

# Limited Phase II Environmental Site Assessment Report



Kee-Hoon Pak Kee Environmental 5/22/2012

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Limited Phase II ESA Environmental Site Assessment Report One Stop Cleaning Center Port Orchard, WA Property ID: 4027-003-003-0002

**Prepared for:** 

Mr. Soon Kwon One Stop Cleaning Center 1610 Bay St Port Orchard, WA 98366

**Prepared by:** 



June 25, 2012

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June 25, 2012

Attention:	Mr. Soon Kwon One Stop Cleaning Center 1610 Bay Street Port Orchard, WA 98366
Subject:	Limited Phase II Environmental Site Assessment Report One Stop Cleaning Center 1610 Bay Street Port Orchard, WA 98366

KEE Environmental is pleased to submit the copy of our Limited Phase II Environmental Site Assessment (ESA) Report for One Stop Cleaning Center property located at 1610 Bay Street, Port Orchard, Kitsap County, Washington.

KEE Environmental initiated with Detectron scan to locate the underground utilities. And KEE Environmental supervised the completion of three (3) borings and samplings on June 11, 2012. Three (3) soil samples out of three (3) boring explorations taken were submitted to a laboratory for chemical analysis. Soil boring explorations were continued up to the depth of two (2) feet below the ground surface(bgs) or until reach the hardpan soil base with manual soil auger.

Relying upon the information developed during the course of this investigation, which included drilling/sampling of soil and laboratory analysis of selected soil samples, the subject property show signs of Tetrachloroethene (PCE) where we bored.

The laboratory analysis of soil samples from boring B4 thru B6 where explored inside the cleaning center in front of the laundry dryer show the concentration (S4 : 15 mg/kg, S5: 1.3 mg/kg, and S6: 1.0 mg/kg) of Tetrachloroethene (PCE). All soil sample concentrations are above Washington State Department of Ecology's MTCA Method A Cleanup Level with dry cleaning fluid, Tetrachloroethene(PCE).

We appreciate the opportunity to be of service to you. Please contact us with any comments or questions you have by calling 206-914-4989.

Yours very truly,

Rada

Kee-Hoon Pak, EP Project Manager

Limited Phase II ESA Environmental Site Assessment Report One Stop Cleaning Center 1610 Bay Street Port Orchard, WA 98366

Prepared for:

### Mr. Soon Kwon One Stop Cleaning Center 1610 Bay Street Port Orchard, WA 98366

Questions regarding this investigation, the conclusions reached and the recommendations given should be addressed to one of the following undersigned.

Rada

Kee Hoon Pak, EP Project Manager ICC# 0874768-U2/U7

JACK SWARDZ PE Project Engineer Registered Professional Engineer

Reference Job Number: OCC061112-001

June 25, 2012

#### SUMMARY OF FINDINGS

KEE Environmental has completed a Limited Phase II Environmental Site Assessment (ESA) Report for One Stop Cleaning Center located at 1610 Bay Street, Port Orchard, Kitsap County, Washington. The subject property consist of shopping strip including the one stop cleaning center as a Laundromat.

KEE Environmental initiated with Detectron scan to locate the underground utilities. And KEE Environmental supervised the completion of three (3) borings and samplings on June 11, 2012. Three (3) soil samples out of three (3) boring explorations taken were submitted to a laboratory for chemical analysis. Soil boring explorations were continued up to the depth of two (2) feet below the ground surface(bgs) or until reach the hardpan soil base with manual soil auger.

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LIMITED PHASE II SITE ASSESSMENT ONE STOP CLEANING CENTER 1610 BAY STREET PORT ORCHARD, WA 98366 Project OCC061112-001

#### 1 INTRODUCTIOIN

KEE Environmental is pleased to present this report summarizing Limited Phase II Environmental Site Assessment (ESA) activities completed at One Stop Cleaning Center located at 1610 Bay St, Port Orchard, Kitsap County, Washington. Figure 1 presents the location of the property in Port Orchard, Washington with respect to the surrounding vicinity. Figure 2 is a site plan showing the specific location of the sampling in the Cleaning Center area evaluated during the Limited Phase II ESA.

