

January 2, 2025

Mr. Geoffrey Spain  
Environmental Engineer  
Iowa Department of Natural Resources  
6200 Park Avenue, Suite 200  
Des Moines, Iowa 50321



**RE: Quarterly Leachate Report  
Boone County Sanitary Landfill  
08-SDP-01-75P**

Mr. Spain:

Attached is a copy of the 4<sup>th</sup> Quarter 2024 Leachate Report for the Boone County Sanitary Landfill. This is forwarded in accordance with Special Provision X.4.i.2 of the SDP Permit.

The leachate volume hauled from Tank #3 during January, 2024 was inadvertently omitted on the spreadsheet included with the previous quarterly leachate reports submitted in 2024. That volume has been included on the attached spreadsheet.

The leachate head measurements at LPZ-17 (on the Phase 8-R Expansion area liner) were less than 12" during all measurements in 2024.


The pumps in Extraction Well (EW) #1 and EW #2 were noted as operational during each measurement event during the 4<sup>th</sup> quarter of 2024.

Sizable increases in leachate thicknesses were noted in LPZ-2R (4.78'), LPZ-3 (5.15'), and LPZ-13C (7.16') between the October and November measurements. December measurements at each of these points was less than the November measurements so the increases appear to be related to the increased precipitation the site experienced during November, 2024 rather than a longer term increasing trend.

Note additional discussion on leachate volumes and thicknesses will be included in the 2024 Annual Groundwater Quality Report, which will be submitted to IDNR by January 31, 2025.

Please contact me if you have any questions.

Respectfully Submitted,  
**HLW ENGINEERING GROUP**

  
Douglas J. Luzbetak, P.E.  
Project Manager

cc: John Roosa, Boone Co. SLF (electronic copy)

Well/TOC		Boone Co SLF		Well/TOC		Boone Co SLF		Well/TOC		Boone Co SLF				
LPZ-2R Sept 14		1100.43		LPZ-3 Jan 03		1083.81 1112.37		LPZ-6R Sept 14		1107.81				
Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)
1/11/2024	43.42	1057.01	1044.1	12.91	1/11/2024	34.90	1077.47	1024.8	52.67	1/11/2024	67.57	1040.24	1023.7	16.54
2/24/2024	40.03	1060.40	1044.1	16.30	2/24/2024	33.13	1079.24	1024.8	54.44	2/24/2024	67.60	1040.21	1023.7	16.51
3/12/2024	41.42	1059.01	1044.1	14.91	3/12/2024	31.78	1080.59	1024.8	55.79	3/12/2024	67.60	1040.21	1023.7	16.51
4/23/2024	38.70	1061.73	1044.1	17.63	4/23/2024	31.46	1080.91	1024.8	56.11	4/23/2024	67.68	1040.13	1023.7	16.43
5/7/2024	34.60	1065.83	1044.1	21.73	5/7/2024	31.25	1081.12	1024.8	56.32	5/7/2024	67.81	1040.00	1023.7	16.30
6/3/2024	41.76	1058.67	1044.1	14.57	6/3/2024	31.51	1080.86	1024.8	56.06	6/3/2024	67.89	1039.92	1023.7	16.22
7/24/2024	43.16	1057.27	1044.1	13.17	7/24/2024	30.92	1081.45	1024.8	56.65	7/24/2024	67.94	1039.87	1023.7	16.17
8/6/2024	43.22	1057.21	1044.1	13.11	8/6/2024	31.15	1081.22	1024.8	56.42	8/6/2024	67.95	1039.86	1023.7	16.16
9/30/2024	43.83	1056.60	1044.1	12.50	9/30/2024	33.40	1078.97	1024.8	54.17	9/30/2024	67.98	1039.83	1023.7	16.13
10/2/2024	44.08	1056.35	1044.1	12.25	10/2/2024	33.75	1078.62	1024.8	53.82	10/2/2024	68.00	1039.81	1023.7	16.11
11/25/2024	39.30	1061.13	1044.1	17.03	11/25/2024	28.60	1083.77	1024.8	58.97	11/25/2024	68.20	1039.61	1023.7	15.91
12/9/2024	41.85	1058.58	1044.1	14.48	12/9/2024	31.67	1080.70	1024.8	55.90	12/9/2024	68.13	1039.68	1023.7	15.98

