ISLAND COUNTY PUBLIC HEALTH

P.O. Box 5000
Coupeville, WA 98239
www.islandcountyeh.org

February 6, 2013

Gordon Simmons
6423 South Humphrey Road
Clinton, WA 98236

Re: SITE HAZARD ASSESSMENT: Facility Site # 49182662

Site Name:	Simmon's Garage
Site Address:	6423 South Humphrey Road
City, State, Zip:	Clinton, WA 98236
Property Tax ID:	R42930-493-0020
Facility Site ID:	49182662

Dear Mr. Simmons:

Island County Public Health is writing to inform you that the above referenced property was subject to a site hazard assessment (SHA) as required under the Model Toxics Control Act, in December, 2012. The site was determined to be contaminated with gasoline. The site's hazard ranking, an estimation of the potential threat to human health and/or the environment relative to all other Washington state sites assessed at this time, has been determined by the Department of Ecology to be a 3, where a 1 represents the highest relative risk and 5 the lowest.

For your information, Ecology will be publishing the ranking of this, and other recently assessed sites, in the February 2013 Special Issue of the Site Register. The hazard ranking will be used in conjunction with other considerations in determining Ecology's priority for future action at this site.

For inquiries regarding what may occur with your site now that it is on Ecology's Hazardous Sites List please contact Donna Musa at (425) 649-7136 or donna.musa@ecy.wa.gov.

Sincerely,

Helena Hennighausen
Environmental Health Specialist

cc: Ted Benson, WA Dept of Ecology
Donna Musa, NWRO Toxics Cleanup Program, WA Dept of Ecology

Site Hazard Assessment
Worksheet 1
Summary Score Sheet

SITE INFORMATION

Name: Simmon's Garage
Address: 6423 South Humphrey Road
City: Clinton
County: Island
State, Zip: Washington, 98236

Section / Township / Range: 30 / 29N / 4E
Latitude: 47.977525
Longitude: 122.355186
Facility Site ID Number: 49182662

Site assessed / ranked for the August 2013 special edition of the Site Register.

General Site Description

The subject site, Simmon's Garage, is an out-of-service gas station which is currently used for automotive maintenance and parts sales. It is located on tax parcel R42930-493-0020 at 6423 South Humphrey Road, Clinton, WA on Whidbey Island. The lot is 0.24 acres in size and contains one commercial building. The site is bordered by Highway 525 to the east, and is surrounded by a mix of light commercial, retail and residential buildings.

Topography on the site and in the surrounding region slopes 0-5 percent downward to the southeast, and the expected direction of shallow groundwater flow in the area would be toward the southeast. The site is 123 feet above sea level. Puget Sound lies 556 feet east of the site. Almost the entirety of the 0.24 acres is covered by impervious surface.

284 wells lie within a two (2) mile radius, with fifty-one (51) of those being public water systems. The closest Public Water system is located 609 feet to the south.

The soil is described as "Indianola loamy sand". Subsurface soils observed in the sides and bottom of the excavation were primarily fine-grained sands.

Site History

On March 31, 1993 three out-of commission USTs were removed from the subject site with a trackhoe owned and operated by Peterson Construction. The tanks were then loaded onto trucks using a crane provided by Whidbey Island Sand and Gravel, Inc., and transported off site to 4251 East Highway 525 for temporary storage prior to disposal.

According to Gordon Simmons, property owner, the USTs removed remained empty since the site closed as gas station service in 1991. Prior to removal, the USTs were conditions by adding dry ice in a manner consistent with guidelines offered in API Recommended Practice 1604 (Removal and Disposal of Underground Petroleum Storage Tanks). After conditioning, the oxygen levels inside the tanks were measured by Peterson Construction personnel to verify that the tanks were properly inerted.

All three USTs were single-walled steel tanks, and the tops of the tanks were approximately 1-foot below grade. After removal, the tanks were measures and inspected for holes and indication of leakage. Table A lists the maximum calculated tank capacity, approximate age and assessed condition for the three tanks excavated.

Table A. Tank Information

Tank	Age (Year)	Capacity (Gallons)	Condition
1	7	8,272	Good
2	7	8,272	Poor
3	7	6,266	Good

No holes or indications of leakage were detected in any of the tanks. Tank 2 was corroded and the metal at the ends of the tank was flexible, indicating that it was thin. According to Mr. Simmons, the service station tanks were used to store gasoline. All of the tanks were used to store leaded gasoline at one time or another.

