

CLEANUP ACTION PLAN

West View Mart
971 Ault Field Road
Oak Harbor, Island County, Washington
VCP ID #NW2373

Project No. 1195.20
January 10, 2020

Prepared for:
The Whitestone, Inc.
&
Equilon Enterprises LLC DBA Shell Oil Products US



Prepared by:

ZipperGeo
Geoprofessional Consultants



January 10, 2020

The White Stone, Inc.
Equilon Enterprises LLC DBA Shell Oil Products US
c/o Chmelik Sitkin & Davis P.S.
1500 Railroad Avenue
Bellingham, WA 98225

Attn: Ms. Holly Stafford

RE: Cleanup Action Plan
West View Mart
971 Ault Field Road
Oak Harbor, Island County, Washington
ZGA Project No. 1195.20
VCP ID #NW2373

Dear Ms. Stafford:

Zipper Geo Associates, LLC (ZGA) appreciates the opportunity to submit this Cleanup Action Plan for the West View Mart in Oak Harbor, Washington.

If you have questions, or if we may be of further service in any way, please contact us. Thank you for working with us on this project. We look forward to the opportunity of working with you again in the future.

Sincerely,
Zipper Geo Associates, LLC

Jon Einarsen, LG, LEG, LHg

Sean W. Donnan, PG, LEG, LHg
Principal



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1.0 INTRODUCTION

This Cleanup Action Plan (CAP) describes the proposed remedial action for petroleum contaminated soil (PCS) at the West View Mart facility located at 971 Ault Field Road Oak Harbor, Island County, Washington (the Property). This CAP addresses the requirements of the Model Toxics Control Act (MTCA) regulations for cleanup actions (WAC 173-340-380). The format of this report is generally consistent with Ecology's *Cleanup Action Plan Checklist* (2016). Figures indicating the location of the Property and the Site are attached in Appendix A. Soil analytical results from previously completed studies are summarized in Table 1 in Appendix B.

The soil to groundwater and soil to indoor air pathways are incomplete. Soil impacted with gasoline and benzene in concentrations that exceed the site specific direct contact Method B cleanup levels will be removed by excavation and properly disposed at a facility licensed to accept the material. We anticipate that some residual gasoline and benzene in soil exceeding the site specific direct contact Method B cleanup levels may remain in place beneath structures on the Property and off-site beneath the west-adjointing vapor lounge building. If so, an institutional control in the form of an Environmental Covenant will be implemented.

1.1 Purpose

The purpose of this CAP is to satisfy the requirements of WAC 173-340-380. This CAP:

- Describes the Property and the Site.
- Summarizes current Site conditions.
- Describes the selected cleanup action for the Site and the rationale for selecting this alternative.
- Identifies the site-specific cleanup levels and points of compliance for each hazardous substance and medium of concern for the proposed cleanup action.
- Identifies applicable state and federal laws for the proposed cleanup action.
- Identifies probable residual contamination remaining on the Site after cleanup and restrictions on future uses and activities at the Site to comply with continued protection of human health and the environment.
- Discusses compliance monitoring and institutional controls.

1.2 Remedial Action Objectives

The objective of this CAP is to obtain a written determination issued by Ecology that no further action is necessary on the Property, potentially provided that an Environmental Covenant is established that acknowledges residual soil contamination beneath structures on the Site. A Cleanup Action Report will be prepared after the cleanup action has been completed. This CAP addresses the remediation of chemicals of concern (COC) present in soil beneath the Property and includes a discussion of the selected cleanup action and the steps required for implementation.

1.3 Previous Studies

Previous studies completed at the Site include:

- Zipper Geo Associates, 2019, *Remedial Investigation and Recommended Model Remedy Report, West View Mart, 971 Ault Field Road, Oak Harbor, Washington.*
- Zipper Geo Associates, 2013, *Limited Remedial Investigation, West View Mart, 971 Ault Field Road, Oak Harbor, Island County, Washington.*

- Washington State Department of Ecology, 2013, *Opinion Pursuant to WAC 173-340-515(5) on Proposed Remedial Action for West View Mart*.
- Associated Environmental Group, LLC (AEG), 2013. *Work Plan for Supplemental Remedial Investigation, West View Mart, 971 Ault Field Road, Oak Harbor, Washington*.
- AEG, 2010. *Supplemental Remedial Investigation conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington*.
- AEG, 2009. *Subsurface Investigation, conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington*.
- AEG, 2007. *Phase I Environmental Site Assessment, conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington*.
- Edge Analytical, 1995. *Status Report of Petroleum Cleanup — West View Mart, 971 Ault Field Road, Oak Harbor, WA*.

Copies of each of these reports are on file with the Washington State Department of Ecology.

1.4 Regulatory Framework

The remedial action will be completed in accordance with the standards set forth in Chapter 70.105D RCW, and its implementing regulation, the Model Toxics Control Act (MTCA) Chapter 173-340 WAC.

2.0 SITE DESCRIPTION

WAC 173-340-200 defines the Site as “any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft; or any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located”. In accordance with this definition, the Site is located within the north part of Island County tax parcel #R13327-502-2990 and is assumed to extend slightly onto the west adjoining parcel, located at 979 Ault Field Road (Island County Geographic ID #R13327=517-2910). The approximate lateral and vertical location of the Site as defined by WAC 173-340-200 is indicated on Figure 3 and Figure 4 (Appendix A).

The Property and nearby areas are relatively level and lie at an elevation of approximately 160 feet above Mean Sea Level. The Property is located about 1½ miles east of Puget Sound. The immediate vicinity of the Property consists of mixed residential and commercial development and undeveloped land. The Property is bounded to the north by undeveloped land and an electrical substation, beyond which lies the Whidbey Island Naval Air Station. The Property is bounded to the south by single family residential homes and undeveloped land. The Property is bounded to the west by a commercial building occupied by a vapor lounge and to the east by small commercial strip mall.

2.1 Site History

Based on our review of the documents described in Section 1.3 of this CAP, it is our understanding that a gasoline service station has operated on the Property since 1951, and that soil on the Property has been impacted with total petroleum hydrocarbons (TPH) in the gasoline range, naphthalene, and BTEX (benzene, ethylbenzene, toluene, and xylenes). Diesel- and oil-range TPH have not been reported in concentrations above applicable cleanup levels.

Originally, there were five underground storage tanks (USTs) on the west side of the convenience store building, including two 1,000-gallon diesel USTs, two 2,000-gallon gasoline USTs, and one 500-gallon

heating oil or waste oil tank. An 8,000-gallon unleaded gasoline UST was added on the east side of the store building in the late 1970's. The approximate locations of these two historical UST cavities are indicated on Figure 3 and Figure 4 (Appendix A). The six USTs were removed in 1991 and replaced with the existing tanks located on the northeast corner of the Property. PCS was left in place in both historical UST cavities at that time. Two smaller impacted areas are located near the existing pump island.

2.2 Human Health and Environmental Concerns

Direct Contact

Soil impacted with gasoline and/or benzene in concentrations exceeding the site specific Method B direct contact cleanup levels is located at depths ranging from about 2½ feet to 14½ feet, and therefore the direct contact pathway is potentially complete in a construction worker scenario. A summary of soil analytical results is presented in Table 1 (Appendix B).

Groundwater

Groundwater was not reported in the AEG (2010) groundwater monitoring wells MW-1 (screened from 11 to 29 feet bgs), MW-2 (screened from 10 feet to 30 feet bgs) and MW-3 and MW-4 (both screened from 10 feet to 25 feet bgs), which were sounded in July 2010 and October 2016. Groundwater has not been reported in ZGA MW-5 (screened from 45 feet to 55 feet bgs), which was sounded in August 2017.

