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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Region Office
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

June 28, 2023

Bruce Anderson
MBA NW73rd, LLC
7420 SE 24th Street, Suite 4
Mercer Island, WA 98040
bruce@mbanderson.net

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

- **Site Name:** Midas Muffler Ballard
- **Site Address:** 7055 15th Avenue NW, Seattle, WA 98117
- **Facility/Site No.:** 19188572
- **Cleanup Site ID No.:** 16663
- **VCP Project No.:** NW3350

Dear Bruce Anderson:

The Washington State Department of Ecology (Ecology) received your request for an opinion on work completed the Midas Muffler Ballard facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70A.305 RCW.

Issue Presented and Opinion

Pursuant to completion of the Site characterization and remediation work described in your report titled, *Remedial Investigation / Feasibility Study* (RIFS), dated June 3, 2022, is additional work necessary to resolve data gaps?

YES. Ecology has determined that additional work is required to confirm that the completed cleanup efforts have identified and removed contamination at the Site to the maximum extent practicable.

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:

> Diesel (TPH-D) and oil (TPH-O)-range total petroleum hydrocarbons into the Soil, Groundwater, and/or Air.

Enclosure A includes a detailed description 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 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. Terra Associates Inc., *Remedial Investigation/Feasibility Study*, June 3, 2022.
2. Terra Associates Inc., *Soil Vapor Sampling Memo*, June 1, 2022.
3. Terra Associates Inc., *Phase II Environmental Site Assessment*, November 24, 2021.
4. Terra Associates Inc., *Limited Phase II Environmental Site Assessment*, November 2, 2020.

A number of these documents are accessible in electronic form 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.

Analysis and Opinion

Ecology acknowledges that a significant amount of petroleum-contaminated soil was removed during the completed cleanup action. However, based on a review of the provided documents, additional characterization is necessary at the Site to address the following identified data gaps:

[1] https://apps.ecology.wa.gov/cleanupsearch/site/16663
[2] Public records requests - Washington State Department of Ecology

- Identify all contaminants of concern related to releases at the Site.
- Define the nature and extent of soil impacts remaining near and beyond the building's east foundation.
- Confirm that groundwater at the Site complies with cleanup levels.
- Evaluate the vapor intrusion risk to building occupants.
- Submit environmental sampling data to Ecology's Environmental Information Management (EIM) system.

This conclusion is based on the following analysis:

Identification of Contaminants of Concern

- The 2022 RIFS identified oil-range hydrocarbons and naphthalene as contaminants of concern (COCs).
- According to the analytical results included in the 2022 RIFS, naphthalene was not detected at concentrations above Method A soil or groundwater cleanup levels. Naphthalene also was not detected in the soil gas samples at concentrations above the laboratory reporting limit. As such, naphthalene can be removed as a site COC at this time.
- During previously completed Phase II environmental site assessments, two of the collected soil samples were analyzed for additional constituents, per MTCA Table 830-1 (samples B-8-2.5 and B-102-10). PCE was detected in both samples at concentrations below the MTCA Method A Cleanup Level.
- PCE is a contaminant commonly found in releases from waste oil storage tanks.
- According to the submitted VCP application, a 250-gallon above-ground storage tank (AST) was historically used to store waste oil at the site. Information regarding the location and condition of this AST were not included in the submitted documents.
- According to the 2022 RIFS, "*a diagnostic pit was also present in the southern portion of the shop area. The pit had approximately six inches of accumulated oily water in it at the time of our Phase I ESA site visits".*
- It is possible that contaminants such as PCE accumulated in the diagnostic pit described above or were released from the waste oil AST during historical operations at the facility.
- Given the limited sampling data and possible historical sources, Ecology has concluded that PCE cannot be ruled out as a COC in soil or soil gas without further assessment.

Extent of Contamination in Soil

- A remedial excavation was conducted within the footprint of the existing building in February 2022. However, contaminated soil encountered in proximity to the building's eastern foundation could not be excavated due to structural concerns.
- The lateral and vertical extent of the residual TPH-D and TPH-O contamination in this

area has not been defined.

- To address this data gap, additional soil characterization is recommended to the east of the building's foundation. Please note that samples should be collected from an appropriate depth that is representative of the likely elevation of contamination at the Site.
- PCE has not been ruled out as a COC and should be considered in future site assessment work.
- Soil samples should be collected for PCE analysis from the vicinity of the former waste-oil AST and diagnostic pit.
- Please submit a work plan before performing the additional characterization efforts.

Soil Direct Contact Pathway

- As discussed above, due to structural concerns, petroleum contaminated soil remains in place following the 2022 remedial excavation.
- Ecology concurs that, based on the confirmation sampling data, residual petroleum concentrations beneath the building's eastern foundation wall meet the calculated Method B cleanup level of 12,218.39 milligrams per kilogram (mg/kg) for protection of direct contact exposure.