Approximately 70 cubic yards of the overlying soil s were stockpiled near the excavation. No hydrocarbon odors or other indications of contamination were detected in the stockpiles. No gasoline concentrations were detected by field screening of these soils using Drager reagent tubes.

No hydrocarbon odors or other indications of contamination were noted in soils in the sides and bottom of the excavation, with the exception of soils in the southeast corner of the excavation, beneath the fill end of Tank 1. Soils in the southeast corner of the excavation exhibited strong hydrocarbon odors beginning at a depth of 8-feet, and extending down to approximately 20-feet. According to Mr. Simmons two 1,000 gallon USTs were located in this area and were removed approximately 7 years prior to March 31, 1993. These tanks may have leaked. Approximately 50 cubic yards of gasoline contaminated soil was removed from this area and transported to 4251 East Highway 525 for landfarming.

Everett Peterson, of Peterson Construction, stated that his company dug down to approximately 26 feet in the southeast corner of the excavation on April 1, 1993. Mr. Peterson stated that the soils appeared to be contaminated down to the bottom of the excavation, and that those soils were fine-grained sands, similar to those seen in the upper

20 feet of the excavation. No groundwater seepage was encountered during the excavation.

Soil samples were taken from the sides and bottom of the excavation, as well as from the stockpiled material. In general, discrete samples were obtained from the sides and bottom of the excavation using the trackhoe bucket. Samples from the stockpiles were composited from four randomly selected locations to provide estimates of average concentrations within the stockpiles.

Soils were analyzed by MTPH-G method for gasoline, along with the gasoline constituents benzene, toluene, ethylbenzene and xylenes (BTEX). With the exception of samples collected from the southeast corner of the excavation, the reported gasoline and BTEX concentrations of the samples collected by Peterson Construction were below Model Toxics Control Act (MTCA) Method A cleanup levels. A gasoline concentration of 11,000 parts per million (ppm) and a benzene concentration of 1.1ppm was reported in Sample 011, which was collected from a 26-foot depth in the southeast corner of the excavation. These concentrations exceed the MTCA cleanup levels of 100ppm for gasoline in soils and 0.5 ppm for benzene in soils. Sample S22 collected from a 15 foot dept in this are was found to contain a gasoline concentration of 4,000ppm. This concentration exceed the MTCA cleanup levels of 100ppm for gasoline in soils. Sample S22 was also analyzed for lead. The reported lead concentration of 11ppm is well below the MTCA cleanup level of 250ppm. Laboratory results are reported in Table B.

Table B. Analytical Data for Simmon's Garage UST Removal & Excavation in PPM

Sample	Dilution Factor	Benzene	Toluene	Ethyl-Benzene	Xylene	TPH-Gas
Sample ID 021 Tank1	50	<0.050	<0.050	<0.050	<0.050	<5.0
Sample ID 022 Tank2	50	<0.050	<0.050	<0.050	<0.050	<5.0
Sample ID 023 Tank 3	50	<0.050	<0.050	<0.050	<0.050	<5.0
Sample ID S22 SE corner of excavation @ 15'	250	<0.25	1.6	**7.5**	54*	**4000 ppm**
Sample ID 011 SE corner of excavation @ 26'	250	**1.1 ppm**	**51****	**77****	**150****	**11,000 ppm**

* Data from 1:1000 dilution.
** Value reported exceeds the quantitation range. Value is an estimate.

Based on the above information, it appears that soils in the vicinity of the three USTs removed contained concentrations of gasoline and benzene which exceed the cleanup levels specified in MTCA. The contamination appears to have occurred due to either the operation of the three USTs removed and / or the operation of the two 1,000-gallon USTs which were reportedly removed from the area in 1986. The results suggest that gasoline contamination extends down to a depth of at lease 26feet.

Special Considerations

Due to the contamination on-site being subsurface, the surface water and air routes are not applicable for WARM scoring for this site. Only the groundwater route will be scored.

The subject property overlies the Whidbey Island Aquifer, a federally designated sole source aquifer, resulting in the maximum value of 10 used for that scoring value.

Route Scores

Surface Water / Human Health:	**Not Scored**
Air / Human Health:	**Not Scored**
Groundwater / Human Health:	**__47.5____**
Surface Water / Environmental:	**Not Scored**
Air / Environmental:	**Not Scored**

Overall Rank: __3__

Worksheet 2
Route Documentation

1. SURFACE WATER ROUTE: Not Scored

a. List those substances to be considered for scoring: **Source: 1,2,3**

b. Explain basis for choice of substance(s) to be used in scoring.

c. List those management units to be considered for scoring: **Source: 1,2,3**

d. Explain basis for choice of units to be used in scoring.