A domestic water supply well is located on the west adjoining property, about 150 feet southwest of the Site. The owner of the well granted access and the well was sounded with a water-level indicator on August 9, 2017. The depth to water was measured at 129.26 feet beneath the top of the well casing (which is approximately level with the ground surface). This value places the top of the water table more than 114 feet beneath the deepest contamination identified at the Site. The approximate location of the domestic water supply well is indicated on Figure 3. Well driller logs for other domestic water supply wells near the Site indicate depths to groundwater of 80 feet to 167.5.

Based in this information, we conclude that the soil to groundwater pathway is incomplete at the Site.

Surface Water and Sediment

The Strait of Juan de Fuca, located about 1.25 miles west-northwest of the Site, is the nearest waterbody. Based on distance we conclude that surface water and sediment are not affected by the release at the Site

Air/Soil Vapor

Soil gas analytical results are described and interpreted in our *Remedial Investigation and Recommended Model Remedy Report (2019)*. In summary:

- Four deep (15 feet bgs) soil gas samples were collected on August 8, 2017. The TO-15 and TO-17 analytical results for the deep soil vapor probe SV-2, located within the eastern historical UST cavity, indicate that the deep soil gas screening levels for identified VOCs are not exceeded. The reported concentrations of APH in the EC5-8 aliphatics range in SV-3 (located with the western historical UST cavity) and SV-5 (located immediately north of the West View Mart convenience store) exceeded the deep soil gas screening level. The estimated concentration of benzene in SV-3, SV-4 (located within the western historical UST cavity), and SV-5 also exceeds the deep soil gas screening level, but it must be noted that the reported concentrations are below the lowest calibration standard (i.e. these three benzene results failed laboratory internal quality control standards). The screening level for m, p-xylene was exceeded in SV-3.

- Five shallow (5 feet bgs) soil gas samples were collected on September 18, 2018. The Method B default sub-slab screening levels were not exceeded for APH, toluene, ethylbenzene, xylenes, or naphthalene in any of the samples. The default sub-slab screening level for benzene was exceeded in three of the five samples. The modified (commercial scenario) Method B sub-slab screening level for benzene was not exceeded in any of the five samples (ZGA, 2019).

The difference in the reported concentrations of COC in deep versus shallow soil gas, particularly air phase hydrocarbons and benzene, suggests that biodegradation of gasoline is actively occurring at the Site. EPAs *PVI Screen* model predicts that the indoor air cleanup levels for the chemicals of concern (TPH-GRO, BTEX, and naphthalene) are not exceeded inside West View Mart convenience store building (ZGA, 2019).

Based on this information, we conclude that the soil gas to indoor air pathway is incomplete.

Natural Resources and Wildlife

The Site is fully developed commercial property and mostly covered with asphalt pavement and is not likely to support natural resources or wildlife. The Site is bounded by commercial developments to the west and east and by a low density residential neighborhood to the south. The Site is bounded to the north by Ault Field Road, beyond which lies an electrical substation and the Whidbey Island Naval Air Station. Based on the analytical results described in this report, GRO and benzene releases at the site have not affected any areas subject to wildlife use.

2.3 Cleanup Standards

MTCA allows the use of site specific petroleum compositions to calculate site specific Method B total petroleum hydrocarbon (TPH) cleanup levels. Under this method, petroleum contaminated samples are analyzed for the concentrations of a range of aromatic and aliphatic petroleum fractions. WAC 173-340-900 (Table 830-1) and Table 7.3 in the *Guidance for the Remediation of Petroleum Contaminated Sites* (Washington State Department of Ecology, Toxics Cleanup Program, Publication No. 10-09-057, revised June 2016) indicates that the appropriate analytical method to determine petroleum fractions for gasoline range organics is Northwest Method NWTPH-VPH. The measured concentration of VPH (volatile petroleum hydrocarbons) along with the concentrations of several specific chemicals (BTEX, hexane, and naphthalene), and toxicity information for the fractions and the specific chemicals is then used to calculate the appropriate cleanup level for the TPH mixture as a whole.

Six soil samples were selected for volatile petroleum hydrocarbon (VPH) analysis using Northwest Method NWTPH-VPH (ZGA, 2019). These consisted of samples GP2-1 (3,000 mg/kg gasoline), GP3-2 (1,500 mg/kg gasoline), GP4-1 (5,200 mg/kg gasoline), GP4-2 (430 mg/kg gasoline), and B-18@11 (1,000 mg/kg gasoline). Sample B-18@11 was additionally analyzed for extractable petroleum hydrocarbons (EPH) using Northwest Method NWTPH-EPH. Sample B-10@14 (2,900 mg/kg gasoline) was analyzed solely for EPH. These six samples are representative of the TPH concentrations at the Site.

The reported values for VPH and EPH were corrected to avoid double counting as described in Table 8.7 of the *Guidance for the Remediation of Petroleum Contaminated Sites*. The site specific Method B cleanup levels for the direct contact pathway were calculated using the Workbook Tools for Calculating Soil and Groundwater Cleanup Levels (MTCATPH11.1). According to the *Guidance for the Remediation of Petroleum Contaminated Sites*, the TPH soil cleanup level for the direct contact pathway is the median of

the calculated cleanup levels. Based on our results, the site-specific Method B direct contact CUL for gasoline-range TPH is 2,561 mg/kg (ZGA, 2019)

This site specific direct contact cleanup level is less than the average and median Method B direct contact CUL for gasoline in soil (2,800 mg/kg and 2,900 mg/kg, respectively) as described in Table 8.2 of the *Guidance for the Remediation of Petroleum Contaminated Sites (2016)*.

The analytical results for TPH, BTEX, EDC, EDB, MBTE, naphthalene, PAH, PCBs, and lead (including the AEG data from 2009 and 2010) are presented in Table 1 (Appendix B). TPH results are compared to the site-specific TPH Method B cleanup level for direct contact described above. Other results are compared to Method B cleanup levels for direct contact compiled in Ecology's online CLARC database.¹

2.3.1 Contaminants of Concern and Cleanup Levels

Contaminants of concern (COC) consist of gasoline and benzene. No other analytes were reported in concentrations exceeding Method B direct-contact cleanup levels. Site specific direct contact Method B cleanup levels for gasoline and the CLARC database direct contact Method B cleanup level for benzene are appropriate for conditions on the Site:

Gasoline:	2,561 mg/kg
Benzene:	18.2 mg/kg

3.0 DESCRIPTION OF SELECTED REMEDY

The cleanup action entails the removal by excavation of gasoline and benzene contaminated soil within accessible areas of the Property outside of the existing convenience store and fuel island footprints. Residual soils exceeding the site specific Method B direct contact cleanup levels, if present after the targeted excavation is complete, will be managed in place through institutional controls in the form of an Environmental Covenant. This remedial method meets the requirements set forth in WAC 173-340-360 and WAC 173-340-370. Details regarding the cleanup action are described below.

3.1 Site Description

The Site consists of the historical western UST cavity (Area A), the historical eastern UST cavity (Area B), and two smaller areas (Area C and Area D) near the existing pump island (Figure 3 and Figure 4).

3.2 Cleanup Standards and Point of Compliance

Site specific direct contact Method B cleanup levels for gasoline and the CLARC database direct contact Method B cleanup level for benzene are appropriate for conditions on the Site:

Gasoline:	2,561 mg/kg
Benzene:	18.2 mg/kg

In accordance with WAC 173-340-720(8) a lateral point of conditional compliance will be established at the Property boundaries and along the perimeters of buildings on the Property. In accordance with WAC 173-340-720(8)(c) the conditional point of lateral compliance will be a close as practicable to the source of hazardous substances.

