

**GROUND WATER
QUARTERLY STATUS REPORT**

Lakewood Mall I & II
10509 Gravelly Lake Drive SW
Lakewood, Washington

Prepared for

Perkins Coie, LLP
1201 Third Avenue, 40th Floor
Seattle, Washington 98101

Prepared by

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June 26, 2001

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Washington State
Department of Ecology

Introduction

This quarterly status report summarizes second round ground water monitoring and sampling activities conducted at the Lakewood Mall site located in Lakewood, Washington on May 17, 2001. Since the Lakewood Mall site characterization project began in the summer of 2000, Herrera Environmental Consultants, Inc. (Herrera) has prepared and provided the following deliverables to Perkins Coie, LLP:

Date	Deliverables
February 2001	Phase II Environmental Site Assessment
March 2001	Ground Water Quarterly Status Report (first quarter)

Analytical results of samples collected during these field investigations indicate that a dry cleaner solvent, perchloroethylene (PCE), was detected in ground water across the northwest portion of the site. The main source area has been identified by the presence of elevated PCE and its degradation byproducts in shallow ground water near the former east concourse building, which was occupied by a dry cleaner between 1968 and 1987. As part of site characterization activities, seven ground water monitoring wells were installed in the following locations:

- MW-1s (shallow), MW-1m (mid depth), and MW-1d (deep) in the source area
- MW-2d (deep) upgradient of the source area
- MW-3 (shallow) at the northwest property boundary (approximately 1,300 feet downgradient of the source area)
- MW-4 (shallow) immediately downgradient of the source area
- MW-5 (shallow) immediately downgradient of the source area.

Monitoring and sampling were performed at MW-1s, MW-3, MW-4, and MW-5 during this second quarterly sampling event; depth to ground water also was measured at MW-1m, MW-1d, and MW-2d (Figure 1). Water from the four shallow wells was analyzed for evidence of dry cleaning solvents and their degradation by-products.

Ground Water Conditions

Ground water levels were measured on May 17, 2001 at each of the seven monitoring wells. Static ground water levels were encountered at depths ranging from 9.47 feet below ground surface in well MW-2d to 16.76 feet below ground surface in well MW-3. Ground water elevation data collected from these wells indicate a general ground water flow direction toward

the west, with an average hydraulic gradient of less than 0.01 feet per foot. The overall flow direction and gradient are consistent with previous monitoring data collected during July and September 2000 site characterization efforts, and during the February 2001 quarterly monitoring and sampling event.

Sampling Procedure and Analysis

Ground water samples were collected for chemical analysis from the four shallow wells on May 17, 2001 using a low-flow purge method with dedicated polyethylene tubing and a peristaltic pump. Sample MW-6 is a duplicate sample collected from well MW-1s. Five water samples were submitted to OnSite Environmental, Inc. of Redmond, Washington for analysis of halogenated volatile organic compounds (HVOCs) using U.S. Environmental Protection Agency method 8260B. The complete laboratory analytical package, including the sample chain-of-custody form, is attached.

The analytical results of five ground water samples tested for HVOCs were determined to be acceptable for use based on the following criteria:

- Custody, preservation, holding times, and completeness—Sample custody was properly maintained from sample collection to receipt at the laboratory. All five water samples were extracted and analyzed within the maximum holding time (14 days). The laboratory data package was complete.
- Laboratory reporting limits—The laboratory reporting (practical quantitation) limits for water HVOCs are below regulatory criteria (i.e., WAC 173-340), with the exception of 1,1-DCE; therefore, usability of 1,1-DCE data for all five water samples is limited.
- Method blank analysis—No HVOC constituents were detected above instrument detection limits in the method blank for this analysis. No field blanks were collected.
- Surrogate analysis—Three surrogate compounds were analyzed with the project samples and method blank in accordance with the method. As shown in Table 1, surrogate recovery values for each compound were within their respective laboratory quality control limits. No samples required dilution.
- Spike blank analysis—Five HVOC compounds were analyzed with a non-project (spike blank) sample SB0521W1 as the spike blank/spike blank duplicate (SB/SBD). Blank spike levels were 10 to 50 times the laboratory reporting (practical quantitation) limits. Percent recoveries were correctly calculated for the spike blank sample. As shown in Table 2, percent recovery values for each compound were within their respective laboratory quality control limits.

- Duplicate analysis—A non-project (spike blank) sample SB0521W1 was analyzed in duplicate as the SB/SBD. As shown in Table 3, the relative percent difference (RPD) values of all five compounds were within their respective laboratory quality control limits.
- Field duplicate analysis—Water sample MW-6 was analyzed as the field duplicate to water sample MW-1s. The RPD values of all detected compounds are shown in Table 4.

