissolved Solids (TDS) – LS-105, LS-106, and LS-107

Alternate Source Demonstrations (ASDs) prepared in 2021 or in prior years provide justification that the SSIs observed during the Detection Monitoring Program were not due to a release from the CCR unit but were either from naturally occurring conditions (e.g. natural variation in groundwater quality), a result of statistical procedures used to evaluate the results, or potential anthropogenic impacts in the area surrounding WDS3 Landfill.

The WDS3 Landfill remains in the Detection Monitoring Program in accordance with 40 CFR 257.94.

## 1. INTRODUCTION

This report has been prepared on behalf of Wisconsin Public Service Corporation (WPSC) by Ramboll Americas Engineering Solutions, Inc. (Ramboll) to provide the information required by Title 40 of the Code of Federal Regulations (40 CFR) 257.90(e) for the Weston Disposal Site No. 3 (WDS3) Landfill located in the Town of Knowlton, Wisconsin.

In accordance with 40 CFR 257.90(e), the owner or operator of an existing coal combustion residual (CCR) unit must prepare an annual groundwater monitoring and corrective action report (Annual Report) for the preceding calendar year. The Annual Report must document the status of the groundwater monitoring and corrective action program for the CCR unit and summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. At a minimum, the Annual Report must 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 40 CFR 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 40 CFR 257.90 through 257.98.

This report provides the required information for the WDS3 Landfill for calendar year 2021.

## 2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The WDS3 Landfill remained in Detection Monitoring (40 CFR 257.94) during 2021. Detection Monitoring Program sampling dates and parameters collected are provided in Table 1. Analytical results from the two sampling rounds collected and those statistically analyzed in 2021 (i.e. Detection Monitoring Round 7) are included in Table 2.

In accordance with 40 CFR 257.93(h)(2), the *Statistical Analysis Plan, Weston Disposal Site No. 3 Landfill* (Natural Resource Technology, an OBG Company, 2017), and within 90 days of completing sampling and analysis (receipt of data); analytical data was evaluated for statistically significant increases (SSIs) over background concentrations for Appendix III constituents in groundwater monitoring wells at the WDS3 Landfill. SSIs and the SSI determination dates are provided in Table 1.

40 CFR 257.94(e)(2) allows 90 days to demonstrate that a SSI was caused by a source other than the CCR unit or resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (i.e., an alternate source demonstration). Alternate source demonstrations (ASDs) were completed for the WDS3 Landfill on the dates provided in Table 1. The ASD documents for 2021 are provided in Appendix A.

**Table 1. Detection Monitoring Program Summary**

Detection Round	Sampling Date	Monitoring Program	Data Received	SSI Determination Date	SSI Parameters	Resample Date	ASD Date
7	10/14/20	Appendix III	11/25/20	2/23/21	B, Ca, Cl, F, SO <sub>4</sub> , TDS	3/1/21	5/24/21
8	4/21/21	Appendix III	5/29/21	8/27/21	B, Ca, Cl, SO <sub>4</sub>	NA	4/15/2018 <sup>1</sup>
9	10/26/21	Appendix III	12/2/21	TBD Before 3/2/22	TBD	TBD	TBD

B – Boron  
 Ca – Calcium  
 Cl – Chloride  
 F – Fluoride  
 NA – Not applicable  
 SO<sub>4</sub> – Sulfate  
 TBD – To Be Determined  
 TDS – Total Dissolved Solids

1. The April 15, 2018 ASD for Weston Disposal Site No. 3 provided a description, data, and pertinent information supporting an alternate source for the wells and parameters with SSIs in Detection Monitoring Rounds 7-8. Data resulting in SSIs above background are consistent with analytical results observed in previous detection monitoring rounds.

The WDS3 Landfill remains in the Detection Monitoring Program in accordance with 40 CFR 257.94.

### 3. KEY ACTIONS COMPLETED IN 2021

Two groundwater sampling events were completed in 2021 as part of the Detection Monitoring Program, Rounds 8 and 9. One groundwater sample was collected from each background and downgradient well in the monitoring system during each event. Two resampling events were completed in accordance with the *Statistical Analysis Plan, Weston Disposal Site No. 3 Landfill* (Natural Resource Technology, an OBG Company, 2017). Sampling dates are summarized in Table 1. All samples were collected and analyzed in accordance with the *Sampling and Analysis Plan, Weston Disposal Site No. 3 Landfill* (Natural Resource Technology, an OBG Company, 2017). All monitoring data obtained under 40 CFR 257.90 through 257.98 (as applicable) in 2021 are presented in Table 2.

A map showing the groundwater monitoring system, including the CCR unit and all background (upgradient) and downgradient monitoring wells with well identification numbers, for WDS3 Landfill is presented on Figure 1. There were no changes to the monitoring system in 2021.

