Wastewater Treatment

BIOSOLIDS PRODUCTION REPORT

Capital Regional District | June 2021

Summary of Biosolids Production & End Use

1. Amount of Biosolids Produced

A total of 77 tonnes (t) of Class A biosolids produced at the Residuals Treatment Facility (RTF) were used as an interim landfill cover layer. 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 late April, the Facility's only active digester stopped functioning as designed, resulting in the need to dispose of 613 t of undigested material at Hartland Landfill as a controlled waste in June. By mid-June the RTF restarted production of Class A biosolids.

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 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	77 t	0 t	0 t	0 t	77 t
	Year to date	714 t	0 t	0 t	0 t	694 t
Non-Class A	This month	613 t				613 t
	Year to date	4,498 t				4,498 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 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 2021 is as follows:

Substance	OMRR Limit [a] (mg/kg dry weight)	Biosolids (mg/kg dry weight)		
		Average	Minimum	Maximum
Metals				
Arsenic (As)	666	2.1	2.5	2.3
Cadmium (Cd)	177	1.5	2.2	1.9
Chromium (Cr)	9,333	33.0	43.7	38.0
Cobalt (Co)	1,333	2.5	3.3	2.8
Copper (Cu)	6,666	582	701	627
Mercury (Hg)	44	0.5	0.6	0.5
Molybdenum (Mo)	177	8.6	9.3	9.0
Nickel (Ni)	1,600	14.8	18.4	16.7
Lead (Pb)	4,444	26.9	30.4	28.8
Selenium (Se)	124	3.9	4.7	4.3
Thallium (Tl)	44	<0.10	<0.10	<0.10
Vanadium (V)	5,777	11.6	15.6	13.0
Zinc (Zn)	16,444	838	924	877
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