



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

March 13, 2019

Paul Fairbairn
Stantec Consulting Services, Inc.
11130 NE 33rd Place, Suite 200
Bellevue, WA 98004-1465

Re: Request for Opinion for the following Site:

- **Site Name:** 7 Eleven 25821
- **Site Address:** 1824 George Washington Way, Richland
- **Cleanup Site ID:** 6650
- **Facility/Site ID:** 77113577
- **VCP Project ID:** CE0457

Dear Paul Fairbairn:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the 7 Eleven 25821 site (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issues Presented and Opinions

1. Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to verify that remedial actions have been sufficient to clean up contamination at the Site.

Summary of Opinion

A Cleanup Action Report for the Site was submitted to Ecology in May 2017, and Ecology provided comments on that report in a letter dated December 13, 2017. Stantec provided responses to Ecology's comments within "*Work Plan for Subsurface Investigation with Recent Sampling Results*," dated January 23, 2019.



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The recent sampling results provided within the Work Plan were groundwater-monitoring data from four quarterly monitoring events in 2018.

Ecology considers the four additional quarterly monitoring rounds sufficient to make the case that an empirical demonstration of a lack of further impact to groundwater is occurring, with the following exceptions:

- Nitrate was historically injected into the subsurface to serve as an electron acceptor. Nitrate was historically detected in MW-6 and MW-8 at concentrations above the drinking water Maximum Contaminant Level (MCL) of 10 µg/L. One round of sampling results from MW-6 and two rounds in MW-8 showed nitrate concentrations below the MCL. Further verification that nitrate concentrations are below the MCL is warranted in these two monitoring wells. An additional two monitoring rounds is suggested.
- In addition to sampling for nitrates, sampling for sulfates is warranted. Gypsum (Ca SO₄) was injected as part of the remedial approach, and elevated sulfate concentrations were detected in MW-6, MW-7, and MW-8. Although sulfate has no cleanup level, it does have a secondary MCL of 250 mg/L, and in general, remedial approaches should not result in any degradation of groundwater quality.
- There was one exceedance for TPH-d in monitoring well MW-3 in February of 2018. Three rounds of results below the cleanup level for TPH-d followed. Two additional quarterly monitoring rounds for this well with TPH-d analysis are warranted. If the results are well below the cleanup level of 800 µg/L, this additional sampling is anticipated to be sufficient.

Following the additional two quarterly monitoring rounds, Ecology suggests that a request for no further action be submitted, provided the new data from the quarterly monitoring support this conclusion.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Petroleum hydrocarbons (gasoline) into soil and groundwater.

The Site is located at 1824 George Washington Way, in Richland, Washington. The Site is a former 7-Eleven food store and gas station.

Basis for the Opinion

This opinion and analysis was based on the information contained in the following documents:

1. *“Work Plan for Subsurface Investigation with Recent Sampling Results,”* prepared by Stantec and dated January 23, 2019.
2. Letter from Ecology to Stantec RE: Further Action at the following Site, dated December 13, 2017.
3. *“Cleanup Action Report, Former 7-Eleven Store 2582, Wascher Mobil Station, 1824 George Washington Way, Richland, WA,”* prepared by Stantec and dated May 25, 2017.

Those documents are kept in the Central Regional Office (CRO) of Ecology for review by appointment only. You can make an appointment by calling the Ecology public records officer at 360-407-6040 or emailing RecordsOfficer@ecy.wa.gov. This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that further remedial action is necessary to demonstrate that cleanup of contamination at the Site is complete. That conclusion is based on the following analysis:

1. Characterization of the Site.

Extent of Soil Contamination

Ecology has concluded that soil sampling data from October 2013 and July 2016 sufficiently demonstrate that soil concentrations at the Site are now below cleanup levels.

Extent of Groundwater Contamination

The data presented to date generally appear to support the assertion that groundwater contamination is no longer present at the Site above cleanup levels. Additional information is needed to verify that the cleanup performed has resulted in all contaminated groundwater being treated to below cleanup level (see Summary of Opinion, above).

2. Establishment of cleanup standards.

Groundwater Model Remedy No. 5 has been proposed for the Site. That model remedy involves the use of empirical demonstration that soil is no longer impacting groundwater; use of Method A cleanup levels for groundwater; and use of a generic TPH concentration

of 1,500 mg/kg for soil. Historically, benzene has also been detected in soil; the Method A cleanup level for benzene in soil of 0.03 mg/kg applies.

Applicable cleanup levels are summarized as follows:

Constituent	Cleanup Level for Soil (mg/kg)	Cleanup Level for Groundwater (µg/L)
TPH-g	--	800 ²
TPH-d	--	500 ²
TPH-o	--	500 ²
TPH	1,500 ¹	--
Benzene	0.03 ²	5 ²
Toluene	7 ²	1,000 ²
Ethylbenzene	6 ²	700 ²
Total Xylenes	9 ²	1,000 ²

1 – Model remedies generic TPH cleanup level.

2 – Method A cleanup level.

3. Selection of cleanup action.

Cleanup actions that have been conducted at the Site included:

- Removal of underground storage tanks and 41 cubic yards of contaminated soil in 1989.
- Addition of oxygen releasing compound (ORC) to MW-7 in 1996.
- Injection of nitrates as an electronic acceptor to facilitate biodegradation in well MW-7 in 1999-2001.
- Injection of BOS-200 carbon, bacteria, and gypsum in injection points in 2014.

4. Cleanup.

Ecology has determined the cleanup performed has potential to meet the cleanup standards at the Site. The activities discussed above under "Summary of Opinion" are needed to verify that cleanup activities have resulted in remaining soil contamination being all below cleanup levels.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. State is immune from liability.


The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm.

If you have any questions about this opinion, please contact me by phone at (509) 454-7835 or e-mail at frank.winslow@ecy.wa.gov.

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Sincerely,



Frank P. Winslow
Site Manager
Toxics Cleanup Program
Central Regional Office

cc: Jose Rios, 7-Eleven