

## STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

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November 6, 2017

# **Electronic Copy**

Mr. Marcos McGraw City Engineer, Public Works/Engineering City of Gig Harbor 3510 Grandview Street Gig Harbor, WA 98335

Re: No Further Action at the following Site:

Site Name: Stutz Oil

Site Address: 3003 Harbor View Drive, Gig Harbor, WA 98335.

Facility/Site Number: 1768931 Cleanup Site ID Number: 2045 VCP Project Number: SW1608

#### Dear Mr. McGraw:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Stutz Oil Site. This letter provides our opinion. We are providing this opinion under the authority of the MTCA, Chapter 70.105D RCW.

#### **Issue Presented and Opinion**

Ecology has determined that no further remedial action is necessary to clean up the soil and groundwater contamination at the Site

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

#### **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 release:

• Petroleum hydrocarbons and related constituents into the soil and groundwater.

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

Please note the parcels of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

#### **Basis for the Opinion**

This opinion regarding the soil at the Site is based on the information contained in the following documents:

- 1. Robinson Noble, *Final Cleanup Report*, 3003 Harborview Drive, Gig Harbor, Washington, dated August 7, 2017.
- 2. Environmental Covenant for Pierce County Tax Parcel #0221081187, Filed with Pierce County on 10/26/2009 under Recording #200910260274.
- 3. Aspect Consulting, LLC, *Confirmation Monitoring Plan*, Former Stutz Oil Property, dated September 23, 2009.
- 4. Department of Ecology, Letter to Mr. Jim Sullivan (Tangodoe Investment Properties) from Scott Rose, RE: Opinion on Proposed Cleanup, dated August 6, 2009.
- 5. Aspect Consulting, LLC, *Focused Feasibility Study Addendum*, Former Stutz Oil Property, dated July 1, 2009.
- 6. Aspect Consulting, LLC, *Revised Site Characterization and Focused Feasibility Study*, Former Stutz Oil Property, dated May 19, 2009.
- 7. Aspect Consulting, LLC, *Site Characterization and Focused Feasibility Study*, Former Stutz Oil Property, dated March 3, 2009.
- 8. Aspect Consulting, LLC, *Summary Groundwater Monitoring Report*, Former Stutz Oil Site, dated February 13, 2007.
- 9. Department of Ecology, Letter to Mr. Jim Sullivan (Tangodoe Investment Properties) for Mr. Bob Warren, RE: Further Action Determination, dated April 2, 2007.
- 10. Aspect Consulting, LLC, *Supplemental Cleanup Action Plan*, Former Stutz Oil Property, dated June 15, 2007.
- 11. Aspect Consulting, LLC, *Soil Excavation Report*, Former Stutz Oil Property, dated June 2, 2005.

- 12. Aspect Consulting, LLC, *Summary of Sediment Sampling Results*, Former Stutz Oil Property, dated May 2, 2005.
- 13. Aspect Consulting, LLC, *Cleanup Action Plan*, Former Stutz Oil Property, dated April 15, 2005.
- 14. Department of Ecology, Letter to Jim Sullivan (Tangodoe Investment Properties) from Mr. Bob Warren, RE: Further Action Determination, dated August 31, 2005.
- 15. Aspect Consulting, LLC, Memorandum from Mr. William (Chip) Goodhue to Mr. Bob Warren (Ecology), dated September 22, 2006.
- Associated Earth Sciences, Inc., Environmental Site Assessment Report, Stutz Oil Properties, 3003 Harborview Road, Gig Harbor, Washington, dated September 24, 2001.

The above documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

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

#### Analysis of the Cleanup

Ecology has concluded that **no further action** is necessary to clean up the soil and groundwater contamination at the Site. That condition is based on the following analysis:

#### 1. Characterization of the Site

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.** 

#### Site Background

The Stutz Oil Site is located at 3003 Harborview Drive in Gig Harbor, Washington. The Site formerly contained a bulk storage facility containing of a warehouse, office, and five above-ground fuel storage tanks (ASTs) ranging in capacity from 12,000 to 25,000 gallons. The warehouse, office, and ASTs were removed during October 2004.

As a result of the operations of the ASTs, gasoline and diesel releases from the ASTs and/or piping system impacted soils and groundwater at the Site. Several rounds of Site characterization were conducted between 2001 and 2015, which also included the collection of sediment samples from Gig Harbor adjacent to the Site. The detected total petroleum hydrocarbons (TPHs) were primarily in the gasoline-and-diesel ranges, with few localized occurrences of oil-range hydrocarbons.

TPHs present in soil and groundwater appeared highly weathered and degraded, with a much reduced volatile fraction, including no detectable benzene.

#### Site Investigations

In July 2001, Initial Environmental Site Assessment (ESA) was conducted by the Associated Earth Sciences. As part of the ESA, four hollow-stem auger borings were drilled to a depth of 5 to 9 feet below ground surface (bgs). In addition, twelve handauger borings (HA-1 through HA-12) were drilled in locations inaccessible to the limited access drilling rig. Soil samples were collected from each borings and samples were analyzed in accordance with the Model Toxics Control Act (MTCA) Table 830-1 (Required Testing for Petroleum Releases). Results of the soil samples indicated the presence of diesel-and-oil-range total petroleum hydrocarbons (TPH-D and TPH-O) concentrations exceeding the MTCA Method A cleanup level of 2,000 milligrams per kilogram (mg/kg) at five locations. The TPH-D concentrations ranged from 3,200 mg/kg to 13,000 mg/kg at four locations and TPH-O was detected at 3,900 mg/kg at one location. No groundwater was encountered during this ESA and no sediment impacts were noted. Boring and above ground storage tank locations and soil sample results are enclosed as Enclosure B.

In November 2004 and February 2005, Aspect Consulting conducted a more comprehensive subsurface soil and groundwater investigation after the removal of Site structures. As a part of this investigation eight test pits (TP-1 through TP-8) were excavated to an approximate depth of 15.5 feet bgs, generally to groundwater or below. In addition, six soil borings (AC-1 through AC-6) were drilled and three of the soil borings (AC-2, AC-4, and AC-5) were converted into groundwater monitoring wells. Through the field screening process, a total of eleven selected soil samples were collected for the laboratory analysis. All soil samples were analyzed for gasoline-range total petroleum hydrocarbons (TPH-G), TPH-D, TPH-O, benzene, toluene, ethylbenzene, xylenes (BTEX) and total metals. Additional select samples were also analyzed for polycyclic aromatic hydrocarbons (PAHs). Results of this investigation revealed the presence of TPH-G and TPH-D concentrations in soil exceeding MTCA Method A cleanup levels. All the other contaminant concentrations were either below MTCA cleanup levels or below the laboratory detection limits. Test pits and soil boring locations and soil sample results are presented as Enclosure C.

All three groundwater monitoring wells were sampled in February 2005 and groundwater samples were analyzed for TPH-G, TPH-D, TPH-O, volatile organic compounds (including BTEX, methyl tertiary-butyl ether (MTBE), dichloroethane (EDC), and dibromoethane (EDB)], lead, nitrate, nitrite and sulfate. Only TPH-D was detected at 1.1 mg/L in monitoring well AC-4 and TPH-G, BTEX, and lead were not detected above MTCA Method A cleanup levels. No EDB, EDC, or MTBE were detected at the Site.

Groundwater monitoring well locations and groundwater sample results are available as Enclosure C.

#### Soil Removal

In May 2005, approximately 1,200 tons (800 cubic yards) of TPH contaminated soils were excavated and disposed of in LRI Landfill in Tacoma. A total of thirty-one (31) confirmation soil samples (CS-1 through CS-31) were collected from the side walls and bottom of the excavation. All soil samples were analyzed for TPH-G, TPH-D, TPH-O, BTEX, EDB, EDC, MTBE, naphthalene and lead. Only five soil samples (CS-8: 3,410 mg/kg; CS-13: 7,700 mg/kg; CS-16: 2,760 mg/kg; CS-17: 4,090 mg/kg and CS-25: 3,800 mg/kg) had TPH concentrations exceeding the originally calculated Site-specific MTCA Method B direct contact cleanup level of 2,530 mg/kg. However, two of these samples (CS-8 and CS-13) were at depths below 15 feet which is below the standard point of compliance for direct contact exposure. None of the final confirmation soil samples exceeded the MTCA Method A cleanup level for lead, ethylbenzene, and xylenes. Benzene, toluene, MTBE, EDC, and EDB were not detected in any of the confirmation soil samples. Approximate extent of contaminated soil excavation, confirmation soil sampling locations and results are included as Enclosure D.

Following the May 2005 soil remediation, six rounds of quarterly groundwater monitoring were conducted from October 2005 through January 2007. Groundwater samples were analyzed for TPH-G, TPH-D, TPH-O, and BTEX. None of the compounds were detected above the laboratory detection limits except the total xylenes detected at 3  $\mu$ g/L, which is well below MTCA Method A cleanup level of 1,000  $\mu$ g/L. Groundwater monitoring locations and monitoring results are included as Enclosure E.

#### Additional Investigations

Following the removal of the majority of the contaminated soil in May 2005, additional soil and groundwater investigations were conducted in August 2008 to further delineate the extent of remaining TPH impacted soil and groundwater at the Site. Ten direct-push borings (EP-1 through EP-10) were generally completed to depths of 16 to 20 feet bgs. Soil samples were field screened and a total of ten soil and nine groundwater samples (from borings EP-1 through EP-9) were collected for laboratory analysis. All soil and groundwater samples were analyzed for TPH-G, TPH-D, TPH-O, BTEX and naphthalene. The TPH-G and TPH-D were detected in soil samples from borings EP-1 and EP-6 at concentrations 800 mg/kg and 370 mg/kg, respectively. The TPH-G concentration of 800 mg/kg exceeded MTCA Method A cleanup level at boring EP-1. Naphthalene and BTEX were not detected in any of the soil samples.

Only TPH-D concentration of 910  $\mu$ g/L in boring EP-7 groundwater sample exceeded MTCA Method A cleanup level of 500  $\mu$ g/L and all other contaminant concentrations were either below MTCA Method A cleanup levels or below laboratory detection limits. Soil boring locations and soil and groundwater sample results are included as Enclosure F.

In July 2015, the City of Gig Harbor hired Robinson Noble to conduct soil investigation to reevaluate the residual concentrations of TPH left-in-place in the three areas (confirmation soil sample locations CS-8, CS-13, CS-16, CS-17, and CS-25) noted in the November 12, 2009 no further action (NFA) letter that did not meet the Site-specific MTCA Method B cleanup level from the May 2005 remediation (Enclosure G). A draft Work Plan was develop for Ecology's review and concurrence. With Ecology's concurrence, five push-probe borings (BCS-8, BCS-13, BCS-16, BCS-17 and BCS-25) were drilled to depths of 2 feet to 23 feet bgs to access the residual soil contamination left-in-place previously at the Site. A total of five soil samples were collected (with continues field screening) at the same depth as the residual soil contamination that was left-in-place exceeding the Site-specific MTCA Method B cleanup level of 2,530 mg/kg. All soil samples were analyzed for TPH-G, TPH-D and TPH-O. The results of four of five soil samples were below the Site-specific MTCA Method B cleanup level. The results of only the soil sample collected at boring location BCS-25 (4,301 mg/kg) exceeded the MTCA Method B cleanup level of 2,530 mg/kg. Boring locations and soil sample results are included as Enclosure G. Groundwater was also sampled during this event and all the results were below laboratory detection limits.

#### 2. Establishment of Cleanup Standards

Ecology has determined the cleanup levels and points of compliance you established for soil and groundwater at the Site have met the substantive requirements of MTCA.

The contaminants of concern (COCs) for the Site are TPH-G, TPH-D, TPH-O, BTEX, naphthalene, and lead. MTCA Method A cleanup levels were used for BTEX and naphthalene. A Site-specific MTCA Method B soil cleanup level of 2,530 mg/kg was calculated for total petroleum hydrocarbons by using Ecology's MTCA TPH Worksheet and volatile and extractable petroleum hydrocarbons (VPH and EPH) data.

MTCA Method A cleanup levels for unrestricted land use were used at the Site to demonstrate the compliance for groundwater.

Standard points of compliance was used for the Site. The point of compliance for the soil was established throughout the Site from ground surface to 15 feet below ground surface based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway.

The concentrations of constituents of concern in soil samples will need to be below the MTCA method A or Method B cleanup levels. The point of compliance for the groundwater was established throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth that could potentially be affected by the Site. In addition, Ecology approved two conditional points of compliance (monitoring wells AC-2 and AC-5) for the Site.

#### 3. Selection of Cleanup Action

Ecology has determined the cleanup actions you selected for the Site meets the substantive requirements of MTCA.

In 2005 a feasibility study (FS) was conducted which considered the following three remedial alternatives for the Site:

Alternative 1. Capping and Monitored Natural Attenuation.

Alternative 2. Excavation.

Alternative 3. Air Sparging and Soil Vapor Extraction.

After an evaluation of above alternatives, the Alternative 2, Excavation was selected and reevaluated further in detail and a Cleanup Action Plan was developed in April 2005 prior to the implementation of the selected remedy.

#### 4. Cleanup

Ecology has determined the cleanup you performed has met the cleanup standards at the Site. The cleanup activities conducted at the Site included:

#### **Soils**

The initial Site cleanup included the dismantling and removal of former facility buildings, five above ground storage tanks (ASTs) and associated piping system in October 2004. Following the removal of Site structures, the selected remedy under a Cleanup Action Plan was implemented at the Site in May 2005. As a part of the implemented remedy, approximately 1,200 tons (800 cubic yards) of TPH contaminated soil was excavated and disposed of off-Site.

A total of 31 confirmation soil samples were collected from the excavation sidewalls and bottom for TPH-G, TPH-D, TPH-O, BTEX, EDB, EDC, MTBE, and lead analysis. Benzene, toluene, EDB, EDC, MTBE, and naphthalene were not detected in any of the final confirmation soil samples. Ethylbenzene, xylenes and lead concentrations were all below MTCA Method A cleanup levels.

The confirmation soil samples collected at seven locations exceeded the MTCA Method A cleanup levels for TPH-G, TPH-D or naphthalene. However, only five final confirmation soil samples (CS-8: 3,410mg/kg; CS-13: 7,830 mg/kg; CS-16: 2,760 mg/kg; CS-17: 4,090 mg/kg and CS-25: 3,800 mg/kg) exceeded the Site-specific MTCA Method B cleanup level of 2,530 mg/kg. Two of these samples (CS-8 and CS-13) were at depths below 15 feet which is below the standard point of compliance for direct contact exposure. Confirmation soil sampling locations and sample results are included as Enclosure D.

#### Focused Feasibility Study

As a result of the residual TPH contaminated soil left-in-place following the excavation of approximately 1,200 tons of TPH contaminated soils. In May 2005, an additional soil and groundwater investigation was conducted in August 2008. Based on the results of this investigation, a focused FS and a disproportionate cost analysis (DCA) were developed to screen remedial technologies to address the residual contamination remaining on the Site. The following three remedial alternatives were evaluated:

**Alternative 1:** Shallow Soil Excavation during Redevelopment with Groundwater Monitoring.

Alternative 2: Deep Soil Excavation of all the contaminated soils.

**Alternative 3:** Shallow Soil Excavation and Biosparging with Active Soil Vapor Extraction.

Based on the DCA, the Alternative 1 was selected with Ecology's concurrence. This alternative included the excavation of approximately 10 cubic yards of soil, filing of an Environmental Covenant on the property restricting the groundwater use and other intrusive activities including annual groundwater monitoring at the Site. In March 2009, the Site was graded and developed as a public car parking area with asphalt pavement. On November 12, 2009, Ecology issued a no further action (NFA) letter (Enclosure H) and a Restrictive Covenant (Enclosure I) was recorded on October 26, 2009.

#### March 2017 Additional Soil Cleanup

The results of confirmation soil samples collected during July 2015 soil investigation indicated the exceedance of TPH concentration in only one location (BCS-25, Enclosure G). With the intention of obtaining a Site NFA letter, the City of Gig Harbor hired Robinson Noble to conduct additional soil cleanup at the Site. In March 2017, approximately 21 tons of TPH contaminated soil was excavated and transported to the LRI Landfill in Graham, Washington for disposal. Seven confirmation soil samples were collected from the excavation side walls and bottom for TPH-G, TPH-D, and TPH-O analysis.

None of the soils analyzed were found to contain concentrations of TPH above the laboratory detection limits of 50 mg/kg for TPH-D, 10 mg/kg for TPH-G, and 250 mg/kg for TPH-O. After the excavation of TPH impacted soils was completed, the excavation was backfilled using clean fill materials meeting the City of Gig Harbor's specifications. The backfill was well compacted and repaved with asphalt. Enclosure J include the approximate extent of excavation, confirmation soil sampling locations and soil sample results.

