



Report Date: December 02, 2022

File: 108537

Report Number: 197511

CITY OF KELOWNA
1435 Water Street
Kelowna, BC, V1Y 1J4

Dear CITY OF KELOWNA,

Re: Non-compliance Advisory Letter, Permit 108537, 551 Commonage Road, Vernon BC V1H 1G3, Air

On October 13, 2022, Ministry of Environment and Climate Change Strategy (Ministry) Environmental Protection Officer Chris White (Ministry staff) conducted a planned on-site inspection of the City of Kelowna (Permittee) composting facility (Facility) located at 551 Commonage Road, Vernon, BC. The purpose of the inspection was to verify the Permittees compliance with the permit 108537 (Permit). The Permit authorizes the discharge of air contaminants into the environment in accordance with the Permit. The Permit was issued on July 12, 2017, and has not been amended. Present during the inspection was Jose Garcia (Supervisor, City of Kelowna), Andrew Kuiper (Compost Coordinator, City of Kelowna) and Scott Hoekstra (Manager Landfill and Composting Operations, City of Kelowna).

This Advisory, the alleged violations and the circumstances to which it refers will form part of the compliance history of CITY OF KELOWNA, and will be taken into account in the event of future non-compliance.

Please note that this authorization is considered to be out of compliance until such a time as it can be confirmed to meet the authorization requirements.

Inspection Details:

The inspection assessed compliance for the period from January 18, 2019, to October 13, 2022 (Inspection period) and included a review of the following documents:

- Re: Director's Approval of Request to Extend Timelines for Implementing Secondary Odour Treatment- Section 3.1.3 of Permit 108537 letter, dated April 3, 2019, prepared by the Ministry (2019 Ministry Letter);
- Re: Director's Approval of the Leachate Management System Plan letter, dated April 4, 2019, prepared by the Ministry (2019 Approval Letter);
- Re: Ministry Comments on the Odour Management Plan letter, dated April 4, 2019, prepared by the Ministry (2019 Ministry Odour Letter);
- Regional Biosolids Composting Facility Design and Operations Plan, dated May 30, 2019, prepared by J. Lowe and W. Roe, WSP Group (2019 DOCP);
- Re: Permit 108537- Regional Compost Facility at 551 Commonage Road, Vernon B.C.; Proposed Secondary Odour Treatment Option for Director's Approval letter, dated November 1, 2019, prepared by the City of Kelowna (2019 City of Kelowna Letter);
- Re: New Leachate Management System Plan, pursuant to Permit 108537 Clause 3.4, for the Regional Biosolids Compost Facility at 551 Commonage Road, Vernon, BC. letter, dated March 29, 2019, prepared by the City of Kelowna (2019 Leachate Plan);
- Regional Biosolids Compost Facility 2020 Annual Report, dated March 31, 2021, prepared by City of Kelowna (2020 Annual Report);
- Regional Biosolids Composting Facility Operation Plan- Odour Management City of Kelowna, dated October 5, 2020, prepared the WSP Group (2020 Odour Management Plan);
- Aeration Cycle Data & Finished Block Tracking data, dated 2021 and 2022, prepared by City of Kelowna, provided upon

**Ministry of Environment
and Climate Change
Strategy**

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request to Ministry staff on October 13, 2022 (2021 and 2022 Compost Cycle Data);

- Summary of Analysis Report, dated 2021 and 2022, prepared by A&L Canada Laboratories Inc, provided upon request to Ministry staff on October 13, 2022 (2021 and 2022 A&L Analysis Reports);
- Certificates of Analyses, dated 2020 and 2021, prepared by Caro Analytical Services (2020 and 2021 Certificates of Analyses);
- Workplace Inspection Checklist, dated April 12, 2021, to September 29, 2022, prepared by City of Kelowna (2021 and 2022 Workplace Inspections); and
- Regional Biosolids Compost Facility 2021 Annual Report, dated March 31, 2022, prepared by City of Kelowna (2021 Annual Report).

Below are the Permit clauses that were assessed for compliance during this inspection, as well as the associated details/findings and any actions required.

Requirement Description:	Environmental Management Act, Environmental Management Act 6 (3): Subject to subsection (5), a person must not introduce or cause or allow to be introduced into the environment, waste produced by a prescribed activity or operation.
Details/Findings:	Composting operations are prescribed operations defined under Schedule 2 of the Waste Discharge Regulation as "composting of organic wastes or other feed stocks". Subsection 2(1) of the Regulation states: For the purposes of the Act, compostable materials and recyclable materials continue to be a waste until dealt with in accordance with this regulation. Class A compost is defined in the Organic Matter Recycling Regulation (Regulation) as compost that meets the requirements of Section 12 of the Regulation. The Permittee was determined to be out of compliance with Subsections 12(2)(b) and (c) and 12(3)(b), as detailed in this inspection record. Since the Permittee failed to comply with the subsections, the material produced during the Inspection Period is considered a waste and not Class A compost. By distributing the material to the public, the Permittee has allowed waste, produced by a prescribed activity, to be introduced into the environment.
Compliance:	
Requirement Description:	1. AUTHORIZED DISCHARGES, 1.1. Authorized Source 1.1.3.: This section applies to the discharge of air contaminants from various areas of the composting facility. The site reference number for this discharge is E307813. 1.1.3. The characteristics of the discharge are that of typical emissions of a biosolids composting facility.
Details/Findings:	During the on-site inspection, Ministry staff observed the discharge to originate from a typical biosolids composting facility. Therefore, the characteristics of the discharge are that of typical emissions from a biosolids composting facility.

