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August 3, 2021

Bryan Wymer
Kenan Advantage Group, Inc. (KAG)
4366 Mount Pleasant St NW
North Canton, OH 44720
brian.wymer@thekag.com

Re: No Further Action opinion for the following contaminated Site

Site name: Kenan Advantage Group, Inc.
Site address: 11900 NE 18th St., Vancouver, Clark County, WA 98684
Facility/Site ID: 5359
Cleanup Site ID: 12447
VCP Project No.: SW1419

Dear Brian Wymer:

The Washington State Department of Ecology (Ecology) received your request for an opinion on the sufficiency of your independent cleanup of the Kenan Advantage Group, Inc. facility (Site) under the Voluntary Cleanup Program (VCP)[1] on November 30, 2020.[2] This letter provides our opinion and analysis. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), chapter 70A.305[3] RCW.

Opinion

Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

Ecology bases this opinion on an analysis of whether the remedial action meets the substantive requirements of MTCA and its implementing regulations, which are specified in chapter 70A.305 RCW and chapter 173-340[4] WAC (collectively called "MTCA").

[1] https://www.ecy.wa.gov/vcp
[2] All Site data have been uploaded and accepted in to Ecology's Information Management System database (EIM).
[3] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305
[4] https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340

Site Description

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

- Gasoline into soil, groundwater, and air. Potentially into soil vapor.

Enclosure A includes a Site description, history, and diagrams of the Site using information from Ecology's files.

A parcel of real property can be affected by releases from multiple sites. At this time, Ecology has no information that other sites affect the parcel(s) associated with this Site.

Basis for the Opinion

Ecology bases this opinion on information in the documents listed in Enclosure B. You can request these documents by filing a records request.[5] For help making a request, contact the Public Records Officer at publicrecordsofficer@ecy.wa.gov or call (360) 407-6040. Before making a request, check whether the documents are available on the cleanup site search webpage.[6]

This opinion is void if any of the information contained in the documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that no further remedial action is necessary to clean up contamination at the Site. Ecology bases its conclusion on the following analysis:

Characterizing the Site

Ecology has determined your completed Site characterization is sufficient for setting cleanup standards and selecting a cleanup action. Enclosure A describes the Site.

Ecology Response to Selected Items in the *Response to Ecology* Document

In our opinion letter dated July 21, 2020, Ecology requested additional confirmatory soil vapor and groundwater sampling in the upper Troutdale Aquifer. Ecology also requested a mass balance calculation to estimate how much of the original release had been remediated. You responded to Ecology's requests in Brown and Caldwell's (BC) *Response to Ecology* document dated October 30, 2020.

[5] https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests
[6] https://apps.ecology.wa.gov/gsp/CleanupSiteDocuments.aspx?csid=12447

Based on the preponderance of the evidence, Ecology determines it is more likely than not that no further action is necessary to address this request. However, Ecology may rescind this no further action determination should any future data suggest additional cleanup is necessary and that this Site is a potential contributor to identified contamination.

Vapor Sampling Request

In our July 21, 2020 opinion, Ecology requested soil vapor sampling to ensure that no gasoline vapors were present near the closest apartment building. You responded[7] that additional sampling was not necessary based on exclusion distance to the nearest structure and current Site hazardous substances concentrations in groundwater. The center of the historical release area is covered by the widened Northeast 18th Street and park (part of the Mission Hills Apartment Complex). There is no plan to construct a building within the remediated area.

Ecology acknowledges it is about 50 feet from monitoring well MW-7 to the nearest apartment building. The depth to groundwater at MW-7 is about 56 feet below ground surface (bgs), greater than the USEPA's vapor intrusion exclusion depth of six feet bgs (when only dissolved concentrations are present). The maximum concentration of gasoline in groundwater at MW-7 was 4,900 micrograms per liter (µg/L) and benzene was 970 µg/L, both in February 2017. Since then, at least 11 groundwater monitoring sampling events have shown concentrations less than the MTCA Method A cleanup level at MW-7.

Groundwater Sampling Request

In our July 21, 2020, opinion, Ecology requested additional groundwater at or near the remediated zone of release, but within the upper portion of the upper Troutdale Aquifer. To clarify the purpose of this request, Ecology wanted to ensure that no contamination was traveling towards City of Vancouver (CoV) Water Station #7 in the upper Troutdale Aquifer to the southwest of the release, for example near monitoring well MW-4 (which is screened in the shallower Orchards Aquifer).

At Water Station #7, there are two wells, one with top of screen at 354 feet below top of casing (TOC) and one at 1,065 feet below TOC. The concern is that the release is within the one-year wellhead protection zone of CoV Water Station #7, and the shallow well may have been impacted.