1 <https://fortress.wa.gov/ecy/clarc/CLARCDatatables>

In accordance with WAC 173-340-740(6) the vertical point of compliance for soil is established from the ground surface to 15 feet below the ground surface.

3.3 Permitting and Waste Profiling

The earthwork contractor will contact the City of Oak Harbor and Island County regarding permitting requirements for the project, which may include (but are not limited to) obtaining a construction permit, fill and grade permit, construction stormwater permit, access agreements and other approvals.

The waste stream (gasoline and benzene impacted soil) will be profiled in accordance with the waste analyses requirements of the facility selected to accept the material. ZGA will rely on the existing dataset as described in our report entitled *Remedial Investigation and Recommended Model Remedy Report* (2019) for this purpose.

Specific documentation requirements will be met for transportation and disposal of the contaminated soil and perched groundwater (if encountered) during the excavation activities to comply with state and federal regulations. The waste disposal tracking documentation will include analytical data, waste profiles, waste manifests, and bills of lading.

3.4 Groundwater Monitoring Well Decommissioning

The five existing groundwater monitoring wells will be decommissioned in accordance with Chapter 173-160-381 WAC prior to the initiation of remedial action.

3.5 Site Preparation and Mobilization

Before initiating construction activities, temporary erosion and sediment control (TESC) measures will be installed, as deemed necessary. Once all TESC measures are implemented in accordance with the construction project plan, construction equipment and supplies will be mobilized to the Property. Protective fencing will be installed to prevent ingress-egress to the work area. A suspect clean soil stockpile will be established on the central part of the Property, as approximately indicated on Figure 1 and Figure 2 (Appendix A).

3.6 Shoring

Temporary shoring will be required to protect the safety of personnel working near the excavation and the perimeter footings of existing structures consisting of:

- The West View Mart convenience store building.
- The West View Mart fuel island and canopy.
- The west adjoining Vapor Lounge building.

Implementation of temporary shoring is expected to enable the removal of contaminated soil to depths of up to 15 feet. The temporary shoring system will consist of trench boxes and steel plates.

3.7 Remedial Excavation Areas

Remedial excavation areas are defined as the vertical and horizontal limit of soil exhibiting concentrations of COCs above the site-specific Method B cleanup levels for direct contact that can be removed without damaging existing structures. The planned remedial excavation areas are shown on Figure 3 and Figure 4 (Area A, Area B, Area C and Area D). The expected maximum depth of the remedial excavation areas is

15 feet (the vertical point of compliance). The final lateral extents of the remedial excavation areas may be larger or smaller than that depicted on the Figure 3 and Figure 4 depending on field conditions.

We estimate that approximately 1,000 to 1,500 tons of PCS will be excavated from the remedial excavation areas at the Property and disposed of at a facility licensed to accept the material. Soil will be visually inspected for staining, sheen, and odor. In addition to physical observations, a photoionization detector will be used to qualitatively measure VOC in the soil. As the excavation proceeds vertically downward, the selected temporary shoring method will be extended as necessary.

3.8 Direct Load PCS and Stockpile Suspect Clean Soil

The upper approximately eight feet of soil in the two historical UST cavities (Area A and Area B) will be excavated and stockpiled in a suspect clean soil stockpile on south central part of the Property (see Figure 2 and Figure 3). Soil from approximately eight feet bgs to the vertical point of compliance (15 feet bgs unless conformational sampling and analysis indicates that the point of compliance is shallower) will be direct loaded into trucks for transport to a facility licensed to accept the material. The suspect clean soil stockpile will be sampled in accordance with *Guidance for the Remediation of Petroleum Contaminated Sites* (Ecology, 2016) and analyzed for gasoline and BTEX.

Area C and Area D will be direct located into trucks from the ground surface down to the point of vertical compliance (15 feet bgs unless conformational sampling and analysis indicates that the point of compliance is shallower).

3.9 Construction Dewatering

Although not expected, near-surface perched groundwater may be encountered during excavation activities. Any surface water and shallow groundwater, if encountered, will be managed using a sump pump within the limits of the excavation(s). The water will be contained in a suitably sized above ground tank until the appropriate discharge or disposal location is determined. The water will be analyzed in accordance with the requirements of the facility selected to dispose of the water.

3.10 Applicable, Relevant, and Appropriate Requirements

The proposed cleanup action complies with Applicable, relevant, and appropriate requirements (ARARs) under WAC 173-340-710 as described below.

- Chemical Specific ARARs. Chemical specific ARARs will be met through compliance with the Cleanup Standards (see Section 3.2)
- Water Quality Standards for Washington Surface Waters (WAC 173-201A). The cleanup action will comply with surface water standards that apply to discharges to the storm sewer during the remedial action. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared that describes how stormwater will be managed during the remedial action.
- Washington Dangerous Waste Regulations (WAC 173-303). These requirements potentially apply to the identification, generation, accumulation, and transport of hazardous/dangerous wastes at the Site during remediation. These standards are applicable to any soil wastes that are taken off-site for disposal with concentrations that exceed Washington Dangerous Waste criteria. Of primary concern would be benzene, which is present in some soils at relatively elevated concentrations that may trigger this ARAR if present in soil at leachable concentrations that exceed 0.5 milligrams per liter (mg/L). If so, the soil would be classified as a Dangerous Waste and would need to first

be either treated to levels less than this concentration or disposed of at a Subtitle C hazardous waste landfill.

- Washington Solid Waste Handling Standards (WAC 173-350). These requirements establish minimum standards for handling and disposal of solid waste. They are applicable for alternatives that generate solid waste, the definition of which includes wastes that are likely to be generated as a result of site remediation, including contaminated soils, construction and demolition wastes, and garbage. The standards require that solid waste be handled in a manner that does not pose a threat to human health or the environment, and comply with local solid waste management rules and applicable water and air pollution controls.
- Federal and State of Washington Worker Safety Regulations. The safety of workers implementing remedies at hazardous waste sites are covered by the following regulations:
 - Health and Safety for Hazardous Waste Operations and Emergency Response (HAZWOPER), WAC 296-62 and Health and Safety 29 CFR 1901.120 Occupational Safety and Health Act (OSHA)
 - Washington Industrial Safety and Health Act (WISHA), WAC 296-62, WAC 296-155 and RCW 49.1

HAZWOPER regulates health and safety operations for hazardous waste sites. The health and safety regulations describe federal requirements for health and safety training for workers at hazardous waste sites. OSHA provides employee health and safety regulations for construction activities and general construction standards, as well as regulations for fire protection, materials handling, hazardous materials, personal protective equipment, and general environmental controls. Hazardous waste site work requires that, prior to participation, employees to be trained in site activities, medical monitoring, monitoring to protect employees from excessive exposure to hazardous substances, and decontamination of personnel and equipment. Washington State adopted the standards that govern the conditions of employment in all workplaces under its WISHA regulations. The regulations encourage efforts to reduce safety and health hazards in the workplace and set standards for safe work practices for dangerous areas such as trenches, excavations, and hazardous waste sites.

- Minimum Standards for Construction and Maintenance of Wells (WAC 173-160). Five groundwater monitoring wells will need to be decommissioned as a part of the remedial action. The wells will be decommissioned in accordance with the requirements of WAC 173-160 to further ensure protection of groundwater resources at the Site.

3.11 Restoration Timeframe

We anticipate that the remedial action objectives will be achieved within two to four weeks of the initiation of the project.

