



# Ministry of Environment Inspection Record

Environmental  
Protection  
Division

<b>Inspection Number:</b> 29188		<b>Inspection Status:</b> FINAL	
EP System: <u>AMS</u>		Inspection Date: 2016-08-16	
EP System Number: 108431		EP System Status: <u>Active</u>	
<b>Region:</b> <u>Okanagan</u>		Office: <u>Penticton</u>	
Trigger: <u>Planned</u>		<b>Incidents of Non-Compliance Observed:</b> <u>Yes</u>	
Non-Compliance Decision Matrix Level: <u>Level 3</u>		Non-Compliance Decision Matrix Category: <u>Category B</u>	
Inspector Name(s): Devan Oldfield			CPIX: <u>0 to 1 = Low</u>
Audit:		Total Non-Compliance(s): 6	
<b>Regulated Party:</b> Purple Springs Nursery Inc.			
Regulated Party Contact(s): Joe Klassen			
<b>Legal Address:</b> 4516 Hullcar RD Armstrong, BC V0E1B4			
Phone No: 2503091986		Fax No:	
Contact Email: <u>jk@psnursery.com</u>			
<b>Location Description or Site Address:</b> 4516 Hullcar RD Armstrong, BC			
Latitude: 50.500299 N		Longitude: 119.275185 W	
Receiving Environment(s): <u>Groundwater &amp; Land</u>			

## Summary

MONITORING AND REPORTING REQUIREMENTS		
Inspection Period:		
From: 2016-07-15	To: 2016-08-22	
Requirement Source:		
Pollution Prevention Order		
Activity: On Site	Waste Type: Effluent	
<b>Inspection Summary:</b> <p>On June 7, 2016, Pollution Prevention Order #108431 (Order) was issued to Purple Springs Nursery Inc., operator of agricultural operations (tree nursery) located at 4516 Hullcar Road in Armstrong (Lands), as a result of the introduction into the environment of agricultural waste, including manure and/or manure laden effluent.</p> <p>The presence of nitrate is causing the groundwater in the unconfined aquifer that lies in part underneath the Lands (commonly referred to as the Hullcar Aquifer 103) to be unfit for potable purposes for some residents in the Hullcar Valley.</p> <p>On August 16, 2016, I performed an on site inspection of the tree nursery at the Lands. I met with Mr. Joe Klassen, General Manager of Purple Springs Nursery and Mr. Rico Thorsen, Arborist for Purple Springs Nursery. The intent of the on site inspection was to verify compliance with requirements placed in the Order. A general discussion around the requirements of the Order, the intent of my inspection and the recently submitted Farm Book took place followed by an inspection of the Lands including composting windrows (field storage), a windrow turner, various cover crops (sorghum, Sudan grass, clover, daikon radish) and property lines. On August 19, 2016, I also performed an office review in order to assess compliance with the specific requirements of the Order.</p> <p>Purple Springs Nursery Inc. has been determined to be out of compliance with requirements 1, 3, 4, 5, 8 and 10.</p> <p>This matter has been referred to the Conservation Officer Service for Investigation.</p>		<b>Response:</b> <u>Investigation</u>
ACTIONS REQUIRED BY REGULATED PARTY:		
<p>Have the Farm Book, completed by a Qualified Professional, submitted to the Director and posted at Hullcar Hall immediately.</p> <p>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, irrigation or drinking water wells or leave the Lands.</p> <p>Retain a qualified professional to review the existing groundwater monitoring program for nitrates and other nitrogen compounds in the groundwater on the Lands identified in this order.</p> <p>Verify and provide evidence that irrigation runoff at your operation does not come into contact with the field manure storage.</p>		
ADDITIONAL COMMENTS:		

Compliance Summary	In	Out	N/A	N/D
Operations	4	3	1	1
Reporting	0	2	2	1
Monitoring	0	1	0	0