#### 1.1 Background

Our proposal was requested by Soon Kwon, as an effort to investigate about the environmental condition of the property due to previous history of dry cleaning activity and our scope of service is based on the written agreement with the Mr. Soon Kwon of One Stop Cleaning Center in Port Orchard, Washington.

#### 1.2 Scope of Services

The scope of services was completed in general accordance with ASTM Standard Practices "Standard Practice for Environmental Site Assessments: Phase II Site Assessment Process". The Scope of services for the Phase II ESA included the following:

- 1. Conduct a site visit to assist in the preparation of the scope of work.
- 2. Prepare a site-specific health and safety plan for KEE, LLC's personnel that will address contaminants and physical hazards that may be encountered during drilling activities.
- 3. Advance up to three (3) borings to depths of hardpan soil below ground surface using drilling equipment for field classification for the presence/absence of contaminants.
- 4. Visually classify the soil samples in general accordance with ASTM, the Standard Practice for Description and Identification of Soils.
- 5. Field screen soil samples for the evidence of contamination using visual, water sheen and headspace vapor screening methods with FID.
- 6. Collect soil/groundwater samples during drilling activities. Containerize the samples.
- 7. Submit the field samples to the laboratory for chemical analysis.
- Analyze soil and/or groundwater (if encounter) samples that exhibit Halogenated Volatiles by EPA 8260B.
- 9. Complete the copy of Limited Phase II ESA (ASTM E 1903) report.



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#### **1.3** Purpose of Investigation

The purpose of the Limited Phase II ESA was to identify and confirm the presence or absence of contaminated soil and/or groundwater, which could potentially affect the development of property. Objectives for the Phase II ESA include the following:

- 1. Verify the presence and absence of contaminated soil and/or groundwater
- 2. Compare the concentration of identified contaminants to regulated cleanup levels.

#### 2 SITE DESCRIPTION

The subject site consists of approximate 0.6-acre developed parcel located on the northeast section of Bay Street and Guy Wetzel Street of Port Orchard, Washington. The subject site has one single building used as shopping strip including the cleaning center. The subject site is located at 1610 Bay Street, Port Orchard, Kitsap County, Washington (**Figure 1**). The legal description of the subject property is:

LOT 3 EXCEPT THE SOUTH 20 FEET, LOTS 4 TO 7, AND LOT 8 EXCEPT THE NORTHERLY 20 FEET, BLOCK 3 ANNAPOLIS AS PER PLAT RECORDED IN VOLUME 1 OF PLATS PAGE 64, RECORDS OF KITSAP COUNTY, WASHINGTON. AND LOTS 6 AND 7, BLOCK 1, ANNAPOLIS, AS PER PLAT RECORDED IN VOLUME 1 OF PLATS, PAGE 64, RECORDS OF KITSAP COUNTY AUDITOR; SITUATE IN THE CITY OF PORT ORCHARD, COUNTY OF KITSAP, STATE OF WASHINGTON.

Land Zoning is: City with Retail Trade

#### 2.1 Geologic and Hydrogeologic Description

Based on the information obtained from USDA Natural Resources Conservation Service Web soil survey for Kitsap County, WA, the study area is Urban Land–Alderwood complex. Map unit symbol is 63— Urban Land–Alderwood complex, 0 to 8 percent slopes. Typical profile of the site is 0 to 1 inches: Very gravelly sandy loam, 1 to 22 inches: Very gravelly loam, 22 to 60 inches: Very gravelly sandy loam

Based on the review of the well logs obtained from Washington Water Resource Department the depth of the shallow groundwater appears to be within approximately 7 feet from the ground surface (based on Well Logs).

#### 2.2 Current and Historical Property Use

The subject property's current use is a shopping strip building for retail service including the cleaning center. This subject property's was built in 1968. Phase I ESA is needed to verify the historical property use.



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#### 2.2.1 Investigation Area

Investigation area include interior of the cleaning center. Soil boring explorations contain three (3) interior borings.

#### 2.3 Public Well Logs

No public wells are located within 0.5 miles radius.

#### **3** FIELD INVESTIGATON

This section describes the investigation and sampling procedures employed during the Phase II ESA to evaluate environmental conditions at the site. Field investigation for the Limited Phase II ESA was performed on June 11, 2012. Field investigation was limited to the areas of potential concern. The boring locations were selected based on the requirement for the geotechnical investigation. Soil samples were collected at borings where contamination was suspected.

