



**PERIODIC REVIEW REPORT  
FINAL**

**STUTZ OIL  
Facility Site ID#: 1768931**

**3003 Harborview Drive  
Gig Harbor, WA 98335**

**Southwest Region Office**

**TOXICS CLEANUP PROGRAM**

**July 2014**

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## 1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup conditions and monitoring data to ensure that human health and the environment are being protected at the Stutz Oil site (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under the Voluntary Cleanup Program (VCP). The cleanup actions resulted in concentrations of gasoline, diesel and oil-range petroleum hydrocarbons (TPH-G, TPH-D, and TPH-O) in soil that exceeds MTCA Method A and/or Method B cleanup levels. The MTCA Method A and Method B cleanup levels for soil are established under WAC 173-340-740(2) and 740(3) respectively. WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- Whenever the department conducts a cleanup action.
- Whenever the department approves a cleanup action under an order, agreed order or consent decree.
- Or, as resources permit, whenever the department issues a no further action (NFA) opinion.
- And one of the following conditions exists:
  - (a) Institutional controls or financial assurance are required as part of the cleanup.
  - (b) Where the cleanup level is based on a practical quantitation limit.
  - (c) Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site.
- (b) New scientific information for individual hazardous substances of mixtures present at the Site.
- (c) New applicable state and federal laws for hazardous substances present at the Site.
- (d) Current and projected Site use.
- (e) Availability and practicability of higher preference technologies.
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

## **2.0 SUMMARY OF SITE CONDITIONS**

### **2.1 Site History**

The Stutz Oil Site is located at 3003 Harborview Drive in Gig Harbor, Pierce County, Washington. The Site consists of approximately 0.4-acre parcel and bounded by Gig Harbor to the north, an inn to the west, and the City of Gig Harbor rights-of-way to the east and south. Most of the Site slopes to the north toward the harbor. The area formerly containing the warehouse and storage tanks is relatively flat. A bulkhead separates the property from the harbor and a dock extends from the bulkhead over the harbor. The Site currently is being used as a public car parking area.

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 razed in October 2004. A vicinity map is available as Appendix 6.1 and a Site Plan (current and former) is available as Appendix 6.2.

### **2.2 Cleanup Levels**

WAC 173-340-704 states that MTCA Method A may be used to establish cleanup levels at sites that have few hazardous substances, are undergoing a routine cleanup action, and where numerical standards are available for all indicator hazardous substances in the media for which the Method A cleanup level is being used.

Groundwater beneath the Site is not considered to be a current or potential source of drinking water due to its proximity to saline surface water (Gig Harbor) and tidal influence. As a result, cleanup levels for protection of marine organisms are applied to groundwater. However, since there are no published surface water criteria for TPH-G, TPH-D, and TPH-O, the appropriate cleanup levels default to MTCA Method A. Site-specific Method B values were calculated for soil. The cleanup actions conducted at the Site were determined to be 'routine', with few hazardous substances found at the Site, and numerical standards were available for each hazardous substance.

### **2.3 Site Investigations and Feasibility Study**

#### **2.3.1 2001 Environmental Site Assessment**

Initial environmental assessment activities at the Site were conducted by Associated Earth Sciences, Inc. (AES) in July 2001. Soil samples were collected from 12 hand-auger borings (HA-1 through HA-12) and four hollow-stem auger borings (MW-1 through MW-4). The depth of borings ranged from 5 to 9 feet below the existing grade. The assessment indicated the

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presence of TPH-D [2,500 milligrams per kilogram (mg/Kg) to 13,000 mg/Kg] and TPH-O (180 mg/Kg to 3,200 mg/Kg) in shallow soil near the ASTs and product transfer lines. Lead (4.1 mg/Kg to 820 mg/Kg) impacted soils were also noted. As a result of the limited access due to the presence of the ASTs, dock, and the building, prevented a complete characterization of the Site. A Property map, boring locations and results are available as Appendix 6.3.

### **2.3.2 2004 and 2005 Subsurface Soil and Groundwater Investigations**

A more comprehensive soil and groundwater investigations were completed by Aspect Consulting in November 2004 and February 2005 after removal of Site structures. Eight test pits (TP-1 through TP-8) were advanced in November 2004 and six soil borings (AC-1 through AC-6) were drilled in February 2005. Three of the soil borings (AC-2, AC-4 and AC-5) were completed as monitoring wells.

Soil and groundwater samples were collected and analyzed for TPH-G, TPH-D, TPH-O, benzene, toluene, ethylbenzene and xylenes (BTEX), and lead. Two soil samples were also analyzed for polycyclic aromatic hydrocarbons (PAHs) one soil sample was analyzed for total volatile extractable petroleum compounds (VPH/EPH). Groundwater samples were also analyzed for methyl tertiary-butyl ether (MTBE), ethylenedibromide (EDB) and 1,2-dichloroethane (EDC).

Results of this investigation identified additional areas of TPH-G and TPH-D impacted soil, (primarily deeper soil near the water table) beneath the former ASTs and the north half of the former building. Benzene and carcinogenic PAHs were not detected in soil. Toluene, ethylbenzene, xylenes and lead either not detected or detected at concentrations well below MTCA Method A cleanup levels.

The TPH-G detected in soils appeared to be highly weathered and degraded, with no benzene in any soil (or groundwater) samples. A site-specific cleanup level was calculated by analyzing the soil sample containing the highest TPH-G and TPH-D concentrations (TP-1 and S-4) via VPH/EPH methods, and then using Ecology's "Worksheets for Calculating Soil Cleanup Levels for Direct Contact Pathway." These calculations indicated a potential MTCA Method B direct contact cleanup level, for unrestricted land use, of approximately 2,770 mg/Kg for mixtures of gasoline- and diesel-range TPH.

TPH-D was detected in a groundwater sample from one well (AC-4) above the MTCA Method A cleanup level, at a concentration of 1,100 micrograms per liter ( $\mu\text{g/L}$ ). TPH-G, ethylbenzene, xylenes, and lead were detected in samples from one or two wells at concentrations below MTCA Method A cleanup levels. Benzene, toluene, MTBE, EDB, and EDC were not detected in groundwater. Test pits, and boring logs and- their locations and table of results are available as Appendix 6.4.

## **2.4 Remedial Actions**

### **2.4.1 2005 Soil Remediation**

In May 2005, approximately 1,200 tons (800 cubic yards) of TPH contaminated soils were excavated and disposed of off-site. A total of 31 confirmation soil samples (CS-1 through CS-31) were collected from the excavation sidewalls and bottom for TPH-G, TPH-D, TPH-O, BTEX, EDB, EDC, MTBE, naphthalene, and lead analysis.

None of the final confirmation soil samples exceeded the MTCA Method A cleanup levels for lead, ethylbenzene, or xylenes. Benzene, toluene, MTBE, EDB, and EDC were not detected in any of the confirmation soil samples.

Soil confirmation samples at seven locations (CS-8, CS-10, CS-13, CS-16, CS-17, CS-18, and CS-25) exceeded the MTCA Method A cleanup levels for TPH-G, TPH-D, and/or naphthalene. Of these confirmation samples, four (CS-8, CS-13, CS-17, and CS-25) had TPH-G and TPH-D concentrations exceeding the calculated Method B direct contact cleanup level for gasoline and diesel mixtures of 2,770 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. The other two samples (CS-17 and CS-25) were analyzed for petroleum fractions by Methods VPH and EPH and the evaluated risk indicated that the petroleum mixtures present in these samples is protective of direct contact, as the calculated hazard quotient for unrestricted land use was significantly less than 1 in both samples. The confirmation soil sample locations and results are available as Appendix 6.5.

### **2.4.2 Groundwater Monitoring**

Following the May 2005 soil remediation six quarters of groundwater sampling were conducted between 2005 and 2007 in monitoring wells AC-2, AC-4 and AC-5. Groundwater samples were analyzed for TPH-G, TPH-D, TPH-O and BTEX. These compounds were not detected in wells AC-2 and AC-5, with the exception of total xylenes detected at 3 µg/L in well AC-2 in January 2007. This concentration is well below MTCA Method A cleanup level of 1,000 µg/L.