3.12 Compliance Monitoring

There are three types of compliance monitoring identified for remedial cleanup actions performed under MTCA (WAC 173-340-410): protection, performance, and confirmation monitoring. A paraphrased definition for each is presented below (WAC 173-340-410). Additional details regarding procedures for

sample collection, handling, and quality assurance procedures are included in the Sampling and Analysis Plan and the Health and Safety Plan, which will be submitted under separate cover.

3.12.1 Protection Monitoring

The purpose of protection monitoring is to evaluate whether human health and the environment are adequately protected during a cleanup action. A HASP has been prepared for the cleanup action that meets the minimum requirements for such a plan identified in Federal (29 Code of Federal Regulations 1910.120, and 1926) and state regulations (WAC 296). The HASP identifies known physical, chemical, and biological hazards; hazard monitoring protocols; and administrative and engineering controls required to mitigate the identified hazards.

3.12.2 Performance Monitoring

The purpose of performance monitoring is to document that the cleanup action has attained cleanup standards. Performance monitoring includes the collection of soil samples from the sidewalls and floor of the remedial excavation areas and the collection of soil samples during excavation and removal of any previously unidentified contamination. Performance monitoring for soil will be conducted during remedial excavation activities and will be used to direct advancement of the excavation. Soil samples will be collected directly from the sidewalls and/or bottom of the excavation using stainless steel sampling tools. Soil samples collected at depths of less than 4 feet bgs will be collected manually. Samples collected at depths greater than 4 feet bgs will be collected with the excavator bucket unless engineering controls are in place that allow for manual sample collection. Non-dedicated sampling equipment will be decontaminated between uses. A detailed scope for monitoring, sampling, and analysis is discussed in the Sampling and Analysis Plan. The analytical results will be used to assess when the points of compliance for soil have been achieved.

3.12.3 Confirmation Monitoring

The purpose of conformational monitoring is to confirm the long-term effectiveness of the cleanup action once cleanup standards or other performance standards have been attained. Confirmation monitoring for soil will be conducted after completion of the remedial excavation to assess the residual concentrations of COC in subsurface soil, to verify compliance with applicable cleanup standards, and to confirm the long-term effectiveness of the cleanup action.

Soil samples will be collected from the bottom of the remedial excavation area to a maximum excavation depth of 15 feet bgs (the vertical point of compliance). Discrete soil samples will be collected directly below and lateral to non-compliant pre-remediation and remediation performance soil samples. Additional conformational soil sampling locations will be established by field screening, as described in the Sampling and Analysis Plan. Each sample will be analyzed for gasoline and benzene.

To confirm that cleanup levels have been achieved, the concentrations of COC will be compared to site-specific Method B direct contact cleanup levels and, if applicable, evaluated in accordance with the Ecology document *Statistical Guidance for Ecology Site Managers* (Ecology 1992). As detailed in the guidance, confirming that the Property is clean is based on a comparison of the 95th percent upper confidence limit on the mean (UCL₉₅) with the defined cleanup level. Each sample collected will be analyzed for gasoline and benzene at detection limits low enough to detect compliance with the cleanup levels. The resulting data will then be tested for conformance with distributional assumptions (normal versus lognormal) and the UCL₉₅ calculated based on the methods described in Ecology's 1992 guidance document.

If the UCL₉₅ for a specific chemical does not exceed the cleanup level, then the Property is considered clean; otherwise, it is still considered contaminated. The Property is considered clean when the UCL₉₅ for each COC is less than its respective cleanup level. This statistical approach allows for post-sampling excavation to remove individual sample hot spots that cause exceedance of the cleanup levels and retesting to assess if the recalculated UCL₉₅ exceeds the cleanup level.

3.13 Schedule of Implementation

The remedial action schedule has not been finalized at this time. Once equipment has been mobilized to the Site, we anticipate that the remedial action will take approximately two weeks to four weeks complete, provided that no unexpected conditions are encountered.

3.14 Institutional and Engineering Controls

An Institutional Control in the form of an Environmental Covenant will be required if the residual concentrations of gasoline or benzene exceed the site specific Method B cleanup levels beneath the West View Mart convenience store, the West View Mart pump island and canopy, and the west adjoining Vapor Lounge.

Engineering controls in the form of the existing structures (described above) will remain in place to prevent direct contact with underlying soil that exceeds the site specific direct contact cleanup levels for gasoline and benzene. The remedial excavations will be backfilled with clean soil and capped with asphalt pavement.

4.0 REFERENCES

Associated Environmental Group, LLC (AEG), 2013. *Work Plan for Supplemental Remedial Investigation, West View Mart, 971 Ault Field Road, Oak Harbor, Washington.*

AEG, 2010. *Supplemental Remedial Investigation conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington.*

AEG, 2009. *Subsurface Investigation, conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington.*

AEG, 2007. *Phase I Environmental Site Assessment, conducted on West View Mart, 971 Ault Field Road, Oak Harbor, Washington.*

Edge Analytical, 1995. *Status Report of Petroleum Cleanup — West View Mart, 971 Ault Field Road, Oak Harbor, WA.*

Washington State Department of Ecology, 2016, *Guidance for the Remediation of Petroleum Contaminated Sites, Publication No. 10-09-050.*

Washington State Department of Ecology, 2013, *Opinion Pursuant to WAC 173-340-515(5) on Proposed Remedial Action for West View Mart.*

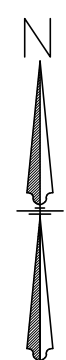
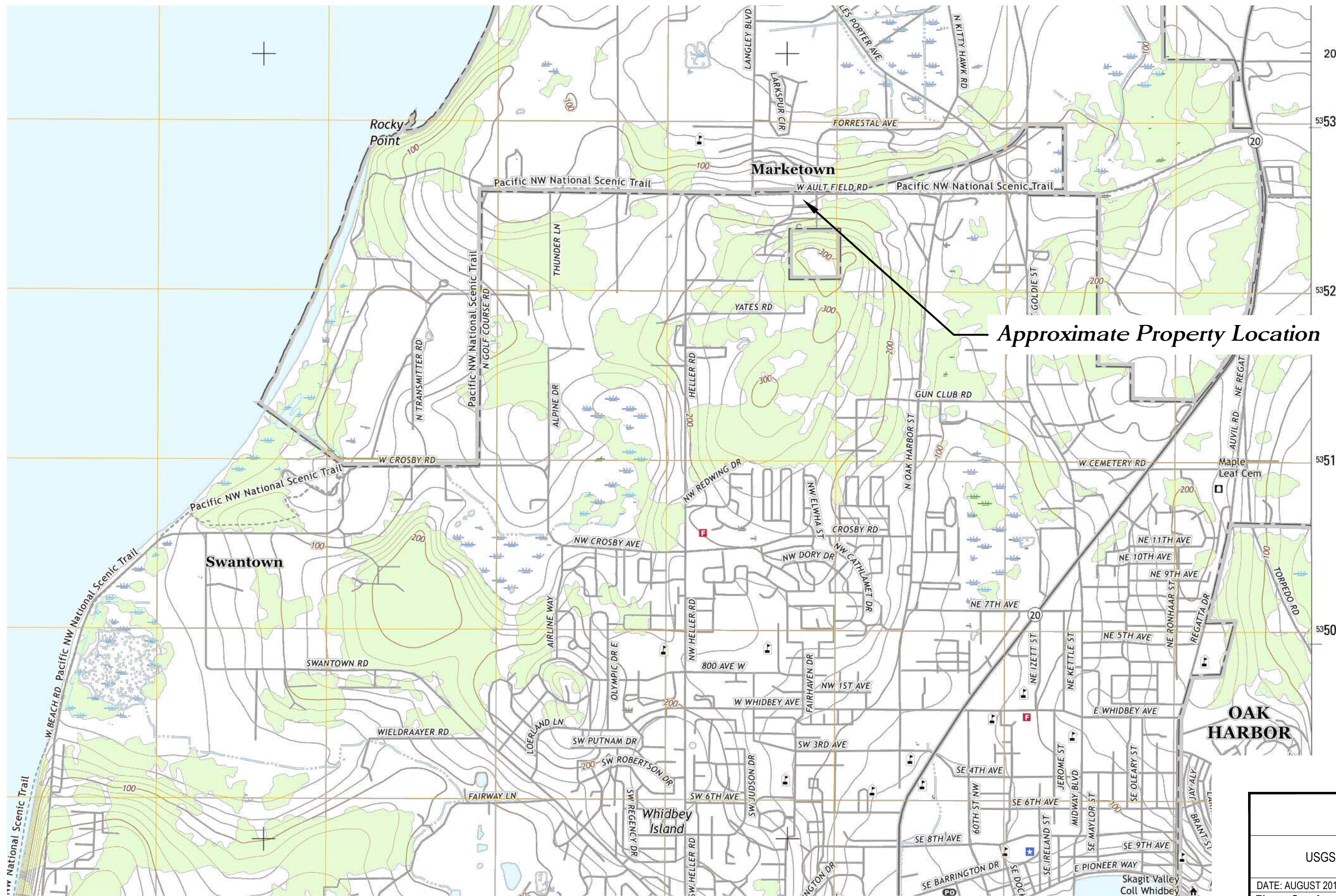
West View Mart CAP
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January 10, 2020



