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February 20, 2019

Joel Richter
Pedigo Products
4000 SE Columbia Way
Vancouver, WA 98661

Re: Further Action at the following Site:

- **Site Name:** Portco Corp Pedigo Products
- **Site Address:** 4000 SE Columbia Way, Vancouver, Clark County, WA 98661-5578
- **Facility/Site No.:** 30759
- **Cleanup Site No.:** 3802
- **VCP Project No.:** SW1619

Dear Joel Richter:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Portco Corp Pedigo Products facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the [Model Toxics Control Act \(MTCA\)](#),¹ chapter [70.105D Revised Code of Washington \(RCW\)](#).²

This letter establishes Ecology's assessment of your Site at the time of this review, given the information presented and available. It is intended to help focus Site cleanup activities, close data gaps, and achieve cleanup at your Site.

Issue Presented and Opinion

Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, chapter [70.105D RCW](#),² and its implementing regulations, Washington Administrative Code [\(WAC\) chapter 173-340](#)³ (collectively "substantive requirements of MTCA"). The analysis is provided below.

¹ <https://fortress.wa.gov/ecy/publications/SummaryPages/9406.html>

² <https://app.leg.wa.gov/rcw/default.aspx?cite=70.105D>

³ <https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340>

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:

- Gasoline range total petroleum hydrocarbons (TPH-G) into the soil and groundwater.
- Diesel range and oil range total petroleum hydrocarbons (TPH-D and TPH-O; collectively, TPH-D/O) into the soil and groundwater.
- Lead into the soil.
- Polycyclic aromatic hydrocarbons (PAH) and carcinogenic polycyclic aromatic hydrocarbons (cPAH) into the soil.
- Petroleum Hydrocarbons into soil vapor.
- Volatile Organic Compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX), 1-2 Dibromoethane (EDB), chlorinated solvents, and other related constituents into the soil, groundwater, and soil vapor.

A parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. GeoDesign Inc. (GeoDesign), *Focused Site Assessment Report; Former Portco Site (Pedigo Products Facility); 4000 and 4200 SE Columbia Way; Vancouver, Washington; Ecology Site Nos.: SW1619 and SW1620*, September 11, 2018.
2. GeoDesign, *Focused Site Assessment Work Plan; Former Portco Site (Pedigo Products Facility); 4000 and 4200 SE Columbia Way; Vancouver, Washington; Ecology Site Nos.: SW1619 and SW1620*, June 25, 2018.
3. Ecology, *Re: Further Action at the following Site*, letter, addressed to Mr. Joel Richter; Pedigo Products, February 15, 2018.
4. AGRA Earth & Environmental, Inc. (AEE), *Independent Remedial Action Report (IRAP); Former Portco Property; 4000 and 4200 S.E. Columbia Way; Vancouver, Washington*, June 1996.

5. AEE, *Phase I Environmental Site Assessment; Pedigo Products Property; 4000 S.E. Columbia Way; Vancouver, Washington*, June 1995.
6. AEE, *Geoprobe Groundwater Investigation; 4200 S.E. Columbia Way; Vancouver, Washington*, April 1995.
7. CH2M Hill, *Re: Additional Soil Excavation at Former Tank T-2 Location; Former PORTCO Site; S.E. Marine Parkway; Vancouver, Washington*, letter, addressed to Mr. Jerry King; City Attorney; City of Vancouver, March 16, 1993.
8. CH2M Hill, *Subject: Portco Property Environmental Assessments; 5200 Columbia Way, Vancouver, Washington*, letter, addressed to Mr. Richard Walker; Leaking Underground Storage Tank Site Manager; Department of Ecology, April 10, 1990.
9. CH2M Hill, *Subject: Summary of Phase I and II Portco Property Environmental Surveys*, letter, addressed to Mr. Victor Ehrlich, P.E.; City Engineer; City of Vancouver, April 3, 1990.
10. CH2M Hill, *Phase II Environmental Assessment Survey; Portco Property*, March 1990.
11. Lambier Stevenson Engineers (LSE), *Phase II Site Assessment of the Portco Property; Vancouver Washington*, December 11, 1989.
12. CH2M Hill, *Phase I Environmental Survey; Eastside Treatment Plant Expansion; Expansion Option A*, memo, addressed to The City of Vancouver, September 22, 1989.

These documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Information on obtaining those records can be found on [Ecology's public records requests web page](https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests).⁴ Some Site documents may be available on [Ecology's Cleanup Site Search web page](https://fortress.wa.gov/ecy/gsp/SiteSearchPage.aspx).⁵

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

Analysis of the Cleanup

In response to the Ecology February 2018 Opinion Letter, GeoDesign conducted additional sampling at the Site. Sampling was focused on determining the presence of hazardous substances in the vicinity of the former underground storage tank (UST) locations and determining if pathways to receptors are complete.