Compliance:	In
Requirement Description:	1. AUTHORIZED DISCHARGES, 1.1. Authorized Source 1.1.4.: This section applies to the discharge of air contaminants from various areas of the composting facility. The site reference number for this discharge is E307813. 1.1.4. The authorized works are all paved surfaces, the aeration pads, one (1) primary receiving building, one (1) water supply pump house including the pumps, chlorination and filtration apparatus, one (1) drainage pump house, one (1) ECS Aerated Static Pile System comprised of 18 zones for primary composting and 18 zones for secondary composting, four (4) biofilters for primary composting area and three (3) biofilters for secondary composting area, related sumps, pipes, holding tanks and related appurtenances.
Details/Findings:	During the on-site inspection, Ministry staff observed the authorized works listed in this requirement. However, Ministry staff also observed a leachate collection trench and pond that is not listed as authorized works, which the Ministry made as a condition of the 2019 Approval Letter. The 2019 Approval Letter states "The permittee must submit an application for an amendment to the permit 108537 to add new works associated with treatment and reuse of leachate by April 30th, 2019". A review of the Ministry's internal electronic filing system and the Ministry's Authorizations Management System (AMS) did not find an application for amendment.
Compliance:	Out
Actions to be taken:	Contact the Ministry's South Authorizations section and apply to have the permit amended to reflect the new works. South Authorizations can be reached at Authorizations. South@gov.bc.ca
Requirement Description:	1. AUTHORIZED DISCHARGES, 1.1. Authorized Source 1.1.5.: This section applies to the discharge of air contaminants from various areas of the composting facility. The site reference number for this discharge is E307813. 1.1.5. The Permittee must not operate under this authorization unless the authorized works are complete and fully operational.
Details/Findings:	During the on-site inspection, Ministry staff observed that the authorized works were complete and fully operational.

Compliance:	In
Requirement Description:	2. GENERAL REQUIREMENTS, 2.1. Maintenance of Works and Emergency Procedures 2.1.: The Permittee must regularly inspect the authorized works and maintain them in good working order. The Permittee must maintain all asphalt surfaces and must repair cracks and significant damages to prevent and avoid leachate infiltration. Records of inspection and maintenance activities must be kept and made available upon request. In the event of an emergency or condition beyond the control of the Permittee including, but not limited to, unauthorized fires arising from spontaneous combustion or other causes, or the detection of leachate migration outside of onsite confinement, the Permittee must take remedial action to prevent any unauthorized discharges. The Permittee must immediately report the emergency or condition and the remedial action that has and will be taken to the RAPP line (1-877-952-7277, #7272 from mobile phone) or electronically at this link: http://www.env.gov.bc.ca/cos/rapp/form.htm. The Director may require the Permittee to reduce or suspend operations until corrective steps have been taken to prevent unauthorized discharges.
Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that there is a minimum of monthly inspections completed of the Facility, daily tailgate safety meetings, annual inspections of the condition of the asphalt at the Facility and every 5 years a qualified professional is on-site to assess the Facility. The 2021 and 2022 Workplace Inspections confirm that the Permittee had regularly inspected the authorized works and maintained them in good working order during the Inspection period. The Supervisor informed Ministry staff that there had not been an emergency or condition beyond the control of the Permittee preventing the proper operation of the Facility during the Inspection period. Ministry staff reviewed the Ministry's internal electronic filing system, which confirmed that there had not been an emergency reported from the Facility during the Inspection period.
Compliance:	In
Requirement Description:	2. GENERAL REQUIREMENTS, 2.2. Bypasses 2.2.: The Permittee must not allow any discharge authorized by this authorization to bypass the authorized works, except with the prior written approval of the Director.
Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that there had not been any bypasses of the authorized works during the Inspection period. Ministry staff did not observe any bypasses of the authorized works during the on-site inspection. Ministry staff reviewed the Ministry internal electronic filing system, which confirmed that there were no records of bypasses occurring at the Facility during the Inspection period. Therefore, compliance with this requirement was not applicable during the Inspection period.

