

July 13, 2006

Mr. Mark Edens Washington Department of Ecology Northwest Regional Office 3190 - 160th Ave. SE Bellevue, WA 98008-5452 RECEIVED

JUL 1 7 2006 DEPT OF ECOLOGY

Letter Report
Assessment of Environmental Conditions
Panda Dry Cleaners (TCP ID #1588)
Clearview Plaza
Snohomish, Washington
URS Project No. 33758887

Dear Mr. Edens:

#### INTRODUCTION

URS Corporation (URS) is providing this assessment of the site conditions at the Panda Dry Cleaners facility located in the Clearview Plaza shopping center, 17408 Highway 9, Snohomish, Washington (subject property) on the behalf of Clearview Plaza, LLC (Clearview). We understand that Clearview is assisting the owners (Mr. and Ms. Choe) of Panda Dry Cleaners with Voluntary Cleanup Program (VCP) submittals. This assessment has been conducted pursuant to the recommendations presented in your e-mail to Mr. Michael LaMarche of Clearview dated May 2, 2006. The primary objective of this assessment was to review the existing site environmental data and provide justification for a no further action (NFA) determination from Washington Department of Ecology (Ecology). Information regarding the subject property and prior environmental data are summarized in the following sections.

#### SITE DESCRIPTION

The subject property is located at approximately 600-feet above mean sea level (MSL). and slopes gently to the southeast. The nearest surface water body is the Snohomish River, approximately 3 miles east of the site. The Panda Cleaners facility is an approximately 260 square foot tenant space within Clearview Plaza and is described as Lot 6, Unit 6 (LandAmerica 2005a). The dry cleaner is located in the central portion of the building as shown on Figure 1.

URS Corporation 1501 4th Avenue, Suite 1400 Seattle, WA 98101-1616 Tel: 206.438.2700 Fax: 206.438.2699



#### SUMMARY OF PRIOR SITE INVESTIGATIONS

# 2005 Phase I Environmental Site Assessment

LandAmerica conducted a Phase I ESA in 2005 of the Clearview Plaza located at 17408 Hwy 9, Snohomish, WA. Panda Dry Cleaners is an on-site dry cleaner that has reportedly been in operation for approximately nine years. Tetrachloroethylene (PCE) is used on-site within a closed-loop dry cleaning machine situated on the concrete floor and no floor drains are reportedly located in the area. Specific evidence of a release was not observed during the course of the Phase I ESA. However, based on the use of PCE at the site, it was considered that soil and groundwater could have been impacted by the dry cleaners operations. The Phase I ESA did not identify any other environmental concerns associated with the Property (LandAmerica 2005a).

# 2005 Phase II Environmental Site Assessment

LandAmerica conducted a limited Phase II ESA in 2005 to investigate whether activities at Panda Dry Cleaners may have affected the soil or groundwater quality. A total of four soil borings were completed: two within the dry cleaners and two at exterior locations east and west of the building (LandAmerica 2005b). A copy of this report is provided in Appendix A and the findings are discussed below.

#### **Subsurface Conditions**

Soils beneath the subject property and adjacent areas consist of fine to medium grained sand with silt. Groundwater was encountered 9 feet below ground surface (bgs) (LandAmerica 2005b). Based on the topography, the groundwater gradient is inferred to be easterly to southeasterly.

# Soil and Groundwater Analytical Results

The analytical results are summarized on Figure 2. Due to dense soil conditions, the interior borings could only be completed to a depth of approximately 4 feet. Soils samples collected in borings B-3 and B-4 between 1 and 2 feet in depth detected PCE at concentrations of 0.1 mg/kg and 0.3 mg/kg, respectively, which exceeds the Washington MTCA Method A cleanup level of 0.05 mg/kg. Boring B-4 was located within a few feet of the dry cleaning machine and B-3 within 10 feet of the machine.

The PCE was not detected in the soil samples collected from the exterior borings B-1 and B-2.



The groundwater sample collected from the temporary monitoring well installed in the boring completed north of the dry cleaners (B-1) also did not detect PCE or any other VOCs. Groundwater was encountered in this boring at approximately 9 feet in depth.

#### ASSESSMENT OF SITE CONDITIONS

Based upon the findings of the Phase II investigation conducted at the subject property, PCE concentrations exceeding the MTCA Method A Soil Cleanup Level were detected in the two interior borings (B-3 and B-4). Although exceeding cleanup levels, the concentrations of PCE detected in these two borings do not appear to represent a significant release to the subsurface. The levels may be associated with incidental spillage to the concrete floor and vapor phase transport into the underlying soils. It was noted that PCE concentrations in the soil appear to dissipate with distance from the dry cleaning machine (the most likely source of PCE). For example, PCE soil concentrations in boring B-4, located closest to the dry cleaning machine contained levels of PCE of 0.3 mg/kg and approximately 10 feet from this location, PCE levels had declined to 0.1 mg/kg. Another 8 feet further west, PCE concentrations were not detected in boring B-2 (Figure 2). These finding would indicate that the extent of elevated levels of PCE is limited to the soils beneath the dry cleaner and have not migrated vertically into the groundwater table as PCE was not detected in the shallow groundwater in the inferred downgradient boring, B-1.

Considering that the PCE appears to be limited to the general vicinity of the dry cleaning machine and that the area is capped by concrete, the potential to for human exposure to these soils is minimal. Furthermore, the concrete floor foundation and the adjacent asphalt pavement will minimize any infiltration of surface water in the area. Thus, the risk to the groundwater quality is low and there does not appear to be any sensitive downgradient receptor within at least half a mile.

Based on the relatively low levels of PCE in the subsurface soils, there appears to be a low risk that indoor air quality will be affected by vapor intrusion as long as the concrete floor slab is maintained.

### RECOMMENDATIONS

The results of the Limited Phase II investigation indicate that institutional controls are a viable means for implementing site closure. Pursuant to your May 2, 2006 e-mail, URS is requesting on the behalf of Clearview Plaza LLC that Ecology provides a no further action (NFA) determination with a restrictive covenant (RC). We understand that the RC will include provisions for maintaining the integrity of the floor slab (e.g., sealing the concrete floor, fixing



any cracks and properly sealing any penetrations through the floor slab in the area of affected soils) and addressing the removal and proper disposal of affected soils if future site redevelopment includes the removal of the building foundation.

Clearview will to coordinate with the dry cleaners to have the concrete floor in the dry cleaning area and chemical storage areas sealed with a product resistant to both liquid and vapor phase chlorinated solvents. Clearview will also advise the dry cleaner to implement chemical and hazardous waste handling procedures consistent with those outlined in Ecology's Dry Cleaner Reference Manual - Complying with Washington State and Federal Environmental Regulations, Publication No. 96-200, April 1996. These procedures include, but are not limited to, the use of proper containers, labeling containers properly, and storing materials and wastes in proper locations, etc.

