



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Central Region Office

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June 30, 2023

Sent by email and hard copy

Aaron Galer
Williams Gas Pipeline – Northwest Pipeline GP Plymouth
295 Chipeta Way # 1
Salt Lake City, UT 84108
Aaron.Galer@Williams.com

Re: Request for Opinion Regarding Activities at the Following Site:

- **Site Name:** Northwest Pipeline GP Plymouth Plant
- **Site Address:** 42612 E. Christy Road, Plymouth
- **Facility/Site ID:** 55526227
- **Cleanup Site ID:** 4212
- **VCP Project ID:** CE0308

Dear Aaron Galer:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Northwest Pipeline GP Plymouth Plant facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), chapter 70A.305¹ Revised Code of Washington (RCW). Ecology has received your report titled *"Draft Current Site Conditions Summary and Proposed Groundwater Characterization, Williams Northwest Pipeline – Plymouth Compressor Station"* prepared by Stantec and dated March 28, 2023. Ecology has reviewed that information and is providing our opinion regarding the current status of cleanup at the Site within this letter.

Issue Presented and Opinion

Ecology has reviewed available reports for this cleanup and appreciates the substantial amount of work that you have completed to date to investigate and clean up the Northwest Pipeline GP Plymouth Plant facility. 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, Washington Administrative Code (WAC) chapter 173-340² (collectively "substantive requirements of MTCA"). The analysis is provided on the subsequent pages.

¹ <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.305>

² <https://apps.leg.wa.gov/wac/default.aspx?cite=173-340>

This opinion provides non-binding informal advice and technical assistance. Binding commitments on Ecology for cleanups require those cleanups to be completed under an order or consent decree.

Ecology received your report titled “*Draft Current Site Conditions Summary and Proposed Groundwater Characterization, Williams Northwest Pipeline – Plymouth Compressor Station*” prepared by Stantec. In the “*Draft Current Site Conditions Summary and Proposed Groundwater Characterization, Williams Northwest Pipeline – Plymouth Compressor Station*” prepared by Stantec, Stantec and NWP formally requested that Ecology provide a written opinion on the following:

- 1) *“If Ecology agrees with the clarification to the DF CUL for soil to align with the 13 pg/g value cited in the CLARC table.*
- 2) *If Ecology agrees with the AOPC and RA evaluation and current status. Specifically, that the reevaluation of RA 21 using statistical analysis is sufficient to demonstrate compliance with the substantive requirements of MTCA in accordance with WAC chapter 173-340 (WAC, 2007).*
- 3) *If Ecology agrees with the DF evaluation. Specifically, that the lateral extent of DFs has been adequately defined for human health and that remaining TEE exceedances could be managed via institutional controls following completion of delineation. Stantec recognizes that additional vertical delineation of DFs is needed. Additionally, if the groundwater data collected from wells MW-2, MW-6, and MW-8 is sufficient to demonstrate compliance with MTCA or if additional sampling for DFs will be necessary.*
- 4) *If Ecology agrees with the proposed scope of work. Specifically, proposed monitoring well placement and soil and groundwater sampling plan is appropriate for site characterization purposes and cleanup goals.”*

Ecology’s responses are outlined below.

Stantec/NWP request for opinion #1: *“If Ecology agrees with the clarification to the DF CUL for soil to align with the 13 pg/g value cited in the CLARC table.”*

Ecology response: Ecology agrees that the Cleanup Level (CUL) for soil used for dioxin and furan compounds at the site should align with the 13 pg/g (MTCA Method B direct contact cancer) in accordance with Ecology’s Cleanup Level and Risk Calculation (CLARC)³ table.

³ <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Contamination-clean-up-tools/CLARC>

Stantec/NWP request for opinion #2: *“If Ecology agrees with the AOPC and RA evaluation and current status. Specifically, that the reevaluation of RA 21 using statistical analysis is sufficient to demonstrate compliance with the substantive requirements of MTCA in accordance with WAC chapter 173-340 (WAC, 2007).”*

Ecology response: The AOPC (area of potential concern) and RA (remedial area) evaluation and current status, described in the reviewed report, provides an accurate but incomplete characterization of the site. Further work needs to be completed to assess vertical soil contamination and the nature of groundwater contamination at the site.