Ground Water Analytical Results

Analytical results of ground water samples collected from wells MW-1s, MW-3, MW-4, and MW-5 are summarized in Table 5, and illustrated in Figure 1. Contaminants of concern found at the Lakewood Mall site include:

PCE – perchloroethylene or tetrachloroethylene
TCE – trichloroethylene
cis DCE – cis 1,2-dichloroethylene
trans DCE – trans 1,2-dichloroethylene
1,1 DCE – 1,1 dichloroethene
1,1 DCA – 1,1 dichloroethane
1,4 DCB – 1,4 dichlorobenzene
Vinyl chloride
Chloroform

Sampling performed in May 2001 represents the third assessment of ground water quality at each of the four well locations. Although concentrations of most contaminants of concern increased compared to concentrations detected in samples collected in February 2001, they have all decreased compared to the first round of sampling in September. Vinyl chloride concentrations have decreased for two quarters following the initial sampling event. The highest concentrations of each contaminant continue to be found in the source area, represented by MW-1s; concentrations of all contaminants of concern detected in this well increased to similar levels found in samples collected in September 2000. Model Toxics Control Act (MTCA) method A and B cleanup levels are exceeded by four compounds in the source area. Cis DCE also was detected at MW-4 at a concentration (100 $\mu\text{g/L}$) exceeding the MTCA method B cleanup level of 80 $\mu\text{g/L}$. No exceedences were identified for any compounds downgradient of the source area in the two remaining wells during this second quarterly sampling event.

Table 1. Laboratory Surrogate recovery quality control results.

Compound	Project Water Samples Percent Recoveries	Method Blank Percent Recovery	Laboratory QC Limits Water
Dibromofluoromethane	120-133	126	71-133
Toluene-d8	93-99	95	80-151
4-Bromofluorobenzene	97-104	109	75-139

Table 2. Laboratory spike blank quality control results.

Compound	Spike Blank Percent Recoveries Water	Spike Blank Duplicate Percent Recoveries Water	Laboratory QC Limits Water
1,1-Dichloroethene	79	90	69-113
Benzene	89	97	72-128
Trichloroethene	87	97	82-122
Toluene	74	82	54-118
Chlorobenzene	96	94	86-103

Table 3. Laboratory duplicate analysis quality control results.

Compound	SB/SBD RPD Values Water	Laboratory QC Limits Water
1,1-Dichloroethene	12	0-15
Benzene	9.3	0-10
Trichloroethene	9.9	0-12
Toluene	11	0-15
Chlorobenzene	1.5	0-6

Table 4. Field duplicate analysis quality control results.

Compound	Project Water Sample MW-1s	Field Duplicate Water Sample MW-6	Relative Percent Difference
Tetrachloroethene (PCE)	2.3	2.3	0
Trichloroethene (TCE)	18	18	0
cis 1,2-Dichloroethene (cis DCE)	600	620	3.3
trans 1,2-Dichloroethene (trans DCE)	10	9.6	4.1
1,1-Dichloroethene (1,1-DCE)	0.64	0.61	5
1,1-Dichloroethane (1,1-DCA)	5.5	5.2	6
Vinyl chloride	41	40	2.5
1,4-Dichlorobenzene (1,4-DCB)	0.30	0.27	10.5

Table 5. HVOC results for ground water samples collected at the Lakewood Mall ($\mu\text{g/L}$).

Well identification	Date sampled	PCE	TCE	cis DCE	trans DCE	1,1-DCE	1,1-DCA	Vinyl chloride	1,4-DCB	Chloroform
<i>MTCA method A cleanup level^a</i>		5	5	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	0.2	<i>na</i>	<i>na</i>
<i>MTCA method B cleanup level^b</i>		0.858	3.98	80	160	0.0729	800	0.023	1.82	7.17
MW-1s	9/15/00	2.2	19	670	14	0.76	6.1	52	0.25	1.3
	2/12/01	1.2	15	390	8.2	0.37	3.1	47	(0.20)	(0.20)
	5/17/01	2.3	18	600	10	0.64	5.5	41	0.30	(0.20)
MW-1m	7/21/00	0.80	0.45	5.0	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
MW-1d	7/21/00	0.50	(0.20)	0.29	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
MW-2d	7/21/00	0.73	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
MW-3	7/21/00	0.69	(0.20)	1.1	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
	2/12/01	0.66	(0.20)	0.23	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
	5/17/01	0.64	(0.20)	1.3	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
MW-4	9/15/00	1.6	4.9	120	2.8	(0.20)	1.0	(0.20)	(0.20)	(0.20)
	2/12/01	1.0	2.3	48	0.90	(0.20)	0.22	(0.20)	(0.20)	(0.20)
	5/17/01	1.0	3.4	100	1.6	(0.20)	1.0	(0.20)	(0.20)	(0.20)
MW-5	9/15/00	1.2	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
	2/12/01	0.70	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
	5/17/01	0.62	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)

Values in boldface type indicate constituent detected above MTCA method A or method B cleanup level.

(0.20) Analyte was not detected above the practical quantitation limit indicated.

na Established ground water cleanup level for this constituent is not available.

^a MTCA—Model Toxics Control Act method A ground water cleanup regulation (Department of Ecology publication 94-06, 1996).

^b MTCA method B ground water cleanup levels (Department of Ecology publication 94-145, updated 1996).

Shaded values represent results of the current sampling event.

