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July 29, 2020

William Quisenberry
Quisenberry Partnership LLC
P.O. Box 109
Port Orchard, WA 98366
usawmq@yahoo.com

Re: Opinion pursuant to WAC 173-340-515(5) on Remedial Action for the following Hazardous Waste Site:

- **Site Name:** Bay Ford
- **Property Address:** 1215 Bay Street, Port Orchard, WA 98366
- **Facility/Site No.:** 57499995
- **VCP Project No.:** NW2423
- **Cleanup Site ID No.:** 11615

Dear William Quisenberry:

The Washington State Department of Ecology (Ecology) received your request for an opinion on the *Cleanup Action Report Addendum* dated March 30, 2020 for the **Bay Ford** facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW. This opinion applies only to the Site described below.

Description of the Site

The Site is defined by the nature and extent of contamination associated with the following releases:

- Diesel-range and lube-oil range total petroleum hydrocarbons (TPH-D and TPH-O, respectively) into the Soil and Ground Water

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

The Property where the Site has come to be located includes the following Kitsap County tax parcels which were affected by the Site and will be addressed by your cleanup:

- 252401-2-020-2000 (Bay Ford property)
- Maple Street Waterway right-of-way (no parcel number available)

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcels 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. Aspect Consulting, LLC, 2020. *Cleanup Action Report Addendum, Bay Ford Dealership, Port Orchard, Washington.* March 30.

2. Aspect Consulting, LLC, 2018. *2017 Groundwater Compliance Monitoring Report, Bay Ford Dealership, Port Orchard, Washington.* February 1.

3. Aspect Consulting, LLC, 2018. *Cleanup Action Summary Report, Bay Ford Dealership, Port Orchard, Washington.* February 1.

4. Aspect Consulting, LLC, 2014. *Table A, Groundwater Chemical Data, Bay Ford Dealership, Port Orchard, Washington.* February 26.

5. Aspect Consulting, LLC, 2014. *Addendum to the RIFS Report, Bay Ford Dealership, 1215 Bay Street, Port Orchard, Washington*. January 15.

6. Aspect Consulting, LLC, 2013. *Remedial Investigation and Feasibility Study Report, Bay Ford Dealership, 1215 Bay Street, Port Orchard, Washington.* July 31.

7. Stemen Environmental, Inc., Undated. *Remedial Corrective Action Work Plan.* (Report transmitted via email from Paul Stemen on September 2, 2011).

8. Stemen Environmental, Inc., 2011. *Additional Environmental Investigations Report, March 25, 2011, Bay Ford Site, Port Orchard, Washington.* March 25.

9. Stemen Environmental, Inc., 2011. *Limited Phase II Environmental Assessment Report, January 15, 2011, Bay Ford Dealership, 1215 Bay Street, Port Orchard, Washington, Tax Parcels #252401-2-020-2000.* January 15.

10. Stemen Environmental Inc., 2011. *Limited Phase II Environmental Assessment Report, Maple Street Waterway, Public Right of Way, Port Orchard, Washington.* January 15.

In addition to the above-listed reports, Ecology previously issued written opinions for this Site in letters dated September 13, 2011, November 21, 2013, March 14, 2014 and August 20, 2018.

A number of these documents are accessible in electronic format from the Site web page[1]. The complete records are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) 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 publicrecordsofficer@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.

Opinion

Based on a review of the *Cleanup Action Report Addendum* (report) dated March 30, 2020, Ecology has determined:

- Ecology concurs that the data gap concerning the former gasoline pump island on the Site has been filled using soil and ground water data from soil borings AB-1 through AB-3 advanced in April 2019.

- Ecology concurs that the analytical results of the soil gas and indoor air sampling indicate that residual TPH in soil beneath the Property building is most likely not adversely impacting indoor air quality in the building.

- Soil contaminated with TPH-D at concentrations of 4,900 (SE5-7) to 33,000 (SE4-6.5) milligrams per kilogram and exceeding the Method A soil cleanup level was left in place just west of Blackjack Creek on the east side of the Property. This is the area where in 2010, TPH-D was detected in soil at a concentration of 110,000 mg/kg in soil boring PRW-12 and in ground water in PRW-12 (29,000 micrograms per liter (µg/L)) and PRW-13 (32,000 µg/L). Ecology's No Further Action Likely letter dated March 14, 2014 recommended that a replacement of monitoring well MW-4 be sited northeast of soil boring PRW-13 but this was not done. It is necessary to confirm that ground water from area and discharging to the creek does not currently contain weathered diesel at concentrations exceeding 3,000 µg/L (see Ecology publication 20-03-008[3]) in order to protect fresh water aquatic life.

