UNOCAL STATION 1726
Seattle
LUST 2078

NW 1357
MSTF 8415

SD&C
PO Box 2071 Kirkland, Washington 98083 Phone (206) 459-5775 Fax (425) 820-8368

Underground Storage Tank Site Assessment Report

Union 76 Station
3301 West McGraw Street
Seattle, Washington

Prepared for:

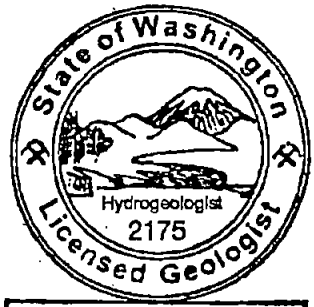
Mr. Mark Nelson
Nelson Petroleum Inc.
1125 SW 80th Street
Everett, WA 98203

Submitted by:

Slotta Design & Construction SD&C
P.O. Box 2071
Kirkland, WA 98034

August 20, 2009

Timothy S. Slotta L.G. L.H.G. L.E.G.
Hydrogeologist #2175



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1.0 INTRODUCTION

1.1 General

Slotta Design and Construction (SD&C) prepared this Site Assessment Report for the Magnolia Union 76 Service Station No. 306516, located at 3301 West McGraw Street in Seattle, Washington (Figure 1). SD&C was contracted in accordance with the proposal dated July 13, 2009 entitled Proposed Scope of Work and Cost Estimate – Environmental Services. The objective of the project was to evaluate the potential presence of a waste oil underground storage tank (UST) located north of the station building at the site. The UST was previously decommissioned, but not removed from the Washington Department of Ecology (Ecology) database. The UST site assessment was required by Ecology to fulfill reporting requirements for decommissioned USTs that are no longer in-service. The USTs at the site are registered with the Washington Department of Ecology under site ID No. 8415.

The report was prepared in response to requirements set forth in Washington Administrative code (WAC) Chapter 173-360, which stipulates that owners and operators of underground storage tanks (UST) are required to perform a site assessment at the time of UST closure. Regulations set forth in WAC Chapter 173-360-610 also require the site assessor to be registered with the Washington State Department of Ecology (Ecology). Site assessment methods during UST removal were performed in accordance with Ecology's *Guidance for Site Checks and Site Assessments for Underground Storage Tanks* (Ecology 1992).

1.2 Site Description

The Site is located at the intersection of West McGraw Street and 33rd Avenue West in Seattle, Washington. The Site is currently an active Union 76 gas station occupying approximately 10,000 square feet, and is bounded by McGraw Street to the north, 33rd Avenue W to the east, West Lynn Street to the south, and several retail establishments to the west. Surrounding properties are mostly commercial retail establishments and single family residences. The site lies at approximately 150 feet above mean sea level and slopes towards the southeast.

1.3 Site Background

The original service station was constructed at the property in 1939; the site use and ownership prior to that date are currently unknown. The site has been owned by one family since 1946, who leased the property to various service station businesses. Unocal leased the site and operated a service station from 1989 until 1992. From 1994 and to the present, the site has been leased by Dennis Petroleum, and Nelson Petroleum.

The original USTs at the site included one 4,000-gallon and one 5,000-gallon gasoline UST, one 550-gallon waste oil tank, and one 550-gallon heating oil tank installed in 1963. One 6,000-gallon and one 10,000-gallon gasoline UST were installed in 1983. Between 1981 and 1985 all tanks were reportedly replaced with fiber reinforced fiberglass tanks. However, there are no

records available indicating that the 550-gallon waste oil UST was removed in accordance with Ecology's regulations.

1.4 Scope of Work

The goal of UST site assessment activities was to determine if the waste oil UST was previously decommissioned and removed from the site. The following scope of work was conducted to evaluate the potential presence of the UST:

- The asphalt paving above the former UST was removed, and a subsurface excavation was conducted to a depth of 6 feet below ground surface the area in the vicinity of the former UST.

After exposing the UST, SD&C conducted the following scope of work in accordance with Ecology's site assessment requirements:

- Observing and photo-documenting the UST, and logging the soil conditions in the excavation;
- Field-screening the soil in the excavation for volatile organic vapors;
- Collecting representative soil samples from two sidewalls and beneath the UST;
- Submitting soil samples to a laboratory for chemical analysis;
- Evaluating the results of chemical analyses; and,
- Preparing a written report summarizing the results of UST site assessment activities, the results of chemical analyses, and conclusions.

2.0 FIELD ACTIVITIES

2.1 UST Site Assessment

The excavation in the vicinity of the UST was conducted by SD&C on August 13, 2009. The excavation and site assessment activities were conducted and documented by a Washington Licensed Hydrogeologist (LHG #2175) registered with Ecology to perform site assessments under WAC 173-360-610. A site assessment checklist is included as Appendix I. Photographs of the UST site assessment activities are included in Appendix II.

2.2 Soil and Groundwater Sampling

The locations of soil samples collected during the UST removal activities are illustrated in Figure 2, and the results of the soil samples analyzed are summarized in Table 1. Soil samples

were collected in accordance with sampling guidelines established by Ecology, and standard UST site assessment procedures.

The UST was encountered in the excavation at approximately three feet below ground surface (BGS). The UST appeared to be approximately 550-gallons in size, and was approximately 5 feet in length and 3 feet in diameter and comprised of reinforced fiberglass. The upper quarter panel of the UST had previously been removed and the tank was full of pea gravel and was previously closed-in-place.