Statistical evaluation, including SSI determinations, of analytical data from the Detection Monitoring Program for October 14, 2020 (Detection Monitoring Round 7) and April 21, 2021 (Detection Monitoring Round 8) were completed in 2021 and within 90 days of receipt of the analytical data. Statistical evaluation of analytical data was performed in accordance with the *Statistical Analysis Plan, Weston Disposal Site No. 3 Landfill* (Natural Resource Technology, an OBG Company, 2017).

The ASD for Detection Monitoring Round 7, dated May 24, 2021 was prepared for WDS3 Landfill in 2021 and is provided in Appendix A. The ASD was prepared in accordance with 40 CFR 257.94(e)(2) and provides a description, data, and pertinent information to support an alternate source for wells and parameters with SSIs at the WDS3 Landfill. The ASD provides justification that the SSIs observed during the Detection Monitoring Program were not due to a release from the CCR unit but were either from naturally occurring conditions (e.g. natural variation in groundwater quality), a result of statistical procedures used to evaluate the results, or potential anthropogenic impacts in the area surrounding WDS3 Landfill.



## **4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE PROBLEMS**

No problems were encountered during implementation of the Detection Monitoring Program during 2021. Groundwater samples were collected and analyzed in accordance with the *Sampling and Analysis Plan, Weston Disposal Site No. 3 Landfill* (Natural Resource Technology, an OBG Company, 2017), and all data was accepted.

## 5. KEY ACTIVITIES FOR 2022

The following key activities are planned for 2022:

- Continuation of the Detection Monitoring Program with semi-annual sampling scheduled for the 2nd and 4th quarters of 2022.
- Complete statistical evaluation of analytical data from the downgradient wells, using background data to determine whether a SSI over background concentrations has occurred for Appendix III parameters.
- If an SSI is identified, potential alternate sources (i.e., a source other than the CCR unit caused the SSI or that that SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated. If an alternate source is demonstrated to be the cause of the SSI, a written demonstration will be completed within 90 days of the SSI determination and will be included in the annual groundwater monitoring and corrective action report for 2022.
  - If an alternate source(s) is not identified to be the cause of the SSI, the applicable requirements of 40 CFR 257.94 through 257.98 (e.g., assessment monitoring) will apply in 2022, including associated recordkeeping/notifications required by 40 CFR 257.105 through 257.108.

## 6. REFERENCES

Natural Resource Technology, an OBG Company, 2017, *Sampling and Analysis Plan, Weston Disposal Site No. 3 Landfill, Town of Knowlton, Wisconsin, October 3, 2017.*

Natural Resource Technology, an OBG Company, 2017, *Statistical Analysis Plan, Weston Disposal Site No. 3 Landfill, Town of Knowlton, Wisconsin, October 17, 2017.*

## TABLES

**Weston Disposal Site #3 CCR**  
**Table 2. Weston Disposal Site No. 3 Landfill: Appendix III Analytical Results**

**Date Range: 10/01/2020 to 12/31/2021**

**Lab Methods:**

Well Id	Date Sampled	Lab Id	B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
LS-100	10/14/2020	AE49163	0.0373	10.200	0.610	0.030	5.8	20.000
	4/21/2021	AE52823	0.0276	11.500	1.300	<0.095	5.7	27.200
	10/26/2021	AE56950	0.0352	15.700	1.600	<0.095	5.6	21.100
LS-101	10/14/2020	AE49164	<0.0173	7.780	0.400	0.030	5.8	3.900
	4/21/2021	AE52824	<0.0173	2.750	0.570	<0.095	5.9	2.300
	10/26/2021	AE56951	<0.0173	5.420	2.500	<0.095	5.7	2.600
LS-105	10/14/2020	AE49165	0.0399	17.500	0.600	0.065	5.7	17.000
	3/1/2021	AE51791				0.051	6.3	
	4/21/2021	AE52825	0.0224	13.800	1.100	<0.095	6.0	19.700
	10/26/2021	AE56952	0.0396	23.100	2.100	<0.095	5.9	25.200
LS-106	10/14/2020	AE49166	0.1850	15.300	1.300	0.120	5.9	3.100
	3/1/2021	AE51792				0.057	6.5	
	4/21/2021	AE52826	0.0594	4.310	2.300	<0.480	6.2	3.000
	10/26/2021	AE56953	0.0226	12.500	2.400	<0.095	5.9	4.800
LS-107	10/14/2020	AE49167	0.0213	27.400	9.200	0.029	5.6	42.000
	3/1/2021	AE51793		28.200	6.500		5.9	
	4/21/2021	AE52827	0.0184	27.000	6.100	<0.095	5.7	36.000
	10/26/2021	AE56954	0.0224	26.400	5.700	<0.095	5.7	42.000