Based on the above information submitted to Ecology regarding the additional soil cleanup, Site soils meet the MTCA Method A cleanup levels and the Site requires no additional soil cleanup.

#### Post and Pre-NFA Letter Groundwater Monitoring

As per the requirements of NFA letter and the RC, a total of five rounds of post-NFA groundwater monitoring were conducted at the Site in all three wells (AC-2, AC-4, and AC-5) from March 2010 through March 2017. All the groundwater samples were analyzed for TPH-G, TPH-D, TPH-O, and BTEX. Results of all the contaminant concentrations were below the laboratory detection limits during all five rounds of groundwater monitoring. In addition, prior to issuing an NFA letter in November 2009, a total of six rounds of quarterly groundwater monitoring were conducted at the Site and all the samples were analyzed for the same compounds as stated above. Results were all below the laboratory detection limits during all six round of monitoring except total xylenes was detected during one sampling round at 3  $\mu$ g/L, which is well below its MTCA Method A cleanup level of 1,000  $\mu$ g/L.

Based on the above information submitted to Ecology regarding the groundwater monitoring, Site groundwater meets the MTCA Method A cleanup levels and the Site requires no additional groundwater cleanup.

#### Listing of the Site

Based on this opinion, Ecology will initiate the process of removing the Site from our lists of hazardous waste sites, including:

- a. Hazardous Sites List.
- b. Confirmed and Suspected Contaminated Sites List.

The process includes public notice and opportunity to comment. Based on the comments received, Ecology will either remove the Site from the applicable lists or withdraw this opinion.

#### 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:** 

- o Resolve or alter a person's liability to the state
- o 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 persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. See RCW 70.105D.080 and WAC 173-340-545.

#### 3. State is immune from liability

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

#### **Termination of Agreement**

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#SW1608).

For more information about the VCP and the cleanup process, please visit our web site: <a href="https://www.ecy.wa.gov/program/tcp/vcp/vcpmain.htm">www.ecy.wa.gov/program/tcp/vcp/vcpmain.htm</a>. If you have any questions about this opinion or the termination of the Agreement, please contact me at (360) 407-6335 or at <a href="main.htm">panjini.balaraju@ecy.wa.gov</a>.

Singerely

Panjini Balaraju, P.E.

Southwest Regional Office

Toxics Cleanup Program

#### **Enclosures:**

- Enclosure A: Site Description, Site Vicinity, Site Plan and Site Geological Cross-Section Maps.
- Enclosure B: July 2001, Initial Environmental Site Assessment.
- Enclosure C: November 2004 and February 2005 Soil and Groundwater Investigations.
- Enclosure D: May 2005, Petroleum Contaminated Soil Excavation and Confirmation Soil Sampling and Results.
- Enclosure E: October 2005 through January 2007 Quarterly Confirmation Groundwater Monitoring, Groundwater Sample Results and Monitoring Well Locations.
- Enclosure F: August 2008, Additional Soil and Groundwater Investigations.
- Enclosure G: July 2015, Additional Soil Investigation and Soil Sample Results; Groundwater Sampling.
- Enclosure H: November 12, 2009 No Further Action Letter.
- Enclosure I: Restrictive Covenant Recorded On October 26, 2009.
- Enclosure J: March 2017, Residual Contaminated Soil Final Cleanup and Final Confirmation Soil Sample Results; Groundwater Sampling.

By certified mail: [91 7199 9991 7037 0277 7972]

> Cc: John Hildenbrand, Robinson Noble Nick Acklam, Ecology Stephanie Bussell, Ecology Central Files

### **ENCLOSURE - A**

Site Description, Site Vicinity, Site Plan and Site General Geological Cross-Section Maps

### Site Description

The Stutz Oil Site is located at 3003 Harborview Drive in Gig Harbor, Pierce County, Washington. The Site consist of approximately 0.4-acres parcel and bounded by Gig Harbor to the north, a Restaurant to the west, the City of Gig Harbor right-of-way to the east and south. Most of the Site slopes to the north toward the harbor. A bulkhead separates the property from the harbor and a dock extends from the bulkhead over the harbor. The Site is currently is being used as a public car parking area with asphalt pavement. Figure 1 and Figure 2 show a Vicinity Map and Site Plan, respectively.

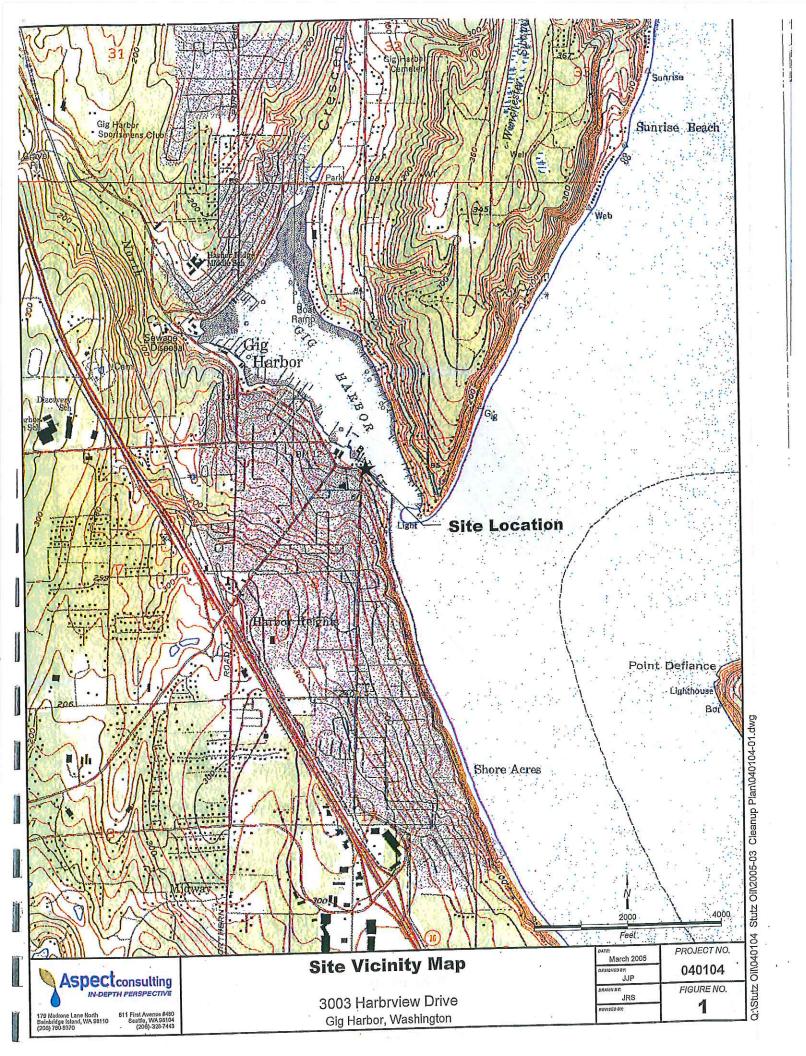
The Site soils generally consist of approximately 4 to 6 feet of silty sand fill underlain by a layer of very dense gravelly sand characterized as native lodgment Till. The depth of silty sand fill was greater on the south side (inland) of the Site. Near the shoreline, a 2-to-3 foot layer of shelly sands was encountered beneath the Till. Groundwater was generally encountered in explorations at depths from 8 to 13 feet. Site groundwater elevations are tidally influenced; data collected during a 4-foot variation in tide cycle indicated changes of 0.5 feet at well AC-4 (located 60 feet from the shoreline), 1.2 feet at AC-2 (25 feet from the shoreline), and 2.1 feet at AC-5 (6 feet from the shoreline). A generalized geological cross-section is included as Figure 3. Groundwater flow direction is generally toward the harbor.

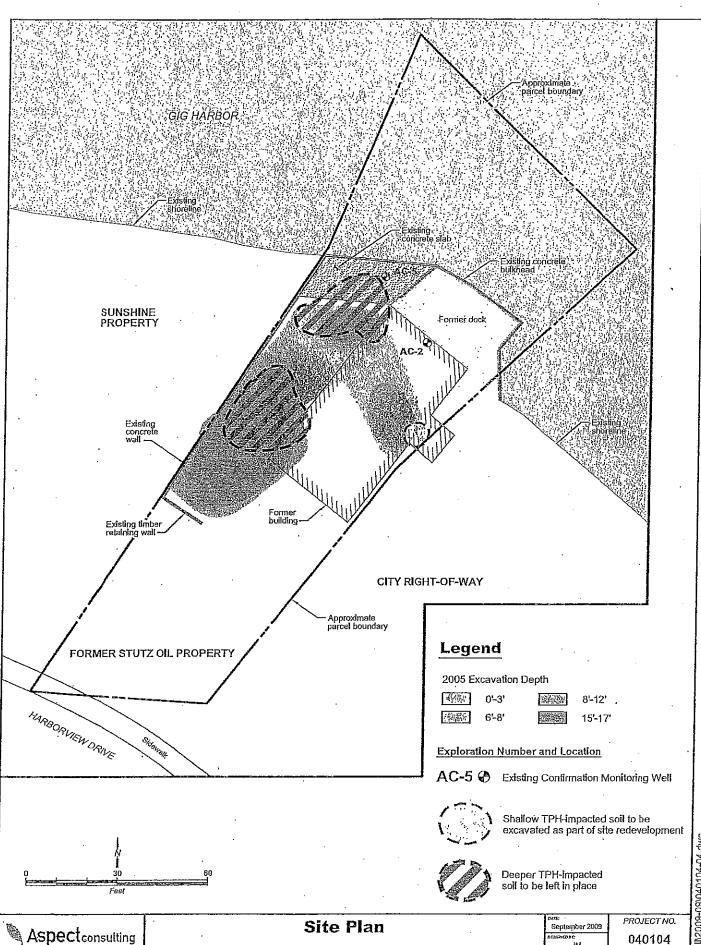
The Site formerly contained a bulk fuel storage facility consisting of a warehouse, office, and five above-ground fuel storage tanks (ASTs) ranging in capacity from 12,000 to 25,000 gallons. The warehouse, office, and ASTs were removed in October 2004. Historical operations and releases from the piping system and/or spills impacted the Site soils and groundwater. The detected total petroleum hydrocarbons (TPHs) were primarily in the gasoline-and-diesel ranges, with few localized occurrences of oil-range hydrocarbons. TPHs present in soil and groundwater appeared highly weathered and degraded, with a much reduced volatile fraction, including no detectable benzene.

Several Site investigations completed between 2001 and 2015 identified areas of soil impacted by gasoline-and-diesel-range total petroleum hydrocarbons (TPH-G and TPH-D). Benzene was not detected in both soil and groundwater samples. All other TPH constituents were either not detected or detected below the Model Toxics Control Act (MTCA) Method A cleanup levels. Excavation and off-site disposal of approximately 1,200 tons (approximately 800 cubic yards) of TPH impacted soil was completed in 2005. The confirmation soil sample results indicated that the TPH concentrations exceeded the Site-specific Method B TPH cleanup levels at four locations. With Ecology's concurrence, the TPH soil contamination was left-in-place based on the disproportionate cost analysis. A no further action (NFA) letter was issued on November 12, 2009 and a Restrictive Covenant (RC) was recorded on the property on October 26, 2009. As required by the NFA letter and RC, a long term groundwater monitoring plan was implemented at the Site.

In March 2017, additional soil cleanup was conducted to remove the residual contaminated soils left-in-place during the 2005 cleanup. A total of approximately 21 tons of TPH contaminated soils were excavated and transported to the LRI Landfill in Graham, Washington for disposal. Results of confirmation soil samples were all below the laboratory detection limits. A total of eleven rounds of groundwater monitoring (pre and post NFA letter) was conducted at the Site. All the contaminant concentrations were either below MTCA Method A cleanup levels or below the laboratory detection limits.

Based on the above information submitted to Ecology regarding both soil and groundwater, Site soil and groundwater meet the MTCA Method A cleanup levels and the Site requires no additional soil or groundwater cleanup.





3003 Harborview, Drive

Gig Harbor, Washington

earth+water

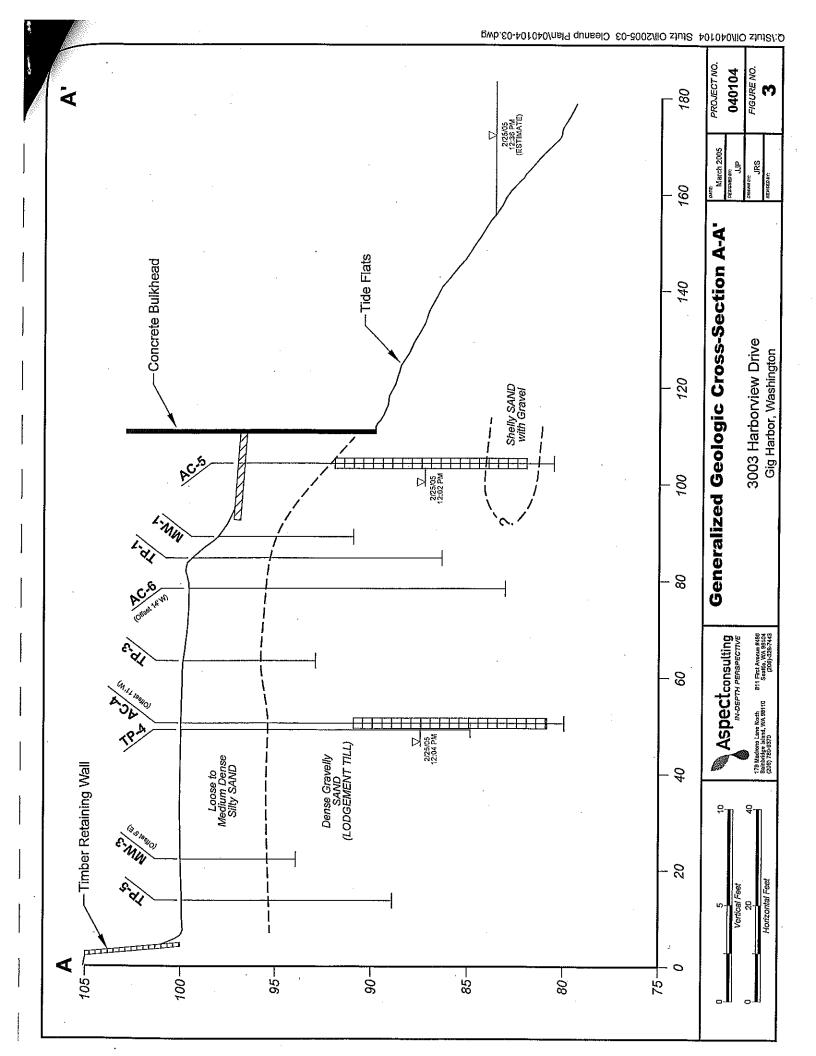
www.aspectconsulting.com

a limited liability company

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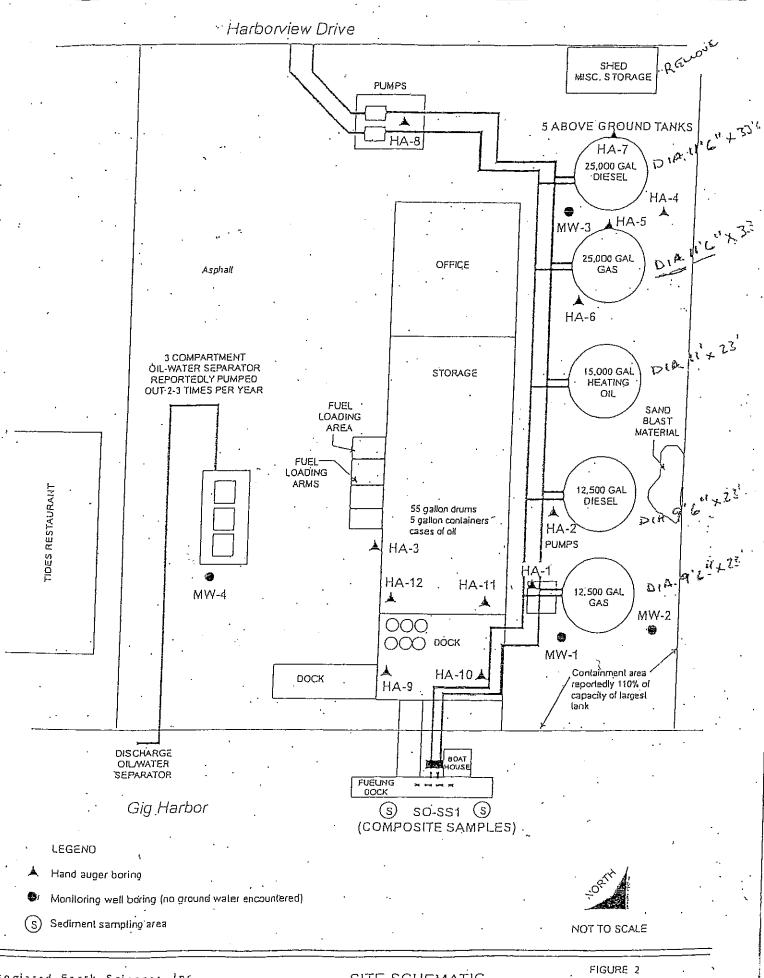
FIGURE NO.

