Arbor Hills Landfill, Inc.

Ridge Wood Elementary Hydrogen Sulfide (H_2S) Monitoring: 24-hour average concentrations

June 2023

For the June 1 – 30, 2023 monitoring time period, the following is noted:

1) Equipment Operation
    a. SPM Flex functioning and operations were within the manufacturer specified ranges except as noted below.
    b. Sample flow rate was outside specified limits for 52 one-hour periods in June. Minimal effect on the 24-hour average concentration was observed. A spare SPM Flex was installed on June 13 as noted in the Maintenance section below.
2) Data Downloading
    a. No malfunctions or issues with data downloading were identified.
3) Meteorological Conditions
    a. A severe storm caused a power outage on the 26th and 27th; data code AV was used for the time period effected by the power outage.
4) Maintenance
    a. Barr performed routine maintenance on June 1; data code "BA" used for the 24-hour time period encompassed by the site visits. Minimal effect on the 24-hour average concentration was observed.
    b. Barr was on site on June 13 to replace SPM Flex H_2S monitor with a spare unit. Minimal effect on the 24-hour average concentration was observed.
    c. Barr was on site June 27 to reboot system after power outage.
5) Audits
    a. No audits of the network were conducted during the time period.
6) Data – Average Air Concentrations
    a. Average concentrations are calculated from 10-second readings obtained from the SPM Flex by the data logger.
    b. The SPM Flex output range is 0.000 to 9.999 parts per million (0 to 9,999 parts per billion, ppb). Therefore, an average air concentration may be derived from a data set that includes one or more zero values.
    c. A reported average concentration is a rounded value, for example:
        i. A calculated average concentration of 0.0 to 0.9 ppb is identified as "<1 ppb"
        ii. A calculated average concentration of 1.6 ppb is rounded to 2 ppb
        iii. A calculated average concentration of 3.1 ppb is rounded to 3 ppb
7) Data Report (24-hour Average Concentrations)
    a. No notifications required to be sent to Ridge Wood Elementary for elevated H_2S.[1]
    b. All 24-hour average concentrations are low; all < 1 ppb.[2]

[1] Notifications to be sent to the Ridge Wood Elementary School if a 15-minute average concentration exceeds 750 ppb (0.75 ppm, USEPA Acute Exposure Guideline Value) or a 24-hour average concentration exceeds 72 ppb (0.072 ppm).

[2] The 24-hour guideline value from the Michigan EGLE is 72 ppb (~100 microgram per cubic meter of air). A 24-hour air concentration that is below the guideline value is interpreted to mean there is no appreciable risk to a person breathing the air. However, a 24-hour air concentration that exceeds the guideline value does not mean that adverse health effects have or will occur as there are safety factors built into the guideline value to be protective of human health. But air concentrations that exceed the guideline value indicate that further review and assessment of the monitored air concentrations is needed.

Please contact the following Arbor Hills Landfill or Barr staff if you have questions about the air monitoring being conducted at the Ridge Wood Elementary School.

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Ridge Wood Elementary Hydrogen Sulfide (H2S) Monitoring

June-2023

Day	24-hr Average H2S Concentration (parts per billion; ppb)	Comment
6/1/23	<1	Barr on-site to perform routine maintenance.
6/2/23	<1	
6/3/23	<1	
6/4/23	<1	
6/5/23	<1	
6/6/23	<1	
6/7/23	<1	
6/8/23	<1	
6/9/23	<1	
6/10/23	<1	
6/11/23	<1	
6/12/23	<1	
6/13/23	<1	Barr on-site to swap H2S monitor with spare unit.
6/14/23	<1	
6/15/23	<1	
6/16/23	<1	
6/17/23	<1	
6/18/23	<1	
6/19/23	<1	
6/20/23	<1	
6/21/23	<1	
6/22/23	<1	
6/23/23	<1	
6/24/23	<1	
6/25/23	<1	
6/26/23	AV	Power failure due to bad weather.
6/27/23	AV	Power failure due to bad weather. Barr on-site to reboot system after power outage.
6/28/23	<1	
6/29/23	<1	
6/30/23	<1	