**Weston Disposal Site #3 CCR**  
**Table 2. Weston Disposal Site No. 3 Landfill: Appendix III Analytical Results**

**Date Range: 10/01/2020 to 12/31/2021**

**Lab Methods:**

<b>Well Id</b>	<b>Date Sampled</b>	<b>Lab Id</b>	<b>TDS, mg/L</b>
LS-100	10/14/2020	AE49163	56.000
	4/21/2021	AE52823	44.000
	10/26/2021	AE56950	90.000
LS-101	10/14/2020	AE49164	120.000
	4/21/2021	AE52824	12.000
	10/26/2021	AE56951	40.000
LS-105	10/14/2020	AE49165	110.000
	4/21/2021	AE52825	36.000
	10/26/2021	AE56952	132.000
LS-106	10/14/2020	AE49166	160.000
	4/21/2021	AE52826	30.000
	10/26/2021	AE56953	70.000
LS-107	10/14/2020	AE49167	160.000
	4/21/2021	AE52827	94.000
	10/26/2021	AE56954	134.000

## FIGURES

PROJECT: 71202 | DATED: 12/10/2020 | DESIGNER: STOLZSD  
Y:\GIS\Projects\161660\MXD\2020Annual\_GWM\_CAR\Figure 1\_GW\_Samp\_Well\_Loc\_Weaton\_DSG.mxd



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

- CCR RULE DOWNGRADIENT MONITORING WELL LOCATION
- CCR RULE UPGRADIENT MONITORING WELL LOCATION
- WESTON DISPOSAL SITE NO. 3 LANDFILL



### GROUNDWATER SAMPLING WELL LOCATION MAP

2021 ANNUAL GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT  
WESTON DISPOSAL SITE NO. 3 LANDFILL  
TOWN OF KNOWLTON, WISCONSIN

FIGURE 1

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.  
A RAMBOLL COMPANY





**APPENDIX A**

***40 CFR SECTION 257.94(E)(2) ALTERNATE SOURCE DEMONSTRATION  
(ASD) DETECTION MONITORING ROUND 7, WISCONSIN PUBLIC SERVICE  
CORPORATION (WPSC) WESTON DISPOSAL SITE NO. 3 LANDFILL***

Mr. Bob Meidl  
WEC Business Services, LLC  
333 W. Everett Street – A231  
Milwaukee, WI 53203

**RE: 40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 7, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill**

Dear Mr. Meidl:

Date May 24, 2021

This document has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) to provide pertinent information for an alternate source demonstration (ASD) as allowed by 40 CFR Section 257.94(e)(2) for the Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 (WDS3) Landfill, located in the Town of Knowlton, Wisconsin.

**OVERVIEW**

Detection Monitoring Round 7 samples were collected on October 14, 2020 for which analytical data was received on November 25, 2020. Analytical data are presented in the attached Table 1. In accordance with 40 CFR Section 257.93(h)(2), statistical analysis of the data from Detection Monitoring Round 7 to identify statistically significant increases (SSIs) of 40 CFR Part 257 Subpart D Appendix III parameters over background concentrations was completed within 90 days of receipt of the analytical data (February 23, 2021). The statistical determination using interwell statistics in accordance with the Statistical Analysis Plan (NRT, 2017) identified the following SSIs at downgradient monitoring wells:

- Boron above the Upper Prediction Limit at LS-106
- Chloride above the Upper Prediction Limit in LS-107
- Calcium above the Upper Prediction Limit well LS-105, LS-106, and LS-107
- Sulfate above the Upper Prediction Limit at LS-100, LS-105 and LS-107
- Fluoride above detection limits in LS-100 and LS-107, and above the assigned background in LS-105 and LS-106
- Total dissolved solids above the Upper Prediction Limit in LS-105, LS-106, and LS-107

Data resulting in SSIs above background for Detection Monitoring Round 7 as listed above, including wells and parameters, are consistent with previous monitoring during Detection Monitoring Rounds 1-6, with exception of Fluoride at LS-100, LS-105, LS-106 and LS-107 and increasing concentrations of calcium, chloride, and sulfate at LS-107. The following Alternate Source Demonstrations provided several lines of evidence which attributed the SSIs to sources other than the CCR unit:

- *Alternate Source Demonstration, Weston Disposal Site No. 3 Landfill, Town of Knowlton, Wisconsin; dated April 15, 2018 (OBG, 2018)*
- *40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 4, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill, dated December 9, 2019 (Ramboll, 2019)*

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- 40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 5, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill, dated May 25, 2020 (Ramboll, 2020a)
- 40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 6, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill, dated November 23, 2020 (Ramboll, 2020b).

Other than the exceptions noted above and discussed below, the detected concentrations of boron, calcium, sulfate, fluoride, and TDS are stable. The stable concentrations of these parameters continue to support the conclusions of the previous ASDs: that these SSIs do not indicate a release from the CCR unit.