#### 3.1 Investigation Locations

The locations of soil borings and other investigation activities performed during the Limited Phase II ESA were selected based on the requirements of the geotechnical investigations and the result of site observation. Soil borings were limited to the areas indicated because the area of primary concern is under the concrete slab where dry cleaning activities occurred previously inside the building on **Figure 2**. The investigation consisted of drilling 3 soil borings (**Figure 2**).

#### 3.1.1 Geophysical Survey

A utility locating equipments were used to attempt to locate private underground utilities. Utility locator equipment and a hand-held magnetometer were used to attempt to locate present private underground utilities. The area of interest was evaluated using a grid system on an approximate 4-ft grid interval.

#### 3.2 Drilling procedure

The drilling equipment was manual hand auger and soil probe to explore the holes. The soil was sampled up to the depth of up to 2 feet. During sampling, a field log was written by the project manager, which included soil classification, color, texture, moisture, seepage zones, odors and iridescent sheens (**Figure B4 thru B6**).

#### 3.3 Sample Collection



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#### 3.3.1 Sample Design

Limited Phase II sampling was designed to help confirm the presence/absence of environmental contaminants on the properties. Sampling locations were selected topographically and hydraulically to identify soil and/or groundwater contamination that may have occurred from present and/or past operation on the property (**Figure 2**).

Selected samples for head space analysis are listed in the following:

Sample ID	Soil sample depth (inch bgs)	Flame Ionization Detector (FID) head space Reading (ppm)
B4-S4	10	0.0
B5-S5	22	0.0
B6-S6	15	0.0

Soil Sampling location and FID head space reading results summarized in **Table 1**.

**Bold** shaded samples were selected to analyze by laboratory.

#### 3.3.2 Sample Handling

Soil samples for chemical analyses were collected during drilling soil borings for the geotechnical investigation. New nitrile gloves are donned prior to sample collection. Recovered samples from each boring exploration were new zipper lock bagged. The soil samples were then screened with a Photovac FID. Based on visual inspection and FID reading, soil samples were then placed into sample containers using USEPA Method for soil samples

Three(3) soil samples were collected into laboratory provided containers and placed in the cooler with ice and transported for chemical analysis for laboratory analysis for the Phase II ESA to measure Halogenated Volatiles contamination.

Analytical reports are presented in Section 4.

The sample containers in a cooler with ice transported under standard chain of custody procedure within 24 hours to OnSite Environmental, Inc., in Redmond, Washington. The laboratory was instructed to hold all soil samples until noticed by KEE Environmental for further analysis.

#### 3.3.3 Chemical Analysis

Analytical approach is intended to provide a basis for comparing the site environment to existing



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standard offered in the Model Toxics Control Act (MTCA), Chapter 173-340, Washington Administrative Code, and to recommended analyses offered in the April 1994 Underground Storage Tank Site Assessment, Washington State Department of Ecology. Analytical methods used were based on the standard method: Halogenated Volatiles 8260B.

#### 4 ANALYTICAL RESULTS

#### 4.1 Ground water

No shallow perched groundwater encountered up to the depth of 2 feet in the borings B4 thru B6.

#### 4.2 Soil

Three (3) of the borings, identified as B4 thru B6, were completed in investigation area during the Limited Phase II ESA. The analytical result was summarized in **Table 1A** and laboratory data was attached in the appendix. As shown in **Table 1A**, there were measurable amount of contaminations in soil sample S4 thru S6 where soil borings were explored.

The laboratory analysis of soil samples from boring B4 thru B6 where explored inside the cleaning center in front of the laundry dryer show the concentration (S4 : 15 mg/kg, S5: 1.3 mg/kg, and S6: 1.0 mg/kg) of Tetrachloroethene (PCE). All soil sample concentrations are above Washington State Department of Ecology's MTCA Method A Cleanup Level with dry cleaning fluid, Tetrachloroethene(PCE).

A copy of the Analytical Laboratory Report with chain-of-custody is provided in the Appendix B.



