

## **DHSS Follow-Up Review of Air Monitoring Data from the Bridgeton Landfill Area, February 27 – March 3, 2014**

The Department of Health and Senior Services (DHSS) has reviewed air quality monitoring data collected by the Department of Natural Resources (DNR) at Bridgeton Landfill from the afternoon of **February 27** to the afternoon of **March 3, 2014**.

DNR provides continuous monitoring data for reduced sulfur compounds (reported as hydrogen sulfide), sulfur dioxide, carbon monoxide, and total volatile organic compounds (VOCs) at three fixed locations as well as routine, twice daily, surveillance of hydrogen sulfide, benzene, and odor levels around the entire periphery of the landfill. On the morning of March 3, DNR performed surveillance around the landfill using hand-held monitors, as the fixed monitor instruments were inoperable due to extreme weather conditions. DHSS has reviewed both sets of data to identify potential public health concerns for short-term health effects. Generally, samples are collected near the property boundary and dispersion is expected to reduce exposure downwind of the sample locations.

During this time period, Bridgeton Landfill notified DNR of equipment failure on a gas extraction well (GEW-30R) located on the southeast portion of the landfill. On March 1 and 2, Bridgeton Landfill worked to contain the release of landfill gases and strong odors resulting from this equipment failure. In early morning on March 2, Bridgeton Landfill reported completion of this work.

### Odors

DNR reported occasional light, moderate, and strong odors at various locations during this time period. DHSS continues to recommend that during periods of objectionable odor, sensitive individuals should stay indoors as much as possible, avoid outdoor exercise, and seek medical advice for any acute symptoms. Symptoms associated with exposure to strong odors include headache, nausea, and fatigue. Symptoms generally associated with strong odors typically disappear once the odors dissipate.

### Hydrogen Sulfide and Other Reduced Sulfur Compounds

Hydrogen sulfide concentrations were below levels of public health concern. Hydrogen sulfide levels are measured by the highly sensitive Jerome meter, which detects hydrogen sulfide specifically. Reduced sulfur compounds were periodically detected by AreaRAE monitors, but previous sampling has shown that these detections are primarily due to a reduced sulfur compound with strong odor but lower toxicity.

### Sulfur Dioxide

Average sulfur dioxide concentrations were below levels of public health concern, except for several hours on March 1 in one monitoring location in a residential area southeast of the landfill. Exposure to these elevated levels of sulfur dioxide may cause respiratory irritation or other short-term symptoms, particularly in asthmatics or other sensitive individuals.

*Note: For more information on these sulfur dioxide readings, see the message for March 13 – March 17, 2014.*

#### Benzene and Total VOCs

Benzene was not detected in ambient air at any of the surveillance locations around the landfill during this time period. There are no health-based screening values for total VOCs. However, total VOC data are used to identify the need for compound-specific sampling. To be proactive, DNR is performing weekly VOC compound-specific sampling in locations upwind and downwind of the landfill. The laboratory results are submitted for DHSS review of public health concerns and that analysis is regularly posted online.

#### Carbon Monoxide

Average carbon monoxide concentrations were below levels of public health concern.

#### Radiation Rates

Gamma radiation rates continue to be indistinguishable from natural background levels and were below levels of public health concern.