2



# <u>ENCLOSURE – B</u>

July 2001 Initial Environmental Site Assessment



SITE SCHEMATIC. STUTZ OII

DATE 9/01

Table 2

Site Assessment Soil Sample Analytical Results

METHODS: NWTPH-Dx (Petroleum Hydrocarbons as Diesel extended to Motor Oil) and NWTPH-G/BTEX (Petroleum Hydrocarbons as Gasoline with BTEX Distinction) EPA METHOD 6010 Total Lead

(all sample results in parts per million [ppm]) .

							<del>,</del>	·	- <del></del>
Sample Number	Depth fbg*	TPH Diesel	TPH Motor Oil	TPH Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	Total Lead
SO-sandblast	surface	NA	NÁ	NA	NA	NA .	ήΑ	NA	43
SO-MW1-5	5	< 10	< 50	<1	< 0.02	< 0.02	< 0.02	< 0.02	5.1
SO-MW2-5	5	< 10	< 50	<1.	< 0.02	<0.02	< 0.02	< 0.02	5.6
20-W/V3-1	1	< 10	< 50	<1	< 0.02	< 0.02	< 0.02	< 0.02	- 4.1
SO-MW4-5	5	< 10	· < 50	1>	< 0.02	<0:02 .	< 0.02	< 0.02	4.3
SO-RA1-1	1	13,000	< 500	35	< 0.02	< 0.02	0,03	2.1	29
SO-HA1-3	3	NA .	.NA	11	< 0.02	< 0.02	0.03	1.7	NΛ
SO-HA2-3	3	(2,500)	< 50	11	< 0.02	< 0.02	< 0.02	0.03	8.2
ŞO-ĤA3-1	1	NA "	NA ·	</td <td>&lt; 0.02</td> <td>&lt; 0.02</td> <td>&lt; 0.02</td> <td>&lt; 0.02</td> <td>. 7.5</td>	< 0.02	< 0.02	< 0.02	< 0.02	. 7.5
SO-11A4-2	2	. мм	NA ·	<1	< 0.02	< 0.02 :	< 0.02	< 0.02	32
SO-HA5-L	1	(4,100)	1,200	NA	NA	NV.	, NA	NA .	820
I-9VH-OS	· I	170	180	<1	< 0.02	< 0.02	< 0.02	< 0.02	ΝΛ
SO-11A7-1	. 1	. NV	NA ·	<1	< 0.02	< 0.02	< 0.02	< 0.02	• 14
SO-HA7-2	2 .	460	081	NA	NA	NA -	NA.	NA	NA
SO-HA8-1.5	1.5	43	. < 20	, NA	NA	NA	NA	. NA	NΛ
SO-HA9-1.5 & -	1.5	< 10	< 50	NA'	NA	NA ·	МА	NA	18
HA10-1,56 SO-HA11-1 & HA12-1	1 (	3,200	3,900	NA	NA	NA	NA '	NA	590

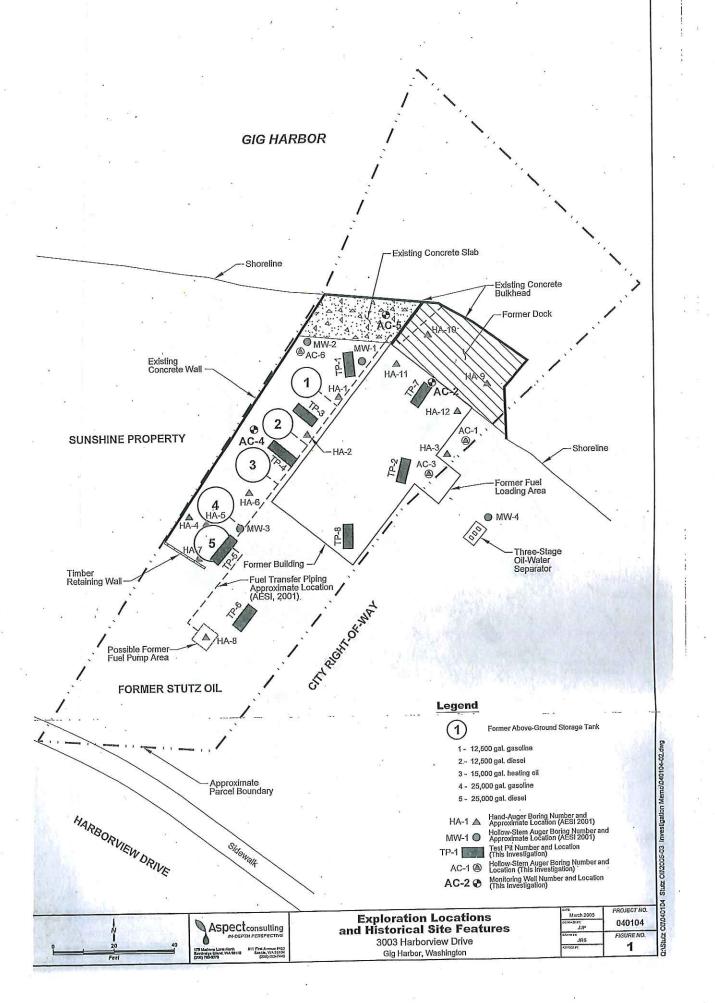
<sup>1</sup> fbg = feet below existing grade

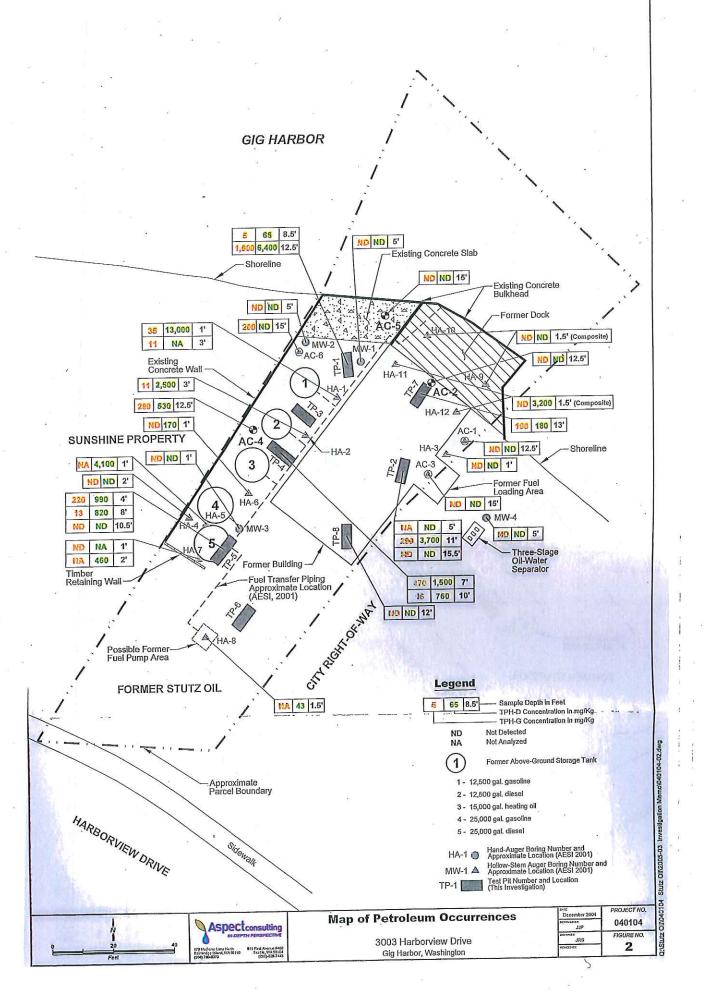
<sup>6</sup> Hand auger samples collected from beneath the dock (SO-HA9-1.5 and SO-HA10-1.5) and beneath the warehouse floor (SO-HA11-1 and SO-IIA12-1) were composited in the laboratory for analysis

NA = Not selected for analysis

# $\underline{ENCLOSURE - C}$

November 2004 and February 2005 Soil and Groundwater Investigations





	_		_							
	AC-6	15 to 16.5	2/22/2005	202	50 U		0.4 U 0.7 U	0.7 U		
	AC5 S.5	15 to 16.5	2222003	2.5 U	50 U 250 U		0.03 U 0.05 U	0.05 U 0.1 U		ı
		12.5 to 14		. 590	20 Z		0.06 U	0.06 U 1.1		ı
,	AC3 S-4	15 to 16.5 2/3/2005		10	50 U 250 U		0.02 U	0.02 U 0.2 U		,
	AC2 S-1	12.5 to 14 2/3/2005		10	250 U	200	0.02	0.20		!
	AC1 S-3	12.5 to 14 2/3/2005		. D. 2	250 U	0.0211	0.02 U	0.2 U		1
	TP-8 S-1	11/15/2004		. 27 100 1100 1100	250 U	0.02 U	0.02 U	0.06 U	•	4
	TP-7 TP7.S2	1/15/2004		100	250 U	0.02 U	0.3 0.02 U	<b>C4</b>	tu	'n.
n ma/ka	TP5 S-3	1/15/2004 1		2 U 50 U	. 520 U	0.02 U	0.02 U 0.02 U	0.06 U	•	ı
Concentration in mg/kg	.TP-5 TP5 S-2 7.5 to 8	4		13 820	250 U	0.02 U	0.02 U	0.06 U		,
Car	TP5 S-1 3.5 to 4	1/15/2004 1		220 990	0.062 730 U	020	0.2 U	<i>)</i> *0	m	į
	4 TP4 S-2 9.5.to 10	1/15/2004 1	•	16 760	1007	0.02 U	0.02 U	2	ო	
	TP4 S-1 6.5 to 7	1/15/2004 1		470 1,500	2	0.2 U 0.2 U	0.2.0	) }	ო	
	TP2 S-4 15 to 15.5	+002004		2 U 50 U 250 H	?	0.02 U 0.02 U	0.02 U 0.06 U		20	
TP-2	TP2 S-3 10.5 to 11 11/15/2004			290 3,700 250 U		0.2 U 0.2 U	0.2 U 1.2		<b>.</b>	
	TP-2 S-2 4.5 to 5 1/15/2004		VTPH-Dx	50 U 250 U		1 1	<b>!</b> ]	٠	1	
	TP1 S-4 TP-2 S-2 12 to 12.5 4.5 to 5 11/15/2004 11/15/2004		TPH-Gx, NV	1,600 6,400 250 U	į	2 N	4 Z	ı	n,	
ď	P.1 S-2 TP1 S-4 TP-2 S-2 TP2 S-3 8.5 to 9 12 to 12.5 4.5 to 5 10.5 to 1. 11/15/2004 11/15/2004 11/15/2004		Vethods NW	5 65 250 U		0.02 0	0.06 U	ć	٥	
įć.			carbons by I		3		,	6010		
Sample Location	Depth of Sample in Feet Sample Date		Second Hydrocarbons by Methods NWTPH-Gx, NWTPH-Dx	Diesel-Range Oil-Range	Volatiles by Method 8021B	Toluene Ethylbenzene	Xylenes	Metals by Method 6010 Lead		;
ij ij	Ğ 8	-	Ga	គេក់	Volatii Ber	교	<del>\$</del>	Metals b		Market

Notes:
U = Not Detected at Indicated Detection Limit
U = Estimated Value
(1) ACS S-5 and AC6 S-4 were analyzed for TPH-G/BTEX by EPA Method 8260B

Table 3 - Summary of Analytical Results for Groundwater - Constituents of Concern

Sample Location			Concentration in ug/L	rg/L	
Sample Date	AC-2 2/8/2005	AC-2 2/8/2005 2/25/2005	AC-4 2/8/2005 2	AC-4 2/8/2005 2/25/2005	AC-5 2/25/2005
Petroleum Hydrocarbons by Methods NWTPH-Gx, NWTPH-Dx	9-HALMN spc	Ax, NWTPH	-Dx		
Gasoline-Kange Diesel-Range ¹ Oil-Range ¹	- 50 U 250 U	20 C	 1,100 250 U	370	73 50 Ú 250 H
VOCs by Method 8260B (BTEX, Gasoline Additives, and other Detected Compounds)	soline Additis	ves, and of	her Detected	Compound	) ) (S)
Toluene	) — ;	1 1	 		<u></u>
	- 8 - 0	1 1.	28	1 1	) L
Metals by Method 6010 Lead	-				)
	) -	ı	.7	i	<u>,</u>

Notes:

U = Not Detected at Indicated Detection Limit

<sup>1</sup> During initial analysis of AC-2 and AC-4, the lab reported interferences that did not match a petroleum product. Samples were reanalyzed using a silica gel cleanup. Reported results are with silica gel cleanup.

### **ENCLOSURE - D**

May 2005, Petroleum Contaminated Soil Excavation and Confirmation Soil Sampling Locations and Results

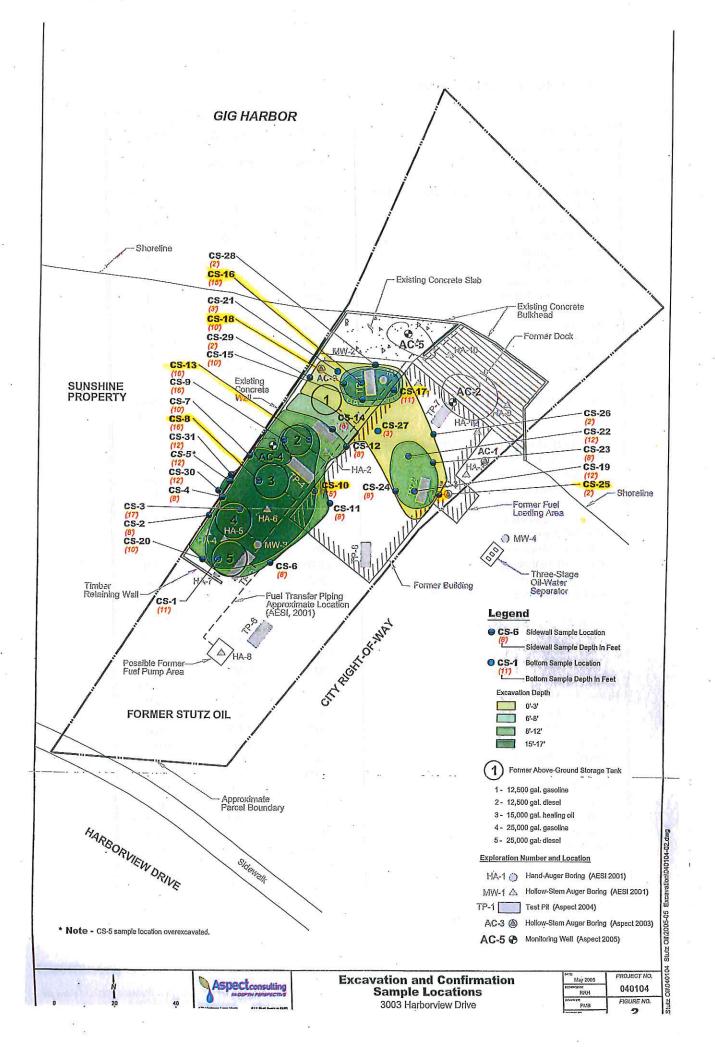


Table 4 - VPH/EPH Analytical Results

1	Cor	ncentration in r	ng/kg
Sample ID	CS-5	CS-17	CS-25
Depth of Sample in Feet	12	11	2
Sample Date	5/3/2005	5/5/2005	5/9/2005
			0/3/2003
Petroleum Hydrocarbons by Method WA VPH	ì	• •	
C8-C10 Aromatics	260	160	< 4.3
C10-C12 Aromatics	500	. 190	6.8
C12-C13 Aromatics	210	140	15
C5-C6 Aliphatics	< 5.4	< 5.4	
C6-C8 Aliphatics	50	80	< 4.3
C8-C10 Aliphatics	< 55	< 5.4	< 4.3
C10-C12 Aliphatics	220		< 4.3
6 TO 12 Amphibules	. 220	< 5.4	< 4.3
Benzene	< 0.54	~ 0.E4	
Toluene	< 0.54	< 0.54	< 0.43
Ethylbenzene	•	1.0	< 0.43
m-,p-Xylene	3.5	2.1	< 0.43
o-Xylene	2.2	2.6	< 0.86
Methyl tert-Butyl Ether	1.4	< 0.54	< 0.43
n-Hexane	< 0.54	< 0.54	< 0.43
ii-nexaile .	< 5.4	< 5.4	< 4.3
Petroleum Hydrocarbons by Method WA EPH	•		
C8-C10 Aromatics			
	69	14	< 2.5
C10-C12 Aromatics	191	26	< 2.5
C12-C16 Aromatics	369	, 100	4.3
C16-C21 Aromatics	222	150	240
C21-C34 Aromatics	. 4	6.1	95
C8-C10 Aliphatics	256	52	< 2.5
C10-C12 Aliphatics	571	120	< 2.5
C12-C16 Aliphatics	1,020	360	120
C16-C21Aliphatics	387	220	500
C21-C34 Aliphatics	19	15	410
AHs by Method 8270C SIM			
Naphthalene	2.5	2.0	< 0.05
Acenaphthylene	< 0.05	< 0.05	< 0.05
Acenaphthene	< 0.05	0.052	< 0.05
Fluorene	0,87	0.58	< 0.05
Phenanthrene	0.65	1.1	< 0.05
Anthracene	< 0.05	< 0.05	< 0.05
Fluoranthene	< 0.05	< 0.05	< 0.05
Pyrene	< 0.05	0.05	0.085
Benz[a]anthracene	< 0.05	< 0.05	< 0.05
Chrysene	< 0:05	< 0.05	< 0.05
Benzo[b]fluoranthene	< 0.05.		rs
Benzo[k]fluoranthene	< 0.05	< 0.05	< 0.05
Benzo[a]pyrene		< 0.05	< 0.05
Indeno[1,2,3-cd]pyrene	< 0.05	< 0.05	< 0.05
Dibenzo[a,h]anthracene	< 0.05	< 0.05	< 0.05
Proprediatiliantiliacette	< 0.05	< 0.05	< 0.05
Benzo[g,h,i]perylene	< 0.05	< 0.05	< 0.05