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#### 5 CONCLUSIONS/RECOMMENDATIONS

KEE Environmental has completed a Limited Phase II Environmental Site Assessment (ESA) Report for One Stop Cleaning Center located at 1610 Bay Street, Port Orchard, Kitsap County, Washington. The subject property consist of shopping strip including the one stop cleaning center as a Laundromat.

KEE Environmental initiated with Detectron scan to locate the underground utilities. And KEE Environmental supervised the completion of three (3) borings and samplings on June 11, 2012. Three (3) soil samples out of three (3) boring explorations taken were submitted to a laboratory for chemical analysis. Soil boring explorations were continued up to the depth of two (2) feet below the ground surface(bgs) or until reach the hardpan soil base with manual soil auger.

Relying upon the information developed during the course of this investigation, which included drilling/sampling of soil and laboratory analysis of selected soil samples, the subject property show signs of Tetrachloroethene (PCE) where we bored.

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Based on the information obtained from USDA Natural Resources Conservation Service Web soil survey for Kitsap County, WA, the study area is Urban Land–Alderwood complex. Map unit symbol is 63— Urban Land–Alderwood complex, 0 to 8 percent slopes. Typical profile of the site is 0 to 1 inches: Very gravelly sandy loam, 1 to 22 inches: Very gravelly loam, 22 to 60 inches: Very gravelly sandy loam

Based on the review of the well logs obtained from Washington Water Resource Department the depth of the shallow groundwater appears to be within approximately 7 feet from the ground surface (based on Well Logs).

Based on the findings of Limited Phase II ESA environmental site assessment of the property,

<u>KEE Environmental recommend further investigation</u> to verify vertical and horizontal extent of contamination due to all soil sample concentrations are above Washington State Department of Ecology's MTCA Method A Cleanup Level with dry cleaning fluid, Tetrachloroethene(PCE). And the discovery needs to be reported to Washington State Department of Ecology for their review.



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#### 6 REFERENCES

Kitsap County Assessor Property Information

WA soil survey report, Soil Survey of Kitsap County Area. Washington, United States Department of Agriculture – Natural Resources Conservation Services.

Department of Ecology Reporting Releases.

#### 7 LIMITATIONS

This report has been prepared for the exclusive use of our customer and their representatives for specific application to this site. This report is a Phase II ESA and does not provide a complete site characterization, such as detailed site geology and hydrology. This Phase II ESA does not delineate the vertical or horizontal extents of soil or groundwater contamination. The findings and conclusions of this study were based on observations and testing made at separated boring locations on the subject property. Conditions may very between the borings and at other locations on the site. No warranties made in that regard. If new information is developed in future site work which may include excavations, borings, studies, etc., KEE, LLC must be retained to reevaluate the conclusions of this report and to provide amendments as required.

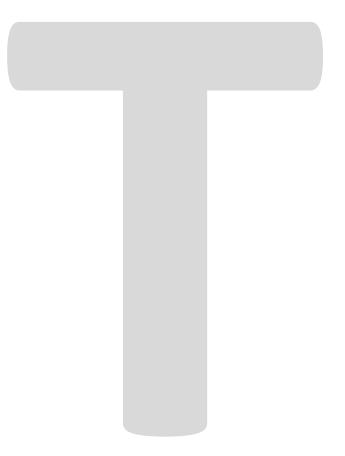


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**TABLE: 1 & 1A** 

LIMITED PHASE II SITE ASSESSMENT ONE STOP CLEANING CENTER 1610 BAY STREET PORT ORCHARD, WA 98366 Project OCC061112-001



		•	•		
Field ID	Sampling Location	Media	Depth Compounds of (Inch) Concern		Analysis Method
B1-S1	B1	Soil	48	PCE (tetrachloroethene)	EPA 8260B
B2-S2	B2	Soil	48	PCE (tetrachloroethene)	EPA 8260B
B3-S3	B3	Soil	48	PCE (tetrachloroethene)	EPA 8260B
B4-S4	B4	Soil	10	PCE (tetrachloroethene)	EPA 8260B
B5-S5	B5	Soil	22	PCE (tetrachloroethene)	EPA 8260B
B6-S6	B6	Soil	15	PCE (tetrachloroethene)	EPA 8260B

