



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Eastern Region Office

4601 North Monroe St., Spokane, WA 99205-1295 • 509-329-3400

December 8, 2023

Scott Groat, PG
Fulcrum Environmental Consulting
207 West Boone Avenue
Spokane, Washington 99201

Re: Technical Assistance for the following contaminated Site:

Site Name: Grange Supply Company Pullman (Four Star)
Site Address: 355 NW State Street, Pullman 99163
Facility/Site ID: 3394273
Cleanup Site ID: 16631
VCP Project ID: EA0368

Dear Scott Groat:

The Washington State Department of Ecology (Ecology) is providing technical consultation pursuant to WAC 173-340-515(5) on ongoing characterization of Grange Supply Company Pullman (Site) under the Voluntary Cleanup Program (VCP)¹. This letter provides our advice and assistance. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter [70A.305](#)² RCW.

Issue Presented and Opinion

Ecology has determined that your proposed assessment meets the stated objectives to resolve data gaps at the Site. There are additional recommendations outlined in the analysis below.

This opinion is based on an analysis of whether the proposed actions meet 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.

¹ <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Voluntary-Cleanup-Program>

² <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305>

Site Description

This opinion applies to the only Site described as follows. The Site is defined by the nature and extent of contamination associated with the following release:

- Gasoline-range petroleum hydrocarbons (GRPH), diesel-range petroleum hydrocarbons (DRPH), benzene, toluene, ethylbenzene, and xylenes (BTEX) into the soil.
- BTEX, GRPH, DRPH, and heavy oil-range petroleum hydrocarbons (ORPH) extended organics into the groundwater.
- PAHs, naphthalene, and BTEX into the air.

Enclosure A includes a detailed description, history, and diagrams 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

Ecology bases this opinion on information contained in the documents listed in **Enclosure B**. You can request these documents by filing a records request.³ For help making a request, contact the Public Records Officer at publicrecordsofficer@ecy.wa.gov or call (360) 407-6040. Before making a request, check whether the documents are available on the Site webpage.⁴

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

Analysis of the Cleanup

Ecology has concluded that, upon completion of your proposed assessment, the Site will be sufficiently characterized to evaluate cleanup action alternatives and select an appropriate cleanup action in accordance with WAC 173-340-360. That conclusion is based on the following analysis:

Characterizing the Site

Ecology has concluded that, upon completion of the actions detailed below, the Site characterization will be sufficient to determine whether the cleanup actions to date are

³ <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

⁴ <https://apps.ecology.wa.gov/gsp/CleanupSiteDocuments.aspx?csid=16631>

protective of human health and the environment or whether further remedial action is necessary. The Site is described above and in **Enclosure A**.

Following recognized spill of diesel product from an Above Ground Storage Tank (AST) at the Site, a series of test pits were excavated to approximately 2-ft to 8-ft below ground surface (bgs) in areas that were observed to have highest field indicators (petroleum staining, petroleum odor, and photoionization detector (PID) volatile organic compound (VOC) reading. The Site was found to contain levels of both diesel and gasoline in soils at the Site above MTCA Method A cleanup standards, thus it was recognized that there was residual contamination of gasoline from the 90 years of operations in addition to the April 2022 diesel spill.

All contaminated soils were excavated from the site down to the clean clay layer at 22-feet below ground surface (bgs) except for a five-foot section of riverbank that was retained and select east, west, and south margins that could not be fully excavated without putting the adjacent building or roads at risk. A total of 4,246 loose cubic yards of petroleum-contaminated soil (PCS) was excavated from the site and transported to Roach Construction Land Farm located in Genessee, Idaho for treatment, in accordance with all applicable Federal, State, and local regulations. The area of remaining PCS beneath the five-foot section of the riverbank was sealed with a permanent clay barrier along the shoreline extending five (5) feet out into the river. The margins of the remedial excavation were managed by placement of the clay barrier from three feet below grade down to the clean compact clay layer at approximately 22-ft bgs.