Notes:

< = Not Detected at Indicated Detection Limit

CS-5 was overexcavated

Table 1 - Analytical Results for Soil Confirmation Samples Former Stutz Oil Facility

				_								_					_							_							
TPH by VPH/RPH (fraction data summarized in Table 4)	Hazard Quotient for Unrestricted ) Land Use		.1	1	1	-	ł	1	1	1		į	ľ	1	1		0.54	ł	1	ı	-	l	!	1	0.29	-	i	ł	1	1	
TPH by VT data summ	TPH (mg/kg)	1	į	1	1	1	ł	1	1	1	1	ı	1	ł	ı	1	1,500	Į	l	1	1	ł	1	l	1,400	,	ı	ŀ	ı	í	_
Lead by EPA Method 6010	Lead (mg/kg)	5	4	98	9	м	65	60	9	9	4	9	7	5	6	7	11	S	7	. 42	21	'n	4		110 .	29	14	7	S	4	4
Total TPHs	f. 0.ii	₹307	<302	m	570	950	<305	3,410	481	200	254	59	7,830	305	110	2,760	4,090	790	302	769	₹305	302	7	. 2	3,800	1,300	130	<302	<302	<302	3
Oil by NWTPH-Dx	Oil (mg/kg)	<250	<250	<250	10	<2.50	<250	<2.50	<2.50	\$50	<250	<b>4250</b>	250	250	<250	<250	<b>4250</b>	<250	<b>2</b> 50	<b>~250</b>	<250	. 0525	<b>4</b> 250	V250	600 <sup>(1)</sup>	810 (1)	<b>250</b>	250	<250	<250	<250
Diesel by NWTPH-Dx	Diesel (mg/kg)	050	8	050	260	950	Ą	43,300	410	80	250	8	×7,700	\$50	110	× 2,500	. χ3,600	029	8	760	ğ	ğ	8	80	×3,200 <sup>(1)</sup>	490 (1)	130	8	000	ŝ	<\$0
Gasoline by NWTPH-Gx	Gasoline (mg/kg)	8	۵	m	۷	<10	8	110	17	200	4	59	130	4	7	× 260 ·	× 490	<b>₹</b> 120	7	σ,	4	4	7	2	7	7	Ą	4	4	7	3
	Naphthalene (mg/kg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.3	6.0	<0.05	<0.05	<b>∆</b> 0.05	14	<0.05	<0.05	4.2	2.5	99.0	\$0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	EDB 1	<0.05	<0.05	<0.05	0.05	A 50.05	<0.05	<0.25	0.05	₹0.05	40.05	<0.05	<0.25	\$0.05	<0.05	<0.25	<0.05	<0.05	\$0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	\$0.05	<0.05	<0.05	<0.05
8260B	EDC (mg/kg)	<0.05	<0.05	\$0.05	<0.05	<0.05	\$0.05	<0.25	<b>₹0.05</b>	<0.05	<0.05	20.05	\$2,0	0.05	<u>6</u> 0.05	<0.25	₹0.05	<0.05	0.05	0.05	<0.05	Q.05	0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05
A. Method	MTBE (mg/kg)	<0.05	<0.05	<0.05	<0.05	20.05	\$0.05	<0.25	0.05	<b>₹</b> 0.05	₹0.0\$	₹0.05	<0.25	₹0.05	0.05	<0.25	<0.05	₹0.05	\$0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<b>0.05</b>	<0.05	<0.05	<0.05
Target VOCs by EPA Method 8260B	Xylenes (mg/kg)	<0.10	60.10	0.10	0 10	<b>40.10</b>	<0.10	2.1	0.18	8	9:1	0.38	7.5	<b>0</b>	Q.1	4.7	4	0.33	0.1	₩.	¥0.1	6.1	V	0.1	<0,1	0.1	8	0	0.1	<b>0</b> .1	0,1
Target V	Benzene Toluene Ethylbenzene (mg/kg) (mg/kg) (mg/kg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.3	0.17	<0.05	<0.05	0.34	4.8	<0.05	<0.05	1.7	1.7	0.14	€0.05	<0.05	<0.05	0.05 20.05	<0.05	<0.05	<0.05	<0.05	<0.05	. <0.05	<0.05	<0.05	<0.05
	Toluene 1 (mg/kg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	₹0.05	<0.05	<0.05	0.05	<0.25	\$0.05	<0.05	<0.25	<0.05	40.05	\$0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	A0.05	0.05	A0.05	<0.05
	Benzene (mg/kg)	<0.03	₩.03	₹0.03	<0.03	<0.03	0.03	<b>40.25</b>	<0.03	©.03	<0.03	0.03	<0.25	<0.03	Ø.03	<0.25	Ø.03	€0.03	€0.03	<0.03	<0.03	80.03	Q.03	\$0.03	<0.03	<0.03	₩.	₹0.03	€0.03	80.03	<0.03
	Sample Date	5/3/2005	5/3/2005	5/3/2005	5/3/2005	5/3/2005	5/4/2005	5/4/2005	5/4/2005	5/4/2005	5/4/2005	5/4/2005	5/5/2005	5/5/2005	5/5/2005	5/5/2005	\$/\$/2005	5/5/2005	5/5/2005	5/5/2005	5/5/2005	5/9/2005	5/9/2005	5/9/2005	5/9/2005	5/9/2005	5/9/2005	5/9/2005	5/9/2005	5/12/2005	5/12/2005
Sample	Depth (feet)	11	·. ∞	17	8	8	10	16	16	15	89	∞	16	œ	10	15	Ξ	2	12	10	ιŋ	17	∞	o3	2	7	m	ы	7	12	. 12
	Sample Туре	BTM	SW	BIM	ΧX	SW	SW	BIM	BIM	BTM	ΔS	SW	BIN	MS	SΨ	BILM	ΝS	ΝS	BIM	SW	BIM	BIM	SW	SW	SW	MS	BIM	SW	SW	ΜS	SW
	Sample DD 10	CS-1	S-5	CS-3	CS-4	CS-6	_	8-SO +	6-80	CS-10	S-11	CS-12	S-13 사	CS-14	CS-15	c CS-16	CS-17	CS-18	CS-19	CS-20	CS-21	CS-22	CS-23	CS-24	CS-25	CS-26	CS-27	CS-28	CS-29	CS-30	S-31

Sidewall Sample Notes: SW BTM A

Bottom Sample

Not detected a indicated detection limit not included because this sample location was overexcavated. Data provided in Table 3. Metryl ter-bntyl Ether 1,2-Dibrocehane 1,2-Dibromoethane 1,2-Dibromoethane not analyzed

CS-5 MTBE EDC EDB

Laboratory identified chromatogram as mixture of diesel and motor oil.
Oil-Range Petroleum calculated from subtracting Diesel (C10-C25) from Total Residual (C10-C36)
TPH quantified as Motor Oil = 2,200 mg/kg for C5-25, 2,400 mg/kg for CS-26

Table 3 - Analytical Results for Overexeavated Soil Sample CS-5 Former Stutz Oil Facility

in Table 4)		Hazard	TPH (mg/kg) Quotient
	L	Lead (mg/kg)	
	Gasoline,	diesel and oil	(mg/kg)
		Oil (mg/kg)	
	Diesel	(me/ke)	/B. A.
	Gasoline	(mg/kg)	200
	Naphthalene	(mg/kg)	13
	EDB	(mg/kg)	\$U 0\$
	EDC	(வஜ/kg)	50 0×
	MTBE	(mg/kg)	<0.05
	Xylenes	(mg/kg)	0.14 <0.05 <0.05
	Ethyloenzene	(mg/kg)	<0.05 0.68
	Toluene	(THE/KE)	<0.05
ز	Benzene	(mg/kg)	<0.03
Date		_	5/3/2005
	(Teet)	_	[12]
Type			MS.
A			CS-S
	Date Type Date	Date Benzene Toluere Ethylbenzene Xylenes MTBE EDC EDB Naphthalene Gasoline Diezel Gasoline,	Xylenes MTBE EDC EDB Naphthalene Gasoline Diezel Gasoline, (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) (mg/kg) diezel and oil Lead (mg/kg)

Sidewall Sample
Not detected at indicated detection limit
Methyl tert-buyl Ether
1,2-Dichtorchane
1,2-Dibromoethane Notes:
SW A
A
MTBE
EDC
EDC

### **ENCLOSURE - E**

October 2005 through January 2007 – Quarterly Confirmation Groundwater Monitoring, Groundwater Sample Results and Monitoring Well Locations

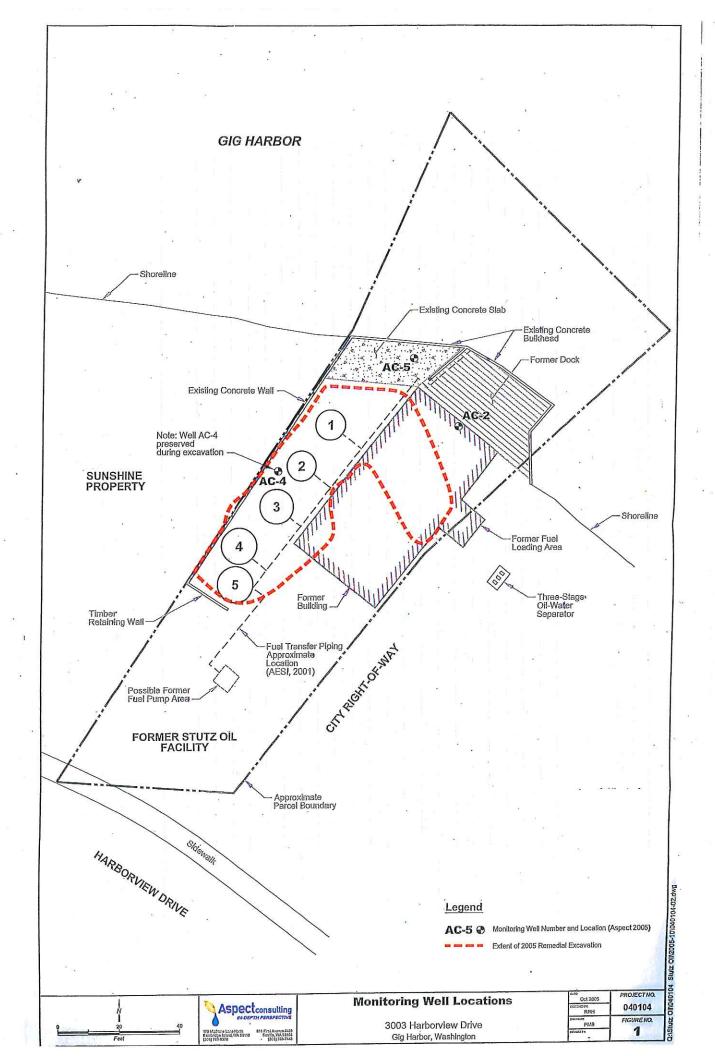


Table 2 - Summary of Groundwater Sample Analytical Results

1

Prepared by Aspect Consulting - February 12, 2007 Former Stutz Oil Property

		Total Petroleum Hydrocarbons as	Total Petroleum Hydrocarbons as	Total Petroleum Hydrocarbons as	BTEX Co	mpounds b	BTEX Compounds by EPA Methods 8260B or 8021B	ods 8260B	Dissolved Lead
Well Number	Sampling Date	Diesel by NWTPH-Dx <sup>1</sup> (μg/L)	Motor Oil by NWTPH-Dx <sup>1</sup> (μg/l)	Gasoline by NWTPH-Gx (µg/l)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- Benzene (µg/L)	Total Xylenes (µg/L)	by EPA Method 6000 (μg/ľ)
	2/8/2005	<50	na	Bu	⊽	√'	∀	Q	₹
AC-2	2/25/2005	na	na	<50	na	na	na	na	na
    -  -	10/11/2005	<50	<250	<100	⊽	∇'	⊽	Ø	na
	1/5/2006	<50	<250	<100	7	7	7	Q	na
·	4/18/06	<125	<250	<100	7	∀	₹	Ø	na
	8/15/06	<50	<250	<100	∀	∀	⊽	Ø	na
	1/11/2007	<50	<250	<100	7	⊽	7	3	na
	2/8/05	1,100	1,100	BII	∵	⊽'	21.	28	2
AC-4	2/25/05	na	na	370	na	na	na	na	na
	10/11/05	300	300	140	∀	I	I	7	па
	1/9/06	630	<250	029	∀'	2	91	13	na
L	4/18/06	<125	<250	120	I	∀	3	3	na
	8/15/06	7.5	<250	120	⊽	⊽	3	Δ.	na
1	11/1/2006	86	<250	700	∀'	⊽	2	\$	na
	1/11/2007	74	<250	001	\<	7	7	V	na
,	2/25/05	<50	<250	73	7		71	8	7
AC-3	10/11/05	\$0	<250	<100	7	∀	₹	Q	na
	1/5/06	0€0	<250	<100	∀	∇'	7	Ø	na
	4/18/06	<125	<2.50	<100	7	7	7	8	na
ı	8/15/06	0\$	<250	<100	⊽	∀	⊽	V	na
	1/11/2007	<50	<250	<100	∀	▽	V	8	811
MTCA Method A Cleanup Levels for Groundwater	4 Cleanup ndwater	, 500	500	8002	5	1,000	700	1,000	15

Notes:

na - not analyzed

Analyte concentration shown in bold exceeds the MTCA Method A Cleanup Level.

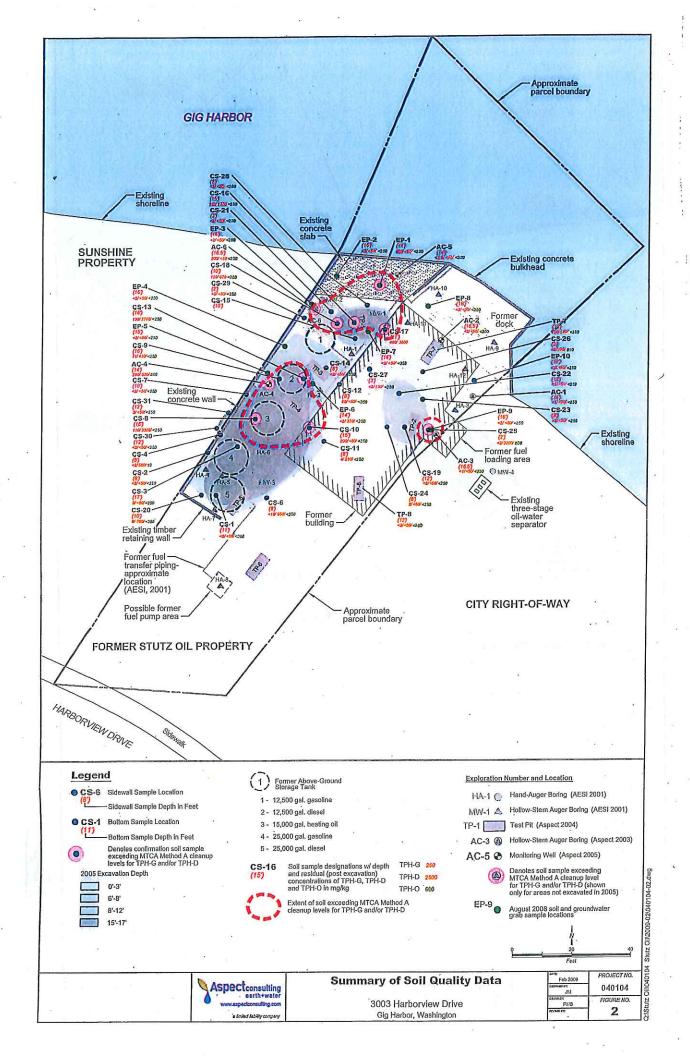
na - not analyzed.

