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July 22, 2019

Vinson Latimore
436 W Bakerview Rd, Suite 102
Bellingham, WA 98226

Re: Opinion on Cleanup of the following Site:

- **Site Name:** Gibraltar Senior Living
- **Site Address:** 10816 18th Ave E, Tacoma, 98445, Pierce County
- **Facility/Site No.:** 6607
- **Cleanup Site ID No.**: 12686
- **VCP Project No.:** SW1472

Dear Vinson Latimore:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the Gibraltar Senior Living facility (Site). Ecology received a request for opinion on April 19, 2019. This request for opinion was completed upon acceptance of Site data to Ecology's Environmental Information Management (EIM) System database on April 30, 2019. The Ecology Voluntary Cleanup Program (VCP) Site Manager approved the data upload to EIM by email on May 3, 2019.

This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA),[1] chapter 70.105D Revised Code of Washington (RCW).

Issue Presented and Opinion

In this opinion, Ecology is responding to a request for opinion on the April 3, 2019, *Supplemental Phase II Subsurface Investigation* report.[2]

Ecology supports pursuing a no further action (NFA) determination with an environmental covenant at this Property. However, Ecology needs additional information before we can provide a property NFA determination with an environmental covenant. A summary of some needed information is discussed in detail in this opinion below.

Ecology has determined that further remedial action is still necessary elsewhere at the Site.

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[1] https://fortress.wa.gov/ecy/publications/SummaryPages/9406.html
[2] By Atlas Geosciences NW.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, chapter 70.105D RCW, and its implementing regulations, Washington Administrative Code (WAC) chapter 173-340 (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Property and the Site

This opinion applies only to the Property and the Site described below. This opinion does not apply to any other sites that may affect the Property. Any such sites, if known, are identified separately below.

1. **Description of the Property.**

The Property includes the following tax parcel in Pierce County, which was affected by the Site and would be addressed by an environmental covenant:

- 0319034012

A legal description of the Property and a diagram illustrating the location of the Property within the Site is recommended.

2. **Description of the Site.**

A Site description as it is currently known to Ecology is included in **Enclosure A**.

3. **Identification of Other Sites that may affect the Property.**

Please note the Property is also located within the projected boundaries of the Tacoma Smelter Plume facility (facility Site identification [FSID] #89267963). At this time, we have no information that this Property is actually affected. This opinion does not apply to any contamination associated with the Tacoma Smelter Plume facility.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Atlas Geosciences NW (Atlas), *Supplemental Phase II Subsurface Investigation*, April 3, 2019.
2. Ecology, Re: *Opinion on Proposed Cleanup of a Property associated with a Site*, June 1, 2018.
3. Letter from Vandeberg Johnson & Gandara, LLP to Ecology, *Re: November 28, 2017, Further Action opinion letter*, February 1, 2018.
4. Ecology, Re: *Further Action at the following Site*, November 28, 2017.
5. ZipperGeo Associates, LLC (ZGA), *Crawlspace Air Sampling Report*, October 6, 2017.

6. ZGA, *Vapor Intrusion Mitigation Plan*, February 28, 2017.

7. ZGA, *Submittal of Supplemental Site Characterization Report*, dated January 9, 2017 (report is Terracon Consultants, Inc.'s [Terracon] draft *Supplemental Site Characterization*, August 29, 2016).

8. Email correspondence from J. Cook, Ecology, to L. Rachman, Terracon, May 2, 2016.

9. Terracon, *Technical Memorandum,* Re: *Gibraltar Senior Living* (VCP SW1472), Responses to Ecology Further Action letter dated January 27, 2016 (Terracon Project No. B2157004), April 12, 2016.

10. Ecology, Re: *Further Action at the following Site*, January 27, 2016.

11. Terracon, *Supplemental Limited Site Investigation*, November 6, 2015.

12. Terracon, *Limited Site Investigation*, July 7, 2015.

13. Aerotech Environmental Consulting, Inc. (Aerotech), *Phase I Environmental Site Assessment*, December 9, 2014.

14. Seattle Tank Services (STS), *UST Removals – 10816 18th Avenue E, Tacoma*, *Washington*, October 11, 2011.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. Information on obtaining those records can be found on Ecology's public records requests web page.[3] Some site documents may be available on Ecology's Cleanup Site Search web page.[4] This opinion is void if any of the information contained in the documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that, if an environmental covenant is implemented at the Property, a **no further remedial action** determination would be appropriate for the Property. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Property and Site is sufficient to establish cleanup standards and select a cleanup action. All determinations in this letter are Site-specific, and may not be applicable to other Sites based on differences in conditions between Sites. Current land use as a senior living facility is anticipated to continue for the foreseeable future.

