

Page 01 to/à Page 05

Withheld pursuant to/removed as

s.13

Files: 26250-20/
4201 Armadale Rd ID 21356
4205 Armadale Rd ID 21357
4226 Armadale Rd ID 21358

ISSUE: Contaminated Drinking Water Wells – Armadale Road, Pender Island

BACKGROUND:

- In April 2017, two residential drinking water wells located at 4201 and 4205 Armadale Road on Pender Island were found to have been impacted by hydrocarbons (likely gasoline) above levels safe for drinking. Concentrations were most elevated at 4201 Armadale.
- From June through August 2017, the Vancouver Island Health Authority (VIHA) along with the Water Stewardship group at FLNR visited the properties and collected water samples from the wells and several neighbouring wells. VIHA is presently finalizing its investigation under the *Drinking Water Protection Act*.
- Information available to ENV prior to December 2017 indicated no immediately apparent commercial or industrial sources of contamination in the vicinity of 4201 or 4205 Armadale.
- A Contaminated Sites Approved Professional (Peter Reid, Hemmera) attended the property at 4201 Armadale Road on December 14, 2017. Mr. Reid observed petroleum hydrocarbon free product (likely gasoline) in the drinking water well and, according to his recent report to the property owners, confirmed that the power to the well pumps at both 4201 and 4205 Armadale had been locked out and the residents had been reminded to continue not using their wells.
- According to Mr. Reid's report, the apparent source of the contamination is the property located nearby at 4226 Armadale Road where his observations included the presence of both full and empty gasoline containers. Mr. Reid also referenced a 2012 hazardous materials assessment report for 4226 Armadale and the local hydrogeological setting as further support for his opinion that contamination of the wells at 4201 and 4205 Armadale are due to product releases at 4226 Armadale. According to Mr. Reid, the groundwater aquifer on Pender Island is located in heavily fractured sandstone and shale which is characterized by complex hydrogeology, complicating the identification of sources as well as the ability to track and manage contamination already released into the aquifer. Although no evidence presently exists, it is possible that other wells in the vicinity may become contaminated.
- The Capital Regional District (CRD) has also been involved with the 4226 Armadale property including past issuance of a cleanup order for removal of hazardous substances. The CRD has very recently tried to re-contact the property owner (who lives overseas) to advise of the ongoing presence of waste materials and to seek agreement to remove materials that could pose risk to the environment or contribute to the unsightliness of the property.
- According to Mr. Reid, the properties located at 4201 and 4205 Armadale would be classified as high risk under Protocol 12 of the *Environmental Management Act* (EMA); as such, he recommends investigation of soil, groundwater, vapour and

sediment conditions at the apparent source property and nearby properties followed by remediation, as warranted.

NEXT STEPS

- Given that the most immediate known risks to human health (drinking water use) are being managed satisfactorily, ENV is preparing a decision note outlining options and recommendations for ENV's next steps.
- To this end, ENV is confirming the present status of issue follow up – as well as agency roles/responsibilities – by VIHA, FLNR and CRD.
- The *Drinking Water Protection Act*, administered by the Ministry of Health (and VIHA) provides authorities for the protection of drinking water sources in BC; in addition, Regional Health Authorities may issue orders under the *Public Health Act*. The Groundwater Protection Regulation under the *Water Sustainability Act*, administered by FLNR also provides authorities for protecting groundwater drinking water sources. The CRD administers an Unsightly Premise Bylaw which is generally directed at the appearance (visual) and general upkeep of property.
- Authorities to protect human health and the environment under Part 4 of EMA are based on the 'polluter pays principle'. Land owners, operators and others can be held responsible for the investigation and remediation of contamination under the statute. Beyond voluntary compliance, tools within EMA for addressing contamination are limited to order powers (imposed on property owners and responsible persons) and use of orphan site provisions when a responsible person is unwilling or incapable of carrying out necessary work at a high risk contaminated site.

Page 08 to/à Page 14

Withheld pursuant to/removed as

s.13

<p>ESTIMATES NOTE (2018)</p> <p>Confidential</p> <p>Ministry of Environment and Climate Change Strategy</p> <p>Date: February 2018</p>	<p>Contaminated Drinking Water Wells – Armadale Road, Pender Island</p>
--	--

KEY FACTS

Initial Multi-agency Efforts:

- **In April 2017, residential drinking water wells located at 4201 and 4205 Armadale Road on Pender Island were found to have been impacted by petroleum hydrocarbons above levels safe for drinking.**
- From June through August 2017, the Vancouver Island Health Authority (VIHA) along with the Water Stewardship group at FLNR visited the properties and collected water samples from the wells and several neighbouring wells. VIHA is presently finalizing its investigation under the *Drinking Water Protection Act* and is expected to recommend that the property owners carry out investigation of their properties.
- Retained by the owners of 4201 and 4205 Armadale, a Contaminated Sites Approved Professional (AP) visited the area in December 2017. The AP observed petroleum hydrocarbon free product (likely gasoline) in the drinking water well at 4201 Armadale and therefore confirmed with the residents at both properties that they had not been using their wells and would continue to avoid using them.
- According to the AP's report, the apparent source of the contamination is the property located nearby at 4226 Armadale Road where waste materials such as gasoline/chemical containers were observed and where a hazardous materials assessment had taken place in 2012 including observation of some surficial soil contamination. The Capital Regional District (CRD) has also been involved with the 4226 Armadale property including past issuance of a cleanup order for removal of hazardous substances.
- According to the AP, the properties located at 4201 and 4205 Armadale would be classified as high risk under the *Environmental Management Act* (EMA). As such, the AP recommends investigation of environmental conditions at the apparent source property and any affected nearby properties.