Concentrations of Fluoride detected during Detection Monitoring Round 7 at LS-100 and LS-105 are below the background limit assigned during the November 2020 ASD and are not SSIs. LS-105 and LS-106 were above the assigned background concentration (0.061 mg/L). Therefore, LS-105 and LS-106 were resampled in accordance with the Statistical Analysis Plan on March 1, 2021 to confirm the concentrations of fluoride (total and dissolved) and evaluate the apparent SSI. Results of the resample indicated concentrations of fluoride at LS-105 (0.051 mg/L) and LS-106 (0.057 mg/L) were below the assigned background limit and the apparent SSIs were not confirmed and require no further evaluation.

Although ASDs have previously been established for calcium, chloride, and sulfate (OBG, 2018), the observed change (increase) in concentrations of these compounds at LS-107 during Detection Monitoring Round 7 warranted further evaluation to verify the applicability of the previously established ASD. Therefore, LS-107 was resampled in accordance with the Statistical Analysis Plan on March 1, 2021 for calcium and chloride. Chloride concentrations were detected at levels consistent with historical results while calcium concentrations remained consistent with Detection Monitoring Round 7. 40 CFR Section 257.94(e)(2) allows the owner or operator 90 days from the date of determination to demonstrate that a source other than the coal combustion residual (CCR) unit caused the SSI, or that the apparent SSI was from a source other than the CCR unit, or that the SSI resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Pursuant to 40 CFR Section 257.94(e)(2), and consistent with the previous ASD (OBG, 2018), the following lines of evidence related to the observed increases in calcium, chloride, and sulfate concentrations in LS-107 have been identified:

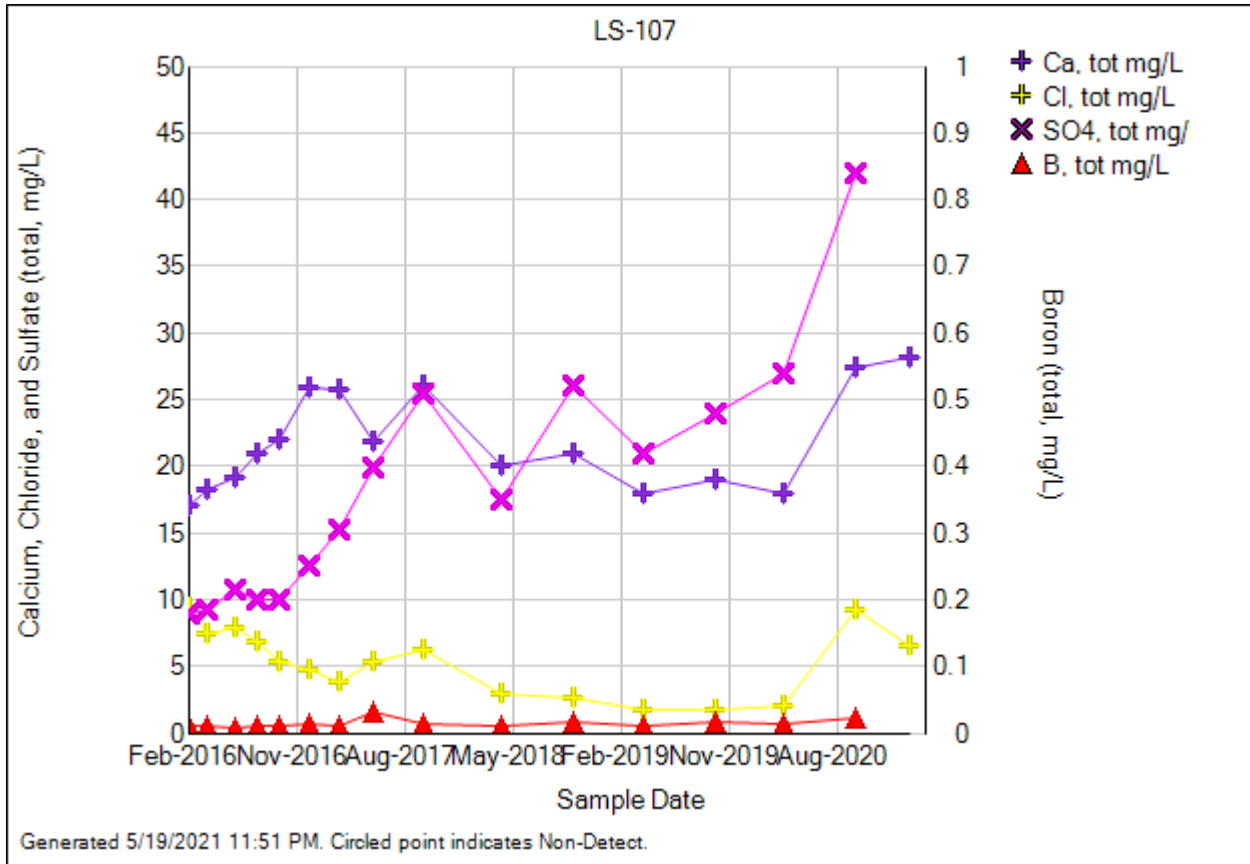
- No CCR source material has been placed in the unit upgradient of LS-107
- Boron concentrations have not been detected above the Upper Prediction Limit at LS-107

This ASD was completed within 90 days of determination of the SSIs (May 24, 2021) as required by 40 CFR Section 257.94(e)(2). Additional discussion is provided in the following section.