Prior to May 2005 soil remediation, TPH-D and TPH-O were detected in monitoring well AC-4 above the MTCA Method A cleanup levels. During the four consecutive rounds of quarterly monitoring conducted between April 2006 and January 2007, TPH-D and TPH-O concentrations were either below the laboratory detection limits or below MTCA Method A cleanup levels. These results indicate that the Site groundwater was in compliance with MTCA Method A cleanup levels by April 2007. The empirical data confirm that the 2005 soil remediation was effective in removing the primary mass of soil acting as a source of TPH to the groundwater. Groundwater table of results are available as Appendix 6.4 (Figure 4 and Table 2).

### **2.4.3 2008 Soil and Groundwater Investigation**

On August 18, 2008, an additional soil and groundwater investigation was performed 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 performed in August 2008. These borings were generally completed to depths of 16 to 20 feet below ground surface (bgs). Groundwater was encountered in every boring except EP-10.

Soil samples were collected from the borings and field-screened for total organic vapors with a photoionization detector (PID), and by using visual and olfactory methods. Any odor, sheen, or staining characteristics in the soil samples were documented. Based on this, a total of ten soil samples from the direct-push probe were collected for TPH-G, TPH-D, TPH-O, BTEX, and naphthalene analysis. Also groundwater samples were collected from nine borings (EP-1 through EP-9) by installing a temporary well screen and by purging sufficient amount of water to reduce the turbidity. All water samples were also analyzed for TPH-G, TPH-D, TPH-O, BTEX and naphthalene.

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 exceeded the MTCA Method A cleanup level. Naphthalene and BTEX were not detected in any of the ten soil samples analyzed. TPH-G, TPH-D, ethylbenzene, and naphthalene were detected in some of the groundwater samples. Only the TPH-D concentration of 690 µg/L in boring EP-7 exceeded the Method A cleanup level for TPH-D in groundwater. All other groundwater samples collected did not contain detectable concentrations or contained concentrations below the MTCA Method A cleanup levels for the analytes tested. Boring locations and table of results are available as Appendix 6.4 (Figures 3 and 4).

### **2.4.4 Focused Feasibility Study**

Following the excavation of approximately 1,200 tons of TPH contaminated soils, confirmation samples indicated that concentrations of TPH-G, TPH-D and TPH-O above cleanup levels still remain at the Site. In March 2009, a focused feasibility study and disproportionate cost analysis was generated to screen remedial technologies to address the residual contamination remaining on the Site. The screening process resulted in the following three potential alternatives:

1. Remedial Actions Completed as of March 2009 with Groundwater Monitoring.
2. Deep Soil Excavation of all the contaminated soils.
3. Shallow Soil excavation and Biosparging with Active Soil Vapor Extraction.

The selected alternative was the number 1 alternative above with Ecology's concurrence. This alternative required the filing of an environmental covenant on the property restricting groundwater use and any other intrusive activities without prior Ecology approval. In addition, long term groundwater monitoring is also required.

### **2.4.5 Long Term Groundwater Monitoring**

The NFA letter and the Restrictive Covenant (RC) required the post cleanup confirmation groundwater monitoring. Accordingly, the groundwater monitoring was conducted in March 2010, January 2011, and March 2013. All the groundwater samples were analyzed for TPH-G, TPH-D, TPH-O, BTEX and lead. All results were below the laboratory detection limits.

## **2.5 Restrictive Covenant**

The required RC (now referred to as an environmental covenant) was recorded for the Site on October 26, 2009 and an NFA determination for the Site was issued on November 12, 2009. The Covenant was required because the Remedial Action resulted in residual concentrations of TPH-G, TPH-D, and TPH-O exceeding the MTCA Method A cleanup levels at the Site. The Environmental Covenant (EC) imposes the following limitations:

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. Groundwater confirmation monitoring will occur at a frequency of once every 18 months 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.
4. 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.
5. 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 approval from Ecology.

6. 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.
7. 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.
8. The Owner must notify and obtain from Ecology prior to any use of the Property that is inconsistent with the terms of this EC. Ecology may approve any inconsistent use only after public notice and comment.
9. 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 records that are related to the Remedial Action.
10. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this EC 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.

The EC is available as Appendix 6.6.

## **3.0 PERIODIC REVIEW**

### **3.1 Effectiveness of completed cleanup actions**

Based upon the Site visit conducted on March 27, 2014, the asphalt cover at the Site continue to eliminate direct exposure pathways (ingestion, contact) to contaminated soils. The asphalt appears in satisfactory condition with no repairs, maintenance or contingency actions needed. The Site is currently being used as a parking lot. A photo log is available as Appendix 6.7.

Soils remain at the Site with TPH-G and TPH-D concentrations exceeding MTCA Method A cleanup levels. These soils remain contained beneath asphalt pavement. Results of confirmational groundwater monitoring conducted at the Site were all below detection limits for seven consecutive rounds which indicate that the contaminated soils do not pose a threat to groundwater.

An EC was recorded for the Site and remains active. This EC prohibits any use of the property that is inconsistent with the covenant or will release contaminants remaining in soil at the Site.

### **3.2 New scientific information for individual hazardous substances for mixtures present at the Site**

There is no new relevant scientific information for hazardous substances remaining at the Site.

### **3.3 New applicable state and federal laws for hazardous substances present at the Site**

MTCA Method A cleanup levels for contaminants of concern at the Site have not changed since the NFA determination was issued on November 12, 2009.

### **3.4 Current and projected Site use**

The Site is currently occupied by an asphalt paved parking lot. This use is not likely to have a negative impact on the risk posed by hazardous substances contained at the Site. There are no changes projected in the Site use.

### **3.5 Availability and practicability of higher preference technologies**

The remedy implemented included capping of hazardous substances and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

### **3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels**

The analytical methods used at the time of the remedial actions were capable of detection below Site cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

## 4.0 CONCLUSIONS

- The cleanup actions completed at the Site appear to be protective of human health and the environment.
- Soil cleanup levels have not been met at the Site; however, under WAC 173-340-740(6) (d), the cleanup action could comply with cleanup standards if the long-term integrity of the containment system was ensured and the requirements for containment technologies in WAC 173-340-360(8) have been met.
- The three rounds of post cleanup confirmational groundwater monitoring results are all below the laboratory detection limits. This empirical groundwater monitoring data confirms that the soil remediation conducted in 2005 was effective and the remaining residual TPH contaminated soils are not impacting the groundwater.
- The EC for the property is in place and will be effective in protecting public health from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this review, Ecology has determined that the remedial actions conducted at the Site continue to be protective of human health and the environment. The requirements of the EC are being satisfactorily followed and no additional remedial actions are required at this time. It is the property owner's responsibility to continue to inspect the Site to assure that the integrity of the surface cover is maintained.

### 4.1 Next Review

The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

## 5.0 REFERENCES

Associated Earth Sciences, Inc., September 24, 2001, Environmental Site Assessment, Stutz Oil Property.

Aspect Consulting, April 15, 2005, Cleanup Action Plan, Former Stutz Oil Property.

Aspect Consulting, June 2, 2005, Soil Excavation Report, Former Stutz Oil Property.

Aspect Consulting, June 15, 2007, Supplemental Cleanup Action Plan, Former Stutz Oil Property.

Aspect Consulting, February 13, 2007, Summary of Groundwater Sampling Report, Former Stutz Oil Site.

Aspect Consulting, May 19, 2009, Site Characterization and Focused Feasibility Study, Former Stutz Oil Property.

Ecology, November 12, 2009, No Further Action Letter, Stutz Oil Site.

Aspect Consulting, September 23, 2009, Confirmation Monitoring Plan, Former Stutz Oil Property.