Zipper Geo Associates, 2019, *Remedial Investigation and Recommended Model Remedy Report, West View Mart, 971 Ault Field Road, Oak Harbor, Washington.*

Zipper Geo Associates, 2013, *Limited Remedial Investigation, West View Mart, 971 Ault Field Road, Oak Harbor, Island County, Washington.*

APPENDIX A – FIGURES



Approximate Property Location

WEST VIEW MART 971 Ault Field Rd. Oak Harbor, WA	
USGS TOPOGRAPHIC MAP	
DATE: AUGUST 2019	Job No. 1195.20
Zipper Geo Associates, LLC 19019 36th Ave. W., Suite E Lynnwood, WA	FIGURE SHT. 1 of 1

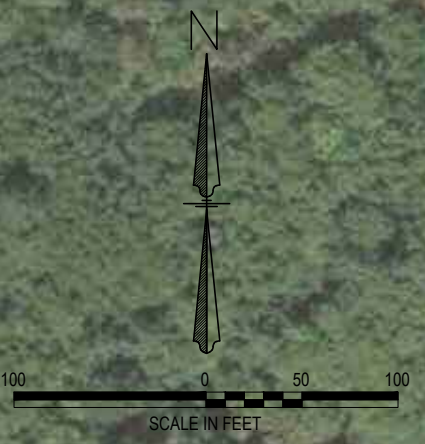
REFERENCE: US Geological Survey, 2017, Oak Harbor 7.5 Minute Topographic Map.



West-adjointing vapor lounge building

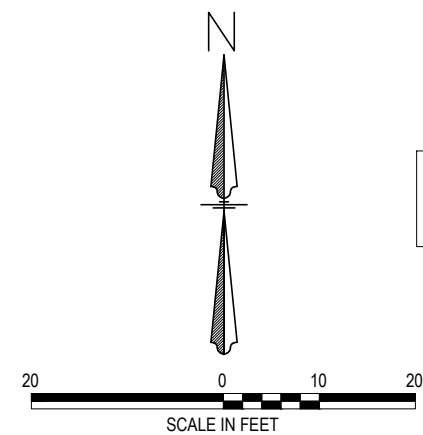
Approximate Property Location

Suspect Clean Soil Stockpiles



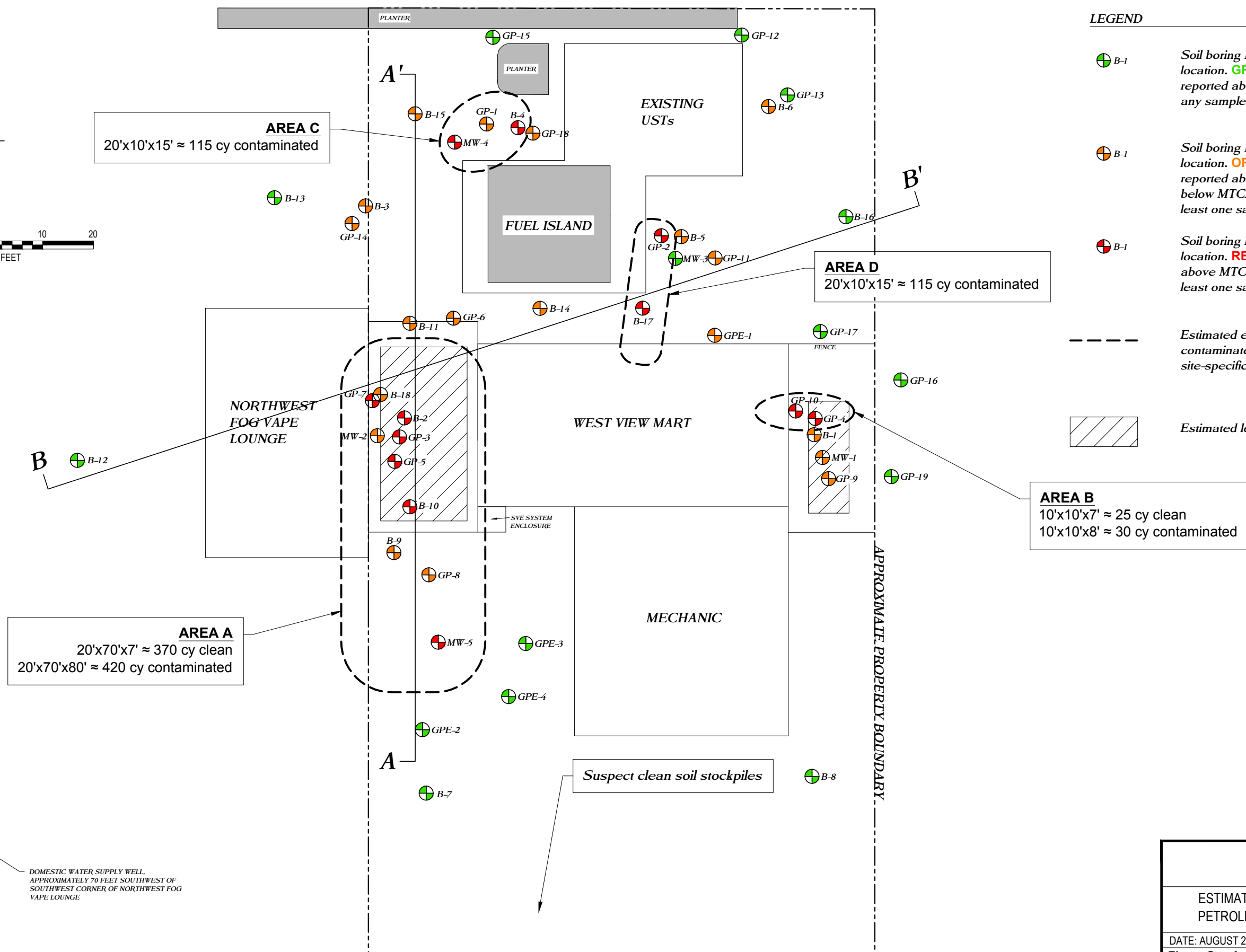
WEST VIEW MART 971 Ault Field Rd. Oak Harbor, WA	
2018 AERIAL PHOTOGRAPH	
DATE: AUGUST 2019	Job No. 1195.20
Zipper Geo Associates, LLC 19019 36th Ave. W., Suite E Lynnwood, WA	FIGURE SHT. 1 of 1

REFERENCE: Google Earth Sattelite Photograph dated July 15, 2018.