⁴ <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

⁵ <https://fortress.wa.gov/ecy/gsp/SiteSearchPage.aspx>

GeoDesign has summarized their sampling and Site assessment in the September 2018 *Focused Site Assessment Report* (the Report). Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

GeoDesign conducted additional Site assessment activities in July 2018 that included soil, groundwater, and sub-slab soil vapor sampling in the vicinity of the former USTs.

GeoDesign demonstrated that there is still petroleum contaminated soil (PCS) present at the Site and that sub-slab soil vapor contains multiple VOCs, including VOCs not present in soil or groundwater.

A geophysical survey was conducted to help locate the former excavations and determine if UST T6 is still located on the Site. The survey did not indicate the presence of a UST on the Site.

Groundwater analysis included silica gel cleanup (SGC) for the NWTPH-Dx analysis and dissolved lead instead of total lead.

GeoDesign selected MTCA Method C cleanup levels (CULs) for soil and MTCA Method C sub-slab screening levels for soil vapor. A total risk assessment has not been performed for the Method C CULs and screening levels.

GeoDesign has demonstrated that hazardous substances are still present on the Site in both soil and soil vapor. Groundwater sampling conducted at the Site does not meet the requirements of MTCA based on the use of SGC. Ecology has determined your characterization of the Site is not sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A**. GeoDesign's Figure 3 is included in **Enclosure A** for reference. Any other Figures or Tables referenced below can be found in the Report unless indicated otherwise. Historical Site activities are summarized in Ecology's *Further Action* letter, dated February, 2018.

The exposure pathways for the Site as Ecology currently understands them are:

Soil-Direct Contact: Complete. Ecology concurs with the assessment in the Report⁶ that this pathway should be considered complete. MTCA Method C soil CULs are currently being used for the Site. If MTCA Method C soil CULs are implemented, an Environmental Covenant to protect the industrial status of the Site will be required.

⁶ GeoDesign Inc. (GeoDesign), *Focused Site Assessment Report; Former Portco Site (Pedigo Products Facility); 4000 and 4200 SE Columbia Way; Vancouver, Washington; Ecology Site Nos.: SW1619 and SW1620*, September 11, 2018, p. 18.

Soil-Leaching: Complete. Ecology concurs with the initial assessment in the Report that this pathway should be considered complete. If MTCA Method C soil CULs are implemented, TPH CULs will need to be determined using Ecology's CUL calculation tools, MTCA SGL and/or MTCA TPH,⁷ that are protective of the leaching pathway (WAC 173-340-747),³ or the leaching pathway will need to be demonstrated as incomplete using an empirical demonstration (WAC 173-340-747(3)(f)).³ If a Method C TPH CUL cannot be calculated, the generic TPH CUL of 1,500 milligrams/Kilogram (mg/Kg) (for the combined TPH-G, and TPH-D/O results) for direct contact soil can be used.

Soil-Vapor: Complete. Of the four soil vapor samples collected (GeoDesign; Table 7), one showed an EDB exceedance for the MTCA Method C sub-slab soil gas screening level (cancer) and the other three samples failed to achieve a detection limit that was less than the applicable screening level. Ecology considers the EDB in soil gas to be present in excess of the screening level across the Site.

Ecology does not consider the use of models alone to be sufficient to demonstrate that sub-slab concentrations will not enter a building in concentrations that exceed the indoor air CULs.⁸ Model verification samples would be required.

The acute risks of trichloroethylene (TCE) needs to be evaluated as part of the overall Site risk using guidelines from US EPA.⁹ Consider if women who are pregnant or could become pregnant are at risk of exposure from indoor air based on EPA guidance. Ecology is currently drafting an implementation memo to help address this issue. In the interim, refer to the EPA memo for guidance.

Groundwater: Complete. Ecology concurs with the assessment in the Report that Ecology considers the groundwater beneficial until demonstrated otherwise and that this pathway should be considered complete. Ecology does not agree with the assessment in the Report that the direct contact pathway for groundwater is incomplete due to the groundwater being greater than 15 feet below ground surface (bgs). Groundwater at this depth can easily be brought to the surface unless institutional controls are put in place. The standard point of compliance for groundwater is established throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected by the Site.