# Table 1 Summary of Soil Samples Collected For Analysis

# Table 1A Summary of Soil Sample AnalysisRESULTS FROM THE ANALYSIS OF THE SOIL SAMPLEFOR HALOGENATED VOLATILESEPA 8260BResults reported on a Dry weight BasisResult Reported as ug/g (ppm)

Sample ID	PCE (tetrachloroethene)	TCE (trichloroethene)	DCE (cis-1,-2- dichloroethene)	VC (Vinyl Chloride)
B1-S1	0.0066	ND	ND	ND
B2-S2	0.069	ND	ND	ND
B3-S3	0.031	ND	ND	ND
B4-S4	15	ND	ND	ND
B5-S5	1.3	ND	ND	ND
B6-S6	1.0	ND	ND	ND
MTCA Method A Cleanup Level	0.05	0.03	0.05	0.67 (Method B)

ND: None Detect



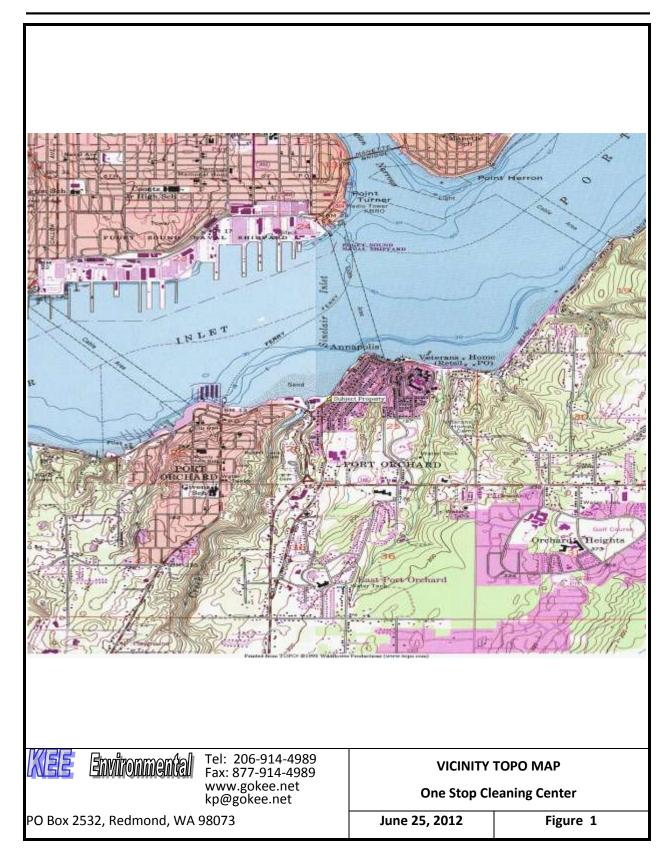
LIMITED PHASE II SITE ASSESSMENT ONE STOP CLEANING CENTER 1610 BAY STREET PORT ORCHARD, WA 98366 Project OCC061112-001

**FIGURE 1: VICINITY MAP** 





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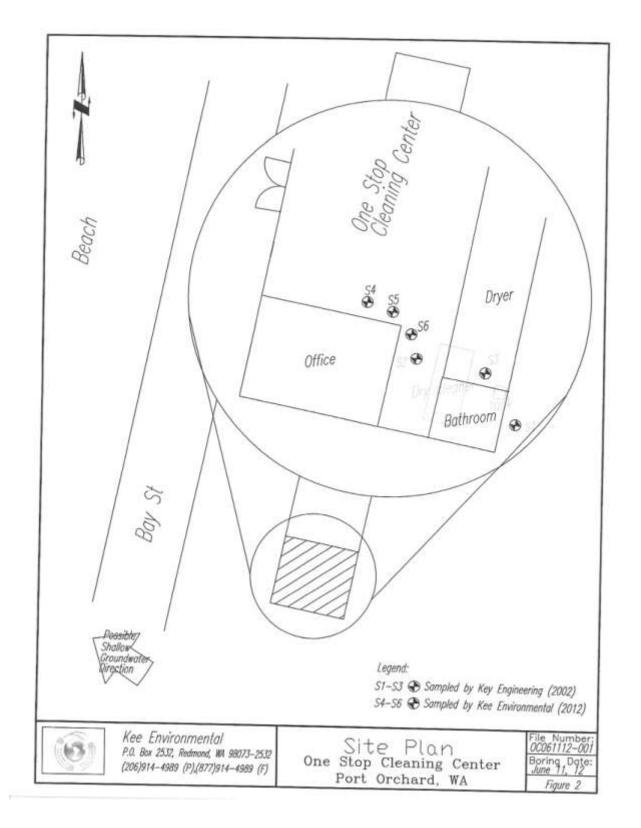


