

April 15, 2026

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



**RE: 2026 Semi-Annual Water Quality Notification Letter
 Benton County Sanitary Landfill - 06-SDP-2-81P**

Dear Ms. Slade:

HMSP

The HMSP and the sampling for 2026 are summarized as follows:

WELL	Monitoring Phase	Most Recent Appendix II	3/24/2026 (completed)	9/2026 (planned)
MW-6 (b)	Detection Monitoring	3/20/2012	No Sample	Appendix I
MW-7 (b)	Detection Monitoring	---	Appendix I	Appendix I
MW-26 (b)	Detection Monitoring	---	Appendix I	Appendix I
MW-27 (b)	Detection Monitoring	---	Appendix I	Appendix I
MW-28 (b)	Detection Monitoring	---	Appendix I	Appendix I
MW-12	Detection Monitoring ⁽¹⁾	4/23/09, 4/27/10, 3/24/11, 3/20/12, 3/17/17	Appendix I	Appendix I
MW-14	Detection Monitoring ⁽¹⁾	4/23/09, 4/27/10, 3/24/11, 3/20/12, 3/17/17	Appendix I	Appendix I
MW-20	Assessment Monitoring	3/20/12, 8/28/12, 3/17/2017, 3/31/22	Appendix I ⁽³⁾	Appendix I ⁽³⁾
MW-24	Assessment Monitoring	3/20/12, 3/17/2017, 3/31/22	Appendix I	Appendix I
MW-25	Detection Monitoring ⁽¹⁾	3/17/17, 9/12/18	Appendix I	Appendix I
AW-2	Assessment Monitoring	3/20/12, 3/17/2017, 3/31/22	Appendix I	Appendix I
AW-9	Step-out Well		As + Co	As + Co
AW-3	Assessment Monitoring	3/20/12, 3/17/2017, 3/31/22	Appendix I	Appendix I
AW-1	Lagoon Monitoring		Appendix I	Appendix I
MW-41	Detection Monitoring		Appendix I	Appendix I
GU-L	Detection Monitoring		Appendix I	Appendix I
Duplicate	QA/QC		Appendix I	Appendix I

⁽¹⁾ – Returned to detection monitoring 1/1/2022

⁽²⁾ – Appendix I plus no detected Appendix II compounds

⁽³⁾ – Appendix I plus sulfide

DNE = Did not exist

(b) = background well

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

The following wells are in the *detection monitoring system*:

MW-6, MW-7, MW-26, MW-27, MW-28, MW-12, MW-14, AW-4, MW-25, AW-1, and MW-41.

The following downgradient wells are in the *assessment monitoring system*:

MW-20, MW-24, AW-2, and AW-3

The following downgradient well is placed to monitor the need for potential future remedial actions:

AW-9

Intrawell Statistical Evaluations

Inorganic compounds at MW-24, AW-1, and GU-L are evaluated by intrawell statistical evaluations to determine whether a statistically significant increase (SSI) is documented. Both interwell and intrawell statistical approaches are utilized on monitoring well samples (MW-24 and AW-1). Only intrawell statistical evaluations are applied to the groundwater underdrain (GU-L). Any VOC detection above the Method Reporting Limit (MRL) is determined to be an SSI.

Currently, GU-L has insufficient data available to perform intrawell statistical evaluations.

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

MW-24 (assessment) – None.

AW-1 (detection) - Barium

GU-L (detection) - None.

Verified *VOC* detections that exceed the Control Limits:

MW-24 (assessment) – None.

AW-1 (detection) - None.

GU-L (detection) - None.

Interwell Statistical Evaluations

The monitoring wells included in the background:

MW-6, MW-7, MW-26, MW-27, and MW-28.

Wells in the Detection Monitoring System

Verified inorganic compound detections that exceed the Prediction Limit (SSI):

None.

Verified VOC detections that exceed the Prediction Limit (SSI):

None.

The control chart (intrawell) exceedance for barium at AW-1 is not confirmed by the interwell statistical evaluation, so AW-1 *does not* exhibit a recorded statistically significant increase (SSI).