## Inspection Details

<b>Requirement Type:</b> <u>Reporting</u>
<b>Requirement Description:</b> <p>1. Retain a Qualified Professional to prepare a report (the "Farm Book") for the 2016 calendar year which includes at a minimum the following information :</p> <p>—</p> <p>4.</p> <p>—</p> <p>In this order "Qualified Professional" means an applied scientist or technologist specializing in a particular applied science or technology, including agrology, biology, chemistry, engineering, geology or hydrogeology, who</p> <p>(a) is registered in British Columbia with the professional organization responsible for his or her area of expertise, acting under that professional association's code of ethics and subject to disciplinary action by that association, and</p> <p>(b) through suitable education, experience, accreditation and knowledge, may be reasonably relied on to provide advice within his or her area of expertise as it relates to this order;</p>
<b>Details/Findings:</b> <p>When I asked Joe Klassen who the author of the submitted Farm Book was he indicated that Rico Thorsen and Doug MacFarlane were the two authors. I asked for the qualifications of the authors to compare against the definition of Qualified Professional that was provided in the Order. Mr. Thorsen is a Certified Arborist with the International Society of Arboriculture. Mr. MacFarlane is a Certified Crop Advisor with the American Society of Agronomy. Neither individual is registered in British Columbia.</p>
<b>Compliance:</b> <u>Out</u>
<b>Requirement Type:</b> <u>Reporting</u>
<b>Requirement Description:</b> <p>2</p> <p>Retain a Qualified Professional to prepare a 2017 Farm Book which includes at a minimum the information required by section 1 of this order to be included in the 2016 Farm Book, but for the 2017 calendar year.</p> <p>The 2017 Farm Book must be provided to the Director by January 30, 2017. Subsequent updates to the 2017 Farm Book indicating any changes to the required information must be provided to the Director by April, 30 2017; July 31, 2017; and, October 30, 2017.</p>
<b>Details/Findings:</b> <p>As the date of this Order requirement has not passed, this requirement is not applicable at this time.</p>

**Compliance:** Not Applicable

**Requirement Type:** Reporting

**Requirement Description:**

3

Publicly post the Farm Books and subsequent updates required by this order, including physically posting the Farm Books and subsequent updates at the Hullcar Community Hall, on the same day the respectively Farm Book or update is required to be provided to the Director.

**Details/Findings:**

On August 16, 2016, I attended Hullcar Hall. No Farm Book for Purple Springs was observed at that time.

**Compliance:** Out

**Requirement Type:** Operations

**Requirement Description:**

4

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, irrigation or drinking water wells or leave the Lands. Implement drainage management measures identified by the Qualified Professional by July 15, 2016 and continue implementing such measures until this order is amended or cancelled.

**Details/Findings:**

No information regarding drainage management issues was provided. As of August 16, 2016 Purple Springs had not retained a Qualified Professional to conduct this work. As such, it remains to be completed.

**Compliance:** Out

**Requirement Type:** Monitoring

**Requirement Description:**

5

Retain a qualified professional to review the existing groundwater monitoring program for nitrates and other nitrogen compounds in the groundwater on the Lands identified in this order. Implement any adjustments recommended by the Qualified Professional by July 15, 2016 and continue implementing such measures until this order is amended or cancelled.

**Details/Findings:**

No information regarding the groundwater monitoring program on the Lands was provided. As of August 16, 2016 Purple Springs had not retained a Qualified Professional to conduct this work. As such, it remains to be completed.

**Compliance:** Out

**Requirement Type:** Operations

**Requirement Description:**

6

By July 15, 2016 establish functional Manure storage facilities which have, at a minimum, the storage capacity necessary to store all Manure transferred to or produced by Purple Springs Nursery Inc. for the length of time necessary to allow for storage of such Manure in accordance with this order until it is applied in accordance with this order. Storage capacity must be determined based on Purple Springs Nursery Inc. receiving amounts of manure at least equal to any amounts Purple Springs Nursery Inc. from time to time agrees to receive from any other party.

**Details/Findings:**

During the inspection on August 16, 2016, it was apparent that Purple Springs only brought onsite the

materials needed and not any more. The areas where the composted windrows are placed to develop is of more than an adequate size to handle all the manure brought onsite.