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# **FIGURE 2: SITE PLAN**









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# FIGURE B: LOG OF BORING (B4 THRU B6)





	SAM	PLE	DATA	0			SOIL PROFILE		GROUND	WATER
Depth (ft)	Sample Location	Sampler Type	Blows/Foot	FID (ppm)	Graphic Synbol	USCS Symbol	Drilling Method ( <u>Manual Auger</u> Ground Elevation (ft) ( <u>No Ref.</u> Drilled By ( <u>KEE LLC</u> Boring Completion on ( <u>06/11/12</u>	Water Level	Monitoring	Weil on site⊨ №
1 2	<b>\$\$</b>	Probe Probe Probe		0.0 0.0 0.0		œ	Concrete Stab Brown Sand with Clay pisstic (loose, dry to maint) (No odar)			
3 4 5										
1										
1										
2										
3										
5										
Alder 1	l. Shaligra I. Refer Ar	nhie owniech Theiliter San	r avr Juneel P Chronificada	an Anté Inte in Spaten <sup>a</sup> I	grølsfina æd i er nøknativ a	ire approxin I gruptica a	ots. of gendesk		LEGEND: & Samplin	
C	S)	P.0	1. Box 2.	5.32, Red	mental Imond, WA 1).(877)914	98073-2 4989	(7) Log of Borir One Stop Cleani Port Orchan	ng (	B4-B6 Center	er Table File Number: OC061112-001 Boring Date: June 11, 2012 Figure B



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# **APPENDIX A: SITE PHOTOGRAPHS**

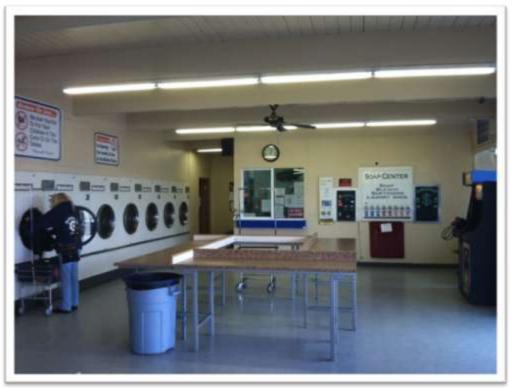




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Subject property



Inside view of the cleaning center



LIMITED PHASE II SITE ASSESSMENT ONE STOP CLEANING CENTER 1610 BAY STREET PORT ORCHARD, WA 98366 Project OCC061112-001



Another inside view of the cleaning center



**Boring B4 Exploration** 



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**Exploration of Boring B5** 



**Exploration of Boring B6** 



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# **APPENDIX B : LABORATORY REPORT & SAMPLE CHAIN OF CUSTODY**





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14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 15, 2012

Kee-Hoon Pak KEE, LLC P.O. Box 2532 Redmond WA 98073

Re: Analytical Data for Project 05061112 Laboratory Reference No. 1206-085

Dear Kee-Hoon:

Enclosed are the analytical results and associated quality control data for samples submitted on June 12, 2012.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely, 1 0

David Baumeister Project Manager

Enclosures

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.



LIMITED PHASE II SITE ASSESSMENT ONE STOP CLEANING CENTER 1610 BAY STREET PORT ORCHARD, WA 98366 Project OCC061112-001

# **APPENDIX C : ATSDR**







# TETRACHLOROETHYLENE CAS # 127-18-4

#### Agency for Toxic Substances and Disease Registry ToxFAQs

September 1997

This fact sheet answers the most frequently asked health questions (FAQs) about tetrachloroethylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Tetrachloroethylene is a manufactured chemical used for dry cleaning and metal degreasing. Exposure to very high concentrations of tetrachloroethylene can cause dizziness, headaches, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Tetrachloroethylene has been found in at least 771 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is tetrachloroethylene?