[3] https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests
[4] https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=12686

Property Cleanup

Former UST #1

On January 29, 2019, soil boring EB-21 was advanced in the immediate vicinity of sampling location "AF", located along the northern portion of the eastern excavation sidewall adjacent to former UST #1. Soil sampled from boring EB-21 was sampled at the same depth as soil sample location "AF". The concentration of total petroleum hydrocarbons (TPH) in soil was 200 milligrams per kilogram (mg/kg), less than the 3,330 mg/kg MTCA Method B cleanup level established for TPH in soil at the Site. Previously, all other soil, groundwater, and air/vapor results in the area of UST #1 met MTCA cleanup levels. **No further action at former UST #1 appears to be necessary.**

Former UST #2

On January 29 and 30, 2019, vapor samples were collected from within a flux chamber (for soil vapor), in the crawl space, and at an ambient air location. The United States Environmental Protection Agency's (USEPA) factor of 1.0 for estimating concentrations in indoor air from crawl space air results was used. Thus, indoor air directly above and/or immediately laterally adjacent to the crawl space would be expected to have a similar concentration of naphthalene as the crawl space air. Based on the January 2019 vapor sampling results, it appears that it is more likely than not[5] that residual naphthalene in the crawl space air is related to a background source and not from residual diesel-extended range hydrocarbons in soil.

From 2016 through January 2019, soil gas/vapor, crawl space, and ambient air were collected at different times of the year to provide data across seasonal fluctuations, and ambient concentrations of naphthalene tended to be greater than crawl space air concentrations. Soil gas/vapor sampled from the flux chamber, which would be representative of naphthalene concentrations sourced from any residual petroleum hydrocarbons from the release at UST #2, were less than the laboratory reporting limit. The laboratory reporting limit was less than the sub-slab vapor MTCA Method B cleanup level for naphthalene.

Atlas reported that the occupied spaces nearest the former UST #2 location are hallways with a communal meeting room at each end. Communal meeting rooms would not be expected to be occupied on a 24-hour basis, limiting potential exposure to residents or visitors. A furnace closet is located directly adjacent to the former UST #2 location, and it is not occupied. Based on available data, it appears to be more likely than not that naphthalene in soil gas, crawl space air, and indoor air at the Site does not represent a risk to human health.

Atlas presented additional discussion as to how petroleum contaminated soils in the former UST #2 area comply with cleanup levels.[6] In October 2015, Terracon reported naphthalene in soil vapor at a concentration of 39.9 micrograms/cubic meter (µg/m^3).

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[5] WAC 173-340-360(2).
[6] See Atlas' *Supplemental Phase II Subsurface Investigation*, dated April 3, 2019.

In January 2019, Atlas reported that naphthalene in soil vapor at the same location was less than the laboratory reporting limit and the naphthalene in soil gas/vapor MTCA Method B cleanup level of 2.45 µg/m^3. The naphthalene in soil gas/vapor data suggest: 1) residual diesel-extended contaminated soils remained in place after the 2011 removal of UST #2; and 2) that some amount of degradation of diesel-extended concentrations in soil has occurred such that naphthalene is no longer detected in soil gas/vapor.

Ecology concurs that the extent of residual petroleum contamination in soil exceeding the Site-specific cleanup level of 3,330 mg/kg in the vicinity of location S during excavation in 2011 is defined areally and vertically. However, like at former UST #1, Ecology needs current soil data to concur that concentrations of diesel in soil associated with former UST #2 meet the MTCA Method B (Site-specific) cleanup level of 3,330 mg/kg.

Ecology recognizes that several attempts were made to confirm TPH concentrations in soil at location S. Ecology noted in its June 1, 2018, opinion letter that because of the limited access in the area of the former UST #2, the remaining soil concentrations appeared to be inaccessible. These diesel-extended concentrations in soil were sufficient to produce naphthalene in soil vapor in excess of the MTCA Method B screening level. Boring location EB-15 showed that contaminated soils were not present in the upper foot of the soil column above location S, but unfortunately met refusal before reaching 6 feet below ground surface (bgs).

