

# TIMOTHY D. STARK, Ph.D., P.E., D.GE

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To: Ms. Brenda Ardrey, CGFM  
Operations Section Chief  
Solid Waste Management Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102

From: Timothy Stark, Ph.D., P.E., D.GE

Date: September 16, 2014

RE: Slope Stability Inspection 13 May 2014 – Bridgeton Landfill – Permit No. 0118912

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Pursuant to your request, I performed an inspection of the slope areas at the Bridgeton Landfill on 13 May 2014, including areas in which active smoldering or combustion is occurring.

My inspection consisted of walking over landfill slopes made available by Republic Services while being accompanied by representatives of Republic Services, including James Teeter, Brian J. Power, and their external engineering consultant Peter J. Carey. My slope inspection was limited by the presence of a geomembrane cap installed over the south quarry and part of the “neck area” to control odors. As a result, surface cracking, scarp formation, toe bulging, and leachate outbreaks were not readily visible.

This inspection did reveal evidence of slope movement in the southwest corner near the slope toe. This movement was manifested by a bulge in the slope toe towards the access road and corresponding closely spaced geomembrane wrinkles across the area. The movement appeared to be confined to the lower one-third of the slope.

Areas of future stability concern are the southeast and southwest slopes as the smoldering/combustion moves towards the south and the steep slopes around the “amphitheater” area of the landfill, especially if the smoldering/combustion keeps moving north. Slope stability is a concern when the smoldering/combustion moves to unaffected slopes because of the presence of high gas and leachate pressures, steep slopes, and thermal degradation of waste. As the waste is consumed by combustion/smoldering and the slope flattens, the potential for slope instability decreases.

If you have any questions or if I can provide any additional information, please contact me using the contact information shown above.

Sincerely yours,



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Timothy D. Stark, Ph.D., P.E., F.ASCE, D.GE