UNDERGROUND STORAGE TANK SITE ASSESSMENT GOODWILL INDUSTRIES SITE YAKIMA, WASHINGTON

Site# 12490 Reliace Id# 414390

Prepared for

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c/o Mr. Raymond Paolella
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1.0 PROJECT DESCRIPTION

1.1 Introduction

At the request of Mr. Pleas Green, the City of Yakima Chief of Police, Huntingdon Engineering & Environmental (Huntingdon) performed an underground storage tank site assessment of the former Goodwill Industries site. The underground storage tank was discovered during building demolition and site remediation. This report presents our findings on the decommissioning and removal of one 600 gallon underground storage tank (UST). Tank removal activities were completed on October 13, 1994.

1.2 Purpose and Scope

The purpose of this project was to assist responsible parties in complying with current Washington State Department of Ecology (WDOE) regulations and guidelines for the safe removal and decommissioning of USTs (Ecology, October 1991). Site specific objectives included: 1) safely excavating and removing the existing UST from the ground for proper disposal, 2) assessing the presence of petroleum hydrocarbons in soils by using field observation and confirmational laboratory sampling, and 3) evaluating the magnitude and extent of any discovered petroleum hydrocarbon contamination based on the assessment findings.

The following scope of services was performed for this assessment:

- An environmental professional was mobilized to the site with the appropriate equipment to perform the required site assessment. The environmental professional was registered with the WDOE to perform UST site assessments and had current health and safety training.
- The UST was removed from the ground by a state licensed excavation and UST firm using proper safety and excavation techniques. The tank and residual product were transported from the site for proper disposal.
- The removed UST was inspected for areas of severe rusting, perforations, and seam failures. Dimensions, appearance, and corrosion protection methods were noted and documented.
- The tank excavation was evaluated by our environmental professional for signs of contamination including visible free product, soil discoloration, and odor. Selected soil samples were screened with a photoionization detector (PID) to determine the presence or absence of volatile organic vapors.
- Soil samples were collected from the excavation boundaries and shipped to a Washington State approved laboratory for selective analysis of total petroleum hydrocarbons modified for diesel fuel (WTPH-D, Washington State modified EPA Method 8015). Sampling locations were chosen based on evidence of petroleum hydrocarbon contamination and

- at pre-specified points described by WDOE guidelines (Ecology, October 1992).
- This report was prepared to summarize the field activities performed and the findings of the environmental assessment. The report also renders our evaluation concerning petroleum hydrocarbon contamination at the site.

1.3 Project Background

The UST was discovered during building demolition and soil remediation at the Goodwill Industries. The tank was encountered in a test pit excavated to evaluate the presence of soil impacted by tetrachlorethene in the alley just west of the former Goodwill building. Product was still present in the tank and appeared to indicate the tank was used for heating oil or waste oil storage. Tri Valley Construction of Yakima, Washington, a licensed tank decommissioning firm, was contracted by the City of Yakima to complete demolition and remediation at the site. The additional task of removing the underground storage tank was assigned to Tri Valley Construction because of their qualification and there immediate availability.

The demolition of the Goodwill Industries and other surrounding structures was completed in preparation for the construction of the new city Police Station. No replacement of the tank was planned.

2.0 SITE CHARACTERISTICS

2.1 Site Description

The site is identified as the Yakima Goodwill Industries site and is located in the Yakima central business district in Yakima County, Washington. The present property owner is the City of Yakima. The project contacts are Mr. Pleas Green, the City of Yakima Police Chief, and Mr. RaymonD Paolella, the Yakima City Attorney.

The approximate location is depicted in the Site Location Map (Appendix 1, Figure 1). An approximate legal description for the site is Lots 7 through 16, Block 53, North Yakima, southeast quarter of the northwest quarter of section 19, township 13 north, range 19 east of the Willamette Meridian, Yakima County, Washington. Based on the United States Geological Survey (USGS) 7.5 minute series topographic map of the area (Yakima West Quadrangle), the latitude is 46 degrees 35 minutes 57 seconds and the longitude is 120 degrees 30 minutes 5 seconds. The site is surrounded by small businesses and residential property. Prior to demolition activities, a single story brick building with a partial basement was the primary site structure. No remnants of the building remained after the demolition. The tank was located adjacent to the northwest corner of the building in the alley. Specific aspects of the site are shown in the General Site Plan and all measurements are tied to a monitoring well that still exists (Appendix 1, Figure 2).