Compliance:	Not Applicable
Requirement Description:	2. GENERAL REQUIREMENTS, 2.3. Signage 2.3.: The Permittee must erect a sign at the main entrance to the site which identifies the following: site name, owner and operator, contact phone number and address, hours of operation, tipping fees (if applicable) and prohibition of hazardous wastes. The lettering on the sign must be such that it is clearly readable from a distance of 3 meters by the public when they approach the entrance of the site.
Details/Findings:	During the on-site inspection, Ministry staff observed signage to the entrance of the Facility that displayed the requirements of this subsection.
Compliance:	In
Requirement Description:	2. GENERAL REQUIREMENTS, 2.4. Access Security 2.4.: The Permittee must provide adequate security for the facility and restrict access to authorized personnel.
Details/Findings:	During the on-site inspection, Ministry staff observed the following security features, which restrict access to the Facility to authorized personnel: security cameras; perimeter fencing; and, automatic locking gates.
Compliance:	In
Requirement Description:	2. GENERAL REQUIREMENTS, 2.5. Qualified Professionals 2.5.: The Permittee must cause a qualified professional to certify that all new works are constructed in accordance with submitted plans and specifications. All documents submitted to the Director by a qualified professional must be signed by the author(s).

Details/Findings:	Ministry staff reviewed the Ministry's internal electronic filing system and the AMS, which did not locate any signed certifications from a qualified professional that certify that all new works at the Facility were constructed in accordance with submitted plans and specifications.
Compliance:	Out
Actions to be taken:	Obtain a signed certification from a qualified professional that certifies that all new works were constructed in accordance with the submitted plans and specifications.
Requirement Description:	2. GENERAL REQUIREMENTS, 2.6. Litter Control 2.6.: The Permittee must use the best practical means available to prevent the scatter of litter at the site. The Permittee must clean up any litter that may have escaped the site and scattered into the neighbouring property, along access roads, in drainage ditches, along fences, into surrounding trees or elsewhere on the site. The Director may require the Permittee to implement a specified frequency of clean-up and other additional requirements for litter control.
Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that occasionally there are windblown plastics that are cleaned up as needed. Ministry staff observed that there was no litter that escaped the site property and into the neighboring property, along access roads, in drainage ditches, along fences, into surrounding trees or elsewhere on the site.
Compliance:	In
Requirement Description:	2. GENERAL REQUIREMENTS, 2.7. Vehicle Leaving Site 2.7.: The Permittee must ensure, before any vehicle transporting compostable materials leaves the site, that the wheels of the vehicle do not contain compostable materials. If tracking of compostable material outside of the facility becomes a problem the Director may require that a wheel rinsing station be installed at the facility.

Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that all incoming biosolids transport trucks, arrive on-site and tip the biosolids into the indoor receiving bay then leave the site without their wheels coming into compostable material. All loaders and operational equipment on-site, stay within their working area and do not cross over into other areas of the Facility. All vehicles leaving the site with finished Class A compost arrive on-site and proceed directly to the finished area, load, and leave the site. Ministry staff did not observe evidence of compostable material being tracked outside of the Facility.
Compliance:	In
Requirement Description:	2. GENERAL REQUIREMENTS, 2.8. Air Quality 2.8.: The Permittee must suppress odours created within the compost area to the satisfaction of the Director. If air quality becomes a concern, the Director may require the Permittee to implement additional control measures on emission sources.
Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that odours are suppressed by employing the following control measures: using a misting system that neutralizes odours by means of a non-toxic solution dispersed into the air on primary compost areas; placing 12 to 18" of cover material (biofiltration cover) over the composting material; mixing and tipping is done indoors; and, using aeration fans in reverse direction, pulling odours out and into one of the seven (four for primary, three for secondary compost areas biofilters installed on-site.
Compliance:	In
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.1. Compostable Materials 3.1.1.: The Permittee is only authorized to process the stabilized municipal sewage sludge, unprocessed and untreated wood residuals and yard waste.

Details/Findings:	The Compostable Material section in the 2020 and 2021 Annual Reports state that the Facility incorporates stabilized municipal sewage sludge (biosolids), hog fuel, ground dimensional lumber, wood fly ash, ground prunings and oversized compost from screening for use in the Facility. Schedule 12 (Organic Matter Suitable for Composting) of the Organic Matter Recycling Regulation defines untreated and unprocessed wood residuals as "clean (non-contaminated and untreated) wood from lumber manufacture, e.g. shavings, sawdust, chips, hog fuel, ground mill ends and land clearing waste which has been ground with the majority of the greenery removed and no soil present but does not include construction and demolition debris". During the on-site inspection, the Supervisor informed Ministry staff that fly ash, from the Tolko facility in Armstrong, BC, is used as a feedstock. However, Ministry staff was unable to determine that the fly ash was created by non-contaminated and untreated wood as defined by Schedule 12 of the Organic Matter Recycling Regulation.
Compliance:	Not Determined
Actions to be taken:	Confirm with the producer of the fly ash received at the Facility, that it is created by non-contaminated and untreated wood as defined by Schedule 12 of the Organic Matter Recycling Regulation.
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.1. Compostable Materials 3.1.2.: The Permittee must not receive or process more than 36, 400 wet tonnes of stabilized sewage sludge per year.
Details/Findings:	The Compostable Material section in the 2020 and 2021 Annual Reports state that 33, 205 wet tonnes and 32, 121 wet tonnes of biosolids were received in 2020 and 2021 respectively.
Compliance:	In
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.1. Compostable Materials, 3.1.3. Primary Composting Area 3.1.3.: The Permittee must select and implement a secondary odour treatment for all primary composting piles to complement the biofilters for the period of May to October of each year. The Permittee must select a secondary odour treatment by October 31, 2018 and submit to the Director for approval. If the selected and approved secondary odour treatment is not implemented by June 30th, 2019, the Permittee will have to use a cover for all primary composting piles from May to October each year.

Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that a misting system is used on all primary composting piles as a secondary odour treatment. In the 2019 Ministry Letter, the Ministry extended the June 30, 2019, deadline to June 30, 2020. In the 2019 City of Kelowna Letter, the Permittee submitted to the Director for approval, the use of a Perimeter Misting System as a secondary odour treatment system. In an email dated June 6, 2020, the Supervisor informed the Director that the misting system would not be operational by June 30, 2020, due to delays resulting from Covid-19. Ministry staff reviewed the Ministry's internal electronic filing system, which did not locate an approval for the misting system from the Director; therefore, compliance with this requirement was not determined during the Inspection period.
Compliance:	Not Determined
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.2. Biofiltration Cover 3.2.: The Permittee must maintain at all times, for the purpose of odour control, a biofiltration cover for all compost piles located in the primary and secondary compost areas, consisting of: • 0.3 m secondary teardown, or • 0.3 m oversized material (overs), or • A blend of secondary teardown and overs, or • Another covering layer of a type and thickness that is acceptable to the Director. The Permittee must account for the biofiltration cover when calculating the carbon to nitrogen ratio to ensure that optimal composting conditions are maintained throughout the process. In order for the biofiltration cover to be effective, the Permittee must maintain optimal moisture content in the biofiltration material.
Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that a biofiltration cover consisting of 12" to 18" (.3m to .46m) of a mix of overs and more mature compost is used on the compost piles located in the primary and secondary compost areas.
Compliance:	In

Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.3. Design and Operating Plan 3.3.: The Permittee must submit an updated design and operating plan by May 31, 2019. The plan must be prepared by a qualified professional. The plan must describe, but not be limited to, the design, operations, acceptable materials, leachate management, monitoring programs, reporting requirements and performance requirements. In addition, the operating plan must: 3.3.1. Demonstrate that the biofilters are of adequate size and capacity for the facility's design; 3.3.2. Establish a schedule of site-specific maintenance activities for the biofilters; 3.3.3. Describe how records are kept for all maintenance activities performed on site; 3.3.4. Explain how the biofiltration cover is integrated in the C:N ratio; 3.3.5. Include contingency plans in case of supply shortage (hog, ash) ; and, 3.3.6. Include an asphalt maintenance program, which describes inspection protocols and maintenance activities. The Permittee must operate the facility in accordance with the design and operating plan. The Director may request additional information with respect to the design and operating plan and specifications that he or she considers necessary for the protection of human health and the environment, and may specify particular concerns or questions that the plans and specifications must address.
Details/Findings:	In an email dated May 30, 2019, the Supervisor submitted the 2019 DOCP. The 2019 DOCP was prepared by qualified professionals from the WSP Group (consultant to the City of Kelowna). The 2019 DOCP contains the requirements listed in subsections 3.3.1 to 3.3.6 of the Permit. During the on-site inspection, Ministry staff observed the Permittee operating the Facility in accordance with the 2019 DOCP. Ministry staff reviewed the Ministry's internal electronic filing system and did not locate any requests from the Director for additional information with respect to the 2019 DOCP.
Compliance:	In
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.4. Leachate Management 3.4.: The Permittee must ensure that all leachate generated from the composting operation, buildings, paved open surface areas, outdoor curing areas, finished compost storage areas, and truck marshalling area is collected and directed to the leachate collection system. The Permittee must maintain all collection channels and catch basins to ensure proper drainage. The Permittee must select an impermeable containment system to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste or compost. The Permittee must submit the new Leachate Management System Plan to the Director for approval before November 30, 2017. The Permittee must cease to use the drainage trench or the drainage pond after October 31, 2018 to store leachate, or the contact water from the curing areas or other water that may have come in contact with the organic waste unless the drainage trench and the drainage pond are lined with an impermeable liner.