⁷ Washington State Department of Ecology Toxics Cleanup Program, *Workbook Tools for Calculating Soil and Ground Water Cleanup Levels under the Model Toxics Control Act Cleanup Regulation; User's Guide for MTCATPH 11.1 & MTCASGL 11.0*, Publication No. 01-09-073, Revised December 2007. <https://fortress.wa.gov/ecy/publications/SummaryPages/0109073.html>

⁸ Washington State Department of Ecology Toxics Cleanup Program, *Frequently Asked Questions (FAQs) Regarding Vapor Intrusion (VI) and Ecology's 2009 Draft VI Guidance; Implementation Memorandum No. 21*, Publication No. 18-09-046, November 15, 2018. <https://fortress.wa.gov/ecy/publications/SummaryPages/1809046.html>

⁹ US EPA Region 9, Memorandum; Subject: EPA Region 9 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Subsurface Vapor Intrusion, July 9, 2014. <https://archive.epa.gov/region9/superfund/web/pdf/r9-tce-interim-action-levels-response-recs-memo-2014.pdf>.

Ecological: Potentially incomplete. A Terrestrial Ecological Evaluation (TEE) was included with the Report¹⁰ that determined the Site qualified for an exclusion from further evaluation based on [Barriers to Exposure \(WAC 173-340-7491\(1\)\(b\)\)](#)³ and [Undeveloped Land \(WAC 173-340-7491\(1\)\(c\)\)](#)³. The TEE can still be excluded via Barriers to Exposure. An Environmental Covenant will be required to protect the barriers, and you will need to demonstrate that all the contamination is sufficiently covered by the barriers.

Undeveloped land was incorrectly determined for this Site. The full extent of contamination was not used to establish the area of undeveloped land within 500 feet of “any area of the Site,” but instead the Site was reduced to a single centrally located point.

Based on a review of the available information, Ecology has the following comments;

1. Ecology does not allow the use of SGC in NWTPH-Dx groundwater analysis unless it has been demonstrated to be necessary to remove naturally occurring organic matter.¹¹ The heavy fuel oils indicated as having been stored in some of the USTs at the Site are known to contain significant amounts of the polar organics that are removed by SGC. Ecology considers the TPH-D/O results (GeoDesign Table 4) as biased low. Additional groundwater sampling should be conducted without the use of SGC for the NWTPH-Dx analysis to determine the presence or absence of TPH-D/O.
2. MTCA CULs for lead in groundwater are intended for comparison to “total lead” analysis and not “dissolved lead” analysis. Because gasoline was stored in Site USTs during a time when leaded gasoline was in use and it has been demonstrated that lead in soil is common (GeoDesign Table 1), additional groundwater sampling should be conducted that analyzes for total lead.
3. Because it has been demonstrated that EDB may be extensive below the building in excess of the Method C sub-slab screening level, and multiple VOCs are present in the sub-slab soil vapor (GeoDesign Table 7), additional evaluation is required.

Individual Method C sub-slab cancer screening levels are based on an excess cancer risk of 1×10^{-6} . A total cancer risk assessment will need to be done to demonstrate that the total cancer risk does not exceed 1×10^{-5} ([WAC 173-340-706\(2\)\(c\)\(ii\)](#)).³ Some screening levels may need to be adjusted downward if the total cancer risk exceeds 1×10^{-5} .

¹⁰ GeoDesign Inc. (GeoDesign), *Focused Site Assessment Report; Former Portco Site (Pedigo Products Facility); 4000 and 4200 SE Columbia Way; Vancouver, Washington; Ecology Site Nos.: SW1619 and SW1620*, September 11, 2018, Appendix D.

¹¹ Washington State Department of Ecology Toxics Cleanup Program, *Guidance for Remediation of Petroleum Contaminated Sites*, Publication No. 10-09-057, Revised June 2016. <https://fortress.wa.gov/ecy/publications/SummaryPages/1009057.html>

Individual Method C sub-slab non-cancer screening levels are based on a hazard quotient (HQ) of 1.0. Because there are multiple hazardous substances present in the sub-slab soil vapor, the current hazard index (HI) for the Site is exceeding 1.0, and some screening levels will need to be adjusted downward ([WAC 173-340-706\(2\)\(c\)\(i\)](#)).³

The Method B TPH sub-slab screening level of 4,700 micrograms/cubic meter ($\mu\text{g}/\text{m}^3$) established in [Implementation Memorandum No. 18](#)¹² should be included in the total HI assessment or a Method C Site specific screening level should be developed using the process presented in Attachment B of that Implementation Memorandum.

Because there are multiple VOCs present in the sub-slab soil vapor, Ecology does not believe a single sampling event is sufficient to demonstrate compliance with screening levels and indoor air CULs for all possible conditions and any preferential pathways that may exist. Demonstrating that the VI pathway is not a complete pathway at the Site will require multiple sampling events including sub-slab and indoor air sampling to determine the extent of the contamination and demonstrate that seasonal fluctuations in excess of the CULs are not occurring.

