

Bridgeton Landfill, LLC

13570 St. Charles Rock Road
Bridgeton, Missouri 63044

Mr. Aaron Schmidt
Missouri Department of Natural Resources
1738 East Elm Street
Jefferson City, Missouri 65101

June 24, 2013

Dear Mr. Schmidt:

**Gas Wellfield Management
Bridgeton Landfill, Bridgeton, Missouri
Permit No. 0118912**

At the June 18, 2013 Team Bridgeton meeting, you referred to comments in the report "Data Evaluation of the Subsurface Smoldering Event at the Bridgeton Landfill" prepared by Todd Thalhammer, P.E. dated June 17, 2013. The referenced comments are found in the "General Comments and Concerns on the Landfill Data" section of the report and deal with Mr. Thalhammer's concern with what he sees as "overpull" of the gas extraction wellfield.

We do not believe that a systemic condition of overpull exists in the wellfield, but remain open to discussing this further to answer any questions and offer the following comments in response to the concerns raised in Mr. Thalhammer's report:

1. The report references several incidents where inlet gas to the flare contained more than 5% oxygen and cites that as evidence that the "facility is overdrawing the gas collection and control system." However, it should be noted that the gas collected at the flare includes gas from many locations other than the GEW and GIW wells in the wellfield. About 50 PEW (perimeter extraction wells) are installed outside the limits of waste in soil and rock materials for the purpose of limiting methane migration. These wells draw primarily ambient air with high oxygen levels but do not draw oxygen into the waste material. Also, there are a number of "odor control" devices that contribute gas to the flare inlet, such as "bubblesuckers" (features that remove shallow gas from under sections of synthetic liner material), sump collectors, shallow horizontal trenches, and leachate vessels; each of these allow ambient air into the gas collection system, without pulling oxygen into waste material.
2. Table 4 of the report lists gas wells from April that had peak oxygen level over 5%. There are many reasons that this can occur, and the details of these specific incidents can be investigated. Generally speaking, the presence of a high water level in a gas well can limit or prevent landfill gas from reaching the wellhead where oxygen is measured. In such cases, the field instrument pulls a vacuum on the wellhead which may allow air to infiltrate the wellhead causing oxygen readings that are not representative of oxygen levels in the waste mass. In other cases, It is

possible that settlement causes the solid casing portion of the gas well to pull away from the soil creating a "short-circuit" of air to migrate down along the casing and to enter the top of the well screen (which is usually shallow and well above the reaction area); again, this would not be representative of the oxygen content in the waste mass.

We agree with MDNR and Mr. Thalhammer regarding the importance of minimizing oxygen intrusion into the waste mass, and will continue to remain diligent while also exerting efforts to maximize gas removal in an attempt to control odor. We have reinforced our procedures to assure follow-up and trouble-shooting for GEW and GIW wells that indicate presence of oxygen; these may result in earlier introduction of a pump into a well, greater attention to surface seals, etc. Addition of the EVOH cap should allow better surface seal eliminating one of the above-mentioned variables.

If you need additional information, please contact Michael R. Beaudoin of CEC at 248-804-8022 or myself at 314-744-8195.

Sincerely,

Bridgeton Landfill, LLC

 FOR

Craig Almanza
Area Environmental Manager

cc: Mr. Chris Nagel, Chief, MDNR-SWMP