In Ecology’s Further Action letter dated August 5, 2022, Ecology determined that, based on the data provided to date, the following RAs have been adequately investigated and cleaned up or addressed. No additional cleanup or investigation is likely required for the following Remedial Areas: **RA 1, RA 2, RA 3, RA 4, RA 5, RA 7, RA 8, RA 9, RA 10, RA 12, RA 13, RA 15, RA 17, and RA 19**. That letter also stated that **RA 22** has been, “adequately investigated and cleaned up or addressed, provided potential ecological exposures are prevented through institutional controls including the recording of an Environmental Covenant.”

It is Ecology’s opinion that Section 4 – of the *Draft* Current Site Conditions Summary and Proposed Groundwater Characterization, Williams Northwest Pipeline – Plymouth Compressor Station report shows that reevaluation of **RA 21** using statistical analysis is sufficient to demonstrate compliance with the substantive requirements of MTCA in accordance with Washington Administrative Code chapter 173-340.⁴

Ecology also agrees that further evaluation and action is warranted for **RA 6, RA 11, RA 14, RA 16, RA 18, and RA 20**, as described in Section 6.0 of the reviewed report.

Stantec/NWP request for opinion #3: *“If Ecology agrees with the DF evaluation. Specifically, that the lateral extent of DFs has been adequately defined for human health and that remaining TEE exceedances could be managed via institutional controls following completion of delineation. Stantec recognizes that additional vertical delineation of DFs is needed. Additionally, if the groundwater data collected from wells MW-2, MW-6, and MW-8 is sufficient to demonstrate compliance with MTCA or if additional sampling for DFs will be necessary.”*

Ecology response: Ecology agrees that the lateral extent of the DFs has been adequately defined for human health; further action needs to be taken to determine the vertical extent. The remaining TEE (Terrestrial Ecological Evaluation) exceedances in soil could be managed via institutional controls following the completion of delineation. Ecology will consider any new information obtained in making this determination.

⁴ <https://apps.leg.wa.gov/wac/default.aspx?cite=173-340>

See Ecology's discussion below regarding groundwater sampling at wells MW-2, MW-6, and MW-8.

Stantec/NWP request for opinion #4: *"If Ecology agrees with the proposed scope of work. Specifically, proposed monitoring well placement and soil and groundwater sampling plan is appropriate for site characterization purposes and cleanup goals."*

Ecology response: Ecology agrees with the proposed scope of work, including the proposed monitoring well placement and the soil and groundwater sampling plan, with the following exceptions to the groundwater sampling plan.

1. For wells **MW-1, MW-2, MW-3, MW-4, MW-5**, COPCs in soil were listed as the following in Figure 8: DRPH, PRPH, PCBs, Chromium, DFs. **Table 7** from the *Revised Interim Remedial Action Report Addendum* (Cardno, July 2022) indicates the presence of GRPH in two samples with soil concentrations above MTCA Method A Cleanup levels in RA 16, the area of these wells. In addition, arsenic and lead were present in groundwater in the temporary well pit samples in at MW-1. In order to properly characterize groundwater in this area (RA 16/RA 20), wells MW-1 through MW-5 should be sampled quarterly for the following constituents: GPPH, DRPH, HRP, PCBs, chromium, DFs, arsenic, and lead. In order to demonstrate compliance with MTCA, groundwater analysis results must show that all samples are below the established cleanup levels for the site for 8 consecutive quarters of sampling or 4 consecutive quarters of sampling in the following conditions (Ecology's Guidance for Remediation of Petroleum Contaminated Sites⁵):
 - The first 4 samples do not show an increasing trend.
 - First 4 samples are not highly variable.
 - The site is a lower-risk site.
2. The same guidance can be applied to **MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12**. Groundwater in these wells should be sampled quarterly for GRPH, DRPH, HRP, cPAHs, PCBs, chromium, and DFs in order to properly characterize groundwater impacts in the area.
3. For wells **MW-13, MW-14, MW-15**, at this time, it is Ecology's opinion that these wells may be used for gauge purposes, with no planned groundwater analyses. However, due to the downgradient nature of these wells from RA16/RA20, if groundwater samples from proposed well P-18 indicate the presence of contaminants above CULS, the sampling plan for these wells may need to be altered.
4. For proposed well **P-16**, Ecology agrees with the sampling plan outlined in **Table 8**.