Soil encountered underlying the asphalt in the UST excavation was comprised of backfill materials that were surrounded by dense native soil. The tank backfill was composed of brown and gray rounded 1/4-inch pea gravel. Underlying and surrounding the UST backfill materials outside of the tank cavity was a brown/tan/gray fine to medium sandy silt with gravel. The surrounding soils did not have petroleum hydrocarbon odor or appearance. Groundwater was encountered in the excavation at a shallow depth of approximately 4.5 feet BGS, which had a visible petroleum hydrocarbon sheen on the surface.

Soil samples collected from the excavations were submitted to Advanced Analytical Laboratory located in Bellevue, WA for analysis. The soil samples were screened for the presence of petroleum hydrocarbon constituents in the field. Selected soil samples from the sidewalls, floor, and groundwater from the excavation were submitted to the laboratory for analysis of waste oil constituents according to MTCA Table 830-1.

3.0 CHEMICAL ANALYSES AND RESULTS

3.1 Laboratory Analyses for UST Excavation and Groundwater Samples

The soil samples from the waste oil UST excavation were analyzed for the following chemical constituents:

- Total Petroleum Hydrocarbons (TPH) as Diesel, kerosene, and heavy oil using Ecology Method WTPH-Dx;

The soil sample collected beneath the UST (WO UST F @ 6') was additionally analyzed for:

- TPH as Gasoline using Ecology Method WTPH-Gx;
- PCBs using EPA Method 8082;
- Volatile Organic Compounds (VOCs) including Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), using EPA Method 8260; and
- RCRA 8 Metals.

The groundwater sample was analyzed for Diesel, kerosene, and waste oil (heavy oil) constituents only using Ecology Method WTPH-Dx.

3.2 Results of Sample Analyses

Copies of original laboratory reports are included as Appendix III. Laboratory results for soil samples collected from the UST excavation are summarized in Table 1 and results of the groundwater sample results are summarized in Table 2.

Chemical analytical results of soil samples collected from the floor and sidewalls of USTs excavation and the soil stockpile did not contain detectable concentrations of TPH as Diesel, kerosene, or Heavy Oil, and did not exceeded the Ecology's Model Toxics Control Act (MTCA) Method A cleanup levels. The soil sample WO UST F@6', collected beneath the former waste oil UST, contained lead at 2.5 mg/kg. The concentration of lead did not exceed the MTCA Method A cleanup level of 250 mg/kg, and no other metals were detected in the sample analysis. The sample WO UST F @ 6' did not contain detectable concentrations of Gasoline, PCBs, or VOCs.

Chemical analyses results of the groundwater sample collected from the USTs excavation contained TPH as Heavy Oil at a concentration that exceeded the MTCA Method A cleanup level. The sample did not contain a detectable concentration of Diesel or kerosene. No other constituents were analyzed for the groundwater sample collected.

4.0 SUMMARY AND CONCLUSIONS

SD&C was contracted to observe and document the potential presence of a waste oil UST located north of the station building at the site. The UST site assessment was required by the Washington Department of Ecology, (Ecology) to fulfill reporting requirements for decommissioned USTs that are no longer in-service. The excavation in the vicinity of the UST was conducted by SD&C on August 13, 2009. SD&C encountered that the 550-gallon waste oil UST that was previously closed-in-place. In accordance with Ecology guidance, SD&C documented the UST's condition and collected soil samples from two side walls of the excavation, and beneath the UST. A groundwater sample was also collected from the open excavation.

The results of soil samples collected from the excavation did not contain detectable concentrations of petroleum hydrocarbons or other waste oil constituents. The groundwater encountered in the excavation had a visible sheen on the surface and the sample collected contained petroleum hydrocarbons at a concentration that exceeded the MTCA method A cleanup level for heavy oil. It is currently unknown if there was a subsurface release from the UST that impacted the groundwater quality, or if the UST was not cleaned of its contents when the tank was closed-in-place.

The groundwater sample was analyzed for Diesel, kerosene, and waste oil (heavy oil) constituents only. A complete characterization of the groundwater sample was not conducted because there is a background of petroleum hydrocarbon impact to groundwater at the site.

There are number of groundwater wells located at the site (one that is located less than 2 feet from the excavation) that are currently being monitored by the site owner.

The property has a history of environmental investigations, leasing arrangements, and tenant operations. This UST site assessment was specifically focused closure of the waste oil UST, and was not intended to evaluate the potential environmental impact from other fuel distribution systems, or operations at the site. The extent of petroleum hydrocarbon impact to the groundwater from the waste oil UST was not evaluated during the UST site assessment activities, and is currently unknown.

5.0 LIMITATIONS

SD&C conclusions are based on conditions encountered at the time of field activities, information provided to SD&C, and the results of qualitative sampling. The opinions expressed in this report reflect our best estimate of the project requirements based on an evaluation of the conditions encountered at the subsurface excavation locations. It is assumed that the soil conditions in proximity to the sample sites do not deviate appreciably from those examined. Any unusual conditions not identified during this site assessment should be brought to the attention of SD&C so that modifications may be made if necessary.

SD&C's work was performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

6.0 REFERENCES

Ecology. October 1992. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks.* Washington State Department of Ecology, Olympia, Washington. 35 pp.