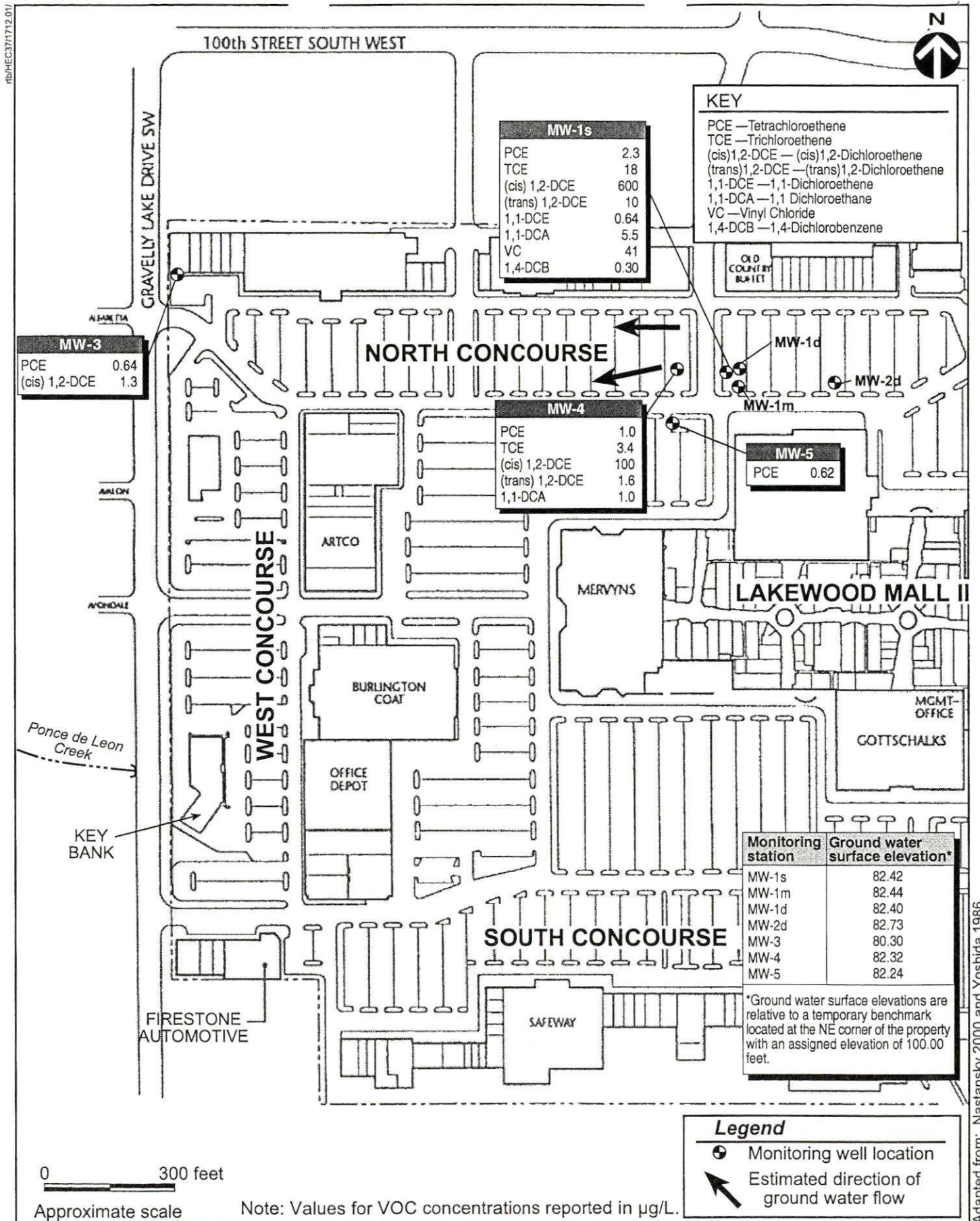


Figure 1. VOC concentrations in ground water and inferred groundwater flow gradient, May 17, 2001, Lakewood Mall site, Lakewood, Washington.



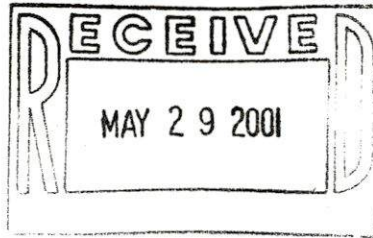
**OnSite
Environmental Inc.**

Analytical Testing and Mobile Laboratory Services

May 25, 2001

Peter Jowise
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 601
Seattle, WA 98121

Re: Analytical Data for Project C00-01712-001
Laboratory Reference No. 0105-130



Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on May 17, 2001.

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

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

Sincerely,


David Baumeister
Project Manager

Enclosures

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 1 of 2

Date Extracted: 5-21-01
 Date Analyzed: 5-21-01
 Matrix: Water
 Units: ug/L (ppb)
 Lab ID: 05-130-01
 Client ID: MW-1s

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	41		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	0.64		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	10		0.20
1,1-Dichloroethane	5.5		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	600		20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	18		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	2.3		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 2 of 2

Lab ID: 05-130-01
 Client ID: MW-1s

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	0.30		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	122	71-133
Toluene-d8	94	80-151
4-Bromofluorobenzene	103	75-139

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 1 of 2

Date Extracted: 5-21-01
 Date Analyzed: 5-21-01
 Matrix: Water
 Units: ug/L (ppb)
 Lab ID: 05-130-02
 Client ID: MW-3

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	1.3		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.64		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 2 of 2

Lab ID: 05-130-02
 Client ID: MW-3

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	133	71-133
Toluene-d8	93	80-151
4-Bromofluorobenzene	97	75-139

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B
 Page 1 of 2

Date Extracted: 5-21-01
 Date Analyzed: 5-21-01
 Matrix: Water
 Units: ug/L (ppb)
 Lab ID: 05-130-03
 Client ID: MW-4

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	1.6		0.20
1,1-Dichloroethane	1.0		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	100		20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	3.4		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	1.0		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 2 of 2