### **ALTERNATE SOURCE DEMONSTRATION**

Monitoring well LS-107 is located northwest of Cell 1 at WDS3. Groundwater elevation contour maps from Detection Monitoring Round 5 (Figure 1) and Round 7 (Figure 2) indicate variability in groundwater flow direction. In the vicinity of LS-107 groundwater generally flows from the east to the west (from Cell 1 towards LS-107). Detection Monitoring Round 7 illustrates flow in the vicinity of LS 107 is south to north with the potential for flow from west to east. No CCR material has been placed in Cell 1 (OBG, 2018), or any of the areas that are upgradient of LS-107. The elevated concentrations of calcium, chloride and sulfate cannot be attributed to the CCR unit because there is currently no CCR upgradient of this well.

Concentrations of calcium, chloride, sulfate, and boron are illustrated in Figure A (below). Concentrations of these parameters remained relatively consistent throughout Detection Monitoring Rounds 1-6. During Detection Monitoring Round 7, concentrations of calcium, chloride and sulfate increased to levels not previously detected at LS-107. The boron concentration did not increase and remains below the Upper Prediction Limit. The lack of boron concentrations (a key CCR indicator) indicate that the increases in calcium, chloride, and sulfate are not attributable to WDS3.



**FIGURE A. Concentrations of Calcium, Chloride, Sulfate, and Boron at LS-107**

### CONCLUSIONS AND CERTIFICATION

This document has been prepared on behalf of WPSC by Ramboll to provide pertinent information for an ASD as allowed by 40 CFR Section 257.94(e)(2) for the Weston Disposal Site No. 3 Landfill located in the Town of Knowlton, Wisconsin. Statistical analysis of the Detection Monitoring Round 7 samples for SSIs of 40 CFR Part 257 Appendix III parameters over background concentrations was completed within 90 days of receipt of the analytical data (February 23, 2021). The determination identified the following SSIs (concentrations greater than Upper Prediction Limits) that had concentrations elevated from those previously observed or documented in the April 15, 2018, December 9, 2019, May 25, and November 23, 2020 ASDs at downgradient monitoring wells:

- Fluoride concentrations above the assigned background value at downgradient wells LS-105 and LS-106
- Calcium, chloride, and sulfate concentrations above the Upper Prediction Limit at LS-107

Fluoride results from the resampling event performed in accordance with the Sampling and Analysis Plan (NRT, 2017) were less than the background limit and the SSIs were not confirmed. With respect to calcium, chloride and sulfate increases at LS-107, 40 CFR Section 257.94(e)(2) allows the owner or operator 90 days from the date of determination to demonstrate that a source other than the CCR unit caused the SSI, or that the apparent SSI was from a source other than the CCR unit, or that the SSI resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Pursuant to 40 CFR Section 257.94(e)(2), this document demonstrates that sources other than WDS3 Landfill were the cause of the apparent SSIs listed above. This ASD was completed within 90 days of determination of the SSIs (May 24, 2021) as required by 40 CFR Section 257.94(e)(2).

Pursuant to 40 CFR Section 257.94(e)(2), the following lines of evidence were presented to demonstrate that calcium, chloride, and sulfate concentrations detected in the downgradient wells are not attributable to WDS3:

- No CCR source material has been placed in locations upgradient of LS-107
- Boron concentrations have not been detected above the Upper Prediction Limit at LS-107

The preceding information serves as the ASD prepared in accordance with 40 CFR Section 257.94(e)(2) and supports the position that the SSIs observed during Detection Monitoring Round 7 are not due to a release from the CCR unit. Therefore, no further action (i.e. assessment monitoring) is warranted and WDS3 Landfill will remain in detection monitoring.

If you have any questions regarding this document, please do not hesitate to contact us.

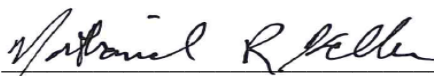
Sincerely,



---

Anne Frances Ackerman, PG, PE  
Senior Managing Engineer  
Professional Engineer No. 39346  
State of Wisconsin  
Ramboll Americas Engineering Solutions, Inc.  
Date: May 24, 2021

I, Anne Frances Ackerman, a qualified professional engineer in good standing in the State of Wisconsin, certify that enclosed information is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.



---

Nathaniel R. Keller, PG  
Senior Hydrogeologist  
Professional Geologist No. 1283-013  
State of Wisconsin  
Ramboll Americas Engineering Solutions, Inc.  
Date: May 24, 2021

I, Nathaniel R. Keller, a qualified professional geologist, certify that the enclosed information is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.