Indoor air CULs will need to be established as MTCA Method B indoor air CULs unless it can be demonstrated under [WAC 173-340-706](#)³ that MTCA Method C indoor air CULs are appropriate. When conducting air sampling or soil vapor sampling, please assure that the established CUL is captured by the analysis method. Alternatively, you may assume a worst case scenario or prefer a “best management practices” approach and install a mitigation system.¹³

4. Short-term TCE Action Levels are compared to measurements (or estimates) representing the highest 3-week average concentration the receptor of concern is exposed to. This means that the average VI-caused indoor air TCE concentration over any three-week interval should not exceed the Action Level (if women of childbearing age are living or working indoors at that location). EPA Region 9 has published TCE short-term action levels.⁹

For commercial/industrial settings, where the receptors of concern are workers, indoor air TCE should not exceed $8.4 \mu\text{g}/\text{m}^3$. EPA Region 9 identifies “accelerated” and “urgent” “Response Action Levels” for residents and workers. The former (“accelerated”) range vary from 2 to $8 \mu\text{g}/\text{m}^3$; the latter (“urgent”) vary from 6 to $24 \mu\text{g}/\text{m}^3$. The range of values for both categories of response level accounts for the length of time receptors are expected to be exposed.

¹² Washington State Department of Ecology Toxics Cleanup Program, Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings; Implementation Memorandum No. 18, Publication No. 17-09-043, January 2018. <https://fortress.wa.gov/ecy/publications/SummaryPages/1709043.html>

¹³ Washington State Department of Ecology Toxics Cleanup Program, *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, Publication No. 09-09-047, Revised April 2018. See Chapter 5 for a list of mitigation system resources. <https://fortress.wa.gov/ecy/publications/SummaryPages/1709043.html>

5. Method C CULs are based on an individual HQ of 1.0 for hazardous substances and an individual cancer risk of 1×10^{-5} for cancerous substances ([WAC 173-340-745](#))³. For sites with multiple hazardous substances, the Method C CULs need to be adjusted downward if the HI exceeds 1.0 or the total cancer risk exceeds 1×10^{-5} ([WAC 173-340-745\(6\)\(a\)](#))³. The total HI (Equation 745-1) and cancer risk (Equation 745-2) will need to be assessed, and CULs lowered to meet this requirement.
6. Method A TPH CULs in soil cannot be used in conjunction with Method C soil CULs. Method C requires the analysis of extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH) to establish a Site specific Method C TPH CUL.
7. The use of industrial CULs and screening levels and the use of institutional controls (barriers to exposure, VI mitigation system) to close pathways of exposure will require the use of an Environmental Covenant ([WAC 173-340-745\(1\)\(a\)\(ii\)](#))³ to protect the industrial status of the Site and the integrity of the institutional controls.
8. It has not been demonstrated that hazardous substances have been defined horizontally and vertically in all media. Defining the extent of the Site will be required to receive a no further action (NFA), implement an Environmental Covenant, and exclude the Site from further terrestrial ecological evaluation under [WAC 173-340-7491\(1\)\(b\)](#)³ or [WAC 173-340-7491\(1\)\(c\)](#)³.

Please provide delineated concentration isopleth maps in both *plan view* and *geologic cross section*. These maps should delineate and illustrate the extents of contamination at the Site. Concentration isopleths must be bounded by data results for all impacted media.

9. Assessing the Site in its entirety is difficult when Site data is spread across multiple reports. Please provide a summary table of all analytical results for the Site in future reports, or submit all historical analytical results for the Site to Ecology's Environmental Information Management System (EIM) so that the Site can be evaluated in its entirety.
10. Because there are multiple PAHs present at the Site, they cannot be compared to the individual CULs. They will need to be reported as the total toxic equivalent concentration of benzo(a)pyrene ([WAC 173-340-708\(8\)\(e\)](#))³. Toxic equivalent factors (TEFs) can be found in MTCA Tables 708-2 and 708-3.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site do not meet the substantive requirements of MTCA.

Established Site CULs for groundwater as Ecology currently understands them are given in Ecology Table 1 at the end of this section. MTCA Method C soil CULs and MTCA Method C sub-slab screening levels are being used for the Site. However, as discussed previously, some adjustment is needed for the Method C CULs and screening levels to meet the requirements of MTCA for total risk. MTCA Method A groundwater CULs are being used for the Site. Indoor air CULs have not been established.

The Standard points of compliance listed below are currently being used for the Site. Ecology believes that these standard points of compliance are applicable for this Site.

