

May 27, 2026

Ms. Alexis Slade, Environmental Engineer
Land Quality Bureau
Iowa Department of Natural Resources
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321



**RE: 2026 Semi-Annual Water Quality Notification Letter
Cass County Sanitary Landfill 15-SDP-01-75C**

Dear Mr. Slade:

Per the Permit dated December 2, 2025 (Doc #114898) the HMSP includes the following:

Glacial Till System

Background Point: MW-15R (augmented with data from MW-27, MW-28, MW-29, and MW-40).

Downgradient Point of Compliance (POC) Wells: MW-12, MW-19, MW-20, MW-21, MW-37R, MW-38R, and MW-39.

Downgradient Attenuation Zone (AZPOC*) points MW-24 (related to MW-20) and MW-43 (related to MW-12)
Groundwater Underdrain Points UD-0 (lagoon), UD-1 (south side of fill area).

** AZPPOC wells are not included in Special Provision X.5.a of the Permit.*

Dakota Bedrock Formation

Background Point: MW-22 (augmented with data from MW-41).

Downgradient POC: MW-11, MW-23, and MW-36

Downgradient Attenuation Zone (AZPOC*) point: MW-13 (related to MW-12)

** AZPPOC wells are not included in Special Provision X.5.a of the Permit.*

The Site-Specific GWPS for antimony, arsenic, and cobalt are utilized herein which also exceed the published IAC 567, Chapter 137 Statewide Standard. The **Site-Specific GWPS** (from the 2025 AWQR) are:

Till System

<u>Compound</u>	<u>Prediction Limit</u>	<u>IAC 137 GWPS</u>	<u>Site-Specific GWPS</u>
Arsenic	19.7 ug/L	10.0 ug/L	19.7 ug/L
Cobalt	7.9 ug/L	2.1 ug/L	49.62 ug/L

Dakota System

<u>Compound</u>	<u>Prediction Limit</u>	<u>IAC 137 GWPS</u>	<u>Site-Specific GWPS</u>
Antimony	6.6 ug/L	6.0 ug/L	6.6 ug/L
Cobalt	1.73 ug/L	2.1 ug/L	3.981 ug/L

Time series trend analyses are evaluated at MW-12 and MW-20 to observe changes in water quality over time. Time Series plots are utilized to evaluate Supplemental Wells MW-12 and MW-20.

The water quality is evaluated by both Interwell and Intrawell methods. The basis for adding Intrawell statistical evaluations is twofold. First, it is recognized that the interwell background established using a single monitoring well is not a representative of the natural variability of formation waters across the site. Additional background data should be included for interwell evaluations or intrawell evaluations should be utilized in lieu of interwell methods.

Second, it is also recognized that the comparison of water collected from underdrain systems are not readily comparable to a background prediction limit (interwell) established from groundwater monitoring wells that are far removed from the waste mass.

Compound concentrations are evaluated relative to both the interwell prediction limits and the intrawell control limits.

The following wells are in the assessment monitoring program:

Water Table: MW-19, MW-21, MW-37R, MW-38R, and MW-39

Dakota Formation: MW-11, MW-23, and MW-36

The following Corrective Action wells are designated supplemental wells with corresponding Attenuation Zone Point of Compliance (AZPOC) wells listed in parentheses:

Water Table: MW-12 (MW-13, MW-43)
MW-20 (MW-24)

Notification of Results of the Spring Sampling, Analysis, and Statistical Evaluation

Interwell Statistical Evaluations

Verified ***inorganic compound*** detections that exceed the Prediction Limits:

Water Table

MW-19 (assessment) – cobalt, copper, nickel
MW-20 (supplemental) – arsenic, barium, copper, nickel
MW-21 (assessment) – barium, chromium, cobalt, copper, lead, nickel, vanadium
MW-24 (AZPOC to MW-20) –nickel
MW-37R (assessment) – barium, selenium
MW-38R (assessment) – selenium
MW-39 (assessment) – selenium

Dakota Formation

MW-11 (assessment) – arsenic, barium, cobalt, copper
MW-23 (assessment) – chromium
MW-36 (assessment) – cobalt, lead, selenium, vanadium

Intrawell Statistical Evaluations

Verified ***inorganic compound*** detections that exceed the Control Limits:

Water Table

MW-15R (background) – barium

Dakota Formation

MW-22 (background) – antimony
MW-23 – chromium*, copper*

** requires verification sample*

VOC Double Quantification Rule Evaluations

Verified **VOC** detections that exceed double quantification:

Water Table

MW-19 (assessment) – 2-butanone, acetone, chlorobenzene, toluene

MW-20 (supplemental) – 1,4-dichlorobenzene, benzene, chlorobenzene, toluene

MW-38R (assessment) – bis(2ethylhexyl)phthalate

Dakota Formation

MW-11 (assessment) – bis(2ethylhexyl)phthalate

Historic Appendix II Compound Detections (Green Highlights = Full Appendix II)

Sulfide Water Table System (mg/L)

Date	MW-19	MW-21	MW-24	MW-37R	MW-38R	MW-39
7/7/11	6.4	0.29	NT	NT	NT	<0.12
10/27/11	<1	3.9	NT	NT	NT	NT
1/23/12	<1	<1	NT	NT	NT	NT
4/26/12	<1	<1	NT	NT	NT	NT
10/9/12	2.6	4.5	NT	NT	NT	<0.23
2/20/13	<1	<1	NT	NT	NT	NT
5/15/13	<1	NT	<1	NT	NT	NT
10/3/13	NT	<1	NT	NT	NT	NT
4/22/14	<1	<1	NT	NT	NT	NT
7/10/14	NT	NT	NT	NT	NT	NT
10/14/14	<1	NT	NT	NT	NT	NT
5/12/15	NT	NT	NT	NT	NT	NT
7/29/15	<1	<1	NT	NT	NT	NT
2/15/16	<1	<1	NT	NT	NT	NT
10/31/16	<1	<1	NT	NT	NT	NT
3/27/17	<1	<1	NT	NT	NT	<1
11/13/17	3.09	4.93	NT	NT	NT	NT
6/6/18	NT	<1	NT	NT	NT	NT
11/27/18	NT	<1	NT	NT	<1	NT
3/18/19	<1	2.02	NT	NT	NT	NT
12/2/19	<1	0.707	NT	NT	NT	NT
3/30/20	<1	1.08	NT	<1	<1	NT
11/17/20	NT	NT	NT	<1	<1	NT
5/6/21	NT	NT	NT	NT	NT	NT
10/7/21	NT	0.588	NT	NT	NT	NT
4/6/22	<1	<1	NT	NT	NT	<1
8/23/22	<1	<1	NT	NT	NT	NT
9/29/22	<1	NT	<1	NT	NT	NT
3/8/23	<1	<1	<1	NT	NT	NT
9/13/23	<1	<1	NT	NT	NT	NT
5/29/24	<1	<1	NT	NT	NT	NT
10/14/24	NT	NT	NT	NT	NT	NT
4/16/2025	NT	NT	NT	NT	NT	NT
0/27/2025	<0.1	0.1	NT	<0.1	NT	NT
4/7/2026	NT	NT	NT	NT	<0.1	NT

Sulfide Dakota System (mg/L)

Date	MW-11	MW-23	MW-36
8/29/09	<1	NT	NT
8/31/10	<1	NT	NT
7/7/11	NT	<0.12	<0.12
10/27/11	<1	NT	NT
10/9/12	NT	<0.23	<0.23
5/15/13	<1	NT	<1
4/22/14	NT	NT	NT
7/10/14	NT	NT	NT
10/14/14	NT	NT	NT
5/12/15	NT	NT	NT
2/15/16	<1	NT	NT
10/31/16	NT	NT	NT
3/27/17	NT	<1	<1
5/6/21	<1	NT	NT
10/7/21	<1	NT	NT
4/7/22	NT	0.781	<1
5/29/24	NT	NT	NT
10/14/24	NT	NT	NT
4/16/2025	NT	NT	NT
0/27/2025	NT	NT	NT
4/7/2026	<0.1	NT	NT

* *Outlier*

Current Appendix II Compound Detections

MW-11 and MW-38R reported unverified detections of bis(2ethylhexyl)phthalate on April 7, 2026.

Statistically Significant Levels (SSL)

The monitoring wells where the 95% Lower Confidence Limit (95% LCL) exceeds a GWPS are limited and include the following:

MW-20 (supplemental well) – Arsenic 95% LCL of 59.258 ug/L exceeds the site-specific GWPS of 19.7 ug/L.
 MW-39 – Selenium 95% LCL of 64.703 ug/L exceeds the GWPS of 50.0 ug/L.

It is noted that the AZPOC for MW-20 (MW-24) demonstrates compliance related to arsenic concentrations at the point of compliance.

The June 30, 2020, Assessment of Corrective Measures (ACM) Report (Doc #97998) states that the selenium at MW-39 is not related to the landfill and the finding is dismissed as an SSL.

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 2026 will be fully evaluated in the Annual Water Quality Report in accordance with the unnumbered permit amendments dated May 22, 2013, July 10, 2014, and 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: *Chris Jahnke, Manager*

Results of the Ground Water Statistics

for Cass County Sanitary Landfill

First Semi-Annual Monitoring Events in 2026

Prepared for:
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Atlantic, IA

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