Next Steps:

- **The ministry is proposing to request that the owner of 4226 Armadale Road hire a qualified professional to carry out environmental investigation of the property.**
- The CRD has recently tried to re-contact the property owner (who lives overseas) to advise of the ongoing presence of waste materials and to seek agreement to remove materials that could pose risk to the environment and contribute to the

unsightliness of the property.

- Authorities to protect human health and the environment under Part 4 of EMA are based on the 'polluter pays principle'. Land owners, operators and others can be held responsible for the investigation and remediation of contamination under the statute.
- Based on currently available information, including the recent AP report, the ministry wrote to the owner of 4226 Armadale on February 28, 2018 advising of concerns related to past and present observations of above-ground conditions at 4226 Armadale. The letter requested the owner to hire an environmental consultant to carry out investigation of the property to determine the nature and extent of any contamination.
- Depending upon the response received (or not received) from the owner of 4226 Armadale, the ministry may need to consider imposition of a legal requirement on the owner to carry out this work (i.e. issue an order).

Contact: Alan McCammon, Manager, RAB Unit, Land Remediation Section
Environmental Protection Division, (604) 374-5394

Page 17 to/à Page 18

Withheld pursuant to/removed as

s.13

<p>ESTIMATES NOTE (2018)</p> <p>Confidential</p> <p>Ministry of Environment and Climate Change Strategy</p> <p>Date: April 2018</p>	<p>Contaminated Drinking Water Wells – Armadale Road, Pender Island</p>
---	--

KEY FACTS

Multi-agency efforts through 2017:

- In April 2017, residential drinking water wells located at 4201 and 4205 Armadale Road on Pender Island were found to have been impacted by petroleum hydrocarbons above levels safe for drinking.
- From June through August 2017, the Vancouver Island Health Authority (VIHA) along with the Water Stewardship group at FLNR visited the properties and collected water samples from the wells and several neighbouring wells. In response to requests received from the property owners, VIHA carried out investigations under section 29 of the *Drinking Water Protection Act* (DWPA) and has generally been considered the lead agency on this drinking water protection matter.
- On behalf of the owners of 4201 and 4205 Armadale, a Contaminated Sites Approved Professional (AP) carried out inspection of the area in December 2017. The AP observed petroleum hydrocarbon free product (likely gasoline according to the AP) in the drinking water well at 4201 Armadale; the AP therefore confirmed with both property owners that they should continue to not use their wells for any purpose.
- According to the AP's report, the "most likely" source of the contamination is the property located nearby at 4226 Armadale Road where waste materials such as gasoline/chemical containers were observed and where a hazardous materials assessment had taken place in 2012 including observation of some surficial soil contamination. The Capital Regional District (CRD) has also been involved with the 4226 Armadale property including past issuance of a cleanup order for removal of hazardous substances.
- According to the AP, the properties located at 4201 and 4205 Armadale would be classified as high risk under the *Environmental Management Act* (EMA). As such, the AP recommends investigation of environmental conditions at the apparent source property and any affected nearby properties.

Follow up actions to date in 2018:

- Based on available information including the AP's inspection findings, ENV's Land Remediation Section reasonably suspected that the 4226 Armadale Road property may be a contaminated site and may cause or threaten to cause adverse effects on human health or the environment. Therefore, a letter was issued to the owner of 4226 Armadale on February 28, 2018 requesting that a qualified environmental professional be retained to investigate the property and

determine the nature and extent of any environmental contamination.

- Authorities to protect human health and the environment under Part 4 of EMA are based on the 'polluter pays principle'. Land owners, operators and others can be held responsible for the investigation and remediation of contamination under the statute.
- ENV subsequently offered and did speak to the landowner (who lives overseas) to more fully explain the circumstances of the issue and the requested follow up actions.
- In letters dated March 21, 2018 to the owners of 4201 and 4205 Armadale Road, VIHA communicated the final outcomes of its DWPA investigations. VIHA was unable to confirm the source of the drinking water well contamination and referred to the action ENV has initiated regarding the property located at 4226 Armadale Road. VIHA also confirmed that it will continue to work with other government agencies as requested.
- The owner of 4226 Armadale has agreed to retain a qualified environmental professional to carry out the requested investigations; however, ENV has not yet received confirmation of the proposed plan and schedule to do so.
- ENV continues to follow up with the owner of 4226 Armadale and, depending upon the progress or lack thereof, may need to consider the possible need to impose legal requirements to have the requested work carried out.

Contact: Alan McCammon, Manager
Remediation Assurance & Brownfields Unit
Land Remediation Section
Environmental Protection Division
(604) 374-5394

Page 21 to/à Page 39

Withheld pursuant to/removed as

s.13