Lab ID: 05-130-03
 Client ID: MW-4

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	125	71-133
Toluene-d8	99	80-151
4-Bromofluorobenzene	104	75-139

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 1 of 2

Date Extracted: 5-21-01
 Date Analyzed: 5-21-01
 Matrix: Water
 Units: ug/L (ppb)
 Lab ID: 05-130-04
 Client ID: MW-5

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	0.62		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 2 of 2

Lab ID: 05-130-04
 Client ID: MW-5

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	124	71-133
Toluene-d8	95	80-151
4-Bromofluorobenzene	101	75-139

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B
 Page 1 of 2

Date Extracted: 5-21-01
 Date Analyzed: 5-21-01
 Matrix: Water
 Units: ug/L (ppb)
 Lab ID: 05-130-05
 Client ID: MW-6

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	40		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	0.61		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	9.6		0.20
1,1-Dichloroethane	5.2		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	620		20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	18		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	2.3		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

HALOGENATED VOLATILES by EPA 8260B

Page 2 of 2

Lab ID: 05-130-05
 Client ID: MW-6

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	0.27		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	120	71-133
Toluene-d8	95	80-151
4-Bromofluorobenzene	99	75-139

Date of Report: May 25, 2001
Samples Submitted: May 17, 2001
Lab Traveler: 05-130
Project: C00-01712-001

**HALOGENATED VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL**

Page 1 of 2

Date Extracted: 5-21-01
Date Analyzed: 5-21-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0521W1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
1,1-Dichloroethane	ND		0.20
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20

Date of Report: May 25, 2001
 Samples Submitted: May 17, 2001
 Lab Traveler: 05-130
 Project: C00-01712-001

**HALOGENATED VOLATILES by EPA 8260B
 METHOD BLANK QUALITY CONTROL**

Page 2 of 2

Lab ID: MB0521W1

Compound	Results	Flags	PQL
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Bromoform	ND		1.0
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.30
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	126	71-133
Toluene-d8	95	80-151
4-Bromofluorobenzene	109	75-139

Date of Report: May 25, 2001
Samples Submitted: May 17, 2001
Lab Traveler: 05-130
Project: C00-01712-001

**HALOGENATED VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL**

Date Extracted: 5-21-01
Date Analyzed: 5-21-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0521W1

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	7.94	79	8.98	90	12	
Benzene	10.0	8.85	89	9.72	97	9.3	
Trichloroethene	10.0	8.75	87	9.66	97	9.9	
Toluene	10.0	7.35	74	8.24	82	11	
Chlorobenzene	10.0	9.57	96	9.43	94	1.5	



DATA QUALIFIERS AND ABBREVIATIONS

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1: ____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

O - Hydrocarbons outside the defined gasoline range are present in the sample; NWTPH-Dx recommended.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected at PQL

MRL - Method Reporting Limit

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



OnSite Environmental Inc.

14648 NE 95th Street • Redmond, WA 98052
 Fax: (425) 885-4603 • Phone: (425) 883-3881

Chain of Custody

Turnaround Request (in working days)		Requested Analysis																			
<input type="checkbox"/> Same Day <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input checked="" type="checkbox"/> Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)		Project Chemist: <u>DAVID BAUMEISTER</u>																			
<input type="checkbox"/> (other)		Laboratory No.																			
Company: <u>PEREIRA ENVIRONMENTAL CONSULTANTS</u>		Project Chemist: <u>DAVID BAUMEISTER</u>																			
Project No.: <u>COO-01718-CO1</u>		Project Chemist: <u>DAVID BAUMEISTER</u>																			
Project Name: <u>LMALLAMON</u>		Project Chemist: <u>DAVID BAUMEISTER</u>																			
Project Manager: <u>PETER UOWISE</u>		Project Chemist: <u>DAVID BAUMEISTER</u>																			
Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-GX/BTEX	NWTPH-DX	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCBs by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture		
1	MW-15	5-17-01	1155	W	3				X												
2	MW-3		1010	W	3				X												
3	MW-4		1315	W	3				X												
4	MW-5		1420	W	3				X												
5	MW-6		1120	W	3				X												



FORM 2 NOTIFICATION OF DANGEROUS WASTE ACTIVITIES

Washington State Department of Ecology
Attn: DW Notifications
P.O. Box 47658
Olympia, WA 98504-7658
(360) 407-6737

Date Received: JUL 02 2001

Note: Failure to properly and completely fill out your form may delay processing and/or cause your form to be returned for completion. Associated page numbers with detailed instructions are listed for each section.

1. Notification. Please select one of the following choices. (p.5)

1.a. New notification
if 1.a., complete entire form

OR 1.b. Existing RCRA Site ID# WA 0000048884
if 1.b., choose desired action below and fill in effective date.

