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## Guthrie County Sanitary Landfill - 39-SDP-01-73C - Alternative Background Monitoring Well

1 message

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**Ohrt, Nathan** <NOhrt@scsengineers.com>

Tue, Oct 1, 2024 at 1:20 PM

To: "brian.rath@dnr.iowa.gov" &lt;brian.rath@dnr.iowa.gov&gt;

Cc: Jotham Arber &lt;j.arber@guthriecounty.gov&gt;, "becky.jolly@dnr.iowa.gov" &lt;becky.jolly@dnr.iowa.gov&gt;

Good afternoon Brian-

Volatile organic compounds (VOCs) have consistently been detected in the current background monitoring well MW-12 at the Guthrie County Sanitary Landfill, which would not comply with Iowa Administrative Code (IAC) 567-113.10(2)"a"(1), which states the following for background monitoring wells:

*a. A groundwater monitoring system must be installed that meets the following objectives:*

*(1) Yields groundwater samples from the uppermost aquifer that represent the quality of background groundwater that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where either:*

*1. Hydrogeologic conditions do not allow the owner or operator to determine which wells are hydraulically upgradient; or*

*2. Sampling at other wells will provide an indication of background groundwater quality that is as representative as or more representative than that provided by the upgradient wells.*

Due to the apparent impact observed at monitoring well MW-12, historical analytical data of existing site monitoring wells was reviewed to evaluate their appropriateness as a potential background monitoring well. Monitoring well MW-5 is not upgradient of the waste mass, but data indicates the groundwater quality in MW-5 would be representative of background for the monitoring network in accordance with IAC 567-113.10(2)"a"(1)2.

Monitoring well MW-5 is similar to MW-12 in that quantified inorganic detections outside of barium have been largely absent since 2015 except for three trace concentrations of cadmium slightly above the reporting limit (MW-12 also has one quantified detection of cadmium) and one quantified detection of nickel equal to the reporting limit. In addition, the barium concentrations measured in monitoring well MW-5 are lower than those measured in monitoring well MW-12.

There have been no VOCs detected (including no J flags) in monitoring well MW-5 since Appendix I monitoring began in 2010. It should be noted that VOC sampling was discontinued for monitoring well MW-5 in 2021. If MW-5 is designated as the background monitoring well, VOC sampling would resume for the monitoring well.

As MW-5 is a detection monitoring well, full set Appendix II sampling has not been performed for MW-5.

Based on the reasons above, it appears that monitoring well MW-5 is not impacted by the Landfill and would function appropriately as the background monitoring well for the Landfill groundwater monitoring network.

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