

## SCS ENGINEERS

November 22, 2016  
File No. 23212007.04

Ms. Tracy Buchanan  
Ohio EPA Southwest District Office  
401 East Fifth Street  
Dayton, Ohio 45402-2911

Subject: Village of St. Bernard Landfill  
Contingency Monitoring Results, November 22, 2016

Dear Ms. Buchanan:

Enclosed please find the results of the gas monitoring performed on behalf of the Village of St. Bernard at the closed St. Bernard Landfill on November 22, 2016.

Combustible gas concentrations above the compliance threshold were detected at MP-10. MP-10 had an initial concentration of 33.3 percent and a sustained concentration of 34.2 percent. The immediate verification sample at MP-10 had an initial concentration of 34.0 percent and a sustained concentration of 33.2 percent. This threshold exceedance will result in the continuation of Contingency Monitoring at MP-10 as described in the EGMP. Following the initial and verification sampling, MP-10 was pumped for 30 minutes at a rate of approximately 550cc/min using the GEM 5000. Approximately 25 casing volumes were removed from MP-10. A reading was taken at the beginning and end of this purging. The results were an initial reading of 27.7 and a final reading of 6.2 percent methane.

The absence of any significant pressure at MP-10 indicated that there is no driving force that could cause gas migration over any significant distance. The falling methane concentration during the 30 minute purge indicates that the elevated concentration of methane is present in a small area, i.e. only a small volume of soil gas with an elevated concentration of methane is present. The methane detected at MP-10 is likely either a localized concentration or is present due to migration driven by a concentration gradient/diffusion.

Should you have any questions or comments, please contact the undersigned.

Sincerely,



Randall C. Mills, P.G.  
Senior Project Professional  
**SCS ENGINEERS**



James J. Walsh, P.E.  
Principal  
**SCS ENGINEERS**

cc: Chuck DeJonckheere, Hamilton County Public Health  
Nick Schapman, GHD  
John Estep, Mayor, Village of St. Bernard

Enclosures

## Compliance Probe Monitoring Form for St. Bernard Landfill

Date: <u>11/22/16</u>	Sampler: <u>Randall Mills</u>
Instrument: <u>GEM 5000</u>	Weather: <u>mostly cloudy, calm</u>
Calibration Prior to Sampling: <u>Yes</u>	Ambient Air Temperature (°F): <u>45</u>
Calibration Gas: <u>CH<sub>4</sub> 15%, CO<sub>2</sub> 15%, O<sub>2</sub> 4%</u>	Barometric Pressure (in Hg): <u>30.33</u>
Recalibration: <u>No</u>	Relative Humidity (%): <u>49</u>

Probe ID	Start Time	Stop Time	Gas Pressure (inches water)	Initial CH <sub>4</sub> (% by Volume)	Sustained CH <sub>4</sub> (% by Volume)	Depth to Water Level (feet below ground surface)	Depth to Top of Screen (feet below ground surface)	Open Screen* (feet)
MP-1							not known	
MP-7E							3	
MP-7H							2	
MP-8F							4	
MP-9							2	
MP-10	13:59	14:00	-0.01	33.3	34.2	5.46	2	
MP-16							2	
MP-17							2	
MP-10	14:02	14:03	-0.01	34.0	33.2	--	--	--
MP-10	14:07	14:37	-0.02	27.7	6.2	--	--	--

Notes:

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Signature: *Randall C. Mills*

\* A zero or negative value indicates that the probe is watered in.