DEPARTMENTAL USE ONLY									
WA									

Revise Notification (complete entire form)

Indicate which sections are being revised _____

Reactivate Site ID# (complete entire form)

Withdraw/Cancel Site ID# (skip sections 8 and 9)

Effective date of change: 10/28/1999 2000
mm dd yyyy

2. Site Information (p.7)

Company Name Ritz/Kits Camera # 1020
Site Location 10509 Gravely LAKE DR STE 56
City/State/Zip TACOMA, WA 98499 County Pierce
Revenue Number 601580388
SIC Code 7384 Type of business Retail camera with 1-hr photo finishing

3. Company Mailing Address (p.7)

Name Ritz camera centers
Address 6711 Ritz way
City/State/Zip Beltsville, MD 20705

4a. Legal Owner of this site (p.7)

Name Ritz Camera Centers Inc.
Mailing Address 6711 Ritz way
City/State/Zip Beltsville, MD 20705
Phone (301) 419-0000 ext 305
Owner Since 11/97

4b. Legal Ownership Type

Please Circle

- F = Federal S = State
- I = Tribal Trust **P = Private**
- C = County M = Municipal
- D = District O = Other

5a. Land Owner of this site (p.8)

Name Lakewood RE LLC
Mailing Address Dept. 6673
City/State/Zip EL Monte CA 91735
Phone (253) 584-6191 ext _____

5b. Land Ownership Type

Please Circle

- F = Federal S = State
- I = Tribal Trust **P = Private**
- C = County M = Municipal
- D = District O = Other

RCRA Site ID # (p.5) WAD 000 048 884
 Name of site (same as section 2) Ritz/Kits Camera #1020

6. Site Contact for visits and inspections (p.8)

Name/Title Use: Tom Kelly info below
 Mailing Address facility has been closed since 10/28/99
 City/State/Zip _____
 Phone () _____ EXT _____ E-Mail Address _____

7. Forms Contact for notifications and annual reports (p.8)

Name/Title Tom Kelly - Director operations
 Mailing Address 6711 Ritz way
 City/State/Zip Beltsville, MD 20705
 Phone (301) 419-0000 EXT 305 E-Mail Address _____

8. Hazardous Waste Generator Status and Activities

Indicate the facility's generator status by checking the appropriate boxes below. Check all that apply.

8.a. Dangerous waste activity (p.8-13)

1. Generator
 a. Greater than 2,200 lbs
 b. 220-2,200 lbs
 c. less than 220 lbs
 No regulated dangerous waste generated
2. Frequency
 a. Monthly
 b. Batch
 c. One-Time Only*

3. Transporter (indicate mode in boxes 1-5 below)
 a. Transport own waste
 b. Transport for commercial purposes
 c. Transfer facility

- Mode of Transportation
 1. Air
 2. Rail
 3. Highway
 4. Water
 5. Other- specify: _____

4. Treater, Storer, Disposer Activity (at installation). Note: A RCRA Permit is required for this activity.
 a. Treatment Facility
 b. Storage Facility
 c. Disposal Facility
 d. Is activity for waste generated on-site
 e. Is activity for waste generated off-site
 f. No longer RCRA-TSD Active

5. Dangerous Waste Fuel Activity
 a. Generator of Fuel
 b. Generator Marketing to Burner
 c. Other Marketers (i.e., blender, distributor)
 d. Burner (indicate type of combustion unit)
 1. Utility boiler
 2. Industrial boiler
 3. Industrial furnace
 e. Deferrals/Exemptions (in federal registers only)
 1. Smelter deferral
 2. Small quantity exemption
 3. Other (list)

6. Immediate recycler
 7. Permit by Rule facility
 8. Treatment by Generator
 9. Mixed Radioactive

10. LQHUW (Large Quantity Handler of Universal Waste)
 a. Batteries
 b. Mercury containing thermostats
 c. Lamps

8.b. Used oil fuel activities (p.11-12)

1. Used oil fuel marketer
 a. Directs shipment of used oil to used oil burner
 b. First claims the used oil meets the specifications
2. Used oil burner - indicate type(s) of combustion device(s)
 a. Utility boiler
 b. Industrial boiler
 c. Industrial furnace
3. Used oil transporter - indicate type(s) of activity(ies)
 a. Transporter
 b. Transfer facility
4. Used oil processor/re-refiner - indicate type(s) of activity(ies)
 a. Process
 b. Re-refine

*Once you have disposed of the waste, you must complete a notification to withdraw/cancel the site RCRA Site ID number.

RCRA Site ID # (p.5) WA 0 0 0 0 4 8 8 8 4
 Name of site (same as section 2) Ritz/Kits camera # 1020

9a. Waste Description (p.12)

Had been minor photographic waste - Fixer, Bleach-Fix, and washless stabilizers silver bearing - ALL silver bearing waste were recovered through proper silver recovery system - All operations ceased 10/28/99

9b. Waste Codes: (p.12-13)

1. Listed (WAC 173-303-9903, and -090): Fill in those codes that best describe your waste(s).

D 0 1 1

2. Characteristics (WAC 173-309-090): Identify (circle or fill in) those codes that best describe your waste(s).

D001	D002	WSC2	D003	TCLP _____
Ignitable	Corrosive	Solid Corrosive	Reactive	

3. State (WAC 173-303-100): Circle those codes that best describe your waste(s).

WT01	WT02	WP01	WP02	WP03	WL01	WL02
Toxic		Persistent			Labpack	

10. Comments (p.13)

Small 1-hr photofinishing operation closed on 10/28/99. No waste generated - no operations since that date. All equipment including silver recovery system properly shut down and removed.

11. Notification checklist (p.13)

- Did you sign and date the notification form?
- Did you keep a copy for your files?
- Did you complete the correct sections of this notification form to fit your situation? (See section 1 - Notification).
- If you are Withdrawing/Canceling your RCRA Site ID number, you are responsible for annual reports up to the date your regulated dangerous waste activities ended. Did you submit your completed annual report with this request for Withdraw/Cancel?