#### REFERENCES

LandAmerica, 2005a. Phase I Environmental Site Assessment, Clearview Plaza, 17408 Highway 9, Snohomish, Washington, LandAmerica Commercial Services, June 30.

LandAmerica, 2005b. Phase II Limited Subsurface Investigation Report, Clearview Plaza, 17408 Highway 9, Snohomish, Washington, LandAmerica Commercial Services, August 8.



We trust this report meets your requirements. If you have any questions regarding this report please do not hesitate to contact us.

Very truly yours,

URS CORPORATION

David Raubvogel

Senior Geologist, LHG

Geoff Garrison, LG Senior Geologist

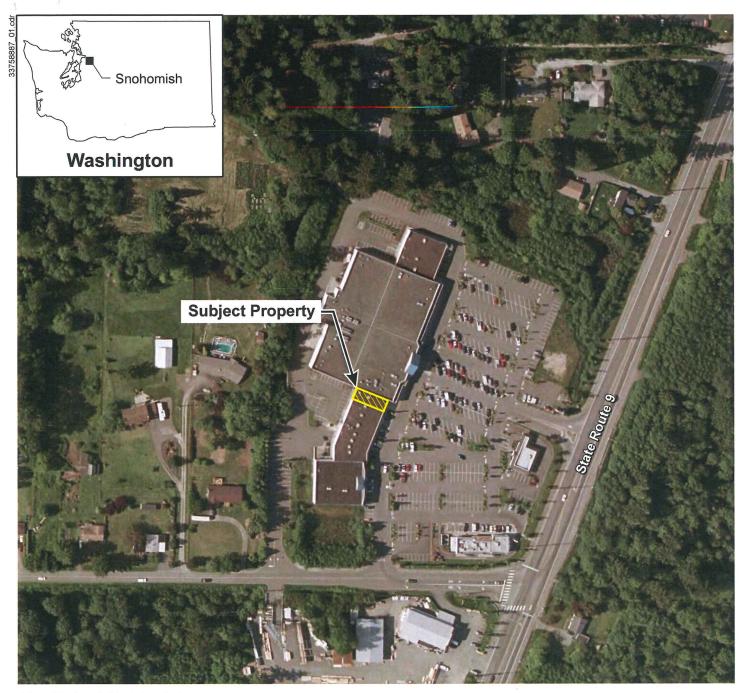
Copy: Mr. Michael LaMarche, Clearview Plaza, LLC

Jim Flynn, URS

Attachments:

Figures 1 and 2

Appendix A Phase II Limited Subsurface Investigation Report



SOURCE: Google Earth Pro, 2005

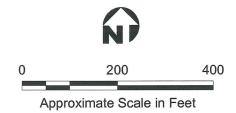


Figure 1 **Location Map** 

Job No. 33758887

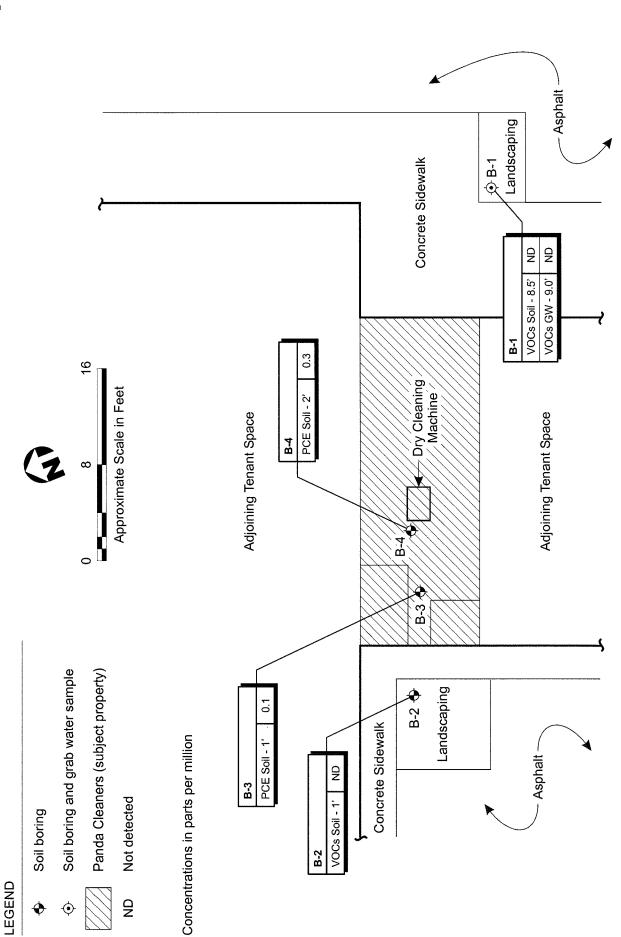


Figure 2 Boring Locations and Analytical Data

# APPENDIX A PHASE II LIMITED SUBSURFACE INVESTIGATION REPORT

# Prepared For

# COMMERCIAL REAL ESTATE GROUP 1301 A STREET TACOMA, WA 98401-2156

# PHASE II LIMITED SUBSURFACE INVESTIGATION REPORT

Clearview Plaza 17408 Highway 9 Snohomish, WA 98296

Date Issued: August 8, 2005

LAC Project Number 05-29423.1

# Prepared By

LANDAMERICA ASSESSMENT CORPORATION

1320 Harbor Bay Parkway #260 Alameda, California 94502 Telephone: 510.337.2855 Facsimile: 510.337.2865





August 8, 2005

Mr. Thomas A. Kirkwood, VP Commercial Real Estate Group 1301 A Street Tacoma, Washington 98401-2156

Subject:

**Phase II Subsurface Investigation** 

Clearview Plaza 17408 Highway 9 Snohomish, WA 98296

LAC Project Number: 05-29423.1

Dear Mr. Kirkwood:

LandAmerica Assessment Corporation (LAC) is pleased to provide its results from the Phase II Subsurface Investigation performed at the Clearview Plaza at 17408 Highway 9, Snohomish, Washington (Subject Property). The purpose of the subsurface investigation was to address the usage of dry cleaning chemicals at the existing Panda Dry Cleaner operation. This investigation was authorized on July 22, 2005, and was performed in accordance with LAC's proposal dated July 18, 2005.

#### **BACKGROUND INFORMATION**

LAC conducted a Phase I Environmental Site Assessment (ESA) in June 2005 at the Subject Property. LAC's ESA identified that Panda Dry Cleaners has operated on the Subject Property for approximately nine years. The on-site dry cleaning machine operated by Panda Dry Cleaners uses tetrachloroethylene (PCE) as a dry-cleaning solvent.