[1] https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=11615
[2] https://ecology.wa.gov/publicrecords
[3] https://fortress.wa.gov/ecy/publications/SummaryPages/2003008.html

Ecology does not agree that an empirical demonstration using monitoring well MW-3R is representative of the soil to ground water pathway upgradient of Blackjack Creek. As recently as June 2019, a ground water sample from MW-3R contained TPH-D at concentrations exceeding Method A cleanup level and compliance monitoring is still underway. An empirical demonstration, in which soil is shown to be protective of ground water, is not possible. Also, as shown in ground water elevation contour maps provided in Appendix A of the report, ground water flow directions on the Site are variable due to tidal influence and heterogeneities in fill materials. MW-3R is screened in excavation backfill. Most ground water contour maps provided in Appendix A indicate ground water flow at monitoring well MW-3R is cross-gradient to soil confirmation sampling locations SW-108-6 and SW-110-6.

Figure 3 of the report shows the locations of confirmation soil samples SE4-6.5 and SE5-7 are near the edge of the parking lot. Direct push borings, air-knife borings or possibly hand-augured borings could be advanced between the former sampling locations and the riprap bank to obtain ground water samples east of the sampling locations.

- For ground water compliance, Ecology previously requested current monitoring data consisting of a minimum of eight consecutive quarters below cleanup levels. For an assessment of seasonality, a quarter of a year consists of 3 months or approximately 89 to 92 days depending on which months are included. Compliance ground water sampling at the Site has in some cases exceeded that duration by up to two months. As a result, only 3 ground water sampling events were conducted in 2018. Except for MW-3R and MW-5R, ground water sampling was discontinued in all Site monitoring wells in April and June 2019. For the two remaining wells, a minimum of eight consecutive quarters below cleanup levels are needed for the Site to be considered for a No Further Action determination. Ecology suggests planning the sampling events so that all data collection rounds will be considered representative.

- Ecology agrees that some ground water on the Property may be non-potable due to proximity to Sinclair Inlet. Because placement of an environmental covenant may be necessary to close this Site due to inaccessible soil with TPH-D exceedances, use of Site ground water as a drinking water source will be prohibited as one of the provisions of the covenant.

- Naturally-occurring organic matter may contribute to TPH-D concentrations in ground water but this Site was heavily contaminated with diesel fuel that due to the age of the release is most likely weathered (as indicated by the 'x'-flagged data). Much of the contamination has been removed but inaccessible soil remains in place below the water table at concentrations up to 32,000 mg/kg. According to Ecology's *Guidance for Remediation of Petroleum Contaminated Sites* (Publication No. 10-09-057), if silica gel cleanup is used, ground water samples should be split and analyzed both with and

without silica gel cleanup. Please continue to provide this split data if silica gel cleanup is used.

- In the Table 3 notes, please define the double-dash symbol in the results column.

- Table 5 of the report should be comprehensive and provide all historical and current ground water sampling data for the Site.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

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

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

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

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

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

3. State is immune from liability.

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

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 web site: www.ecy.wa.gov/vcp. If you have any questions about this opinion, please contact me at (425) 649-7064 or heather.vick@ecy.wa.gov.

Sincerely,

Heather Vick, LHg
NWRO Toxics Cleanup Program

Enclosure (1): A – Site Description

ecc: Carla Brock, Aspect Consulting, LLC, cbrock@aspectconsulting.com

Enclosure A

Site Description

Site Description

This section provides Ecology's interpretation and understanding of Site conditions, and forms the basis for the opinions expressed in the body of the letter.

Site: The Site is associated with soil and ground water contaminated with petroleum hydrocarbons in the diesel (TPH-D) and oil (TPH-O) ranges at an existing Ford dealership located at 1215 Bay Street in Port Orchard, Washington and the adjoining Maple Street Waterway public right-of-way (Property). Diesel-range and lube-oil range petroleum hydrocarbons were released to soil, ground water, likely air and potentially surface water at the Property and comprise the Site, as shown on the attached Site Diagram. The Property consists of Kitsap County parcel number 252401-2-020-2000 which is comprised of 1.73 acres of land and adjacent tidelands of Sinclair Inlet. The Property also consists of portions of the east-adjacent right-of-way (Maple Street) owned by the City of Port Orchard (City), which includes the outlet channel for Blackjack Creek.

Area Description: The Property is situated within the central business district of the City, between Bay Street and Sinclair Inlet. Bay Street (State Highway 166) serves as the primary commercial thoroughfare for the area and is lined with other nearby businesses. Residential areas are present immediately behind and above businesses on the south side of Bay Street. The open waters of Sinclair Inlet are behind the businesses on the north side of Bay Street. To the north of the Property is Sinclair Inlet; to the east is Blackjack Creek and the Westbay Center, a shopping center. To the west is Rogers Center (shopping center) and the Comfort Inn. To the south is Bay Street, Kitsap RV, Black J paddle and surf shop and Harbor Speech Pathology.

