



November 22, 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.

Under the new Environmental Compliance Approval conditions set forth in the revised Environmental Monitoring Plan and ordered by the Environmental Review Tribunal, 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 between October 29 and October 31, 2019, as a part of scheduled fall 2019 semi-annual environmental monitoring event.

We are providing, for your information, the notice supplied to MECP on November 22, 2019. All results outlined in this notice are related to concentration exceedances at locations within the proposed Contaminant Attenuation Zone, as well as one location on the property to the east of the southern part of the eastern landfill property boundary.

These results will be evaluated in the fall semi-annual report that will be issued by January 15, 2020.

Regards,

Bill McDonough
Manager, Richmond Landfill
Waste Management of Canada Corporation

Encl.



MEMORANDUM

DATE: November 22, 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: Notification of Off-site Exceedances, WM Richmond Landfill
Town of Greater Napanee

This memorandum is provided on behalf of Waste Management of Canada Corporation as required by Conditions 8.7 and 8.8 of Environmental Compliance Approval (ECA) No. A371203 for the Richmond Landfill, Town of Greater Napanee, Ontario. This requirement is outlined in the Environmental Monitoring Plan (EMP) for the site¹, implemented on April 16, 2016 on an interim basis as ordered by the Environmental Review Tribunal (ERT) Order dated December 24, 2015. Conditions 8.7 and 8.8 of the ECA stipulate that monitoring results shall be reported to the MECP District Manager within 48 hours of the determination of the exceedance (initial data screening) if they meet one of the following conditions:

- any *off-site* exceedance of the applicable criteria for groundwater (*Reasonable Use Limits (RUL)*) or surface water (*Provincial Water Quality Objectives (PWQO)*); and/or,
- 1,4-dioxane is detected above 1 µg/L at any groundwater or domestic well where 1,4-dioxane has not been detected in the past or at any surface water monitoring location.

RESULTS

The groundwater and surface water sampling was completed as part of the fall semi-annual monitoring event between October 29 and October 31, 2019, following the requirements outlined in the latest EMP for the site.

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



There were no exceedances in groundwater observed from the shallow flow zone at off-site monitoring location M114-2, with the exception of total dissolved solids (TDS) with a concentration of 545 mg/L, above the RUL of 452 mg/L.

The analytical results for samples from off-site intermediate bedrock groundwater flow zone monitoring locations showed the presence of parameters that exceeded their respective RUL, as summarized in **Table 1**. These include:

- One or several non-health based parameters (alkalinity, chloride, dissolved organic carbon, iron, manganese, sodium and/or total dissolved solids) at locations M64-2, M114-1, M121, M123, M167, M168, M178R-2, M178R-3, M178R-4, M179, M185-1, M186, M188-1, M190 and M192; and,
- Volatile Organic Compounds (VOCs) including 1,4-dioxane at monitoring wells M64-2, M114-1, M121 (as well as benzene, ethylbenzene and toluene), M123, M167, M168, M178R-2, M178R-3, M178R-4 and M192.

Surface water analytical results at off-site sampling locations were below their respective PWQO, with the exception of upstream location S18, where unionized ammonia and total phosphorus were respectively detected at concentrations of 0.025 mg/L (above the RUL of 0.02 mg/L) and 0.12 mg/L (above the RUL of 0.03 mg/L) (see **Table 2**).

CLOSING

The results from the latest environmental monitoring event will be reported as part of the fall semi-annual monitoring report by January 15, 2020 as required by ECA Condition 14.1.

We trust the above information is satisfactory. If you have any questions or need further information regarding the completed work please do not hesitate to contact the undersigned.

Respectfully submitted,
BluMetric Environmental Inc.



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Senior Geoscientist

Encl.

Table 1: Summary of Off-Site RUL Exceedances from Fall 2019 Groundwater Monitoring Results

General and Inorganic Parameters								Volatile Organic Compounds (VOCs)			
Parameter	Alkalinity	Chloride	Dissolved Organic Carbon	Iron	Manganese	Sodium	Total Dissolved Solids	1,4-Dioxane	Benzene	Ethylbenzene	Toluene
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RUL*	400	132	3.5	0.18	0.032	106	465	0.001	0.0014	0.0013	0.0121
M64-2							480	0.0033			
M114-1			4.7	5.8	0.29		560	0.0058			
M121	550	950				780	2000	0.0062	0.17	0.0087	0.015
M123								0.0041			
M167		420				230	1060	0.0031			
M168	480	330	4.4			190	1010	0.0076			
M178R-2			4.4	1.0	0.062			0.0045			
M178R-3	390		4.7	1.6	0.059			0.0055			
M178R-4			3.9					0.0056			
M179				0.35							
M185-1		470				380	1130				
M186		1100		0.42	0.07	740	2190				
M188-1				0.4							
M190			3.7								
M192	490	650	4.4		0.034	410	1560	0.0056			

* RUL: Reasonable Use Limit

Table 2: Summary of Off-Site PWQO Exceedances from Fall 2019 Surface Water Monitoring Results

Parameter	Ammonia (unionized)	Phosphorus (total)
Units	mg/L	mg/L
PWQO*	0.02	0.03
S18	0.025	0.12

* PWQO: Provincial Water Quality Objectives