



# West Lake Update

October 26, 2016

## Part 2 of 3: EPA Air Monitoring

*This is the second installment of a multi-part series of the West Lake Update regarding air quality and air monitoring at the West Lake and Bridgeton Landfills*

*and the surrounding area. To read Part 1, visit our website: <https://www.epa.gov/mo/west-lake-landfill>*



Since 2013, both EPA and MDNR have conducted air quality monitoring at the West Lake and Bridgeton Landfills, respectively, at the fence line and in communities surrounding the Bridgeton Landfill. EPA has also established agreements with Bridgeton Landfill, LLC and the other West Lake Landfill responsible parties to conduct on-site air monitoring following strict protocols reviewed by both the agency and the state. This second installment discusses the air monitoring conducted by EPA. MDNR air monitoring will be discussed in the third installment of this series of updates on air quality.

From April 2014 to July 2015, EPA operated five off-site air monitoring stations, collecting samples for radionuclides, including alpha-beta, gamma, and radon using a variety of both fixed laboratory and field portable instruments. EPA also operated field portable instruments for hydrogen sulfide (H<sub>2</sub>S) and total reduced sulfur compounds, SO<sub>2</sub>, carbon monoxide (CO), and total Volatile Organic Compounds (VOCs). VOCs were sampled for specific analytes by both Summa canisters and by passive diffusion samplers known as Radiellos. H<sub>2</sub>S was also measured by EPA using the Radiellos.

### Off-Site Air Monitoring

The results of EPA's off-site air monitoring efforts indicate that VOCs and H<sub>2</sub>S (by Radiellos) measured at the five off-site stations were generally consistent with urban background with one exception. Trichloroethylene (TCE), which is a VOC, was detected at Station 2 to the northwest of the landfill site at concentrations statistically greater than at the other monitoring stations and the St. Louis downtown background monitor

used for comparison. As discussed in Part 1 of this series, EPA investigated the potential for an off-site source(s) of TCE through compliance inspections of surrounding facilities. No specific source has yet been identified through compliance inspections. Air monitoring for radionuclides indicated off-site levels are consistent with urban background as well. The results of EPA's air monitoring from April 2014 to July 2015 are available on EPA's West Lake website: <https://www.epa.gov/mo/west-lake-landfill>

### On-Site Air Monitoring

In April 2014, EPA and the Potentially Responsible Parties (PRPs) (including Bridgeton Landfill, LLC) signed the Administrative Settlement and Order on Consent for Removal Action-Preconstruction Work, which, in part, required that the PRPs establish an on-site air monitoring network. On December 5, 2014, EPA approved the Air Monitoring, Sampling, and Quality Assurance/Quality Control Plan and instructed the PRPs to begin baseline air monitoring at the West Lake Landfill. The PRPs began on-site air monitoring surrounding the perimeter of Operable Unit (OU) 1 for VOCs by Radiello passive diffusion samplers and for radionuclides in May 2015. The PRPs are continuously operating 13 air monitors, with six surrounding Operable Unit 1, Area 1, and another six surrounding Operable Unit 1, Area 2. The thirteenth monitor is located in the southwest corner of the site. The air monitoring locations were selected to ensure the network provides coverage around Areas 1 and 2 under all wind directions.



EPA has received three quarterly reports to date. The results indicate that, with the exception of one potentially anomalous result for toluene, the levels of VOCs in air on-site are less than, or within the range of, the levels previously detected by EPA at its five off-site monitoring locations. The anomalous toluene detection has not recurred in the second or third quarters. With this exception, all of the remaining VOC air

monitoring data collected by EPA, or the PRPs under EPA oversight, since May 2015 are consistent with the levels of VOCs reported in downtown St. Louis as measured by MDNR's National Air Toxic Trend Station (NATTS) monitor.

For radionuclide samples, the isotopic and gamma spectroscopy results for uranium-238, thorium-230, and combined radium are below Nuclear Regulatory Commission limits for public exposure. The results for gross alpha, beta, and VOCs are generally consistent with EPA's own previous year-long monitoring effort at five off-site locations, including one placed in Spanish Village. The quarterly reports are available on EPA's West Lake website: <https://www.epa.gov/mo/west-lake-landfill>

## SO2 Monitoring

In April 2016, EPA and the Bridgeton Landfill, LLC, signed the Administrative Settlement Agreement and Order on Consent for Removal Actions, which required, in part, that Bridgeton Landfill install and operate two SO2 ambient air monitors for 1-hour SO2 measurements for a period of one year. The purpose of SO2 air monitoring under this order is to evaluate

SO2 levels in the area around the Bridgeton Landfill. Recent landfill gas sampling results provided by Bridgeton to MDNR indicate that the flares located on site may be producing more SO2 than previously estimated. The precision of these instruments coupled with methodology being used will help provide a more accurate characterization of SO2 levels in the area.

In June of this year, EPA approved the SO2 monitoring work plan and instructed Bridgeton Landfill to begin baseline air monitoring at two locations: one near the water tower in Spanish Village and another near St. Charles Rock Road just north of the Bridgeton landfill. The new SO2 monitors began collecting data on August 25, 2016. EPA approved the locations to ensure the monitors provide coverage of air emissions under a variety of wind directions. The data is available to the public in a similar format to what is currently available from MDNR's "Rider Trail" SO2 monitor located just south of the Bridgeton Landfill. The data from these two monitors are available at the following link: [www.inqenv.com/bridgeton](http://www.inqenv.com/bridgeton)

***Stay tuned for Part 3: MDNR Air Monitoring.***



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