- The point of compliance for protection of groundwater is established in the soils throughout the Site ([WAC 173-340-740\(6\)\(b\)](#)).³
- For soil cleanup levels based on protection from vapors, the point of compliance shall be established in the soils throughout the site from the ground surface to the uppermost ground water saturated zone ([WAC 173-340-740\(6\)\(c\)](#)).³
- For soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance is established in the soils throughout the Site from the ground surface to 15 feet bgs ([WAC 173-340-740\(6\)\(d\)](#)).³
- The point of compliance for indoor air is ambient and indoor air throughout the Site ([WAC 173-340-750\(6\)](#)).³

GeoDesign is using an alternative point of compliance for groundwater that appears to be based on the soil point of compliance;

- A point of compliance for the groundwater that extends from ground surface to 15 feet bgs as a “reasonable estimate of the depth that groundwater could be accessed during normal Site construction or redevelopment activities”⁶ and is assuming that because groundwater is only present outside of this interval that there is no exposure potential.

Ecology does not agree with the use of a conditional point of compliance because it has not been demonstrated that it is not practicable to meet the CULs throughout the Site within a reasonable restoration time frame ([WAC 173-340-720\(8\)\(c\)](#)).³ If this cannot be demonstrated, the standard point of compliance should be applied;

- The standard point of compliance for groundwater is established throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected by the Site ([WAC 173-340-720\(8\)\(b\)](#)).³

Ecology Table 1 – Established Site CULs for Each Media

Constituent of Concern	CAS #	Method A Groundwater CUL	Soil CUL	Indoor Air CUL
		(µg/L)	(mg/Kg)	(µg/m³)
Gasoline & Diesel Related Hazardous Substances:			<i>CULs Not Yet Established</i>	<i>CULs Not Yet Established</i>
TPH-G ¹⁴	None	1,000 / 800		
TPH-D/O ¹⁵	None	500		
Benzene	71-43-2	5		
Toluene	108-88-3	1,000		
Ethylbenzene	100-41-4	700		
Xylene	1330-20-7	1,000		
Naphthalenes ¹⁶	Various	160		
Oil/Waste Oil Related Hazardous Substances:				
cPAHs ¹⁷	Various	0.1		
PCBs	1336-36-3	0.1		
Additives:				
EDB	106-93-4	0.01		
EDC	107-06-2	5		
MTBE	1634-04-4	20		
Metals:				
Total Lead	7439-92-1	15		
VOCs:				
PCE	127-18-4	5.0		
TCE	79-01-6	5.0		
1,2-Dichloroethylene	Isomer Dependent	Isomer Dependent		
Vinyl Chloride	75-01-4	0.20		

3. Cleanup.

Ecology cannot determine if the cleanup performed meets the standards at the Site, because the Site standards are not complete. Site CULs have not been completely established for all media, the point of compliance for groundwater does not meet the requirements of MTCA, and it has not been demonstrated that the Site has been fully defined.

¹⁴ The CUL for TPH-G in soil and groundwater for the Site should be established as the lower value if benzene has been shown to be present in soil and groundwater at the Site in groundwater. The CUL for TPH-G in soil and groundwater for the Site should be established as the higher value if benzene has *not* been shown to be present at the Site in groundwater.

¹⁵ CUL is compared to the sum of NWTPH-Dx results and not individual carbon ranges (TPH-D or TPH-O).

¹⁶ Naphthalenes includes the total of naphthalene, 1-methyl naphthalene, and 2-methyl naphthalene.

¹⁷ Total cancerous polycyclic aromatic hydrocarbons (cPAH) are compared to benzo(a)pyrene (BaP) using a toxic equivalent factor (TEF) established under [WAC 173-340-708\(c\)](#).

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

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](#)³ and [WAC 173-340-545](#).²

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\(1\)\(i\)](#).²

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our [Voluntary Cleanup Program web site](#).¹⁸ If you have any questions about this opinion, please contact me by phone at (360) 407-6437 or at aaren.fiedler@ecy.wa.gov.

Sincerely,



Aaren Fiedler
Southwest Regional Office
Toxics Cleanup Program

AF: tm

Enclosures: A – Description and Diagrams

By certified mail: 9489 0090 0027 6066 5562 42

cc: Columbia Way LLC
Colby Hunt, GeoDesign, Inc.
Nicholas Acklam, Ecology
Deirdra Hahn, Ecology
Ecology Site File

¹⁸ <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program>

Enclosure A

Description and Diagrams of the Site

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Site Description

The Site, identified as Portco Corp Pedigo Products is located at 4000 S.E. Columbia Way Vancouver, 98661-5578, Clark County. This is a portion of a larger historical facility that included 10 underground storage tanks (USTs) and one aboveground storage tank (AST). The former locations of these tanks are currently located at three separate addresses and on four or five separate parcels.