LEGEND

- B-1 Soil boring ID and approximate location. **GREEN** indicates TPH not reported above laboratory MRLs in any samples from borehole.
- B-1 Soil boring ID and approximate location. **ORANGE** indicates TPH reported above laboratory MRLs but below MTCA Method B CULs in at least one sample from borehole.
- B-1 Soil boring ID and approximate location. **RED** indicates TPH reported above MTCA Method B CULs in at least one sample from borehole.
- Estimated extents of petroleum contaminated soil that exceeds site-specific MTCA Method B CULs.
- Estimated location of UST cavity.



AREA C
20'x10'x15' ≈ 115 cy contaminated

AREA D
20'x10'x15' ≈ 115 cy contaminated

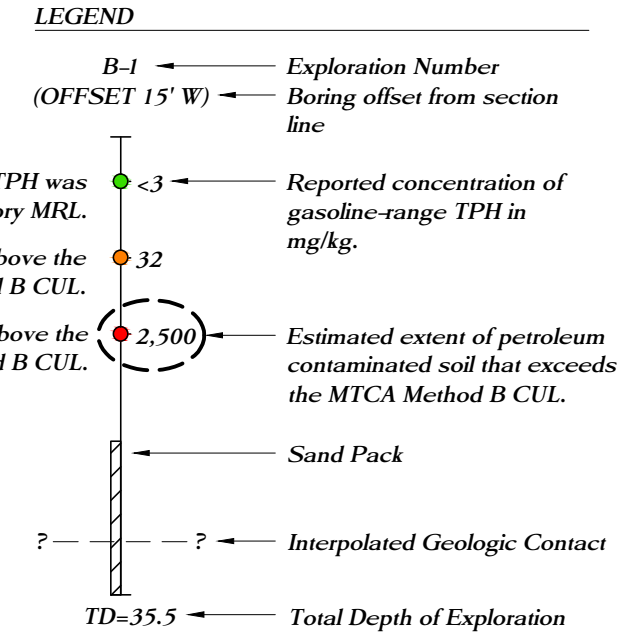
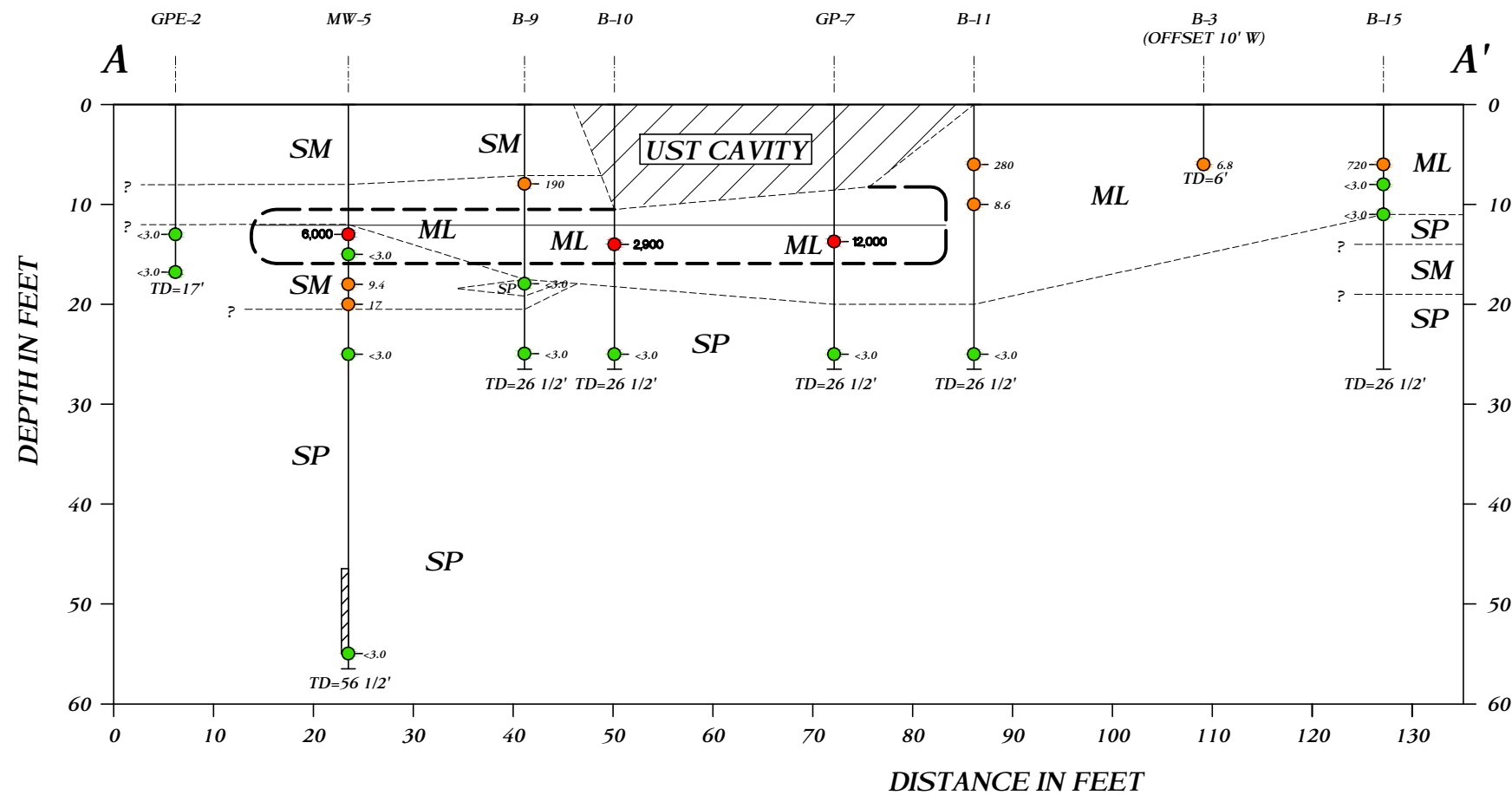
AREA B
10'x10'x7' ≈ 25 cy clean
10'x10'x8' ≈ 30 cy contaminated