Submitted form 2000

12. Certification (p.13) **This form cannot be processed without a signature**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.


 Signature

Tom Kelly - Dir. operations
 Name and official title (type or print)

6/29/01
 Date signed

Cline, Chuck

From: Brad Harp [BHarp@tpchd.org]
Sent: Wednesday, June 27, 2001 3:54 PM
To: Cline, Chuck
Subject: Lakewood Mall

Chuck:

I asked around the department regarding the PCE at the lakewood mall. We did look at the incident in regard to flow to Ponce de Leon Creek. There was an investigation regarding the drain tiles that fed into the creek and VOC samples at the discharge point from the mall to the creek. All of our sample results came back non-detect.

Other than that info, I am unaware of any other data we may have on this site.

Brad

ATTORNEYS AT LAW • FOUNDED 1873
600 WEST BROADWAY, SUITE 2600 • SAN DIEGO, CALIFORNIA 92101-3372
TELEPHONE 619.236.1414 • FACSIMILE 619.232.8311



FACSIMILE DOCUMENT

DATE: June 25, 2001

TO: Chuck Cline

FIRM: Department of Ecology

CITY, STATE: Olympia, Washington

FAX TELEPHONE NUMBER: 1-360-407-6305

CONFIRMING NUMBER: 1-360-407-6000

FROM: Christine M. Baumgardt

DIRECT DIAL: 619.699.2598 DIRECT FAX: 619.645.5365

TRANSMITTING: 12 PAGES (including cover page)

ADDITIONAL COMMENTS OR INSTRUCTIONS: Documents for Lakewood Mall, as requested.

PRIVILEGED AND CONFIDENTIAL - All information transmitted hereby is intended only for the use of the addressee(s) named above. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient(s), please note that any distribution or copying of this communication is strictly prohibited. Anyone who receives this communication in error should notify us immediately by telephone and return the original message to us.

IF YOU DO NOT RECEIVE THE ENTIRE FAX, CALL 619.235.3541
BETWEEN THE HOURS OF 8:00 a.m. AND 6:00 p.m.
AFTER 6:00 p.m. AND ON WEEKENDS, CALL 619.699.2478.

TIME/DATE TRANSMITTED BY OPERATOR: June 25, 2001 at 2:01

17471-00007

(TO BE COMPLETED BY SENDER)

ATTORNEY: Christine M. Baumgardt

97625 17471-00007
(USER NO./CLIENT-MATTER NO.)

(TO BE COMPLETED BY OPERATOR)

TIME: 2:01

DATE: June 25, 2001

OPERATOR: CO #315

FAX TELEPHONE NO: 1-360-407-6305

CONFIRMING NUMBER: 1-360-407-6000

RECIPIENT'S NAME: Chuck Cline

PAGES TRANSMITTED: 12

JUN 25 2001 PM 1:47



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

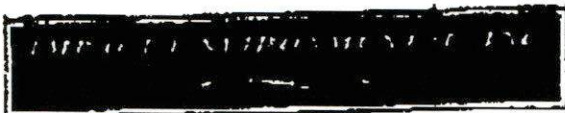
October 4, 2000

**ACKNOWLEDGMENT OF NOTIFICATION
OF HAZARDOUS WASTE ACTIVITY
(VERIFICATION)**

This is to acknowledge that you have filed a Notification of Hazardous Waste Activities form for the installation located at the address shown below to comply with section 3010 of the Resource Conservation and Recovery Act (RCRA). Your RCRA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with the Department of Ecology; on all applications for a Federal Hazardous Waste Permits; and on all other hazardous waste management reports and documents required under subtitle C of RCRA.

RCRA ID Number	→	WAH 000 012 971
Installation Address	→	Lakewood Mall ATC Realty 9 Inc 10509 Gravelly Lake Dr SW Lakewood, WA 98499
Mailing Address	→	2030 Main St Ste 800 Irvine, CA 92614





August 25, 2000

RECEIVED
AUG 30 2000
PERKINS COIE

Department of Ecology
Voluntary Cleanup Program
P.O. Box 47775
Olympia, WA 98504-7775

Attn.: Mr. Chuck Cline

Subject: Independent Action Notification Regarding the Lakewood Mall,
Lakewood, Washington

Dear Mr. Cline:

Impact Environmental has been retained by ATC Realty Sixteen, Inc. (ATC) to evaluate the environmental status of its property, the Lakewood Mall, located in Lakewood, Washington. This document is provided on behalf of ATC pursuant to the applicable requirements of the Model Toxics Control Act, 70.105D RCW; Chapter 173-340 WAC, including, but not limited to: WAC 173-340-300, Site discovery and reporting; WAC 173-340-300(4), Report of independent actions and WAC 173-340-500(5), Independent remedial actions; as well as applicable policies of the Voluntary Cleanup Program. The purpose of this document is to provide notification to the Washington Department of Ecology regarding: (1) the presence of volatile organic compounds in the shallow groundwater beneath the site and (2) our intention to pursue further assessment and groundwater monitoring of that portion of the site with identified elevated concentrations of volatile organic compounds.