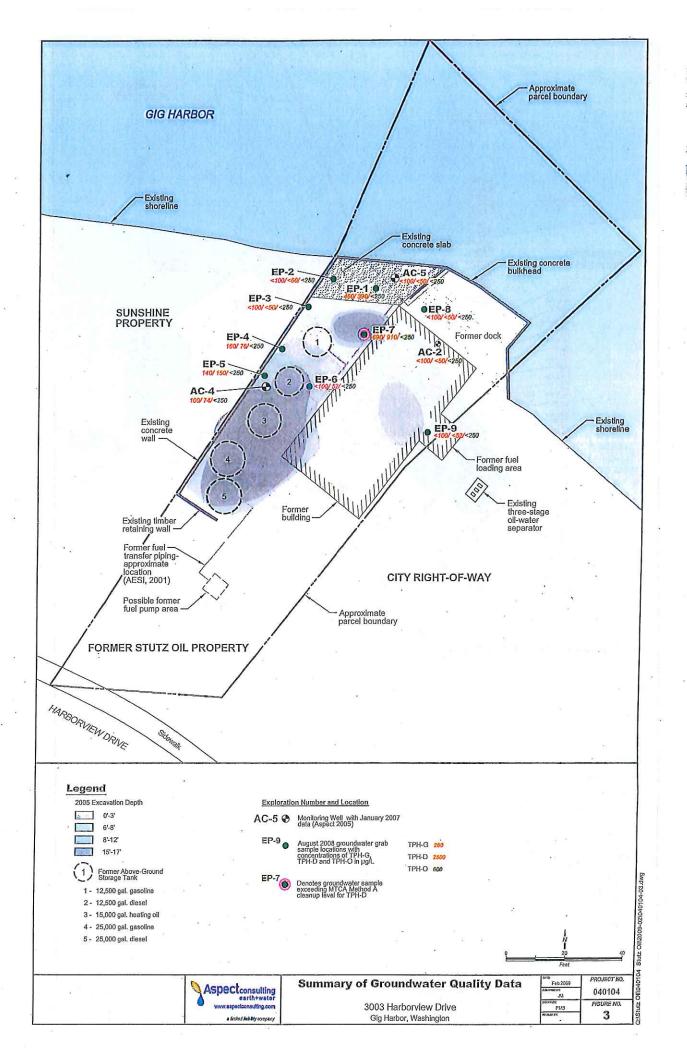
Unring February 2005 analysis of TPH-Dx, the lab reported interferences that did not match a petroleum product in samples from wells AC-2 and AC-4. At the laboratory's recommendation, all samples including those from February 2005 were analyzed using a silica gel cleanup. All reported concentrations are after silica gel cleanup.

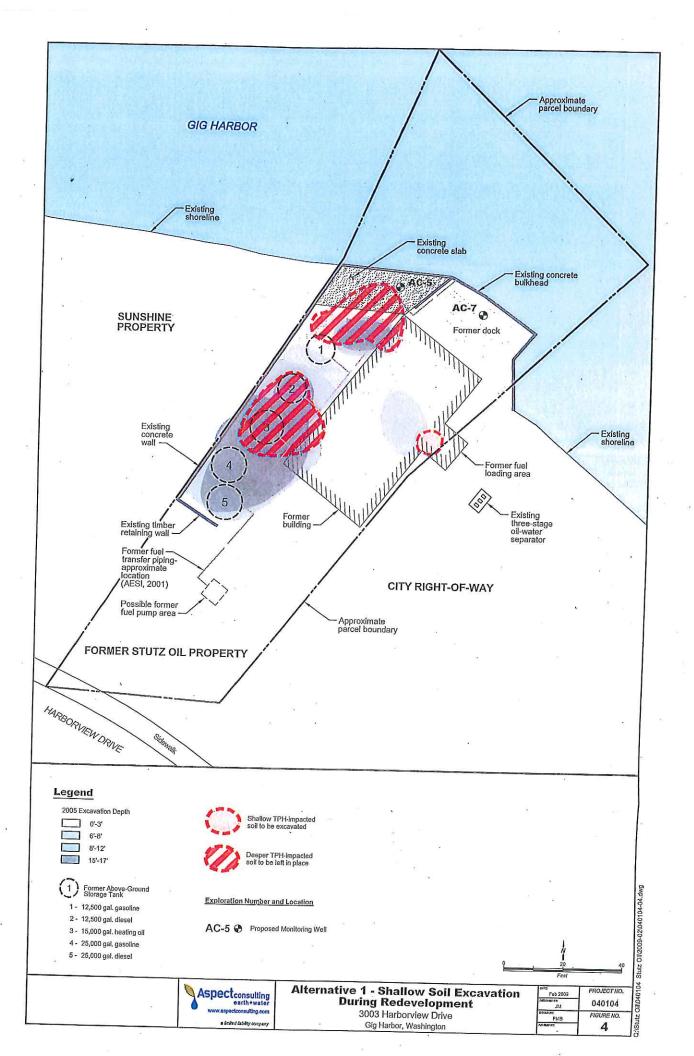
 $<sup>^{2}</sup>$  Cleanup level for TPH as gasoline when benzene is present.

## $\underline{ENCLOSURE-F}$

August 2008, Additional Soil and Groundwater Investigations

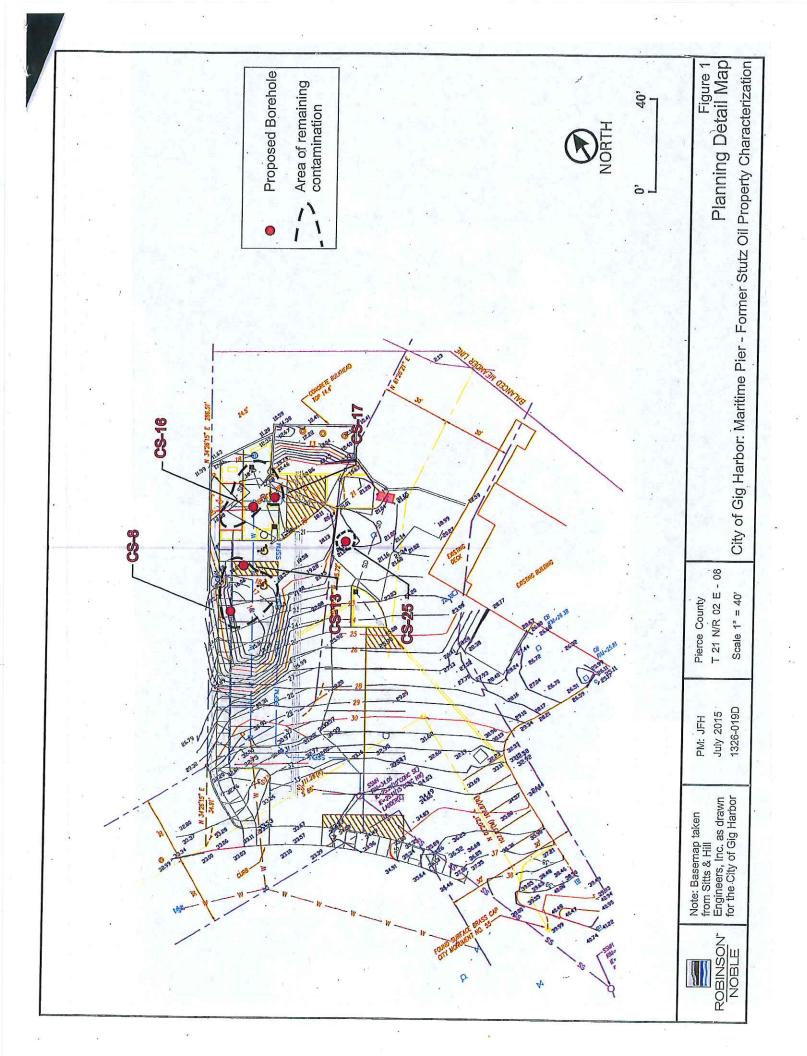






### **ENCLOSURE - G**

July 2015, Additional Soil Investigation and Soil Sample Results; Groundwater Sampling



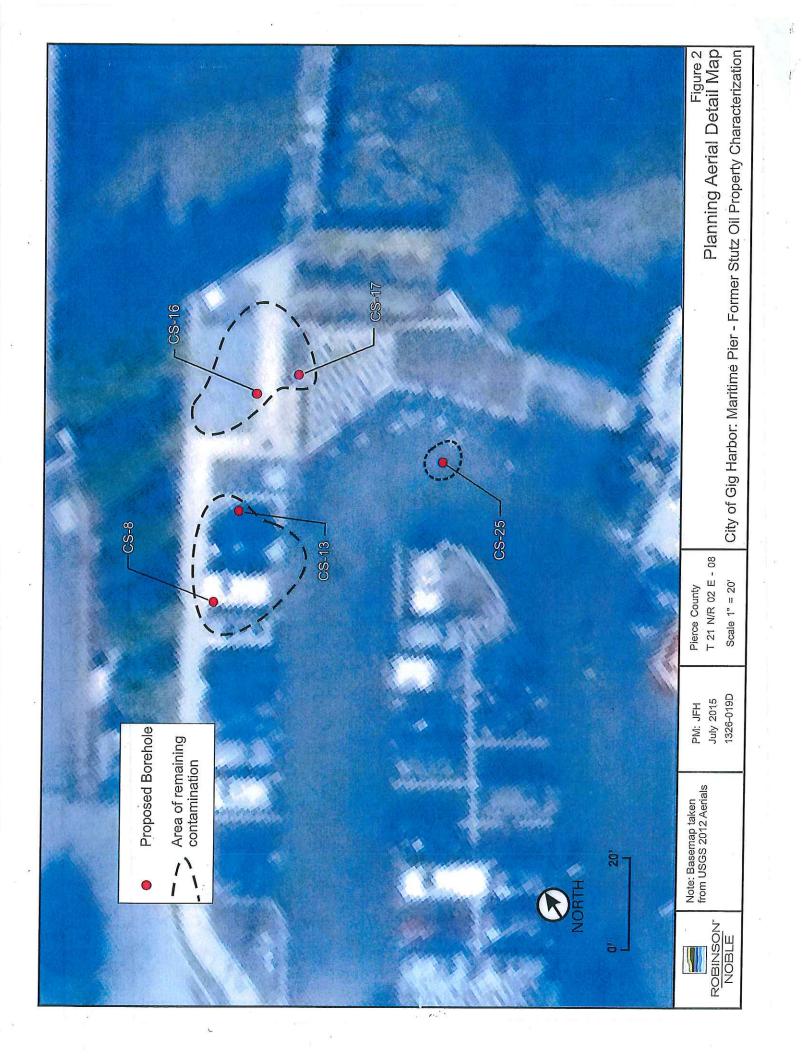




Table1. 2015 Soil results for petroleum hydrocarbons (mg/kg)

· · · · · · · · · · · · · · · · · · ·				
Sample/ID	Gasoline	Diesel	Oil	TPH
BCS-8 19'	<10*	<25*	<50*	42.5
BCS-13 16.5'	32	62	<50*	119
BCS-16 15'	<10	710	<50*	740
BCS-17 13.5'	531 <sub>E</sub>	1,800	<50*	2,356
BCS-25 2'	<10*	666	3,630	4,301

<sup>\*</sup>below detection limits, TPH calculations using ½ the detection level; E reported as an estimate; BOLD indicates reported above the Site-specific cleanup level of TPH at 2,530 mg/kg

## $\underline{ENCLOSURE-H}$

November 12, 2009 No Further Action Letter



## STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

November 12, 2009

Mr. Jim Sullivan Tangodoe Investment Properties 8725 Randall Drive NW Gig Harbor, WA 98332

Re: No Further Action at the following Site:

• Site Name: Stutz Oil

Site Address: 3003 Harborview Drive, Gig Harbor

Facility/Site No.: 1768931VCP Project No.: SW0630

Dear Mr. Sullivan:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Stutz Oil facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

#### Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

NO. Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

This opinion is dependent on the continued performance and effectiveness of the post-cleanup controls and monitoring specified below.

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, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

#### 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 release:

Petroleum hydrocarbons and related constituents into the Soil and Groundwater.

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

Please note the parcel(s) of real property associated with this Site are also located within the projected boundaries of the Tacoma Smelter Plume site (Facility/Site# 89267963). At this time, we have no information that those parcel(s) are actually affected. This opinion does not apply to any contamination associated with the Tacoma Smelter Plume site.

#### Basis for the Opinion

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

- 1. Environmental Covenant for Pierce County Tax Parcel #0221081187. Filed with Pierce County on 10/26/09 under Recording #200910260274.
- Confirmation Monitoring Plan, Former Stutz Oil Property, dated September 23, 2009 by Aspect Consulting, LLC.
- 3. Letter to Mr. Jim Sullivan (Tangodoe Investment Properties) from Mr. Scott Rose (Ecology), RE: Opinion on Proposed Cleanup. Dated August 6, 2009.
- 4. Focused Feasibility Study Addendum, Former Stutz Oil Property, dated July 1, 2009 by Aspect Consulting, LLC.
- 5. [Revised] Site Characterization and Focused Feasibility Study, Former Stutz Oil Property, dated May 19, 2009 by Aspect Consulting, LLC.
- 6. Site Characterization and Focused Feasibility Study, Former Stutz Oil Property, dated March 3, 2009 by Aspect Consulting, LLC.
- Supplemental Cleanup Action Plan, Former Stutz Oil Property, dated June 15, 2007 by Aspect Consulting, LLC.

- 8. Letter to Mr. Jim Sullivan (Tangodoe Investment Properties) from Mr. Bob Warren, RE: Further Action Determination. Dated April 2, 2007.
- 9. Summary Groundwater Sampling Report, Former Stutz Oil Site, dated February 13, 2007 by Aspect Consulting, LLC.
- Memorandum from Mr. William (Chip) V. Goodhue (Aspect Consulting, LLC) to Mr. Bob Warren (Ecology), RE: Opinion Letter Dated August 31, 2005. Dated September 22, 2005.
- 11. Letter to Mr. Jim Sullivan (Tangodoe Investment Properties) from Mr. Bob Warren, RE: Further Action Determination. Dated August 31, 2005.
- 12. Soil Excavation Report, Former Stutz Oil Property, dated June 2, 2005 by Aspect Consulting, LLC.
- 13. Summary of Sediment Sampling Results, Former Stutz Oil Property, dated May 2, 2005 by Aspect Consulting, LLC.
- Cleanup Action Plan, Former Stutz Oil Property, dated April 15, 2005 by Aspect Consulting, LLC.
- 15. Environmental Site Assessment Report, Stutz Oil Property, 3003 Harborview Road, Gig Harbor, Washington, dated September 24, 2001 by Associated Earth Sciences, Inc.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

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

#### Analysis of the Cleanup

Ecology has concluded that no further remedial action is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in Enclosure A.

Site characterization was conducted during several investigations conducted between 2001 and 2008, which also included the collection of sediment samples from Gig Harbor adjacent to the Site. Samples collected to date have been analyzed in accordance with MTCA Table 830-1 (Required Testing for Petroleum Releases). The results of the characterization indicated that residual concentrations of gasoline- and diesel-range petroleum hydrocarbons (TPH-G and TPH-D) exceeding MTCA cleanup levels are present in soil throughout portions of the Site, but appear to be limited in extent to within the property boundary. See Figure 2 for a summary of the soil data collected to date.

Groundwater data collected to date had identified concentrations of TPH-D and oil-range petroleum hydrocarbons (TPH-O) in groundwater above MTCA Method A cleanup levels in well AC-4, located within the former tank area. However, TPH-D and TPH-O have not exceeded MTCA cleanup levels at the two wells located along the shoreline (AC-2 and AC-5) to date. TPH-G has historically been detected in groundwater but at concentrations below MTCA cleanup levels. See Table 2 for a summary of historical groundwater data, and Figure 3 for a summary of the most recent data collected.

No impacts were noted in sediment samples.