Although no specific evidence of a release of PCE was noted in the Phase I ESA, such releases do occur from this type of facility. Based on this information (and upon the nature of PCE), a subsurface investigation was proposed to evaluate potential impacts to the site. The Subject Property is currently occupied by a 15-space retail center known as Clearview Plaza and was developed in phases between 1995 and 2005. The location of the site is shown in Figure 1.

#### **UTILITY LOCATING**

Prior to initiating the field activities, Washington law requires that, at least 48 hours prior to the initiation of any subsurface work (drilling, backhoe operation, etc.), a utility inspection be performed at the Subject Property. This inspection consists of the marking of underground utility locations by dig-safe personnel. The utility inspection was performed at least two days before soil boring advancement began.

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#### **HEALTH AND SAFETY PLAN**

LAC developed a Health and Safety Plan that was specific to the Subject Property. The development of this plan is required by the Occupational Safety and Health Administration (OSHA) under Hazardous Waste Operations & Emergency Response 29 CFR 1910.120. The site Health and Safety Plan was designed to reduce the risk of physical or chemical exposures that may affect on-site workers/general public in the proposed work area. The site Health and Safety Plan includes information about chemicals expected on the Subject Property, health and safety procedures for working on site and emergency response procedures. The Health and Safety Plan is on file at LAC's office.

#### SUBSURFACE INVESTIGATION

On August 2, 2005, four soil borings (B-1 through B-4) were completed at Cleanview Plaza to evaluate subsurface conditions in the immediate vicinity of Panda Dry Cleaners. Soil boring B-1 was advanced in a landscaped area near the Panda Dry Cleaners front entrance to a depth of ten feet bgs (below ground surface), at which point refusal was encountered. Soil boring B-2 was advanced in a landscaped area near the Panda Dry Cleaners rear entrance to a depth of ten feet bgs, at which point refusal was encountered. Boring B-3 was located within Panda Dry Cleaners, immediately west of the waste PCE drum storage area. Boring B-3 was completed to a depth of three feet bgs, at which refusal was encountered. Boring B-4 was located Panda Dry Cleaners, immediately west of the dry cleaner machine. Boring B-4 was completed at a depth of two feet bgs at which point refusal was encountered. The locations of the soil borings are shown on Figure 2.

Borings B-1 and B-2 were advanced with a Geoprobe drilling rig. Soil samples were collected continuously from each boring using a four-foot long macro core and disposable acetate sleeves. The interior borings were advanced utilizing a stainless steel hand auger after gaining access to the subsurface soil by coring through the concrete floor of the facility. The soil collected from each boring was field screened with a photo-ionization detector (PID). Field screening readings ranged from 0 to 536 parts per million (ppm) in recovered soils. No olfactory or visual indications of contamination were detected in any of the samples.

One soil sample from each boring was collected for laboratory analysis. The soil samples were transported under chain of custody to Wy'East Environmental Sciences of Portland, Oregon. Four soil samples (one from each boring) were analyzed for Target Compound List Volatile Organics by EPA Method 8260 (VOC).

Soil encountered during the soil borings at the site consisted mainly of fine grained sands and silts. Soil boring logs are presented in Appendix I.

#### **GROUNDWATER SAMPLING**

Ground water was encountered atop bedrock in borings B-1 and B-2 at approximately nine feet bgs. One groundwater sample was collected from location B-1. This location was chosen because PID readings in the soil at the B-1 sampling location (536 ppm) were higher than those found at location B-2 (0.0 ppm). A temporary well consisting of a PVC well screen was placed in the boring to allow the collection of a ground water sample with a peristaltic pump. The water sample was transported under chain of custody to Wy'East Environmental Sciences of Portland and was analyzed for Target Compound List Volatile Organics by EPA Method 8260 (VOC).



#### LABORATORY ANALYTICAL RESULTS

The laboratory analytical report indicated that PCE was detected in soil samples collected from the interior borings (B-3 and B-4) at concentrations of 0.3 milligrams per kilogram (mg/kg) and 0.1 mg/kg. These concentrations are above the Washington MTCA Method A Soil Cleanup Level of 0.05 mg/kg. No contaminants were not detected in soil samples that were collected from the exterior borings, or in the water sample collected from location B-1.

The analytical results for the soil and ground water samples are provided as Tables 1 and 2. The laboratory analytical report and chain-of-custody forms are included as Appendix II.

#### CONCLUSIONS

The following conclusions are based on the results of a subsurface investigation performed at the request of Commercial Real Estate Group in accordance with LAC's proposal dated July 18, 2005.

The laboratory analytical report indicated that PCE was detected concentrations above the Washington MTCA Method A Soil Cleanup Level in two soil samples that were collected from the interior of Panda Dry Cleaners. Contaminants were not detected in soil samples collected from the exterior borings or in a water sample that were collected at this site.

Based on the analytical results and observations made during the site investigation, it appears that the use of the site as a dry cleaning facility has impacted the Subject Property.

The contaminant concentrations that have been detected at this site exceed the unrestricted land use criteria for the protection of ground water. Therefore, LAC recommends that the release be reported by the property owner to the Washington Department of Ecology (WDE) within 90 days. The WDE may require additional assessment activities to determine if the release poses a threat to ground water, and possibly remedial actions to remove the contaminants from soil beneath the building.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

**LANDAMERICA ASSESSMENT CORPORATION** 

Jeff Jackman

Professional Associate

John T. Burkart, P.G.

Director of Environmental Services

John Burlant



# Table 1 Laboratory Analytical Results (Soil) Clearview Plaza Snohomish, Washington Project No. 05-29423.1

Soil Sample Number	PCE
	Concentration
S1-8.5	ND
S2-1	ND
S3-1	0.1
S4-2	0.3
MTCA A	0.05