2.2 Geology

The City of Yakima is situated on the western margin of the Columbia River Plateau physiographic province and near the eastern foothills of the Cascade Range. The Cascade Range and adjacent highlands are primarily composed of basalts and andesites. The Columbia Plateau is comprised of a series of flood basalts which cover most of central and eastern Washington. The basalt flows of the Columbia Basalt Group are Miocene in age, forming an extensive volcanic plateau (Camp et. al., 1982). The Columbia River flood basalts are overlain by alluvial deposits within the study area.

The predominant surficial soil type at the site has been classified as a Naches Loam by the United States Department of Agriculture. This soil formed in old alluvium on stream terraces and in valleys (USDA, 1985).

The subsurface profile over most of the site consists of a layer of silty gravel (fill material) extending to depths ranging from about 0.15 to 10.0 feet. The silty gravels are underlain by dense basalt gravel of alluvial origin. Individual subsurface layers are described in more detail on the Boring Logs in Appendix 2.

Topography at the site is level. Elevations at the site range between 1,060 and 1,080 feet above mean sea level. The average annual precipitation of about 7 to 9 inches supports various grasses (USDA, 1985).

2.3 Hydrology

The nearest surface water is the southeasterly flowing Yakima River. The Yakima River is located about 1.3 miles east of the site. Groundwater was encountered at a depth of about 17.0 feet BGS. An easterly groundwater flow component was established at the site from groundwater data collected during field activities. The groundwater flow direction is noted on Figure 2 (Appendix 1).

3.0 ASSESSMENT PROCEDURES

The UST was carefully uncovered and remaining product was removed. Approximately 250 gallons of liquid and sludge was removed from the tank. After inerting the tank with dry ice, the tank is cut opened and cleaned in-place. Once removed from the excavation, the tank is inspected for signs of leakage. The tank was examined for visible cracks, seam failures, severe rusting, and staining. Staining was observed on the tank and appeared to be present around the fill spout.

Product piping was not observed in the tank excavation.

After the tank was safely removed from the ground, the excavation is surveyed for stained and/or odorous soil and the presence of volatile organic vapors. Dark grey discoloration was observed in the excavation and is suggestive of soil contaminated by petroleum products. Volatile organic vapor screening procedures consisted of scanning excavated soil samples with a photoionization detector (PID), to determine if volatile organic compounds were present. Headspace samples were prepared by placing representative soil samples in a clean glass container, covering the container with aluminum foil, sealing the container, and allowing the sample to warm to approximately 75 degrees F. The headspace (air trapped in the uppermost portion of the container) of each sample was then measured with the PID to detect volatile compounds.

The headspace results are considered representative of in-situ conditions but is dependent on field conditions, including the chemical nature of the contaminant, soil moisture content and weather conditions. Screening results are used to assist field personnel in evaluating soil conditions and are not to be interpreted as actual contaminant concentrations.

Soil samples were retained for laboratory analysis based on field observations or at pre-specified locations. Soil samples were collected from suspect areas in each excavation exhibiting notable volatile organic vapor concentrations or discoloration. Soil samples were also collected from areas in the excavation associated with signs of leakage noted on the tank. Soil samples were collected from pre-specified locations including the base of the excavation and the three sidewalls (note: fourth sidewall was the concrete basement wall to the east).

Stockpiled soil removed from the excavation was also sampled. Sample locations are randomly selected with an emphasis on obtaining samples from areas of highest observable contamination. Again, if a petroleum hydrocarbon release is not suspected, the stockpile samples may be composited.

The soil samples are analyzed in accordance with WDOE guidelines at a analytical laboratory. An on-site laboratory was retained to complete the tetrachlorethene remediation activities. The mobile laboratory had capabilities of performing total petroleum hydrocarbon (TPH) 418.1 analysis. Samples were analyzed using this methodology to guide the removal of impacted soil. Since the contents of the tank was unknown, a sample also was analyzed for total petroleum hydrocarbon identification (WTPH-HCID, Washington State modified method) to qualify and partially quantify any petroleum hydrocarbon contamination which may be present. Laboratory results indicated heavy hydrocarbons were present and the TPH 418.1 method was appropriate for evaluating the tank basin.