AREA A
20'x70'x7' ≈ 370 cy clean
20'x70'x80' ≈ 420 cy contaminated

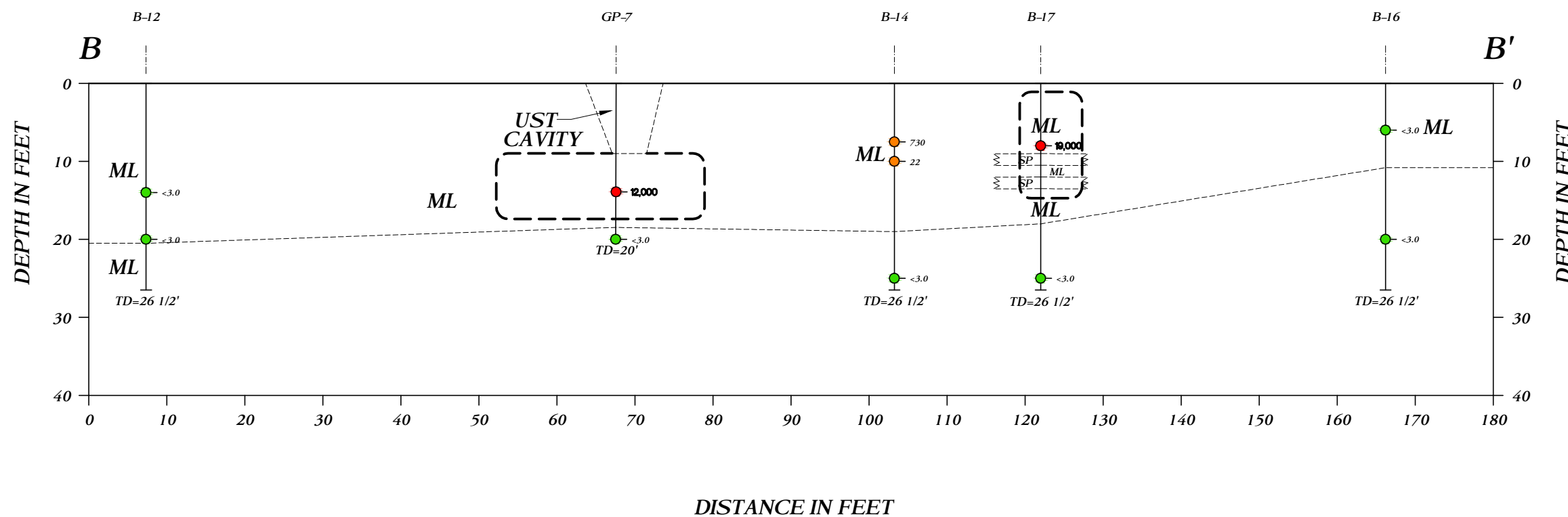
DOMESTIC WATER SUPPLY WELL,
APPROXIMATELY 70 FEET SOUTHWEST OF
SOUTHWEST CORNER OF NORTHWEST FOG
VAPE LOUNGE

Suspect clean soil stockpiles

WEST VIEW MART 971 Ault Field Rd. Oak Harbor, WA		
ESTIMATED LATERAL EXTENTS OF PETROLEUM CONTAMINATED SOIL		
DATE: AUGUST 2019	Job No.	1195.20
Zipper Geo Associates, LLC 19019 36th Ave. W., Suite E Lynnwood, WA	FIGURE	3
	SHT. 1 of 1	



MTCA Method B CUL (Gasoline-range TPH) = 2,561 mg/kg



REFERENCE: ZGA FIELD MEASUREMENTS AND GOOGLE EARTH AERIAL IMAGE

WEST VIEW MART 971 Ault Field Rd. Oak Harbor, WA	
ESTIMATED VERTICAL EXTENTS OF PETROLEUM CONTAMINATED SOIL	
DATE: AUGUST 2019	Job No. 1195.20
Zipper Geo Associates, LLC 19019 36th Ave. W., Suite E Lynnwood, WA	FIGURE SHT. 1 of 1

APPENDIX B – TABLES

Table 1. Summarized Soil Analytical Results

Date Sampled	Boring No.	Sample ID	Depth (ft.)	TPH (mg/kg)			BTEX (mg/kg)				Volatile Organic Compounds (mg/kg)				Other Compounds (mg/kg)			
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Xylenes	EDC	EDB	MBTE	Naphthalene	Total Naphthalenes (EPA 8270 SIM)	Total PAH	PCBs	Lead
11/5/2009	B-1	B1-S4-14.0	14	1,420			0.023	0.70	5.95	36.3								
	B-2	B2-S3-9.0	9	4,190			0.23	4.74	7.22	83.1								
	B-3	B3-S2-6.0	6	68			<0.02	0.16	0.23	2.22								
	B-4	B4-S1-4.0	4	7,720			2.80	0.52	45.6	487								
	B-5	B5-S2-6.5	6.5	674			0.096	0.046	3.53	3.16								
	B-6	B6-S1-4.0	4	16			<0.02	<0.02	0.074	0.014								
6/14/2010	MW-1	MW1-S3-10.0	10	319			<0.02	<0.02	0.085	0.48	<0.02	<0.005	<0.05	<0.20				<5.0
		MW1-S6-25.0	25	<10			<0.02	<0.10	<0.05	<0.15								
	MW-2	MW2-S2-10.0	10	351	<25	<40	0.067	0.052	0.46	2.74	<0.02	<0.005	<0.05	0.63				<5.0
MW2-S4-20.0		20	<10	<25	<40	<0.02	<0.10	<0.05	<0.15									
6/15/2010	MW-3	MW3-S1-5.0	5	<10			0.06	<0.10	0.16	<0.15								
		MW3-S5-25.0	25	<10			<0.02	<0.10	<0.05	<0.15								
	MW-4	MW4-S2-10.0	10	5,680	<25	<40	0.38	3.71	21.8	128	<0.02	<0.005	<0.05	82.9				<5.0
MW4-S5-25.0		25	<10	<25	<40	<0.02	<0.10	<0.05	<0.15									
10/4/2013	GP-1	GP1-1	5	60			0.13	<0.050	0.30	0.46								
		GP1-2	8	3.2			0.32	<0.050	0.11	<0.20								
	GP-2	GP2-1	2.5	3,000			0.75	3.6	20	123								
		GP2-2	6	110			<0.030	0.13	0.98	3.0								
	GP-3	GP3-1	9.5	4,100			<3.0	5.8	17	240								
		GP3-2	10.5	1,500			0.42	4.7	5.5	115								
GP-4	GP4-1	13	5,200			0.42	13	55	650									
	GP4-2	14.5	430			0.27	0.45	4	30.1									
10/10/2016	GP-5	GP5-14	14	11,000			20	230	77	430				15	24.3			
		GP5-20	20	< 3.0			<0.030	<0.050	<0.050	<0.20								
	GP-6	GP6-9.5	9.5	560			1.0	1.9	3.6	18				0.55	2.26			
		GP7-14	14	12,000			170	280	110	550				23	33.7			
	GP-7	GP7-20	20	< 3.0			0.041	<0.050	<0.050	<0.20								
		GP8-18	18	9.9			0.57	0.089	0.18	0.40				0.015	6.6			
	GP-8	GP8-22	22	< 3.0			<0.030	<0.050	<0.050	<0.20								
		GP9-14	14	22			0.047	0.11	0.36	1.8								
	GP-9	GP9-19	19	ND < 3.0			<0.030	<0.050	0.058	<0.20								
		GP10-12	12	3,900			6.5	< 5.0	22	120				<1	1.4			
GP-10	GP10-18	18	ND < 3.0			<0.030	<0.050	<0.050	<0.20									
	GP-11	GP11-6	6	170			<0.030	<0.050	0.20	1.5				0.04	0.2			
GP11-14.5		14.5	<3.0			<0.030	<0.050	<0.050	<0.20									
10/10/2016	GP-12	GP12-9	9	<3.0			<0.030	<0.050	<0.050	<0.20								
		GP12-12	12	< 3.0			<0.030	<0.050	<0.050	<0.20								
	GP-13	GP13-3	3	<3.0			<0.030	<0.050	<0.050	<0.20								
GP13-12		12	<3.0			<0.030	<0.050	<0.050	<0.20									
MTCA METHOD B CUL				2,561	NA	NA	18.2	6,400	8,000	16,000	11	0.5	556	1,600	1,600	Varies	0.5	NE