**Tables**

Table 1          Weston Disposal Site No. 3 Landfill: Appendix III Analytical Results

**Figures (attached)**

Figure 1          Groundwater Elevation Contour Map Detection Monitoring Round 5

Figure 2          Groundwater Elevation Contour Map Detection Monitoring Round 7

**Figures (In text)**

Figure A          Concentrations of Calcium, Chloride, Sulfate, and Boron at LS-107

## REFERENCES

NRT, 2017. Statistical Analysis Plan. Weston Disposal Site No. 3 Landfill, Town of Knowlton, WI; dated October 17, 2017

OBG, 2018. Alternate Source Demonstration, Weston Disposal Site No. 3 Landfill, Town of Knowlton, Wisconsin; dated April 15, 2018

Ramboll, 2019. *40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 4, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill*, dated December 9, 2019

Ramboll, 2020a. *40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 5, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill*, dated May 25, 2020

Ramboll, 2020b. *40 CFR Section 257.94(e)(2) Alternate Source Demonstration (ASD) Detection Monitoring Round 6, Wisconsin Public Service Corporation (WPSC) Weston Disposal Site No. 3 Landfill*, dated November 23, 2020

## TABLES



**Weston Disposal Site #3 CCR**  
**Analysis Results by Parameter (column), Location (row), and Date (row)**

**Date Range: 01/01/2020 to 04/01/2021**

**Lab Methods:**

Well Id	Date Sampled	Lab Id	B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, diss, mg/L	F, tot, mg/L	pH (field), STD
LS-100	4/14/2020	AE45278	0.014	11.	0.54		0.013	5.900
	9/1/2020	AE48236					0.015 J	5.910
	10/14/2020	AE49163	0.037 J	10.	0.61		0.030	5.770
LS-101	4/14/2020	AE45279	0.0080	2.4	0.17	0.019	0.022	5.990
	9/1/2020	AE48237					0.0087 J	5.850
	10/14/2020	AE49164	<0.017 U	7.8	0.40		0.030	5.810
LS-105	4/14/2020	AE45280	0.017	17.	0.82		0.039	6.120
	9/1/2020	AE48238					0.055	6.080
	10/14/2020	AE49165	0.040 J	18.	0.60		0.065	5.730
	3/1/2021	AE51791				0.039	0.051	6.290
LS-106	3/2/2020	AE44199	0.079	14.				6.370
	4/14/2020	AE45281	0.069	4.8	1.3	0.036	0.049	6.430
	9/1/2020	AE48239 AE48242				0.12	0.035	6.210
	10/14/2020	AE49166	0.19	15.	1.3		0.12	5.940
	3/1/2021	AE51792				0.054	0.057	6.500
LS-107	4/14/2020	AE45282	0.014	18.	2.1		0.029	5.840
	9/1/2020	AE48240					0.013 J	5.770
	10/14/2020	AE49167	0.021 J	27.	9.2		0.029	5.560
	3/1/2021	AE51793		28.	6.5			5.920