Table 1
Laboratory Chemical Analyses Results for Soil Samples – Magnolia 76, Seattle, WA

Sample ID	Sample Date	WTPH-G (mg/kg, ppm)	WTPH-D (mg/kg, ppm)	WTPH-O (mg/kg, ppm)	Benzene (mg/kg, ppm)	Toluene (mg/kg, ppm)	Ethyl Benzene (mg/kg, ppm)	Xylenes (mg/kg, ppm)	Total Lead (ug/L, ppb)
UST Excavation									
WO UST WW @ 4'	8/13/09	N/A	<20	<50	N/A	N/A	N/A	N/A	N/A
WO UST SW @ 4'	8/13/09	N/A	<20	<50	N/A	N/A	N/A	N/A	N/A
WO UST F* @ 4'	8/13/09	<5	<20	<50	<0.02	<0.05	<0.05	<0.05	2.5
MTCA Method A cleanup level		**100**	**2,000**	**2,000**	**0.03**	7	**6**	**9**	**250**
Method Reporting Limit		5	20	50	0.02	0.05	0.05	0.05	1.0

Notes:
milligrams per kilogram (mg/kg) parts per million (ppm). <1.0 = not detected at or above the method reporting limit. N/A = not analyzed
MTCA Method A cleanup levels for soil are from Washington Administrative Code (WAC) chapter 173-340 revised 2-12-01.
Soil samples were analyzed for:

- TPH as Diesel using Ecology Method WTPH-Dx;

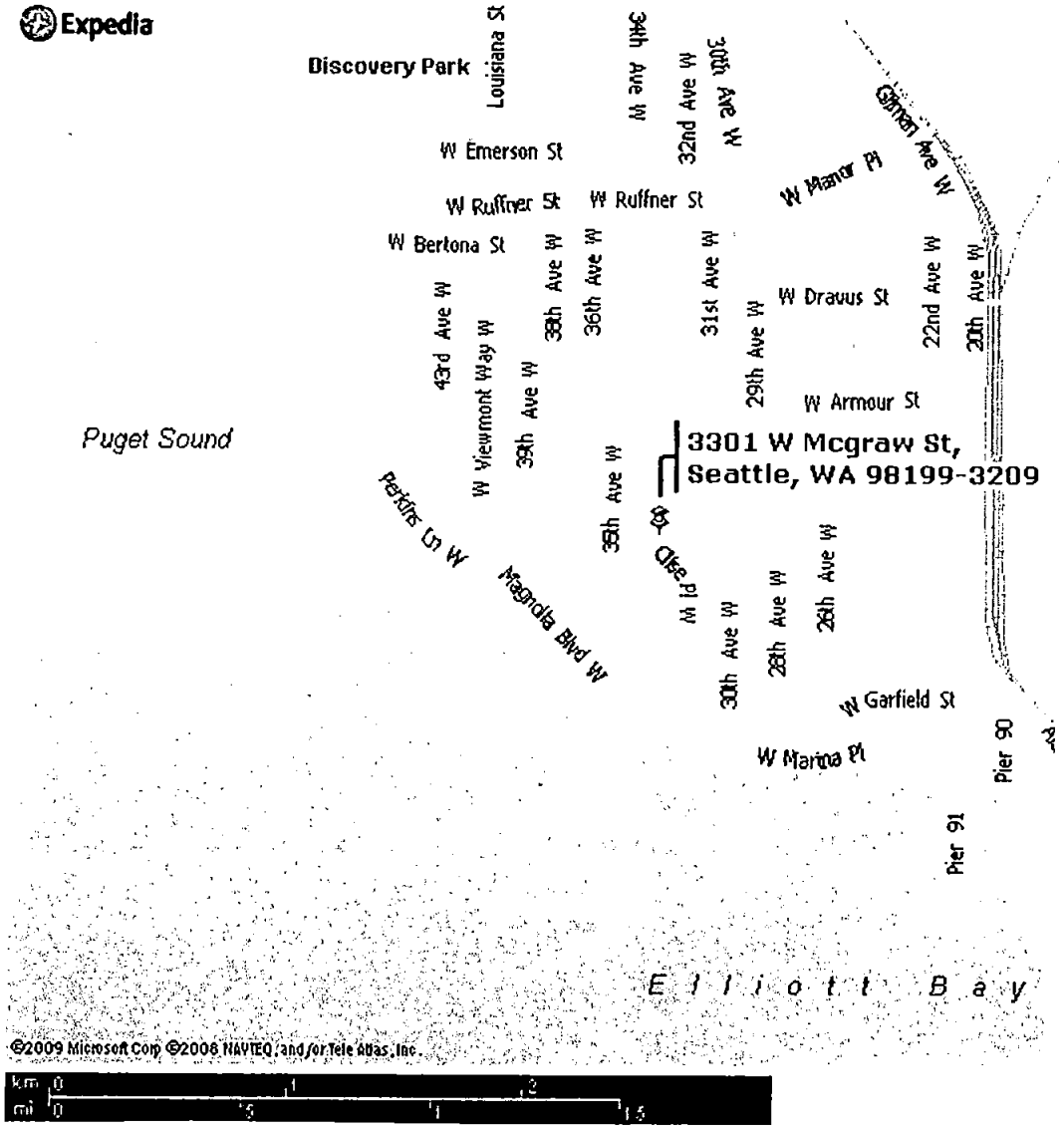
* Soil sample UST3F @ 12' was additionally analyzed for:

- Gasoline by Ecology method NWTPH-Gx;
- PCBs using EPA Method 8082; PCBs were not detected in the sample
- Volatile Organic Compounds (VOCs) using EPA Method 8260; Volatile Organic Compounds were not detected in the sample and
- RCRA 8 Metals – Lead was the only metal detected at 2.5 mg/kg and did not exceed the MTCA method A cleanup level.