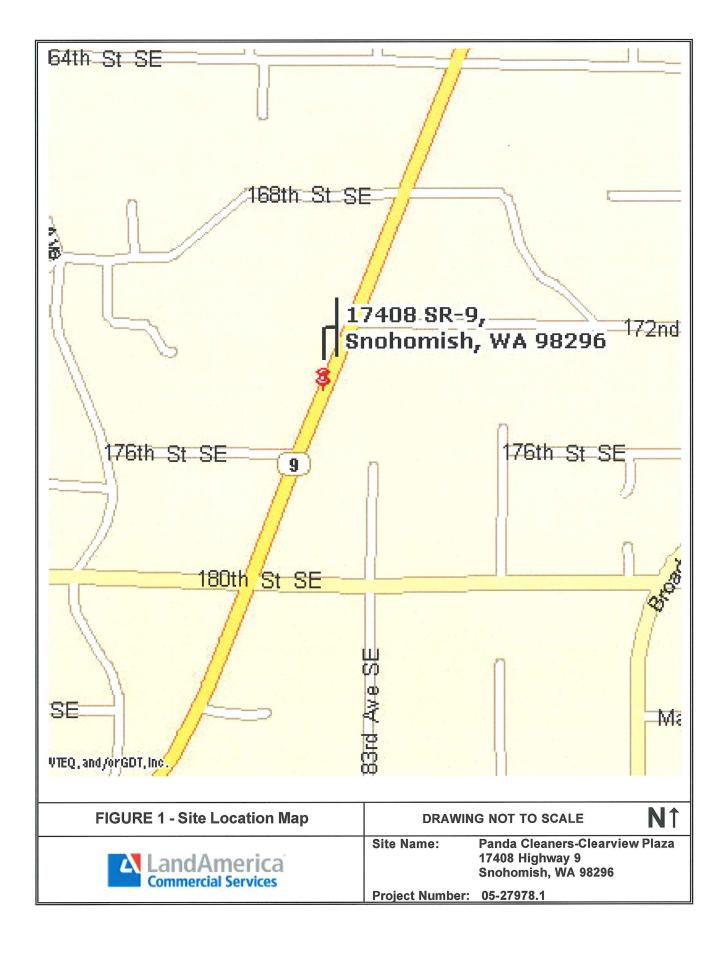
MTCA A – Cleanup Target Levels (State of Washington MTCA Method A) Concentrations in milligrams per kilogram (mg/kg) ND – not detected

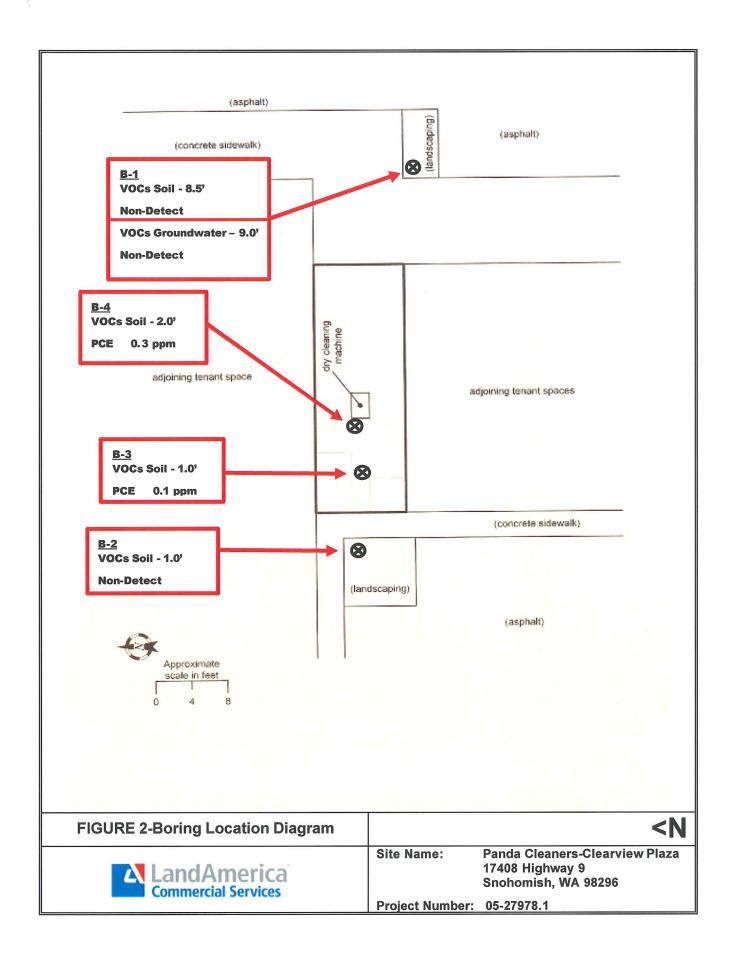
Table 2
Laboratory Analytical Results (Ground Water)
Clearview Plaza
Snohomish, Washington
Project No. 05-29423.1

Ground Water Sample Number	PCE
	Concentration
W-2	ND
MTCA A	5.0

Concentrations in micrograms per liter (ug/l) MTCA A – Cleanup Target Levels (State of Washington MTCA Method A)









# APPENDIX I SOIL BORING LOGS



# **BORING LOG NUMBER B-1**

PROJECT: Clearview Plaza		<b>DATE</b> : 8-2-2005		
CLIENT: Commercial Real Es	state Group	DRILLED BY: Cascade		
LOCATION: Snohomish, Was	hington	BORING METHOD: 1 3/4" [	irect Push Probe	
FIELD PERSONNEL: Jeff Jackman		SAMPLING METHOD: 11	/8" Direct Push Sampler, 4' le	ength
ELEV. GL:	ELEV. TOC:	INITIAL WL: 9.0'	STATIC WL: NA	TD: 10.0'

DEPTH FEET	CORE REC	SAMPLE DEPTH	SAMPLE ID	SAMPLE/CORE DESCRIPTION	PID (PPM)
0' - 0.5'				Asphalt	
0.5' – 4.0'	2.5'-3.0'			Fine to medium grained sand, light brow, tan. No odor	8
4.0' - 8.0'	7.5'-8.0'			Silt with some fine grained sand, light brown. Some rounded gravel, grey. No odor	536
8.0' — 10.0'	8.0'-10.0'	8.0-8.5	S1-8.5	Silt and fine grained sand, light grey No odor	3.5
		9.0-10.0	W-2		
		"			
				Groundwater encountered at 9.0 feet below ground surface	
				Refusal at 10.0 feet below ground surface	
		7			



PROJECT: Clearview Plaza

DATE: 8-2-2005

CLIENT: Commercial Real Estate Group

DRILLED BY: Cascade

LOCATION: Snohomish, Washington

BORING METHOD: 1 ¾" Direct Push Probe

FIELD PERSONNEL: Jeff Jackman

SAMPLING METHOD: 1 1/8" Direct Push Sampler, 4' length

ELEV. GL:

ELEV. TOC:

INITIAL WL: 9.5'

STATIC WL: NA

TD: 10.0'

DEPTH FEET	CORE REC	SAMPLE DEPTH	SAMPLE ID	SAMPLE/CORE DESCRIPTION	PID (PPM)
0' - 0.5'				Asphalt	
0.5' - 4.0'	2.5'-3.0'	1.0'-2.0'	S-2	Fine to medium grained sand, light brow, tan. No odor	0
4.0' - 8.0'	7.5'-8.0'			Silt with some fine grained sand, light brown. Some rounded gravel, grey. No odor	0
8.0' – 12.0'	10.5'-12.0'			Silt and fine grained sand, light grey No odor	0
				Groundwater encountered at 9.5 feet below ground surface	
				Refusal at 10 feet below ground surface	
					$\vdash$



