Wastewater Treatment

BIOSOLIDS PRODUCTION REPORT

Capital Regional District | June 2022

Summary of Biosolids Production & End Use

Due to an unplanned shutdown of the cement kiln, no Class A biosolids produced at the Residuals Treatment Facility (RTF) were provided to Lafarge per the Definitive Plan. 180 t were used as an interim landfill cover layer.

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 June 2022 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	180 t	0 t	0 t	0 t	180 t
	Year to date	1,620 t	422 t	595 t	0 t	603 t
Non-Class A	This month	0 t				0 t
	Year to date	0 t				0 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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1. 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 June 2022 is as follows:

Substance	OMRR Limit [a] (mg/kg dry weight)	Biosolids (mg/kg dry weight)		
		Average	Minimum	Maximum
Metals				
Arsenic (As)	666	2.22	2.07	2.52
Cadmium (Cd)	177	1.61	1.60	1.63
Chromium (Cr)	9,333	36.0	34.1	37.3
Cobalt (Co)	1,333	2.93	2.87	3.04
Copper (Cu)	6,666	479	454	493
Mercury (Hg)	44	0.494	0.419	0.574
Molybdenum (Mo)	177	7.21	7.13	7.31
Nickel (Ni)	1,600	17.6	17.1	18.2
Lead (Pb)	4,444	27.6	22.8	31.9
Selenium (Se)	124	4.48	4.02	4.78
Thallium (Tl)	44	<0.10	<0.10	<0.10
Vanadium (V)	5,777	15.4	14.7	15.7
Zinc (Zn)	16,444	834	782	897
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