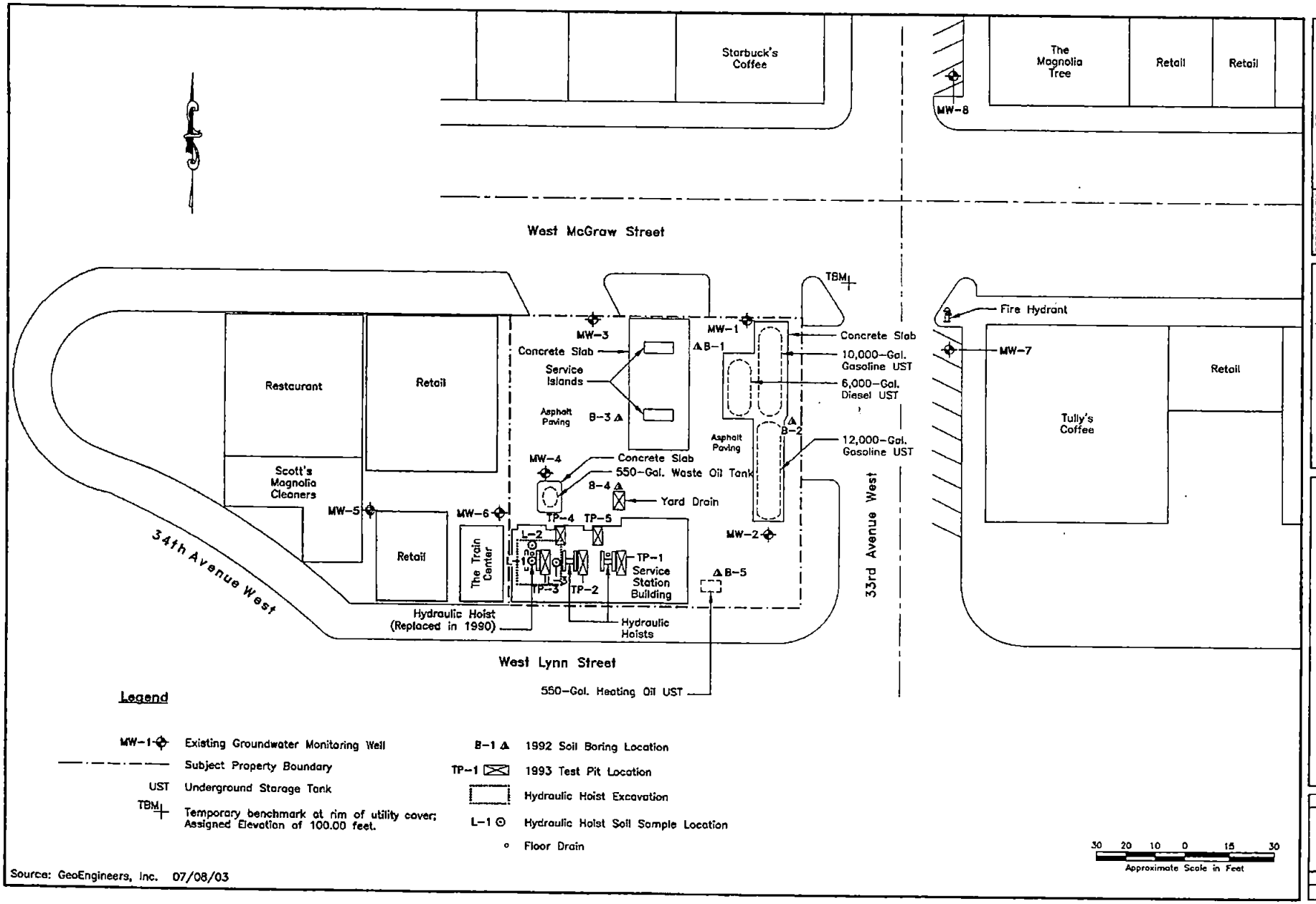
Table 2
Laboratory Chemical Analyses Results Groundwater Samples

Sample ID	Sample Date	WTPH-G (ug/L, ppb)	WTPH-D (ug/L, ppb)	WTPH-O (ug/L, ppb)	Benzene (ug/L, ppb)	Toluene (ug/L, ppb)	Ethyl Benzene (ug/L, ppb)	Xylenes (ug/L, ppb)	Total Lead (ug/L, ppb)
WO UST	8/13/09	N/A	<200	**350,000**	N/A	N/A	N/A	N/A	N/A
MTCA Method A cleanup level		**800**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**15**
Method Reporting Limit		100	200	500	1	1	1	1	2

Notes:
micrograms per liter (µg/L), parts per billion (ppb). Groundwater samples were analyzed for TPH as Diesel using Ecology Method WTPH-Dx;
<1.0 = not detected at or above the method reporting limit. N/A = not analyzed
MTCA Method A cleanup levels for groundwater are from Washington Administrative Code (WAC) chapter 173-340 revised 2-12-01.