# **BORING LOG NUMBER B-3**

PROJECT: Clearview Plaza		DATE: 8-2-2005	DATE: 8-2-2005		
CLIENT: Commercial Real E	state Group	DRILLED BY: Cascade			
LOCATION: Snohomish, Was	hington	BORING METHOD: Hand Auger			
FIELD PERSONNEL: Jeff Jackman		SAMPLING METHOD:			
ELEV. GL:	ELEV. TOC:	INITIAL WL: None	STATIC WL: NA	TD: 3.0'	

DEPTH FEET	CORE REC	SAMPLE DEPTH	SAMPLE ID	SAMPLE/CORE DESCRIPTION	PID (PPM)
0 - 0.5				Concrete Slab	
0.5 – 3.0		1.0'	S3-1	Medium grained sand, grey/tan mottled (engineered fill below slab) No odor	710
	-				
				Groundwater not encountered	
-					



# **BORING LOG NUMBER B-4**

PROJECT: Clearview Plaza		<b>DATE</b> : 8-2-2005		
CLIENT: Commercial Real Es	state Group	DRILLED BY: Cascade		
LOCATION: Snohomish, Was	hington	BORING METHOD: Hand Auger		
FIELD PERSONNEL: Jeff Jackman		SAMPLING METHOD:		
ELEV. GL:	ELEV. TOC:	INITIAL WL: None	STATIC WL: NA	TD: 2.0'

DEPTH FEET	CORE REC	SAMPLE DEPTH	SAMPLE ID	SAMPLE/CORE DESCRIPTION	PID (PPM)
0 - 0.5				Concrete Slab	
0.5 – 2.0		2.0'	S4-2	Medium grained sand, grey/tan mottled (engineered fill below slab) No odor	60
				Groundwater not encountered	
					-
					+
					+

# APPENDIX II LABORATORY ANALYTICAL REPORT

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Environmental Sciences, Inc.

Research & Laboratory Services

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2415 SE 11th Ave. • Portland, Oregon 97214 • (503) 231-9320 • FAX (503) 231-9344

PROJECT # LAC CS-27978.(	PROJECT NAME	NAME/SITE		STATE W√A	PURCHASE ORDER#	雅
COMPANY Point Source /LAC	REPORT.	REPORT ATTENTION	A CONTRACTOR OF THE CONTRACTOR	PHONE NUMBER SDS 472 2C75	FAX NUMBER 503 22 4 - OULL	7
SAMPLES COLLECTED BY	BATE(S) CO	DATE(S) COLLECTED 8/2/oc	The state of the s	TIME(S) COLLECTED	SAMPLES CHILLED TO 4° C?	70 4° C?
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Submission of samples with testing requirements to WyEast Environmental Sciences will be understood to be an agreement for services in accordance with the conditions listed on the back of the client copy

(4) (\_\_\_) \_\_\_\_



Analyte: Volatile Organics in Soil

Field ID:

\$1-8.5

8/3/05

Lab ID:

Extraction date:

N8449.D

Site Name:

Clearview Plaza

Site Number:

LAC 05-27978.1

Report Number:

	57054
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		Sample	Blank	Quantitation
CAS#	Compound	(mg/Kg)	(mg/Kg)	Limit
67-64-1	Acetone	ND	ND	0.6
71-43-2	Benzene	ND	ND	0.01
108-86-1	Bromobenzene	ND	ND	0.1
74-97-5	Bromochloromethane	ND	ND	0.1
75-27-4	Bromodichloromethane	ND	ND	0.1
75-25-2	Bromoform	ND	ND	0.1
74-83-9	Bromomethane	ND	ND	0.1
78-93-3	2-Butanone (MEK)	ND	ND	0.2
104-51-8	n-Butylbenzene	ND	ND	0.1
135-98-8	sec-Butylbenzene	ND	ND	0.1
98-06-6	tert-Butylbenzene	ND	ND	0.1
56-23-5	Carbon tetrachloride	ND	ND	0.1
108-90-7	Chlorobenzene	ND	ND	0.1
75-00-3	Chloroethane	ND	ND	0.2
67-66-3	Chloroform	ND	ND	0.1
74-87-3	Chloromethane	ND	ND	0.1
95-49-8	2-Chlorotoluene	ND	ND	0.1
106-43-4	4-Chlorotoluene	ND	ND	0.1
128-48-1	Dibromochloromethane	ND	ND	0.1
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND	0.1
106-93-4	1,2-Dibromoethane	ND	ND	0.1
74-95-3	Dibromomethane	ND	ND	0.1
95-50-1	1,2-Dichlorobenzene	ND	ND	0.1
541-73-1	1,3-Dichlorobenzene	ND	ND	0.1
106-46-7	1,4-Dichlorobenzene	ND	ND	0.1
75-71-8	Dichlorodifluoromethane	ND	ND	0.1
75-34-3	I, I-Dichloroethane	ND	ND	0,1
107-06-2	1,2-Dichloroethane	ND	ND	0.1
75-35-4	1,1-Dichloroethylene	ND	ND	0. #
156-59-2	cis-1,2-Dichloroethylene	ND	ND	0. 1
156-60-5	trans-1,2-Dichloroethylene	ND	ND	0.1
78-87-5	1,2-Dichloropropane	ND	ND	0.1
142-28-9	1,3-Dichloropropane	ND	ND	0.1
594-20-7	2,2-Dichloropropane	ND	ND	0.1

Lab ID:	N8449.D	P.		
Luiy 127.	140 1 23.82	Sample	Blank	Quantitation
CAS#	Compound	(mg/Kg)	(mg/Kg)	Limit
563-58-6	1,1-Dichloropropene	ND	ND	0.1
10061-01-5	cis-1,3-Dichloropropene	ND	ND	0.1
10061-02-6	trans-1,3-Dichloropropene	ND	ND	0.1
100-41-4	Ethylbenzene	ND	ND	0.0
87-68-3	Hexachlorobutadiene	ND	ND	0.1
591-78-6	2-Hexanone	ND	ND	0.2
98-82-8	Isopropylbenzene	ND	ND	0.1
99-87-6	p-Isopropyltoluene	ND	ND	0.1
75-09-2	Methylene chloride	ND	ND	0.3
1634-04-4	Methyl-t-butylether (MTBE)	ND	ND	0.1
108-10-1	4-Methyl-2-pentanone	ND	ND	0.2
91-20-3	Naphthalene	ND	ND	0.1
103-65-1	n-Propylbenzene	ND	ND	0.1
100-42-5	Styrene	ND	ND	0.1
630-20-6	1.1.1.2-Tetrachloroethane	ND	ND	0.1
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	0.1
127-18-4	Tetrachloroethylene	ND	ND	0.0
108-88-3	Toluene	ND	ND	0.0
87-61-6	1.2.3-Trichlorobenzene	ND	ND	0.1
120-82-1	1.2.4-Trichlorobenzene	ND	ND	0.1
71-55-6	1.1.1-Trichloroethane	ND	ND	0.1
79-00-5	1,1,2-Trichloroethane	ND	ND	0.1
79-01-6	Trichloroethylene	ND	ND	0.1
75-69-4	Trichlorofluoromethane	ND	ND	0.1
96-18-4	1,2,3-Trichloropropane	ND	ND	0.1
95-63-6	1,2,4-Trimethylbenzene	ND	ND	0.1
108-67-8	1,3,5-Trimethylbenzene	ND	ND	0.1
75-01-4	Vinyl chloride	ND	ND	Ω, \$
1330-20-7	Total Xylenes	ND	ND	0.1
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	95		
107-06-2	1,2-Dichloroethane-d4	95		
108-88-3	Toluene-d8	100		