Background

The subject property is the Lakewood Mall, a retail shopping center located at 10509 Gravelly Lake Drive, SW, in the city of Lakewood, Washington. The mall is approximately six miles southwest of Tacoma. The location of the site and the mall layout are included as Figures 1 and 2. The mall covers an area of about 100 acres. Development at this site began in approximately 1957 with the construction of the Villa Plaza Shopping Center. Businesses that have been or are located at the mall include a gas station, a paint store, dry cleaners, automotive service centers, a printing shop, film developers, and various miscellaneous retailers. Subsurface site assessments conducted in the past by other consultants have identified the presence of petroleum solvents. The current property owner is ATC of San Francisco, California.

The laboratory analysis performed on the collected soil and groundwater samples was dependent upon the type of historical use that had been identified at or near the sampling location. The results of the subsurface assessments conducted to date indicate that soil with elevated concentrations of hydrocarbons or VOCs has not been identified. Low concentrations of fuel hydrocarbons were detected at one groundwater sample location (P-11) located near a former hardware store. Low concentrations of volatile organic compounds (VOCs) have been detected in several of the groundwater samples across the northern portion of the mall property. These include primarily tetachloroethene (PCE) and its degradation products. Most of these occurrences are below either the Washington Method A or B cleanup levels. The laboratory results and chain-of-custody records for each of the sampling events are included in Appendices A through D. Figure 5 shows all of the groundwater sampling locations and the associated PCE concentrations that have been detected in the groundwater at the site.

Laboratory Analysis Results

Four groundwater monitoring wells have also been installed at the site. The wells are located near the northwest corner of the mall near Gravelly Lake Drive and within the north-central portion of the mall. The monitoring well and Geoprobe groundwater sampling locations are shown on Figure 3. Based on the results of the assessments conducted to date, shallow groundwater is present beneath the site at depths ranging from about 12 to 20 feet below grade with a groundwater flow direction estimated to be towards the west. A groundwater gradient map is included as Figure 4. Well completion information is included in Table 1.

An evaluation of the potential areas of concern has been conducted which included the collection and laboratory analysis of subsurface soil and groundwater samples. Much of the sampling has been conducted using the Geoprobe™ direct push sampling method. The various sampling events occurred in December 1998, January 1999, May-June 2000, and July-August 2000. The sampling locations were positioned at and near former and current tenant spaces with uses that could have released chemicals to the environment, including the locations of former septic tanks and leach fields.

Environmental assessments have been conducted recently at the site to evaluate whether activities from any of the former or current tenants have resulted in adverse impacts to the environment. Based on the findings of the Phase I environmental site assessments conducted at the site, several potential areas of concern were identified, including the former use of septic systems during the earlier history of the site.

Subsurface Sampling and Analysis

Department of Ecology

August 25, 2000
Page Two

Department of Ecology

August 25, 2000

Page Three

Based on the laboratory results from the groundwater sample collected at the probe P-12 location, which was at the second of the former Plaza Cleaners locations, some detected VOCs exceeded at least one of the state cleanup levels. Sample P-12 is located within the north-central portion of the mall. Additional focused assessment of the groundwater near and in the vicinity of the P-12 location has been conducted to both verify the detected concentrations and evaluate the lateral extent of the compounds identified in the P-12 sample. This has included the installation of three groundwater monitoring wells and the collection of six additional Geoprobe™ samples. Table 2 presents the results of the groundwater sample laboratory analyses that have been conducted to date.

Summary

An evaluation of the subsurface soil and groundwater beneath the Lakewood Mall site has not identified the presence of elevated concentrations of petroleum hydrocarbons or VOCs in the soil. Low concentrations of VOCs have been identified in the groundwater at several sample locations across the northern portion of the site. The only groundwater samples with elevated concentrations of VOCs were obtained initially from sample P-12, and subsequently from other locations in the near vicinity of P-12. This is near the former location of the Plaza Cleaners, in the north-central portion of the mall. Based on the extensive site-wide subsurface assessment conducted thus far, the area with elevated concentrations of VOCs (near the P-12 probe location) appears to be laterally restricted and not extensive.

Planned Additional Assessment

In order to further confirm and evaluate the presence of volatile organic compounds in the shallow groundwater beneath the site at the P-12 location, three or four additional shallow groundwater monitoring wells will be installed. The purpose of this additional assessment will be to both confirm the presence of and evaluate the lateral extent of previously detected VOCs at the site. The precise locations of the additional wells will be provided to your office upon their completion; however, the wells are expected to be located near previously identified elevated VOC concentrations and/or downgradient from prior sample locations with identified VOCs. Following installation of these additional wells, a program of quarterly groundwater monitoring and sampling will begin. Quarterly groundwater monitoring reports will be prepared and submitted to your office for your consideration. We expect to seek your review and file any additional reports when appropriate.

Department of Ecology

August 25, 2000
Page Four

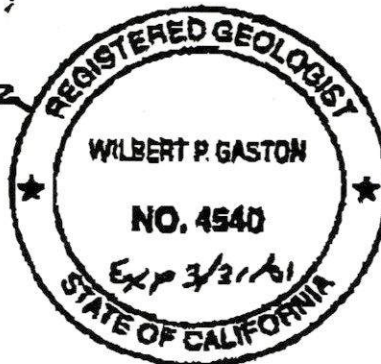
If there are any questions regarding any of the issues discussed in this document, please call us at your convenience. Any future correspondence may be directed to either of the undersigned.

Sincerely,

Impact Environmental, Inc.