Aspect Consulting, April 12, 2010, Summary of Groundwater Sample Analytical Results and Field Parameters, Former Stutz Oil Property.

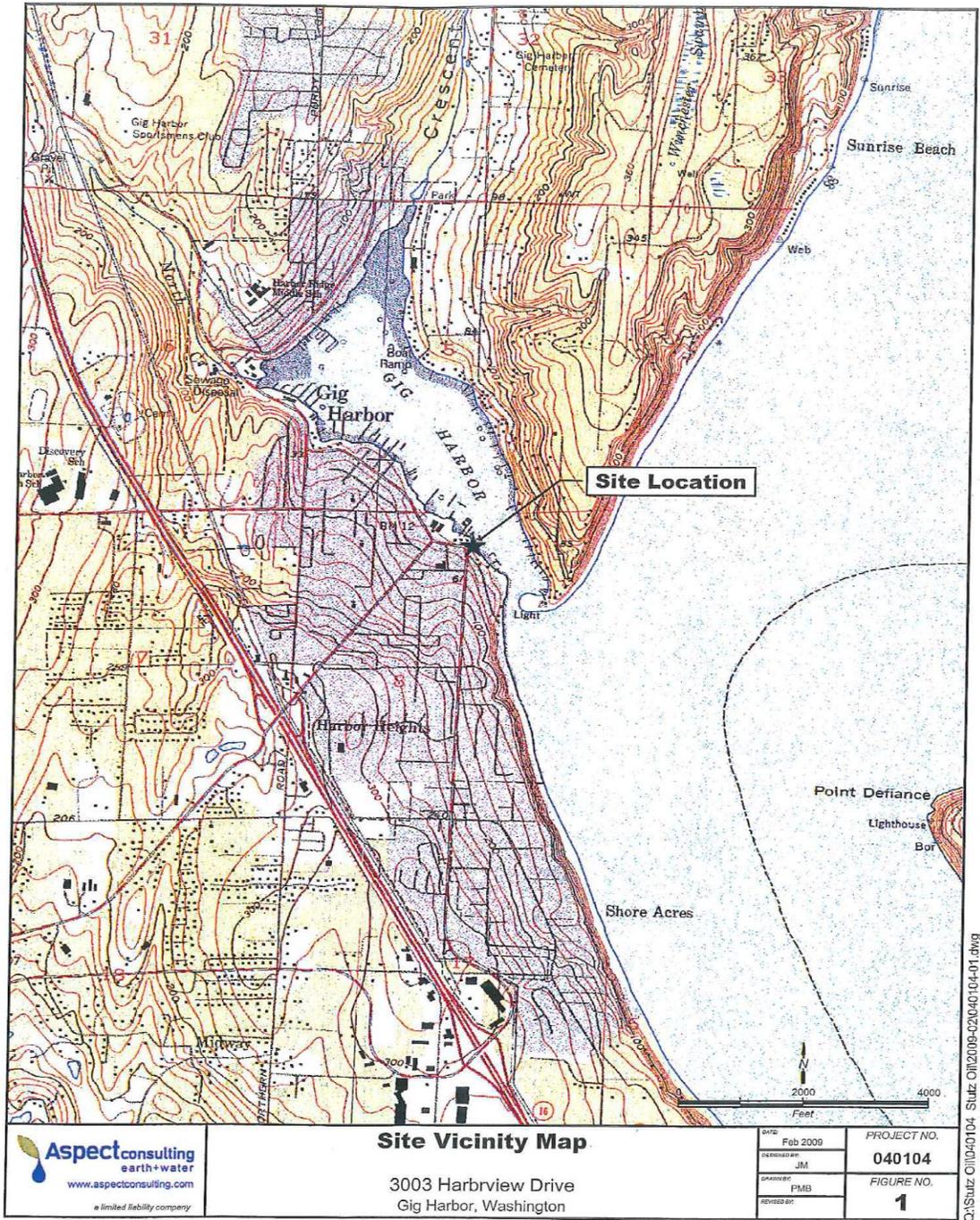
Robinson Noble, February 15, 2011, Results of January 24, 2011 Groundwater Sampling Event, Maritimer Pier.

Robinson Noble, May 13, 2013, Summary of March 20, 2013 Groundwater Sampling Results, Maritimer Pier.

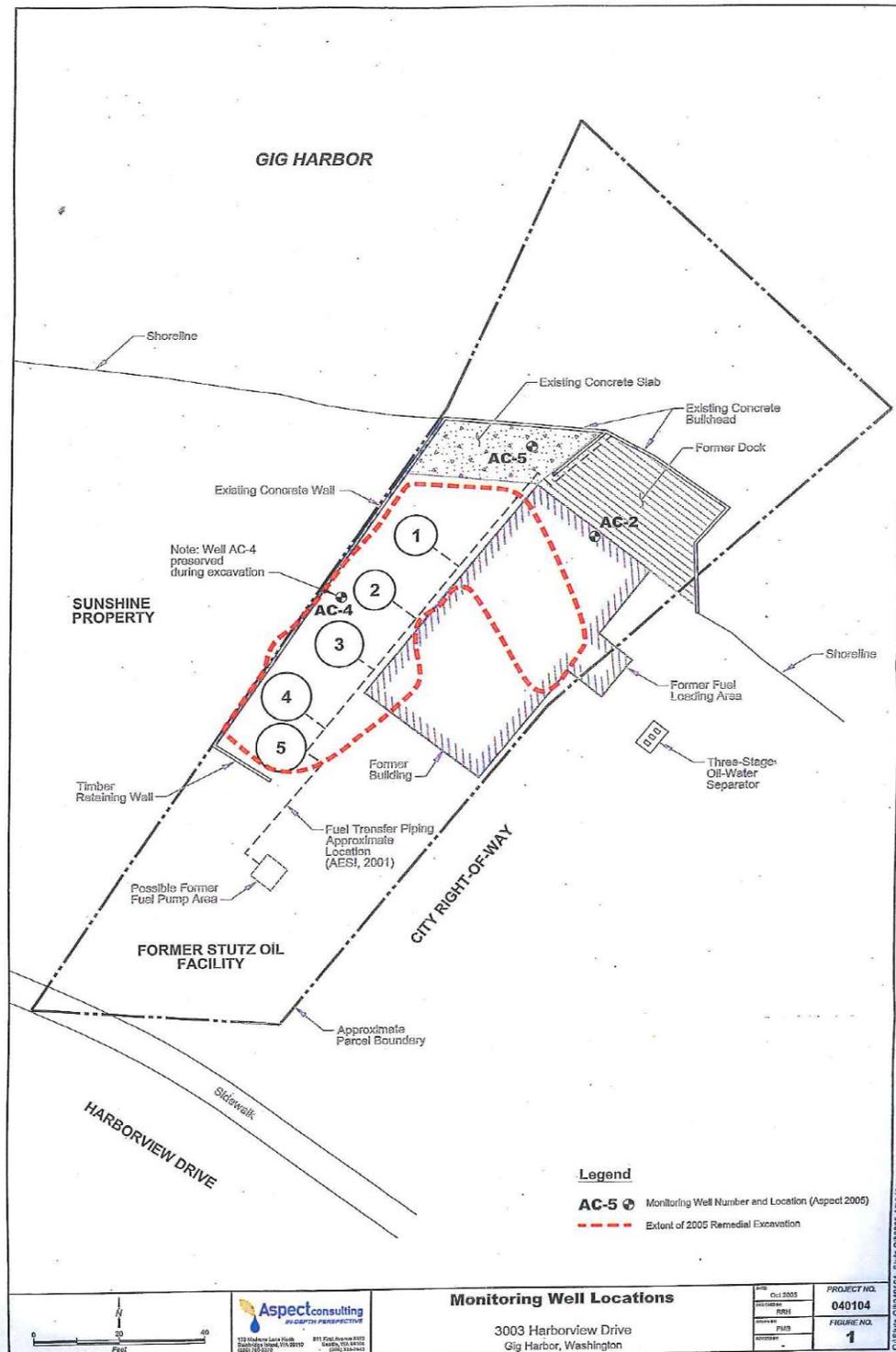
Ecology, Site Visit, March 27, 2014.

