

October 2, 2024
File No. 27223204.24

Mr. Mike Smith, P.E.
Iowa Department of Natural Resources
Land Quality Bureau
6200 Park Avenue
Des Moines, Iowa 50321

Subject: 2024 Semi-Annual Sampling Notification
Mahaska County Sanitary Landfill
Binns & Stevens MSWLF Unit
Permit No. 62-SDP-01-74P

Dear Mike:

SCS Engineers, on behalf of the Mahaska County Solid Waste Management Commission, is submitting herewith a summary of the 1st 2024 semi-annual groundwater sampling event for the Binns & Stevens municipal solid waste landfill unit (B&S MSWLF unit) at the Mahaska County Sanitary Landfill (Landfill) in general accordance with Iowa Administrative Code (IAC) 567-113.10(5) and 113.10(6).

Due to documented impact of acid mine drainage (AMD) on groundwater chemistry at the B&S MSWLF unit, interwell and intrawell prediction limits were used to evaluate inorganic parameters in the Hydrologic Monitoring System Plan (HMSP) monitoring wells. If statistically significant increases (SSIs) above background were indicated by interwell prediction limits, intrawell prediction limits were calculated. If SSIs were indicated by both interwell and intrawell prediction limits, an evaluation of AMD influence on the elevated metals concentration(s) will be performed in the Annual Water Quality Report. If AMD is determined to be the cause of the elevated metals concentrations, the monitoring point will remain in the current monitoring program. For monitoring wells in the assessment monitoring program, organic parameters were statistically evaluated using confidence intervals/bands and Mann-Kendall trend testing. Indicated SSIs for organic parameters in assessment monitoring wells are not confirmed as confirmation would not impact statistical conclusions.

Groundwater sampling was completed on May 14, 2024, and the associated field sheets were completed. The samples were shipped and received at the laboratory with acceptable preservation requirements and at appropriate temperatures. Statistical evaluation was performed using analytical data received from the laboratory. Table 1 summarizes the SSIs indicated by prediction limits for the inorganic parameters and statistically significant levels (SSLs) above the groundwater protection standards (GWPSs) for the organic parameters.



Table 1
1st 2024 Semi-Annual Statistical Evaluation Summary

Monitoring Point	Monitoring Program	Inorganic Interwell SSIs May 2024	Inorganic Intrawell SSIs May 2024	Organic SSLs May 2024	Organic SSIs May 2024
UW-11	Background	Background for detection monitoring program.			
DW-15	Background	Background for detection monitoring program.			
DW-19	Background	Background for detection monitoring program.			
UW-21	Background	Background for detection monitoring program.			
DW-8	Assessment	None	NA	None	1,1-Dichloroethane, cis-1,2-Dichloroethene
UW-9R	Assessment	NA (dry)	NA	NA*	None
UW-9RA	Detection	No samples available from this monitoring point.			
UW-10	Assessment	None	NA	None	1,4-Dichlorobenzene, Benzene, Vinyl Chloride
PZ-14	Detection	None	NA	NA	None
DW-23	Assessment	Nickel	None	None	None
DW-24	Detection	None	NA	NA	None
GU-1	Detection	No samples available from this monitoring point.			

* - Confidence intervals were not calculated since there have been no samples collected since March 2011.
 NA - Not applicable.

There were five indicated well/detected constituent pairs with indicated statistically significant increases (SSIs) above background. An SSI was indicated for nickel in monitoring well DW-23 using interwell prediction limits, but as intrawell prediction limits did not indicate an SSI, an SSI did not occur in accordance with the statistical method described above. The monitoring wells in assessment monitoring do not require a retest; therefore, the indicated SSIs were not confirmed.

Services discussed herein were performed in general accordance with IAC 567-113.10 and the current requirements for implementation of the HMSP for the Landfill. This correspondence constitutes the 2024 Spring Sampling Notification.

If you have any questions regarding this notification, please contact Nathan Ohrt at (319) 331-9613.

Sincerely,



Nathan Ohrt
 Senior Project Professional
 SCS Engineers



Timothy C. Buelow, P.E.
 Senior Project Advisor
 SCS Engineers

NPO/TCB

Copies: Mr. Joe Farris, Mahaska County Sanitary Landfill