The 4000 S.E. Columbia Way address consists of Clark County parcel 37910173 (0173). The other two locations are 4200 S.E. Columbia Way, which consists of Clark County parcel 37910174 (0174) and Clark County parcel 37910115 (0115), and 4600 and 4650 S.E. Columbia Way, which comprises multiple parcels. Only two of these parcels are considered by Ecology to have potentially had relevant former USTs, Clark County parcel 37910166 (0166) and Clark County parcel 37917205 (7205). 4200 S.E. Columbia Way was the original address given for the larger historical site.

The current 4200 S.E. Columbia Way address (parcels 0174 and 0115) has been given a separate site designation (FSID 98588242, VCPSW1620). A map showing the location of this Site (parcel 0173) is included in the Site Diagrams section (Ecology Figure 1).

Many industrial and commercial business have operated on the Site. The tanks associated with this Site have been reported with different uses depending on the report. The tanks associated with this Site are T1, T2, T3, and T4. The location of T6 is not known to Ecology and may have been associated with this Site.

All the tanks associated with the Site are reported to have contained some type of petroleum product including furnace and boiler fuel, No. 1, 2, or 4 Fuel, diesel, boiler fuel, gasoline, leaded gasoline, and unknown fuel. Currently, T1 is being designated as having contained Diesel/Boiler Fuel, T2 is being designated as having contained Diesel, and T3 and T4 are being designated as having contained Gasoline. All of the tanks are being reported as removed, though one tank (T6) is believed to have been removed prior to the work of removing the other tanks. Efforts were made to find tank T6 and determine if it is still present; however, no UST was found on the Site.

The area is a large industrial area known as Columbia Way that is located between the Columbia River and Washington Highway 14 (Lewis and Clark Highway). East of the Site is the 4200 S.E. Columbia Way location (Site Name is Portco Corporation, FSID 98588242) and a City of Vancouver facility that consists of the Water Resources Education Center, a Sewer System and Wastewater Treatment Facility, and a Vancouver Engineering Services Department building. The City of Vancouver facility includes the 0166 and 7205 parcels.

South of the Site is the Christensen Shipyards and a City of Vancouver park called Marine Park. West of the Site is the Columbia River Logistics building. North of the Site is Washington

Highway 14. Across Highway 14 is Municipal Water Supply Well and EPA Superfund Site (Site Name is Vancouver City Blandford Station 4, FSID 202).

Geology: The Site is comprised of Columbia River dredge material from World War II dredging activities.¹⁹ Ecology assumes that this dredge material makes up the near surface deposits. The Site is comprised of Columbia River fluvial deposits that are predominantly sand with variable lenses of gravelly and silty soils and Columbia River Basalts at depth.²⁰ The Columbia River is approximately 0.34 miles south of the Site. Although the groundwater flow direction has not been determined for this Site, it is likely towards the Columbia River.

¹⁹ CH2M Hill, September 22, 1989, p. 4.

²⁰ Lambier Stevenson Engineers, December 11, 1989, p. 14.

Site Diagrams

Ecology Figure 1	Portco Corp Pedigo Products Site Location Map
GeoDesign Figure 3	Site Plan – Detail – 4000 SE Columbia Way

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Ecology Figure 1; Portco Corp Pedigo Products Site Location Map



Parcels

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User

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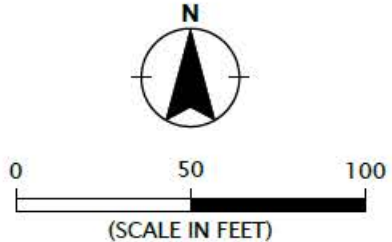
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LEGEND:

- PROJECT SITE BOUNDARY (APPROXIMATE)
- TAX LOT BOUNDARY (APPROXIMATE)
- T1 REPORTED LOCATION OF FORMER UST
- DP-2 DIRECT-PUSH BORING

- DP-1 DIRECT-PUSH BORING WITH GROUNDWATER SAMPLE
- SSV-1 SUB-SLAB VAPOR SAMPLE
- GP-1 PREVIOUS GROUNDWATER SAMPLE (APPROXIMATE)



SITE PLAN BASED ON AERIAL PHOTOGRAPH
OBTAINED FROM GOOGLE EARTH PRO®,
JUNE 12, 2018

GEODESIGN
9450 SW Commerce Circle - Suite 300
Wilsonville, OR 97070
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PEDIGO-3-01

SEPTEMBER 2018

SITE PLAN - DETAIL - 4000 SE COLUMBIA WAY

FORMER PORTCO SITE (PEDIGO PRODUCTS)
VANCOUVER, WA

FIGURE 3

Site Tables

GeoDesign Table 1	Summary of Soil Sample Chemical Analytical Results
GeoDesign Table 4	Summary of Groundwater Sample Chemical Analytical Results
GeoDesign Table 7	Summary of Sub-Slab Vapor Sample Chemical Analytical Results VOCs