## **6.0 APPENDICES**

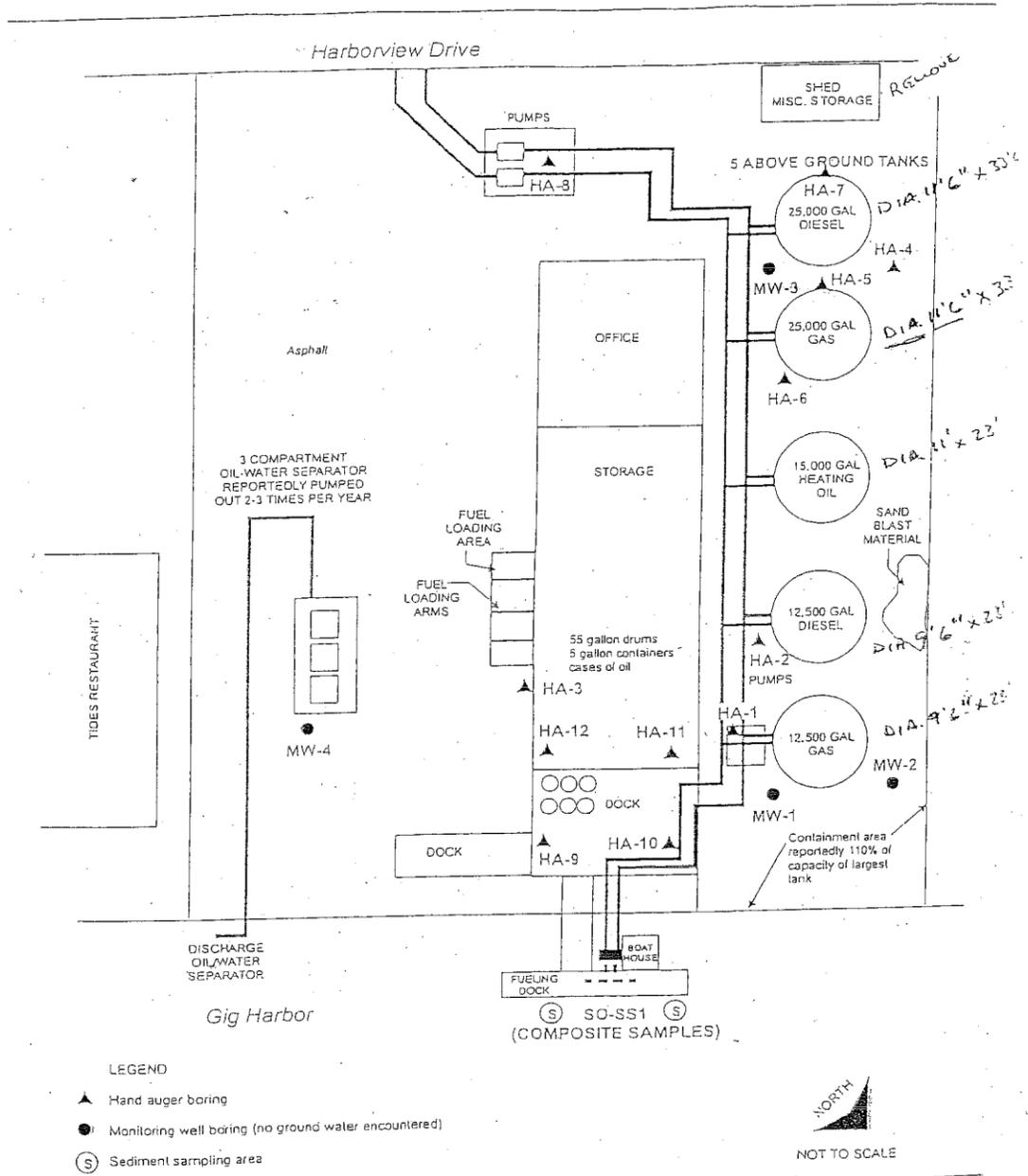
## 6.1 Vicinity Map



## 6.2 Site Plan



### 6.3 2001 Environmental Site Assessment Soil Boring Locations and Soil Sample Results



Associated Earth Sciences, Inc.

SITE SCHEMATIC  
 STUTZ OIL  
 1111 WASHINGTON

FIGURE 2  
 DATE 9/01

Stutz Oil Property  
 Port Orchard, Washington

Environmental Site Assessment Report

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])

Sample Number	Depth ftg <sup>3</sup>	TPH Diesel	TPH Motor Oil	TPH Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	Total Lead
SO-sandblast	surface	NA	NA	NA	NA	NA	NA	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
SO-MW3-1	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-HA1-1	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	NA
SO-HA2-3	3	2,500	< 50	11	< 0.02	< 0.02	< 0.02	0.03	8.2
SO-HA3-1	1	NA	NA	< 1	< 0.02	< 0.02	< 0.02	< 0.02	7.5
SO-HA4-2	2	NA	NA	< 1	< 0.02	< 0.02	< 0.02	< 0.02	32
SO-HA5-1	1	4,100	1,200	NA	NA	NA	NA	NA	820
SO-HA6-1	1	170	180	< 1	< 0.02	< 0.02	< 0.02	< 0.02	NA
SO-HA7-1	1	NA	NA	< 1	< 0.02	< 0.02	< 0.02	< 0.02	14
SO-HA7-2	2	460	180	NA	NA	NA	NA	NA	NA
SO-HA8-1.5	1.5	43	< 50	NA	NA	NA	NA	NA	NA
SO-HA9-1.5 & HA10-1.5 <sup>4</sup>	1.5	< 10	< 50	NA <sup>3</sup>	NA	NA	NA	NA	18
SO-HA11-1 & HA12-1	1	3,200	3,900	NA	NA	NA	NA	NA	390

<sup>3</sup> ftg = feet below existing grade

<sup>4</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-HA12-1) were composited in the laboratory for analysis

