



June 14, 2019

Dear All:

You are receiving this communication to keep you apprised of the status of the ongoing environmental monitoring activities associated with the closed Waste Management (WM) Richmond Landfill property.

WM has notified the Ministry of Environment, Conservation and Parks (MECP) District Manager of results from the most recent sampling event. This work was conducted on May 24, 2019, to verify some results from the spring 2019 routine semi-annual monitoring event, where 1,4 dioxane was detected at monitoring well M185-1 for the first time.

We are providing, for your information, the notice supplied to MECP on June 14, 2019. The results outlined in this notice suggest that the detection of 1,4 dioxane at M185-1, located within the proposed Contaminant Attenuation Zone, is a false positive. WM will conduct, at the request of MECP, supplementary sampling at this location as a precautionary measure.

Regards,

Bill McDonough
Manager, Richmond Landfill
Waste Management of Canada Corporation

Encl.



MEMORANDUM

DATE: June 14, 2019
TO: Trevor Dagilis, District Manager, Ministry of the Environment, Conservation and Parks (MECP)
CC: David Arnott, Kyle Stephenson, Shawn Trimper and Peter Taylor (MECP)
Chris Prucha, Bill McDonough and Jim Forney (WM)
FROM: François Richard and Madeleine Corriveau (BluMetric)
PROJECT NO: 190161-03
SUBJECT: Groundwater Monitoring Well M185-1 Verification Resampling Results, WM Richmond Landfill, Town of Greater Napanee

This memorandum is provided on behalf of Waste Management of Canada Corporation (WM) to report on recent supplementary sampling results for the Richmond Landfill, Town of Greater Napanee, Ontario.

Analytical results from the spring 2019 routine semi-annual environmental monitoring event exceeding applicable criteria were provided to the Ministry of Environment, Conservation and Parks (MECP) in a memorandum dated May 23, 2019, as required by Conditions 8.7 and 8.8 of Environmental Compliance Approval (ECA) No. A371203. The spring 2019 semi-annual monitoring event was conducted between April 30 and May 6, 2019, following the requirements outlined in the current Environmental Monitoring Plan (EMP) for the site¹.

The May 23 memorandum identified that 1,4-dioxane was detected in the sample from monitoring well M185-1 for the first time. Re-analysis of the original sample was not possible because the back-up semi-volatile organic compound (SVOC) sample bottle was broken in transit to the laboratory. The laboratory (Maxxam Analytics) conducted an internal investigation to evaluate the possibility of cross-contamination during handling or analysis of this sample. Cross-contamination was ruled out by the laboratory, thus verification resampling was conducted on May 24, 2019. Samples were collected from groundwater monitoring wells M185-1 and M185-2, and analyzed for the primary leachate indicators (1,4-dioxane and alkalinity).

¹ *Environmental Monitoring Plan, WM Richmond Landfill, Town of Greater Napanee, Ontario, rev. No.05*, prepared by BluMetric Environmental Inc., dated April 2016



Resampling results indicate that samples from both monitoring wells, M185-1 and M185-2, are below detection for 1,4-dioxane. These results are consistent with historical results (see **Table 1**) and suggest that the detection of 1,4-dioxane at M185-1 on April 30, 2019 is a false positive result. Corresponding low alkalinity concentrations relative to other impacted wells (typically greater than 400 mg/L where 1,4-dioxane is present) support this conclusion.

Table 1: Historical 1,4-Dioxane and Alkalinity Results (mg/L) at Groundwater Monitoring Wells M185-1 and M185-2

Date	M185-1		M185-2	
	1,4-Dioxane	Alkalinity	1,4-Dioxane	Alkalinity
2014-09-04			< 0.001	290
2015-11-25			< 0.001	310
2015-11-26	< 0.001	410		
2015-12-22	< 0.009	430		
2016-05-03	< 0.001	290	< 0.001	290
2016-10-20	< 0.001	330	< 0.001	290
2017-05-04	< 0.001	210	< 0.001	270
2017-10-19	< 0.001	340	< 0.001	300
2018-05-16	< 0.001	320	< 0.001	290
2018-10-16	< 0.001	300	< 0.001	290
2019-04-30	0.0054	270	< 0.001	270
2019-05-24	< 0.001	300	< 0.001	280

As requested by MECP, supplementary verification sampling will be conducted at monitoring well M185-1 as a precautionary measure. Two quarterly sampling events will be added over the next year to the routine semi-annual monitoring events scheduled for fall 2019 and spring 2020. A sample will be collected from monitoring well M185-1 in summer 2019 and winter 2020, and analyzed for the primary leachate indicators 1,4 dioxane and alkalinity.

We trust the above information is satisfactory. Please do not hesitate to contact the undersigned if you have any questions or need further information.

Respectfully submitted,
BluMetric Environmental Inc.

A handwritten signature in blue ink, appearing to read 'F. Richard', with a stylized, sweeping flourish at the end.

Francois Richard, Ph.D., P.Ge.
Senior Hydrogeologist

A handwritten signature in blue ink, appearing to read 'M. Corriveau', with a large, rounded flourish at the end.

Madeleine Corriveau, M.Sc., P.Ge.
Senior Environmental Geochemist