Ecology concurs with your concern about dragging down contamination or entering contamination into the upper Troutdale Aquifer based on runoff associated with the current road infrastructure.

Mass Balance Calculation

Ecology concurs with Brown and Caldwell's analysis that some presumptions have to be made to calculate the recovered (remediated) volume of gasoline at the Site. For this cleanup, Ecology believes that when the recovered mass is within a reasonable percentage of the released mass, a mass balance calculation provides an additional line of evidence to confirm that the cleanup has been successful.

[7] p. 2 in Brown and Caldwell's *Response to Ecology*, October 30, 2020

Based on Ecology's mass balance calculation, the recovered (remediated) mass of gasoline is within approximately 3% of the mass reported released. This result is likely less than the error associated with necessary assumptions regarding the calculation.

As you correctly noted in your response dated October 30, 2020,[8] the amount of subsurface microbial consumption of gasoline is unknown and would be difficult to quantify. Additionally, the amount of gasoline adhered to soil at concentrations less than cleanup levels would be difficult to quantify. It is also unknown how much gasoline was jetted through the stormwater system or how much gasoline was lost to volatilization to the atmosphere during the initial response. When combined, these factors are sufficient to explain the difference between the released and recovered (remediated) volumes of gasoline.

Setting cleanup standards

Ecology has determined the cleanup levels and points of compliance you set for the Site meet the substantive requirements of MTCA.

Cleanup Standards: Under MTCA, cleanup standards consist of three primary components; (a.) cleanup levels,[9] (b.) points of compliance,[10] and (c.) applicable state and federal laws.[11]

a. Cleanup Levels. Ecology concurs with these proposed cleanup levels for the Site:

Site Hazardous Substance	MTCA Cleanup Level	Soil Cleanup Level[a]	Groundwater Cleanup Level[b]
TPH as gasoline	A/A	30	800
Benzene	A/A	0.03	5
Toluene	A/A	7	1,000
Ethylbenzene	A/A	6	700
Total Xylenes	A/A	9	1,000
Methyl-tertiary butyl ether (MTBE)	A/A	0.1	20
Lead	A	250	NE

[a] Measured in milligrams per kilogram (mg/kg).
[b] Measured in µg/L.

The cleanup level for naphthalenes at the Site is incorporated into the MTCA Method A cleanup level for gasoline.[12] At the Site, MTBE exceeded the Method A cleanup level in groundwater at monitoring well MW-8,[13] and was at the MTCA Method A cleanup level in monitoring well MW-6,[14] before obtaining compliance with the cleanup level in groundwater sampled from both wells.

[8] p. 1.
[9] WAC 173-340-200 "Cleanup level."
[10] WAC 173-340-200 "Point of Compliance."
[11] WAC 173-340-200 "Applicable state and federal laws," WAC 173-340-700(3)(c)
[12] WAC 173-340-900, Table 830-1, footnote (14)(a)
[13] November 2014 groundwater sampling event
[14] November 2015 groundwater sampling event

The concentrations of lead in soil were much less than the MTCA Method A cleanup level. Because a sufficient number of samples have been analyzed for lead in soil and the release occurred after 1996, testing for lead in groundwater was not required at this Site.[15]

Cleanup levels were not established for ethanol, because none currently exists. Ethanol was tested in groundwater at Ecology's request because, as a fuel oxygenate, ethanol is the most soluble component of the gasoline in groundwater and detected at the most distal portions of any contaminant plume in groundwater. A lack of detections at MW-5 for ethanol supported the conclusion that the gasoline plume in groundwater receded and that the cleanup was protective of the CoV's water supply well at Water Station #7.

b. <u>Points of Compliance</u>. Points of compliance are the specific locations at the Site where cleanup levels must be attained. Ecology concurs with the following proposed points of compliance for the Site:

Media	Points of Compliance
Soil-Direct Contact	Based on human exposure via direct contact, the standard point of compliance is throughout the Site from ground surface to fifteen feet below the ground surface.[16] ***Cleanup levels met at a standard point of compliance.***
Soil- Protection of Groundwater	Based on the protection of groundwater, the standard point of compliance is throughout the Site.[17] ***Cleanup levels met at a standard point of compliance.***
Soil-Protection of Plants, Animals, and Soil Biota	Based on ecological protection, the standard point of compliance is throughout the Site from ground surface to fifteen feet below the ground surface.[18] ***Not required, as Site excluded from further TEE.***
Groundwater	Based on the protection of groundwater quality, the standard point of compliance is throughout the site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the site.[19] ***Cleanup levels met for all wells at a standard point of compliance.***
Groundwater-Surface Water Protection	Based on the protection of surface water, the standard point of compliance is all locations where hazardous substances are released to surface water.[20] ***Pathway is incomplete.***
Air Quality	Based on the protection of air quality, the point of compliance is indoor and ambient air throughout the Site.[21] ***Pathway is incomplete.***
Sediment	Based on the protection of sediment quality, compliance with the requirements of 173-204 WAC.[22] ***Pathway is incomplete.***

