



Report Date: August 13, 2019

File: 108432

Report Number: 135494

Kenneth Regehr
4516 Hullcar Road Armstrong
BC V0E1B4

Dear Kenneth Regehr

Re: Non-compliance Advisory Letter, Pollution Prevention Order 108432, Kenneth Regehr Holdings Ltd., Armstrong, BC, Effluent

On August 06, 2019, Ministry of Environment and Climate Change Strategy, Environmental Protection Division staff conducted an inspection of your facility, Kenneth Regehr Holdings Ltd. located at 4516 Hullcar Road Armstrong, BC with Pollution Prevention Order number 108432 under the *Environmental Management Act*.

This Advisory, the alleged violations and the circumstances to which it refers will form part of the compliance history of Kenneth Regehr Holdings Ltd., 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.

Inspection Details:

Requirement Description:	<p>PPO 108432 Requirement 5 - Action Plan Implementation</p> <p>Upon approval by the Director, implement the Action Plan referred to in section 4 in accordance with any amendments to the Action Plan required or approved by the Director, or any further directions of the Director.</p> <p>ACTION PLAN (Dated April 2017): GROUNDWATER</p> <p>1. Continue to monitor water quality in Project wells 7, 8, 13 and 17 (see Figure 3-1 for locations). Samples should be analyzed for nitrate-N, nitrite-N, ammonia, TKN, total nitrogen, chloride, pH (field), and temperature (field). To further assess spatial extent of nitrate-N in aquifer 103, before irrigation season, sample from Well 13 within the first 10 minutes of being turned on (and as soon as field parameters stabilize), and sample again after one hour of being turned on. When irrigation season commences, sample after the wellfield has been running more or less continuously for one week.(Three times per year for two years).</p> <p>2. Collect a grab sample from the constructed wetland (see Figure 3-2 for layout of facilities) and analyze for the same list of analytes. The sample should be obtained as a composite of about five sub-samples from locations around the "downstream" end of wetland, taken at least one metre from shore from mid-depth. Compare the wetland sample results to those from Project well 13 and to water quality guidelines. After the first year, consider installing a new monitoring well downgradient of the wetland, if concentrations in the wetland water sample exceed applicable guidelines. (Three times per year for two years (2017 and 2018)).</p>
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Details/Findings:	<p>Inspection Summary</p> <p>On August 6, 2019, Ministry of Environment and Climate Change Strategy (Ministry) Environmental Protection Officer Colin Meldrum (Officer Meldrum) conducted a file review inspection of Kenneth Regehr Holdings Ltd. (Ken Regehr), located on Hullcar Road, Armstrong BC. The purpose of the inspection was to verify compliance with Pollution Prevention Order (PPO) 108432, dated May 12, 2016 and last amended July 29, 2016.</p> <p>The inspection period was from January 1, 2018 to June 30, 2019 and included a review of the following documentation: - Ken Regehr Farm Summary of Action Plan Requirements 2017 and 2018, dated June 10, 2019 and prepared by Ruth McDougall, M.Sc., PAg., Consulting Agrologist (2019 Annual Summary).</p> <p>Compliance Assessment</p> <p>1. Table 1b of the 2019 Annual Summary presents the results of samples that were collected from Project wells 7, 8, and 13 on April 11, 2018, July 23, 2018 and September 26, 2018. Project well 13 was sampled both within the first 10 minutes and after one hour of pumping during the April 11, 2018 sampling event. Project well 17 was sampled on April 11, 2018, but not three times in 2018, as required. The samples were analyzed for nitrate-N, nitrite-N, ammonia-N, TKN, total nitrogen, chloride and pH.</p> <p>2. Table 2b of the 2019 Annual Summary presents the sample results of a grab sample that was collected from the constructed wetland in April 2018. The results are compared to the results from the sample collected from Project well 13 for all parameters analyzed as well as the BC drinking water quality guidelines. The 2019 Annual Summary states that it was not possible to sample the constructed wetland again in 2018 because the lagoon is pumped empty so that the liquid can be used for irrigation water and that it does not contain any water until the following spring.</p>
Compliance:	Out
Requirement Description:	<p>PPO 108432 Requirement 5 - Action Plan Implementation</p> <p>Upon approval by the Director, implement the Action Plan referred to in section 4 in accordance with any amendments to the Action Plan required or approved by the Director, or any further directions of the Director.</p> <p>ACTION PLAN (Dated April 2017): FARM INFRASTRUCTURE AND OPERATIONS</p> <p>3. Perform annual maintenance of the constructed wetland, preferably in the late summer, to remove excessive sediment (both mineral and organic). (Annually for two years (2017 and 2018)).</p> <p>4. Re-plant more of the wetted area of the wetland with native aquatic macrophytes such as cattail and bulrush. As a general concept, the cattail and bulrushes should be planted in zones that are less than about 0.8 m deep, leaving some areas of open water. (By end of 2017).</p> <p>5. Install a staff gauge on the wetland/pond system and record water levels weekly during March, April, May, October, and November and then monthly during remaining snow-free months. Gauge installation will be according to BC Hydrometric Standards (MOE 2009), Estimate changes in water volume and calculate the water balance to assess the potential for infiltration. (Installation by June 1, 2017. Regular readings for 2017 and 2018. Include records and water balance estimates in June 30, 2017 Summary Letter and 2017 and 2018 Annual Reports.).</p>

