

March 16, 2025

Mr. Michael Smith, P.E., Environmental Engineer Senior  
IDNR – Land Quality Bureau  
6200 Park Avenue, Suite 200  
Des Moines, Iowa 50321



**RE: 2025 - Spring Water Quality Notification Letter  
Clarke County SLF - SOUTH SITE  
Permit # 20-SDP-04-94C**

Mr. Smith:

### HMSP

At the South Site of the Clarke County Sanitary Landfill, the following monitoring wells comprise the HMSP. The sampling was completed on March 10, 2025 and is summarized in Table 1. In accordance with Permit Amendment #17, dated March 8, 2023 (Doc #106027) MW-33 is sampled semi-annually, while all remaining wells will be sampled annually in alternating seasons. The sampling schedule in 2025 is summarized below for each HMSP well.

**Table 1**

WELL	Monitoring Phase	March 2025 (Completed)	September, 2025 (Planned)	Most Recent Appendix II
MW-23 (b-till)	Detection Monitoring	Appendix I	---	
MW-27 (b-till)	Detection Monitoring	Appendix I	---	
MW-21	Assessment Monitoring	Appendix I <sup>(1)</sup>	---	9/2022
MW-31	Assessment Monitoring	Appendix I <sup>(1)</sup>	---	3/2021
MW-33	Assessment Monitoring	Appendix I <sup>(2)</sup>	Appendix I <sup>(2)</sup>	9/2021
MW-34	Assessment Monitoring	Appendix I	---	4/2024
MW-28 (b-LS)	Detection Monitoring	Appendix I	---	
MW-29 (b-LS)	Detection Monitoring	Appendix I	---	
MW-36 (b-LS)	Detection Monitoring	Appendix I	---	
MW-37	Detection Monitoring	Appendix I	---	
MW-38	Assessment Monitoring	<b>Appendix II</b>	---	3/2025
MW-22	Detection Monitoring	Appendix I	---	
MW-32	Detection Monitoring	Appendix I	---	
Duplicate	QA/QC	Appendix I	---	

**(b-till)(b-LS) background wells, glacial till system or limestone system.**

(1) = Appendix I plus no detected Appendix II compounds performed in accordance with 113.10(6)d.2.

(2) = sulfide

(3) = bis(2ethylhexyl)phthalate

The background for the glacial till system utilizes MW-23 and MW-27. The downgradient wells are MW-21, MW-31, MW-33, and MW-34. All downgradient wells are in the assessment monitoring program.

The background for the bedrock system utilizes MW-28, MW-29, and MW-36. The downgradient wells are MW-22, MW-32, MW-37, and MW-38. All downgradient wells are in the detection monitoring program, except MW-38 which is in the assessment monitoring program.

**Notification of Results of Sampling, Analysis, and Statistical Evaluation**

**Wells in the Detection Monitoring System**

Till/Fill System

*Not applicable.*

Limestone System

*Verified Prediction Limit exceedances for inorganic compounds:*

None.

*Verified Prediction Limit exceedances for VOC include:*

None.

**Wells in the Assessment Monitoring System**

Till/Fill System

*Exceedances of the Prediction Limit for inorganic compounds:*

MW-33 – arsenic, cobalt.

*Exceedances of the Prediction Limit for VOC include:*

MW-33 – 1,1-dichloroethane, 1,2-dichloropropane, cis-1,2-dichloroethene

Limestone System

*Verified Prediction Limit exceedances for inorganic compounds:*

MW-38 - arsenic.

*Verified Prediction Limit exceedances for VOC include:*

None.

**Site-Specific GWPS**

The prediction limit for the following compounds in the following HMSP systems *exceed* the published IAC 567, Chapter 137 Statewide Standard:

***Shallow/Till System***

<b><u>Compound</u></b>	<b><u>Prediction Limit</u></b>	<b><u>IAC 137 GWPS</u></b>
Cobalt	20.2173 ug/L	2.1 ug/L

***Bedrock System***

<b><u>Compound</u></b>	<b><u>Prediction Limit</u></b>	<b><u>IAC 137 GWPS</u></b>
Antimony	7.9 ug/L	6.0 ug/L
Cadmium	6.8 ug/L	5.0 ug/L
Cobalt	15.3211 ug/L	2.1 ug/L

The Site-Specific GWPS should not be set lower than the Site Prediction Limit calculated from the site background data. For this report, the prediction limits itemized above are utilized as the Site-Specific

GWPS for the respective HMSP Systems. For all other compounds the published IAC 567, Chapter 137 Statewide Standard are utilized as the GWPS.

**The following SSL are recorded**

None and there are no wells in the corrective action system.

**Current Appendix II Compound Detections**

None.

**Summary of Historic Appendix II Compound Detections**

The summary of assessment monitoring detections to date (beyond the Appendix I list) is presented in Table 2 and Table 3 on pages 4 and 5 that follow. The full Appendix II sampling episodes are highlighted in green in Table 2 and Table 3.

**Wells returning to the detection monitoring system**

None.