SD&C **Vicinity Map** **Figure 1**



Source: GeoEngineers, Inc. 07/08/03

REVISIONS			
NO:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
KK	KM	KK	TS

Chevron Site No. 305516
Former Unocal Service Station No. 1726
3301 West McGraw Street, Seattle, Washington

SCALE:	DATE:	PROJECT NUMBER:
1" = 30'	05/04/09	01231-227-A10

FIGURE NUMBER: 2

FILENAME: 01231227A10-2A

APPENDIX I

SITE ASSESSMENT CHECKLIST

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
Closure and Site Assessment Notice

See back of form for instructions

FOR OFFICE USE ONLY
Site ID #:
Facility Site ID #:

Please ✓ the appropriate box(es)
☐ Temporary Tank Closure ☐ Change-In-Service ☒ Permanent Tank Closure ☐ Site Check/Site Assessment

Site Information

Site ID Number 8415
(Available from Ecology if the tanks are registered)
Site/Business Name MAGNOLIA UNION 76
Street
Site Address 3301 WEST McGRAW ST.
City/State SEATTLE, WA
Zip Code 98199 Telephone ( )
Owners Signature T Slotta FOR MARK NELSON

Owner Information

UST Owner/Operator NELSON PETROLEUM INC.
Mailing Address 1125 SW 80TH ST.
Street
P.O. Box
City/State EVERETT, WA
Zip Code 98203 Telephone (425) 353-9701

Tank Closure/Change-In-Service Company

Service Company SD&C
Certified Supervisor TIM SLOTTA Decommissioning Certification No. XX413200530 3
Supervisor's Signature T Slotta Date 8-20-09
Address P.O. BOX 2071
Street P.O. Box
KIRKLAND WA 98083 Telephone (206) 459-5775
City State Zip Code

Site Check/Site Assessor

Certified Site Assessor TIM SLOTTA L.H.G #2175
Address P.O. BOX 2071
Street P.O. Box
KIRKLAND WA 98083 Telephone (206) 459-5775
City State Zip Code

Tank Information

Tank ID	Closure Date	Closure Method	Tank Capacity	Substance Stored
WO	8-13-09	IN PLACE	550-GAL	WASTE OIL

Contamination Present at the Time of Closure

☒ Yes ☐ No ☐ Unknown
Check unknown if no obvious contamination was observed and sample results have not yet been received from analytical lab.

☒ Yes ☐ No
If contamination is present, has the release been reported to the appropriate regional office?

To receive this document in an alternative format, contact the Toxics Cleanup Program at 360-407-7170 (voice) or 1-800-833-6388 OR 711 (TTY)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

FOR OFFICE USE ONLY
Site #:_____
Facility Site ID #:_____

NSTRUCTIONS

When a release has not been confirmed and reported, this Site Check/Site Assessment Checklist must be completed and signed by a person certified by ICC or a Washington registered professional engineer who is competent, by means of examination, experience, or education, to perform site assessments. **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.

SITE INFORMATION: 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.

TANK INFORMATION: Please list all tanks for which the site check or site assessment is being conducted. Use the owner's tank ID numbers 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.

SITE ASSESSOR INFORMATION: This information 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
PO Box 47655
Olympia WA 98504-7655

SITE INFORMATION

Site ID Number (Available from Ecology if the tanks are registered): 8415
Site/Business Name: MAGNOLIA UNION 76
Site Address: 3301 WEST McGRAW ST. (Street) Telephone: (___)_____
SEATTLE (City) WA (State) 98199 (Zip Code)

TANK INFORMATION

Tank ID No.	Tank Capacity	Substance Stored
WASTE OIL	550-GAL	WASTE 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 with tank removed.
_____ Abandoned tank containing product.
_____ Required by Ecology or delegated agency for UST system closed before 12/22/88.
__X__ Other (describe): UST CLOSURE - IN - PLACE

CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.	YES	NO
1. The location of the UST site is shown on a vicinity map.	X	
2. A brief summary of information obtained during the site inspection is provided. (see Section 3.2 in site assessment guidance)	X	
3. A summary of UST system data is provided. (see Section 3.1.)	X	
4. The soils characteristics at the UST site are described. (see Section 5.2)	X	
5. Is there any apparent groundwater in the tank excavation?	X	
6. A brief description of the surrounding land use is provided. (see Section 3.1)	X	
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.	X	
8. A sketch or sketches showing the following items is provided:		
- location and ID number for all field samples collected	X	
- groundwater samples distinguished from soil samples (if applicable)	X	
- samples collected from stockpiled excavated soil		X
- tank and piping locations and limits of excavation pit	X	
- adjacent structures and streets	X	
- approximate locations of any on-site and nearby utilities	X	
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)	X	
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.	X	
11. Any factors that may have compromised the quality of the data or validity of the results are described.		X

12. The results of this site check/site assessment indicate that a confirmed release of a regulated substance has occurred.	X	