Until new confirmatory soil data is collected, Ecology must presume that petroleum concentrations in soil at location S exceed the Site-specific cleanup level. Therefore, it appears that cleanup at former UST #2 has been completed to the extent practicable. Contaminated soil appears to remain within the immediate vicinity of soil sample location S.

If institutional controls (recorded via an environmental covenant) are implemented as part of a Property-Specific No Further Action: Ecology recommends identifying soil sample location S on any figure included as part of the environmental covenant, and discussing how any contaminated soils in the area of former UST #2 would be handled should they become accessible. **If these institutional controls with an environmental covenant are implemented at the Property, it is Ecology's opinion that it is more likely than not**[7] **that no further action is necessary at former UST #2 until contaminated soil becomes accessible.**

Former UST #3

In August 2011, soil sampled at location V had a diesel-extended range concentration of 17,000 mg/kg. Location V was reported as located beneath the road by STS/Filco.[8] Subsequent confirmatory soil sampling boring (EB-7) attempted to get as close as possible to this location given utility and access restrictions.

[7] WAC 173-340-360(2).
[8] p. 5 in STS, UST Removals, October 11, 2011.

Based on the June 1, 2018, opinion letter, Ecology concurs that location V and any associated soils contamination is located beneath the adjacent road[9] and/or the fiber optic utility and is likely inaccessible. Unless new documentation suggests otherwise, location V is located on the Property, as the centerline of the road to the south is presumed to be the southern parcel boundary for Pierce County tax parcel 0319034012.

In its *Supplemental Phase II Subsurface Investigation*, Atlas discussed the historical confirmatory soil sampling at EB-6 (for soil sample location X), EB-11 (for soil sample location Q), and EB-7 (for soil sample location V). Ecology concurs that the historical soil samples collected were necessary. These samples at a minimum provided vertical delineation of contamination at X, Q, and V sampling locations.

However, Ecology notes the boring logs for EB-6, EB-7, and EB-11 describe petroleum odor and petroleum sheen within the sampling interval reported by STS/Filco during the September 2011 excavation. Using sheen and odor are also field screening techniques to identify samples to be collected.[10] The comment referenced by Atlas from Ecology's guidance[11] regarding not "[d]rilling to pre-selected depths and locations with no consideration of conditions encountered during site investigations or groundwater flow direction" is in section 6.0, the opening section to the chapter, "Conducting an Effective Site Characterization."

The comment is meant as a caution regarding investigations at Sites during the remedial investigation phase of a cleanup. This opening section is meant for Sites where the definition of the nature and extent of contamination is beginning or ongoing. In the early stages of any remedial investigation, distribution of contamination in the subsurface is unknown or poorly known.

At this Property, the location and depths of contamination are known and can be presumed to be fairly exact, especially given the provided photographs from the 2011 excavation. The soil borings completed after the excavation appear to be for the purposes of confirmatory soil sampling to confirm residual petroleum concentrations in soil, and were not borings intended to make an initial assessment of the nature and extent of contamination.

Additionally, based on the chain-of-custody,[12] soil samples were submitted to the laboratory at EB-7 from 6 to 6.5 feet bgs, 8.5-9 feet bgs, 11.5-12 feet bgs, 12.5-13 feet bgs, and 14.5-15 feet bgs. At EB-6, soil samples were submitted from 6-6.5 feet bgs, 9.5-10 feet bgs, and 12.5-13 feet bgs. At EB-11[13], soil sampled at 7.5-8 feet bgs, 14.5-15 feet bgs, and 9.5-10 feet bgs were submitted.

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[9] From available information presented to Ecology, it appears that the access road that connects the Franklin Pierce Schools Transportation Facility is not necessarily a part of 16th Avenue East. Jurisdiction of the access road is presumed to be Franklin Pierce Schools but that may change as new information is presented.
[10] See section 5.3 in Ecology Publication No. 10-09-057, *Guidance for Remediation of Petroleum Contaminated Sites*, revised June 2016.
[11] Ecology Publication No. 10-09-057, *Guidance for Remediation of Petroleum Contaminated Sites*, revised June 2016.
[12] See Friedman & Bruya, Inc. laboratory analytical report #505262 in Terracon's *Limited Site Investigation*, dated July 7, 2015.
[13] See Friedman & Bruya, Inc. laboratory analytical report #505398 in Terracon's *Limited Site Investigation*, dated July 7, 2015.