Details of field procedures and sampling protocols used by Huntingdon personnel are outlined in our "Standard Operating Procedures for UST Site Assessments, Washington State" (Huntingdon, 1994) manual kept on file at our office. All deviations from the described site assessment procedures are described in the following sections.

4.0 ASSESSMENT FINDINGS

4.1 Field Observations

An environmental professional from Huntingdon arrived at the site to observe UST removal activities and to perform a UST site assessment on October 13, 1994. The tank had been uncovered and had been cleaned in-place. After being removed from the ground, the tank was inspected for signs of leakage. The tank appeared to be in good condition with no signs of rusting and/or pitting. Physical information pertaining to the tank is presented in Table 1.

Table 1
Summary of Tank Physical Data

Tank No.	Construction Materials	Additional Protection		Length (ft)	Capacity (gallons)	Age (years)	Former Contents
1	Steel	Cathodic	3.4	8.5	600	Unknown	Diesel Fuel

Soil from the tank excavation was visually examined for evidence of petroleum hydrocarbon contamination. Stained and odorous soil was observed. Sampling and headspace testing of soil from the tank excavation indicated minor amounts of volatile organic vapors were present. PID readings ranged between 23 parts per million (ppm) and 27 ppm. As stated in Section 3.0, screening results are used to assist field personnel in evaluating soil conditions and are not to be interpreted as actual contaminant concentrations. The samples had been heated for a considerable amount of time and the soil moisture content may have affected these readings.

Overexcavation activities were initiated, due to the presence of stained and odorous soil. The excavation was extended to the north, south and west and to a depth of 8 feet below ground surface. Evidence of staining or odorous soil was not apparent after the overexcavation activities were complete. The final dimensions of the excavation are depicted in the Detailed Site Plan (Appendix 1, Figure 2).

4.2 Analytical Results

Representative soil samples were obtained from the boundaries of the tank excavation after overexcavation was completed and from stockpiled soil. The sample exhibiting the worst staining and odor was analyzed for total petroleum hydrocarbon identification and found to be in the range of heavy oils. All samples were analyzed by Transglobal Environmental Geosciences Northwest, Inc. Analytical results are summarized in Table 2 while the laboratory reports are contained in Appendix 2. Sample locations are shown on Figure 2 (Appendix 1).

Table 2
Summary of Analytical Results
Tank Excavation

Location ¹	Matrix	Analysis	Concentration ² TPH ³
Center Base 8'	Soil	TPH 418.1	14 mg/kg
N Wall 5'	Soil	TPH 418.1	66 mg/kg
S Wall 5'	Soil	TPH 418.1	116 mg/kg
W Wall 5'	Soil	TPH 418.1	83 mg/kg
W Wall Dup 5'	Soil	TPH 418.1	79 mg/kg

¹ Sample locations are characterized by area and depth from which the sample was obtained.

Laboratory results (Table 2) show that petroleum hydrocarbons were detected in each of the soil samples collected from the tank excavation but at concentration below the Model Toxic Control Act Method A action level.

Three representative soil samples were obtained from approximately 35 yds³ of stockpiled excavated material. Analytical results are summarized in Table 3 while the laboratory reports are contained in Appendix 2.

Table 3
Summary of Analytical Results
Stockpile

Sample No.	Location ¹	Matrix	Analysis	Concentration ² TPH ³
UST 1	Stockpile	Soil	TPH 418.1	1320
UST 2	Stockpile	Soil	TPH 418.1	24
UST 3	Stockpile	Soil	TPH 418.1	2620

¹ Sample locations are characterized by area and depth from which the sample was obtained.

² Soil sample results are reported as a dry weight basis in milligrams per kilogram (mg/kg).

³ TPH = Total Petroleum Hydrocarbons corresponding to product type identified.

A < sign indicates concentrations, if present, were below practical detection limits calculated for the analytical method.

A NA indicates "not analyzed".

