Wastewater Treatment

BIOSOLIDS PRODUCTION REPORT

Capital Regional District | September 2022

Summary of Biosolids Production & End Use

1. Amount of Biosolids Produced

Due to equipment failure at Lafarge, no Class A Biosolids produced at the Residuals Treatment Facility (RTF) were provided to Lafarge per the Definite Plan. A total of 283 tonnes (t) were used as an interim landfill cover layer at Hartland landfill.

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 September 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	283 t	0 t	0 t	0 t	283 t
	Year to date	2,398 t	470 t	595 t	0 t	1,333 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

2. Compliance Monitoring

The CRD's contractor, Hartland Resource Management Group (HRMG), tests biosolids produced at the 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

Wastewater Treatment

BIOSOLIDS PRODUCTION REPORT

Making a difference...together

Capital Regional District | September 2022

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. In June 2022, The Ministry of Environment and Climate Change Strategy announced the intention to amend OMRR, including new standards for Class A biosolids. Regulatory amendments are targeted for 2023. The proposed OMRR Standards have been included in the table for reference.

Class A biosolids compliance data for September 2022 is as follows:

Substance	OMRR Limit [a] (mg/kg dry weight)	Proposed OMRR Standard [b] (mg/kg dry weight)	Biosolids (mg/kg dry weight)		
			Average	Minimum	Maximum
Metals					
Arsenic (As)	666	41	1.73	1.40	2.03
Cadmium (Cd)	177	15	1.22	1.02	1.43
Chromium (Cr)	9,333	1000	29.1	23.9	33.0
Cobalt (Co)	1,333	150	2.29	1.89	2.66
Copper (Cu)	6,666	1500	575	515	635
Mercury (Hg)	44	4	0.504	0.470	0.544
Molybdenum (Mo)	177	20	7.50	6.57	8.53
Nickel (Ni)	1,600	180	14.7	11.8	17.3
Lead (Pb)	4,444	300	26.1	21.9	28.2
Selenium (Se)	124	25	4.10	3.46	4.59
Thallium (Tl)	44	ns	<0.40	<0.40	<0.40
Vanadium (V)	5,777	ns	10.6	8.4	12.5
Zinc (Zn)	16,444	1820	858	701	971
Fecal Coliforms					
MPN	1,000	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

[b] Proposed OMRR standards are tabled for reference - standards subject to change once final OMRR amendment is published.

ns – no standard