⁵ <https://apps.ecology.wa.gov/publications/SummaryPages/1009057.html>

5. For proposed well **P-17**, the purpose of this well is to delineate upgradient of well **MW-6**, therefore groundwater should be analyzed for the following constituents: GRPH, DRPH, HRPH, cPAHs, PCBs, chromium, and DFs.
6. For proposed well **P-18**, the purpose of this well is to delineate upgradient of well **MW-1**, therefore groundwater should be analyzed for the following constituents: GPPH, DRPH, HRPH, PCBs, chromium, DFs, arsenic, and lead.
7. For proposed well **P-19**, the purpose of this well is to tighten delineation downgradient of wells MW-2 and MW-3, therefore groundwater should be analyzed for the following constituents: GPPH, DRPH, HRPH, PCBs, chromium, DFs, arsenic, and lead.

Although not specifically related to the above requests for opinion, Ecology would like to add the following comments on the *Draft Current Site Conditions Summary and Proposed Groundwater Characterization, Williams Northwest Pipeline – Plymouth Compressor Station* report:

1. In Figure 1, Preliminary Cleanup Level Selection, Groundwater Human Health Cleanup Level for TEF-adjusted DF should be in units of weight of solute per unit volume (for example, pg/L not pg/g).
2. Further site research should be conducted to determine if PFAS containing fire-fighting foams were used at the two Oil Burning/Fire Training Areas located on site. If so, additional groundwater monitoring for PFAS may be required.

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, diesel, and heavy oil ranges) into the soil
- Petroleum Hydrocarbons (diesel and heavy oil ranges) into the groundwater
- Benzene into the soil
- Tetrachloroethene (PCE) and Trichloroethene (TCE) into the soil
- Polychlorinated biphenyls (PCBs) into the soil and groundwater
- Dioxin/furans (DFs) into the soil and groundwater
- Metals (arsenic, cadmium, chromium, mercury, and lead) into the soil
- Metals (lead and arsenic) into the groundwater
- Carcinogenic polycyclic aromatic hydrocarbons (cPAHs) into soil

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

The reports provided for this review state that the Site is located entirely within Benton County tax parcel 11573000000000 (the Property).

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 *Draft* Current Site Conditions Summary and Proposed Groundwater Characterization, Williams Northwest Pipeline – Plymouth Compressor Station” prepared by Stantec.

This document is kept at the Central Regional Office of Ecology (CRO) for review by appointment only. Information on obtaining those records can be found on Ecology’s public records requests web page. Some site documents may be available on Ecology’s Cleanup Site Search web page.

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

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 70A.305.040(4).⁶

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.

⁶ <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.305.040>

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This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. See RCW 70A.305.080⁷ and WAC 173-340-545.⁸

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 70A.305.170.⁹

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 website.¹⁰ If you have any questions about this opinion, please contact me by phone at 509-907-1353 or by e-mail at Rachel.Caron@ecy.wa.gov.

Sincerely,



Rachel Caron
Central Regional Office
Toxics Cleanup Program

Enclosures (2): A – Description of the Site
 B – Basis for the Opinion: List of Documents

cc: Ryan Pozzuto, Cardno/Stantec, ryan.pozzuto@cardno.com

⁷ <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.305.080>

⁸ <https://app.leg.wa.gov/wac/default.aspx?cite=173-340-545>

⁹ <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.305.170>

¹⁰ <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Voluntary-Cleanup-Program>

Enclosure A

Site Description

Site Description

The Site is located at 42612 E Christy Rd Plymouth, in Plymouth, Benton County, Washington. The Williams Northwest Pipeline (NWP) GP Plymouth Plant facility is located approximately two miles west of the community of Plymouth, and approximately ½ mile north of the Columbia River. The facility is located on Benton County Parcel 11573000000000, a 72.47-acre property (the Property). The Property is surrounded by agricultural fields.