<sup>3</sup> NA = Not selected for analysis

### 6.4 2004 and 2005 Soil and Groundwater Investigation Sampling Locations and Results, Figure 1

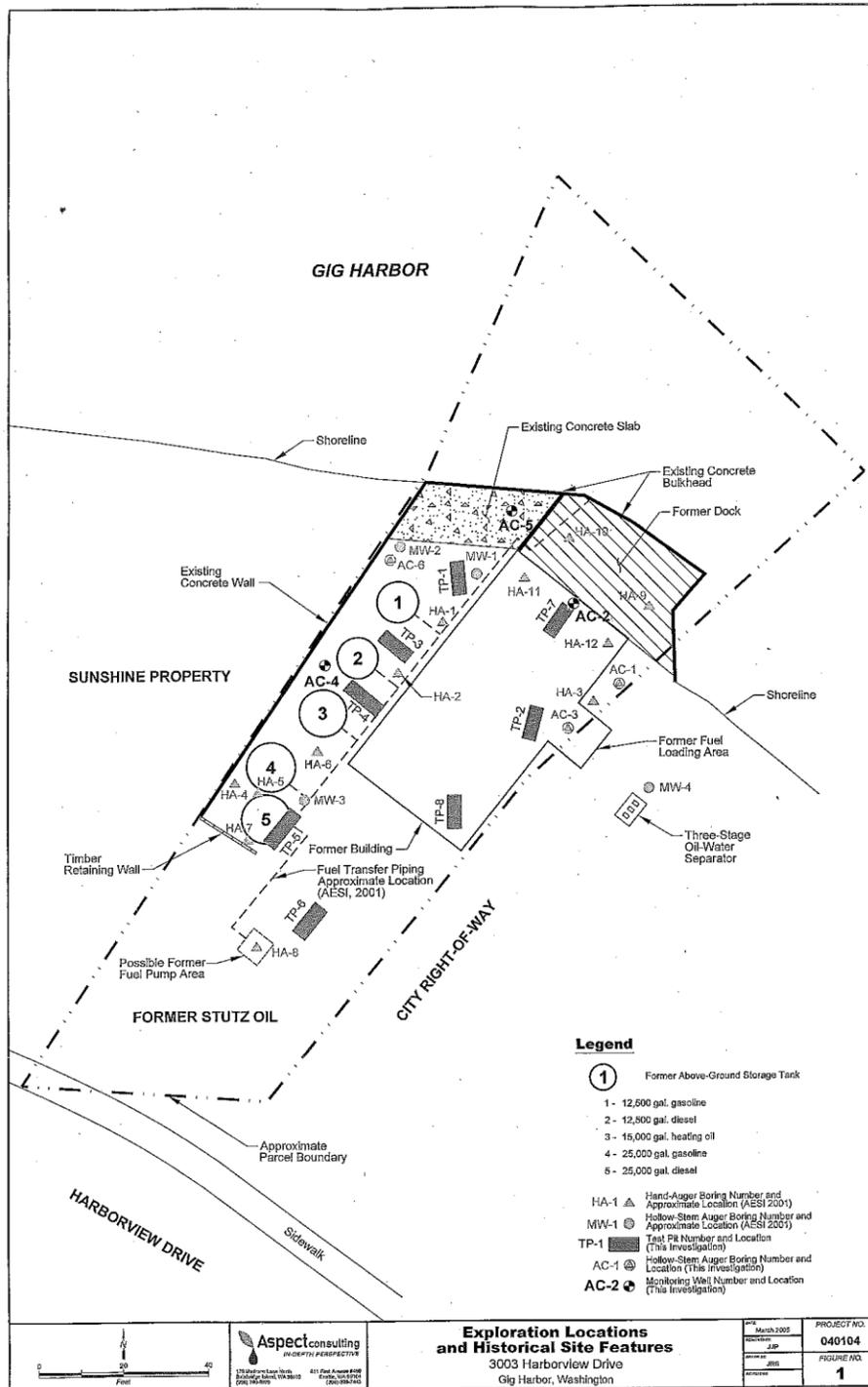
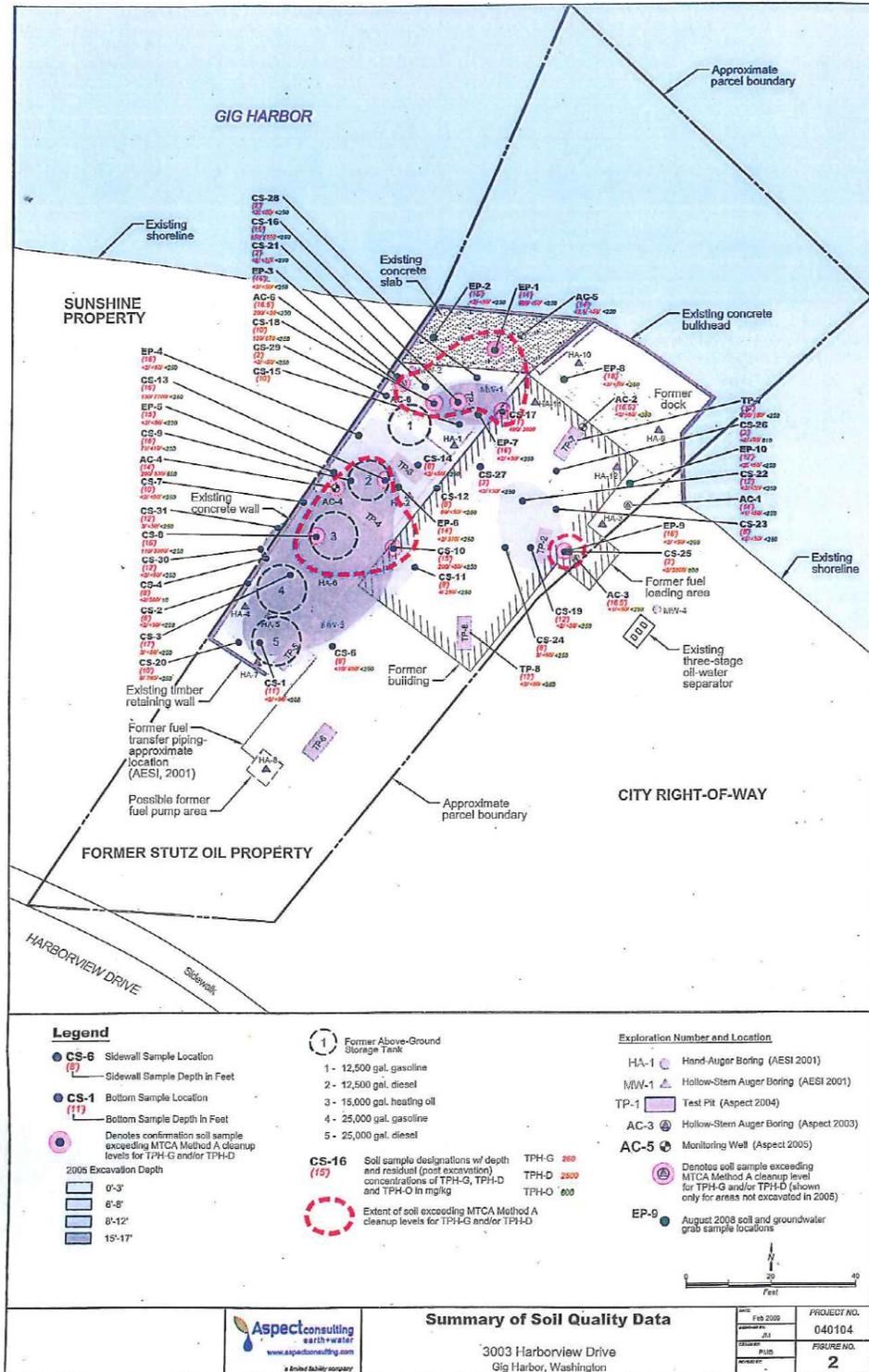