Soil to Groundwater Leaching Pathway

- Groundwater samples were collected from monitoring wells MW-101, MW-2, and MW-3 in March 2021 and from wells MW-101, MW-2, MW-3, and MW-201 in October 2021.
- Samples collected during the March sampling event were analyzed for petroleum hydrocarbons by methods NWTPH-Gx/NWTPH-Dx and for volatile organic compounds (VOCs) by EPA method 8260. Samples collected during the October event were analyzed for petroleum hydrocarbons only, except for the sample collected from well MW-201, which was analyzed for VOCs as well.
- TPH-O was detected at a concentration of 340 micrograms per liter (µg/L) in MW-3 during the March 2021 event. Benzene was detected at a concentration of 0.39 µg/L in well MW-201 in October 2021. These concentrations were below the respective MTCA Method A groundwater cleanup levels.
- As described in Section 10 of Ecology's 2016 *Guidance for Remediation of Petroleum Contaminated Sites*, if contaminants are detected below cleanup levels in one or more monitoring well, four consecutive quarterly groundwater sampling events are needed to demonstrate Site long-term compliance with groundwater cleanup levels. Additional relevant considerations described in the above guidance include (among others):
    - Contaminant concentrations must exhibit a stable or decreasing trend.
    - Site should be well characterized, defining sources and extent of soil and groundwater contamination (if any).
    - Samples should be analyzed for all relevant parameters for the products likely released.
    - Sufficient time must have elapsed for contamination to reach groundwater (qualitative evaluation).

    - Samples must be representative – not under sustained unusually wet or dry conditions.
- Per the guidance referenced above, additional groundwater sampling should be conducted at the Site. At least four consecutive quarters of groundwater data below the respective MTCA cleanup levels are needed to demonstrate that groundwater complies with MTCA.
- An empirical demonstration (refer to Ecology's Implementation Memorandum No. 15[3]) is needed to confirm that residual contaminated soil is protective of groundwater, based on additional groundwater monitoring data. If an empirical demonstration is successfully established, the cleanup level protective of the direct contact pathway is applicable for soil. Institutional controls with an environmental covenant would be needed to ensure the residual soil will not be exposed to enhanced leaching in the future.

Vapor Intrusion Pathway

- Two soil vapor probes were installed in the parking lot east of the property building, with one round of soil gas sampling completed in April 2022.
- Soil gas samples were analyzed for air-phase hydrocarbons (APH) by method MA-APH and for naphthalene by method TO-15.
- Soil gas samples were not analyzed for other volatile compounds, such as PCE. Additionally, per method MA-APH, non-petroleum compounds identified in the APH ranges were subtracted.
- TPH concentrations exceeded the Generic Method B soil gas screening level of 1,500 micrograms per cubic meter (µg/m³) in both samples. Additional sampling events are needed before determining VI risk to nearby occupied buildings, per Ecology's 2022 *Guidance for Evaluating Vapor Intrusion in Washington State*[4].
- Because the soil sample dataset for PCE is insufficient to discount it as a COC, Ecology recommends that subsequent soil gas samples be analyzed for chlorinated solvents.
- Ecology also recommends comparing the soil gas analytical results for TPH to a site-specific screening level, rather than the generic screening level.

Request for Closure

- The 2022 RIFS Report concludes that the excavation and removal of contaminated soil was completed to the maximum extent practicable, and that the site qualifies for a No Further Action determination with a deed restriction to disclose the residual petroleum contamination beneath the building's eastern foundation.
- Based on the analysis presented above, Ecology requires additional site characterization before a No Further Action determination can be issued.
- The Site may qualify for a Model Remedy. If so, a feasibility study and disproportionate

[3] https://apps.ecology.wa.gov/publications/documents/1609047.pdf
[4] https://apps.ecology.wa.gov/publications/documents/0909047.pdf

cost analysis (FS/DCA) would not be needed. Please refer to Ecology's *Model Remedies for Sites with Petroleum Impacts to Groundwater*[5] guidance for more details.

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).

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 70A.305.080 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 70A.305.170(6).

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.

[5] https://apps.ecology.wa.gov/publications/documents/1609057.pdf

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 by phone at (425) 758-5231 or by email at zak.wall@ecy.wa.gov.

Sincerely,

Zak Wall, LG
Site Manager
Toxics Cleanup Program, NWRO

Enclosures (1): A – Description and Diagrams of the Site

cc: Nicolas R. Hoffman, Terra Associates, Inc., (nhoffman@terra-associates.com)
Sonia Fernandez, VCP Coordinator, (sonia.fernandez@ecy.wa.gov)

Enclosure A

Description and Diagrams of the Site

Site Description

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

Site

The Site is a former automotive repair facility located in Seattle's Ballard neighborhood, at the southwest corner of 15th Avenue NW and NW 73rd Street. The Site is located at a 0.3-acre King County parcel 751850-0690, with a street address 7055 15th Avenue NW (Property, **Figure 1**). The Site is defined by the nature and extent of TPH-D, TPH-O, and PCE into soil, groundwater and/or air.