Details/Findings:	During the on-site inspection, Ministry staff observed that all leachate generated by the Facility was being directed to a leachate collection system and lagoon. The Leachate Management section in the 2021 Annual Report states that "As per the 2018 LMP and as required by Section 3.4 of the Permit, the drainage trench and pond were re-built in the summer and autumn of 2019 and lined with an impermeable membrane to decrease the potential for leachate infiltration into the environment.". In an email dated November 29, 2017, the Director extended the November 30, 2017, submission deadline to March 31, 2018. The Ministry approved the 2019 Leachate Plan in the 2019 Approval Letter.
Compliance:	In
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.5. Odour Management 3.5.: The Permittee must submit to the Director for approval an updated odour management plan by November 30, 2017. The plan must be prepared by a qualified professional and must do the following: 3.5.1. Identify all odour generating areas including, but not limited to: receiving, mixing, primary composting, curing or secondary composting, screening, leachate collection system, aeration systems, biofilters, grinding and storage. 3.5.2. Identify appropriate mitigating strategies employed for each area and provide a summary table in the plan. 3.5.3. Identify all parameters and optimal ranges in the compost process needed to limit odour generation. Compost process parameters to be identified include, but are not limited to, feedstock type, bulking materials, bulk density, particle size, carbon to nitrogen ratios, moisture, temperature, oxygen, peak odour times (i.e. Day 3 or 7), pile turning schedules. 3.5.4. Outline all best management practices and emission control technologies aimed at reducing odour generation being employed at the facility. 3.5.5. Identify other best management practices and emission control technologies that could potentially be used on site to further reduce and control odour. 3.5.6. Include an odour monitoring program. The program must describe how odours are monitored on-site and off-site. 3.5.7. Include a complaint management process which includes a complaint form, any investigative actions to be taken and any mitigation actions to be taken. The Permittee must operate the facility in accordance with the approved odour management plan, and any requirements which the Director may attach to the odour management plan as a condition of approval.
Details/Findings:	In the 2019 Ministry Odour Letter, the Ministry requested that the Permittee resubmit for approval an updated odour management plan, as the 2017 odour management plan required clarification; a deadline of June 30, 2020 was given. In an email dated October 13, 2022, the Supervisor provided Ministry staff with the 2020 Odour Management Plan. However, a review of the Ministry's internal electronic filing system and AMS found that the 2020 Odour Management Plan had never been submitted for approval. As the 2020 Odour Management Plan has not been approved, compliance with subsection 3.5 was not determined during the Inspection period.

Compliance:	Not Determined
Actions to be taken:	Submit the current odour management plan for approval.
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.6. Change to Plans 3.6.: The Permittee must keep the design and operating plan up to date and must notify the Director of any changes to the plan within 30 days of the change.
Details/Findings:	The 2019 DOCP does not include the leachate collection trench and pond; therefore, the Permittee has not kept the design and operating plan up to date.
Compliance:	Out
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.7. Closure of the Facility 3.7.: Before closure of the facility, the Permittee must apply or distribute all compost in accordance with the Organic Matter Recycling Regulation, and all unprocessed organic matter must be removed from the facility and dealt with in accordance with the Environmental Management Act. A final closure plan must be submitted 90 days prior to deactivation of the site to the Director for review and approval. The final closure plan and associated engineered closure works must be compatible with the planned end-use of the compost facility.
Details/Findings:	During the on-site inspection, the Supervisor informed Ministry staff that the Facility does not have a known date of closure. Therefore, compliance with this requirement was not applicable during the Inspection period.
Compliance:	Not Applicable

Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.8. Additional Requirements 3.8.1.: The Permittee must ensure the following requirements are met: 3.8.1. Class A compost must meet the requirements of pathogen reduction processes, vector attraction reduction, pathogen reduction limits, quality criteria, sampling and analysis protocols and frequency, and record keeping as outlined in the Organic Matter Recycling Regulation.
Details/Findings:	The Permittee produces Class A compost that is not solely produced from yard waste or untreated and unprocessed wood residuals; therefore, the requirements of section 12 of the Organic Matter Recycling Regulation (Regulation) must be met. During the on-site inspection, the Supervisor informed Ministry staff that the feedstocks for the compost included biosolids, untreated and unprocessed wood, and fly ash from the Tolko facility in Armstrong, BC. However, as determined in section 3.1.1, Ministry staff was not able to determine if the fly ash was produced by untreated and unprocessed wood. Therefore, compliance with this requirement was not determined during the Inspection period. Subsection 12(2)(a) of the Regulation specifies that the requirements of Schedule 1 (Pathogen Reduction Processes) must be met. During the on-site inspection, Ministry staff observed the pathogen reduction process in place at the Facility as per subsection 4(b) of Schedule 1 of the Regulation, the static aerated composting method. Ministry staff reviewed the 2021 and 2022 Compost Cycle Data and confirmed that the compost had been held at a temperature of not less than 55 degrees Celsius for at least 3 consecutive days. Subsection 12(2)(b) of the Regulation specifies that the requirements of Schedule 2 (Vector Attraction Reduction) must be met. During the on-site inspection, Ministry staff observed the vector attraction reduction processes in place at the Facility as per subsections 2(a) and (b) of Schedule 1 of the Regulation. Appendix II (Finished Compost Quality) of the 2021 and 2022 A&L Analysis Reports contain the carbon to nitrogen ratio for the finished compost. Sample I.D. "OGO July 2022" and "OGOGROW SEPT 2021" reported the carbon to nitrogen ratio to be 61:1 and 12:1, respectively, which is out of compliance with the Regulation requirements. Continued below.
Compliance:	Out
Actions to be taken:	Ensure that the requirements of Section 12 of the Organic Matter Recycling Regulation are met.

Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.8. Additional Requirements 3.8.1.: The Permittee must ensure the following requirements are met: 3.8.1. Class A compost must meet the requirements of pathogen reduction processes, vector attraction reduction, pathogen reduction limits, quality criteria, sampling and analysis protocols and frequency, and record keeping as outlined in the Organic Matter Recycling Regulation.
Details/Findings:	Subsection 12(2)(c) of the Regulation specifies that the requirements of Column 1 of Schedule 4 (Quality Criteria) must be met. Appendix 1 (A. Maximum Concentrations for Trace Metals in Compost) of the 2021 and 2022 A&L Analysis Reports confirms that compost samples had been analyzed for the required parameters as set out in Column 1 of Schedule 4 (Quality Criteria). However, sample I.D. "OGO MAY 2022" exceeded the maximum specified limit of 5 mg/kg dry weight of Molybdenum with a result of 8.10 mg/kg dry weight. Subsection 12(3)(b) of the Regulation specifies that the requirements of Schedule 3 (Pathogen Reduction Limits) must be met. The 2020 and 2021 Certificates of Analyses confirm that fecal coliform (MPN/g dry weight) had been sampled during the Inspection period. However, the specified fecal coliform limit of less than 1 000 MPN per gram of dry weight had been exceeded 32 times during the Inspection period (see attached excel sheet). Also Schedule 3 (Pathogen Reduction Limits) of the Regulation requires the Permittee to obtain 7 representative samples from every 1 000 tonnes of dry weight compost produced. The 2020 and 2021 Certificates of Analyses do not contain 7 representative samples per certificate. Subsection 12(3)(c) of the Regulation specifies that the requirements of Schedule 5 (Sampling and Analyses-Protocols and Frequency) must be met. Schedule 5 (Sampling and Analyses-Protocols and Frequency) states that all analyses for Class A compost must be carried out in intervals of at least every 1000 tonnes of dry weight of organic matter or once per year, whichever occurs first. Table 1 (Compost volume produced and stored at the RBCF) in the 2020 and 2021 Annual Reports state that 47,773 m3 and 49,776 m3 of finished compost were produced on site in 2020 and 2021 respectively. Therefore, the Facility produced approximately 5,9716 tonnes and 6,2220 tonnes in 2020 and 2021 respectively. Compliance with this requirement was not determined as it is not known if the analyses was completed every 1 000 tonnes.
Compliance:	Out
Actions to be taken:	Ensure that the requirements of Section 12 of the Organic Matter Recycling Regulation are met.
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.8. Additional Requirements 3.8.2.: The Permittee must ensure the following requirements are met: 3.8.2. Biosolids used as feedstock for the production of Class A compost must not exceed the standards for Class B biosolids set out in Column 3 of Schedule 4.

Details/Findings:	Table 3 (Average Metal Concentrations in Biosolids Accepted by RBCF in 2020/2022) in the 2020 and 2021 Annual Reports confirms that the standards for Class B biosolids, used as feedstock for the production of Class A compost set out in Column 3 of Schedule 4 of the Regulation were not exceeded during the Inspection period.
Compliance:	In
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.8. Additional Requirements 3.8.3.: The Permittee must ensure the following requirements are met: 3.8.3. At least half of the compost stored at 551 Commonage Road, Vernon, BC must be removed annually from the facility.
Details/Findings:	Table 1 (Compost volume produced and stored at the RBCF) in the 2020 and 2021 Annual Reports confirm that more than half of the compost was removed annually from the Facility during the Inspection period.
Compliance:	In
Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.8. Additional Requirements 3.8.4.: The Permittee must ensure the following requirements are met: 3.8.4. The receiving, storage, processing and curing areas of the composting facility must be located on asphalt, concrete or another similar impermeable surface that is capable of withstanding wear and tear from normal operations and that will prevent the release of leachate into the environment.
Details/Findings:	During the on-site inspection, Ministry staff observed that the receiving, storage, processing and curing areas of the Facility were located on concrete.
Compliance:	In