Figure 3



**Figure 4**

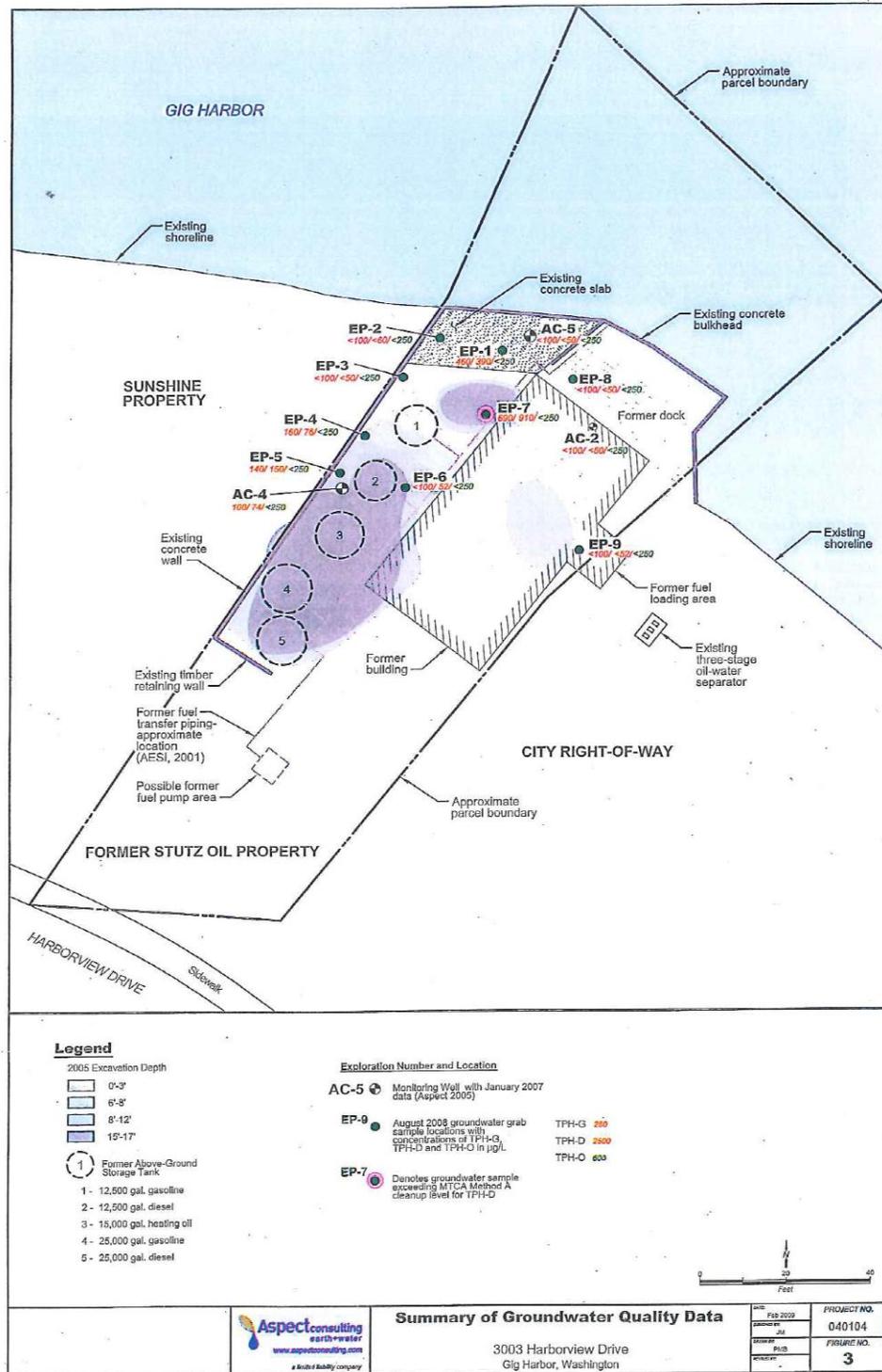




Table 2 - Summary of VPH/EPH Analytical Results for Soil

	Concentration in mg/kg
Sample Location	TP-1
Sample Name	TP1 S-4
Depth of Sample in Feet	12 to 12.5
Sample Date	11/15/2004
<b>Petroleum Hydrocarbons by Method WA VPH</b>	
C8-C10 Aromatics	220
C10-C12 Aromatics	210
C12-C13 Aromatics	190
C5-C6 Aliphatics	25 U
C6-C8 Aliphatics	51
C8-C10 Aliphatics	25 U
C10-C12 Aliphatics	130
Benzene	2.5 U
Toluene	2.5 U
Ethylbenzene	4.6
m,p-Xylene	6.4
o-Xylene	2.5 U
Methyl tert-Butyl Ether	2.5 U
<b>Petroleum Hydrocarbons by Method WA EPH</b>	
C8-C10 Aromatics	27
C10-C12 Aromatics	40
C12-C16 Aromatics	150
C26-C21 Aromatics	210
C21-C34 Aromatics	14
C8-C10 Aliphatics	48
C10-C12 Aliphatics	150
C12-C16 Aliphatics	540
C16-C21 Aliphatics	370
C21-C34 Aliphatics	26
<b>PAHs by Method 8270C SIM</b>	
Naphthalene	7.8
Acenaphthylene	0.05 U
Acenaphthene	0.31
Fluorene	1.8
Phenanthrene	2.2
Anthracene	0.05 U
Fluoranthene	0.05 U
Pyrene	0.1
Benz[a]anthracene	0.05 U
Chrysene	0.05 U
Benzo[b]fluoranthene	0.05 U
Benzo[k]fluoranthene	0.05 U
Benzo[a]pyrene	0.05 U
Indeno[1,2,3-cd]pyrene	0.05 U
Dibenzo[a,h]anthracene	0.05 U
Benzo[g,h,i]perylene	0.05 U

Notes:  
 U = Not Detected at Indicated Detection Limit

path[analytical tables.xls - VPH EPH data

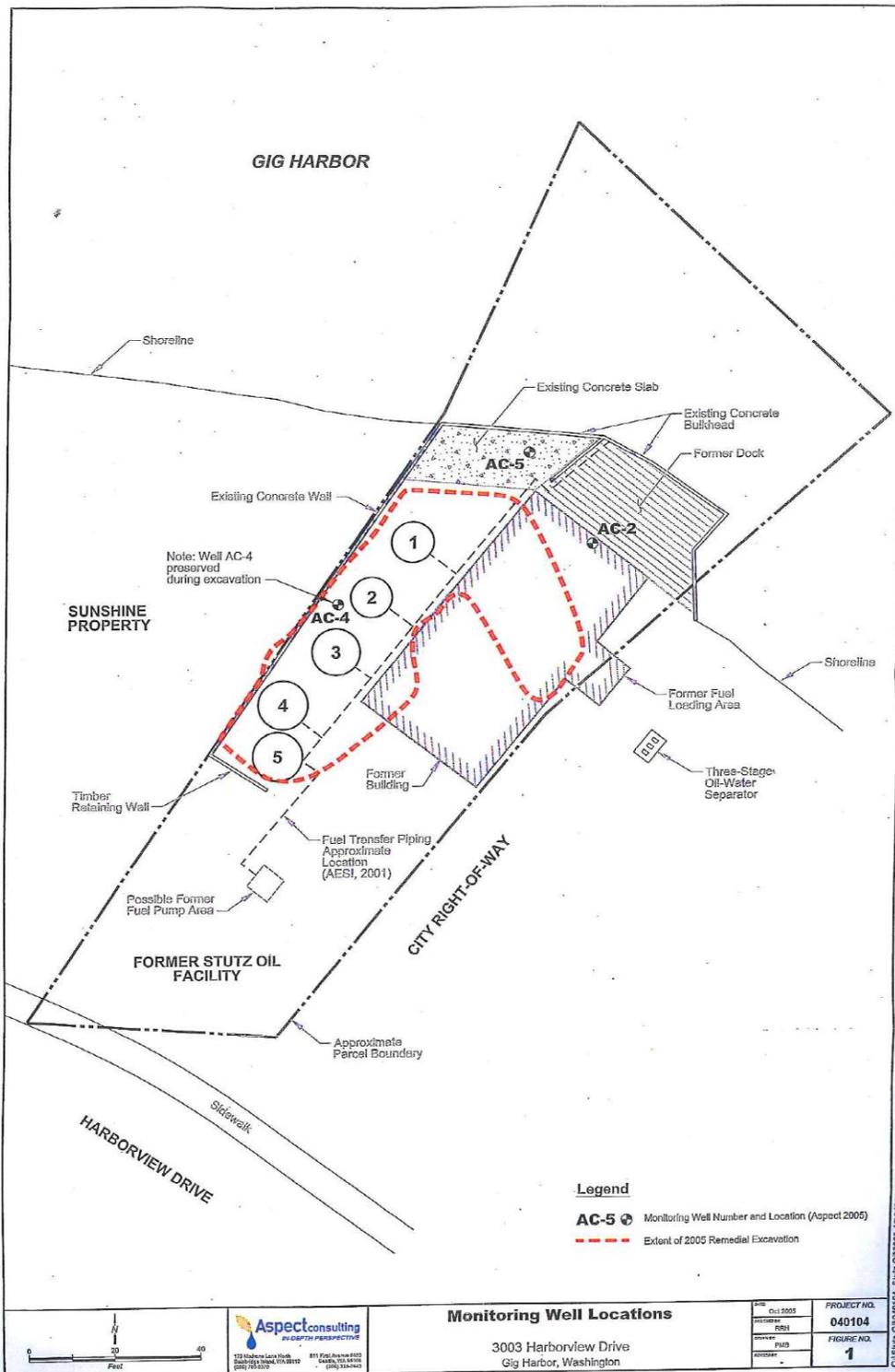
**Table 2 - Summary of Groundwater Sample Analytical Results**