Area and Property Description

The surrounding land use is mixed residential and commercial.

The Property is bounded to the north by a former gasoline station (Deans Texaco, FSID 43894254), to the east and south by apartment buildings, and to the west by single family residences. Deans Texaco gasoline station was decommissioned in 1996 and the station building was subsequently converted to a restaurant.

A former heating-oil cleanup site named 15th Ave Lofts is located to the northeast of the subject property, at the northeast corner of 15th Avenue NW and NW 73rd Street (FSID 6377812, CSID 3369). The 15th Ave Lofts site received a No Further Action determination in 2004, under Ecology's Voluntary Cleanup Program.

Property History and Current Use

The Property was an assemblage of seven individual tax lots prior to 1976. The assemblage was described as lots 7 through 12 of Division 12 of the Salmon Bay Addition. Each of the lots were originally developed with single-family residences.

An automotive repair facility was constructed on the Property in 1976 and operated from at least 1980 until 2021. As many as four below-ground hydraulic hoists were installed and used at the facility, along with two 250-gallon above-ground storage tanks (AST) used to store waste oil and lube oil. A diagnostic pit was also present in the southern portion of the building's shop area. The building on the Property is currently being remodeled for a new tenant (**Figure 2**).

Sources of Contamination

The source of the contamination was the automotive repair facility located on Property. The facility Contamination at the site is largely due to historical releases of hydraulic fluid from the hoists and from surface releases of lube oil during shop operations.

Physiographic Setting

The elevation of the Site is approximately 240 feet above mean sea level (NAVD88), and the land slopes down toward Salmon Bay, located about 1 mile to the southwest.

Surface/Storm Water System

The surface water nearby includes Puget Sound located approximately 1.3 miles west of the Property, Salmon Bay located approximately 1.3 miles south of the Property, and Green Lake located approximately 1.5 miles east of the Property. Storm water on Property flows to two catch basins located in the parking lot, one to the north and one to the east of the building. The catch basins flow east to the City of Seattle combined stormwater/sewer main located in 15th Ave NW, according to the City of Seattle Development Services Office Water and Sewer Map.

Ecological Setting

The land surface in the vicinity of the Site is generally covered by streets, parking lots, buildings, and small residential yards. There is less than 1.5 acres of contiguously undeveloped land within 500 feet of the Site. The Property is paved, and the building housing the former automotive facility covers about one third of the Property.

Geology

The geology at the Site consists of glacial till to depths of approximately 50 feet below the ground surface (ft bgs), underlain by poorly graded silty sand to the explored depths.

Groundwater

Groundwater has been consistently encountered at approximately 45 to 49 ft bgs. Horizontal gradient and flow direction varies seasonally, but generally flows toward the southwest (**Figure 2**).

Five monitoring wells (MW-1 through MW-3, MW-101, and MW-201) are present at the Site. The well screen intervals for each well are summarized below.

- MW-1 screened from 30 to 40 ft bgs;
- MW-2 screened from 47 to 57 ft bgs;
- MW-3 screened from 47 to 57 ft bgs;
- MW-101 screened from 47 to 57 ft bgs; and
- MW-201 screened from 50 to 60 ft bgs.

Water Supply

Water to the Property is provided by City of Seattle. City of Seattle water supply system obtains surface water from the Cedar River and South Fork Tolt River watersheds. No drinking water wells are located within 1 mile of the Site.

Release, Extent, and Remediation of Contamination

During characterization of the site, a total of 11 soil borings (B-1 through B-8, B-101, B-102, and SB-1) and five monitoring wells (see above) were installed at the Site (**Figure 3**). The table below summarizes soil samples that exceeded the MTCA Method A cleanup level for TPH-D +TPH-O.

Boring	Depth (ft bgs)	TPH-D (mg/kg)	TPH-O (mg/kg)	TPH-D+TPH-O Combined (mg/kg)
B-5	7	1,300	9,200	10,500
B-6	7.5	1,300	7,100	8,400
B-6	9	3,700	9,000	12,700
B-8	2.5	8,500	24,000	32,500
B-102	10	1,800	14,000	15,800
MW-101	10	980	7,000	7,980

Selected soil samples from borings B-8 and B-102 were also analyzed for metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), VOCs, polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons (PAHs), per MTCA table 830-1. Borings B-8 and B-102 are located at opposite ends of the former shop. Tetrachloroethylene (PCE) was detected in the two samples at concentrations below Method A Cleanup Levels. The presence of PCE in soil at the site indicates that releases may have occurred from sources other than the hydraulic hoists and lube oil surface spills.

Groundwater samples were collected from monitoring wells MW-101, MW-2, and MW-3 in March 2021 and from wells MW-101, MW-2, MW-3, and MW-201 in October 2021.

