

DHSS Review of Air Sample Data from the May 29-30 Comprehensive Air Sampling at Bridgeton Landfill

The Missouri Department of Health and Senior Services (DHSS) has reviewed the air sample data from the May 29-30 comprehensive sampling event at Bridgeton Landfill. DHSS evaluated air samples collected from two on-site locations and from two locations upwind and two locations downwind from the site. DHSS reviewed the data for evaluation of potential public health concerns of short-term health effects.

Samples were collected for aldehydes, amines, ammonia, carboxylic acids, hydrogen chloride, hydrogen cyanide, mercury (elemental), sulfur dioxide, dioxins/furans, polynuclear aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and reduced sulfur compounds. Of these, only aldehydes, carboxylic acids, dioxins/furans, PAHs, and VOCs were detected in the samples.

Aldehydes

Aldehydes were detected on-site, upwind, and downwind of the landfill; however, all concentrations were below levels of public health concern.

- Of the 12 aldehydes sampled for, 11 were detected in the downwind sampling locations; however, these concentrations were low and did not exceed available health-based screening levels for acute exposure.

Carboxylic Acids

Carboxylic acids were detected in one on-site sample; however, concentrations were below levels of public health concern and were not detected in ambient air downwind of the landfill.

Dioxins/Furans

Dioxins and furans were detected on-site, upwind, and downwind of the landfill; however, all concentrations were below levels of public health concern.

- Due to the absence of health-based screening levels for acute exposures, data were compared to a chronic screening level for dioxins/furans using the standard approach for evaluating human health risks from dioxin-like compounds. This provides a very health protective evaluation.
- Of the 17 dioxins and furans sampled for, 6 were detected in a downwind sampling location; however, these concentrations were low and did not exceed available health-based screening levels (for chronic exposure).

PAHs

PAHs were detected on-site, upwind, and downwind of the landfill; however, the concentrations were low and are not expected to pose a public health risk.

- Of the 19 PAHs sampled for, 7 were detected in a downwind sampling location; however, these concentrations were low and did not exceed available health-based screening levels for acute exposure. Some of the specific compounds detected do not have health-based screening levels available; however, only very low

concentrations were detected and these detections are not expected to pose a public health risk.

VOCs

VOCs were detected on-site, upwind, and downwind of the landfill; however, all concentrations of VOCs were below levels of public health concern.

- Of the 68 VOCs sampled for, 24 were detected in the downwind sampling locations; however, these concentrations were low and did not exceed available health-based screening levels for acute exposure.