



# Summary

MONITORING AND REPORTING REQUIREMENTS	
Inspection Period: <b>From:</b> 2016-07-13 <b>To:</b> 2016-09-26	
<b>Requirement Source:</b> Pollution Abatement Order	
Activity: <u>On Site</u>	Waste Type: <u>Effluent</u>
<b>Inspection Summary:</b> On May 12, 2016, a Pollution Abatement Order (PAO) was issued to Darlene Huxley as a result of addressing the need for a higher standard for storage of agricultural manure which is suspected of causing increased nitrogen levels in the local aquifer (aquifer #103) which is used to provide drinking water to residents in the Hullcar Valley.  On July 13, 2016, the Huxley Farm, a beef-cow calf producer in Armstrong, BC was inspected by Environmental Protection Officer (EPO) Devan Oldfield, Compliance Section and Deputy Director Christa Zacharias-Homer, Environmental Protection Division. The inspection was conducted to verify compliance with requirements placed in the PAO.  The onsite inspection included an historic field storage location for manure (removed prior to the inspection), the location where the permanent manure storage facility will be constructed, a diversion culvert for managing runoff and an onsite feed barn. A Manure and Nutrient plan was also reviewed as part of the inspection.  On September 26, 2016, the Huxley farm was again inspected by EPO Devan Oldfield to verify construction of the permanent manure facility listed as an "Action Item" in the Manure and Nutrient Management Plan.	<b>Response:</b> <u>Notice</u>
<i>ACTIONS REQUIRED BY REGULATED PARTY:</i>	
None	
<i>ADDITIONAL COMMENTS:</i>	

Compliance Summary	In	Out	N/A	N/D
Operations	3	0	3	3
Reporting	1	0	0	0

# Inspection Details

## Requirement Type: Operations

### Requirement Description:

1

Retain a Qualified Professional to identify drainage management measures necessary to effectively control runoff and to ensure that solids, leachate, contaminated runoff and drift from sprayed materials do not enter watercourses or any source of water for irrigation or drinking purposes or leave the property. Implement drainage management measures identified by the Qualified Professional by July 31, 2016.

### Details/Findings:

The Manure and Nutrient Management report identified an occasional (1 in 5 year) runoff channel through the winter feed field. Mr. Huxley had recently (2014) constructed a drainage management structure to divert this runoff away from his field manure storage area. Another measure used to control runoff is the construction of a permanent storage facility to hold the winter manure, secured against contact with runoff.

The Farm Report also identified a seasonal stream in the southern end of the winter field. The Manure and Nutrient Management report suggests temporary fencing is used around seasonal streams while running and that cattle access to this area be restricted during those times that the stream is running.

Section 11 of the Farm Report lists the following six actions items to be implemented to manage drainage issues on the site;

1. Construct permanent manure storage facility for manure generated during 6 month winter feeding period sized to hold 84 cubic metres of manure plus precipitation.
2. Allow cattle access to hay field north of seasonal feeding pasture during early winter feeding period to reduce manure accumulation in seasonal feeding pasture.
3. Install a temporary fence to exclude cattle from the seasonal stream when it is running (mid-March-April).
4. Maintain a 3.5 m setback from Pyott Road when applying manure or fertilizer to hay fields.
5. Graze the pasture to the south of the seasonal feeding pasture after the seasonal stream has dried up.
6. Move cattle out of the seasonal feeding pasture as early as possible in spring to minimize manure accumulation in the pasture.

An inspection conducted on September 26, 2016 verified the construction of the permanent manure storage facility as well as verifying its volume was adequate to hold all the winter manure as well as precipitation.

Compliance against the remaining 5 action items cannot be verified at this time due to their seasonal nature.

**Compliance:** Not Determined

## Requirement Type: Operations

### Requirement Description:

2

By July 31, 2016 establish functional manure storage facilities, which have, at a minimum, the storage capacity necessary to store all manure produced by your agricultural operation, for the length of time necessary to allow for storage of such manure in accordance with this order until it can be applied to the Lands in accordance with the rates and timing of application determined under section 8 of this order.

**Details/Findings:**

According to the Manure and Nutrient Management report a storage pad of approx. 84 cubic metres with a useable depth of 1m would be required to store the farms winter manure. It is not expected that the farm would generate more manure than could be applied to the lands.

An inspection conducted on September 26, 2016 verified the completion of the permanent manure storage facility as well as its ability to store the required volumes defined in the Manure and Nutrient Management Plan.

**Compliance:** In**Requirement Type:** Operations**Requirement Description:**

3

By July 31, 2016 ensure all permanent manure storage facilities have a minimum setback of:

- i) 30 meters from any source of water used for domestic purposes including drinking water well or surface water intake;
- ii) 15 meters from the high water mark of all watercourses; and
- iii) 4.5 meters from all property lines.

**Details/Findings:**

The permanent storage facility is situated so;

- i) it is more than 30m from any source of water used for domestic purposes including drinking water well or surface water intake.
- ii) there is a seasonal creek situated in the southern portion of the winter field. The permanent storage facility is more than 15m from the high water level of this creek.
- iii) that it is more than 4.5m from all property lines.