Samples collected during the March sampling event were analyzed for petroleum hydrocarbons by methods NWTPH-Gx/NWTPH-Dx and for volatile organic compounds (VOCs) by EPA method 8260. Samples collected during the October event were analyzed for petroleum hydrocarbons only, except for the sample collected from well MW-201, which was analyzed for VOCs as well.

TPH-O was detected at a concentration of 340 micrograms per liter (µg/L) in MW-3 during the March 2021 event. Benzene was detected at a concentration of 0.39 µg/L in well MW-201 in October 2021. These concentrations were below the respective MTCA Method A groundwater cleanup levels.

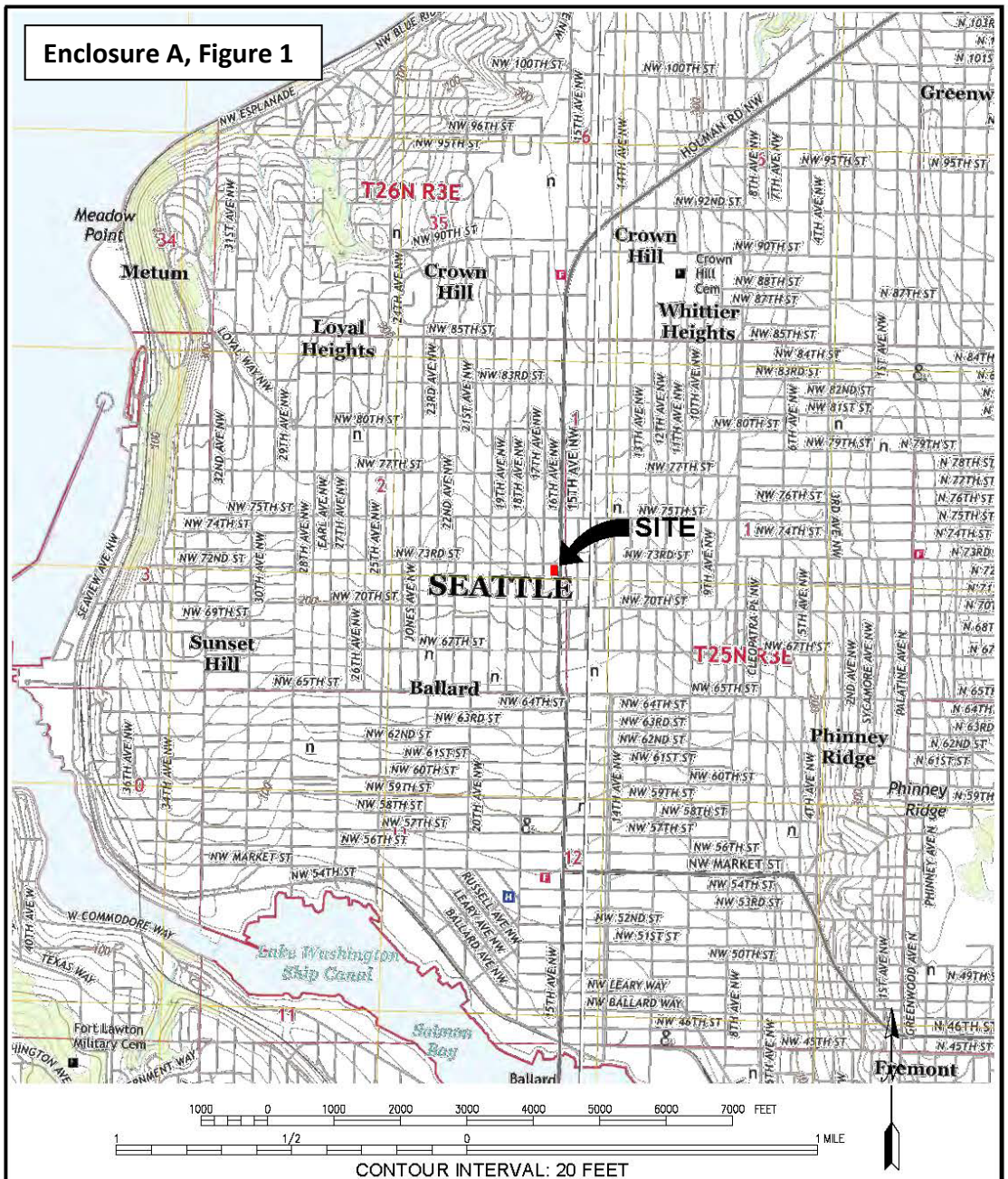
Based on the completed sampling, petroleum contamination does not appear to be impacting groundwater, though additional monitoring events are needed to confirm.

A remedial excavation was conducted in February 2022 within the footprint of the existing building (**Figure 4**). This excavation removed a significant volume of petroleum-source material. Petroleum-contaminated soil was left in place near/beneath the building's eastern foundation wall due to structural concerns. Contamination was confirmed by soil sample 11-2 (**Figure 4**). The lateral and vertical extent of contamination remaining in this area is unbounded to the east, beyond the building's footprint.