Wells in the Assessment Monitoring System

Verified inorganic compound detections that exceed the Prediction Limit:

AW-3 - copper

Verified VOC detections that exceed the Prediction Limit:

MW-20 – 1,4-dichlorobenzene, benzene, chlorobenzene

AW-3 – 1,4-dichlorobenzene, benzene, chloroethane

Appendix II Assessment Monitoring Summary – bis(2-ethylhexyl)phthalate (ug/L)

Date	MW-20	MW-24	AW-2	AW-3
4/23/09	NT	NT	NT	NT
8/24/09	NT	NT	NT	NT
4/27/10	NT	NT	NT	NT
3/24/11	NT	NT	NT	NT
3/20/12	<10	<10	<20	<10
8/28/12	<10	NT	NT	NT
3/15/13	NT	NT	NT	NT
10/20/14	NT	NT	NT	NT
6/22/15	NT	NT	NT	NT
11/12/15	NT	NT	NT	NT
4/11/16	NT	NT	NT	NT
9/16/16	NT	NT	NT	NT
3/17/17	<8	<8	<8	16.0
9/27/17	NT	NT	NT	<6
3/14/18	NT	NT	NT	<6
9/12/18	NT	NT	NT	<6
4/1/19	NT	NT	NT	<6
10/12/19	NT	NT	NT	<6
5/6/20	NT	NT	NT	<6
9/3/20	NT	NT	NT	NT
3/30/21	NT	NT	NT	NT
9/8/2021	NT	NT	NT	NT
3/31/2022	<6	<6	<6	<6
8/30/2022	NT	NT	NT	NT
3/7/2023	NT	NT	NT	NT
9/28/2023	NT	NT	NT	NT
3/11/2024	NT	NT	NT	NT
10/2/2024	NT	NT	NT	NT
3/6/2025	NT	NT	NT	NT
9/16/2025	NT	NT	NT	NT
3/24/2026	NT	NT	NT	NT

green highlights = full Appendix II sample collection events

Appendix II Assessment Monitoring Summary – cyanide (ug/L)

Date	MW-20	MW-24	AW-2	AW-3
4/23/09	NT	NT	NT	NT
8/24/09	NT	NT	NT	NT
4/27/10	NT	NT	NT	NT
3/24/11	NT	NT	NT	NT
3/20/12	<10	<10	<10	<10
8/28/12	<10	NT	NT	NT
3/15/13	<10	NT	NT	NT
10/20/14	NT	NT	NT	NT
6/22/15	NT	NT	NT	NT
11/12/15	NT	NT	NT	NT
4/11/16	NT	NT	NT	NT
9/16/16	NT	NT	NT	NT
3/17/17	<5	<5	9.0	<5
9/27/17	NT	NT	<5	NT
3/14/18	NT	NT	NT	NT
9/12/18	NT	NT	<5	NT
4/1/19	NT	NT	<5	NT
10/12/19	NT	NT	<5	NT
5/6/2020	NT	NT	<5	NT
9/3/20	NT	NT	NT	NT
3/30/21	NT	NT	NT	NT
9/8/2021	NT	NT	NT	NT
3/31/2022	<5	<5	<5	<5
8/30/2022	NT	NT	NT	NT
3/7/2023	NT	NT	NT	NT
9/28/2023	NT	NT	NT	NT
3/11/2024	NT	NT	NT	NT
10/2/2024	NT	NT	NT	NT
3/6/2025	NT	NT	NT	NT
9/16/2025	NT	NT	NT	NT
3/24/2026	NT	NT	NT	NT

green highlights = full Appendix II sample collection events

Appendix II Assessment Monitoring Summary – sulfide (mg/L)

Date	MW-20	MW-24	AW-2	AW-3
4/23/09	NT	NT	NT	NT
8/24/09	NT	NT	NT	NT
4/27/10	NT	NT	NT	NT
3/24/11	NT	NT	NT	NT
3/20/12	<0.2	<0.2	<0.2	<0.2
8/28/12	<0.2	NT	NT	NT
3/15/13	<10	NT	NT	NT
10/20/14	NT	NT	NT	NT
6/22/15	NT	NT	NT	NT
11/12/15	NT	NT	NT	NT
4/11/16	NT	NT	NT	NT
9/16/16	NT	NT	NT	NT
3/17/17	<0.2	<0.2	<0.2	<0.2
9/27/17	NT	NT	<5	NT
3/14/18	NT	NT	NT	NT
9/12/18	NT	NT	<5	NT
4/1/19	NT	NT	<5	NT
10/12/19	NT	NT	<5	NT
5/6/2020	NT	NT	<5	NT
9/3/20	NT	NT	NT	NT
3/30/21	NT	NT	NT	NT
9/8/2021	NT	NT	NT	NT
3/31/2022	0.33	<0.2	<0.2	<0.2
8/30/2022	0.23	NT	NT	NT
3/7/2023	0.16	NT	NT	NT
9/28/2023	0.44	NT	NT	NT
3/11/2024	<0.15	NT	NT	NT
10/2/2024	<0.10	NT	NT	NT
3/6/2025	<0.10	NT	NT	NT
9/16/2025	<0.10	NT	NT	NT
3/24/2026	0.27	NT	NT	NT