Details/Findings:	<p>3. The 2019 Annual Summary states that annual maintenance was conducted in fall 2018 when water levels were low and included the removal of excessive sediment and berm maintenance.</p> <p>4. Compliance with this requirement was previously assessed in IR74195.</p> <p>5. Compliance with this requirement to install a staff gauge was previously assessed in IR74195. Table 3 of the 2019 Annual Summary presents weekly water levels measured between February 28 and June 8, 2018. All of the liquid had been pumped from the constructed wetland by June 8, 2018 and the 2019 Annual Summary states that the water level remained at 0 metres above the bottom of the constructed wetland through December 31, 2018.</p>
Compliance:	In
Requirement Description:	<p>PPO 108432 Requirement 5 - Action Plan Implementation</p> <p>Upon approval by the Director, implement the Action Plan referred to in section 4 in accordance with any amendments to the Action Plan required or approved by the Director, or any further directions of the Director.</p> <p>ACTION PLAN (Dated April 2017): NUTRIENT MANAGEMENT - GENERAL</p> <p>6. Collect 7 soil samples for bulk density and texture analyses, and calculate descriptive statistics. Estimate hydraulic conductivity using the bulk density and texture data. (June 1, 2017).</p> <p>7. Continue to use a qualified person (CCA or P.Ag.) to prepare an annual Nutrient Management Plan or Farm Book that is based on soil sampling results. (Annually for two years (2017 and 2018)).</p> <p>8. Conduct annual post-harvest soil testing on all fields over Hullcar Aquifer 103 with samples being collected at 0-15, 15-30, 30-60, and 60-90 cm depth. (Fall 2017 and 2018 (within 2 weeks of final crop harvest)).</p> <p>9. Participate in the BC Ministry of Agriculture benchmark soil study if it continues beyond 2016. (Annually for two years (2017 and 2018)).</p>
Details/Findings:	<p>6. Compliance with this requirement was previously assessed in IR56938.</p> <p>7. The 2019 Annual Summary states that Ken Regehr continues to retain Doug Macfarlane, CCA, of Emerald Bay Ag Services, Vernon BC to prepare a Farm Book for all fields. The 2018 Farm Book was prepared in spring 2018 and was developed for a zero nitrogen balance on each field and incorporates the results of the fall 2017 post-harvest soil testing conducted by the Ministry of Agriculture.</p> <p>8. The 2019 Annual Summary states that post-harvest soil testing was conducted on all fields in September and October 2018. Samples were collected at 0-15, 15-30, 30-60, and 60-90 cm depths.</p> <p>9. The 2019 Annual Summary states that Ken Regehr participated in the Ministry of Agriculture benchmark soil study in fall 2018.</p>

Compliance:	In
Requirement Description:	<p>PPO 108432 Requirement 5 - Action Plan Implementation</p> <p>Upon approval by the Director, implement the Action Plan referred to in section 4 in accordance with any amendments to the Action Plan required or approved by the Director, or any further directions of the Director.</p> <p>ACTION PLAN (Dated April 2017): NUTRIENT MANAGEMENT - MANURE MANAGEMENT</p> <p>10. Reduce manure application rate on Field 210 in 2017 based on post-harvest soil nitrate-N results. Note: Since the EIA was prepared, Regehr Farms has canceled the lease on Field 210 so Regehr Farms will not be applying any manure to Field 210. Therefore, the field will not be included in the 2017 NMP. (Not applicable).</p> <p>11. Apply manure based on the field- and crop-specific recommendations prepared by the CCA or P.Ag. from the annual Nutrient Management Plan or Farm Book. (Annually for two years (2017 and 2018)).</p> <p>12. Test feedlot manure for nutrient content in spring prior to manure application and use a running average of all annual analyses to determine manure application rates. (Spring 2017 and annually in spring).</p>
Details/Findings:	<p>10. Compliance with this requirement was previously assessed to no longer be applicable in IR56938.</p> <p>11. The 2019 Annual Summary states that Ken Regehr had retained Doug Macfarlane, CCA, of Emerald Bay Ag Services, Vernon BC prepare a 2018 Farm Book. The 2018 Farm Book prescribes application rates of manure for each field based on crop to be grown, nutrient content of the manure and the results of fall 2017 soil nitrate testing. Table 4b of the 2019 Annual Summary presents the prescribed manure application rate for each field and the actual manure application rate for all fields in 2018. In each case, the actual manure application rate was less than or equal to the prescribed manure application rate.</p> <p>12. Compliance with this requirement was previously assessed in IR93079.</p>
Compliance:	In
Requirement Description:	<p>PPO 108432 Requirement 5 - Action Plan Implementation</p> <p>Upon approval by the Director, implement the Action Plan referred to in section 4 in accordance with any amendments to the Action Plan required or approved by the Director, or any further directions of the Director.</p> <p>ACTION PLAN (Dated April 2017): NUTRIENT MANAGEMENT - FERTILIZER USE</p> <p>13. Avoid the use of inorganic fertilizer nitrogen on fields overlying the Hullcar Aquifer unless insufficient manure is available to meet crop demands or if manure cannot practically be applied to a field. If inorganic fertilizer nitrogen is applied, it must be done based on a field sampling program and recommendations from a qualified person. (Annually for two years (2017 and 2018)).</p>

