

**IOWA DEPARTMENT OF NATURAL RESOURCES
FIELD SERVICES AND COMPLIANCE BUREAU
FIELD OFFICE #2 - MASON CITY IOWA**

DATE: March 23, 2023

TO: The Record

FROM: Jeremy Klatt 

SUBJECT: Sulfur Odor Complaint
NCIRSWA (SDP#94-SDP-01-75P); Webster County

Three individuals who live adjacent to the NCIRSWA landfill contacted the EPA to notify them of sulfur odors that were suspected to be originating at the landfill. These complaints were forwarded from EPA to this office on February 27, 2023. On March 10, 2023, I visited the landfill and met with the director Nik Myers.

I explained the nature of the complaint and asked about odors from the landfill. Mr. Myers agreed that there have been strong odors from the landfill recently. We discussed leachate as a possible source of the odor and I asked to observe the leachate collection pit, which is located on the east side of property along Gypsum Creek. Mr. Myers reported that the leachate pumping system has been inoperable since he began working at the landfill (~1 year). The piping of the system was found to be clogged and was cleaned by digging up the piping at various locations and jetting the line. The pipe cleaning is completed but Mr. Myers reported that when the system was brought back on-line that the pumps were no longer operational. The landfill is now waiting on the new pumps. In the interim, a contractor (Al Price) has been recirculating the leachate at the landfill on an as needed basis. Since August of 2022, no leachate has been hauled to the POTW.

Due to wet conditions we had to walk down the side slope of the landfill to observe the leachate collection pit. While walking down the slope we noted leachate seeps that were running down the side of the hill. They were black in color and had a strong sulfur odor. It appeared that the seeps were draining into sediment basins at the bottom of the hill. Further investigating the side slope, we noted between 5 and 10 unique seeps (picture 5). Mr. Myers reported that last year staff were working in this area repairing seeps in the area and the odors were so strong that staff had to work in shifts. Mr. Myers also reported that there was a lot of waste wallboard disposed at the landfill in this area, which may give any leachate a particularly strong sulfur odor. I also noted that some garbage was exposed on the side slope.

We observed that the leachate collection pit was nearly full (see picture 2). Adjacent to the leachate collection pit, there was a manhole with a slotted cover. There was a strong sulfur odor emanating from the manhole and the cover was extremely corroded, presumably due to the gases from the leachate. There was also a dead bird on the manhole. It appears that the bird landed on the manhole cover and succumbed to the gases (picture 3).

Due to the very muddy road conditions, it was apparent that the contactor would not be able to get back to this collection pit until there had been significant drying. Mr. Myers reported that due to wet conditions, no leachate had been hauled since February 22, 2023.

Due to the number of seeps noted on the sideslope, I wanted to observe the discharge from the sediment basin to Gypsum Creek. Mr. Myers and I walked south along the creek until we found where the sediment basin discharges to Gypsum Creek (see aerial photos and picture 4). I noted that the discharge had created a large gully. A discharge of about 5 gallons per minute was occurring at the time. The water was clear, though some foaming and bubbles were noted where the water was splashing on the ground below the outfall. No fish, alive or dead were noted in the stream. I sampled the discharge and just upstream and approximately 20 feet downstream of the discharge.

The sample results show high concentrations of total kjeldahl nitrogen, ammonia and chemical oxygen demand entering Gypsum Creek. Upstream and downstream samples show that the discharge was elevating the concentration of these pollutants in the stream (see Table 1).

Table 1. Stream sampling results from 3/10/23

	Total Kjeldahl Nitrogen	Ammonia	Chemical Oxygen Demand
	-----mg/L-----		
Landfill Discharge	37	32	250
Upstream	1.4	0.84	22
Downstream	1.9	1.3	32

Mr. Myers noted that he would not be able to fix the seeps until conditions allowed for equipment operation on the sideslope. He also reported that delivery of the leachate pumps has been delayed. I informed Mr. Myers that I would let him know the results of the sampling.