It appears sufficient soil from all appropriate intervals were submitted for analysis, including intervals with measurable PID readings and petroleum sheet and/or odor. Terracon indicated[14] that eight soil samples were selected from former UST #3 for laboratory analysis, but did not elaborate on why only certain samples were selected for laboratory analysis.

Ecology would need new soils data in the vicinity of former locations Q, X, and V to confirm that petroleum concentrations at these locations have degraded to concentrations less than the Site-specific cleanup levels to obtain a "clean" NFA. As long as contamination remains inaccessible and cannot be sampled or confirmed as remediated, an environmental covenant is necessary per WAC 173-340-440(4)(a). However, Ecology concurs that these contaminated soils are currently inaccessible because of utility and building foundation conflicts.

Site Cleanup

Based on the most recent information provided in Atlas' *Supplemental Phase II Subsurface Investigation*,[15] it is Ecology's understanding that boring location EB-16 is part of the Gibraltar Senior Living Site. Ecology concurs that EB-16 can be used as a delineation point for the Site to satisfy WAC 173-340-350(7)(c)(iii).

Using EB-16 as a definition point is adopting a "worst-case" scenario for the extent of Site contamination, as described in pp. 32-33 in Ecology Publication No. 08-09-044, *Guidelines for Property Cleanups under the Voluntary Cleanup Program*, revised July 2015. Site delineation is necessary to be completed in order to allow implementation of institutional controls via an environmental covenant and allow for a determination of no further action for a parcel (e.g., the Property) associated with a Site.

However, as long as confirmatory soil data remains to be collected to demonstrate compliance with Site-specific cleanup levels on either the Property or the Site, institutional controls memorialized by an environmental covenant will be necessary. **If a Property-Specific closure using institutional controls memorialized by an environmental covenant is proposed, it is Ecology's opinion that enough data have been presented for Ecology to concur with such a proposal.** Still, cleanup levels for all media at standard points of compliance must be met throughout the Site in order to receive a "clean" No Further Action for the Property or Site.

In October 2015, the concentration of diesel in a grab groundwater sampled at boring EB-16 was 690 micrograms per Liter (µg/L) and heavy oil at 1,300 µg/L (total TPH of 1,990 µg/L). This concentration exceeded the MTCA Method A cleanup level for diesel and/or heavy oil.[16] Groundwater at EB-16 was sampled at about 10 feet bgs.

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[14] p. 9 from Terracon's *Limited Site Investigation*, dated July 7, 2015.
[15] p. 9.
[16] See Ecology Publication No. 04-09-086, *Implementation Memorandum #4*, *Determining Compliance with Method A Cleanup Levels for Diesel and Heavy Oil*, June 2004.

To obtain a "clean" NFA for your Site, concentrations of diesel and heavy oil in groundwater at EB-16 will have to be demonstrated to be less than the MTCA Method A cleanup levels. This may require installation of a permanent monitoring well.

Boring EB-16 is located about 60 feet from any building. Based on the depth of groundwater, the concentration of petroleum in the groundwater, the heavy end type of petroleum, the results of vapor testing near former UST #3 in compliance with cleanup levels, and the distance from EB-16 to buildings, vapor intrusion from petroleum in groundwater at EB-16 likely does not pose a risk.[17]

Liability under MTCA is strict, joint, and several.[18] In Ecology's letters dated November 28, 2017, and June 1, 2018, we disagreed with your demonstration that TPH in groundwater at EB-16 was more likely than not from another Site. Ecology does not believe that a plume exemption as described in RCW 70.105D.020(22)(b)(iv) is appropriate for the Site.

As SW1472 is an independent cleanup under WAC 173-340-515, Ecology does not provide oversight or approval of that cleanup.[19] If you request binding commitments or approvals from Ecology regarding the sufficiency of your Site cleanup, then an order or consent decree shall be used.[20]

Ecology does not apportion nor arbitrate liability between parties. Opinions issued in accordance with WAC 173-340-515(5), like this one, do not determine whether the independent remedial action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action in order to apportion liability. Courts make that determination.