Well/TOC		LPZ-8A		1077.19		Boone Co SLF		Well/TOC		LPZ-9		1089.5 1094.55		Boone Co SLF		Well/TOC		LPZ-10		1089.5 1104.5		Boone Co SLF	
Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)				
1/11/2024	42.85	1034.34	995.12	39.22	1/11/2024	29.37	1065.18	1021.30	43.88	1/11/2024	NR <sup>(2)</sup>	NA	998.5	NA	1/11/2024	27.60	1076.90	998.5	998.5	1/11/2024	NR <sup>(2)</sup>	NA	NA
2/24/2024	43.50	1033.69	995.12	38.57	2/24/2024	29.25	1065.30	1021.30	44.00	2/24/2024	29.28	1075.22	998.5	76.72	2/24/2024	29.28	1075.22	998.5	998.5	2/24/2024	29.28	1075.22	76.72
3/12/2024	43.75	1033.44	995.12	38.32	3/12/2024	29.20	1065.35	1021.30	44.05	3/12/2024	28.62	1075.88	998.5	77.38	3/12/2024	28.62	1075.88	998.5	998.5	3/12/2024	28.62	1075.88	77.38
4/23/2024	43.68	1033.51	995.12	38.39	4/23/2024	29.14	1065.41	1021.30	44.11	4/23/2024	28.58	1075.92	998.5	77.42	4/23/2024	28.58	1075.92	998.5	998.5	4/23/2024	28.58	1075.92	77.42
5/7/2024	43.40	1033.79	995.12	38.67	5/7/2024	26.85	1067.70	1021.30	46.40	5/7/2024	20.70	1083.80	998.5	85.30	5/7/2024	20.70	1083.80	998.5	998.5	5/7/2024	20.70	1083.80	85.30
6/3/2024	43.42	1033.77	995.12	38.65	6/3/2024	29.10	1065.45	1021.30	44.15	6/3/2024	27.60	1076.90	998.5	78.40	6/3/2024	*		998.5	998.5	6/3/2024	*		78.40
7/24/2024	44.90	1032.29	995.12	37.17	7/24/2024	29.28	1065.27	1021.30	43.97	7/24/2024	29.28	1065.27	1021.30	43.97	7/24/2024	*		998.5	998.5	7/24/2024	*		
8/6/2024	44.60	1032.59	995.12	37.47	8/6/2024	29.14	1065.41	1021.30	44.11	8/6/2024	29.14	1065.41	1021.30	44.11	8/6/2024	*		998.5	998.5	8/6/2024	*		
9/30/2024	44.90	1032.29	995.12	37.17	9/30/2024	29.57	1064.98	1021.30	43.68	9/30/2024	29.57	1064.98	1021.30	43.68	9/30/2024	*		998.5	998.5	9/30/2024	*		
10/2/2024	44.90	1032.29	995.12	37.17	10/2/2024	29.57	1064.98	1021.30	43.68	10/2/2024	29.57	1064.98	1021.30	43.68	10/2/2024	*		998.5	998.5	10/2/2024	*		
11/25/2024	43.90	1033.29	995.12	38.17	11/25/2024	29.70	1064.85	1021.30	43.55	11/25/2024	29.70	1064.85	1021.30	43.55	11/25/2024	*		998.5	998.5	11/25/2024	*		
12/9/2024	44.90	1032.29	995.12	37.17	12/9/2024	29.30	1065.25	1021.30	43.95	12/9/2024	29.30	1065.25	1021.30	43.95	12/9/2024	*		998.5	998.5	12/9/2024	*		

(2) Obstruction encountered at 30'

Obstruction also noted during the 6/3/24 measurement

\* Removed from monitoring system as per 7/17/24 IDNR letter

Well/TOC		LPZ-12		Boone Co SLF		Well/TOC		LPZ-13C		Boone Co SLF		Well/TOC		LPZ-14		Boone Co SLF			
		1076.88						1095							1091.63				
Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)
1/11/2024	24.05	1052.83	1047	5.83	1/11/2024	29.55	1065.45	1049.88	15.57	1/11/2024	37.08	1054.55	1046.4	8.15					
2/24/2024	23.19	1053.69	1047	6.69	2/24/2024	29.28	1065.72	1049.88	15.84	2/24/2024	36.93	1054.70	1046.4	8.30					
3/12/2024	23.30	1053.58	1047	6.58	3/12/2024	29.11	1065.89	1049.88	16.01	3/12/2024	37.01	1054.62	1046.4	8.22					
4/23/2024	24.74	1052.14	1047	5.14	4/23/2024	29.15	1065.85	1049.88	15.97	4/23/2024	37.74	1053.89	1046.4	7.49					
5/7/2024	21.97	1054.91	1047	7.91	5/7/2024	29.28	1065.72	1049.88	15.84	5/7/2024	32.80	1058.83	1046.4	12.43					
6/3/2024	22.95	1053.93	1047	6.93	6/3/2024	29.50	1065.50	1049.88	15.62	6/3/2024	36.20	1055.43	1046.4	9.03					
7/24/2024	23.37	1053.51	1047	6.51	7/24/2024	29.71	1065.29	1049.88	15.41	7/24/2024	36.90	1054.73	1046.4	8.33					
8/6/2024	23.48	1053.40	1047	6.40	8/6/2024	29.62	1065.38	1049.88	15.50	8/6/2024	41.05	1050.58	1046.4	4.18					
9/30/2024	24.55	1052.33	1047	5.33	9/30/2024	29.50	1065.50	1049.88	15.62	9/30/2024	36.98	1054.65	1046.4	8.25					
10/2/2024	24.53	1052.35	1047	5.35	10/2/2024	29.76	1065.24	1049.88	15.36	10/2/2024	37.02	1054.61	1046.4	8.21					
11/25/2024	23.50	1053.38	1047	6.38	11/25/2024	22.60	1072.40	1049.88	22.52	11/25/2024	37.18	1054.45	1046.4	8.05					
12/9/2024	23.46	1053.42	1047	6.42	12/9/2024	25.30	1069.70	1049.88	19.82	12/9/2024	36.98	1054.65	1046.4	8.25					