Based on my investigation, the odors are from the leachate. The landfill began recirculating the leachate in August of 2022, I believe that this activity would result in strong sulfur odors. In addition, because the leachate pumping system is currently inoperable there is more leachate than normal sitting in the leachate collection manholes, which I believe increases the odor. Lastly, it was evident at the time of my inspection that the leachate seeps were contributing to the sulfur odors. Mr. Myers understood that the leachate seeps need to be repaired as soon as possible.

The water sampling results demonstrate a violation of Iowa Code 455B.186, as the landfill is not permitted to discharge the elevated concentrations of TKN, ammonia, and COD observed in the discharge. A follow-up visit on March 15, 2023, was conducted at the landfill which also found to have a prohibited discharge. A Notice of Violation will be sent

Aerial 1. Location of seeps, leachate collection pit, and discharge to Gypsum Creek



Aerial 2. Location of seeps, leachate collection pit, and discharge to Gypsum Creek



Photo 1. Leachate collection pit along Gypsum Creek (picture facing south)

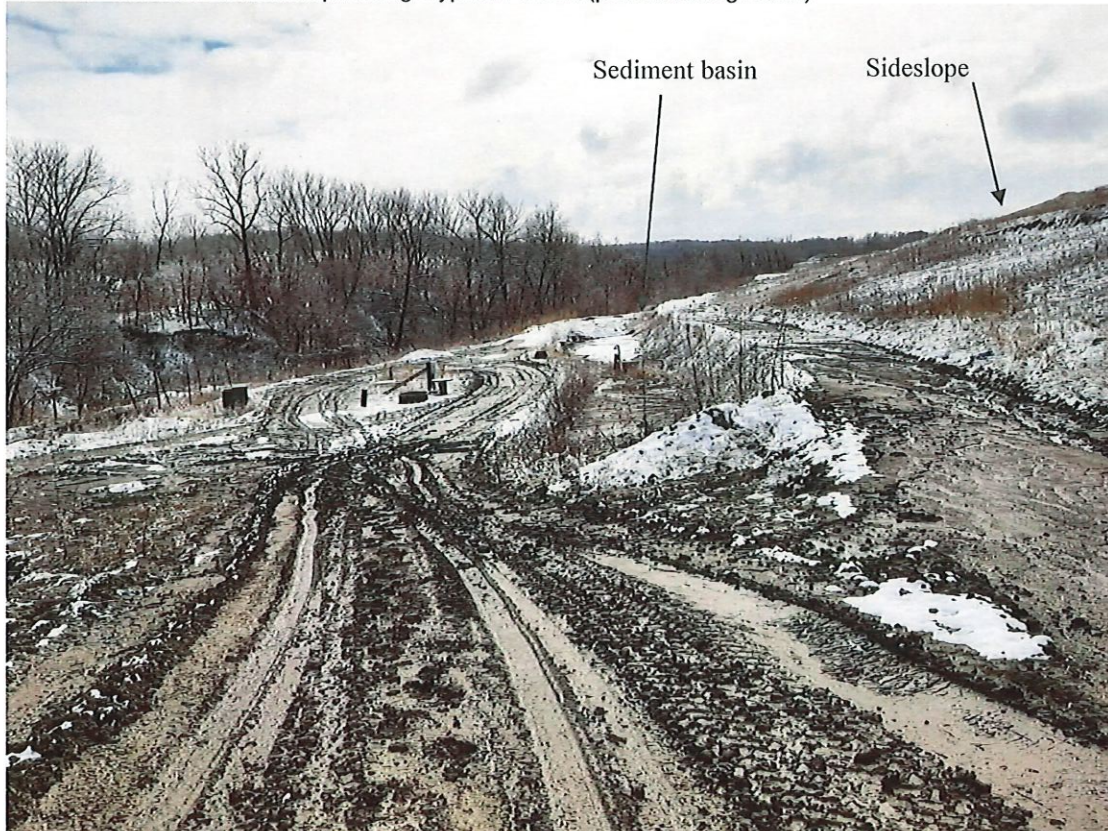


Photo 2. Leachate collection pit with leachate



Picture 3. Corrosion and dead bird on manhole cover



Picture 4. Discharge from Sediment Basin to Gully/Gypsum Creek



Photo 5. Example of seep found on side slope