Property History and Current Use: According to the Benton County online parcels system, the Property is owned by Northwest Pipeline Corp. The facility consists of a compressor station and auxiliary liquefied natural gas (LNG) plant for condensing, storing, and vaporizing LNG. The pipeline is a primary artery for the transmission of natural gas throughout the region. Development of the Property for this use began in 1955. No changes in this land use are anticipated in the future.

Property Vicinity: The Property is surrounded by agricultural fields in all directions including an orchard to the west, and a pivot irrigation field to the east.

Soils and Geology: Soils in the vicinity of the Site are reported to consist of alluvial fine sandy loam and fine sand which is described as mixed alluvium and/or eolian deposits over gravelly and stony alluvium. Soils encountered at the Site to a maximum depth of 50 feet below ground surface (ft bgs) were a mixture of silt, sand, coarse gravels, and large boulders, and were described as consistent with a fluvial depositional source.

Groundwater: Groundwater was characterized through the installation and sampling of 15 monitoring wells as well as by direct push groundwater sampling. Groundwater was encountered at a depth of approximately 35 ft bgs and little gradient was noted during a March 2014 monitoring event.

The Columbia River includes a series of dams, including one just upstream of the community of Plymouth (McNary Dam). The next downstream dam (John Day Dam) is located approximately 68 miles downstream of the Site. Based on elevations from Google Earth™, the elevation of the river immediately behind John Day Dam is approximately 267-268 feet above mean sea level (ft amsl) and the elevation of the river immediately below McNary Dam is 268 ft amsl. Hence, the groundwater system at the Site may be affected by staged water behind John Day Dam. Detailed analysis of dam operational data would be needed to assess how river stage and dam operations could affect the groundwater system at the Site.

Surface Water/Storm Water:

A 0.33-acre square-shaped retention pond is located on the north-central part of the Property and a 2.7-acre artificial pond is located 800 feet north of the Property. The Columbia River is the only surface water body in the vicinity of the Site other than these two ponds. The Columbia River appears to be sufficiently distant (approximately ½ mile to the south) such that impacts to the River from the Site appear to be unlikely.

Ground surface elevations on the Property range from 293 ft amsl in the southwest corner to 309 ft amsl in the northwest corner. Stormwater on the property will generally flow to the south to southwest. Stormwater management has not been reviewed as part of this letter.

Public Water Supply and Septic System:

There are two group A/B wells mapped approximately 1,000 feet south of the Property within the Washington Department of Health (DOH) data system. These water wells are identified as owned by Northwest Pipeline Corporation. According to the RI Report, water supply is provided to the facility by a water well located near the water tanks in the center of the Property. Hence, the DOH-mapped locations may be inaccurate.

According to the RI Report, a septic tank and drainfield are located south of the auxiliary building outside of the facility fencing. The septic tank is reportedly vacuumed out periodically and wastes disposed of offsite.

Ecology has not conducted further review at this time on the water well(s) on the Property and their relationship to contaminated groundwater found at the Site. Potential impacts to water supply wells should be examined closely during the conduct of additional work at the Site.

Enclosure B

Document List

Document List

1. Stantec. *Draft Current Site Conditions Summary and Proposed Groundwater Characterization, Williams Northwest Pipeline – Plymouth Compressor Station*. March 28, 2023.
2. Ecology. *Re: Further action at the following site: Northwest Pipeline GP Plymouth Plant*. August 5, 2022.
3. Cardno/Stantec. *Revised Interim Remedial Action Report Addendum, Williams Northwest Pipeline – Plymouth Compressor Station*. July 1, 2022.
4. Cardno/Stantec. *Interim Remedial Action Report Addendum, Williams Northwest Pipeline – Plymouth Compressor Station*, April 20, 2022.
5. TRC. *Interim Remedial Action Report, Plymouth Compressor Station*, December 8, 2020.
6. Environmental Partners, Inc. *Revised Remedial Investigation Report, Plymouth Compressor Station*. April 19, 2019.