[15] WAC 173-340-900, Table 830-1, footnote (12)(a)
[16] WAC 173-340-740(6)(d)
[17] WAC 173-340-747
[18] WAC 173-340-7490(4)(b)
[19] WAC 173-340-720(8)(b)
[20] WAC 173-340-730(6)
[21] WAC 173-340-750(6)
[22] WAC 173-340-760

Ecology concurs that the MTCA Method A cleanup levels are appropriate for this Site, after considering additional applicable state and federal laws. These state and federal laws did not require revising or reducing the proposed cleanup levels for the Site. Ecology includes a list of those considered laws in Enclosure C.

Selecting the cleanup action

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA. A combination of excavation and operation of an air sparge/soil vapor extraction system (AS/SVE) was used to remediate gasoline contaminated soil and groundwater. The cleanup actions implemented at the Site were taken as independent interim actions. Performance sampling data has shown the cleanup action to be permanent to the maximum extent practicable.

Cleanup

Ecology has determined your cleanup meets the standards set for the Site. Below is a list of the cleanup actions which were completed at the Site.

Independent interim actions completed at the Site:

- During the initial response, recovery of 580 gallons of gasoline (approximately 3,567 pounds of gasoline).
- During the initial response, excavation and off-Site disposal at a permitted facility of approximately 21 tons of contaminated soil.
- AS/SVE system installation and operation. BC estimated that 5,680 pounds (approximately 924 gallons) of gasoline were removed by the AS/SVE system at the Site.[23]
- In March 2017, excavation and off-Site disposal at a permitted facility of approximately 60.01 tons of contaminated soil. The permitted facility was Waste Management's Hillsboro Landfill located in Hillsboro, Oregon.

For the current monitoring well network, concentrations of Site hazardous substances have been less than the MTCA Method A cleanup levels for at least four consecutive quarterly groundwater sampling events after remediation, consistent with section 10.3 in Ecology Publication No. 10-09-057, *Guidance for Remediation of Petroleum Contaminated Sites*, revised June 2016. Gasoline and related constituents were never detected at the shallow drinking water supply well at CoV Water Station #7. Performance sampling for gasoline and benzene, toluene, ethylbenzene, and xylenes (BTEX) was completed at the shallow drinking water supply well approximately weekly from November 2017-May 2018.

[23] p. 4-4, section 4.5 in Appendix A, Remedial Action Report, October 15, 2019

For groundwater sampled from monitoring wells MW-4 and MW-9, between the release and CoV Water Station #7, BC reported[24] five J-flagged estimated values of Site hazardous substances. BC also reported no exceedances of any cleanup levels in groundwater sampled at either monitoring well. These two wells are installed in the Orchards Aquifer. Based on reported groundwater gradients and concentrations, MW-4 and MW-9 are located upgradient of the release. Groundwater flow is mostly to the northeast in the Orchards Aquifer. Site hazardous substances concentrations in groundwater sampled from monitoring well MW-5, though detected periodically in 2015-2017 (but not after July 2017), did not exceed any cleanup level. Monitoring well MW-5 monitors the upper Troutdale Aquifer between the release and CoV Water Station #7.

No engineering or institutional controls are needed as part of this cleanup. Therefore, an environmental covenant is not proposed or needed at this Site.

The Site is not ranked. Therefore, this no further action determination does not require a 30-day public notice and comment period.

Resource protection wells[25] installed as part of the remedial action that are not needed to conduct post-cleanup monitoring or for any other purpose at the Site must be decommissioned. Wells must be decommissioned in accordance with WAC 173-160-460.[26] It is our understanding that you are currently working with Ecology's Southwest Regional Office of the Water Resources Program to decommission the AS/SVE system wells and the monitoring wells. Please continue to work with them to complete the well decommissioning.

Listing of the Site

Based on this opinion, Ecology will remove the Site from the Confirmed and Suspected Contaminated Sites List.

Limitations of the Opinion

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 70A.305.040(4).[27]

[24] See Table A-3 in BC's *Interim Action Report*, October 15, 2019
[25] https://app.leg.wa.gov/WAC/default.aspx?cite=173-160-410
[26] https://app.leg.wa.gov/WAC/default.aspx?cite=173-160-460
[27] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.040

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 70A.305.080[28] and WAC 173-340-545.[29]

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 70A.305.170(6).[30]

Termination of Agreement

Thank you for cleaning up the Site under the VCP. This opinion terminates the VCP Agreement governing VCP Project No. SW1419.

Questions

If you have any questions about this opinion or the termination of the Agreement, please contact me at (360) 407-6265 or tim.mullin@ecy.wa.gov.