In order to receive a No Further Action for the Site under MTCA for your independent cleanup, you could consider one of these options:

1) Continue an independent cleanup under WAC 173-340-515. Independently implement a Site-wide MTCA compliant cleanup for the remaining TPH in groundwater, collecting data and implementing any cleanup actions yourself.

    a. Cleanup levels for TPH in groundwater would have to be met at a standard point of compliance.

    b. Groundwater sampling would have to meet the requirements under section 10.3 in Ecology Publication No. 10-09-057, *Guidance for Remediation of Petroleum Contaminated Sites*, revised June 2016. Typically, this means installing at least one permanent monitoring well and achieving at least four consecutive quarters of concentrations in groundwater less than the MTCA cleanup levels.

[17] Based on a preponderance of the evidence and professional judgment per WAC 173-340-360(2).
[18] RCW 70.105D.040(2).
[19] WAC 173-340-515(1).
[20] WAC 173-340-130(3).

2) Clearly show that your Site is separate from a plume you believe is encroaching on your Site. This may involve installing at least one groundwater monitoring well and sampling it.

3) Take a private right of action as described in WAC 173-340-545 against the person you believe to be responsible for the contamination at EB-16. A private right of action includes public notice and comment requirements.[21] Typically, a private right of action[22] is initiated in order to recoup incurred remedial costs. You may still have to first demonstrate that groundwater complies with cleanup levels and then attempt to recoup remedial costs from another person.

4) Enter into a formal cleanup process under WAC 173-340-520, -530, or -540.

2. Establishment of cleanup standards.

Ecology's opinion letter dated June 1, 2018, concurred with the following cleanup levels and points of compliance.

Total TPH in soil ..... 3,330 mg/kg (Site-specific/Method B)[23]

Total TPH in groundwater ..... 500 µg/L (Method A)

Naphthalenes in soil ..... 5 mg/kg (Method A)

Naphthalenes in sub-slab soil vapor ..... 2.45 µg/m^3 (Method B)

Naphthalenes in air ..... 0.0735 µg/m^3 (Method B)[24]

Soil-Direct Contact: Per WAC 173-340-740(6)(d), for soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance is: ". . . *throughout the site from ground surface to fifteen feet below the ground surface*."

Soil Leaching: Per WAC 173-340-740(6)(b), where soil cleanup levels are based on the protection of groundwater: ". . . *the point of compliance shall be established in the soils throughout the Site*."

Groundwater: For groundwater, the standard point of compliance as established under WAC 173-340-720(8)(b) is: "…*throughout the site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site*."

Air (ambient and indoor, and including soil vapor): For air, the standard point of compliance as established under WAC 173-340-750(6): *"…[c]leanup levels established under this section shall be attained in the ambient air throughout the site*."

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[21] WAC 173-340-545(3)
[22] Also see section 1.5 in Ecology Publication No. 10-09-057, *Guidance for Remediation of Petroleum Contaminated Sites*, revised June 2016.
[23] Ecology concurred with the proposed cleanup level for TPH of 3,330 mg/kg per its further action opinion letter dated January 27, 2016.
[24] May be subject to change depending on evaluation of sensitive receptors and any indoor air results.

Ecological: Per WAC 173-340-7492(2)(a)(ii), Ecology concluded that the Site can be excluded from further TEE based on analysis using Table 749-1 (WAC 173-340-900).

As detailed in Ecology's June 1, 2018, opinion letter, surface water and sediment cleanup levels were not required to be established for this Site.

3. Selection of Cleanup Action.

Based on the January 2019 soil and air and soil vapor results, Ecology would concur with a proposal for a Property-Specific closure with institutional controls recorded via an environmental covenant.[25] WAC 173-340-440(4)(a) requires the use of institutional controls when the concentrations of hazardous substances remain at the Site at concentrations that exceed the applicable cleanup level. Where petroleum contaminated soil is present, these areas are currently inaccessible. For SW1472, the cleanup level for petroleum in soil at the Site is 3,300 mg/kg, a calculated Site-specific MTCA Method B cleanup level.