Performance soil samples collected from the bottom of the excavation contained total petroleum hydrocarbons at concentrations of 14,600 mg/kg and 11,700 mg/kg in two locations (samples 7-4 and 7-5, respectively, **Figure 4**). The soil in the vicinity of these samples was over-excavated, but confirmation samples were not collected to document remaining concentrations in these areas. The remaining soils in these areas reportedly did not exhibit indications of petroleum contamination, such as visible discoloration, odor, sheen development, and/or elevated photoionization detector (PID) readings.

Soil vapor samples were collected in April of 2022 from two soil vapor probes (SVP-1 and SVP-2, **Figure 5**) and submitted to an analytical laboratory for naphthalene and air-phase petroleum hydrocarbon (APH) analysis. The samples exceeded the generic Method B soil gas screening level for TPH. The collected soil gas samples were not analyzed for PCE or other VOCs.

Site Diagrams



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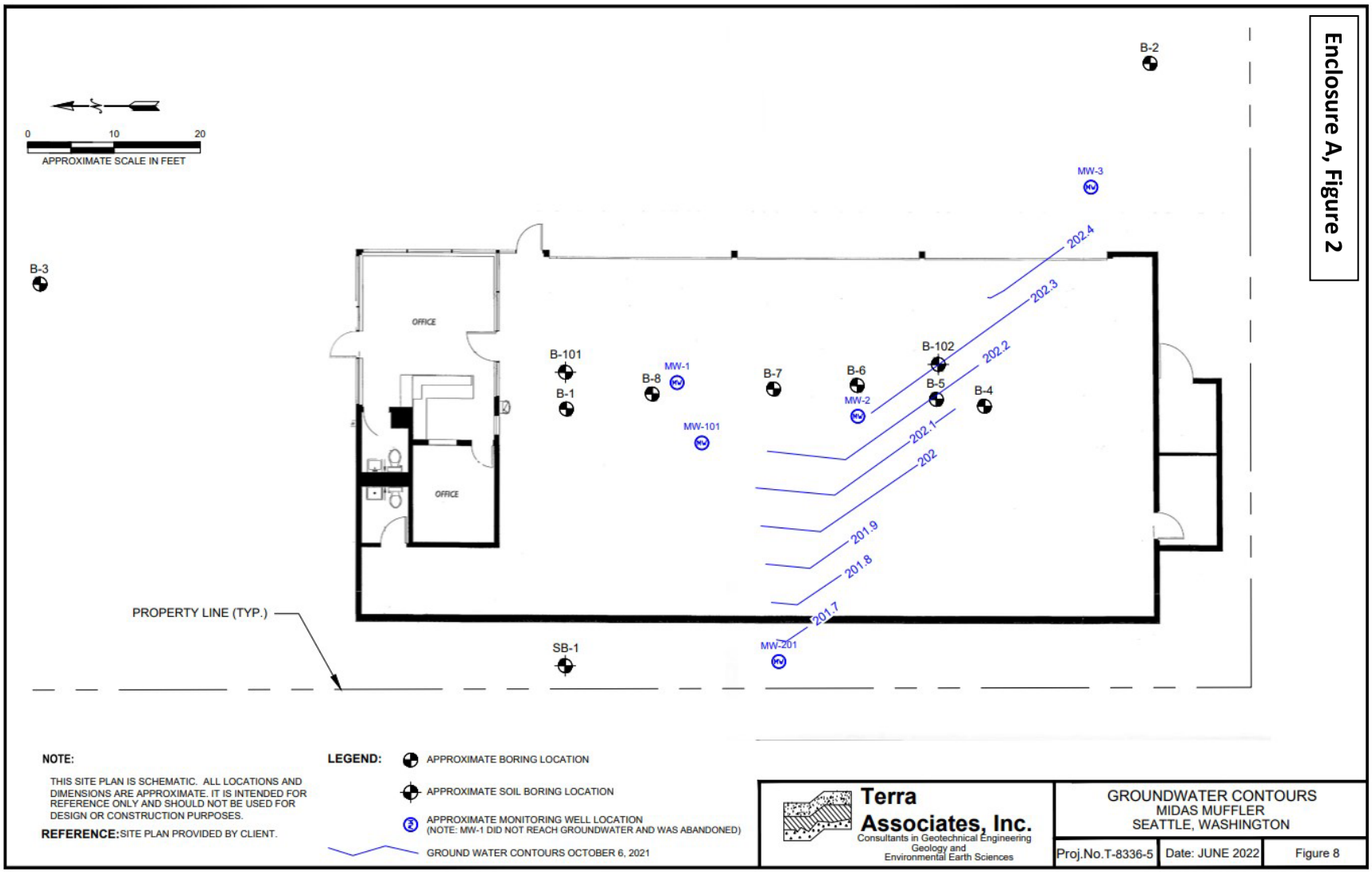
Consultants in Geotechnical Engineering
Geology and
Environmental Earth Sciences

TOPOGRAPHIC VICINITY MAP
MIDAS MUFFLER
SEATTLE, WASHINGTON

Proj. No. T-8336-5	Date: JUNE 2022	Figure 2

Enclosure A, Figure 2



NOTE:

THIS SITE PLAN IS SCHEMATIC. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. IT IS INTENDED FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DESIGN OR CONSTRUCTION PURPOSES.