This notification is intended to satisfy requirements of Iowa Administrative Code (IAC) 567-113.10(5)"c"(1); 113.10(6)"d"(1); and 113.10(6)"g". The water quality results for the Spring of 2025 will be fully evaluated in the Annual Water Quality Report in accordance with IAC 567-113.10(10). Please feel free to contact our office at (515) 733-4144 with any questions you may have.

Sincerely,  
**HLW Engineering Group**



Todd Whipple, CPG  
Project Manager

cc: *Dean Robins, CCLC*  
*Rob McCaulley, CCLC*

**Table 2 - Sulfide (mg/L) Results**

Date	MW-21	MW-31	MW-33	MW-34	MW-38
2/27/10	NT	NT	NT	<1	---
3/22/10	NT	NT	1.9	NT	---
9/7/10	NT	NT	<1	NT	---
9/20/11	NT	NT	<1	NT	---
12/15/11	NT	NT	<1	NT	---
2/17/12	NT	NT	NT	<1	---
3/19/12	NT	NT	<1	NT	---
6/20/12	NT	NT	NT	NT	---
9/6/12	NT	NT	<0.23	NT	---
2/1/13	NT	NT	<1	NT	---
6/20/13	NT	NT	NT	NT	---
9/27/13	NT	NT	<1	<1	---
3/13/14	NT	NT	<1	NT	---
9/29/14	NT	NT	<0.1	<0.1	---
11/24/14	NT	NT	NT	NT	---
3/19/15	NT	NT	<0.1	NT	---
8/26/15	NT	NT	0.33	NT	---
3/9/2016	NT	NT	0.40	NT	---
9/14/16	NT	NT	0.11	NT	---
3/7/17	NT	NT	0.13	NT	---
9/11/17	NT	NT	1.2	NT	---
3/7/2018	NT	NT	4.9	NT	---
9/5/18	NT	NT	0.71	<0.3	---
4/1/19	NT	NT	0.47	NT	---
9/9/19	NT	NT	<0.1	NT	---
3/10/20	NT	<0.1	0.18	NT	---
9/14/20	NT	NT	1.9	NT	---
3/4/21	NT	<0.1	2.4	NT	---
9/9/21	<0.1	NT	0.17	NT	---
3/24/22	NT	NT	3.5	NT	NT
9/9/22	<0.15	NT	0.29	NT	NT
3/1/23	NT	NT	2.4	NT	NT
9/7/2023	NT	NT	3.0	NT	NT
3/6/2024	NT	NT	2.3	NT	NT
4/1/2024	NT	NT	NT	<0.15	NT
6/3/2024	NT	NT	NT	NT	<0.15
9/4/2024	NT	NT	18.0	NT	NT
3/10/2025	NT	NT	<0.10	NT	<0.10

**Table 3 - Bis(2-ethylhexyl)phthalate (ug/L) Results**

Date	MW-21	MW-31	MW-33	MW-34	MW-38
2/27/10	NT	NT	NT	NT	---
3/22/10	NT	NT	<10	NT	---
9/7/10	NT	NT	<10	NT	---
9/20/11	NT	NT	<10	NT	---
2/17/12	NT	NT	NT	<10	---
3/19/12	NT	NT	NT	NT	---
6/20/12	NT	NT	NT	NT	---
9/6/12	NT	NT	NT	NT	---
2/1/13	NT	NT	NT	NT	---
9/27/13	NT	NT	NT	<10	---
3/13/14	NT	NT	NT	NT	---
9/29/14	NT	NT	NT	NT	---
3/19/15	NT	NT	NT	NT	---
8/26/15	NT	NT	NT	NT	---
3/9/2016	NT	NT	NT	NT	---
9/14/16	NT	NT	<8	NT	---
3/7/17	NT	NT	NT	NT	---
9/11/17	NT	NT	NT	NT	---
3/7/18	NT	NT	NT	NT	---
9/5/18	NT	NT	NT	<6	---
4/1/19	NT	NT	NT	NT	---
9/9/19	NT	NT	NT	NT	---
3/10/20	NT	<6	NT	NT	---
9/14/20	NT	NT	NT	NT	---
3/4/21	NT	<b>34.0</b>	NT	NT	---
9/9/21	<6	<b>33.0</b>	<6	NT	---
3/24/22	NT	<6	NT	NT	NT
9/9/22	<b>9.0</b>	<b>97.0</b>	NT	NT	NT
3/1/23	<6	<6	NT	NT	NT
9/7/2023	NT	NT	NT	NT	NT
3/6/2024	NT	NT	NT	NT	NT
4/1/2024	NT	NT	NT	<6	NT
6/3/2024	NT	NT	NT	NT	<6
9/4/2024	NT	NT	NT	NT	NT
3/10/2025	NT	NT	NT	NT	<6

---

**Results of the Ground Water Statistics  
for Clarke County Sanitary Landfill**

**First Semi-Annual Monitoring Event in 2025**

*Prepared for:*  
Clarke County Sanitary Landfill  
Osceola, Iowa

*Prepared by:*  
Jeffrey A. Holmgren  
**Otter Creek Environmental Services, L.L.C.**  
Elgin, IL  
(847) 464-1355

**April 2025**

---