#### 2. Establishment of cleanup standards.

Groundwater beneath the Site is not considered to be a current or potential source of drinking water due to its proximity to surface water and tidal influence. As a result, cleanup levels for protection of marine organisms are applied to groundwater. However, since there is no published surface water criteria for TPH-G, TPH-D, and TPH-O, the appropriate cleanup levels default to Method A. Site-specific Method B values were calculated for soil. Three soil samples (TP-1-S-4, CS-17, and CS-25) were analyzed for volatile and extractable petroleum hydrocarbons (VPH and EPH). The VPH and EPH data was entered into Ecology's MTCA TPH Worksheet and values of 2,530 milligrams per kilogram (mg/kg), 2,570 mg/kg, and 5,000 mg/kg, respectively, were calculated for the three samples. These values are considered protective of the direct contact pathway. To be conservative, the most stringent value of 2,530 mg/kg was chosen as the cleanup level for total petroleum hydrocarbons (TPH) at the Site. However, this value is not considered protective of groundwater.

Conditional points of compliance have been established for the Site. The point of compliance for protection of groundwater will be established in the soils throughout the Site. In addition, a conditional point of compliance for the ground water has been established along the shoreline of Gig Harbor. As noted above, the Site-specific Method B cleanup level of 2,530 mg/kg is not protective of groundwater. Impacts to groundwater above MTCA cleanup levels have been documented beneath the Site; however, no exceedances have been documented to date in the two monitoring wells located along the shoreline of Gig Harbor. Ecology has approved using these two monitoring wells (AC-2 and AC-5) as conditional points of compliance for the following reasons: excavation and removal of the majority of impacted soil from the Site has resulted in a decrease in concentrations of contaminants of concern (COCs) in groundwater; the feasibility study completed for the Site demonstrated that it would be disproportionately cost prohibitive to excavate or treat in-situ the remaining impacted soil that contains COCs at concentrations not protective of groundwater; and cleanup levels have not been exceeded to date for COCs in either well.

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 shall be established in the soils throughout the Site from the ground surface to 15 feet below ground surface (bgs). As stated above, the Site-specific Method B cleanup level of 2,530 mg/kg was calculated for protection of the direct contact pathway. When comparing Site soil data to this cleanup level, all confirmation soil sample locations collected from the Site subject to the direct contact pathway (less than 15 feet bgs) are protective of direct contact, except for two locations, CS-17 and CS-25. TPH concentrations at these locations were 4,340 mg/kg (CS-17) and 3,802 mg/kg (CS-25). In an effort to show compliance, a statistical analysis was performed on the data in accordance with WAC 173-340-740(7) using MTCAStat. The results of the analysis indicated that neither concentration was greater than twice the cleanup level; these two samples combined to be less than 10% of the total number of samples collected (27 from less than 15 feet bgs); and the upper one-sided 95% confidence limit on the true mean soil concentration (about 1,250 mg/kg) was less than the cleanup level.

Based on the information above, compliance with cleanup standards has been achieved provided that institutional controls are implemented at the Site in the form of restrictions on property usage. Refer to the section on Post-Cleanup Controls and Monitoring for details on these restrictions.

#### 3. Selection of cleanup action.

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA.

Cleanup actions conducted at the Site to date have included the dismantling and removal of the former facility and the associated tanks and other primary sources of contamination; and the excavation and off-Site disposal of 1,200 tons of impacted soil to LRI Landfill in Tacoma.

Following soil excavation, confirmation soil samples indicated concentrations of residual COCs above cleanup levels remaining on Site. A feasibility study and disproportionate cost analysis was generated to screen remedial technologies to address the residual contamination remaining on Site. The screening process resulted in three potential alternatives:

- 1) Remedial Actions Completed To Date with Groundwater Monitoring no additional cleanup activities would be conducted, and an environmental covenant would be placed on the property requiring long-term groundwater monitoring and restrictions on property usage, including prohibiting use of groundwater.
- 2) <u>Deep Soil Excavation</u> all remaining TPH-impacted soil (an estimated 530 cubic yards) would be excavated and disposed off Site, which would require temporary shoring, confirmational sampling, and at least a year of groundwater monitoring.
- 3) Shallow Soil Excavation and Biosparging with Active Soil Vapor Extraction excavation of about 10 cubic yards of shallow TPH-impacted soil, installation and operation of a biosparging and soil vapor extraction system, groundwater monitoring during and following system operation, and confirmational soil sampling following system operation.

The preferred alternative proposed in the feasibility study was #1. Ecology reviewed and evaluated these alternatives, and agrees that alternative #1 is acceptable. As part of this remedy, an environmental covenant will be placed on the property restricting groundwater use and any other intrusive activities without prior Ecology approval. As part of the covenant, long-term monitoring of the groundwater is required, which will be conducted at two monitoring well locations along the shoreline of Gig Harbor. Ecology understands that there are plans to redevelop the property, and that if one or both of these wells are damaged or destroyed, they will be replaced.

#### 4. Cleanup.

Ecology has determined the cleanup you performed meets the cleanup standards established for the Site. This determination is dependent on the continued performance and effectiveness of the post-cleanup controls and monitoring specified below.

#### Post-Cleanup Controls and Monitoring

Post-cleanup controls and monitoring are remedial actions performed after the cleanup to maintain compliance with cleanup standards. This opinion is dependent on the continued performance and effectiveness of the following:

#### 1. Compliance with institutional controls.

Institutional controls prohibit or limit activities that may interfere with the integrity of engineered controls or result in exposure to hazardous substances. The following institutional control is necessary at the Site:

Restrictions on land and groundwater use.

To implement that control, an Environmental Covenant has been recorded on the following parcel of real property in Pierce County:

0221081187.

Ecology approved the recorded Covenant. A copy of the Covenant is included in **Enclosure B**.

#### 2. Performance of confirmational monitoring.

Confirmational monitoring is necessary at the Site to confirm the long-term effectiveness of the cleanup. The monitoring data will be used by Ecology during periodic reviews of post-cleanup conditions. Ecology has approved the monitoring plan you submitted. A copy of the plan is included in **Enclosure B**.

#### Periodic Review of Post-Cleanup Conditions

Ecology will conduct periodic reviews of post-cleanup conditions at the Site to ensure that they remain protective of human health and the environment. If Ecology determines, based on a periodic review, that further remedial action is necessary at the Site, then Ecology will withdraw this opinion.

#### Listing of the Site

Based on this opinion, Ecology will remove the Site from our Confirmed and Suspected Contaminated Sites List.

#### Limitations of the Opinion

#### 1. Opinion does not settle liability with the state.

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

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

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

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

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

#### 3. State is immune from liability.

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

#### Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#SW0630).

For more information about the VCP and the cleanup process, please visit our web site: <a href="www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm">www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm</a>. If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at (360) 407-6347 or e-mail at sros461@ecy.wa.gov.

Sincerely,

Scott Rose, L.G.

Acting Unit Manager

SWRO Toxics Cleanup Program

SIR/ksc:Stutz Oil NFA

Enclosures (2):

A - Description and Diagrams of the Site

B - Environmental Covenant for Institutional Controls and Confirmational

Monitoring Plan

By certified mail: (7009 1410 0002 4420 0143)

cc: Chip Goodhue - Aspect Consulting

Rob Olsen - Tacoma Pierce County Health Department

Dolores Mitchell - Ecology (w/o enclosures)

# Enclosure A Description and Diagrams of the Site

#### Site Description

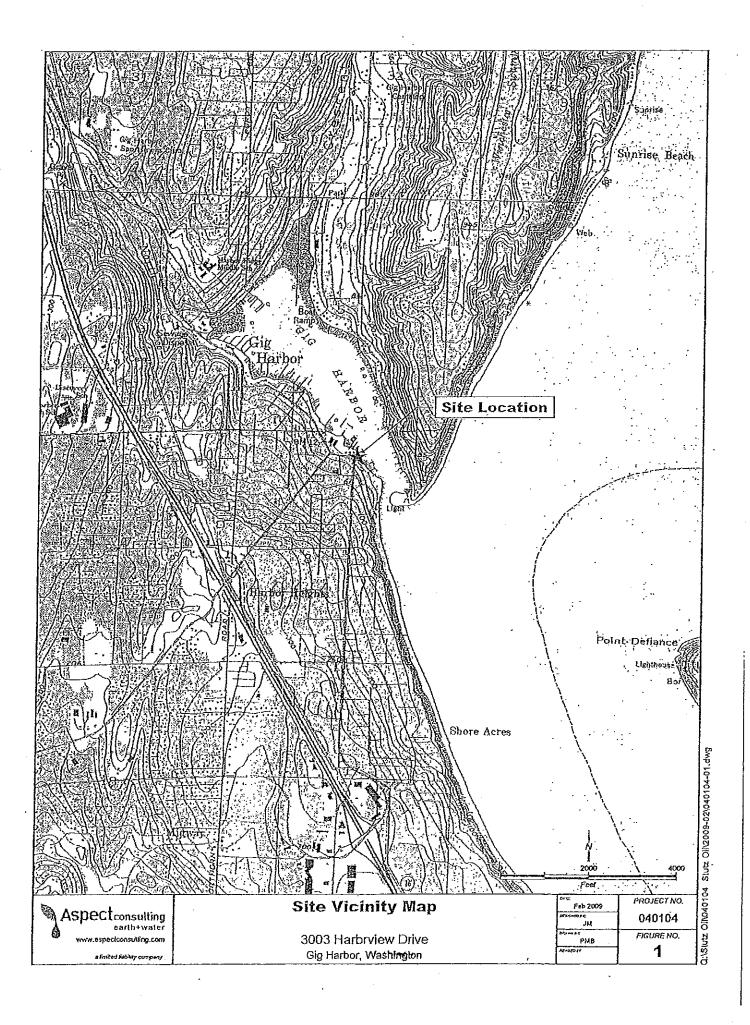
The Stutz Oil site is located at 3003 Harborview Drive in Gig Harbor, Pierce County, Washington. The site consists of a 0.4-acre parcel (Pierce County Parcel No. 0221081187), and is bounded by Gig Harbor to the north, an inn to the west, and City of Gig Harbor rights-of-way to the east and south. The Tides Tavern is located across the right-of-way to the east. Most of the site slopes north toward the harbor. A bulkhead separates the property from the harbor and a dock extends from the bulkhead over the harbor. The site is currently vacant and unused. A temporary security fence restricts access.

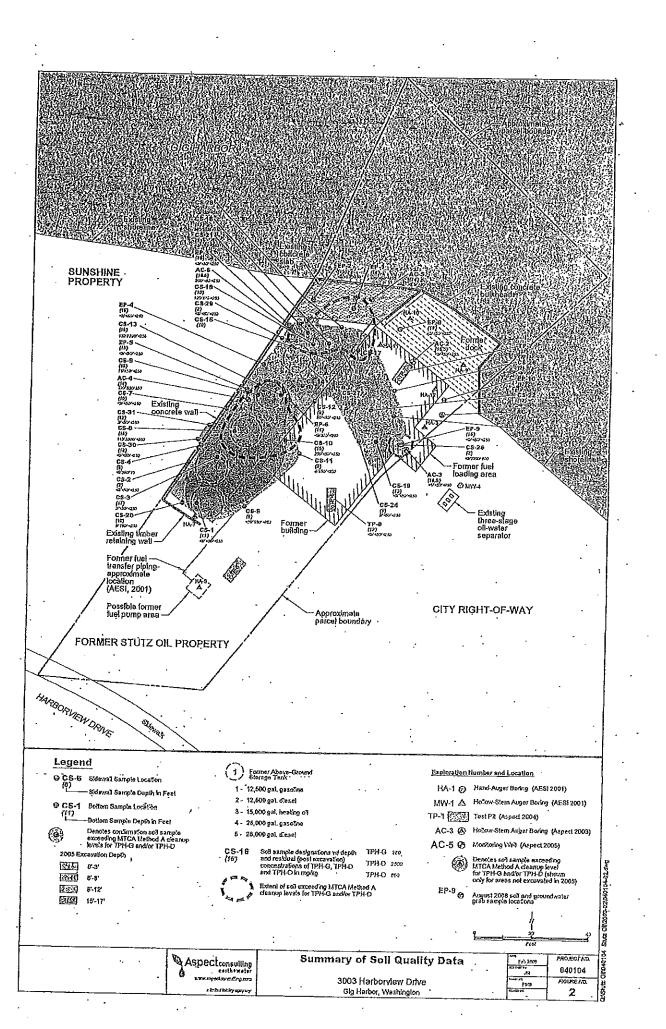
The property formerly contained a bulk fuel storage facility consisting of a warehouse, office, and five aboveground storage tanks (ASTs) containing various petroleum products. The ASTs ranged in capacity from 12,500 to 25,000 gallons. The warehouse, office, and ASTs were removed in October 2004.

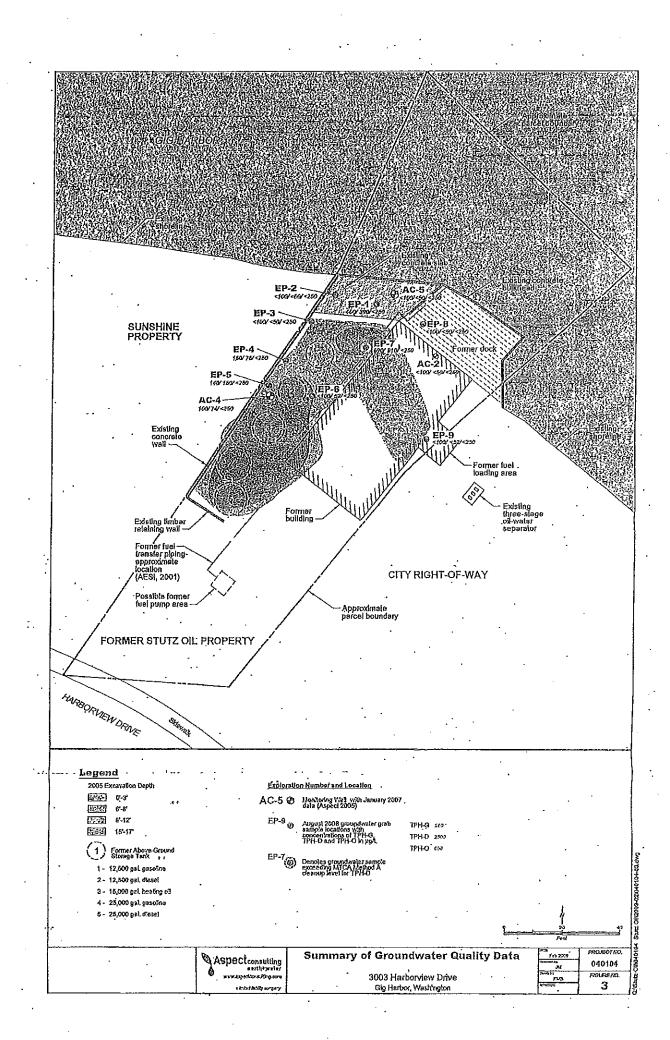
Site soils generally consist of approximately 4 to 6 feet of silty sand fill overlying a layer of very dense gravelly sand characterized as native lodgment till. The depth of silty sand fill was greater on the south side (inland) of the Site. Near the shoreline, a 2- to 3- foot layer of sand with shells was encountered beneath the till. Groundwater was generally encountered in explorations at depths from 8 to 13 feet. Site groundwater elevations are tidally-influenced; data collected during a 4-foot variation in tide cycle indicated changes of 0.5 feet at well AC-4 (located 60 feet from the shoreline), 1.2 feet at AC-2 (25 feet from the shoreline), and 2.1 feet at AC-5 (6 feet from the shoreline). Groundwater flow direction is expected to be generally toward the harbor.

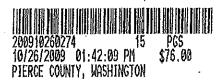
#### Enclosure B

Environmental Covenant for Institutional Controls and Confirmational Monitoring Plan









PECENED

OCT 0 8 2009

Washington State -Department of Ecology

After Recording Return to:
Scott Rose, LG
Acting Unit Manager, Toxics Cleanup Program
Department of Ecology — Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

#### Environmental Covenant

Grantor: Madison Shores Marina, LLC

Grantee: State of Washington, Department of Ecology

Legal: See Exhibit A
Tax Parcel Nos.: 0221081187
Cross Reference: None

Grantor, Madison Shores Marina, LLC, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this day of day of day of line favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant of RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Madison Shores Marina, LLC, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

A remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following documents:

Aspect Consulting, LLC, 2005, Soil Excavation Report, Former Stutz Oil Property, Prepared for Tangodoe Investment Properties, June 2, 2005.

Aspect Consulting, LLC, 2009, Site Characterization and Focused Feasibility Study, prepared for Tangodoe Investment Properties, LLC, May 19, 2009.

Aspect Consulting, LLC, 2009, Focused Feasibility Study Addendum, Former Stutz Oil Property, Memorandum to Scott Rose, Washington State Department of Ecology -- SWRO, July 1, 2009.

Aspect Consulting, LLC, 2009, Confirmation Monitoring Plan, Former Stutz Oil Property, Prepared for Tangodoe Investment Properties, September 23, 2009. These documents are on file at Ecology's Southwest Regional Office.