Requirement Description:	3. OPERATIONAL REQUIREMENTS, 3.8. Additional Requirements 3.8.5.: The Permittee must ensure the following requirements are met: 3.8.5. Residuals from the composting process must be stored so as to prevent vector attraction, and be disposed of on a regular basis in accordance the Environmental Management Act.
Details/Findings:	The Residual Management section of the 2020 and 2021 Annual Reports states that "Feedstocks are generally very clean and do not contain litter or plastic debris. Any litter found on-site is collected and disposed of on an ongoing basis. In addition, a coordinated clean-up effort is made each spring that consists of staff walking the north perimeter berm and adjacent field to pick up any plastic fragments or residuals, and dispose of them off-site. All retained residual on premise is limited to less than 15 m3.". During the on-site inspection, Ministry staff did not observe a residuals storage area; therefore, compliance with this requirement was not determined during the Inspection period.
Compliance:	Not Determined
Requirement Description:	4. MONITORING REQUIREMENTS, 4.1. Odour emissions 4.1.: The Permittee must continue to monitor air emissions at the facility and in the surrounding areas using existing e-noses and H2S monitors. The Permittee must monitor odour emissions in accordance with the approved odour management plan and results must be presented and interpreted in the annual report.
Details/Findings:	The Odour Management section of the 2021 Annual Report states that "The RBCF previously used a customized odour monitoring system (OdoWatch), which consisted of two odour detecting sensors (E-Noses) calibrated for the site, and a weather station. A separate hydrogen sulphide (H2S) monitor continuously collected data on any detectable H2S concentrations and calculated a rolling 2-hour average. Technical issues were experienced with the OdoWatch system throughout 2020 and 2021, which the manufacturer (OdoTech) could not resolve. Additionally, OdoTech was bought out by a larger company (EnviroSuite), which discontinued support for the OdoWatch platform. Following the procurement process, the City selected EnviroSuites odour monitoring system to replace OdoWatch. Installation of the new hardware occurred in August 2021. Due to changes to the reporting thresholds resulting from this upgrade, updates to the OMP are currently being completed with an updated OMP planned for 2022.". During the on-site inspection, the Supervisor confirmed with Ministry staff that the replacement of the monitoring system had occurred and an updated odour management plan was being prepared. Therefore, compliance with this requirement was not determined during the Inspection period.
Compliance:	Not Determined

Requirement Description:	4. MONITORING REQUIREMENTS, 4.2. Surface Water Monitoring 4.2.: The Permittee must continue to implement a surface water monitor program as required in writing by the Director and in accordance with recommendations from a Qualified Professional. The Director may request additional information or changes with respect to the monitoring program based on monitoring results and upon submission and review of the Leachate Management System Plan, required under Section 3.5.
Details/Findings:	Appendix B (Water Quality Reports) in the 2020 and 2021 Annual Reports contains the surface water monitoring results conducted by Golder Associates and Keltech Environmental Ltd, during the Inspection period. Section 4.0 (2021 Scope of Work) in the Keltech report states that "Monthly monitoring at the Drainage Pond and at the neighboring Davidson Pond and Roses Pond between the months of April and November (or when the pond is not frozen). Collection and analysis of samples for potential septage contaminants including: - o Total phosphorous (using the total persulfate test method), chloride, ammonia, nitrate, nitrite, and total kjeldahl nitrogen. - o Biochemical oxygen demand (BOD), dissolved organic carbon (DOC) and chemical oxygen demand (COD). - o Metals (total and dissolved). - o pH, total dissolved solids (TDS), total suspended solids (TSS) and hardness. - o Microbiological parameters (total coliforms and Escherichia coli [E. coli]). - o Collect field pH and temperature of the water samples and implementation of a QA/QC program to minimize errors in the field and obtain accurate monitoring results."
Compliance:	In
Requirement Description:	4. MONITORING REQUIREMENTS, 4.4. Air Emissions Review Study 4.4.: The Permittee must retain the services of a qualified professional to review and analyze all emissions data collected at the facility with e-noses, H₂S monitors and odorous gas measurements. The report must be submitted by March 31, 2018 and must: 4.4.1. Describe odour emissions on-site for each odour generating area; 4.4.2. Describe how odours are migrating off-site and identify all affected areas; 4.4.3. Use quantitative and qualitative units for descriptions; 4.4.4. Include daily, seasonal and annual trends; 4.4.5. Discuss how meteorological conditions effect odour generation and dispersion; 4.4.6. Provide a qualitative assessment of how odours have improved since 2010; 4.4.7. Report on the effectiveness of odour mitigation strategies used at the facility; 4.4.8. Discuss calibration schedule/requirements of the OdoWatch system; and 4.4.9. Make recommendations on how the facility could further reduce its odour emissions.

Details/Findings:	The Permittee previously submitted an odour management plan on November 30, 2017, and March 28, 2018. However, due to Ministry feedback and on-site process changes, the 2020 Odour Management Plan was submitted on October 6, 2020. Compliance with this requirement is assessed below: 4.4.1 Requirement: Table 1-1 (Regional Biosolids Composting Facility Odour Source List); 4.4.2 Requirement: Section 4 (Off-site Odour Monitoring); 4.4.3 Requirement: Included throughout the entire document; 4.4.4 Requirement: Not included; 4.4.5 Requirement: Section 2.5 (Other Best Management Practices and Emission Control Technologies for Odour Control), section 3 (On-site Odour Monitoring and Aeration Plan), and section 3.4.4 (RBCF Odour Source Management Matrix); 4.4.6 Requirement: Not included; 4.4.7 Requirement: Section 3.4 (Threshold Actions); 4.4.8 Requirement: Not applicable as OdoWatch system no longer in use on-site; and 4.4.9 Requirement: Section 2.5 (Other Best Management Practices and Emission Control Technologies for Odour Control).
Compliance:	Out
Actions to be taken:	Ensure to include all the requirements of section 4.4 of the Permit in the odour management plan currently being prepared.
Requirement Description:	5. REPORTING REQUIREMENTS, 5.1. Maintenance of Records 5.1.: The Permittee must maintain all records and plans required by this authorization and produce them for inspection by an officer when requested.
Details/Findings:	In an email dated October 13, 2022, the Supervisor submitted the records and plans that Ministry staff had requested.
Compliance:	In
Requirement Description:	5. REPORTING REQUIREMENTS, 5.5. Annual Reporting 5.5.1.: The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to: 5.5.1. The type and tonnage of compostable materials received for the preceding calendar year;

