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NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

APR 27 2018

Ms. Erin Fanning
Division Manager
Bridgeton Landfill, LLC
13570 St. Charles Rock Rd.
Bridgeton, MO 63044

RE: Groundwater Evaluation Report for Bridgeton Landfill, Permit Number 0118912, St. Louis County

Dear Ms. Fanning:

The Missouri Department of Natural Resources' Solid Waste Management Program (SWMP) has reviewed the following document concerning the groundwater sampling program at the Bridgeton Landfill:

"Groundwater Evaluation Report, Bridgeton Landfill, Bridgeton, Missouri," received by the SWMP on December 28, 2017.

The Groundwater Evaluation Report (GWER) was prepared for the Bridgeton Landfill, LLC by Feezor Engineering, Inc. and is dated December 26, 2017.

The SWMP sent a comment letter concerning the GWER to Bridgeton Landfill on March 19, 2018, and stated that additional comments may be provided by the Missouri Geological Survey. The SWMP has received the following comments from the MGS concerning the GWER:

1. The GWER recommended some additions and deletions to the current detection and assessment groundwater monitoring networks for the Site. The additions to the detection and assessment groundwater monitoring networks seem reasonable and necessary given the documented groundwater impacts detected in those monitoring wells.
2. The Geological Survey Program (GSP) understands that the impacts detected in monitoring wells PZ-208-SS and PZ-114-AS have historically been attributed to an off-site source. The groundwater flow direction in this area does appear to be in a direction such that the Site is cross- or down-gradient of these two monitoring wells. It could be useful to continue to have analytical data to continue to ensure that off-site impacts do not increase or change significantly; however, it may not be necessary to regularly monitor these points to achieve that goal.



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3. During the MGS sampling events conducted in 2016 and 2017, the groundwater samples for the Bridgeton Sanitary Landfill were analyzed for tritium. Tritium can be a good parameter to use when evaluating leachate impacts to the groundwater. While the analytical results of the groundwater from monitoring well PZ-206-SS have indicated very low levels of organic constituents at times, the impacts have not been consistent; however, tritium has been detected at levels ranging from 1240-1600 pCi/L, well above the level that would be present in the atmosphere in the area due to historical nuclear testing. Also of note, are the chloride levels that ranged and increased from 92 to 140 mg/L over the sampling period. Putting all this together, it is GSP's opinion that while significant leachate impacts do not appear to have occurred to the groundwater in the vicinity of monitoring well PZ-206-SS, the presence of tritium and the elevated levels of chloride indicate that further assessment of monitoring well PZ-206-SS may be warranted, even if it is not added to the detection or assessment monitoring networks.
4. The four monitoring wells completed in the Burlington-Keokuk Limestone (KS Wells) monitor the groundwater underneath the Warsaw Formation (believed to be the confining layer beneath the Site) for leachate impacts. At this time, confirmed groundwater impacts have occurred at PZ-104-KS and are being monitored under the Site's assessment monitoring plan. Groundwater impacts have not been detected in the other three KS wells at the Site (PZ-100-KS, PZ-106-KS, and PZ-111-KS) and geochemical parameters appear to be consistent and stable at this time. It is the GSP's opinion that it would be prudent to continue to collect groundwater analytical data to ensure that the groundwater remains free from impact in this groundwater zone; however, as with monitoring wells PZ-208-SS and PZ-114-AS, it may not be necessary to regularly monitor these points to achieve that goal.

Given the commentary from MGS, the SWMP has the following comments concerning future groundwater sampling at the Bridgeton Sanitary Landfill.

1. The SWMP has determined wells PZ-208-SS and PZ-114-AS will remain part of the groundwater monitoring network, but the monitoring frequency for these wells can be lowered to annually if the facility chooses.
2. The SWMP has determined that well PZ-206-SS should be added to the detection monitoring well network.
3. The SWMP has determined wells PZ-100-KS, PZ-106-KS, and PZ-111-KS should become part of the groundwater monitoring network. The monitoring frequency for these wells can be lowered to annually after a sufficient number of samples have been collected to produce a sufficient background sample size and statistical power for adequate statistical evaluation.

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Please submit a revised Groundwater Monitoring Plan that incorporates the additional monitoring wells into the groundwater detection monitoring network and into the assessment monitoring network where appropriate. Please submit the revised Groundwater Monitoring Plan within fifteen (15) days of receipt of this letter.

If you should have any questions about this letter, please contact Mr. Brian D. Newby at 573-751-5401 or P.O. Box 176, Jefferson City, MO 65102-0176. Thank you.

Sincerely,

SOLID WASTE MANAGEMENT PROGRAM



Charlene S. Fitch, P.E.
Chief, Engineering Section

CSF:bnl

c: Ms. Dana Sincox, Republic Services, Inc.
Mr. Chris Nagel, Director, SWMP
Mr. Mike Parris, Chief, Compliance/Enforcement Section, SWMP
St. Louis Regional Office via Electronic Shared File

