STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Eastern Region Office
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January 6, 2023

Randy Hayden
Port of Pasco
PO Box 769
Pasco, WA 99301

Re: Further Action at the following Site:

Site Name:	Port of Pasco Big Industrial Park Lagoons
Site Address:	SE Road 36/ E Ainsworth St, Pasco
Cleanup Site ID:	15433
Facility/Site ID:	88749
VCP Project ID:	EA0362

Dear Randy Hayden:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Port of Pasco Big Industrial Park Lagoons facility (Site). 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 RCW.

Issue Presented and Opinion

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

YES. Ecology has determined that further remedial action is necessary to clean up contamination and meet all cleanup standards at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70A.305 RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided as follows.

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:

- Heavy metals, dioxins, furans, and polybrominated diphenyl ethers (PDBEs) into the soil.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note 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:

- Ecology, Environmental Covenant 1966700, September 26, 2022.
- Blue Mountain Environmental and Consulting Co., Inc., CSID No. 15433 Big Pasco Industrial Park Lagoons, Operation and Maintenance Plan, March 15, 2022.
- Coho Environmental, Terrestrial Ecological Evaluation, Port of Pasco, Big Pasco Industrial Center Lagoons, Pasco, WA, June 28, 2021.
- Blue Mountain Environmental and Consulting Co., Inc., Biosolids Sample Analysis Report at Big Pasco Industrial Center, Pasco, Washington, February 25, 2021.
- Blue Mountain Environmental and Consulting Co., Inc., Port of Pasco Big Industrial Park Lagoons, Sampling and Analysis Plan, December 11, 2020.
- GN Northern, Inc., Geotechnical Site Investigation Report, GNN Project No. 219-1119, May 20, 2020.

These documents are accessible in electronic form from the Site webpage[1].The complete records are stored in the Central Files of the Eastern Regional Office of Ecology (ERO) for review by appointment only. Visit our Public Records Request page[2], to submit a public records request or get more information about the process. If you require assistance with this process, you may contact the Public Records Officer at recordsofficer@ecy.wa.gov or 360-407-6040.

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

[1] https://apps.ecology.wa.gov/gsp/CleanupSiteDocuments.aspx?csid=15433
[2] https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

Characterization of the Site.

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.**

The Site consists of two former wastewater treatment lagoons with approximately 1-2 feet of sludge below standing water. The north and south lagoons have an approximate sludge volume of 32,130 cubic feet and 62,400 cubic feet of sludge, respectively. Seven discrete sludge column samples were collected from each of the two lagoons and analyzed for fecal coliform. One composite sample was developed for each lagoon and analyzed for organochlorine pesticides, RCRA 8 metals, nitrates, nitrogen, ammonia, dioxins, furans, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and polybrominated diphenyl ethers (PDBEs). Cadmium exceeded the MTCA Method A soil cleanup level in the south lagoon sample, while the dioxin and furan toxicity equivalency (TEQ) exceeded the MTCA Method B soil cleanup level. DDE and PBDEs were detected in the south lagoon sample below their respective soil cleanup levels. Soil below the lagoon sludge column has not been characterized. Depth to groundwater below the lagoons has not been determined and groundwater samples have not been collected or analyzed for potential contamination.

Establishment of cleanup standards.

Ecology has determined that further characterization of the Site is necessary to establish exposure pathways, cleanup levels, and points of compliance to meet the substantive requirements of MTCA.

For soil, MTCA Method A or Method B cleanup levels are appropriate for this Site. Standard soil formula cleanup level values presented in CLARC for Method B may not be appropriate because they are calculated to be protective of direct contact and not the soil leaching to groundwater pathway. If used, Method B cleanup levels have to be protective of the groundwater ingestion pathway unless further Site characterization demonstrates that soil contamination is not impacting groundwater and is unlikely to leach in the future. If further characterization indicates that groundwater is impacted, then the groundwater to surface water pathway must also be evaluated before appropriate cleanup levels are established.

The cleanup levels should be based on unrestricted land use unless it is demonstrated that the Site meets the definition of an industrial facility provided in Chapter 173-340-

745(1)(a)(i) WAC. Once the appropriate exposure pathways have been evaluated, a suitable point of compliance can be established where cleanup levels must be met.

Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site does not meet the substantive requirements of MTCA. The selected cleanup action is as follows:

- Engineering controls: backfilling and capping the lagoons with clean imported soil and gravel
- Institutional controls: recording an environmental covenant on the south lagoon to restrict land use

While these cleanup actions may be protective of the direct contact pathway, they may not be protective of other pathways including soil leaching to groundwater and groundwater to surface water. These pathways require further evaluation as described in the following section. At this time, Ecology considers the engineering and institutional controls implemented at the Site as interim cleanup actions, which may reduce the risk to human health and the environment but are not the final cleanup action.

Additional requirements.

To determine a path forward for the Site, the following data gaps in your Site characterization need to be addressed. Ecology will then evaluate if further remedial action is necessary at the Site. The purpose of a comprehensive Site characterization is to define the nature and extent of contamination in all media and develop a Conceptual Site Model (CSM) showing the impacted media and potential exposure pathways.

The sampling at the Site in 2021 included a single composite sample of lagoon sludge for each lagoon. Composite samples are usually implemented during waste characterization for offsite disposal and may not be representative of the true extent and concentration of contaminants within the sludge. Furthermore, multiple discrete soil samples should be collected below each sludge layer to determine whether contaminants in the lagoon sludge have migrated to deeper soils.

The actual depth to groundwater below the lagoons has not been determined. MTCA includes Method B soil cleanup levels protective of the groundwater leaching pathway in both the vadose and saturated subsurface zones. The soil to groundwater exposure pathway cannot be ruled out unless additional groundwater characterization demonstrates that residual contamination in the sludge and soil are not causing an exceedance in groundwater. Characterization of groundwater flow direction and gradient requires a minimum of three groundwater monitoring wells advanced into each saturated water-bearing zone. If groundwater impacts are observed, then further evaluation will be required to determine if the groundwater to surface water pathway is also a risk.

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).

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 proposed will be substantially equivalent. Courts make that determination. *See* RCW 70A.305.080 and WAC 173-340-545.

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.305.180.

Contact Information

Thank you for choosing to clean up the Site under the VCP. As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our webpage[3]. If you have any questions about this opinion, please contact me by phone at (509) 342-5564 or e-mail at ted.uecker@ecy.wa.gov.

Sincerely,

Ted M. Uecker
ERO Toxics Cleanup Program

[3] https://www.ecy.wa.gov/vcp

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Enclosures (1): A – Site Description and Diagram

cc: Tracy Friesz, Port of Pasco
Yancy Meyer, Blue Mountain Environmental and Consulting Co.
Kathleen Falconer, Ecology KLF
Nick Acklam, Ecology

Enclosure A

Description and Diagram of the Site

Site Description

The Site is part of the 370-acre Big Pasco Industrial Center, which is located along the Columbia River in Pasco, WA. The two former sewage lagoons are located at SE Road 36 and E Ainsworth Ave, approximately 650 and 920 feet from the river. The south lagoon has an average sludge depth of two feet, with approximately 62,400 cubic feet of sludge. The north lagoon has an average sludge depth of one foot, with approximately 32,130 cubic feet of sludge. Depth to groundwater at the Site is approximately 9-14 feet below ground surface (bgs). Site soils generally consist of sands and silts to deeper sand and gravel to approximately 50 feet bgs, underlain by the competent silt of the Ringold Formation.

Site History

In January 2021, the two sewage lagoons were sampled to characterize the waste with the intent to decommission and develop the area into a gravel parking lot. Fourteen total sludge samples were collected, seven from each lagoon, and were considered representative of the entire vertical sludge column. The discrete samples were analyzed for fecal coliform, while composite samples were analyzed for organochlorine pesticides, RCRA 8 metals, nitrates, nitrogen, ammonia, dioxins, furans, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and polybrominated diphenyl ethers (PDBEs). Analytical results for the south lagoon samples indicated that the dioxin and furan toxicity equivalency (TEQ) exceeded MTCA Method B cleanup levels for both direct contact and protection of groundwater. Cadmium exceeded the MTCA Method A cleanup level, and PDBEs and DDE were present below regulatory thresholds. Beginning in 2021, both lagoons were filled with clean imported soil and gravel to a minimum of 6 feet above the sludge surface and compacted. An environmental covenant was filed with Franklin County on September 26, 2022 under recording number 1966700. The covenant restricts the site to industrial land use and activities that would compromise the soil cap, and details instructions for operation and maintenance of the engineered controls.

Site Diagram