DHSS Daily Follow-Up Review of Air Monitoring Data from the Bridgeton Landfill Area, May 28, 2013

The Department of Health and Senior Services (DHSS) has reviewed air quality screening data collected by the Department of Natural Resources (DNR) at Bridgeton Landfill on May 27-28, 2013. On April 23, DNR began routine, twice daily, surveillance of hydrogen sulfide, benzene, and odor levels around the entire periphery of the landfill. In addition, DNR has provided continuous monitoring of reduced sulfur compounds (reported as hydrogen sulfide), sulfur dioxide, carbon monoxide, and total volatile organic compounds (VOCs) at three fixed locations. DHSS has reviewed both sets of data to identify potential public health concerns for short-term health effects.

Odors

Odors were reported by DNR as being moderate today in locations north of the landfill. Winds were predominantly from the south.

- DNR detected moderate odors at a location northeast of the landfill using a Nasal Ranger olfactometer.
- 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.

- The maximum concentration of hydrogen sulfide detected was 4.8 parts per billion (ppb). Hydrogen sulfide concentrations were detected by the Jerome meter, which is highly sensitive and specific to hydrogen sulfide.
- Reduced sulfur compounds were not detected by AreaRae monitors.

Sulfur Dioxide

Average sulfur dioxide concentrations did not exceed levels of public health concern, except for a limited time period at two monitoring locations near the landfill.

- For one hour on May 27, the average sulfur dioxide concentration at the monitoring location west of the landfill was 0.02 parts per million (ppm), exceeding a health-based guideline for acute exposure.
- For one hour on May 28, the average sulfur dioxide concentration at the monitoring location east of the landfill was 0.03 ppm, exceeding a health-based guideline for acute exposure. DNR field staff noted nearby businesses applying unknown pesticides or herbicides to the ground near the AreaRAE. It is unknown if this may have contributed to the elevated concentration at the monitoring location east of the landfill
- Exposure to these concentrations of sulfur dioxide may cause irritation and other short-term symptoms.

Benzene and Total VOCs

Benzene was not detected in ambient air at any of the surveillance locations around the landfill.

- Previous sampling has shown that, while several VOCs are present in the landfill source gas, benzene may be a primary VOC of public health concern.
- One AreaRAE monitor detected elevated concentrations of VOCs for several hours at the monitoring location south of the landfill.
- These elevated VOC concentrations were not verified by other AreaRAE monitors stationed at the same location.

Carbon Monoxide

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