Details/Findings:	13. The 2019 Annual Summary states that no inorganic nitrogen fertilizer was used in 2018.
Compliance:	In
Requirement Description:	<p>PPO 108432 Requirement 6 - Annual Summary Reporting</p> <p>Submit to the Director a formal written summary by November 30, 2016 and annually for the next two years including: i) summarizing in reasonable detail what actions from the Action plan were undertaken; ii) identification of all agriculture operational changes that occurred; iii) summarizing in reasonable detail monitoring results; iv) summarizing environmental impact assessment (first year only); and v) recommending additional mitigation and restoration measures, if appropriate.Changes under July 29, 2016 Director's Amendment Letter: Remains unchanged with the exception of the statement: "Submit to the Director a formal written summary by June 30, 2017 ..."</p>
Details/Findings:	<p>The 2019 Annual Summary was submitted on June 15, 2019.</p> <p>i) The 2019 Annual Summary summarizes all actions from the Action Plan and documents those actions that were undertaken in 2017 and 2018.</p> <p>ii) The 2019 Annual Summary did not identify any changes that occurred with the exception of changes in crops on each field; however, Joe Klassen with Purple Springs Nursery confirmed in a phone conversation with Officer Meldrum on August 6, 2019 that there have been no changes to the agriculture operation during the inspection period.</p> <p>iii) The 2019 Annual Summary summarized the monitoring results of all groundwater monitoring, constructed wetland monitoring of water quality and water level, soil testing, manure testing and manure application rates.</p> <p>iv) Compliance with this requirement was previously assessed in IR56938.</p> <p>v) The 2019 Annual Summary did not recommend any additional mitigation and restoration measures.</p>
Compliance:	In

Requirement Description:	<p>PPO 108432 Requirement 7 - Public Posting of Annual Summary</p> <p>Must publicly post the Action Plan required by this order by August 15, 2016 and publicly post the annual summary required by this order by November 30, 2016, including physically posting the Action Plan and Annual Summary at the Hullcar Community Hall. Any updates to the Action Plan and future Annual Summaries must be posted at Hullcar Community Hall annually for the next two years, by November 30 of each year. Changes under July 29, 2016 Amendment Letter: Publicly post the Action Plan required by this order by October 31, 2016 and publicly post the annual summary required by section 6 of this order by June 30, 2017, including physically posting the Action Plan and Annual Summary at the Hullcar Community Hall. Any updates to the Action Plan must be posted at Hullcar Community Hall for the next two years, and future Annual Summaries must be posted at Hullcar Community Hall annually for the next two years, by June 30 of each year. Changes under November 28, 2016 Director's Amendment Letter: "Must publically post the Action Plan required by this order" – the Action Plan must be posted publically by January 6, 2017."</p>
Details/Findings:	Mr. Klassen submitted photographic evidence on June 15, 2019 that the 2018 Annual Summary was posted at the Hullcar Community Hall prior to June 30, 2019.
Compliance:	In

Compliance History:

2018-07-25 IR93079 - Notice of Compliance

2018-01-22 IR74195 - Notice of Compliance

2017-06-23 IR56938 - Advisory: late submission of EIA, failure to implement action plan, late posting of action plan

2017-02-08 IR47817 - Investigation Referral: failure to address all fields in terms of reference (TOR) for EIA, late submission of TOR, late submission of EIA, late submission of action plan, failure to publicly post action plan

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 noncompliance. Using the Non-Compliance Decision Matrix, the compliance determination for this inspection has been assessed as a Level 1, Category A.

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: <http://www.gov.bc.ca/environmentalcompliance>
- Non-Compliance Decision Matrix information: <http://www.gov.bc.ca/environment/how-compliance-is-assessed>
- Reporting and data submission requirements (to be sent to EnvAuthorizationsReporting@gov.bc.ca): <http://www.gov.bc.ca/submit-waste-authorization-reports>

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,

Colin Meldrum
Environmental Protection Officer

cc:

Attachments:

Deliver via:

Email: Fax: Mail:
Registered Mail: Hand Delivery:

**Ministry of Environment
and Climate Change
Strategy**

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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.