Analyte: Volatile Organics in Soil

Field ID: Lab ID:

Extraction date:

S2-1

8/3/05

N8450.D

Site Name: Site Number:

Clearview Plaza LAC 05-27978.1

Report Number: 57054

		Sample	Blank	Quantitation
CAS#	Compound	(mg/Kg)	(mg/Kg)	Limit
67-64-1	Acetone	ND	ND	0.7
71-43-2	Benzene	ND	ND	0.02
108-86-1	Bromobenzene	ND	ND	0.1
74-97-5	Bromochloromethane	ND	ND	0.1
75-27-4	Bromodichloromethane	ND	ND	1.0
75-25-2	Bromoform	ND	ND	0.1
74-83-9	Bromomethane	ND	ND	0.1
78-93-3	2-Butanone (MEK)	ND	ND	0.3
104-51-8	n-Butylbenzene	ND	ND	0,1
135-98-8	sec-Butylbenzene	ND	ND	0.1
98-06-6	tert-Butylbenzene	ND	ND	0.1
56-23-5	Carbon tetrachloride	ND	ND	0,1
108-90-7	Chlorobenzene	ND	ND	0.1
75-00-3	Chloroethane	ND	ND	0.2
67-66-3	Chloroform	ND	ND	0.1
74-87-3	Chloromethane	ND	ND	0.1
95-49-8	2-Chlorotoluene	ND	ND	0.1
106-43-4	4-Chlorotoluene	ND	ND	0.1
128-48-1	Dibromochloromethane	ND	ND	O, W
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND	O. 5
106-93-4	1,2-Dibromoethane	ND	ND	(). <b>!</b>
74-95-3	Dibromomethane	ND	ND	0.1
95-50-1	1,2-Dichlorobenzene	ND	ND	0.1
541-73-1	1,3-Dichlorobenzene	ND	ND	0.
106-46-7	1,4-Dichlorobenzene	ND	ND	0.1
75-71-8	Dichlorodifluoromethane	ND	ND	0.1
75-34-3	1,1-Dichloroethane	ND	ND	0. 1
107-06-2	1,2-Dichloroethane	ND	ND	0.1
75-35-4	L, L-Dichloroethylene	ND	ND	0.2
156-59-2	cis-1,2-Dichloroethylene	ND	ND	0.1
156-60-5	trans-1,2-Dichloroethylene	ND	ND	0.1
78-87-5	1,2-Dichloropropane	ND	ND	0.1
142-28-9	1,3-Dichloropropane	ND	ND	0.1
594-20-7	2,2-Dichloropropane	ND	ND	0.1

Lab ID:	N8450.D
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weer it.	110 10 0.22	Sample	Blank	Quantitation
CAS#	Compound	(mg/Kg)	(mg/Kg)	Limit
563-58-6	1,1-Dichloropropene	ND	ND	0.1
10061-01-5	cis-1,3-Dichloropropene	ND	ND	0.1
10061-02-6	trans-1,3-Dichloropropene	ND	ND	0.1
100-41-4	Ethylbenzene	ND	ND	0.0
87-68-3	Hexachlorobutadiene	ND	ND	0.1
591-78-6	2-Hexanone	ND	ND	0.3
98-82-8	Isopropylbenzene	ND	ND	0.1
99-87-6	p-Isopropyltoluene	ND	ND	0.1
75-09-2	Methylene chloride	ND	ND	0.4
1634-04-4	Methyl-t-butylether (MTBE)	ND	ND	0.1
1()8-1()-1	4-Methyl-2-pentanone	ND	ND	0.3
91-20-3	Naphthalene	ND	ND	0.1
103-65-1	n-Propylbenzene	ND	ND	0.1
100-42-5	Styrene	ND	ND	0.1
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND	0.1
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	0.1
127-18-4	Tetrachloroethylene	ND	ND	0.0
108-88-3	Toluene	ND	ND	0.0
87-61-6	1,2,3-Trichlorobenzene	ND	ND	0.1
120-82-1	1,2,4-Trichlorobenzene	ND	ND	0.1
71-55-6	1,1,1-Trichloroethane	ND	ND	0.1
79-00-5	1,1,2-Trichloroethane	ND	ND	0.1
79-01-6	Trichloroethylene	ND	ND	0.1
75-69-4	Trichlorofluoromethane	ИD	ND	0.1
96-18-4	1,2,3-Trichloropropane	ND	ND	0.1
95-63-6	1,2,4-Trimethylbenzene	ND	ND	(), 1
108-67-8	1,3,5-Trimethylbenzene	ND	ND	0.1
75-01-4	Vinyl chloride	ND	ИD	0.1
1330-20-7	Total Xylenes	ND	ND	0.1

	Surrogates:	Percent Recovery:
460-00-4	4-Bromofluorobenzene	91
107-06-2	1,2-Dichlorocthaue-d4	100
108-88-3	Tolucne-d8	95



Analyte: Volatile Organics in Soil

Field ID: S3-1 Site Name: Clearview Plaza Lab ID: N8451.D Site Number: LAC 05-27978.1