Property History and Current Use: The Property was most likely first developed in 1948, with the placement of fill that extended into Sinclair Inlet, and construction of a commercial building occupied by the Howe Oil Company until the mid-1970s. Howe Oil apparently used the Property to store and maintain oil transport trucks, but did not store or load bulk fuels there. The building housed a combination of offices and an automotive service/maintenance garage.

The Howe facility also had a vehicle fueling station with three gasoline underground storage tanks (USTs). The fueling station was closed in 1976. The USTs were reportedly removed in 1989; however, no records documenting the removal are available. A fourth UST used to store heating oil was identified along the northern perimeter of the building. The Property is currently the location of Bruce Titus Port Orchard Ford, an automotive dealership with a service department.

Sources of Contamination: There are no records of spill incidences or releases of heating oil. It is likely that the primary source of petroleum hydrocarbons on the Site was the maintenance and storage of heating oil delivery trucks on the Property between approximately 1948 and 1975. Disposal of fluids associated with automotive service and maintenance is also possible. Other potential contamination sources associated with the Site include leaks from the former USTs and fuel lines (three USTs stored gasoline; one stored heating oil) and leaks from seven former hydraulic lifts within the service garage.

Physiographic Setting: The Site is located within the Puget Sound Lowland Physiographic Province, a north-south trending structural and topographic depression that is bordered on its west side by the Olympic Mountains, and to the east by the Cascade Mountain foothills. The Puget Sound Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and nonglacial sediments. The Site and surrounding area are on the south shore of Sinclair Inlet in Puget Sound, in a flat-lying area at the base of a slope. The slope rises steeply inland to the south of the Property.

Surface/Storm Water System: The Property is bordered on two sides by water – to the north by the marine waters of Sinclair Inlet and to the east by Blackjack Creek, which discharges to Sinclair Inlet at the northeast corner of the Property. Blackjack Creek is tidally-influenced, visible at low tide and covered at high tide. Blackjack Creek drains a large upland area to the south, and is one of the larger creeks in Port Orchard. Storm water runoff from the Property is captured in catch basins, conveyed through one of several oil water separators, and discharged to either Sinclair Inlet or Blackjack Creek through one of three storm water outfalls.

Water Supply: Potable water for the Site area is supplied by the City of Port Orchard Public Works Department. The source of the water is ground water from several supply wells that range in depth from 240 to 806 feet bgs. In addition, the City periodically purchases water from the City of Bremerton which is supplied by wells and the reservoir behind Cascade Dam. According to Ecology's well log database, there are no water supply wells within 0.5 mile of the Site.

Ecological Setting: There is undeveloped land approximately 350 feet from the Site in a 0.6-acre greenbelt along Blackjack Creek, consisting of a steep, forested slope across Bay Street to the south. Other surfaces in the Site area are covered by buildings, asphalt and concrete.

Geology: Shallow geologic conditions have been explored at the Property with direct push probes extended to a maximum depth of 12 feet below ground surface (bgs) and monitoring wells that were installed to a depth of 15 feet bgs. The subsurface is composed of sand, gravelly sand and sandy gravel with discontinuous, interlayered lenses of silt and silty sand. Fill materials including soil with fragments of plastic, glass, brick and charcoal were observed up to 9 feet thick. The fill materials overlie native marine silt.

Ground Water: The uppermost ground water at the Site occurs as an unconfined aquifer within the base of the fill and top of the silt. The depth to water on the Site ranges from approximately 4.5 to 6.5 feet bgs in eight monitoring wells (MW-1 through MW-8) installed on the Site in

October 2012. Ground water flow directions have not been determined, but most likely have a net semi-radial flow to the north and east towards Sinclair Inlet/Blackjack Creek.

Ground water on the Site is tidally-influenced, as determined by a 2012 tidal study in which water levels in monitoring wells MW-1 through MW-8 were recorded at 15-minute intervals for a 3-week period, using pressure transducers/data loggers. Hydrographs generated from water level elevations in the monitoring wells were compared to a plot of tidal levels for Sinclair Inlet on NOAA's website (Station ID: 9445958). Ground water in each of the eight Site monitoring wells was found to be tidally-influenced however the tidal fluctuations did not correlate with distance from the coast.

Ground water in monitoring wells MW-4, MW-5 and MW-8 showed the greatest amount of tidal influence; monitoring wells MW-1 and MW-3 showed the least amount of tidal influence. The variability in tidal efficiency was attributed to location and heterogeneity of the fill materials on the Site. Ground water flow directions on the Property may be affected locally by the topography of the original surface of the tidal flat underlying the fill materials.