REFERENCE: SITE PLAN PROVIDED BY CLIENT.

LEGEND:

- APPROXIMATE BORING LOCATION
- APPROXIMATE SOIL BORING LOCATION
- APPROXIMATE MONITORING WELL LOCATION (NOTE: MW-1 DID NOT REACH GROUNDWATER AND WAS ABANDONED)
- GROUND WATER CONTOURS OCTOBER 6, 2021

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GROUNDWATER CONTOURS
MIDAS MUFFLER
SEATTLE, WASHINGTON

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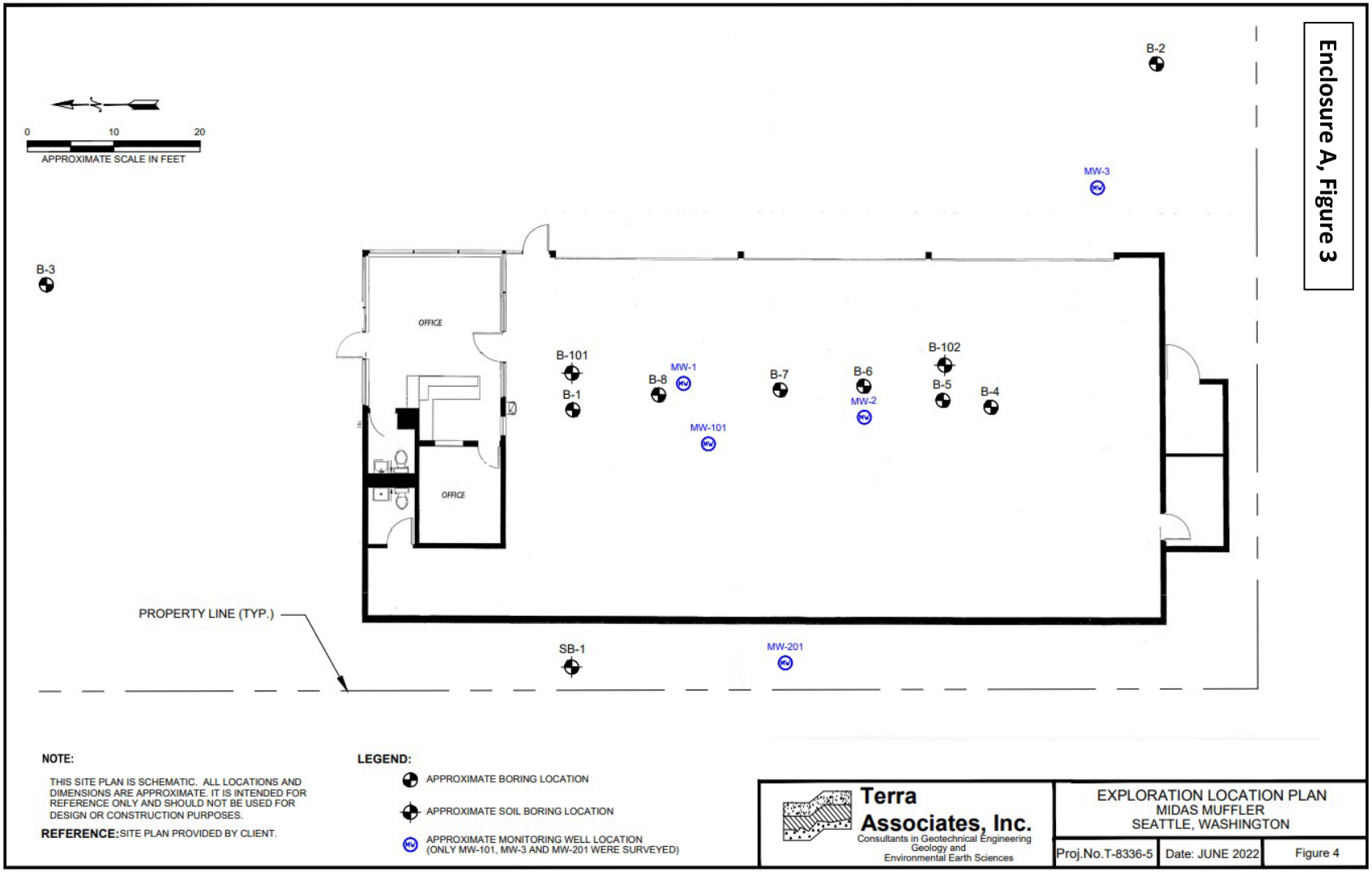
Enclosure A, Figure 3



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REFERENCE: SITE PLAN PROVIDED BY CLIENT.

