

K. SINGH & ASSOCIATES, INC.

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December 3, 1992

Mr. Roger Klett
Wisconsin Department of Natural Resources
2300 N. Dr. Martin Luther King Jr. Drive
P.O. Box 12436
Milwaukee, WI 53212

Job #2096

Subject: Gas Monitoring for September 1992
Sanitary Transfer and Landfill, Delafield, Wisconsin

Dear Mr. Klett:

Enclosed please find gas monitoring test results for the referenced project. Our gas monitoring program consisted of monitoring of gas venting wells, probes, and inlet blower on September 29, 1992. Gas monitoring was conducted using a Spotter Digital Methane Detector supplied by Mine Safety Appliances Company, Pittsburgh, Pennsylvania. The meter has a detection range of 0 to 5% methane. It is our understanding that the lower explosive limit (LEL) and upper explosive limit (UEL) for methane are 5.0 and 15%, respectively. Gas monitoring test results are included in Table 1, 2, and 3. Our comments are as follows:

1. All probes D-4 through D-27 and L-2 showed 0.5% methane concentration which appears to be a background concentration.
2. The concentration of methane in all gas venting wells G-1 through G-8 exceeds its LEL. These wells need to be monitored regularly.
3. All probes V-1 through V-12 exceed LEL for methane.
4. Only M-1 showed methane concentration more than its LEL. This well needs to be monitored regularly along with V labeled wells.

We propose either the capacity of the blower be increased or additional methane extraction wells be installed in order to mitigate build up of methane in the landfill. However, additional monitoring is warranted before additional remedial measures are taken.

Please call us if you have any questions regarding this submittal.

Sincerely,

K.SINGH & ASSOCIATES, INC.

Veronica Strick for
Raghu B. Singh, Ph.D.
Project Scientist

Pratap N. Singh
Pratap N. Singh, Ph.D., P.E.
Project Manager

cc: Marie Stewart, SW/3, WDNR, Madison

Table 1
Gas Monitoring Test Results

Probes	% Methane	Color of PVC Pipe
D-4	0.5	White
D-5	0.5	White
D-6	0.5	White
D-8	**	**
D-7	0.5	White
D-9	**	**
D-11	0.5	White
D-12	0.5	White
D-13	0.5	White
D-14	0.5	White
D-15	0.6	White
D-16	0.5	White
D-17	0.5	White
D-19	**	**
D-20	0.5	White
D-21	**	**
D-22	0.5	White
D-23	**	**
D-24	0.5	White
D-25	0.5	White
D-26	0.5	White
D-27	0.5	White
L-2	0.5	White

Note: ** denotes not tested because they could not be found.

Table 2
Gas Monitoring Test Results

Vents	% Methane	Color of the Pipe
G-1	5.5	Green
G-2	6.9	Green
G-3	8.4	Green
G-4	6.8	Green
G-5	9.2	Green
G-6	9.3	Green
G-7	9.2	Green
G-8	8.8	Green
Blower Inlet	7.2	Green

Table 3
Gas Monitoring Test Results

Probes	% Methane	Color of the Pipe
V-1	5.6	White
V-2	7.2	White
V-3	6.8	White
V-4	9.4	White
V-5	6.4	White
V-6	7.8	White
V-7	6.4	White
V-8	5.8	White
V-9	6.8	White
V-10	5.8	White
V-11	6.4	White
V-12	5.6	White
M-1	5.6	White
M-2	3.0	White
M-3	0.6	White
M-4	0.5	White
M-5	0.5	White
M-6	0.6	White
M-7	0.7	White
M-8	0.5	White
M-9	0.5	White
M-10	0.5	White

Note: All probes have aluminium covers above PVC pipes.