The remaining locations of PCS and observed presence of potential potable groundwater in contact with contaminated soils triggers the following additional requirements: terrestrial ecological evaluation (TEE), vapor intrusion testing for the adjacent building, and groundwater investigation. The site qualifies for TEE Exclusion 3 (Undeveloped Land WAC 173-340-7491) that exempts sites with less than 1.5 acres of contiguous undeveloped land.

Fulcrum was retained by Four Star to oversee groundwater monitoring well installation and to conduct quarterly groundwater sampling services at the site (Figure 3). Three groundwater monitoring wells, MW-01, MW-02, MW-03, were installed then sampled and analyzed for BTEX, GRPH, DRPH, and ORPH. To date, quarterly samples have been collected June 2023 and September 2023. While June 2023 showed all analytes below Method A cleanup levels, September 2023 showed concentrations of DRPH and ORPH above Method A cleanup levels.

Fulcrum conducted vapor intrusion testing at the Pullman Marketing Building located at 325 NW State Street in Pullman, Washington. A preliminary assessment (Tier 1) determined that the building is within the lateral inclusion zone and vertical screening distance of remaining PCS. Fulcrum's first vapor intrusion testing consisted of two samples collected from indoor air. Fulcrum noted normal office type use, products, storage, and activities at the time of testing including likely presence of odorants (building fresheners, cleaning products, perfumes, etc.). Benzene and Naphthalene were found to be present in both samples at concentrations above the MTCA Method B

soil gas screening levels. Concentrations of toluene, ethylbenzene, xylene, and air phase hydrocarbons were below applicable screening levels in both samples. Fulcrum's second testing event consisted of collection of three sub-slab soil gas samples on October 11, 2023. Benzene and Naphthalene were identified below the method detection limit for all samples. Concentrations of toluene, ethylbenzene, xylene, and air phase hydrocarbons were below applicable screening levels in both samples. Fulcrum notes that the reported method detection limit for naphthalene was 1.3 ug/m³ for Naphthalene and is above the Method B Cancer Cleanup Level of 0.074 ug/m³.

Proposed Remedial Actions

The following additional Site characterization actions have been proposed to address data gaps and assess whether further remedial action is necessary:

- Continue quarterly monitoring of the onsite monitoring wells.
- Conduct a third vapor intrusion monitoring event in Spring of 2024 to further characterize vapor intrusion potential for the Site.

Further Recommendations

Ecology concurs that the proposed additional Site characterization will address data gaps identified in Fulcrum's September 2023 Groundwater Monitoring Report and the November 14th Pullman Marketing Vapor Intrusion Sampling Update, with the following comments and recommendations:

- Continue to conduct quarterly groundwater monitoring on all three monitoring wells to test for BTEX, GRPH, DRPH, and ORPH until all analytes have been identified as below Method A Cleanup values for groundwater for a minimum of four quarters (1 year).
- Conduct additional soil gas *and* indoor air monitoring to account for temporal variability in accordance with the Guidance for Evaluating Vapor Intrusion in Washington State⁵ (VI Guidance). It is recommended that sampling is scheduled during periods when outdoor temperatures are at least 30 degrees Fahrenheit (F) lower than indoor temperatures to account for periods when a greater degree of vapor intrusion is likely to take place. October 11th temperature data indicates temperatures between 9 AM and 6PM were between 47-51 degrees F. It is recommended that Fulcrum identify a date where temperatures will be at least 30 degrees below indoor air temperatures, which are usually between 65-75 degrees. Testing both indoor air and sub slab vapors time will allow for further characterization of source of the levels of benzene and naphthalene above Method B cancer screening levels.
- When undertaking a Tier 2 evaluation, building-specific ambient air sampling should routinely accompany indoor air sampling events, according to the VI Guidance⁵ (4.6.2). This may assist in the identification of benzene and

⁵ <https://apps.ecology.wa.gov/publications/documents/0909047.pdf>

naphthalene sources or further clarify effective concentrations when the ambient concentrations are subtracted from indoor air concentrations. Methods for measuring ambient air VOC concentrations are delineated in Section 4.7 of the VI Guidance.