The cleanup at the Site relied primarily on excavation of contaminated soils, and does not primarily rely on institutional controls, which satisfies WAC 173-340-440(2). Diesel-extended contaminated soils have been removed to the extent practicable, meeting the requirements under WAC 173-340-360(2)(d). This requirement is where concentrations which exceed soil cleanup levels must be treated, removed, or contained on certain properties, including residential properties. Most petroleum contaminated soil has been removed, and any remaining limited exceedances of cleanup levels in soil are contained.

Confirmatory Soil Sampling Using the Air-knife/Vacuum Option[26]

Generally, Ecology does not accept soil data collected by the air-knife/vacuum option because of the loss of petroleum or other volatile compounds in soil to be sampled. However, because of the utility and road conflicts, one Site-specific option for confirmatory soil sampling into areas of your Site which are inaccessible by a drilling rig, could be to use an air-knife/vacuum system[27] and a hand auger. Example locations where soil samples could be collected with this system would be at location S in the former UST #2 area, and at locations Q, V, and X around former UST #3. The purpose of this type of confirmatory soil sampling would be to determine current concentrations at locations Q, V, and X in support of a "clean" Property-Specific NFA.

The air-knife/vacuum method loosens soil with a jet of air (the air-knife) and then vacuums up the broken up soil into a tank. The air-knife/vacuum system comes in a larger truck mounted system and a less powerful, but with a smaller footprint, trailer mounted system.

[25] Originally suggested by Terracon. See p. 12 of *Limited Site Investigation*, dated July 7, 2015.
[26] At maximum operation, the air-knife/vacuum system is loud.
[27] The air-knife/vacuum system is typically used for checking for utilities before drilling. Sampling soil using a drill rig is preferred to avoid loss of petroleum or volatiles in the soil samples. However, based on Site-specific circumstances, data collected using the air-knife/vacuum and hand auger system would be acceptable at your Property.

As a trailer mounted air-knife/vacuum system is less powerful, refusal might be met before being able to get to a depth of approximately 6 or 7 feet bgs. The air-knife and vacuum hoses can allow for up to several feet of reach to be able to access points not exactly adjacent to the truck or trailer staging location. A local environmental drilling company could provide more detailed information about the various air-knife/vacuum systems.

To collect a soil sample with the least potential for loss of petroleum, you could consider stopping the air-knife/vacuum about 18 inches above the desired sampling interval. From there, start using the hand auger until the desired interval is reached. However, if soil density causes hand auger refusal, advancing the air-knife/vacuum system to less than 18 inches to get to the desired sample interval may be necessary. Of note, if the soil is easy to hand auger, that is likely fill. If the soil is difficult to hand auger, that is likely native soil.

Soil is then is removed for 18 inches with a hand auger until the desired interval is reached. The hand auger is then used to sample soil within the desired interval. All standard decontamination and sampling practices apply. To advance the borehole further, continue with the air-knife/vacuum process followed up by the hand auger sampling method until the maximum desired depth is reached.

The air-knife/vacuum system can be used near utilities, as long as minimum buffer distances required by law and any utility company are maintained. Ecology recommends all appropriate utility locating, notification, and collaboration with utility providers (especially the fiber optic provider) to ensure no utilities are damaged.[28]

Depending on the Site geology and the size of the vacuum truck, the maximum practical depth an air-knife/vacuum truck system can reach is about 10 feet below ground. In your case, this is not an issue, as you would only need to go to a maximum depth of around seven feet bgs.

Soils which would be collected by the air-knife/vacuum truck are emptied into a drum (or drums) and handled as typical investigation derived waste. This means that the soils are sent to a permitted facility (e.g., a permitted landfill) for disposal. An air-knife/vacuum truck or trailer system is smaller than a dump truck. Seattle Tank Services (STS) was able to successfully stage a dump truck and excavator on 16th Ave E in September 2011.[29]

Ecology does recognize that collecting a sample close to location V might require sampling through the asphalt roadway, depending on the required distance to provide a sufficient buffer to the fiber optic line. If you proceed with the sampling, please document and report on any access requests to the Franklin Pierce Transportation Department and Franklin Pierce School District regarding access to the roadway adjacent to former UST location #3.

[28] WAC 173-340-350(7)(iv) and RCW 19.122.
[29] Photograph 15 in figures section of STS' UST Removals report, October 11, 2011.