This Covenant is required because the Remedial Action resulted in residual concentrations of gasoline-, diesel-, and oil-range Total Petroleum Hydrocarbons which exceed the Model Toxics Control Act Method A Cleanup Levels for soil based on protection of groundwater established under WAC 173-340-740(2). These residual concentrations are being managed under a soil cap with monitoring of conditional points of compliance (monitoring wells AC-2 and AC-5) along the shoreline of Gig Harbor.

The undersigned, Madison Shores Marina, LLC, is the fee owner of real property (hereafter "Property") in the County of Pierce, State of Washington, that is subject to this Covenant. The Property is legally described in Exhibit A of this covenant and made a part hereof by reference.

Madison Shores Marina, LLC makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1.

- 1. No groundwater may be taken for any use from the Property.
- 2. Groundwater confirmation monitoring will be conducted at two Property monitoring wells (AC-2 and AC-5, or replacement wells as approved by Ecology) to ensure long-term effectiveness of the Remedial Action. Monitoring well locations are shown in Exhibit B. Groundwater confirmation monitoring will occur at a frequency of once every 18 months (as noted in the attached Confirmation Monitoring Plan) until Ecology conducts a

periodic review to determine if continued monitoring is required. Additional details on the confirmation monitoring are provided in the Confirmation Monitoring Plan. The monitoring wells will be maintained pending Ecology's review of monitoring results and determination of the need for continued monitoring.

3. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment that deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

<u>Section 2</u>. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

<u>Section 5</u>. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

<u>Section 7</u>. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take

samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of

any further force or effect. However, such an instrument may be recorded only if Ecology,

after public notice and opportunity for comment, concurs.

RECEVED

OCT 0 8 2009

Washington State Department of Ecology

Madison Shores Marina, LLC

im Sullivan,

[Title] fantur

Dated: 10-7-09

STATE OF WASHINGTON .
DEPARTMENT OF ECOLOGY

Rebecca S. Lawson, P.E., LHG

Section Manager

Toxics Cleanup Program Southwest Regional Office

Dated; 10/15/2009

#### CORPORATE ACKNOWLEDGMENT

STATE OF WASHINGTON COUNTY OF <u>Fieree</u>

RICHARD E. PIFER
NOTARY PUBLIC
STATE OF WASHINGTON
Hy Commission Expires Oct. 21, 2012

Notary Public in and for the State of WA
Washington, residing at
Washington, r

OCT 0 8 2009

Washington State Department of Ecology

# Anditor's notation otatilisate sessory gainness

Real property in the County of Pierce, State of Washington, described as follows: Commencing at the Southeast corner of the Northeast quarter of the Northeast quarter of the Northwest quarter of Section 8, Township 21 North, Range 2 East, W.M., in Pierce County, Washington;

thence North 00°21' West a distance of 137.8 feet to a point;

thence North 89°25' West a distance of 37.08 feet to the true point of beginning;

thence North 37°34' East a distance of 96.05 feet to a point;

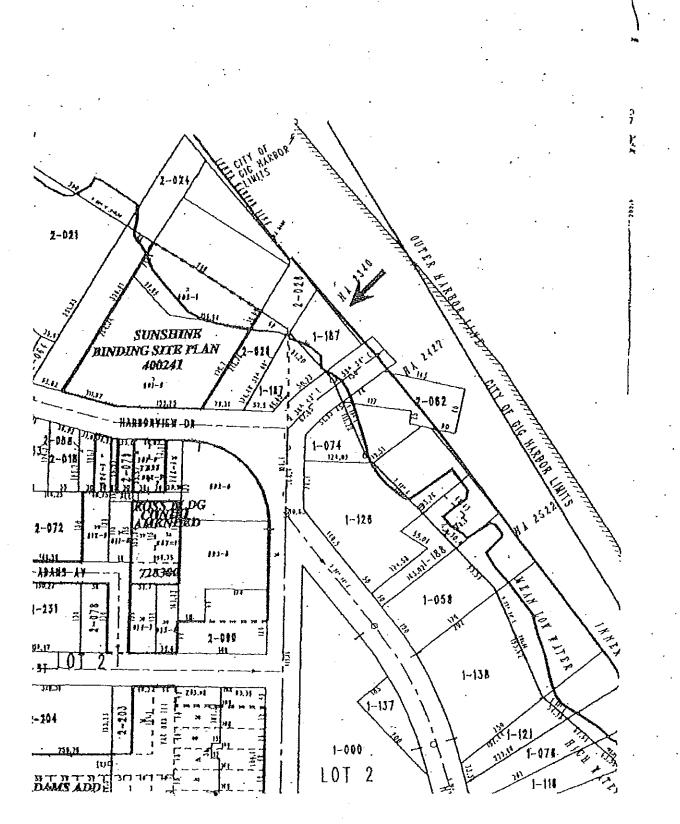
thence North 58°45' East a distance of 50.23 feet to a point on the Government Meander Line;

thence North 58°00' West a distance of 81.20 feet to a point;

thence South 32°00' West a distance of 170.42 feet to a point;

thence South 89°25' East a distance of 57.50 feet to the true point of beginning.

Together with second class tidelands, as conveyed by the State of Washington, adjoining and abutting thereon.





September 23, 2009

### PECENTO

OCT 0 9 2009

Jenia in J. in Bialo Department of Ecology

Jim Sullivan
Tangodoe Investment Properties, LLC
PO Box 2234
Gig Harbor, Washington 98335

Re: Confirmation Monitoring Plan, Former Stutz Oil Property Project No. 040104-006-01

Dear Mr. Sullivan:

This letter report presents the groundwater confirmation monitoring plan for the former Stutz Oil property (Site), located at 3003 Harborview Drive in Gig Harbor, Washington. This letter report was prepared by Aspect Consulting, LLC (Aspect) on behalf of the current property owner, Tangodoe Investment Properties, LLC (TIP). TIP is in the process of planning for development of a mixed commercial use development (office and marina services) on the Site. During the course of project construction, most of the Site footprint will be excavated to accommodate a parking garage and mixed-use structure.

This property was entered into the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) in December 2004, and was assigned VCP identification number SW0630.

### Completed Site Characterization and Cleanup Activities

Several previous environmental investigations and a soil removal remedial action have been completed at the Site and are summarized in a Site Characterization and Focused Feasibility Study (Aspect, 2009a). Environmental investigations completed between 2001 and 2005 identified areas of soil impacted by gasoline- and diesel-range total petroleum hydrocarbons (TPH). Benzene was not detected in soil. All other fuel constituents were either not detected or detected at concentrations well below MTCA Method A cleanup levels. Diesel-and oil-range TPH was detected in a groundwater sample from one well at a concentration above the MTCA Method A cleanup level. Benzene was not detected in groundwater. All other fuel constituents were either not detected or were detected at concentrations below MTCA Method A cleanup levels.

Excavation and off-site disposal of 1,200 tons (approximately 800 cubic yards) of TPH-impacted soil was completed in 2005. Confirmation samples were collected from the sidewalls and bottom of the excavation before the excavation was backfilled with imported fill. Additional soil sampling in areas of suspected residual soil contamination was completed in 2008. Results of these sampling events indicate that, within the standard point of compliance (i.e., upper fifteen feet), soil at the Site meets calculated Method B cleanup levels for protection of direct contact (Aspect, 2009b). No further remedial actions are required to address the direct contact exposure pathway.

## Andihir's potation to facilitate scanning process

Following the 2005 soil remediation six quarterly groundwater sampling events were completed at three Site wells. No fuel constituents were detected in two wells located near the shoreline (AC-2 and AC-5 on Figure 1). Diesel-range TPH was detected in one well (AC-4) at a concentration fractionally above the MTCA Method A groundwater cleanup level in January 2006. During the subsequent four events completed between April 2006 and January 2007, diesel-range TPH was either not detected or detected below the MTCA Method A cleanup levels in well AC-4. Gasoline-range TPH has been consistently detected in well AC-4 at concentrations below the MTCA Method A cleanup level.

#### Selected Cleanup Alternative

As discussed in the Site Characterization and Focused Feasibility Study the primary objective for addressing remaining environmental conditions at the Site is to prevent discharge of TPH-impacted groundwater to surface water. Groundwater at the Site is not currently used as a drinking water source, and future use of groundwater will be limited by implementing an environmental covenant. Cleanup levels are the MTCA Method A groundwater standards, which are also protective of applicable surface water standards under state and federal laws.

A remedial alternative (Alternative 1) that included soil remediation completed to date, groundwater monitoring, and institutional controls was selected as the preferred alternative in the Site Characterization and Focused Feasibility Study (Aspect, 2009a). An opinion letter from Ecology dated August 6, 2009 agreed that this alternative was acceptable.

Under this alternative, long-term monitoring of groundwater quality near the shoreline is proposed to ensure that the completed soil removal continues to be protective of surface water and that any soil disturbance during Site redevelopment does not result in new impacts to groundwater.

An environmental covenant would be placed on the property requiring groundwater monitoring and prohibiting use of groundwater.

TPH-impacted soils exceeding MTCA Method A cleanup levels that are excavated as part of redevelopment would be disposed off-site. Approximately 10 cubic yards (CY) of shallow, oilrange TPH-impacted soil along the east side of the site fall within the development footprint and would likely be excavated as part of development. These shallow TPH-impacted soils meet MTCA Method B direct contact requirements and do not appear to be impacting groundwater; therefore, excavation and disposal of these soils is not a requirement of this alternative, but would instead be implemented as a best practice measure. Deeper TPH-impacted soils would likely not be excavated as part of redevelopment and would remain onsite.

#### Confirmation Groundwater Monitoring Program

Groundwater confirmation monitoring will be conducted to ensure long-term effectiveness of the soil removal and that any soil disturbance during Site redevelopment does not result in new impacts to groundwater discharging to surface water. Monitoring will consist of collecting groundwater quality samples from two existing monitoring wells (AC-2 and AC-5, locations shown on Figure 1). Samples will be collected using a peristaltic pump and low-flow sampling

techniques (e.g., Puls and Barcelona, 1996). Samples will be collected during low tide to ensure that the samples represent worst-case groundwater quality discharging to surface water.

Groundwater samples will be analyzed for gasoline-, diesel-, and oil-range TPH by Methods NWTPH-Gx and NWTPH-Dx. Table 1 lists the typical laboratory detection limits for the proposed analytical methods and the MTCA Method A cleanup levels to which analytical results will be compared. Temperature, pH, dissolved oxygen, electrical conductance, and redox potential will be measured in the field during sampling.

Based on the lack of any detected impacts to groundwater in the most recent four rounds of groundwater quality sampling at the Site, groundwater monitoring is planned at a frequency of once every 18 months. In order to capture both wet and dry season conditions, the first three rounds of monitoring will occur in March 2010, September 2011, and March 2013. This schedule may be adjusted in consultation with Ecology based on yet to be scheduled site redevelopment activities.

In the event that monitoring well AC-2 or AC-5 is decommissioned to accommodate Site redevelopment a replacement well or wells will be installed. Any replacement well will be located as close as possible and screened over the same depth interval as the original well.

#### Reporting

Reporting will consist of a brief data transmittal (tabulated analytical results and field measurements) to Ecology following completion of each of the first two monitoring events. A summary report will be prepared following the third monitoring event. A formal Ecology "five-year" review is anticipated after the summary report is issued in 2013. If the groundwater results available at that time confirm that groundwater remains un-impacted beneath the Site, it is anticipated that Ecology may then, at its discretion, modify the Site environmental covenant to preclude or reduce the need for additional future groundwater monitoring.

#### Contingencies for Additional Remedial Action

If confirmation sampling indicates an exceedance of groundwater cleanup levels, contingency actions will be considered in consultation with Ecology. Potential contingency actions may include additional groundwater sampling and analysis to verify any detected exceedances, additional excavation of accessible TPH-impacted soil, or implementation of active in-situ remediation, such as biosparging to enhance biodegradation of fuel constituents.

#### References

Aspect, 2009a, Site Characterization and Focused Feasibility Study, prepared for Tangodoe Investment Properties, LLC, May 19, 2009.

Aspect, 2009b, Focused Feasibility Study Addendum, Former Stutz Oil Property,

Memorandum to Scott Rose, Washington State Department of Ecology – SWRO, July
1, 2009.

Ecology, 2009, Opinion on Proposed Cleanup of the following site: Stutz Oil, August 6, 2009.

Puls, R.W. and M.J. Barcelona, 1996; Low-Flow (Minimum Drawdown) Ground-Water Sampling Procedures, EPA/540/S-95/504, April 1996.

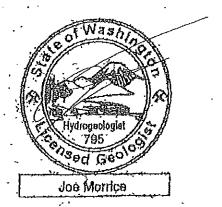
#### Limitations

Work for this project was performed and this letter report prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Tangodoe Investment Properties, ILC for specific application to the referenced property. This letter report does not represent a legal opinion. No other warranty, expressed or implied, is made.

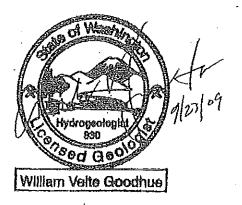
Please call us at (206) 780-9370, if you have any questions regarding this letter report.

Sincerely,

Aspect consulting, LLC



Joseph Morrice, LHG Senior Hydrogeologist jmorrice@aspectconsulting.com



William V. Goodhue, LHG Senior Associate Hydrogeologist cgoodhue@aspectconsulting.com

Attachment:

Table 1 - Analytical Methods, Reporting Limits, and Cleanup Levels

Figure 1 - Site Plan

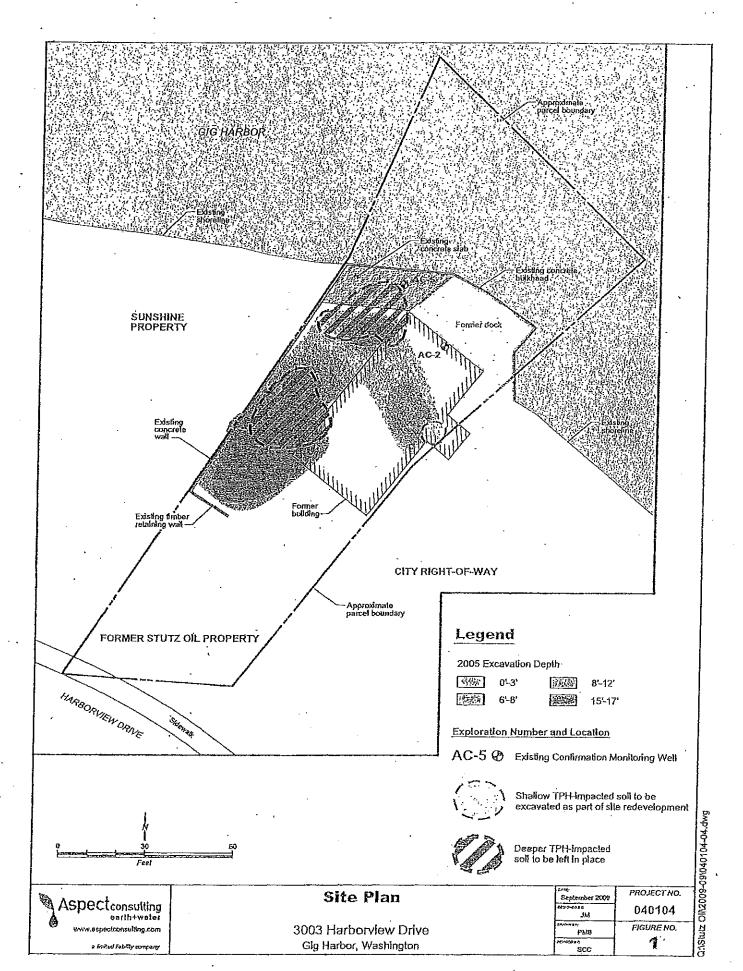
cc: Scott Rose, Washington State Department of Ecology

W:040104 Stutz Oll Propert-TangodoelMonlloring Plan LetterMonlloring Plan\_letter final.doc

Table 1 - Analytical Methods, Reporting Limits, and Cleanup Levels Former Stutz Oll Property 3003 Harborview Drive, Glg Harbor, Washington

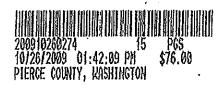
Constituent	Analytical Method	Laboratory Reporting Limit	MTCA Method A Cleanup Level
Gasoline-Range TPH	NWTPH-Gx	100	1,000.1
Diesel-Range TPH	NWTPH-Dx	50	500
Oil-Range TPH	XQ-HdLMN	250	500

All values are in units of  $\mu g/L$  . Cleanup level for gasoline with no detectable benzene in groundwater.