green highlights = full Appendix II sample collection events

Current Appendix II Compound Detections

MW-20 - sulfide.

Wells in the Supplemental Monitoring System

AW-9 is utilized as step-out well to AW-2 (located too close to the waste boundary) and AW-9 is incorporated into the semi-annual sample collection events. A summary of the arsenic and cobalt testing results at AW-9 are summarized below. Results indicate that arsenic has remained undetected, while cobalt concentrations have been below the current prediction limit of 12.2 since the September 12, 2019 sample collection event.

Arsenic & Cobalt at Step-Out Well AW-9

Well	Date	Compound	Turbidity (NTU)	Result (ug/L)	Prediction Limit (ug/L)	GWPS (ug/L)
AW-9	3/16/2017	Arsenic	2.35	<4.0	51.3	51.3
AW-9	4/1/2019	Arsenic	15.5	<4.0	51.3	51.3
AW-9	9/12/2019	Arsenic	20.28	<4.0	51.3	51.3
AW-9	5/6/2020	Arsenic	38.7	<4.0	51.3	51.3
AW-9	3/30/21	Arsenic	11.2	<4.0	51.3	51.3
AW-9	9/8/2021	Arsenic	2.97	<4.0	51.3	51.3
AW-9	3/31/2022	Arsenic	5.46	<4.0	51.3	51.3
AW-9	8/30/2022	Arsenic	3.76	<4.0	51.3	51.3
AW-9	3/7/2023	Arsenic	7.24	<4.0	51.3	51.3
AW-9	9/28/2023	Arsenic	20.17	<4.0	51.3	51.3
AW-9	3/11/2024	Arsenic	191.6	<4.0	51.3	51.3
AW-9	10/2/2024	Arsenic	23.51	4.2	51.3	51.3
AW-9	3/6/2025	Arsenic	36.48	<4.0	51.3	51.3
AW-9	9/16/2025	Arsenic	22.57	<2.0	51.3	51.3
AW-9	3/24/2026	Arsenic	1.37	<2.0	51.3	51.3
AW-9	3/16/2017	Cobalt	2.35	<0.8	12.2	12.2
AW-9	4/1/2019	Cobalt	15.5	23.3	12.2	12.2
AW-9	9/12/2019	Cobalt	20.28	10.5	12.2	12.2
AW-9	5/6/2020	Cobalt	38.7	5.4	12.2	12.2
AW-9	3/30/2021	Cobalt	11.2	0.4	12.2	12.2
AW-9	9/8/2021	Cobalt	2.97	0.8	12.2	12.2
AW-9	3/31/2022	Cobalt	5.46	1.3	12.2	12.2
AW-9	3/31/2022	Cobalt	3.76	5.0	12.2	12.2
AW-9	3/7/2023	Cobalt	7.24	1.8	12.2	12.2
AW-9	9/28/2023	Cobalt	20.17	0.8	12.2	12.2
AW-9	3/11/2024	Cobalt	191.6	1.1	12.2	12.2
AW-9	10/2/2024	Cobalt	23.51	9.6	12.2	12.2
AW-9	3/6/2025	Cobalt	36.48	0.5	12.2	12.2
AW-9	9/16/2025	Cobalt	22.57	3.3	12.2	12.2
AW-9	3/24/2026	Cobalt	1.37	0.629	12.2	12.2

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 permit 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: Eric Werner, Manager

HLW Engineering Group, 204 West Broad Street, P.O. Box 314, Story City, Iowa 50248
(515) 733-4144  **(515) 733-4146 Fax**

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

First Semi-Annual Monitoring Event in 2026

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