Environmental Covenant Requirements: Property-specific institutional controls[30] would be memorialized by an environmental covenant and restrict groundwater use among requirements. Ecology suggests that you review the Toxics Cleanup Program's *Procedure 440A: Establishing Environmental Covenants under the Model Toxics Control Act*, revised December 22, 2016,[31] and include the following requirements in your next submittal:[32]

1. A draft covenant provided separately in word-processing-compatible electronic format, memorializing proposed institutional and engineered controls for all impacted properties.

2. Delineated concentration (1) isopleth plan view maps and (2) geologic cross sections showing the extents of remaining contamination at the Site in plan view and cross section. Include the boundaries of the MTCA facility.

3. A complete title search as part of Exhibit A, legal description. Unless demonstrated otherwise, Ecology presumes that parcel boundaries extend to the center line of adjacent roadways.

4. A land survey of impacted properties and rights-of-way, including platting and dedications (this may already be included as part of a title search). If contamination is proposed to be left in rights-of-way exceeding cleanup standards, a subordination agreement with the right-of-way holder would be required for implementing an environmental covenant. Grantor and/or subordinate agreements may be required with adjacent Property owners or right-of-way holders, determined by the extents of the Property. Ensure any needed grantor or subordination agreements are completed and included with the draft environmental covenant. If another party refuses to subordinate their rights to the environmental covenant, document their responses and submit that documentation to Ecology.

5. Any needed financial assurance mechanisms and implementation of financial assurances based on the requirements of WAC 173-340-440(11). Financial assurances may not be necessary at this Site; however, if the terms of an environmental covenant were not followed, Ecology may rescind the no further action opinion. If no financial assurances are needed, include sufficient explanation for Ecology to concur.

6. Document how the local government notification requirements of WAC 173-340-440(10) were completed. Ecology suggests providing the final draft covenant and enclosure package to the local land use planning authority for review and comment. If comments are submitted by the local land use planning authority, update the draft covenant based on comments, and provide Ecology the correspondence, local government comments, and how those comments were addressed. If no response is received, include sufficient information for Ecology to concur that the correct local government agency was notified, the date they were notified, and that comments were sought.

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[30] WAC 173-340-440
[31] https://fortress.wa.gov/ecy/publications/documents/1509054.pdf
[32] WAC 173-340-440(4)

7. Cap management plan.[33] A brief document providing how current cover over the locations of former USTs #2 and #3 will be maintained and monitored. An example of monitoring might be to take a photograph of the former UST #2 and former UST #3 areas each quarter of the year and submit these photos attached to an annual letter. Monitoring is required under WAC 173-340-410(3) when on-site disposal, isolation, or containment is the selected cleanup action for a site or a portion of a site.

8. Soils management plan. A brief document providing the estimated location of petroleum contaminated soils and instructions on how to profile, remove, and dispose of those soils if encountered. Include a confirmatory soil sampling section in the soils management plan to demonstrate how compliance with cleanup levels will be completed should historical exceedances in soil become accessible. Include how the results will be reported to Ecology and what will be done if soils exceeding cleanup levels are identified.

9. No groundwater monitoring nor a groundwater monitoring compliance plan would be necessary as on-Property groundwater has been shown to be in compliance with the MTCA cleanup levels.[34]

[33] The cap management plan and the soils management plan could be sections of the same document.
[34] This determination was made by Ecology prior to the current VCP Site Manager's assignment of the SW1472 project.

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 proposed will be substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. Opinion is Limited to Proposed Cleanup.

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

4. State is Immune from Liability.

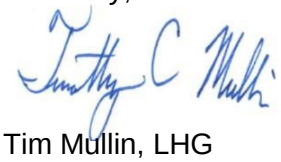
The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the 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 Voluntary Cleanup Program web site.[35] If you have any questions about this opinion, please contact me at (360) 407-6265 or tmul461@ecy.wa.gov.