SITE ASSESSOR INFORMATION

TIM SLOTTA L.H.G #2175
Person registered with Ecology

SD & C
Firm Affiliated with

Business Address: P.O. Box 2071
Street

Telephone: (206) 459-5775

KIRKLAND
City

WA
State

98083
Zip Code

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

8-20-09
Date

Signature of Person Registered with Ecology

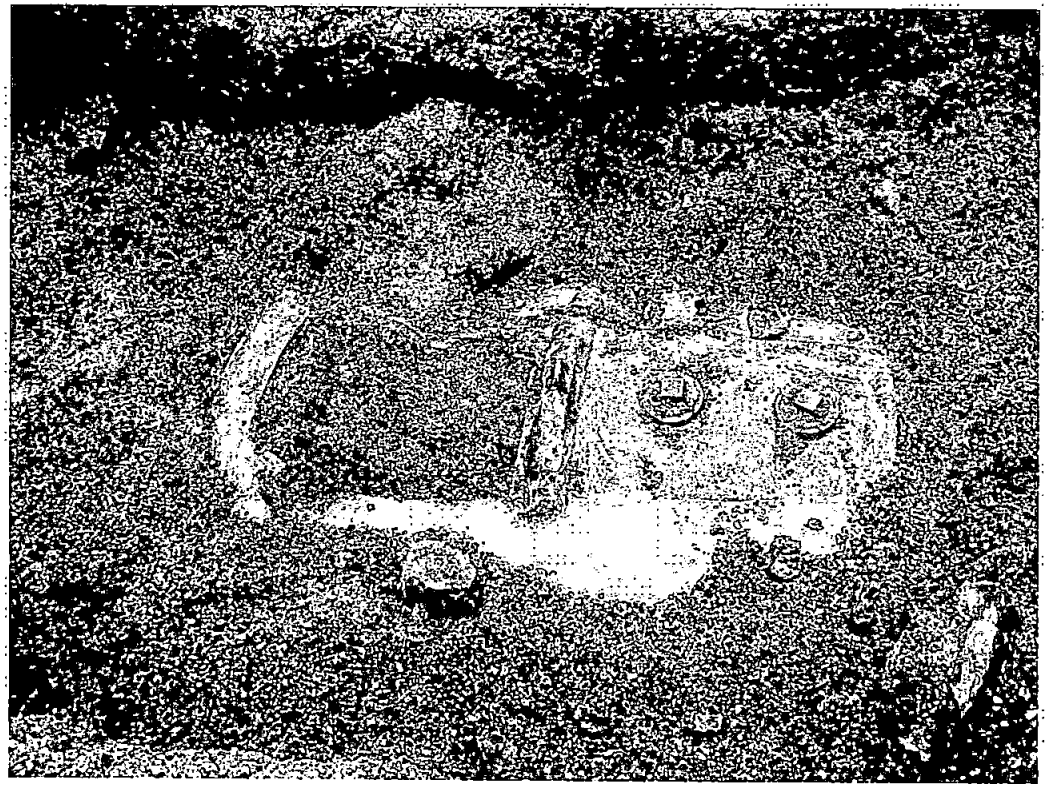
If you need this publication in an alternate format, please contact Toxics Cleanup Program at (360) 407-7170. For persons with a speech or hearing impairment call 711 for relay service or 800-833-6388 for TTY.

APPENDIX II

SITE PHOTOGRAPHS

SD&C	Site Photographs	Sheet 1

SD&C	Site Photographs	Sheet 2



APPENDIX III

LABORATORY REPORTS

ADVANCED ANALYTICAL

Environmental Testing Laboratory

March 17, 2009

Tim Slotta
Slotta Design & Construction
P.O. Box 2071
Kirkland, WA 98083

Dear Mr. Slotta:

Please find enclosed the analytical data report for the *Magnolia 76* ***(A90813-1)*** Project.

Samples were received on *August 13, 2009*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

V. Ivanov

Val G. Ivanov, Ph.D.
Laboratory Manager

Overlake Business Center ■ 2821 152 Avenue NE ■ Redmond, WA 98052
ph 425.497.0110 fax 425.497.8089
E-mail: aachemlab@yahoo.com

Advanced Analytical Laboratory
(425)497-0110, fax(425)497-8089

AAL Job Number:	A90813-1
Client:	SD&C
Project Manager:	Tim Slotta
Client Project Name:	Magnolia 76
Client Project Number:	na
Date received:	08/13/09

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: A90813-1
Client: SD&C
Project Manager: Tim Slotta
Client Project Name: Magnolia 76
Client Project Number: na
Date received: 08/13/09

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	WO UST WW@4'	WO UST SW@4'	WO UST F@6'
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/13/09	08/13/09	08/13/09	08/13/09
Date analyzed	Limits	08/13/09	08/13/09	08/13/09	08/13/09
Kerosene/Jet fuel	20	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd
Surrogate recoveries:					
Fluorobiphenyl		103%	104%	102%	102%
o-Terphenyl		102%	102%	101%	101%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number:	A90813-1
Client:	SD&C
Project Manager:	Tim Slotta
Client Project Name:	Magnolia 76
Client Project Number:	na
Date received:	08/13/09

Analytical Results		Dupl
NWTPH-Dx, mg/kg		WO UST F@6'
Matrix	Soil	Soil
Date extracted	Reporting	08/13/09
Date analyzed	Limits	08/13/09
Kerosene/Jet fuel	20	nd
Diesel/Fuel oil	20	nd
Heavy oil	50	nd

Surrogate recoveries:	
Fluorobiphenyl	104%
o-Terphenyl	103%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number:	A90813-1
Client:	SD&C
Project Manager:	Tim Slotta
Client Project Name:	Magnolia 76
Client Project Number:	na
Date received:	08/13/09

Analytical Results

NWTPH-Dx, mg/L		MTH BLK	WO UST
Matrix	Water	Water	Water
Date extracted	Reporting	08/13/09	08/13/09
Date analyzed	Limits	08/13/09	08/13/09
Kerosene/Jet fuel	0.20	nd	nd
Diesel/Fuel oil	0.20	nd	nd
Heavy oil	0.50	nd	350
Surrogate recoveries:			
Fluorobiphenyl		111%	116%
o-Terphenyl		115%	121%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: A90813-1
Client: SD&C
Project Manager: Tim Slotta
Client Project Name: Magnolia 76
Client Project Number: na
Date received: 08/13/09