- Working with the lab to resolve any problems with naphthalene limits of detection, which in the October laboratory results were above Method B cancer screening values, is another way to ensure values of contaminants are not above screening levels.

Additional requirements

The following requirements will need to be addressed as the cleanup progresses:

- All sampling data should be submitted to Ecology's [Environmental Information Management](#) (EIM) database⁶ in order to receive a final Ecology opinion for this Site. The [Toxics Cleanup Program Policy 840](#)⁷ describes data submittal requirements. Please visit the [EIM Submit Data webpage](#) for data submittal instructions.

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.

Opinion is limited to proposed cleanup

This letter does not provide an opinion on whether further remedial action will actually

⁶ <https://ecology.wa.gov/eim>

⁷ <https://fortress.wa.gov/ecy/publications/SummaryPages/1609050.html>

Scott Groat

Page 6 of 5

be necessary at the Site upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the Voluntary Cleanup Program (VCP).

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.

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 webpage⁸. If you have any questions about this opinion, please contact me by phone at 509-385-6669 or e-mail at erin.andersen@ecy.wa.gov.

Sincerely,

Erin Andersen
ERO Toxics Cleanup Program

ea:ADMIN INITIALS

Enclosures (2): A – Site Description, History, and Diagrams
 B – List of Site Documents

cc: Travis Trent, Fulcrum
 Christer Loftenius, Ecology
 Nick Acklam, Ecology

⁸ <https://www.ecy.wa.gov/vcp>

Enclosure A

Site Description, History, and Diagrams

Site Description

The Site is a former Above Ground Storage Tank (AST) farm serving Four Stay Supply, Inc. station across the South Fork of the Palouse River (SFPR). Depth to groundwater at the Site is approximately 9-14 bgs. Prior to remediation, the property was observed to be approximately 8 feet of non-native fill material. Soil transitioned to clayey sand from about 8-ft bgs to 16 ft bgs. A compact clay layer was encountered at approximately 22 ft bgs. Bedrock was not encountered during site excavations. Groundwater was encountered in limited amounts at depths below 18 ft bgs measured from road grade. Groundwater was encountered at approximately 13 ft bgs measure from road grade during groundwater monitoring. Groundwater flow direction based on data collected during installation is to the north towards the SFPR, with a hydraulic gradient of 0.0033.

Site History

On April 25, 2022, Four Star Supply Inc. (Four Star) identified a diesel fuel leak from an AST located on Parcel 10850058130001 in Pullman, Washington. The diesel leaked into a concrete secondary containment that failed resulting in discharge the site soils beneath the concrete. The leak resulted in a discernable sheen to the adjacent SFPR. Initial response activities consisted of placement of containment booms and sorbent pads within the SFPR and the use of absorbent clay to remove the spilt diesel fuel from the secondary containment. Reported calculations indicated that approximately 400-gallons of diesel fuel were released from the failed AST.

Remedial excavation was performed in two phases. Phase I was the initial remedial excavation for diesel contaminated soil associated with the April 2022 fuel release. Phase II was the remedial excavation associated with historical petroleum contaminated soils. Laboratory analytical identified the contaminants of concern: gasoline, diesel, benzene, toluene, ethylbenzene, and xylenes to be above MTCA Method A Cleanup Levels throughout site soils.

A total of 4,246 loose cubic yards of PCS was excavated from the site. Fulcrum collected a total of 42 characterization samples during the remediation process and 85 final excavation confirmation samples. Analytical results indicate that all current and historically contaminated soil was removed from the subject site other than residual PCS located along the stream bank and select property margins where it was retained to protect NW State Street, and an adjacent building.

A clay barrier was placed between the site and the river to protect it from any potential groundwater impact associated with the remaining PCS. A clay cap was also placed in the river extending approximately five feet out from the bank to provide added protection to the river from PCS remaining beneath the five feet of retained riverbank.