Sincerely,



Tim Mullin, LHG
Toxics Cleanup Program
Southwest Regional office

TCM: tam

Enclosure: A – Site Description

cc: Elizabeth Rachman, Atlas Geosciences NW
Tim Bridgeman, Director, Franklin Pierce Schools Transportation Department
Robin Heinrichs, Director, Support Services, Franklin Pierce Schools
Rob Olsen, Tacoma Pierce County Health District
Nicholas Acklam, Ecology (by email)
Rebecca Lawson, Ecology (by email)
Ecology Site File

[35] https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Cleanup-process/Cleanup-options/Voluntary-cleanup-program

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Enclosure A

Site Description

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Site Description

The Property is Pierce County, Washington tax parcel no. 0319034012, with a street address of 10816 18th Avenue East. From the Pierce County Assessor's website, the legal description noted here is provided for reference only, and should be confirmed as part of any title search for an environmental/restrictive covenant on the parcel. The Property is improved with three commercial-type buildings; a three-story 7,529 square foot structure, a 2,169 square foot structure, and a 2,170 square foot structure. The Site is currently occupied by an assisted living and mental health facility (Gibraltar Senior Living).

Parcel legal description from the Pierce County Assessor's Website:

Section 03 Township 19 Range 03 Quarter 43 : BEG ON W LI OF PORTLAND AVE AT A PT 1038 FT N OF S LI OF SEC TH PAR WITH SD S LI N 88 DEG 34 MIN W 337 FT TH N 01 DEG 42 MIN E 229.41 FT TH S 88 DEG 34 MIN E 78.55 FT TH S 64 DEG 48 MIN E 115 FT TH S 87 DEG 48 MIN E 153 FT TO SD W LI OF PORTLAND AVE TH S 01 DEG 42 MIN W 181 FT TO BEG EXC W 25 FT THEREOF EASE OF RECORD

Parcel no. 0319034012 is improved with three buildings: a three-story 7,529 square feet structure (built in 1920), a one story 2,169 square feet structure (built in 1920), and a one story 2,170 square feet structure (built in 1960). The Property is currently occupied by an assisted living and mental health facility (Gibraltar Senior Living).

Three steel USTs historically used for heating oil were removed and disposed of off-Site in 2011. The USTs were:

UST ID Number	Capacity (gallons)
1	1,000
2	675
3	675

Soils underlying the Site generally consist of 1 to 5 feet of silty-sand with trace gravel material, underlain by a sandy silt to the maximum depth explored of 15 feet bgs. Groundwater beneath the Site, when encountered, has been observed at depths ranging between 5.5 to 14 feet bgs. Drilling refusal was met in multiple borings between 9 and 13 feet bgs.

According to the Pierce County Assessor-Treasurer website, the adjacent parcel to the south is 0319034000, occupied by Franklin Pierce High School.

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N

Former 675-gallon heating oil UST (UST #2)

Slab-on-grade mechanical closet

SSV-1

CS-2

Building with crawl space

EB-3

EB-4

EB-2

EB-18

EB-10

EB-15

EB-14

CS-1

Ambient

Asphalt Parking

Driveway

Former 1,000-gallon heating oil UST (UST#1)

Fence

SSV-3

EB-20

EB-12

EB-13

EB-9

EB-19

Stairs

Approximate basement extent

Building with basement

Grass

EB-17

18th Avenue E

Walkway

HA-1

Slab-on-grade mechanical closet

Building with crawl space

EB-8

SSV-2

EB-6

EB-11

EB-5

EB-7

Former 675-gallon heating oil UST (UST #3)

Franklin Pierce High School

EB-16

LEGEND:

- APPROXIMATE SITE BOUNDARY
- **EB-1** SOIL BORING APPROXIMATE LOCATION
- **HA-1** HAND AUGER BORING APPROXIMATE LOCATION
- **SSV-1** SUB-SLAB SOIL VAPOR APPROXIMATE LOCATION
- **CS-1** CRAWL SPACE/AMBIENT AIR SAMPLE LOCATION
- UST APPROXIMATE LOCATION OF FORMER UNDERGROUND STORAGE TANK (UST)

30 0 10 20 30

APPROXIMATE SCALE IN FEET

Project Mngr:	MYW
Drawn By:	AMP
Checked By:	LAR
Approved By:	LAR
Project No.	B2157004
Scale:	Not to Scale
File No.	Exhibit 2
Date:	July 2016

Terracon
Consulting Engineers and Scientists
21905 64th Avenue W, Ste 100 Mountlake Terrace, WA 98043
PH. (425) 771-3304 FAX. (425) 771-3549

SITE DIAGRAM

Gibraltar Senior Living
10816 18th Avenue East
Tacoma, Pierce County, Washington

EXHIBIT 2