Summary of Biosolids Production & End Use

1. Amount of Biosolids Produced

In 2023, the Residuals Treatment Facility (RTF) produced 2,980 tonnes of Class A Biosolids. 67 tonnes were used as alternative fuel at a cement manufacturing facility, per the Definitive Plan. An alternative contingency plan, using biosolids during the reclamation of a gravel quarry near Cassidy BC, was developed in 2023, and 680 tonnes of biosolids were beneficially used. 2,233 tonnes were landfilled at Hartland landfill. During August and September, shutdowns of the RTF's dryer required the disposal of 555 tonnes of Non-Class A Biosolids (25% solids) at Hartland Landfill. This is equivalent to 139 tonnes of dried biosolids and represents about 14 days of production.

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 2023 is as follows:

Biosolids Type	Produced	End Use		
		Definitive Plan [b]	Alternative Contingency Plan [c]	Hartland Landfill [d]
Dried [a] Class A	2,908 t	67 t	680 t	2,233 t
Non-Class A	555 t			555 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 January 2024 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	1.91	1.34	2.49
Cadmium (Cd)	177	15	1.49	1.12	1.85
Chromium (Cr)	9,333	1000	39.9	28.2	47.5
Cobalt (Co)	1,333	150	2.90	2.18	3.90
Copper (Cu)	6,666	1500	462	368	594
Mercury (Hg)	44	4	0.591	0.470	0.803
Molybdenum (Mo)	177	20	7.81	5.72	9.98
Nickel (Ni)	1,600	180	18.2	14.1	22.0
Lead (Pb)	4,444	300	29.2	22.4	37.4
Selenium (Se)	124	25	4.69	3.78	6.04
Thallium (Tl)	44	ns	<0.10	<0.10	<0.10
Vanadium (V)	5,777	ns	14.0	9.9	19.1
Zinc (Zn)	16,444	1820	855	634	1170
Fecal Coliforms					
MPN	1,000	1000	<3.0	<3.0	<3.0

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[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

For reference, the following CRD reports can be found in the links below:

1. Biosolids Beneficial Use Strategy

2. Definitive Plan

3. Short-Term Biosolids Contingency Plan

4. Biosolids Production Reports