# $\underline{ENCLOSURE-I}$

**Restrictive Covenant Recorded on October 26, 2009** 





After Recording Return to:
Scott Rose, LG
Acting Unit Manager, Toxics Cleanup Program
Department of Ecology — Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

#### Environmental Covenant

Grantor: Madison Shores Marina, LLC

Grantee: State of Washington, Department of Ecology

Legal: See Exhibit A Tax Parcel Nos.: 0221081187

Cross Reference: None

Grantor, Madison Shores Marina, LLC, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this and grants such other rights under this environmental covenant (hereafter "Covenant") made this and grants such other rights under this favor of the State of Washington Department of Ecology (Beology). Beology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash, Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Madison Shores Marina, LLC, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

A remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Covenant. The Remedial Action conditioned at the property is described in the following documents:

Aspect Consulting, LLC, 2005, Soil Excavation Report, Former Stutz Oil Property,
 Prepared for Tangodoe Investment Properties, June 2, 2005.

Aspect Consulting, LLC, 2009, Site Characterization and Focused Feasibility Study, prepared for Tangodoe Investment Properties, LLC, May 19, 2009.

Aspect Consulting, LLC, 2009, Focused Feasibility Study Addendum, Former Stutz Oil Property, Memorandum to Scott Rose, Washington State Department of Boology — SWRO, July 1, 2009.

Aspect Consulting, LLC, 2009, Confirmation Monitoring Plan, Former Stutz Oil
Property, Prepared for Tangodoe Investment Properties, September 23, 2009.

These documents are on file at Ecology's Southwest Regional Office.

This Covenant is required because the Remedial Action resulted in residual concentrations of gasoline-, diesel-, and oil-range Total Petroleum Hydrocarbons which exceed the Model Toxics Control Act Method A Cleanup Levels for soil based on protection of groundwater established under WAC 173-340-740(2). These residual concentrations are being managed under a soil cap with monitoring of conditional points of compliance (monitoring wells AC-2 and AC-5) along the shoreline of Gig Harbor.

The undersigned, Madison Shores Marina, LLC, is the fee owner of real property (hereafter "Property") in the County of Pierce, State of Washington, that is subject to this Covenant. The Property is legally described in Exhibit A of this covenant and made a part hereof by reference.

Madison Shores Marina, LLC makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

## Section 1.

- 1. No groundwater may be taken for any use from the Property.
- 2. Groundwater confirmation monitoring will be conducted at two Property monitoring wells (AC-2 and AC-5, or replacement wells as approved by Ecology) to ensure long-term effectiveness of the Remedial Action. Monitoring well locations are shown in Exhibit B. Groundwater confirmation monitoring will occur at a frequency of once every 18 months (as noted in the attached Confirmation Monitoring Plan) until Ecology conducts a

periodic review to determine if continued monitoring is required. Additional details on the confirmation monitoring are provided in the Confirmation Monitoring Plan. The monitoring wells will be maintained pending Ecology's review of monitoring results and determination of the need for continued monitoring.

3. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment that deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take

samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

PECHINO

OCT 0 8 2009

Washington State Department of Ecology

Madison Shores Marina, LLC

im Sullivan

[Title] Frank

Dated: 10-スッタ

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

Rebecca S. Lawson, P.B., LHG

Section Manager

Toxics Cleanup Program Southwest Regional Office

Dated: 10/15/2009

## CORPORATE ACKNOWLEDGMENT.

STATE OF WASHINGTON
COUNTY OF TREE

RICHARD E. PIFER
NOTARY PUBLIC
STATE OF WASHINGTON

My Commission Expires Oct. 21, 2012

Notary Public in and for the State of WA-Washington, residing at

My appointment expires 16/21/2002

FECTIVED.

OCT 0 8 2009

Washington State .
Department of Ecology

## Bxhibit A-Legal Description

Real property in the County of Pierce, State of Washington, described as follows: Commencing at the Southeast corner of the Northeast quarter of the Northeast quarter of the Northwest quarter of Section 8, Township 21 North, Range 2 Bast, W.M., in Pierce County, Washington:

thence North 00°21' West a distance of 137.8 feet to a point;

thence North 89°25' West a distance of 37.08 feet to the true point of beginning;

thence North 37°34' East a distance of 96.05 feet to a point;

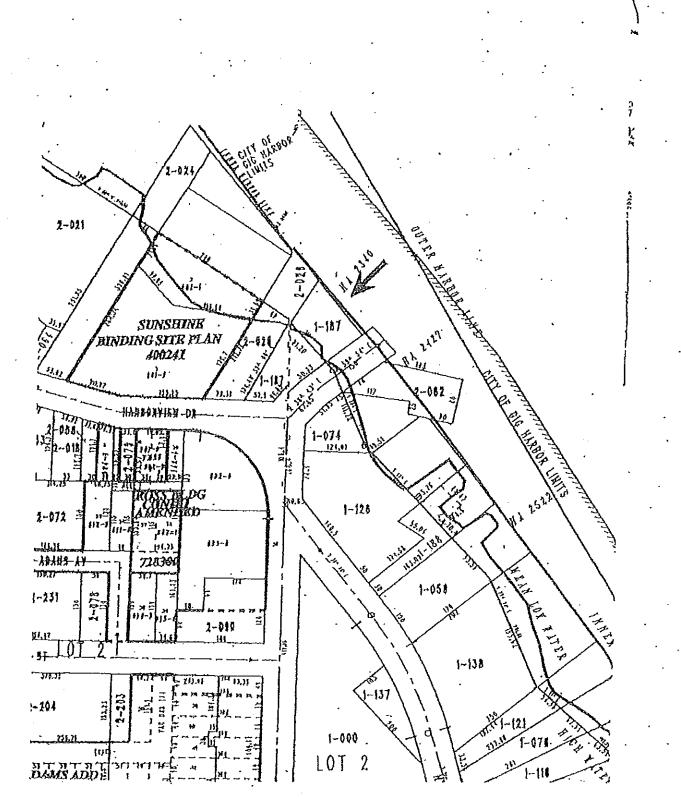
thence North 58º45' East a distance of 50,23 feet to a point on the Government Meander Line;

thence North 58°00' West a distance of 81.20 feet to a point;

thence South 32°00' West a distance of 170.42 feet to a point;

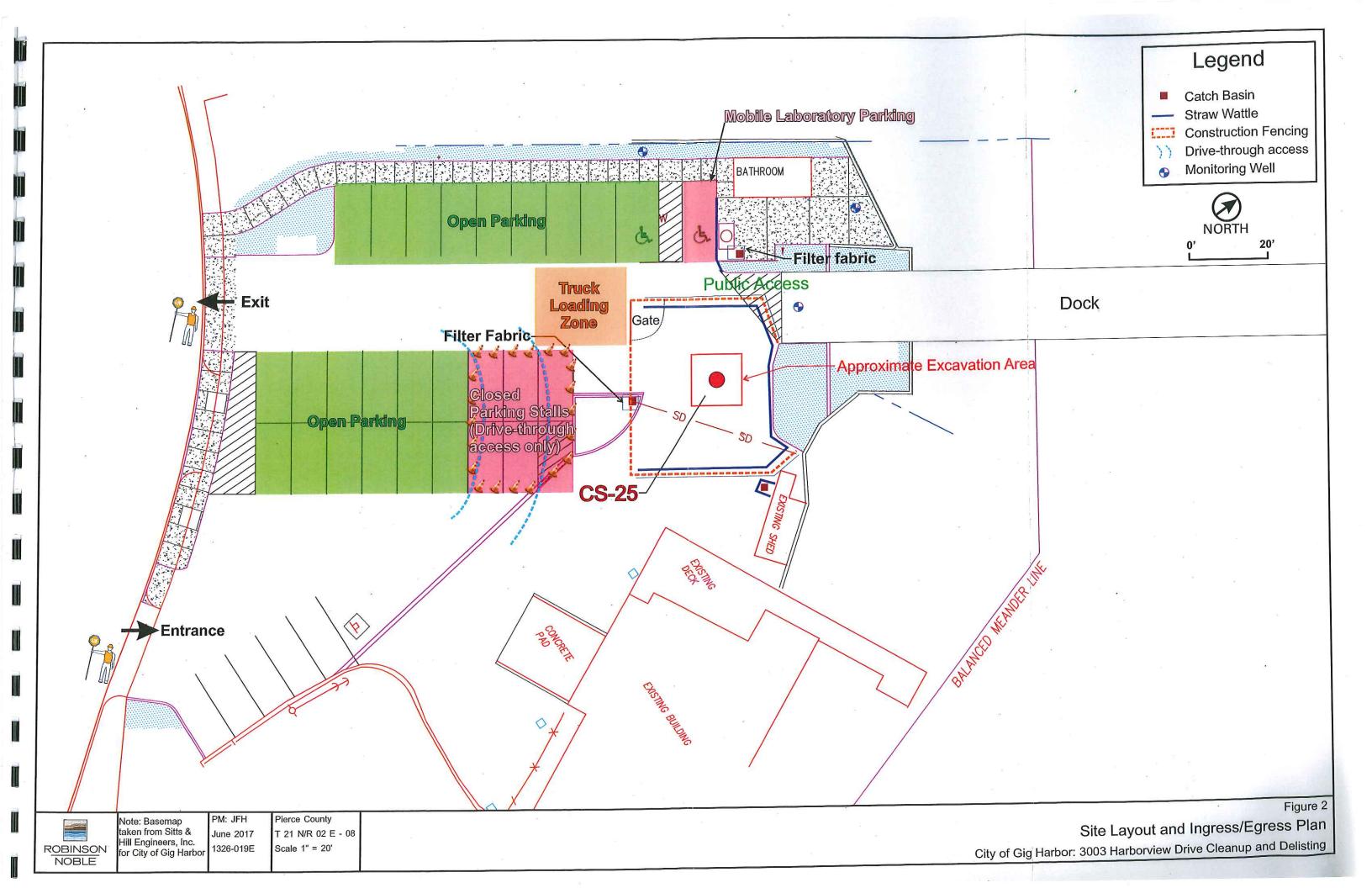
thence South 89°25' East a distance of 57.50 feet to the true point of beginning.

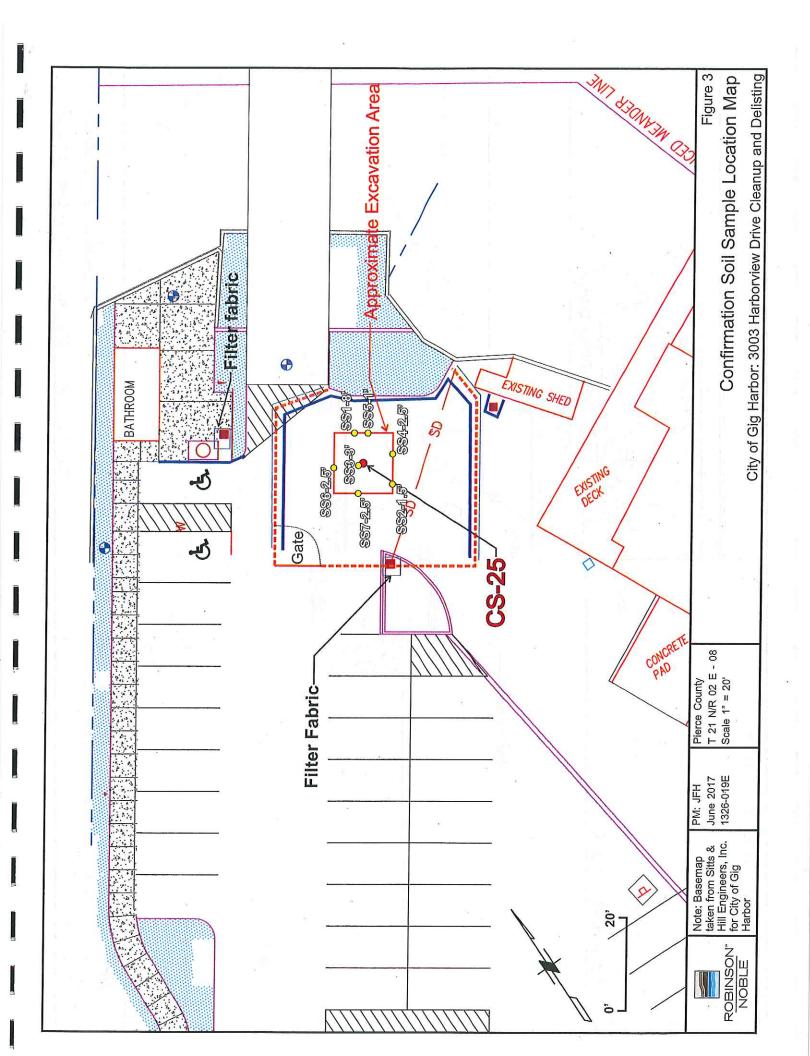
Together with second class tidelands, as conveyed by the State of Washington, adjoining and abutting thereon.



## $\underline{ENCLOSURE-J}$

March 2017, Residual Contaminated Soil Final Cleanup and Final Confirmation Soil Sample Results; Groundwater Sampling





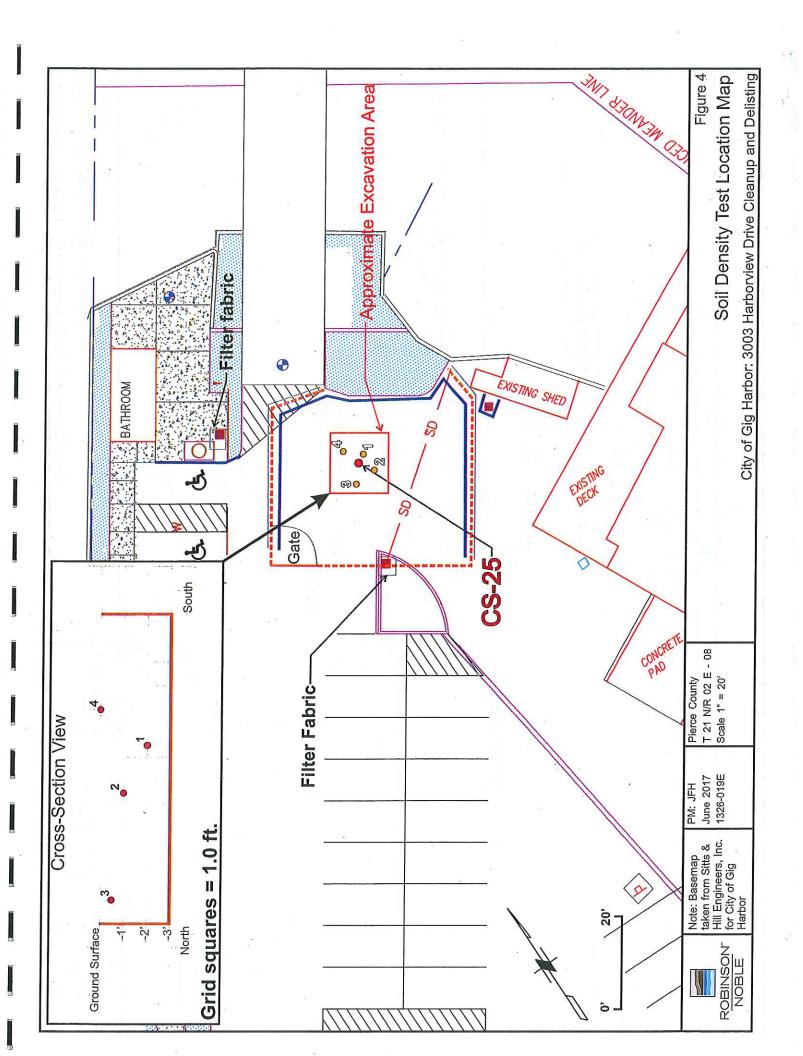


Table 1. 2015 Soil results for petroleum hydrocarbons (mg/kg)

Sample/ID	Gasoline	Diesel	Oil .	TPH
BCS-8 19'	<10*	<25*	<50*	42.5
BCS-13 16.5'	32	62	<50*	119
BCS-16 15'	<10	710	<50*	740
BCS-17 13.5'	531 <sub>E</sub>	1,800	<50*	2,356
BCS-25 2'	<10*	666	3,630	4,301

<sup>\*</sup>below detection limits, TPH calculations using ½ the detection level; E reported as an estimate; **BOLD** indicates reported above the Site-specific cleanup level of TPH at 2,530 mg/kg

Table 2. Confirmation Soil Sample Analytical Results (mg/kg)

Sample ID and Depth	Gasoline	Diesel	Oil
SS1-8"	<10	<50	<250
SS2-1.5'	<10	<50	<250
SS3-3'	. <10	<50	<250
SS4-2.5"	<10	<50	<250
SS5-1'	<10	<50	<250
SS6-2.5'	<10	<50	<250
SS7-2.5'	<10	<50	<250
MTCA Site Specific Cleanup	2,530		
Laboratory PQL	10	50	250