Well/TOC		Boone Co SLF			Well/TOC			Boone Co SLF		
LPZ-15 Sept 14		1088.47			LPZ-17 Oct 21 Aug 23 <sup>(1)</sup>			973.5 973.8		
Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	
1/11/2024	34.30	1054.17	1045.3	8.87	1/11/2024	8.25	965.55	965.5	0.05	
2/24/2024	34.02	1054.45	1045.3	9.15	2/24/2024	8.30	965.50	965.5	0.00	
3/12/2024	33.91	1054.56	1045.3	9.26	3/12/2024	8.30	965.50	965.5	0.00	
4/23/2024	33.72	1054.75	1045.3	9.45	4/23/2024	8.18	965.62	965.5	0.12	
5/7/2024	33.52	1054.95	1045.3	9.65	5/7/2024	8.30	965.50	965.5	0.00	
6/3/2024	33.88	1054.59	1045.3	9.29	6/3/2024	8.15	965.65	965.5	0.15	
7/24/2024	34.00	1054.47	1045.3	9.17	7/24/2024	8.15	965.65	965.5	0.15	
8/6/2024	34.09	1054.38	1045.3	9.08	8/6/2024	8.11	965.69	965.5	0.19	
9/30/2024	34.35	1054.12	1045.3	8.82	9/30/2024	8.15	965.65	965.5	0.15	
10/2/2024	34.36	1054.11	1045.3	8.81	10/2/2024	8.15	965.65	965.5	0.15	
11/25/2024	34.55	1053.92	1045.3	8.62	11/25/2024	8.30	965.50	965.5	0.00	
12/9/2024	34.19	1054.28	1045.3	8.98	12/9/2024	8.23	965.57	965.5	0.07	

(1) LPZ-17 repaired on August 29, 2023

EW-1		1107.82		Boone Co SLF		Well/TOC		EW-2		1110.92		Boone Co SLF		Leachate Tank #3	
Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Date	Depth to Leachate (ft)	Leachate Elevation	Waste Base Elevation	Saturated Thickness (ft)	Monthly* Gallons Hauled	Cumulative* Gallons Hauled				
1/11/2024	77.55	1030.27	1026	4.27	1/11/2024	79.30	1031.62	1029	2.62	9,653	9,653				
2/24/2024	76.57	1031.25	1026	5.25	2/24/2024	79.15	1031.77	1029	2.77	0	9,653				
3/12/2024	77.40	1030.42	1026	4.42	3/12/2024	79.06	1031.86	1029	2.86	0	9,653				
4/23/2024	77.42	1030.40	1026	4.40	4/23/2024	79.42	1031.50	1029	2.50	9,915	19,568				
5/7/2024	77.28	1030.54	1026	4.54	5/7/2024	79.80	1031.12	1029	2.12	0	19,568				
6/3/2024	77.08	1030.74	1026	4.74	6/3/2024	79.25	1031.67	1029	2.67	6,656	26,224				
7/24/2024	77.38	1030.44	1026	4.44	7/24/2024	79.36	1031.56	1029	2.56	0	26,224				
8/6/2024	77.70	1030.12	1026	4.12	8/6/2024	79.76	1031.16	1029	2.16	0	26,224				
9/30/2024	76.85	1030.97	1026	4.97	9/30/2024	79.10	1031.82	1029	2.82	0	26,224				
10/2/2024	77.42	1030.40	1026	4.40	10/2/2024	79.55	1031.37	1029	2.37	0	26,224				
11/25/2024	77.80	1030.02	1026	4.02	11/25/2024	78.80	1032.12	1029	3.12	9,253	35,477				
12/9/2024	77.30	1030.52	1026	4.52	12/9/2024	79.85	1031.07	1029	2.07	0	35,477				

Display on EW-2 noted as off/fading during Jan. - Mar. readings, LCD display was repaired in late March.

\* Actual volumes weighed and hauled to POTW from Leachate Tank #3