² Soil sample results are reported as a dry weight basis in milligrams per kilogram (mg/kg).

³ TPH = Total Petroleum Hydrocarbons corresponding to product type identified.

A < sign indicates concentrations, if present, were below practical detection limits calculated for the analytical method.

A NA indicates "not analyzed".

Laboratory results (Table 3) show that total petroleum hydrocarbons were detected in the stockpile samples at elevated concentrations. Since the tank use was unknown and heavy oils were identified in the samples, additional characterization of sample 3 was completed for the eight RCRA metals and polychlorinated biphenols (PCBs). Barium was the only compound detected above action levels in the sample 3.

4.3 Material Disposal and Backfill

The removed tank and approximately 1700 gallons of residual product was transported from the site by Tri-Valley Construction for off-site disposal (Appendix 6). The stockpiled excavated material was approved by Yakima County Health District for transport and treatment at the Anderson Landfill in Yakima, Washington.

5.0 DISCUSSION/CONCLUSIONS

Petroleum hydrocarbon contamination exceeding WDOE action levels in the soil surrounding the underground storage tank and confirmed a release had occurred. Overexcavation activities were successful in reducing the concentration of total petroleum hydrocarbons to acceptable levels. Stockpiled soil was approved for transport and treatment at the Anderson Landfill in Yakima, Washington.

Based on our field observations and the analytical results, the tank site appears suitable for permanent closure. Groundwater does not appear to have been impacted by the underground storage tank release based upon the analytical results for samples collected from on-site monitoring wells.

6.0 REPORTING REQUIREMENTS

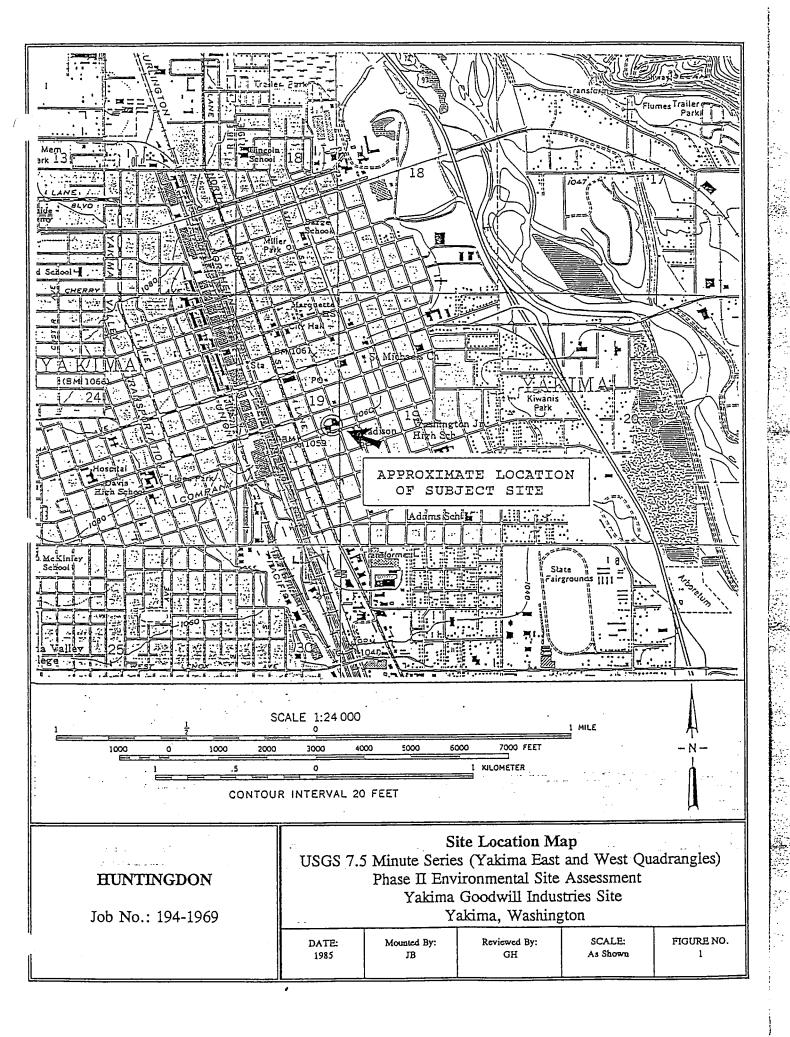
In accordance with Washington Administrative Codes (WAC) Chapter 173-340-450 for Underground Storage Tanks, this report and supporting documentation (i.e. UST Permanent Closure and Site Assessment Notice, UST Site Check/Site Assessment Checklist, etc.) is required to be submitted to the UST Section at the WDOE main office in Olympia, Washington. Copies of supporting UST closure and assessment documentation are included in Appendix 8.