In June 2023, Fulcrum oversaw the installation of three groundwater monitoring wells at

Four Star. The wells were installed to evaluate potential residual petroleum hydrocarbon impact to site groundwater associated with the April 2022 diesel release. Following well installation and development, Fulcrum conducted the first and second quarterly groundwater monitoring event for the three onsite monitoring wells. Results documented concentrations of diesel and heavy-oil organics above MTCA Method A cleanup values in MW-01 during the September 2023 monitoring event.

Fulcrum conducted two vapor intrusion testing events at the Pullman Marketing Building located at 325 NW State Street. Fulcrum's first vapor intrusion testing consisted of two samples collected from ambient air within the building. Fulcrum noted normal office type use, products, storage, and activities at the time of testing including likely presence of odorants (building fresheners, cleaning products, perfumes, etc.). Samples were collected into laboratory provided Summa canisters using standard flow rates and methodologies and submitted to Fremont Analytical in Seattle Washington for analysis by EPA Method TO-15. Benzene and Naphthalene were found to be present in both samples at concentrations above the MTCA Method B soil gas screening levels. Concentrations of toluene, ethylbenzene, xylene, and air phase hydrocarbons were below applicable screening levels in both samples.






Fulcrum's second testing event consisted of collection of three sub-slab samples on October 11, 2023. Samples were collected into laboratory provided Summa canisters using standard flow rates and methodologies. Fremont Analytical did not have the capacity to conduct the analysis within the requisite time frame so the samples were submitted to SGS North America, Inc in Dayton, New Jersey for analysis by EPA Method TO-15. Results were compared to Ecology's CLARC Data Tables and the applicable PEL. Benzene and Naphthalene were identified below the method detection limit for all samples. Concentrations of toluene, ethylbenzene, xylene, and air phase hydrocarbons were below applicable screening levels in both samples. Fulcrum notes that the reported method detection limit for naphthalene was 1.3 ug/m^3 for Naphthalene and is above the Method B Cancer Cleanup Level of 0.074 ug/m^3 .

Site Diagrams



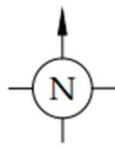
Figure 1- Vicinity map of the Site



-  Excavation Area Backfilled with Clean Material
-  Confirmed petroleum contaminated soil
-  Undisturbed clean soil
-  Extent of Four Star Property
-  Confirmation soil sample location

Delineation of full extent of offsite contamination was beyond the scope of work for this project

