

# Wastewater Treatment

## BIOSOLIDS PRODUCTION REPORT

Capital Regional District | October 2021

### Summary of Biosolids Production & End Use

#### 1. Amount of Biosolids Produced

A total of 214 tonnes (t) of Class A biosolids produced at the Residuals Treatment Facility (RTF) were provided to Lafarge per the Definitive Plan. A total of 99 t were used as an interim landfill cover layer while the CRD worked to find a permanent solution to bring the biosolids particle size to within an acceptable range for use by Lafarge as per the Definitive Plan.

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 October 2021 is as follows:

| Biosolids Type                | Produced     |         | End Use                      |                                    |   |                                |
|-------------------------------|--------------|---------|------------------------------|------------------------------------|---|--------------------------------|
|                               |              |         | Definitive Plan <sup>b</sup> | Contingency Plan: BGM <sup>c</sup> | Contingency Plan: Biocover <sup>c</sup> | Hartland Landfill <sup>d</sup> |
| Dried <sup>a</sup><br>Class A | This month   | 313 t   | 214 t                        | 0 t                                | 0 t                                     | 99 t                           |
|                               | Year to date | 1,591 t | 422 t                        | 7 t                                | 0 t                                     | 1,162 t                        |
| Non-Class A                   | This month   | 0 t     |                              |                                    |   | 0 t                            |
|                               | Year to date | 4,977 t |                              |                                    |   | 4,979 t                        |

<sup>a</sup> Greater than 90% solids

<sup>b</sup> Used as an alternative fuel at the Lafarge cement manufacturing facility in Richmond, BC

<sup>c</sup> Placed within the leachate containment areas of Hartland Landfill

<sup>d</sup> 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 October 2021 is as follows:

| Substance              | OMRR Limit <sup>a</sup><br>(mg/kg dry weight) | Biosolids (mg/kg dry weight) |         |         |
|------------------------|---|------------------------------|---------|---------|
|                        |   | Average                      | Minimum | Maximum |
| <b>Metals</b>          |   |                              |         |         |
| Arsenic (As)           | 666   | 1.8                          | 1.6     | 2.0     |
| Cadmium (Cd)           | 177   | 1.7                          | 1.3     | 2.1     |
| Chromium (Cr)          | 9,333   | 36.6                         | 32.9    | 40.2    |
| Cobalt (Co)            | 1,333   | 2.5                          | 2.2     | 2.9     |
| Copper (Cu)            | 6,666   | 543                          | 488     | 598     |
| Mercury (Hg)           | 44  | 0.5                          | 0.5     | 0.5     |
| Molybdenum (Mo)        | 177   | 8.6                          | 8.1     | 9.0     |
| Nickel (Ni)            | 1,600   | 16.3                         | 14.5    | 18.0    |
| Lead (Pb)              | 4,444   | 30.8                         | 27.3    | 34.2    |
| Selenium (Se)          | 124   | 4.1                          | 4.0     | 4.2     |
| Thallium (Tl)          | 44  | <0.10                        | <0.10   | <0.10   |
| Vanadium (V)           | 5,777   | 11.8                         | 10.5    | 13.1    |
| Zinc (Zn)              | 16,444  | 978                          | 895     | 1060    |
| <b>Fecal Coliforms</b> |   |                              |         |         |
| MPN                    | 1,000   | <3.0                         | <3.0    | <3.0    |

<sup>a</sup> 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