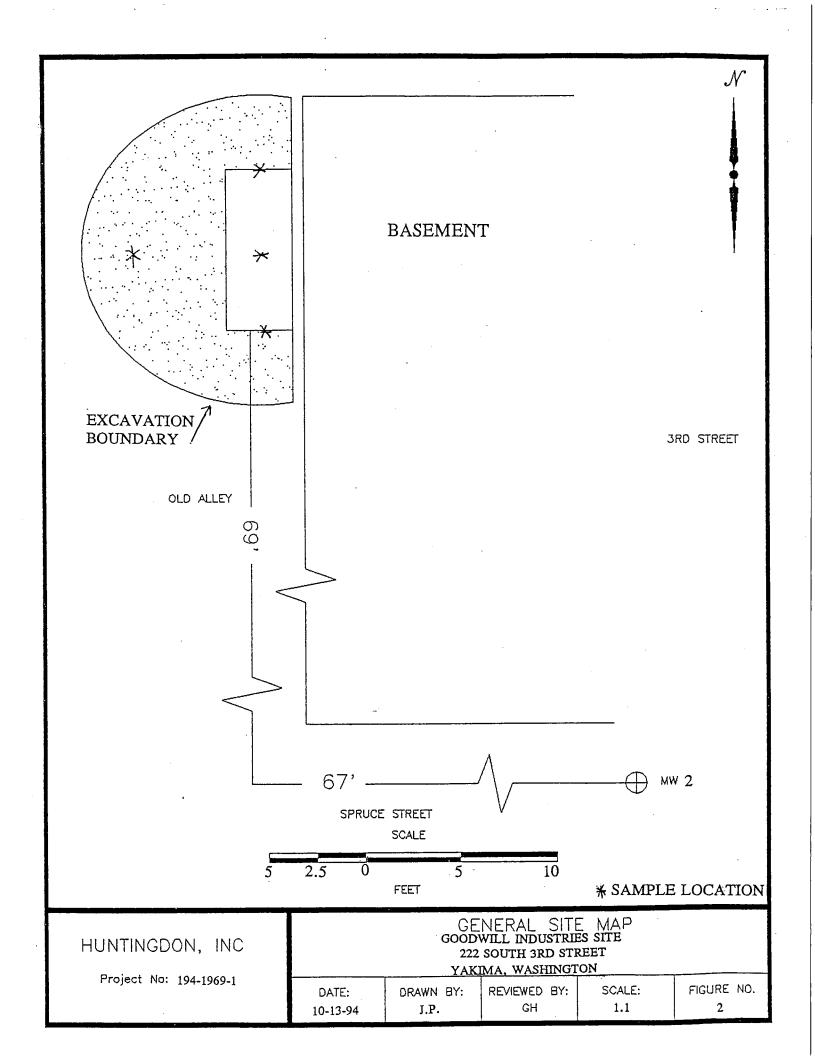
7.0 LIMITATIONS

This work was performed in accordance with the generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. Huntingdon observed a degree of care and skill generally exercised by other consultants under similar circumstances and conditions. Huntingdon's findings and conclusions must be considered not as scientific certainties, but as opinions based on our professional judgement concerning the significance of the data gathered during the course of monitoring. Other than this, no warranty is implied or intended.

APPENDIX 1

Figures





APPENDIX 2

Analytical Results

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GOODWILL PROJECT

Yakima, Washington

Huntingdon Engineering & Environmental, Inc.

