

Wastewater Treatment

BIOSOLIDS PRODUCTION REPORT

Capital Regional District | July 2021

Summary of Biosolids Production & End Use

1. Amount of Biosolids Produced

A total of 11 tonnes (t) of Class A biosolids produced at the Residuals Treatment Facility (RTF) were provided to Lafarge as part of a trial for a particle size screening solution. A total of 199 t were used as an interim landfill cover layer while staff continued work to ensure the particle size of the biosolids meets the requirements of Lafarge so the material can be used per the Definitive Plan.

In early July, the digester began functioning again as designed. Before that point, 10 t of undigested material was disposed at Hartland Landfill as a controlled waste in July.

Information on the CRD's biosolids beneficial use strategy can be found [here](#). The Definitive Plan can be found [here](#) and the Contingency Plan can be found [here](#).

Biosolids production and end use data for July 2021 is as follows:

Biosolids Type	Produced		End Use			
			Definitive Plan ^b	Contingency Plan: BGM ^c	Contingency Plan: Biocover ^c	Hartland Landfill ^d
Dried ^a Class A	This month	210 t	11 t	0 t	0 t	199 t
	Year to date	924 t	31 t	0 t	0 t	893 t
Non-Class A	This month	10 t	X			10 t
	Year to date	4,508 t				4,508 t

^a Greater than 90% solids

^b Used as an alternative fuel at the Lafarge cement manufacturing facility in Richmond, BC

^c Placed within the leachate containment areas of Hartland Landfill

^d Dried Class A Biosolids are placed within leachate containment areas as a layer of interim cover maximizing potential for fugitive gas mitigation, and Non-Class A Biosolids are landfilled as a controlled waste

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2. Compliance Monitoring

The CRD's contractor, Hartland Resource Management Group (HRMG), tests biosolids produced at the Residuals Treatment Facility (RTF) to ensure the biosolids are Class A, as defined by the British Columbia Organic Matter Recycling Regulation (OMRR). Testing is performed by CARO Analytical Services.

OMRR specifies that for Class A biosolids, metals concentrations must not exceed "those specified in Trade Memorandum T-4-93 (September 1997), Standards for Metals in Fertilizers and Supplements, as amended from time to time." The latest version of OMRR can be found [here](#) and the latest version of Trade Memorandum T-4-93 can be found [here](#).

Class A biosolids compliance data for July 2021 is as follows:

Substance	OMRR Limit ^a (mg/kg dry weight)	Biosolids (mg/kg dry weight)		
		Average	Minimum	Maximum
Metals				
Arsenic (As)	666	1.9	1.7	2.3
Cadmium (Cd)	177	1.6	1.4	2.1
Chromium (Cr)	9,333	34.7	28.1	44.4
Cobalt (Co)	1,333	2.4	2.2	3.0
Copper (Cu)	6,666	578	504	700
Mercury (Hg)	44	0.5	0.4	0.7
Molybdenum (Mo)	177	8.5	7.0	11.0
Nickel (Ni)	1,600	15.6	12.8	20.1
Lead (Pb)	4,444	29.1	24.8	40.2
Selenium (Se)	124	4.2	3.4	5.1
Thallium (Tl)	44	<0.10	<0.10	<0.10
Vanadium (V)	5,777	10.4	7.0	12.0
Zinc (Zn)	16,444	875	806	1030
Fecal Coliforms				
MPN	1,000	<3.0	<3.0	<3.0

^a For metals, the maximum allowable concentrations for Class A biosolids are calculated based on a 500 kg/ha annual application rate; for fecal coliforms, the maximum allowable concentration is a fixed value