LEGEND:

- APPROXIMATE BORING LOCATION
- APPROXIMATE SOIL BORING LOCATION
- APPROXIMATE MONITORING WELL LOCATION (ONLY MW-101, MW-3 AND MW-201 WERE SURVEYED)

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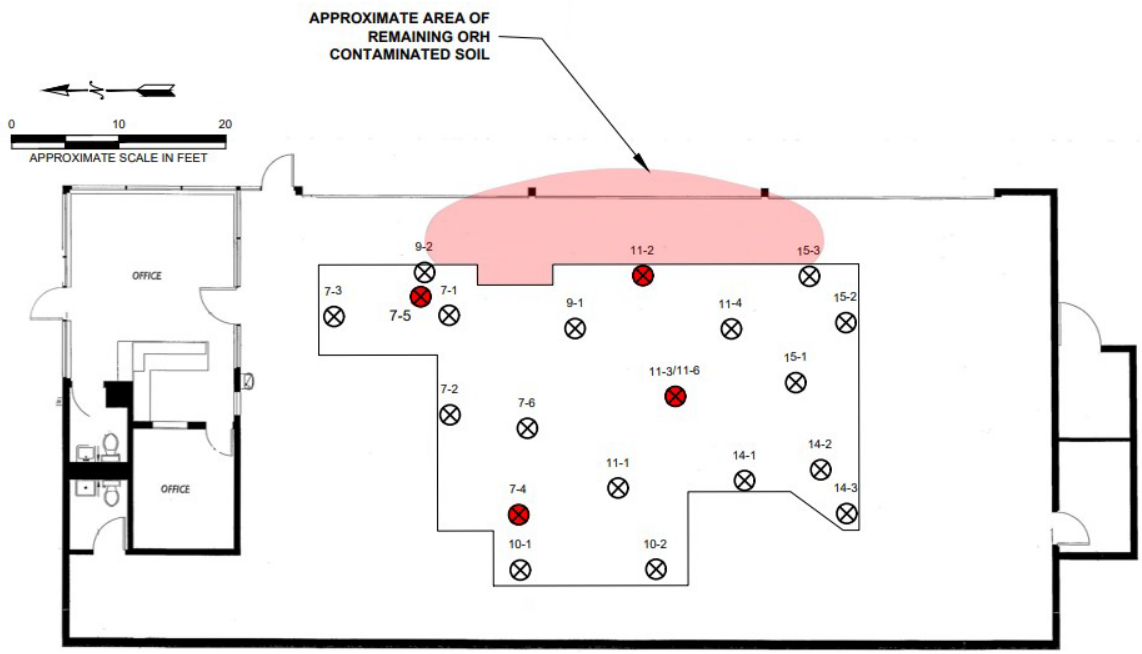
EXPLORATION LOCATION PLAN
MIDAS MUFFLER
SEATTLE, WASHINGTON

Proj.No.T-8336-5	Date: JUNE 2022	Figure 4

Enclosure A, Figure 4



Sample Location	Depth	TPH-Gasoline Range	TPH-Diesel Range	TPH-Oil Range	Sample Type
8336-7-1	10.5	NT	*50U*	*250U*	Confirmation Base
8336-7-2	7.5	NT	*50U*	*250U*	Confirmation Sidewall
8336-7-3	8	NT	*50U*	*250U*	Confirmation Sidewall
8336-7-4	8	NT	5,900x	8,700	Characterization (removed)
8336-7-5	8	NT	5,800x	5,900	Characterization (removed)
8336-7-6	10.5	NT	*50U*	*250U*	Confirmation Base
8336-9-1	10.5	NT	*50U*	*250U*	Confirmation Base
8336-9-2	8	NT	840	780	Confirmation Sidewall
8336-10-1	8	NT	*50U*	*250U*	Confirmation Sidewall
8336-10-2	8	NT	*50U*	*250U*	Confirmation Sidewall
8336-11-1	10.5	NT	*50U*	*250U*	Confirmation Base
8336-11-2	8	NT	1,300x	1,700	Confirmation Sidewall
8336-11-3	10	NT	5,500x	12,000	Confirmation Base (removed)
8336-11-4	11	NT	*50U*	*250U*	Confirmation Base
8336-11-5	8	NT	*50U*	*250U*	Confirmation Sidewall
8336-11-6	11	NT	*50U*	*250U*	Confirmation Base
14-1	8	NT	*50U*	*250U*	Confirmation Sidewall
14-2	10.5	NT	*50U*	*250U*	Confirmation Base
14-3	8	NT	*50U*	*250U*	Confirmation Sidewall
15-1	11	NT	130x	370	Confirmation Base
15-2	8	NT	*50U*	*250U*	Confirmation Sidewall
15-3	8	NT	*50U*	*250U*	Confirmation Sidewall

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REFERENCE: SITE PLAN PROVIDED BY CLIENT.