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TABLE 1
Summary of Soil Sample Chemical Analytical Results
Petroleum Hydrocarbons, Total Lead, and PCBs
Former Portco Site (Pedigo Products Facility)
4000 and 4200 SE Columbia Way
Vancouver, Washington

Sample I.D. (depth in feet BGS)	Sample Date	Gasoline-Range Hydrocarbons by Method NWTPH-Gx (mg/kg)	Diesel- and Residual-Range Hydrocarbons by Method NWTPH-Dx (mg/kg)		Total Lead by EPA Method 6020A (mg/kg)	PCBs by EPA Method 8082A (mg/kg)
			Diesel Range	Residual Range		
DP-1(8-9)	08/01/18	3.09 U	4.95 U	12.4 U	9.03	--
DP-2(7-8)	08/01/18	3.09 U	4.84 U	12.1 U	8.94	--
DP-2(10-11)	08/01/18	3.00 U	4.8 U	12 U	4.82	--
DP-3(8-9)	08/01/18	3.5 U	4.12 U	10.3 U	2.26	--
DP-3(12.5-13.5)	08/01/18	3.64 U	5.4 U	13.5 U	16.8	--
DP-4(16-17)	08/01/18	2.91 U	4.66 U	11.6 U	4.78	--
DP-5(6.5-7.5)	07/31/18	3.05 U	4.87 U	12.2 U	4.42	--
DP-5(12-13)	07/31/18	3.12 U	4.8 U	12 U	4.02	--
DP-6(10-11)	07/31/18	2.9 U	4.64 U	11.6 U	3.99	--
DP-7(5-6)	07/31/18	2.69 U	4.31 U	10.8 U	4.11	--
DP-8(11-12)	07/31/18	2.95 U	4.72 U	11.8 U	3.27	--
DP-9(1-2)	07/30/18	2.82 U	184	1,550	940	--
DP-9(6-7)	07/30/18	3.4 U	4.95 U	12.4 U	5.2	--
DP-10(1-2)	07/30/18	3.46	129	1,080	123	--
DP-10(17-18)	07/30/18	2.82 U	4.5 U	11.3 U	3.94	--
DP-11(10-11)	07/30/18	2.71 U	9.00	90.2	4.34	--
DP-12(13-14)	07/30/18	2.7 U	4.32 U	10.8 U	3.72	--
DP-13(6-7)	07/30/18	2.73 U	4.37 U	24.9 J6	3.56	--
DP-13(11-12)	07/30/18	3.1 U	4.96 U	12.4 U	4.15	--
DP-14(16-17)	07/30/18	2.88 U	4.61 U	11.5 U	4.22	--
DP-15(7-8)	07/30/18	2.89 U	4.49 U	11.2 U	4.67	0.0191 U
DP-16(10-11)	07/30/18	2.94 U	4.71 U	11.8 U	2.53	0.0200 U
MTCA Cleanup Levels ¹						
Method A Unrestricted		100/30	2,000	2,000	250	1.00
Method A Industrial		100/30	2,000	2,000	1,000	1.00
Method B Non Cancer		NE	NE	NE	NE	NE
Method B Cancer		NE	NE	NE	NE	0.50
Method C Non Cancer		NE	NE	NE	NE	NE
Method C Cancer		NE	NE	NE	NE	65.60

Notes:

1. Washington Department of Ecology MTCA Cleanup Levels, revised August 2015

U: not detected at concentrations greater than the laboratory RDL (shown)

Bolding indicates analyte detection.

--: not analyzed

TABLE 4
Summary of Groundwater Sample Chemical Analytical Results
Petroleum Hydrocarbons and Dissolved Lead
Former Portco Site (Pedigo Products Facility)
4000 and 4200 SE Columbia Way
Vancouver, Washington

Sample I.D.	Sample Date	Gasoline-Range Hydrocarbons by Method NWTPH-Gx (µg/L)	Diesel- and Residual-Range Hydrocarbons by Method NWTPH-Dx (µg/L)		Dissolved Lead by EPA Method 6020A (mg/kg)
			Diesel Range	Residual Range	
DP-1-GW(30-35)	08/01/18	100 U	100 U	250 U	2.00 U
DP-4-GW(30-35)	08/01/18	100 U	100 U	250 U	2.00 U
DP-8-GW(25-30)	07/31/18	100 U	100 U	250 U	2.00 U
DP-12-GW(25-30)	07/30/18	100 U	100 U	250 U	2.00 U
DP-16-GW(25-30)	07/30/18	100 U	100 U	250 U	2.00 U
MTCA Cleanup Levels¹					
Method A		1,000/800 _{w/benzene}	500	500	15
Method B Non Cancer		NE	NE	NE	NE
Method B Cancer		NE	NE	NE	NE
Method C Non Cancer		NE	NE	NE	NE
Method C Cancer		NE	NE	NE	NE