However, all windrowed compost piles are uncovered, and it is not clear whether they are placed on an impermeable layer or not. No information regarding soil permeability had been provided. It cannot be determined that these manure storage facilities are functional or not.

**Compliance:** Not Determined

**Requirement Type:** Operations

**Requirement Description:**

7  
By July 15, 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:**

Purple Springs does not utilize permanent manure storage.

**Compliance:** Not Applicable

**Requirement Type:** Operations

**Requirement Description:**

8  
By July 15, 2016 ensure all field storage areas for manure 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:**

Signs of irrigation runoff adjacent to the manure storage site were observed (Photo 7).

**Compliance:** Out

**Requirement Type:** Operations

**Requirement Description:**

9  
By July 15, 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 inspection on Aug 16, no field storage was observed within 30m of the well situated in the southeast of the property, no watercourses were observed and no field storage was observed within 4.5 m of any fence lines.

**Compliance:** In

**Requirement Type:** Operations

**Requirement Description:**

10  
By July 15, 2016 must ensure all manure field storage areas are:  
i) established such that any leachate must be collected and contained, and

ii) established and located such that storm or rain water flowing along the surface of manure storage site is diverted from entering the field\_s stored manure pile(s).

**Details/Findings:**

During the inspection, windrowed compost piles in various stages of completion were observed. No leachate collection/containment was observed. Signs of irrigation runoff adjacent to the manure storage site were observed (Photo 7).

**Compliance:** Out

**Requirement Type:** Reporting

**Requirement Description:**

11

By December 30, 2016 must submit a plan identifying how manure field storage areas can be:

- i) covered, and
- ii) located on a base of low permeability soil (hydraulic conductivity of 10<sup>-6</sup>) or base, e.g., layer of clay, or on an impermeable liner.

**Details/Findings:**

As the date of this Order requirement has not passed, this requirement is not applicable at this time.

**Compliance:** Not Applicable

**Requirement Type:** Operations

**Requirement Description:**

12

By July 15, 2016, ensure that no manure and/or manure effluent is stored in sites other than storage facilities or field storage areas.

**Details/Findings:**

No random piles of manure were observed during my site visit on Aug 16. Windrowed compost piles were the only locations of field storage observed.

**Compliance:** In

**Requirement Type:** Reporting

**Requirement Description:**

13

Prior to any manure and/or inorganic fertilizer application to fields and tree growing areas, 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:**

No request was made to review these records during this inspection.

**Compliance:** Not Determined

**Requirement Type:** Operations

**Requirement Description:**

14

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:**

All manure and/or inorganic fertilizer application would be conducted between tree rows. The location of these areas meets the buffer requirements.

**Compliance:** In

**Requirement Type:** Operations

**Requirement Description:**

15

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:**

All manure and/or inorganic fertilizer application would be conducted between tree rows. The location of these areas meets the buffer requirements. I consider the tree rows to be a visible marking system.

**Compliance:** In

**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

Devan Oldfield

Date Signed

2016-08-31

**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.

**Ministry of  
Environment**

**Okanagan  
Region**

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Authorization: 108431	Purple Springs Nursery Inc.
CVIS IR #: 29188	August 16, 2016

Photo 1

Tree rows and cover crops between rows.

The area between the tree rows is considered "field storage" during those times when windrowed compost is placed there.



Photo 2

Tree rows and cover crops between.

Clover, observed here, is one of the cover crops utilized at Purple Springs. This particular cover crop will convert atmospheric nitrogen into ammonia to be utilized by the plant, eventually being introduced into the soil to be utilized by the next crop once the plant begins to decay.



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Photo 3

Cover crop between tree rows



Photo 4

Tree rows with cover crops between.

These cover crops have been recently mowed. Purple Springs has a mower which delivers its cuttings to the side rather than rear, allowing the nutrients from the decaying material to be utilized by the tree crops.





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Photo 5

Windrow turner used for mixing  
compost windrows.



Photo 6

Inside of windrow turner.



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## Photo 7

Irrigation runoff observed  
adjacent to manure storage  
areas.