**Compliance:** In**Requirement Type:** Operations**Requirement Description:**

4

By June 30, 2016 ensure all field storage areas are not located:

- i) on areas having standing water,
- ii) on saturated soils, or
- iii) on low-lying areas in fields prone to seasonal flooding.

**Details/Findings:**

During the site visit on July 13, 2016, no field manure storage was observed. Historically, all winter manure was stored in the field to the immediate west of the barn (photo 1). Ken Huxley informed me that a permanent storage facility will be constructed in this area and it would be used going forward in place of field storage.

**Compliance:** Not Applicable**Requirement Type:** Operations**Requirement Description:**

5

By June 30, 2016 ensure all manure field storage areas have a minimum setback of:

- i) 30 meters from any source used for domestic purposes including a drinking water well or surface water intake,
- ii) 30 meters from the high water mark of all watercourses, and
- iii) 4.5 meters from all property lines.

**Details/Findings:**

During the site visit on July 13, 2016, no field manure storage was observed. Historically, all winter manure was stored in the field to the immediate west of the barn (photo 1). Ken Huxley informed me that a permanent storage facility will be constructed in this area and it would be used going forward.

**Compliance:** Not Applicable

**Requirement Type: Operations****Requirement Description:**

6

By June 30, 2016 ensure all manure field storage areas are:

- i) covered,
- ii) located on a base of low permeability soil (hydraulic conductivity of 10<sup>-6</sup>), e.g., layer of clay, or on an impermeable liner;
- iii) established such that any leachate must be collected and contained, and
- iv) established and located such that storm or rain water flowing along the surface of any berms or other works constructed is diverted from entering the field\_s stored manure pile(s).

**Details/Findings:**

During the site visit on July 13, 2016, no field manure storage was observed. Historically, all winter manure was stored in the field to the immediate west of the barn (photo 1). Ken Huxley informed me that a permanent storage facility will be constructed in this area and it would be used going forward.

**Compliance:** Not Applicable

**Requirement Type: Operations****Requirement Description:**

7

By June 30, 2016, ensure that no manure and/or manure effluent is stored in sites other than storage facilities or field storage areas.

**Details/Findings:**

During the site visit on July 13, 2016, no manure storage was observed. During the summer season, the cattle are grazing the fields and no manure stockpile is generated (i.e. it is spread as it is generated). Historically, all winter manure was stored in the field to the immediate west of the barn (photo 1). Ken Huxley informed me that a permanent storage facility will be constructed in this area and it would be used going forward.

**Compliance:** In

**Requirement Type: Reporting****Requirement Description:**

8

Prior to any manure and/or inorganic fertilizer application to fields, retain a Qualified Professional to determine agronomically-correct rates of application of manure and/or inorganic fertilizer. All records and data used to calculate the manure application rate must be retained for two (2) years and must be made available to the Ministry upon request.

**Details/Findings:**

After a review of the Manure and Nutrient Management Report for the Huxley Farm, provided by Ruth McDougall, I am satisfied that agronomically-correct rates of application of manure and/or inorganic fertilizer are being used.

**Compliance:** In

**Requirement Type: Operations**

**Requirement Description:**

9

Ensure all applications of manure and/or inorganic fertilizer are:  
i) a minimum of 3.5 meters from the high water mark of a watercourse;  
ii) 3.5 meters from all property lines;  
iii) 3.5 meters from any industrial wells; and  
iv) 30 meters from any drinking water wells.

**Details/Findings:**

The hay fields where manure or fertilizers are applied are situated such that there are no surface water sources or wells within 30 metres of the field boundaries. Mr. Huxley has stated that since he does not require all of his land base to spread his manure, it is very simple for him to stay well away from all property boundaries, focusing his manure spreading and nutrient applications to the central portions of the fields.

Without being present to observe manure/fertilizer application, it is not possible to determine compliance.

**Compliance:** Not Determined

**Requirement Type: Operations**

**Requirement Description:**

10

Prior to conducting any manure and/or inorganic fertilizer application, ensure the buffer requirements above have been visibly identified either using a visual marking system (such as flagging tape) or GPS enabled datalogger.

**Details/Findings:**

The Manure and Nutrient Management Report cautions against applying manure or fertilizer within 3.5 metres from Pyott Road. In addition, Mr. Huxley has stated that since he does not require all of his land base to spread his manure, it is very simple for him to stay well away from all property boundaries, focusing his manure spreading and nutrient applications to the central portions of the fields.

Without being present to observe manure/fertilizer application, it is not possible to determine compliance.

**Compliance:** Not Determined

**Were the following collected during inspection:**

Samples?  Photos?  EMS Number

**Other (please specify)**

Is the Inspection related to an EA Project?  EA Project Certificate Number:

**INSPECTION CONDUCTED BY:**

Signature	Date Signed
Devan Oldfield	2016-09-30

**ENCLOSURE(S) TO REGULATED PARTY & DESCRIPTION:**

CVIS Archives

REGULATORY CONSIDERATIONS:

**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 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 or visit: <http://www2.gov.bc.ca/gov/topic.page?id=DF89089126D042FD96DF5D8C1D8B1E41&title=Publicly%20Viewable%20Authorizations>

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.

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