Notes:

1. Washington Department of Ecology MTCA Cleanup Levels, revised August 2015

U: not detected at concentrations greater than the laboratory RDL (shown)

--: not analyzed

TABLE 7 Summary of Sub-Slab Vapor Sample Chemical Analytical Results VOCs Former Portco Site (Pedigo Products Facility) 4000 and 4200 SE Columbia Way Vancouver, Washington																																						
Sample I.D.	Sample Date	TPH (GC/MS) Low Fraction by EPA Method TO-15 (µg/m ³)	VOCs ¹ by EPA Method TO-15 (µg/m ³)																																			
			Acetone	Benzene	1,3-Butadiene	Carbon Disulfide	Carbon Tetrachloride	2-Butanone (MEK)	Chloroethane	Chloromethane	Cyclohexane	1,2-EDB	Dichlorodifluoromethane	cis-1,2-Dichloroethene	Ethanol	Ethylbenzene	4-Ethyltoluene	Heptane	n-Hexane	Isopropylbenzene	Methylene Chloride	Methyl Butyl Ketone	4-Methyl-2-Pentanone	MTBE	Naphthalene	2-Propanol	Propene	1,1,2,2-Tetrachloroethane	PCE	Toluene	1,1,1-Trichloroethane	TCE	Trichlorofluoromethane	1,2,4-TMB	1,3,5-TMB	2,2,4-Trimethylpentane	Vinyl Chloride	Total Xylenes
SSV-1	08/01/18	826	70.7	1.28 U	8.85 U	16.7	7.03	7.37 U	1.06 U	0.83 U	1.38 U	3.08 U	3.58	1.59 U	8.06	1.73 U	1.96 U	1.64 U	1.41 U	1.97 U	1.39 U	10.2 U	10.2 U	1.44 U	6.60 U	439	4.45	2.75 U	219	1.51 U	12.20	2.14 U	2.54	1.96 U	1.96 U	3.36	1.02 U	5.20 U
SSV-2	08/01/18	413	199	1.28 U	8.85 U	52.7	2.52 U	10.7	1.06 U	0.83 U	1.38 U	3.08 U	2.41	1.59 U	72.0	1.73 U	1.96 U	1.64 U	1.41 U	1.97 U	1.39 U	10.2 U	10.2 U	1.44 U	6.60 U	99.3	2.23	2.75 U	95.5	1.51 U	3.80	7.10	2.61	3.28	1.96 u	1.87 U	1.02 U	7.99
SSV-3	08/01/18	413 U	35.2	1.28 U	8.85 U	1.35	2.52 U	7.37 U	1.06 U	0.83 U	1.38 U	3.08 U	3.74	1.59 U	29.6	2.28	1.96 U	1.64 U	1.41 U	1.97 U	7.05	10.2 U	10.2 U	1.44 U	6.60 U	8.23	4.81	2.75 U	11.3	1.51 U	2.18 U	2.14 U	17.1	2.46	1.96 U	1.87 U	1.02 U	12.2
SSV-4	08/01/18	4,110	720	41.0	24.5	2.21	2.52 U	78.0	1.10	1.43	20.7	7.00	1.99	6.86	314	78.7	9.43	56.5	38.7	3.00	3.95	14.1	34.3	1.44 U	6.60 U	479	151	3.46	153	409	8.44	11.3	2.25 U	34.3	10.5	28.1	1.02 U	238
MTCA Sub-Slab Soil Gas Screening Level ²																																						
Method C Non Cancer		NE	NE	1,000	66.7	23,300	33,300	167,000	NE	3,000	NE	300	1,670,000	NE	NE	33,300	NE	NE	23,300	NE	20,000	100,000	NE	100,000	100	NE	NE	NE	1,330	167,000	167,000	66.7	23,300	233	NE	NE	3,330	3,330
Method C Cancer		NE	NE	107	27.8	NE	139	NE	NE	NE	NE	1.39	NE	NE	NE	NE	NE	NE	NE	NE	83,300	NE	NE	3,210	24.5	NE	NE	14.4	3,210	NE	NE	210	NE	NE	NE	NE	93.3	NE
Notes: 1. Only VOCs detected during this investigation or VOCs of interest from previous investigations are listed. For a complete listing of VOCs, refer to the laboratory report. 2. Washington Department of Ecology MTCA Screening Levels, revised August 2015 U: not detected at concentrations greater than the laboratory RDL (shown) Bolding indicates analyte detection. Shading indicates analyte detection at a concentration greater than MTCA Values. Refer to report text.																																						



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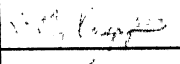

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