DHSS Daily Follow-Up Review of Air Monitoring Data from the Bridgeton Landfill Area, May 25, 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 24-25, 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 generally mild today, particularly north of the landfill. Winds were predominantly from the south.

- DNR periodically detected strong odors at locations north 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 well below levels of public health concern.

- The maximum concentration of hydrogen sulfide detected was 7.2 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 one monitoring location near the landfill.

- For one hour on May 24, the average sulfur dioxide concentration at the monitoring location east of the landfill was 0.02 parts per million (ppm), exceeding a health-based guideline for acute exposure.
- Exposure to this concentration of sulfur dioxide may cause irritation and other short-term symptoms.
- Because this monitoring location was upwind of the landfill at the time, it is believed that sources of sulfur dioxide other than the landfill may have contributed to this elevated concentration.

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.
- Total VOC concentrations were not at a level that indicates a need for compound-specific sampling.

Carbon Monoxide

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

Radiation Rates

Gamma radiation rates continue to be at levels that are at or near natural background levels.

Gamma radiation levels are monitored continuously at three locations around the site using AreaRae instruments equipped with radiation detectors.