**Weston Disposal Site #3 CCR**  
**Analysis Results by Parameter (column), Location (row), and Date (row)**

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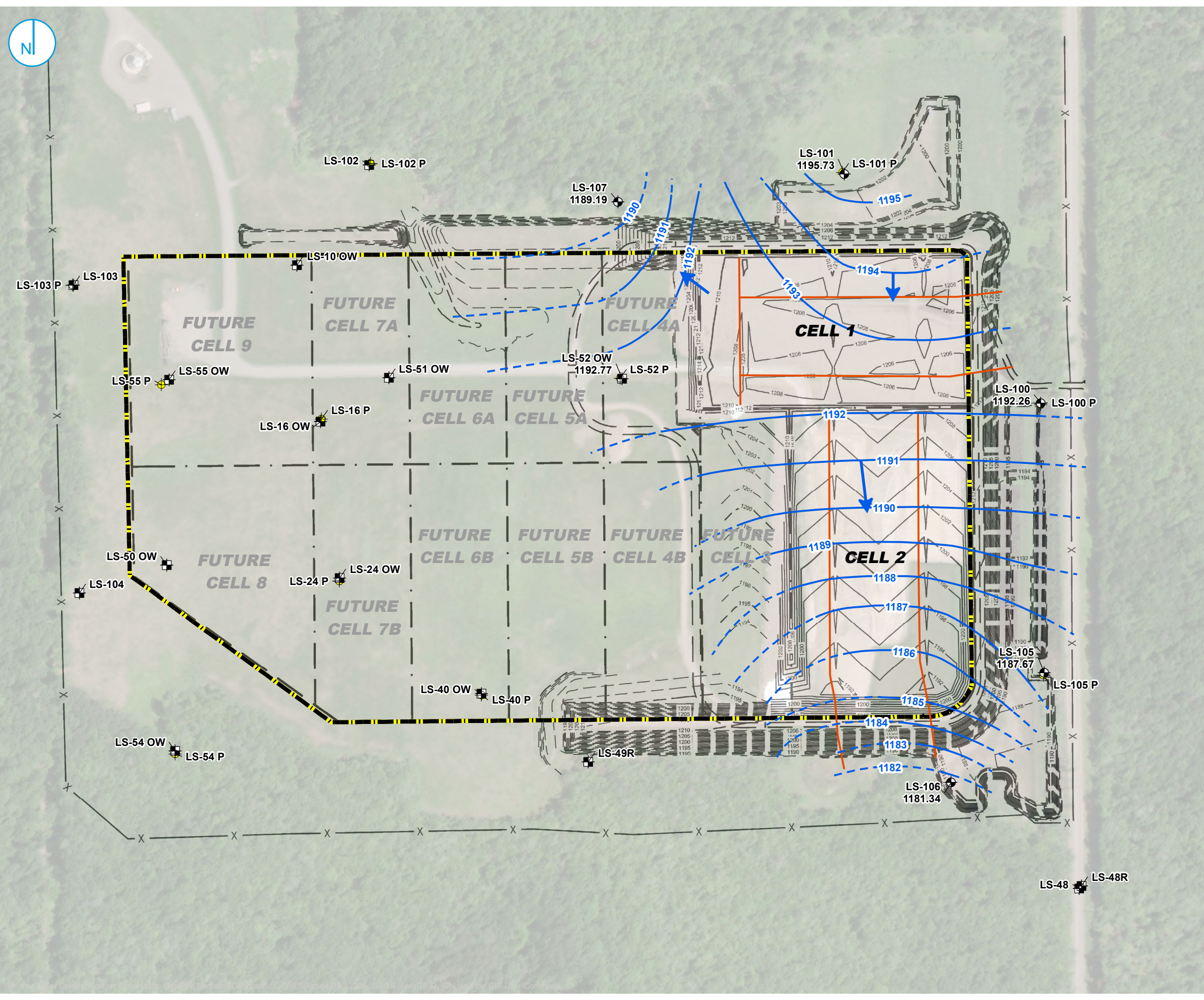
**Date Range: 01/01/2020 to 04/01/2021**

**Lab Methods:**

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<b>Well Id</b>	<b>Date Sampled</b>	<b>Lab Id</b>	<b>SO4, tot, mg/L</b>	<b>TDS, mg/L</b>
LS-100	4/14/2020	AE45278	14.	42.
	10/14/2020	AE49163	20.	56.
LS-101	4/14/2020	AE45279	2.6	24.
	10/14/2020	AE49164	3.9	120.
LS-105	4/14/2020	AE45280	14.	62.
	10/14/2020	AE49165	17.	110.
LS-106	4/14/2020	AE45281	4.3	20.
	10/14/2020	AE49166	3.1	160.
LS-107	4/14/2020	AE45282	27.	82.
	10/14/2020	AE49167	42.	160.

## FIGURES



- CCR RULE MONITORING WELL
- MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- GROUNDWATER ELEVATION CONTOUR (1-FT CONTOUR INTERVAL, NAVD 88)
- GROUNDWATER FLOW DIRECTION
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER GRADIENT CONTROL SYSTEM
- WESTON DISPOSAL SITE NO. 3 LANDFILL
- SURFACE ELEVATION CONTOUR (DASHED WHERE INFERRED)
- FENCE LINE

- Notes**
1. THE TOPOGRAPHIC BASE MAP HAS BEEN CREATED FROM AERIAL PHOTOGRAPHY AND LIDAR ACQUISITION BY AERO-METRIC, INC., SHEBOYGAN, WI. DATE FLOWN: NOVEMBER 5, 2010.
  2. HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM (NAD 83/2007), US SURVEY FEET.
  3. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
  4. \* ELEVATION NOT USED FOR CONTOURING