In September 2016, following the second phase of remedial excavation, five compliance monitoring wells (MW-1R, MW-3R, MW-5R, MW-9 and MW-10) were installed following the cleanup actions. Monitoring wells MW-1R, MW-3R and MW-5R replaced MW-1, MW-3 and MW-5 which were destroyed during the remedial excavation.

Release and Extent of Contamination - Soil: The soil contamination associated with the Property is almost entirely defined at present by the extent of diesel- and lube oil-range petroleum hydrocarbons (TPH-D and TPH-O). The contamination extends from the land surface to below the water table, and prior to remedial excavation of accessible areas, was widely distributed across the Property. TPH-O exceeded the Method A cleanup level in the area that formerly had hydraulic hoists, and in an isolated detection in the northeast portion of the Property. TPH-D exceeded the Method A cleanup level in the east central and Maple Street right-of-way portions of the Property. The area of TPH-D exceedances was found to extend under the northeast corner of the building.

Extent of Contamination – Ground Water: Previous ground water grab samples from direct push borings conducted in 2010 contained both TPH-D and TPH-O at concentrations exceeding MTCA Method A cleanup levels. The maximum concentrations of TPH-D and TPH-O detected in ground water were 39,000 micrograms per liter (μg/L) and 12,000 μg/L, respectively.

Three grab ground water samples collected on the Site were analyzed for gasoline and benzene, toluene, ethylbenzene and xylenes (BTEX) in 2010, with no detections. The sampling locations were southwest of the former dispenser, with no samples closer than about 25 feet from the dispenser. No information has been provided as to the locations of the former gasoline USTs in relation to the ground water sampling locations.

In October 2012, eight monitoring wells (MW-1 through MW-8) were installed on the Site and sampled. The wells were sampled again in February 2013. TPH-D was detected in three wells (MW-3, MW-4 and MW-5) in both sampling rounds, at concentrations ranging from 310 to 2,000 μg/L. No TPH-O was detected in any of the monitoring wells. No ground water samples collected in the eight Site monitoring wells were analyzed for gasoline or BTEX.

The eight monitoring wells were sampled again in June and September 2013 and February 2014 and analyzed for TPH-D and TPH-O. TPH-D was detected at concentrations exceeding the Method A cleanup level in MW-3 and MW-4. TPH-D detected in MW-5 was below the Method A cleanup level. In the other monitoring wells, TPH-D was at non-detectable levels.

The February 2014 ground water sampling round included the initial analysis of polycyclic aromatic hydrocarbons (PAHs). Non-carcinogenic PAHs were detected in monitoring wells MW-3 and MW-5 at concentrations below applicable ground water cleanup levels. No carcinogenic PAHs were detected in any of the monitoring wells.

Between January 2017 and December 2019, ground water was sampled periodically.

Extent of Contamination – Air: In April, 2019 a sub-slab soil gas sample (SS-1) was collected in the side garage located in the northeast corner of the Property building.

An indoor air sample (IA-1) was collected in the Parts Department. Both the sub-slab and indoor air samples were collected in areas of the building underlain by inaccessible soil contaminated with TPH-D above cleanup levels.

An ambient air sample (AMB-1) was collected outside the west side of the Property building.

The analytical results of the above samples indicated that residual TPH in soil beneath the Property building is most likely not adversely impacting indoor air quality in the building.

Site Remediation: Phase 1 of the cleanup was conducted in July 2015 when approximately 1,515 tons of petroleum-contaminated soil were excavated and transported off-Site for disposal. Phase 2 of the cleanup conducted in July and August 2016 consisted of excavation of 2,219 tons of petroleum-contaminated soil transported off-Site for disposal. Soil mixed with asbestos-containing materials encountered during the cleanup was also excavated.

Following collection of confirmation soil samples in the bottom and sidewalls of both the Phase 1 and Phase 2 excavations, 1,100 pounds of IXPER granular calcium peroxide pellets were placed in the excavation bottom. The excavation was then backfilled with quarry spalls (bottom to 4 feet bgs) and gravel borrow (4 feet bgs to the ground surface), separated by a geotextile fabric.
Following collection of confirmation soil samples in the bottom and sidewalls of the excavation, 1,100 pounds of IXPER granular calcium peroxide pellets were placed in the excavation bottom. The excavation was then backfilled with quarry spalls (bottom to 4 feet bgs) and gravel borrow (4 feet bgs to the ground surface), separated by a geotextile fabric. Following both excavations, sand and gravel backfill was imported and compacted and gravel subgrade was added to match the original grade. The asphalt-covered areas were then re-surfaced.

In September 2016, five compliance monitoring wells (MW-1R, MW-3R, MW-5R, MW-9 and MW-10) were installed following the cleanup actions. These monitoring wells and existing wells MW-2, MW-7, MW-8 and MW-10 were sampled periodically from September 2016 through December 2019.