



Date: March 6, 2014

File: 107156

Douglas Regehr
5042 Schubert Road
Armstrong, BC V0E 1B4

INFORMATION ORDER

Background Information:

We have reason to believe there is a possibility that pollution could occur from a property at 5042 Schubert Road, Armstrong BC V0E 1B4, legally described as Lot 1, District 6 Lot 97 Osoyoos Division Yale District Plan KAP 70654, owned and/or operated by Douglas Regehr.

Environmental Protection Division staff are dealing with high nitrate levels recently detected in Steele Springs near Armstrong BC. Steele Springs is a drinking water supply source for approximately 150 residents that emerges from the ground immediately to the south of the portion of your farm noted above and shown below.



The most recent water quality tests for Steele Springs show that Nitrates have risen to significantly higher levels this fall and winter compared to the levels detected in the

previous years. The previous winters saw levels peak at 5 to 6 mg/L in October and November and drop as the year progressed. This winter's results exceeded 6.5 mg/L in early January. Subsequent results from later in January show Nitrate levels increased to 7.8 mg/L. M. Reiner, a Senior Environmental Protection Officer with us, also collected a water sample from Steel Springs on Jan 21, 2014 and tests result indicated that it contained 8.8 mg/L for Nitrate as N.

The drinking water limit for Nitrate is 10 mg/L as N.

The water for Steele Springs originates from a shallow un-confined aquifer in the area as per information provided by a ground water hydrologist with FLNRO in Penticton and documented in this report.

http://a100.gov.bc.ca/appsdata/acat/documents/r16678/Hullcar_groundwater_potential_eval_1249498672243_f7ea0679b44b73003fe49801dfed50cd9361baff77bae58099224e4b1d15397e.pdf

It is evident that large portion of this un-confined aquifer lies under the field of concern shown above.

Well logs also indicate the upper 50 to 100 ft of soils in and around the field consist of Sand, Dry Sand and Gravel and Sandy Till all of which typically have high hydraulic conductivities i.e. groundwater in such soils can typically move horizontally at rates of 2 m/day.

Accordingly, one can reasonably foresee that excessive or poorly managed nutrient applications to your field and or others in the area could potentially cause applied nutrients to leach into this aquifer and impact water quality at Steele Springs

While we do not have specific information that provides reasonable confirmation that nutrients applied to the field identified above are leaching into Steele Springs, Section 77 of the *Environmental Management Act* allows a director to require a person to provide such information to the director at that person's expense.

Information Order:

Pursuant to Section 77 of the *Environmental Management Act*, I hereby order Douglas Regehr to comply with the following requirements:

1. Retain a Qualified Professional (QP) to compile and fully assess the farm's recent nutrient application rates for the field of concern and their potential linkages to nitrate levels in Steel Springs for the past three years using available data from previous soil sampling, groundwater sampling events, as well as current and previous manure analysis that the Farm may be able to provide. In addition, the QP should conduct further sampling as necessary to fully assess the situation. As a minimum, additional sampling should be conducted to assess the actual present nutrient levels in the soils nitrogen based on soil samples collected from 0-6, 6-12

and 12-24 inches soil horizons prior to March 15, 2014 and again in mid to late April. A report of the QP's findings, recommendations and conclusions relative to ensuring nutrients applied on the field (noted above) do not leach into the groundwater and impact nitrate levels in Steel Springs must also be submitted to the Director on or prior to July 15, 2014.

2. Submit a comprehensive nutrient management plan, developed by a QP, for the approval of the director for the entire farm in keeping with the recommendations in the Environmental Farm Plan Reference Guide and specifically including:
 - a) a detailed contingency plan to deal with unforeseen incidents which result in the farm entering or finishing any given growing season with 20% more nutrients than normally expected. This specific requirement is only required if livestock on the farm produce more than 50% of nutrients required as fertilizer.
 - b) a monitoring plan for soils, surface waters and groundwater on and around the farm to confirm that only the necessary levels of nutrients and fertilizer are being applied and the timing of the applications aren't impacting Steele Springs.

The submission of these plans is required on or before September 1, 2014 and they should consider the findings and recommendations from the assessment in requirement #1 above.

3. Submit an annual summary on and before February 28, of 2015, 2016 and 2017 calendar years, fully documenting the nutrient content of the manure applied on the farm the previous year, the nutrients applied to each specific field and when, as well the soil, surface water and groundwater sampling results obtained under the monitoring plan.

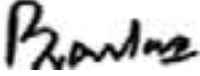
Failure to comply with the requirements of this order is a contravention of the *Environmental Management Act* and may result in legal action.

This order does not authorize entry upon, crossing over, or use for any purpose of private or crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with you. It is also your responsibility to ensure that all activities are carried out with due regard for the rights of third parties, and comply with other applicable legislation that may be in force, such as municipal bylaws relating to the discharge of waste to municipal storm or sanitary sewers.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date notice is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

If you have any questions, please contact the undersigned or Stephanie Little, Environmental Protection Officer at (250) 490-8200.

Yours truly,



Sajid A. Barlas, Ph.D., P.Ag.
Director's Delegate
Environmental Management Act

cc: Environment Canada
Janelle Kwan, Interior Health Vernon BC. By e-mail to:
Janelle.Kwan@interiorhealth.ca

Josh Lockwood – COS Supervisor N. Okanagan. By e-mail to:
Josh.Lockwood@gov.bc.ca

Greg Tegart – Regional Manager, Ministry of Agriculture, Vernon. By e-mail to :
Greg.Tegart@gov.bc.ca