LEGEND:

⊗ APPROXIMATE LOCATION OF CONFORMATION SAMPLES

⊗ APPROXIMATE LOCATION OF SOIL SAMPLES WITH MTCA METHOD EXCEEDANCES

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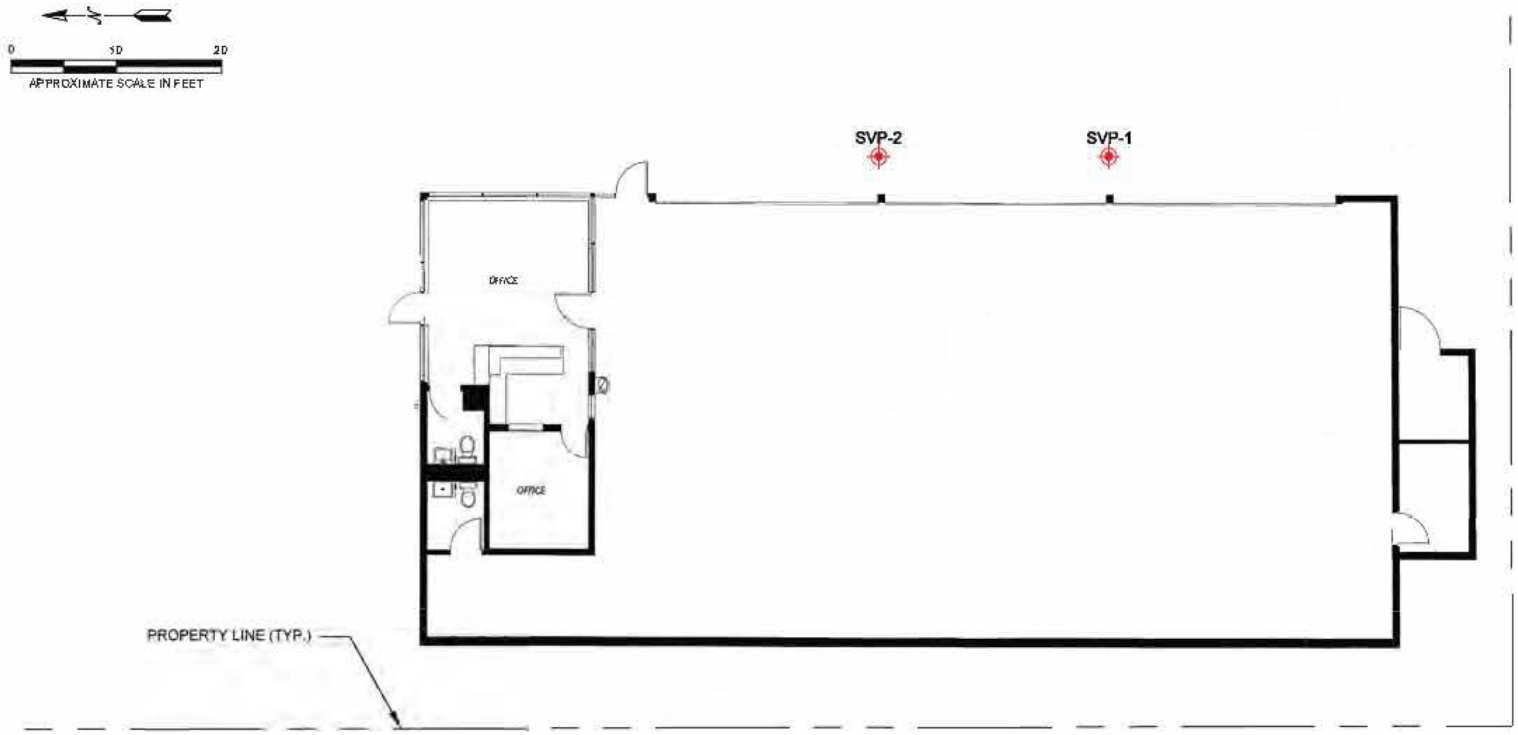
Consultants in Geotechnical Engineering Geology and Environmental Earth Sciences

REMEDIAL SAMPLE LOCATION PLAN
MIDAS MUFFLER
SEATTLE, WASHINGTON

Proj.No.T-8336-5 | Date: JUNE 2022 | Figure 5

Enclosure A, Figure 5



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REFERENCE: SITE PLAN PROVIDED BY CLIENT.

LEGEND:

Approximate Temporary Soil Vapor Well Locations

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Consultants in Geotechnical Engineering, Geology and Environmental Earth Sciences

SOIL VAPOR SAMPLE LOCATION PLAN
MIDAS CLEANUP
SEATTLE, WASHINGTON

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