Project No.: 87-921

Heavy Petroleum Hydrocarbons in soil by WTPH-418.1

=========	=====	=====	=====	
Sample	Date		TPH	
Number			mg/kg	
=========	=====	======	======	
M Blank	10/13/94		nd	_
UST1	10/13/94		1320	& Stockpile Samples
UST2	10/13/94		34	E Stack Brown
UST3	10/13/94		2620	
UST4 Base	10/13/94	•	14	
N.Side Wall	10/13/94		66	
S.Side Wall	10/13/94		116	
W.Side Wall	10/13/94		83	•
W.Side Wall Dup	10/13/94		79	
•				
Method Detection Limit			10	
				-
"nd" indicates Not Detected	ed at the liste			
=========	=====	=====	=====	•

Page 1

GOODWILL PROJECT

Yakima, Washington

Huntingdon Engineering & Environmental, Inc.

Project No.: 87-921

Hydrocarbon Identification by WTPH-HCID for Soils

========	=====	======	======	=====	=====	=====
Sample		Date	Recovery	Gasoline	Diesel	Heavy Oil
Number			%	mg/kg	mg/kg	mg/kg
=======================================	=====	=====	=====	=====	=====	=====
Meth. Blank		10/14/94	89	nd	nd	nd
UST 3		10/14/94	81	nd	nd	D
UST 3 Dup		10/14/94	100	nd	nd	D
				•		
Method Detect	ion Limits			20	50	100

[&]quot;nd" Indicates not detected at the listed detection limit.

[&]quot;D" Indicates detected above the listed detection limit.

GOODWILL PROJECT

Yakima, Washington

Huntingdon Engineering & Environmental, Inc.

Project No.: 87-921

Polychlorinated Biphenyls (PCBs) in Soils (EPA Method 8080)

======	=====	=====	=====	======	=====	=====	=====	======
Sample	Date	Recovery	1221	1232	1242	1248	1254	1260
Number	Analyzed	(%)	mg/kg	mg/kg mg/kg		mg/kg	mg/kg	mg/kg
Meth. Blank	10/14/94	111	nd	nd	nd	nd	nd	nd
UST 3	10/14/94	92	nd	nd	nd	nd	nd	nd
Detection Limi	t		0.05	0.05	0.05	0.05	0.05	0.05

[&]quot;nd" Indicates not detected at the listed detection limits.

[&]quot;int" Indicates that interference peaks prevent determination.

GOODWILL PROJECT

Yakima, Washington

Huntingdon Engineering & Environmental, Inc.

Project No.: 87-921

Total Metals in Soil by EPA 7000 Series

=========	=====	=====	=====	=====	=====	=====	=====	=====	=====	
Sample	Date	Cd	Pb	Ag	As	Se	Ва	Hg	Cr	
Number		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
========	=====	=====	======	=====	=====	=====	=====	=====	=====	
Meth. Blank	10/14/94	nd	nd	nd	nd	nd	nd	nd	nd	
UST 3	10/14/94	1.2	95	nd	nd	nd	963	nd	8	
UST 3 Dup	10/14/94	1	102	nd	nd	nd	836	nd	9	
Method Detection Limit		1	5	1	5	5	10	0.1	5	

"nd" Indicates not detected at the listed detection limit.

APPENDIX 3

UST Site Assessment Form

REFERENCES:

- Alt, D. D., & Hyndman, D. W. (1984). Roadside Geology of Oregon. Missoula, Montana: Mountain Press Publishing Co.
- Campbell, N.P., (1979), <u>Surficial Geologic Map of the Yakima Quad</u>, <u>Washington</u>, Washington State Department of Natural Resources, Division of Geology and Earth Resources, Olympia, Washington: State/Federal document.
- Ecology, Washington State Department of (October 1991), <u>Washington Administrative Codes</u> for <u>Underground Storage Tank Regulations</u>. WAC 173-360, Olympia, Washington: State document.
- Ecology, Washington State Department of (October 1992), <u>Guidance for Site Checks and Site Assessments for Underground Storage Tanks</u>. Underground Storage Tank Program. Olympia, Washington: State Document.
- Soil Conservation Service (1985), Soil Survey of Yakima County Area Washington. U.S. Department of Agriculture, Olympia Washington: State/Federal Document
- USGS, 1965, United States Geological Survey 7.5 Minute Series Topographic Map, West Yakima Quadrangle, Yakima County, Washington, Washington, D.C.: United States Geological Survey.