Details/Findings:	A review of the Ministry's internal electronic filing system confirmed that the 2020 and 2021 Annual reports were submitted to the director on March 30, 2021, and March 23, 2022. Table 2 (Weight of Biosolids Processed (wet tonnes)) and Table 4 (Wood Feedstocks Processed) of the 2020 and 2021 Annual Reports states the raw materials used to blend with the biosolids and the tonnage received for the preceding year.
Compliance:	In
Requirement Description:	5. REPORTING REQUIREMENTS, 5.5. Annual Reporting 5.5.2.: The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to: 5.5.2. The quantity of finished compost transported off site and the amount stored on site at the end of each calendar year;
Details/Findings:	A review of the Ministry's internal electronic filing system confirmed that the 2020 and 2021 Annual reports were submitted to the director on March 30, 2021, and March 23, 2022. Figure 3 (Volume of OgoGrow removed from site and inventory at year end) in the 2020 and 2021 Annual Reports displays the quantity of finished compost transported off site and the amount stored on site at the end of each calendar year.
Compliance:	In
Requirement Description:	5. REPORTING REQUIREMENTS, 5.5. Annual Reporting 5.5.3.: The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to: 5.5.3. The results of all monitoring programs as specified in this authorization. The Permittee must ensure that data interpretation and trend analysis, as well as an evaluation of the impacts of the discharges on the receiving environment in the previous calendar year must be carried out by a qualified professional;
Details/Findings:	A review of the Ministry's internal electronic filing system confirmed that the 2020 and 2021 Annual reports were submitted to the director on March 30, 2021, and March 23, 2022. Appendix B (Water Quality Report) in the 2020 and 2021 Annual Reports contains the water quality monitoring completed, data interpretation, trend analysis and the impacts of the discharge to the receiving environment during the Inspection period. Qualified professionals with Golder Associates and Keltech Environmental Ltd prepared the monitoring reports.

Compliance:	In
Requirement Description:	5. REPORTING REQUIREMENTS, 5.5. Annual Reporting 5.5.4.: The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to: 5.5.4. A summary and analysis of all complaints received in the previous calendar year; and
Details/Findings:	A review of the Ministry's internal electronic filing system confirmed that the 2020 and 2021 Annual reports were submitted to the director on March 30, 2021, and March 23, 2022. Section Odour Reports in the 2020 and 2021 Annual Reports contains a summary of the complaints received during the Inspection period; however, it does contain an analysis of the complaints.
Compliance:	Out
Requirement Description:	5. REPORTING REQUIREMENTS, 5.5. Annual Reporting 5.5.5.: The Permittee must submit a comprehensive annual report to the Director, on or before March 31st of each year for the previous calendar year. The annual report must include but not be limited to: 5.5.5. Any improvements made to the facility or operations to reduce and control odour.
Details/Findings:	The Odour Management section in the 2021 Annual Report contains the improvements made to the odour monitoring system in 2021.
Compliance:	In

Compliance History:

2019-01-17 IR 114739 Notice:

The Ministry of Environment Compliance and Enforcement Policy and Procedure (C&E Policy) prescribes common requirements and procedures for all Ministry staff to ensure consistent and risk-based assessment and response to non-compliance. Using the Non-Compliance Decision Matrix, the compliance determination for this inspection has been assessed as a **Level 1, Category A, Advisory**.

More information about Environmental Compliance, the Non-Compliance Decision Matrix, and reporting and data submission requirements can be found at the links below:

General compliance information:

www.gov.bc.ca/environmentalcompliance

Non-Compliance Decision Matrix information:

www.gov.bc.ca/environment/how-compliance-is-assessed

Reporting and data submission requirements (to be sent to EnvAuthorizationsReporting@gov.bc.ca):

<https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/comply>

Please be advised that this inspection report may be published on the provincial government website within 7 days.

If you have any questions about this letter, please contact the undersigned.

Yours truly,

Chris White

Environmental Protection Officer

cc:

Attachments:

Deliver via:

Email: ☒ Fax: ☐ Mail: ☐
Registered Mail: ☐ Hand Delivery: ☐

**Ministry of Environment
and Climate Change
Strategy**

Compliance and
Environmental
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DISCLAIMER:

Please note that sections of the permit, regulation or code of practice referenced in this inspection record are for guidance and are not the official version. Please refer to the original permit, regulation or code of practice.

To see the most up to date version of the regulations and codes of practices please visit

<http://www.bclaws.ca>

If you require a copy of the original permit, please contact the inspector noted on this inspection record.

It is also important to note that this inspection record does not necessarily reflect each requirement or condition of the authorization therefore compliance is noted only for the requirements or conditions listed in the inspection record.