Sincerely,

Tim Mullin, LHG
VCP Site Manager
Toxics Cleanup Program
Southwest Regional Office

TCM/tam

Enclosures (3): A – Site Description
B – Basis for the Opinion: List of Documents
C – List of Laws

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Ecology Site File

[28] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.080
[29] https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340-545
[30] https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.170

Enclosure A

Site Description

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Site Description

A release of gasoline related to a tanker truck crash occurred in December 2013 at 11900 NE 18th St, Vancouver, Clark County, Washington (Property). Approximately 3,300 gallons of gasoline were released. The gasoline flowed down two ditches to an unmapped dry well. The Property is currently occupied by the Mission Hills Apartment Complex. Portions of Northeast 18th Street and the right-of-way to the south of Northeast 18th Street were also affected.

Widening of Northeast 18th Street was completed in early 2019. The expanded lanes, sidewalks, and utility corridors now cover the former dry well area and much of the historical source area. The apartment complex and nearby residences are served by the City of Vancouver (CoV) water, sanitary sewer, and stormwater systems. The area is generally high density residential, with lower density residential to the south.

Site lithology is varying amounts of sands, silts, and gravels. Some clay zones are present which might act as an aquitard. The maximum depth explored at the Site is approximately 305 feet below ground surface at monitoring well MW-5. The two aquifers present beneath the Site are the shallow Orchards Aquifer and the deeper Troutdale Aquifer. The Troutdale Aquifer supplies water to the CoV at two nearby production wells, Well 7A and Well 7B. Two irrigation wells are present on the Mission Hills Apartment Property. Neither the irrigation wells nor the CoV wells appear to have been impacted by the gasoline release.

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Enclosure B

Basis for the Opinion: List of Documents

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Basis for the Opinion: List of Documents

1. Brown and Caldwell (BC), *Response to Department of Ecology Opinion Letter,* October 30, 2020.
2. Ecology Re: *Opinion on a Cleanup at the Following Site*, July 21, 2020.
3. BC, *Remedial Action Report*, October 15, 2019.
4. Ecology, Re: *Work Plan Comments*, January 14, 2019.
5. BC, *Confirmatory Soil Sampling and Analysis Plan/Quality Assurance Project Plan*, October 9, 2018.
6. BC, *Summary for May 2018 Tanker Spill Third Phase Remedial Investigation (Sampling) and Remedial Action Implementation (Construction) at NE 18th Street, Vancouver, Washington*, July 30, 2018.
7. BC, *Summary for February 2018 Tanker Spill Third Phase Remedial Investigation (Sampling) and Remedial Action Implementation (Construction) at NE 18th Street, Vancouver, Washington*, May 4, 2018.
8. BC, *Remedial Action Work Plan*, April 18, 2016.
9. BC, *Draft Remedial Investigation Results*, August 7, 2014.
10. Ecology, *Initial Investigation Field Report*, June 6, 2014.
11. NRC, *Report of Activities for Excavation Activities*, January 24, 2014.
12. City of Vancouver (CoV), Re: *Gas Spill Response – Hazard Assessment Actions Request*, December 18, 2013.

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Enclosure C

List of Laws

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List of applicable state and federal laws

1. MTCA Cleanup Regulations (chapter 173-340 WAC), Revised November 2013.
2. Dangerous Waste Regulations (chapter 173-303-WAC), Amended September 2020.
3. State Environmental Policy Act (SEPA) (chapters 197-11 and 173-802 WAC); SEPA Permit Application.
4. Stormwater Permit Application for Construction (Construction Stormwater General National Pollutant Discharge Elimination System Permit).
5. Hazardous Waste Operations (chapter 296-843 WAC).
6. Solid Waste Management-Reduction and Recycling (chapter 70.95 RCW).
7. Solid Waste Handling Standards (chapter 173-350 WAC).
8. Municipal Solid Waste Landfills (chapter 173-351 WAC).
9. Minimum Standards for Construction and Maintenance of Wells (chapter 173-160 RCW).
10. Washington State Clean Air Act (chapter 70.94 WAC).
11. Health and Safety (Title 29 CFR Part 1910.120; 8CCR 5192 and USEPA Standard Operating Safety Guides for Hazardous Waste Operations) (1986).
12. Southwest Clean Air Agency regulations.
13. Washington State Industrial Safety and Health Act (WISHA), chapter 296-843 WAC and chapter 896-62 WAC.
14. Archaeological and Cultural Resources Act (chapter 43.53 RCW).
15. Archaeological and Historic Preservation Act (chapter 43.53 RCW).
16. Archeological Sites and Resources (chapter 27.53 RCW).
17. National Historic Preservation Act (NHPA) 16 USC 470 et seq.