2. AIR ROUTE: Not Scored

a. List those substances to be considered for scoring: **Source: 1,2,3**

b. Explain basis for choice of substance(s) to be used in scoring.

c. List those management units to be considered for scoring: **Source: 1,2,3**

d. Explain basis for choice of units to be used in scoring.

3. GROUND WATER ROUTE

a. List those substances to be considered for scoring: **Source: 1,2,3**

TPH-gx, BTEX Compounds

b. Explain basis for choice of substance(s) to be used in scoring.

Benzene and xylenes will be the substances used in scoring. These two constituents represent the greatest risk in terms of toxicity and mobility. Analytical data is available, and they are available to the groundwater route due to less than perfect containment.

c. List those management units to be considered for scoring: **Source: 1,2,3**

Discharges and Contaminated soils: Contaminated soil, groundwater, or surface water due to spillage or leakage from a source that has been removed.

d. Explain basis for choice of units to be used in scoring.

Discharges and contaminated soils will be the management unit used for scoring due to contaminated subsurface soil, verified through sampling and analysis.

Worksheet 6
Ground Water Route

1.0 Substance Characteristics

1.1 Human Toxicity

	Substance	Drinking water Standard (ug/l)	Val	Acute Toxicity (mg/kg-bw)	Val	Chronic Toxicity (mg/mk/day)	Val	Carcinogenicity		Val
								WOE	PF*	
1	Benzene	5	8	3306 (rat)	3	--	ND	A	0.029	5
2	Toluene	2000	2	5000 (rat)	3	0.2	1	--	--	ND
3	Ethylbenzene	700	4	3500 (rat)	3	0.1	1	--	--	ND
4	Xylenes	10,000	2	50	10	2	1	--	--	ND

*Potency Factor

Source: **2,3**
Highest Value: **10**
(max = 10)
Plus 2 Bonus Points? **2**
Final Toxicity Value: **12**

1.2 Mobility (Use numbers to refer to above listed substances)

Cations / Anions:	OR	Solubility (mg/l):
1=		1= benzene = 1800 = 3
2=		2= toluene = 540 = 2
3=		3= ethylbenzene = 150 = 2
4=		4= xylenes = 200 = 2

Source: **2, 3**

Value: **3**

1.3 Substance Quantity: 2,000 Gallons	
Explain Basis: The three USTs pulled during this excavation did not show signs of leakage. 2,000-gallons is the total one-time fill volume of the two reportedly pulled USTs from 1986.	**Source:** **1, 2** **Value:** **4**

2.0 Migration Potential

2.1	**Containment:** Spills, Discharges, and Contaminated Soils **Explain Basis:** No Liner (3), compacted soils (1), bulk liquid (3), no leachate collection system (2)	Source:1, 2	Value: 9
2.2	**Net Precipitation: (Nov. – April) 13.3 inches**	Source: 2,7	Value: 2
2.3	**Subsurface hydraulic conductivity: sandy silt, permeable till**	Source: 1,2	Value: 3
2.4	**Vertical depth to ground water: 76 feet**	Source: 1,2, 5	Value: 4

3.0 Targets

3.1	**Ground water usage: Federally-designated sole source aquifer**	Source: 1,2	Value: 10
3.2	**Distance to nearest drinking water well:** 616 feet	Source: 1,2,5	Value: 4
3.3	**Population served within 2 miles:** √pop. = √3954 = 62.9	Source: 2,5,6	Value: 63
3.4	**Area irrigated by (groundwater) wells within 2 miles:** (0.75) √no acres = (0.75)*0	Source: 2,4	Value: 0

4.0 Release

Explain Basis for scoring a release to Groundwater: Confirmed Release	Source: 1,2	Value: 5

Sources Used in Scoring

1. Underground Storage Tanks Closures / Site characterization – Simmon's Garage, prepared for Mr. Everett Peterson – Peterson Construction, prepared by Mr. Henry Perrin – Geotech Consultants, Inc., May 17, 1993

2. Washington State Department of Ecology, WARM Scoring Manual, April 1992

3. Washington State Department of Ecology, Toxicology Database for Use in Washington Ranking Method Scoring, January 1992.

4. Water Rights Information System (WRIS), Ecology

5. Island County Health Department Well Logs

6. Washington State Department of Health Water Supply System

7. Washington Climate for Island County, National Weather Service Forecast Office

8. Island County Geographic Information System Countyview Database