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

Well Number	Sampling Date	Total Petroleum Hydrocarbons as Diesel by NWTPH-Dx <sup>1</sup> (µg/L)	Total Petroleum Hydrocarbons as Motor Oil by NWTPH-Dx <sup>1</sup> (µg/l)	Total Petroleum Hydrocarbons as Gasoline by NWTPH-Gx (µg/l)	BTEX Compounds by EPA Methods 8260B or 8021B				Dissolved Lead by EPA Method 6000 (µg/l)
					Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	
AC-2	2/8/2005	<50	na	na	<1	<1	<1	<2	<1
	2/25/2005	na	na	<50	na	na	na	na	na
	10/11/2005	<50	<250	<100	<1	<1	<1	<3	na
	1/5/2006	<50	<250	<100	<1	<1	<1	<3	na
	4/18/06	<125	<250	<100	<1	<1	<1	<3	na
	8/15/06	<50	<250	<100	<1	<1	<1	<3	na
	1/11/2007	<50	<250	<100	<1	<1	<1	3	na
AC-4	2/8/05	1,100	1,100	na	<1	<1	21	28	2
	2/25/05	na	na	370	na	na	na	na	na
	10/11/05	300	300	140	<1	1	1	7	na
	1/9/06	630	<250	670	<1	2	19	13	na
	4/18/06	<125	<250	120	1	<1	3	3	na
	8/15/06	75	<250	120	<1	<1	3	<3	na
	11/1/2006	86	<250	100	<1	<1	2	<3	na
AC-5	1/11/2007	74	<250	100	<1	<1	<1	<3	na
	2/25/05	<50	<250	73	<1	<1	<1	<2	<1
	10/11/05	<50	<250	<100	<1	<1	<1	<3	na
	1/5/06	<50	<250	<100	<1	<1	<1	<3	na
	4/18/06	<125	<250	<100	<1	<1	<1	<3	na
	8/15/06	<50	<250	<100	<1	<1	<1	<3	na
	1/11/2007	<50	<250	<100	<1	<1	<1	<3	na
<b>MTCA Method A Cleanup Levels for Groundwater</b>		500	500	800 <sup>2</sup>	5	1,000	700	1,000	15

Notes:  
 na - not analyzed  
<sup>1</sup> During 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.  
 Analyte concentration shown in bold exceeds the MTCA Method A Cleanup Level.

## 6.5 Remedial Excavation Area and Confirmation Soil Sample Results



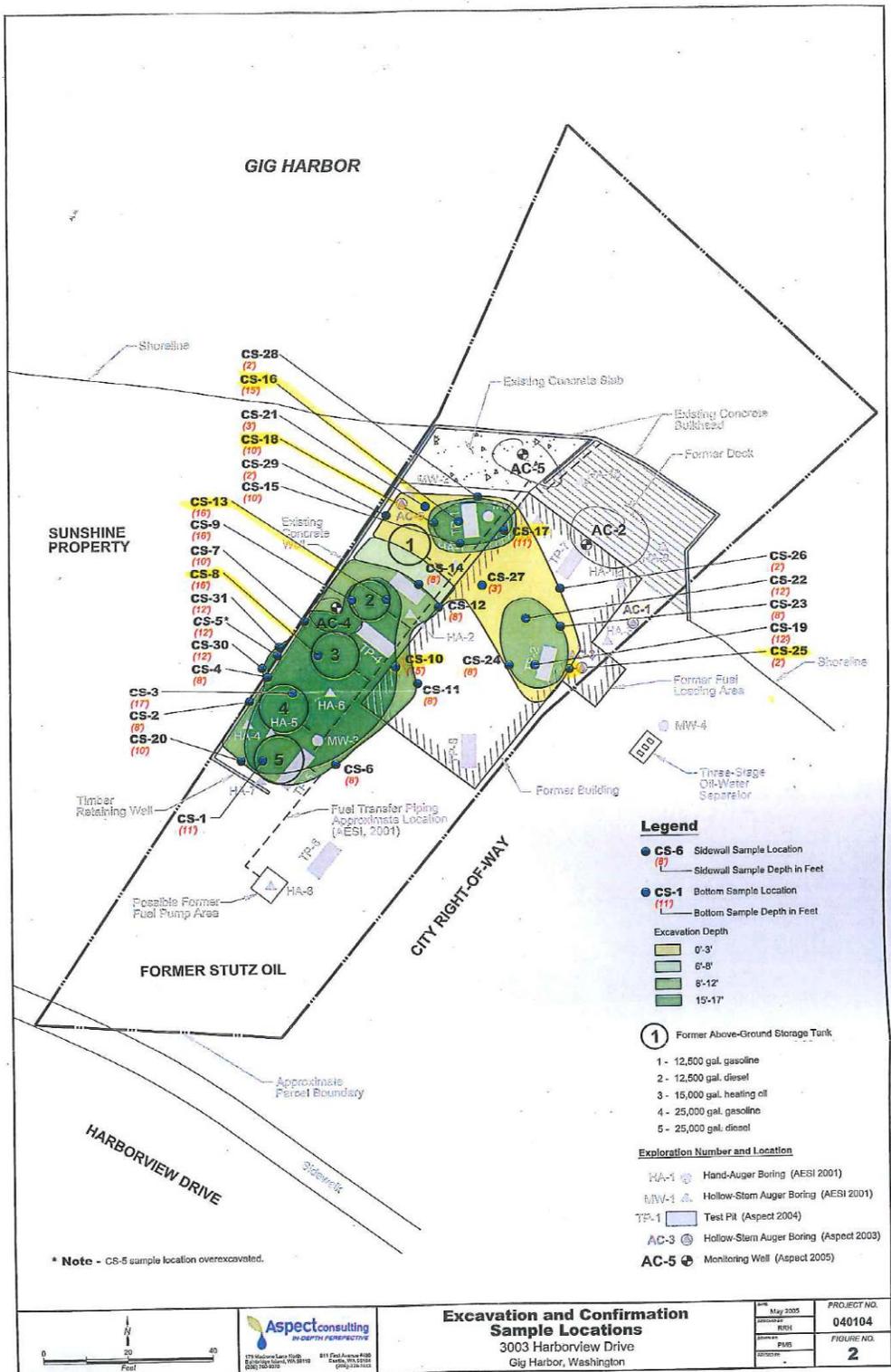
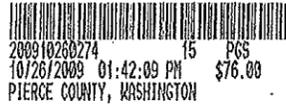


Table 1 - Analytical Results for Soil Confirmation Samples  
Former Stutz Oil Facility