For Office Use O Owner #	nly
Site#	

INSTRUCTIONS

When a release has **not** been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person registered with the Department of Ecology. The results of the site check or site assessment must be included with this checklist. This form must be submitted to Ecology at the address shown below within 30 days after completion of the site check/site assessment.

<u>SITE INFORMATION:</u> Include the Ecology site ID number if the tanks are registered with Ecology. This number may be found on the tank owner's invoice or tank permit.

<u>TANK INFORMATION:</u> Please list all the tanks for which the site check and site assessment is being conducted. Use the tank ID number if available, and indicate tank capacity and substance stored.

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT; Please check the appropriate item.

CHECKLIST: Please initial each item in the appropriate box.

<u>SITE ASSESSOR INFORMATION:</u> This form must be signed by the registered site assessor who is responsible for conducting the site check/ site assessment.

Underground Storage Tank Section Department of Ecology P. O. Box 47655 Olympia, WA 98504-7655

SITE INFORMATION: Tank Not Registered Site ID Number (on invoice or available from Ecology if the tanks are registered): Non-c
Site/Business Name: Goodwill Industries
Site Address: 222 S. 3rd Street Telephone: () Discensented
Street
City State ZIP-Code
TANK INFORMATION
Tank ID No. Tank Capacity Substance Stored
600 gallons Heavy Oil
REASON.FOR CONDUCTING SITE CHECK/SITE ASSESSMENT
Check one:
Investigate suspected release due to on-site environmental contamination. Investigate suspected release due to off-site environmental contamination.
Extend temporary closure of UST system for more than 12 months.
UST system undergoing change-in-service. UST system permanently closed-in-place.
UST system permanently closed in place. UST system permanently closed with tank removed.
UST system permanently closed with tank removed. Abandoned tank containing product. Required by Ecology or delegated agency for UST system closed before 12/22/88.
Other (describe):

	tem of the following checklist shall be initialed by the person registered with the Department of signature appears below.	YES	
1.	The location of the UST site is shown on the vicinity map.	V	
2.	A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in the Site Assessment Guidance)		
3.	A summary of UST system data is provided. (see Section 3.1)	/	
4.	The soils characteristics at the UST site are described. (see Section 5.2)	V	
5.	Is there apparent groundwater in the tank excavation?		V
6.	A brief description of the surrounding land is provided. (see Section 3.1)	/	
7.	Information has been provided indicating the number and types of samples collected, methods used to collect and analyze the samples, and the name and address of the laboratory used to perform the analyses.	/	
8.	A sketch or sketches showing the following items is provided:		
	- location and ID number for all field samples collected	/	
	- groundwater samples distinguished from soil samples (if applicable)	NA	AU
	- samples collected from stockpiled excavated soil	V	
• • • • • • • • • • • • • • • • • • • •	- tank and piping locations and limits of excavation pit		
	- adjacent structures and streets		
	- approximate locations of any on-site and nearby utilities		/
9.	If sampling procedures different from those specified in the guidance were used, has justification for using these alternative sampling procedures been provided? (see Section 3.4)	NA	NA
10.	A table is provided showing laboratory results for each sample collected including: sample ID number, constituents analyzed for and corresponding concentration, analytical method and detection limit for that method.	<u></u>	
11.	Any factors that may have compromised the quality of the data or validity of the results are described.	1	,
12.	The results of this site check/site assessment indicate that a confirmed release of regulated substance has occured.	/	
SITE	ASSESSOR INFORMATION Gerald Harper PERSON REGISTERED WITH ECOLOGY THAT I GO TO THE TOTAL TH	гн	
BUSINE	ESS ADDRESS: Hunting don Eng & Enu 2214N 4th Autelephone: (509) 547-	167	
	Pasco WA 99301		
	CITY STATE ZIP+CODE		
I her desc. WAC	reby certify that I have been in responsible charge of performing the site check/site assessn ribed above. Persons submitting false information are subject to penalties under Chapter C.	nent 173-3	60
1	-75-95 Xhrel / Hz		
<u>F</u>	Date Signature of Person Registered with Eco	ology	