Wastewater Treatment

BIOSOLIDS PRODUCTION REPORT

Capital Regional District | July 2023

Summary of Biosolids Production & End Use

1. Amount of Biosolids Produced

The CRD began using an alternative contingency option for Class A Biosolids produced at the Residuals Treatment Facility (RTF). In July, 184 tonnes (t) of biosolids were mixed with sand and provided to a gravel quarry in Cassidy, BC for future use as biosolids growing media in site reclamation, and 22 t of biosolids were sent to the cement kiln in Richmond for use an alternative fuel.

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 2023 is as follows:

Biosolids Type	Produced		End Use		
			Definitive Plan [b]	Alternative Contingency Plan [c]	Hartland Landfill [d]
Dried [a] Class A	This month	206 t	22 t	184 t	0 t
	Year to date	1,761 t	22 t	184 t	1,555 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] Mixed with sand at Hartland Landfill and stockpiled in Cassidy for future use in site reclamation

[d] Class A Biosolids are rendered inert by mixing with soil and landfilled within leachate containment areas, 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 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 July 2023 is as follows:

Substance	OMRR Standard [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	1.62	1.48	1.70
Cadmium (Cd)	177	15	1.37	1.26	1.46
Chromium (Cr)	9,333	1000	33.5	30.5	35.7
Cobalt (Co)	1,333	150	232	2.18	2.48
Copper (Cu)	6,666	1500	409	368	441
Mercury (Hg)	44	4	0.571	0.502	0.689
Molybdenum (Mo)	177	20	7.04	6.23	7.64
Nickel (Ni)	1,600	180	15.4	14.1	16.3
Lead (Pb)	4,444	300	27.6	25.9	30.3
Selenium (Se)	124	25	4.54	4.10	4.87
Thallium (Tl)	44	ns	<0.10	<0.10	<0.10
Vanadium (V)	5,777	ns	10.6	9.9	11.3
Zinc (Zn)	16,444	1820	837	768	922
Fecal Coliforms					
MPN	1,000	1000	<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