Table 1. Summarized Soil Analytical Results

Date Sampled	Boring No.	Sample ID	Depth (ft.)	TPH (mg/kg)			BTEX (mg/kg)				Volatile Organic Compounds (mg/kg)				Other Compounds (mg/kg)			
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Xylenes	EDC	EDB	MBTE	Naphthalene	Total Naphthalenes (EPA 8270 SIM)	Total PAH	PCBs	Lead
10/10/2016	GP-14	GP14-3	3	<3.0			<0.030	<0.050	<0.050	<0.20								
		GP14-7	7	1,900			<0.060	< 1.0	6.8	7.8				0.3	1.26			
		GP14-9	9	3.4			<0.030	<0.050	<0.050	<0.20								
	GP-15	GP15-4	4	<3.0			<0.030	<0.050	<0.050	<0.20								
		GP15-17	17	<3.0			<0.030	<0.050	<0.050	<0.20								
	GP-16	GP16-12	12	<3.0			<0.030	<0.050	<0.050	<0.20								
		GP16-16	16	<3.0			<0.030	<0.050	<0.050	<0.20								
	GP-17	GP17-6	6	<3.0			<0.030	<0.050	<0.050	<0.20								
		GP17-8	8	<3.0			<0.030	<0.050	<0.050	<0.20								
	GP-18	GP18-5	5	9.3			0.21	<0.050	0.15	0.24				0.11	0.141			
		GP18-18	18	<3.0			<0.030	<0.050	<0.050	<0.20								
	GP-19	GP19-4	4	<3.0			<0.030	<0.050	<0.050	<0.20								
GP19-12.5		12.5	<3.0			<0.030	<0.050	<0.050	<0.20									
8/2/2017	MW-5	MW-5@13-14'	13-14	6,000			<6.0	<10	34	93	<0.010	<0.005	<0.044					3.3
		MW-5@15-16'	15-16	<3.0			<0.030	<0.050	<0.050	<0.20								2.5
		MW-5@18-19'	18-19	9.4			0.57	0.91	0.22	0.90								6.1
		MW-5@20-21'	20-21	17			4.9	3.5	0.14	0.30								8.6
		MW-5@25-26	25-26	<3.0			<0.030	<0.050	<0.050	<0.20								2.6
		MW-5@55-56.5	55-56.5	<3.0			<0.030	<0.050	<0.050	<0.20								3.4
	B-7	B-7@12.5-13'	12.5-13	<3.0			<0.030	<0.050	<0.050	<0.20								5.6
		B-7@25-26.5	25-26.5	<3.0			<0.030	<0.050	<0.050	<0.20								2.7
	B-8	B-8@13-14'	13-14	<3.0			<0.030	<0.050	<0.050	<0.20								7.7
		B-8@18-19'	18-19	<3.0			<0.030	<0.050	<0.050	<0.20								5.9
8/3/2017	B-9	B-9@8-8 1/2'	8-8.5	190	<25	<50	0.037	0.041	3.6	28.2	<0.010	<0.005	<0.010	2.5	2.41	<0.020	<0.10	5.3
		B-9@18-18.5	18-18.5	<3.0			<0.030	<0.050	<0.050	<0.20								2.4
		B-9@25-26.5	25-26.5	<3.0			<0.030	<0.050	<0.050	<0.20								2.6
	B-10	B-10@14-14.5	14-14.5	2,900	<35	<50	2.7	22	15	131	<0.010	<0.005	<0.051	15	8.6	<0.020	<0.10	3.5
		B-10@25-26'	25-26	<3.0	<25	<50	<0.005	<0.01	<0.01	<0.020	<0.010	<0.005	<0.010	<0.01	<0.02	<0.020	<0.10	2.5
	B-11	B-11@6-7'	6-7	280			<0.30	<0.50	<0.50	<2.0	<0.010	<0.005	<0.010					4
		B-11@10-11'	10-11	8.6			0.11	0.70	0.15	0.77								2.6
		B-11@25-26'	25-26	<3.0			<0.030	<0.050	<0.050	<0.2	<0.010	<0.005	<0.010					2.3
	B-12	B-12@14-15'	14-15	<3.0			<0.030	<0.050	<0.050	<0.20								3.9
		B-12@20-21'	20-21	<3.0			<0.030	<0.050	<0.050	<0.20								2.7
	B-13	B-13@7-7.5'	7-7 1/2	<3.0			<0.030	<0.050	<0.050	<0.20								2.2
		B-13@10.5-11'	10.5-11	<3.0			<0.030	<0.050	<0.050	<0.20								2.8
B-14	B-14@7.5-9'	7 1/2-9	730			0.47	0.62	3.3	20	<0.010	<0.005	<0.010					10	
	B-14@10-11'	10-11	22			0.90	0.16	0.44	2.2								6.8	
	B-14@25-26'	25-26	<3.0			<0.030	0	<0.050	<0.20	<0.010	<0.005	<0.010					2.5	
MTCA METHOD B CUL				2,561	NA	NA	18.2	6,400	8,000	16,000	11	0.5	556	1,600	1,600	Varies	0.5	NE

Table 1. Summarized Soil Analytical Results

Date Sampled	Boring No.	Sample ID	Depth (ft.)	TPH (mg/kg)			BTEX (mg/kg)				Volatile Organic Compounds (mg/kg)				Other Compounds (mg/kg)			
				Gasoline	Diesel	Oil	Benzene	Toluene	Ethylbenzene	Xylenes	EDC	EDB	MBTE	Naphthalene	Total Naphthalenes (EPA 8270 SIM)	Total PAH	PCBs	Lead
8/4/2017	B-15	B-15@6-7'	6-7	720			<0.30	<0.50	1.8	<0.20								2.7
		B-15@8-9'	8-9	<3.0			<0.030	<0.050	<0.050	<0.20								2.3
		B-15@11-11.5'	11-11.5	<3.0			<0.030	<0.050	<0.050	<0.20								3.3
	B-16	B-16@6-7'	6-7	<3.0			<0.030	<0.050	<0.050	<0.20								6.0
		B-16@20-21'	20-21	<3.0			<0.030	ND <0.50	<0.050	<0.20								2.5
	B-17	B-17@8-9'	8-9	19,000	<96	<50	52	270	150	930	<0.010	<0.005	<0.039					8.1
		B-17@25-26'	25-26	<3.0	<25	<50	<0.030	<0.050	<0.050	<0.20	<0.010	<0.005	<0.010					2.3
	B-18	B-18@11-11.5'	11-11.5	1,000	290	<50	<0.005	34	5.3	56	<0.010	<0.005	<0.010	5.8	23.6	0.33	<0.010	4.4
B-18@25-26'		25-26	<3.0	<25	<50	<0.005	<0.010	<0.010	<0.020								2.1	
9/6/2018	GPE-1	GPE1-1	4-4.5	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				1.98
		GPE1-2	7-7.5	15			<0.003	<0.005	0.04	0.209	<0.005	<0.005	<0.005	0.2				1.45
		GPE1-3	14-14.5	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				5.07
	GPE-2	GPE2-1	13-13.5	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				3.36
		GPE2-2	16.5-17	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				23.9
	GPE-3	GPE3-1	9-9.5	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				4.12
		GPE3-2	13-13.5	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				5.6
		GPE3-3	15.5-16	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				2.15
	GPE-4	GPE4-1	3-3.5	<5	<50	<250	<0.003	<0.005	<0.005	0.017	<0.005	<0.005	<0.005	<0.005				4.56
		GPE4-2	8-8.5	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				5.22
GPE4-3		12.5-13	<5			<0.003	<0.005	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005				3.49	
SITE SPECIFIC MTCA METHOD B CUL				2,561	NA	NA	18.2	6,400	8,000	16,000	11	0.5	556	1,600	1,600	Varies	0.5	NE

EDC, ethylene dichloride; EDB, ethylene dibromide; MTBE, methyl tert-butyl ether; PAH, polycyclic aromatic hydrocarbons; PCB, polychlorinated biphenyl; mg/kg: milligrams per kilogram (parts-per-million); <: Not detected above indicated laboratory reporting limit. Shaded values exceed MTCA Method B direct contact cleanup levels.