Analytical Results				Dupl
NWTPH-Gx		MTH BLK	WO UST F@6'	WO UST F@6'
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/14/09	08/14/09	08/14/09
Date analyzed	Limits	08/14/09	08/14/09	08/14/09
NWTPH-Gx, mg/kg				
Mineral spirits/Stoddard	5.0	nd	nd	nd
Gasoline	5.0	nd	nd	nd
Surrogate recoveries:				
Trifluorotoluene		104%	126%	107%
Bromofluorobenzene		83%	86%	80%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number: A90813-1
Client: SD&C
Project Manager: Tim Slotta
Client Project Name: Magnolia 76
Client Project Number: na
Date received: 08/13/09

Analytical Results

8082(PCBs), mg/kg		MTH BLK	LCS	WO UST F@6'	Dupl WO UST F@6'
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/14/09	08/14/09	08/14/09	08/14/09
Date analyzed	Limits	08/14/09	08/14/09	08/14/09	08/14/09
A1221	0.20	nd		nd	nd
A1232	0.20	nd		nd	nd
A1242 (A1016)	0.20	nd		nd	nd
A1248	0.20	nd		nd	nd
A1254	0.20	nd		nd	nd
A1260	0.20	nd	94%	nd	nd
Surrogate recoveries:					
Tetrachloro-m-xylene		96%	117%	85%	96%
Decachlorobiphenyl		81%	97%	71%	77%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: A90813-1
Client: SD&C
Project Manager: Tim Slotta
Client Project Name: Magnolia 76
Client Project Number: na
Date received: 08/13/09

Analytical Results

Metals (7010), mg/kg		MTH BLK	LCS	WO UST F@6'	Dupl WO UST F@6'
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/14/09	08/14/09	08/14/09	08/14/09
Date analyzed	Limits	08/14/09	08/14/09	08/14/09	08/14/09
Lead (Pb)	1.0	nd	84%	2.5	2.5
Chromium (Cr)	2.0	nd	103%	nd	nd
Cadmium (Cd)	1.0	nd	118%	nd	nd
Barium (Ba)	10	nd	130%	nd	nd
Silver (Ag)	1.0	nd	117%	nd	nd
Arsenic (As)	2.0	nd	102%	nd	nd
Selenium (Se)	10	nd	101%	nd	nd
Mercury (Hg) (7470A)	0.5	nd	109%	nd	nd

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
(425) 497-0110, fax (425) 497-8089

AAL Job Number:	A90813-1
Client:	SD&C
Project Manager:	Tim Slotta
Client Project Name:	Magnolia 76
Client Project Number:	na
Date received:	08/13/09

Analytical Results

8260B, µg/kg		MTH BLK	LCS	WO UST F@6'	Ms WO UST F@6'
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/14/09	08/14/09	08/14/09	08/14/09
Date analyzed	Limits	08/14/09	08/14/09	08/14/09	08/14/09
Dichlorodifluoromethane	50	nd		nd	
Chloromethane	50	nd		nd	
Vinyl chloride	50	nd		nd	
Bromomethane	50	nd		nd	
Chloroethane	50	nd		nd	
Trichlorofluoromethane	50	nd		nd	
1,1-Dichloroethene	50	nd		nd	
Methylene chloride	20	nd		nd	
trans-1,2-Dichloroethene	50	nd		nd	
1,1-Dichloroethane	50	nd		nd	
2,2-Dichloropropane	50	nd		nd	
cis-1,2-Dichloroethene	50	nd		nd	
Chloroform	50	nd		nd	
1,1,1-Trichloroethane	50	nd		nd	
Carbontetrachloride	50	nd		nd	
1,1-Dichloropropene	50	nd		nd	
Benzene	20	nd	94%	nd	105%
1,2-Dichloroethane(EDC)	20	nd		nd	
Trichloroethene	20	nd	82%	nd	96%
1,2-Dichloropropane	50	nd		nd	
Dibromomethane	50	nd		nd	
Bromodichloromethane	50	nd		nd	
cis-1,3-Dichloropropene	50	nd		nd	
Toluene	50	nd	96%	nd	113%
trans-1,3-Dichloropropene	50	nd		nd	
1,1,2-Trichloroethane	50	nd		nd	
Tetrachloroethene	50	nd		nd	
1,3-Dichloropropane	50	nd		nd	
Dibromochloromethane	20	nd		nd	
1,2-Dibromoethane (EDB)*	5	nd		nd	
Chlorobenzene	50	nd	95%	nd	108%
1,1,1,2-Tetrachloroethane	50	nd		nd	
Ethylbenzene	50	nd		nd	
Xylenes	50	nd		nd	
Styrene	50	nd		nd	
Bromoform	50	nd		nd	
Isopropylbenzene	50	nd		nd	
1,2,3-Trichloropropane	50	nd		nd	
Bromobenzene	50	nd		nd	

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AAL Job Number:	A90813-1
Client:	SD&C
Project Manager:	Tim Slotta
Client Project Name:	Magnolia 76
Client Project Number:	na
Date received:	08/13/09