Extraction date: 8/3/05 Report Number: 57054

CAS# Compound (mg/Kg) (mg/Kg) Limi	
2.77%	
67-64-1 Acetone ND ND 0.5	
71-43-2 Benzene ND ND 0,01	
108-86-1 Bromobenzene ND ND 0.1	
74-97-5 Bromochloromethane ND ND 0.1	
75-27-4 Bromodichloromethane ND ND 0.1	
75-25-2 Bromoform ND ND 0.1	
74-83-9 Bromomethane ND ND 0.1	
78-93-3 2-Butanone (MEK) ND ND 0.2	
104-51-8 n-Butylbenzene ND ND 0.1	
135-98-8 sec-Butylbenzene ND ND 0.1	
98-06-6 tert-Butylbenzene ND ND 0.1	
56-23-5 Carbon tetrachloride ND ND 0.1	
108-90-7 Chlorobenzene ND ND 0.1	
75-00-3 Chloroethane ND ND 0.2	
67-66-3 Chloroform ND ND 0.1	
74-87-3 Chloromethane ND ND 0.1	
95-49-8 2-Chlorotoluene ND ND 0.1	
106-43-4 4-Chlorotoluene ND ND 0.1	
128-48-1 Dibromochloromethane ND ND 0.1	
96-12-8 1,2-Dibromo-3-chloropropane ND ND 0.1	
106-93-4 1,2-Dibromoethane ND ND 0.1	
74-95-3 Dibromomethane ND ND 0.1	
95-50-1 1,2-Dichlorobenzene ND ND 0.1	
541-73-1 1,3-Dichlorobenzene ND ND 0.1	
106-46-7 I,4-Dichlorobenzene ND ND 0.1	
75-71-8 Dichlorodifluoromethane ND ND 0.1	
75-34-3 1,1-Dichloroethane ND ND 0.1	
107-06-2 1,2-Dichloroethane ND ND 0.1	
75-35-4 1,1-Dichloroethylene ND ND 0.1	
156-59-2 cis-1,2-Dichloroethylene ND ND 0.1	
156-60-5 trans-1,2-Dichloroethylene ND ND 0.1	
78-87-5 1,2-Dichloropropane ND ND 0.1	
142-28-9 1,3-Dichloropropane ND ND 0.1	
594-20-7 2,2-Dichloropropane ND ND 0.1	

Lab	ID:	N8451.D

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0.107		Sample	Blank	Quantitation
CAS#	Compound	(mg/Kg)	(mg/Kg)	Limit
563-58-6	I, I-Dichloropropene	ND	ND	0.1
10061-01-5	cis-1,3-Dichloropropene	ND	ND	0.1
10061-02-6	trans-1,3-Dichloropropene	ND	ND	0.1
100-41-4	Ethylbenzene	ND	ND	0.0
87-68-3	Hexachlorobutadiene	ND	ND	0.1
591-78-6	2-Hexanone	ND	ND	0.2
98-82-8	Isopropylbenzene	ND	ND	0.1
99-87-6	p-Isopropyltoluene	ND	ND	0.1
75-09-2	Methylene chloride	ND	ND	0.3
1634-04-4	Methyl-t-butylether (MTBE)	ND	ND	0.1
108-10-1	4-Methyl-2-pentanone	ND	ND	0.2
91-20-3	Naphthalene	ND	ND	0.1
103-65-1	n-Propylbenzene	ND	ND	0.1
100-42-5	Styrene	ND	ND	0.1
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND	0.1
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	0.1
127-18-4	Tetrachloroethylene	0.1	ND	0.0
108-88-3	Tolucne	ND	ND	0.0
87-61-6	1,2,3-Trichlorobenzene	ND	ND	0.1
120-82-1	1,2,4-Trichlorobenzene	ND	ND	0.1
71-55-6	1,1,1-Trichloroethane	ND	ND	0.1
79-00-5	1,1,2-Trichloroethane	ND	ND	0.1
79-01-6	Trichloroethylene	ND	ND	0.1
75-69-4	Trichlorofluoromethane	ND	ND	0.1
96-18-4	1,2,3-Trichloropropane	ND	ND	0.1
95-63-6	1,2,4-Trimethylbenzene	ND	ND	0.1
108-67-8	1,3,5-Trimethylbenzene	ND	ND	0.1
75-01-4	Vinyl chloride	ND	ND	0.1
1330-20-7	Total Xylenes	ND	ND	0.1
	r ·			

	Surrogates:	Percent Recovery:
460-00-4	4-Bromofluorobenzene	91
107-06-2	1,2-Dichloroethane-d4	97
108-88-3	Toluene-d8	96

Quantitation



EPA Method 8260

Analyte: Volatile Organics in Soil

Field ID: Lab ID: S4-2

N8452.D

Site Name:

Clearview Plaza LAC 05-27978.1

Blank

Site Number:

Sample

Report Number: 57054

Extra	ction	date	
		that is	

8/3/05

CAS#	Compound	(mg/Kg)	(mg/Kg)	Limit
67-64-1	Acetone	ND	ND	0.7
71-43-2	Benzene	ND	ND	0.02
108-86-1	Bromobenzene	ND	ND	0.1
74-97-5	Bromochloromethane	ND	ND	0.1
75-27-4	Bromodichloromethane	ND	ND	0.1
75-25-2	Bromoform	ND	ND	0.1
74-83-9	Bromomethane	ND	ND	0.1
78-93-3	2-Butanone (MEK)	ND	ND	0.3
104-51-8	n-Butylbenzene	ND	ND	0.1
135-98-8	sec-Butylbenzene	ND	ND	0.1
98-06-6	tert-Butylbenzene	ND	ND	0.1
56-23-5	Carbon tetrachloride	ND	ND	0.1
108-90-7	Chlorobenzene	ND	ND	0.1
75-00-3	Chloroethane	ND	ND	0.2
67-66-3	Chloroform	ND	ND	0.1
74-87-3	Chloromethane	ND	ND	0.1
95-49-8	2-Chlorotoluene	ND	ND	0.1
106-43-4	4-Chlorotoluene	ND	ND	0.1
128-48-1	Dibromochloromethane	ND	ND	0.1
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND	0.1
106-93-4	1,2-Dibromoethane	ND	ND	0.1
74-95-3	Dibromomethane	ND	ND	0.1
95-50-1	1,2-Dichlorobenzene	ND	ND	0.1
541-73-1	1,3-Dichlorobenzene	ND	ND	0.1
106-46-7	1,4-Dichlorobenzene	ND	ND	0.1
75-71-8	Dichlorodifluoromethane	ND	ND	0.1
75-34-3	1,1-Dichloroethane	ND	ND	0.1
107-06-2	1,2-Dichloroethane	ND	ND	0.1
75-35-4	1,1-Dichloroethylene	ND	ND	0.2
156-59-2	cis-1,2-Dichloroethylene	ND	ND	0.1
156 <b>-</b> 60-5	trans-1,2-Dichloroethylene	ND	ND	0.1
78-87-5	1,2-Dichloropropane	ND	ND	0.1

