

Wastewater Treatment

BIOSOLIDS PRODUCTION REPORT

Capital Regional District | April 2021

Summary of Biosolids Production & End Use

1. Amount of Biosolids Produced

A total of 19 tonnes (t) of Class A biosolids produced at the Residuals Treatment Facility (RTF) was provided to Lafarge for its stack test, and a total of 78 t was used as an interim landfill cover layer before and while the stack test results were being analysed.

In late April, the Facility's only active digester stopped functioning as designed, resulting in the need to dispose of 401 t of undigested material at Hartland Landfill as a controlled waste.

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 April 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 | 97 t | 19 t | 0 t | 0 t | 78 t |
| | Year to date | 629 t | 19 t | 0 t | 0 t | 610 t |
| Non-Class A | This month | 401 t | X | | | 401 t |
| | Year to date | 1,174 t | | | | 1,174 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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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 April 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 | 1.7 | 2.4 |
| Cadmium (Cd) | 177 | 1.4 | 1.1 | 1.9 |
| Chromium (Cr) | 9,333 | 31.6 | 27.3 | 35.0 |
| Cobalt (Co) | 1,333 | 2.7 | 2.3 | 3.0 |
| Copper (Cu) | 6,666 | 693 | 591 | 770 |
| Mercury (Hg) | 44 | 0.5 | 0.4 | 0.6 |
| Molybdenum (Mo) | 177 | 7.0 | 5.9 | 7.7 |
| Nickel (Ni) | 1,600 | 16.2 | 13.9 | 17.8 |
| Lead (Pb) | 4,444 | 28.4 | 25.0 | 31.9 |
| Selenium (Se) | 124 | 3.9 | 2.9 | 4.6 |
| Thallium (Tl) | 44 | <0.10 | <0.10 | <0.10 |
| Vanadium (V) | 5,777 | 15.7 | 13.3 | 17.3 |
| Zinc (Zn) | 16,444 | 727 | 576 | 826 |
| Fecal Coliforms | | | | |
| MPN | 1,000 | <3.0 | <3.0 | 3.7 |

^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