(Pronounced tet'ro-klôr' ō-eth'o-lēn')

Tetrachloroethylene is a manufactured chemical that is widely used for dry cleaning of fabrics and for metal-degreasing. It is also used to make other chemicals and is used in some consumer products.

Other names for tetrachloroethylene include perchloroethylene, PCE, and tetrachloroethene. It is a nonflammable liquid at room temperature. It evaporates easily into the air and has a sharp, sweet odor. Most people can smell tetrachloroethylene when it is present in the air at a level of 1 part tetrachloroethylene per million parts of air (1 ppm) or more, although some can smell it at even lower levels.

What happens to tetrachloroethylene when it enters the environment?

- Much of the tetrachloroethylene that gets into water or soil evaporates into the air.
- Microorganisms can break down some of the tetrachloroethylene in soil or underground water.
- In the air, it is broken down by sunlight into other chemicals or brought back to the soil and water by rain.
- It does not appear to collect in fish or other animals that live in water.

#### How might I be exposed to tetrachloroethylene?

- When you bring clothes from the dry cleaners, they will release small amounts of tetrachloroethylene into the air.
- When you drink water containing tetrachloroethylene, you are exposed to it.

#### How can tetrachloroethylene affect my health?

High concentrations of tetrachloroethylene (particularly in closed, poorly ventilated areas) can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death.

Irritation may result from repeated or extended skin contact with it. These symptoms occur almost entirely in work (or hobby) environments when people have been accidentally exposed to high concentrations or have intentionally used tetrachloroethylene to get a "high."

In industry, most workers are exposed to levels lower than those causing obvious nervous system effects. The health effects of breathing in air or drinking water with low levels of tetrachloroethylene are not known.

Results from some studies suggest that women who work in dry cleaning industries where exposures to tetrachloroethyl-

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, Public Health Service Agency for Toxic Substances and Disease Registry

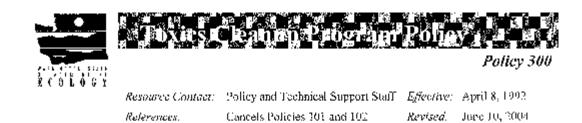


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# **Appendix D : Washington DOE – Reporting Releases**







## Policy 300 Site Discovery-Reporting Releases

The Model Toxies Control Act (MTCA), Chapter 70.105D RCW, requires the Department of Loology (Boology) to establish a program to identify sites potentially contaminated with hazardous substances. That program is set forth in WAC 175-340-300, which is part of the MTCA Cleanup Regulation, chapter 173-340 WAC. Under that program, Beology requires owners and operators to report releases of hazardous substances occurring as consequence of past practices. Releases occurring as a consequence of current practices must be reported under other authonities.

Ecology holieves it is in the interest of the state and the public in the vicinity of contaminated sites to be informed of these sites, and encourages all persons to report any discovery of a release of hazardous substances to the environment. This policy provides guidance on the types of releases that should be reported under WAC 173-340-300 and the procedures for reporting such releases.

#### 1. Owners And Operators Arc Required To Report Releases.

Owners and operators are required to report the discovery of a release of hazardous subsymmets that may pose a threat to human health or the environment. Persons other than owners and operators are strongly encouraged to report knowledge of any release to the environment.

#### 2. Releases Must Be Reported Within A Specified Time Period.

- A. For confirmed releases from Underground Storage Tanks (UST) regulated under chapter 90.76 RCW, the release must be reported within 24 hours of discovery (WAC 173-340-450(2)).
- B. For other releases of hazardous substances, the release must be reported within ninety (90) calendar days of discovery (WAC 173 340 300(2)).

However, pursuant to WAC 173-340-515 ((4)(c), if an independent remediat action is completed within ainciv (90) calendar days of discovery, a single written report may be submitted on both the release and the action (aken. The combined report must include the information specified in WAC 173-340-515(4)(b) and he submitted within ninety (90) calendar days of completion of the remedial action.

For additional information regarding the reporting of independent remedial actions, see WAC 173-340-515(4) and POL 515, independent Remedial Actions.

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