Sample ID	Sample Type	Sample Depth (feet)	Sample Date	Target VOCs by EPA Method 8240B											Gasoline by NVTPE-GC (mg/kg)	Diesel by NVTPE-DX (mg/kg)	Oil by NVTPE-DX (mg/kg)	Total TPH (gasoline, diesel and oil) (mg/kg)	Lead by EPA Method 6010 (mg/kg)	TPH by VPH/EPH (fraction data summarized in Table 4) (mg/kg)	Hazard Quotient for Unrestricted Land Use
				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MtBE (mg/kg)	EDC (mg/kg)	EDB (mg/kg)	Naphthalene (mg/kg)	Gasoline (mg/kg)	Diesel (mg/kg)	Oil (mg/kg)							
CS-1	BTM	11	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	5	--	
CS-2	SW	8	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	4	--		
CS-3	BTM	17	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3	<30	<350	<302	98	--		
CS-4	SW	8	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	560	10	570	6	--		
CS-6	SW	8	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<10	<30	<350	<302	3	--		
CS-7	SW	10	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	8	--		
CS-8	BTM	16	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	110	43,300	<350	3,410	8	--		
CS-9	BTM	16	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	71	410	<350	481	6	--		
CS-10	BTM	13	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	200	<30	<350	200	6	--		
CS-11	SW	8	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4	250	<350	254	4	--		
CS-12	BTM	16	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	59	<30	<350	59	6	--		
CS-13	BTM	16	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	130	7,700	<350	7,830	7	--		
CS-14	SW	8	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	5	--		
CS-15	SW	10	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	110	<350	110	9	--		
CS-16	BTM	15	5/9/2005	<0.25	<0.25	1.7	4.7	<0.25	<0.25	<0.25	<0.25	4.2	<2	<2	<2	<2	2,760	7	--		
CS-17	SW	11	5/9/2005	<0.03	<0.05	0.14	3.4	<0.05	<0.05	<0.05	<0.05	2.5	<2	<2	<2	<2	4,090	11	1,500	0.34	
CS-18	SW	10	5/9/2005	<0.03	<0.05	0.14	0.33	<0.05	<0.05	<0.05	<0.05	0.66	<2	<2	<2	<2	790	5	--		
CS-19	BTM	12	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	9	<30	<350	<302	7	--		
CS-20	SW	10	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	760	<30	<350	769	<2	--		
CS-21	BTM	3	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	21	--		
CS-22	BTM	12	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	5	--		
CS-23	SW	8	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	7	<30	<350	7	4	--		
CS-24	SW	8	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2	<30	<350	2	7	--		
CS-25	SW	2	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	43,200 (b)	600 (b)	3,800	110	1,400	0.29	
CS-26	SW	2	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	490 (b)	810 (b)	1,300	29	--		
CS-27	BTM	3	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	130	<350	130	14	--		
CS-28	SW	2	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	7	--		
CS-29	SW	2	5/9/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	5	--		
CS-30	SW	12	5/12/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<30	<350	<302	<2	--		
CS-31	SW	12	5/12/2005	<0.03	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3	<30	<350	<302	3	--		

Notes:  
 SW: Sidewall Sample  
 BTM: Bottom Sample  
 <: Not detected at indicated detection limit  
 CS-5: not included because this sample location was overexcavated. Data provided in Table 3.  
 MTEB: Methyl tert-butyl Ether  
 1,2-Dichloroethane  
 ED8: 1,2-Dibromochloroethane  
 --: not analyzed  
 (b): Laboratory identified chromatogram as mixture of diesel and motor oil.  
 CHC ranges: Percent calculated from subtracting Diesel (C10-C25) from Total Residual (C10-C30)  
 TPH quantified as Motor Oil - 2,200 mg/kg for CS-23, 2,400 mg/kg for CS-26

## 6.6 Restrictive Covenant



RECEIVED  
OCT 08 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 15 day of OCTOBER, 2009, in 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 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 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.

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.

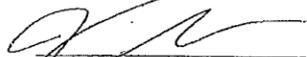
Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity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

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OCT 08 2009

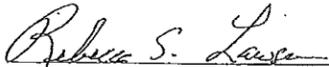
Washington State  
Department of Ecology

Madison Shores Marina, LLC

  
\_\_\_\_\_  
Jim Sullivan  
[Title] *Partner*

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 Pierce

On this 7 day of OCTOBER, 2009, I certify that Jim Sullivan personally appeared before me, acknowledged that he is the President of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument for said corporation.

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

RSD  
Notary Public in and for the State of WA  
Washington, residing at  
Big Lake  
My appointment  
expires 10/21/2012.

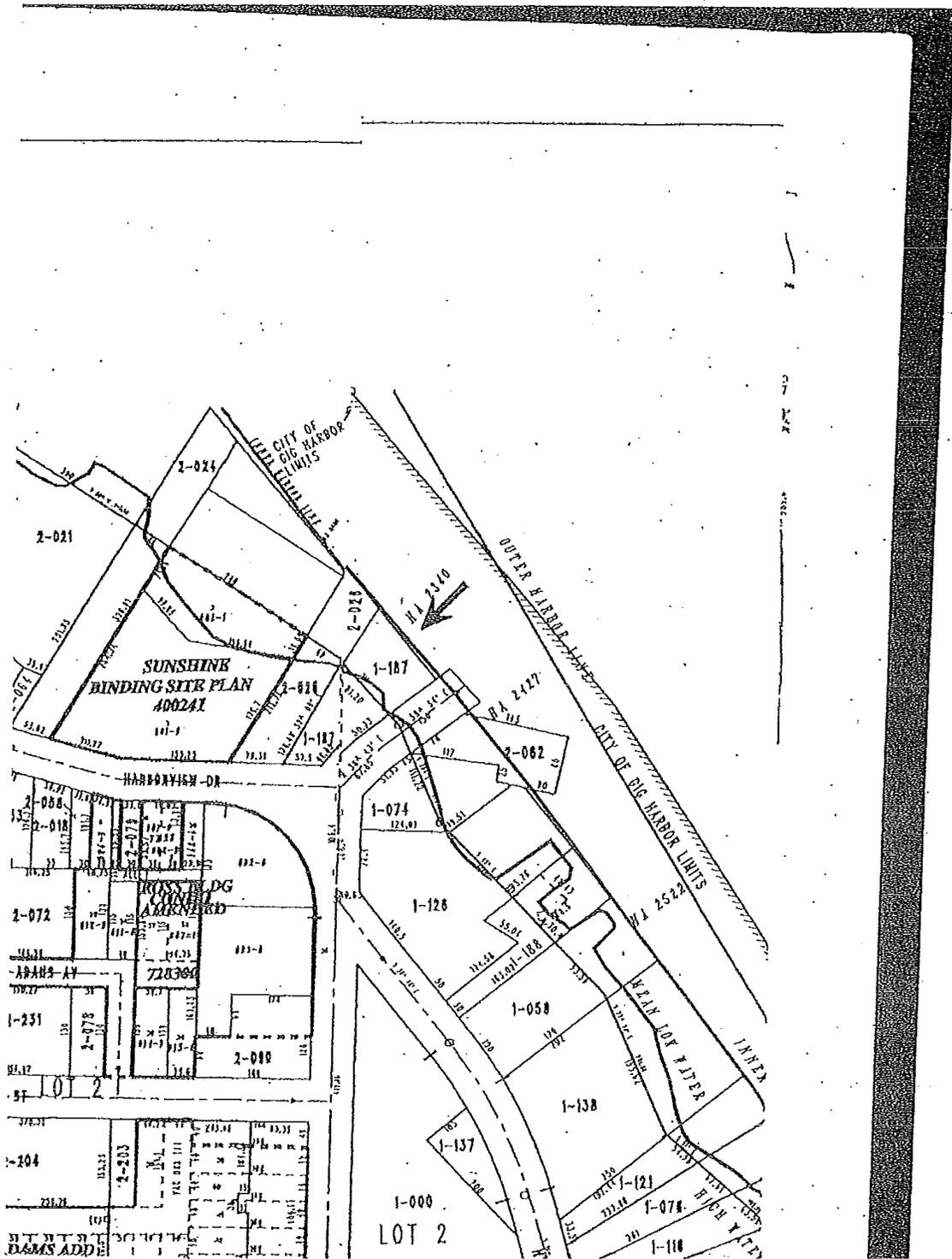
RECEIVED

OCT 08 2009

Washington State  
Department of Ecology

Exhibit 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 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.



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## 6.7 Photo log

**Photo 1: Site Asphalt Pavement– from the South**



**Photo 2: Site/Parking Lot Asphalt Pavement and Adjacent Building – from the Southwest**



**Photo 3: Site/Asphalt Pavement – from the Southwest**



**Photo 4: Site/Asphalt Pavement – from West**



**Photo 5: Groundwater Monitoring Well AC-2**



**Photo 6: Groundwater Monitoring Well AC-5**