1,3-Dichloropropane

2,2-Dichloropropane

142-28-9

594-20-7

0.1

0.1

ND

ND

ND

ND

Lab ID:	N8452.D			x ago
		Sample	Blank	Quantitation
CAS#	Compound	(mg/Kg)	(mg/Kg)	Limit
563-58-6	l, l-Dichloropropene	ND	ND	0.1
10061-01-5	cis-1,3-Dichloropropene	ND	ND	0.1
10061-02-6	trans-1,3-Dichloropropene	ND	ND	0.1
100-41-4	Ethylbenzene	ND	ND	0.0
87-68-3	Hexachlorobutadiene	ND	ND	1.0
591-78-6	2-Hexanone	ND	ND	0.3
98-82-8	Isopropylbenzene	ND	ND	0.1
99-87-6	p-Isopropyltoluene	ND	ND	0.1
75-09-2	Methylene chloride	ND	ND	0.4
1634-04-4	Methyl-t-butylether (MTBE)	ND	ND	0.1
108-10-1	4-Methyl-2-pentanone	ND	ND	0.3
91-20-3	Naphthalene	ND	ND	0.1
103-65-1	n-Propylbenzene	ND	ND	0.1
100-42-5	Styrene	ND	ND	0.1
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND	0.1
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	0.1
127-18-4	Tetrachloroethylene	0.3	ND	0.0
108-88-3	Toluene	ND	ND	0.0
87-61-6	1,2,3-Trichlorobenzene	ND	ND	0.1
120-82-1	1,2,4-Trichlorobenzene	ND	ND	0.1
71-55-6	1,1,1-Trichloroethane	ND	ND	0.1
79-00-5	1,1,2-Trichloroethane	ND	ND	0.1
79-01-6	Trichloroethylene	ND	ND	0.1
75-69-4	Trichlorofluoromethane	ND	ND	0.1
96-18-4	1,2,3-Trichloropropane	ND	ND	0.1
95-63-6	1,2,4-Trimethylbenzene	ND	ND	0.1
108-67-8	1.3.5-Trimethylbenzene	ND	ND	0.1
75-01-4	Vinyl chloride	ND	ND	0.1
1330-20-7	Total Xylenes	ND	ND	0.1
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	88		
107-06-2	1,2-Dichloroethane-d4	95		
		the state of the s		

93

108-88-3

Toluene-d8



Analyte: Volatile Organics in water

Field ID:

W-2

Lab ID:

N8453.D

Analysis date: 8/3/05

Site Name:

Clearview Plaza

Site Number:

LAC 05-27978.1

Report Number: 57054

		Sample	Blank	Quantitation
CAS#	Compound	(µg/L)	(µg/L)	Limit
67-64-1	Acetone	ND	ND	20
71-43-2	Benzene	ND	ND	0.5
108-86-1	Bromobenzene	ND	ND	2
74-97-5	Bromochloromethane	ND	ND	2
75-27-4	Bromodichloromethane	ND	ND	2
75-25-2	Bromoform	ND	ND	2
74-83-9	Bromomethane	ND	ND	3
78-93-3	2-Butanone (MEK)	ND	ND	
104-51-8	n-Butylbenzene	ND	ND	2
135-98-8	sec-Butylbenzene	ND	ND	2
98-06-6	tert-Butylbenzene	ND	ND	2
56-23-5	Carbon tetrachloride	ND	ND	2
108-90-7	Chlorobenzene	ND	ND	2
75-00-3	Chloroethane	ND	ND	6
67-66-3	Chloroform	ND	ND	2
74-87-3	Chloromethane	ND	ND	2
95-49-8	2-Chlorotoluene	ND	ND	2
106-43-4	4-Chlorotoluene	ND	ND	2
128-48-1	Dibromochloromethane	ND	ND	2
96-12-8	1,2-Dibromo-3-chloropropane	ND	ND	2
106-93-4	1,2-Dibromoethane	ND	ND	2
74-95-3	Dibromomethane	ND	ND	2
95-50-1	1,2-Dichlorobenzene	ND	ND	2
541-73-1	1,3-Dichlorobenzene	ND	ND	2
106-46-7	1,4-Dichlorobenzene	ND	ND	2
75-71-8	Dichlorodifluoromethane	ND	ND	4
75-34-3	I,I-Dichloroethane	ND	ND	2
107-06-2	1,2-Dichloroethane	ND	ND	2
75-35-4	1,1-Dichloroethylene	ND	ND	5
156-59-2	cis-1,2-Dichloroethylene	ND	ND	3
156-60-5	trans-1,2-Dichloroethylene	ND	ND	2
78-87-5	1,2-Dichloropropane	ND	ND	2
142-28-9	1,3-Dichloropropane	ND	ND	2
594-20-7	2,2-Dichloropropane	ND	ND	2

Lab ID:	N8453,D			
		Sample	Blank	Quantitation
CAS#	Compound	(μg/L)	(µg/L)	Limit
563-58-6	1,1-Dichloropropene	ND	ND	2
10061-01-5	cis-1,3-Dichloropropene	ND	ND	2
10061-02-6	trans-1,3-Dichloropropene	ND	ND	2
100-41-4	Ethylbenzene	ND	ND	
87=68=3	Hexachlorobutadiene	ND	ND	2
591-78-6	2-Hexanone	ND	ND	14)
98-82-8	Isopropylbenzene	ND	ND	2
99-87-6	p-Isopropyltoluene	ND	ND	2
75-09-2	Methylene chloride	ND	ND	2
108-10-1	Methyl-t-butylether (MTBE)	ND	ND	4
108-10-1	4-Methyl-2-pentanone	ND	ND	10
91-20-3	Naphthalene	ND	ND	3
103-65-1	n-Propylbenzene	ND	ND	3
100-42-5	Styrene	ND	ND	2
630-20-6	1,1,1,2-Tetrachloroethane	ND	ND	2
79-34-5	1,1,2,2-Tetrachloroethane	ND	ND	2
127-18-4	Tetrachloroethylene	ND	ND	2
108-88-3	Toluene	ND	ND	1
87-61-6	1.2,3-Trichlorobenzene	ND	ND	3
120-82-1	1,2,4-Trichlorobenzene	ND	ND	3
71-55-6	1,1,1-Trichloroethane	ND	ND	2
79-00-5	1,1,2-Trichloroethane	ND	ND	2
79-01-6	Trichloroethylene	ND	ND	2
75-69-4	Trichlorofluoromethane	ND	ND	3
96-18-4	1,2,3-Trichloropropane	ND	ND	3
95-63-6	1,2,4-Trimethylbenzene	ND	ND	2
108-67-8	1,3,5-Trimethylbenzene	ND	ND	2
75-01-4	Vinyl chloride	ND	ND	<i>ii</i> <b>k</b>
1330-20-7	Total Xylenes	ND	ND	2
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	93		
107-06-2	1,2-Dichloroethane-d4	91		
108-88-3	Toluene-d8	108		