LEGEND



0 20
Approximate Scale In Feet

Figure 6: Remaining PCS Location Map

355 Northwest State Street
Pullman, Washington 99163



FULCRUM ENVIRONMENTAL CONSULTING, INC.
207 W. BOONE AVENUE
SPOKANE, WASHINGTON 99201
(509) 459-9220 www.efulcrum.net

MAP BY: Ethan Ducken

UPDATED: March 21, 2023

PROJECT NUMBER: 223516.00

REVIEWED BY: Travis Trent

Figure 2- Excavation Area with Clean Backfill and Confirmed Remaining PCS

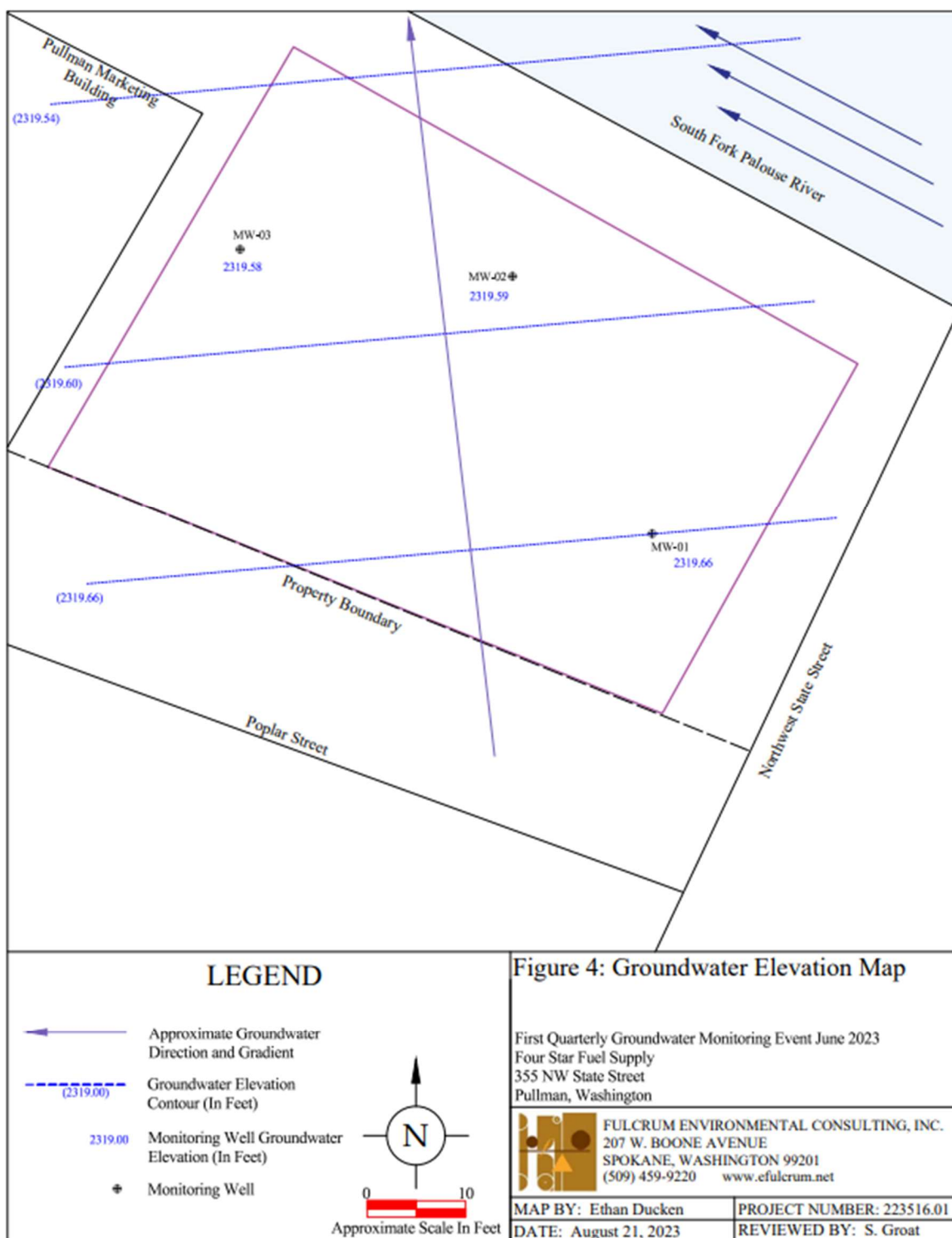


Figure 3- Monitoring Well Location and Approximate Groundwater Direction and Gradient

Enclosure B

List of Site Documents

1. Fulcrum Environmental. Four Star Supply Soil Remediation Work Plan. May 26, 2022.
2. Fulcrum Environmental. Pullman Marketing Vapor Intrusion Sampling Update (email). November 14, 2023.
3. Fulcrum Environmental. AST Release to South Fork Palouse River Initial Investigation. June 9, 2022.
4. Fulcrum Environmental. Grange Supply Company Pullman Remediation Report. April 6, 2023.
5. Fulcrum Environmental. Grange Supply Company Pullman - Monitoring Well Installation and Groundwater Monitoring Event. October 4, 2023.
6. Fulcrum Environmental. Grange Supply Company Pullman - Monitoring Well Installation and Groundwater Monitoring Event. November 22, 2023.