Analytical Results

8260B, µg/kg		MTH BLK	LCS	WO UST F@6'	WO UST F@6' Ms
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	08/14/09	08/14/09	08/14/09	08/14/09
Date analyzed	Limits	08/14/09	08/14/09	08/14/09	08/14/09
1,1,2,2-Tetrachloroethane	50	nd		nd	
n-Propylbenzene	50	nd		nd	
2-Chlorotoluene	50	nd		nd	
4-Chlorotoluene	50	nd		nd	
1,3,5-Trimethylbenzene	50	nd		nd	
tert-Butylbenzene	50	nd		nd	
1,2,4-Trimethylbenzene	50	nd		nd	
sec-Butylbenzene	50	nd		nd	
1,3-Dichlorobenzene	50	nd		nd	
Isopropyltoluene	50	nd		nd	
1,4-Dichlorobenzene	50	nd		nd	
1,2-Dichlorobenzene	50	nd		nd	
n-Butylbenzene	50	nd		nd	
1,2-Dibromo-3-Chloropropane	50	nd		nd	
1,2,4-Trichlorobenzene	50	nd		nd	
Hexachloro-1,3-butadiene	50	nd		nd	
Naphthalene	50	nd		nd	
1,2,3-Trichlorobenzene	50	nd		nd	
*-instrument detection limits					
Surrogate recoveries					
Dibromofluoromethane		100%	103%	97%	97%
Toluene-d8		125%	121%	119%	119%
1,2-Dichloroethane-d4		100%	100%	103%	103%
4-Bromofluorobenzene		93%	96%	90%	90%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

Advanced Analytical Laboratory
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AAL Job Number:	A90813-1
Client:	SD&C
Project Manager:	Tim Slotta
Client Project Name:	Magnolia 76
Client Project Number:	na
Date received:	08/13/09

Analytical Results		MSD	RPD
8260B, µg/kg		WO UST F@6'	WO UST F@6'
Matrix	Soil	Soil	Soil
Date extracted	Reporting	08/14/09	08/14/09
Date analyzed	Limits	08/14/09	08/14/09
Dichlorodifluoromethane	50		
Chloromethane	50		
Vinyl chloride	50		
Bromomethane	50		
Chloroethane	50		
Trichlorofluoromethane	50		
1,1-Dichloroethene	50		
Methylene chloride	20		
trans-1,2-Dichloroethene	50		
1,1-Dichloroethane	50		
2,2-Dichloropropane	50		
cis-1,2-Dichloroethene	50		
Chloroform	50		
1,1,1-Trichloroethane	50		
Carbontetrachloride	50		
1,1-Dichloropropene	50		
Benzene	20	100%	5%
1,2-Dichloroethane(EDC)	20		
Trichloroethene	20	94%	2%
1,2-Dichloropropane	50		
Dibromomethane	50		
Bromodichloromethane	50		
cis-1,3-Dichloropropene	50		
Toluene	50	106%	6%
trans-1,3-Dichloropropene	50		
1,1,2-Trichloroethane	50		
Tetrachloroethene	50		
1,3-Dichloropropane	50		
Dibromochloromethane	20		
1,2-Dibromoethane (EDB)*	5		
Chlorobenzene	50	107%	1%
1,1,1,2-Tetrachloroethane	50		
Ethylbenzene	50		
Xylenes	50		
Styrene	50		
Bromoform	50		
Isopropylbenzene	50		
1,2,3-Trichloropropane	50		
Bromobenzene	50		

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AAL Job Number:	A90813-1
Client:	SD&C
Project Manager:	Tim Slotta
Client Project Name:	Magnolia 76
Client Project Number:	na
Date received:	08/13/09

Analytical Results		MSD	RPD
8260B, µg/kg		WO UST F@6'	WO UST F@6'
Matrix	Soil	Soil	Soil
Date extracted	Reporting	08/14/09	08/14/09
Date analyzed	Limits	08/14/09	08/14/09
1,1,2,2-Tetrachloroethane	50		
n-Propylbenzene	50		
2-Chlorotoluene	50		
4-Chlorotoluene	50		
1,3,5-Trimethylbenzene	50		
tert-Butylbenzene	50		
1,2,4-Trimethylbenzene	50		
sec-Butylbenzene	50		
1,3-Dichlorobenzene	50		
Isopropyltoluene	50		
1,4-Dichlorobenzene	50		
1,2-Dichlorobenzene	50		
n-Butylbenzene	50		
1,2-Dibromo-3-Chloropropane	50		
1,2,4-Trichlorobenzene	50		
Hexachloro-1,3-butadiene	50		
Naphthalene	50		
1,2,3-Trichlorobenzene	50		
*-instrument detection limits			
Surrogate recoveries			
Dibromofluoromethane		85%	
Toluene-d8		93%	
1,2-Dichloroethane-d4		97%	
4-Bromofluorobenzene		80%	

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

ADVANCED ANALYTICAL

Chain of Custody Record

Page of

Laboratory Job #: A90813-1

2821 152 Avenue NE
Redmond, WA 98052
(425) 497-0110 fax: (425) 497-8089
aachemlab@yahoo.com

Client: SDGC

Project Manager: T. SLOTTA

Address: P.O. BOX 2071 KIRKLAND, WA

Phone: (206) 459-5775 Fax:

Project Name: MAGNOLIA 76

Project Number:

Collector: T. SLOTTA

Date of collection: 8-13-09

	Sample ID	Time	Matrix	Container type	8260 Volatiles	8021B Volatiles	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx	NWTPH-HCID	8270 Semivolatiles	8270 PAH	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead	Notes, comments	# of containers
1	WOUST WW@ 4'		SOIL	4oz					X									HIGHEST	
2	WO UST SW@ 4'		SOIL	"					X									CONC ADD	
3	WO UST F@ 6'		SOIL	"	⊗			⊗	X				⊗		⊗			8260, TPH-G	
4	WO UST		H_2O						X									8080, RCRA 8 (PCBs)	
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	8-13-09	[signature]	8/13/09
Relinquished by:	Date/Time	Received by:	Date/Time

Sample receipt info:

Total # of containers:

Condition (temp, °C)

Seals (intact?, Y/N)

Comments:

Turnaround time:

Same day O

24 hr O

48 hr O

Standard ⊗