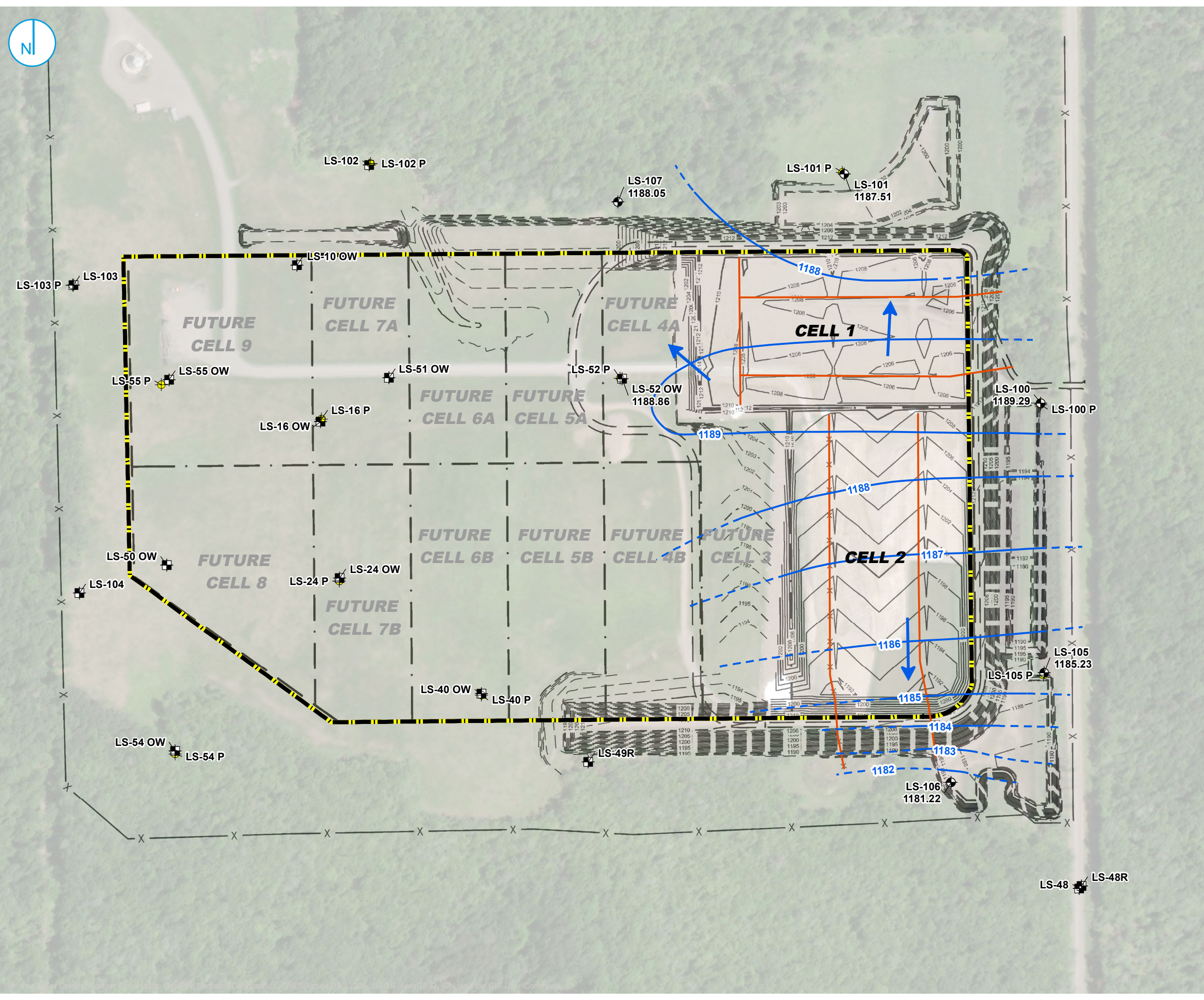


**WESTON DISPOSAL SITE NO. 3  
UPPERMOST AQUIFER UNIT  
GROUNDWATER ELEVATION CONTOUR MAP  
DETECTION MONITORING ROUND 5:  
OCTOBER 24, 2019**

**WPSC CCR RULE  
GROUNDWATER MONITORING  
WESTON DISPOSAL SITE NO. 3  
TOWN OF KNOWLTON, WISCONSIN**

**FIGURE 1**





- CCR RULE MONITORING WELL
- MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- GROUNDWATER ELEVATION CONTOUR (1-FT CONTOUR INTERVAL, NAVD 88)
- GROUNDWATER FLOW DIRECTION
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER GRADIENT CONTROL SYSTEM
- WESTON DISPOSAL SITE NO. 3 LANDFILL
- SURFACE ELEVATION CONTOUR (DASHED WHERE INFERRED)
- FENCE LINE

- Notes**
1. THE TOPOGRAPHIC BASE MAP HAS BEEN CREATED FROM AERIAL PHOTOGRAPHY AND LIDAR ACQUISITION BY AERO-METRIC, INC., SHEBOYGAN, WI. DATE FLOWN: NOVEMBER 5, 2010.
  2. HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM (NAD 83/2007), US SURVEY FEET.
  3. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
  4. \* ELEVATION NOT USED FOR CONTOURING



**WESTON DISPOSAL SITE NO. 3  
UPPERMOST AQUIFER UNIT  
GROUNDWATER ELEVATION CONTOUR MAP  
DETECTION MONITORING ROUND 7:  
OCTOBER 14, 2020**

**WPC CCR RULE  
GROUNDWATER MONITORING  
WESTON DISPOSAL SITE NO. 3  
TOWN OF KNOWLTON, WISCONSIN**

**FIGURE 2**