Kathleen L. Dallaire
Kathleen L. Dallaire, Ph.D.
President

Wilbert P. Gaston
Wilbert P. Gaston, R.G. 4540
Project Geologist



PERKINS COIE LLP

PERKINS COIE LLP
ATTORNEYS AT LAW
1100 AVENUE OF THE STARS, SUITE 1900
WASHINGTON, DC 20004-4242

DOUGLAS S. LITTLE
(206) 583-8511
lind@perkinscoie.com

March 23, 2001

Mr. Chuck Cline
Department of Ecology
Voluntary Cleanup Program
P. O. Box 47775
Olympia, WA 98504-7775

**Re: Independent Action Notification Regarding Lakewood Mall,
Lakewood, Washington**

Dear Mr. Cline:

By letter report dated August 25, 2000, Impact Environmental submitted information to Ecology concerning the environmental conditions at the Lakewood Mall property owned by our client, ATC Realty Sixteen, Inc. (ATC). Impact Environmental explained that several additional shallow groundwater monitoring wells would be installed at the property so that a program of quarterly groundwater monitoring could be conducted. They further promised that Ecology would be provided with reports on the additional investigations.

After the initial field investigations by Impact Environmental, Herrera Environmental Consultants conducted further field investigations, including the installation of the monitoring wells described by Impact Environmental. These additional investigations and the results from those investigations are described in the enclosed Phase II Environmental Site Assessment by Herrera, dated February 2001.

The Phase II study by Herrera confirmed the earlier assessment by Impact Environmental, namely that there was a localized area in the north central part of the site where perchlorethylene (PCE) and its biodegradation byproducts were found in the shallow groundwater. They identified the apparent source of contamination as a former drycleaning operation in that area of the shopping center.

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March 23, 2001

Page 2

Based upon its review of a number of factors concerning the localized area of PCE contamination, Herrera recommended a monitoring program to evaluate contamination trends over time. That recommendation is being implemented and the first round of that quarterly groundwater monitoring program has been completed. The results are set forth in the enclosed groundwater quarterly status report by Herrera Consultants, Inc., dated March 6, 2001. Herrera notes that the concentrations of contaminants diminished from the earlier sampling period and the highest concentrations of each contaminant continue to be in the same source area.

If you have any questions about these materials, please contact me and I will put you in touch with the appropriate personnel. At this stage, I expect that the additional monitoring results will be maintained but probably will not be routinely sent to Ecology unless Ecology wants copies or unless there is a material change in the results.

Sincerely yours,

Douglas S. Little

DSL:sab

August 18, 2000

Department of Ecology
Voluntary Cleanup Program
P.O. Box 47775
Olympia, WA 98504-7775

Attn.: Mr. Chuck Cline

Subject: Independent Action Notification Regarding the Lakewood Mall, Lakewood,
Washington

Dear Mr. Cline:

Impact Environmental has been retained by ATC Realty Sixteen, Inc. (ATC) to evaluate the environmental status of its property, the Lakewood Mall, located in Lakewood, Washington. This document is provided on behalf of ATC pursuant to the applicable requirements of the Model Toxics Control Act, 70.105D RCW; Chapter 173-340 WAC, including, but not limited to: WAC 173-340-300, Site discovery and reporting; WAC 173-340-300(4), Report of independent actions and WAC 173-340-500(5), Independent remedial action; as well as applicable policies of the Voluntary Cleanup Program. The purpose of this document is to provide notification to the Washington Department of Ecology regarding: (1) the presence of volatile organic compounds in the shallow groundwater beneath the site and (2) our intention to pursue further assessment and groundwater monitoring of that portion of the site with identified elevated concentrations of volatile organic compounds.

Background

The subject property is the Lakewood Mall, a retail shopping center located at 10509 Gravelly Lake Drive, SW, in the city of Lakewood, Washington. The mall is approximately six miles southwest of Tacoma. The location of the site and the mall layout are included as Figures 1 and 2. The mall covers an area of about 100 acres. Development at this site began in approximately

1957 with the construction of the Villa Plaza Shopping Center. Businesses that have been or are located at the mall include a gas station, a paint store, dry cleaners, automotive service centers, a printing shop, film developers, and various miscellaneous retailers. Subsurface site assessments conducted in the past by other consultants have identified the presence of petroleum solvents. The current property owner is ATC of San Francisco, California.

Subsurface Sampling and Analysis

Environmental assessments have been conducted recently at the site to evaluate whether activities from any of the former or current tenants have resulted in adverse impacts to the environment. Based on the findings of the Phase I environmental site assessments conducted at the site, several potential areas of concern were identified, including the former use of septic systems during the earlier history of the site.

An evaluation of the potential areas of concern has been conducted which included the collection and laboratory analysis of subsurface soil and groundwater samples. Much of the sampling has been conducted using the Geoprobe™ direct push sampling method. The various sampling events occurred in December 1998, January 1999, May-June 2000, and July-August 2000. The sampling locations were positioned at and near former and current tenant spaces with uses that could have released chemicals to the environment, including the locations of former septic tanks and leach fields.

Four groundwater monitoring wells have also been installed at the site. The wells are located near the northwest corner of the mall near Gravelly Lake Drive and within the north-central portion of the mall. The monitoring well and Geoprobe groundwater sampling locations are shown on Figure 3. Based on the results of the assessments conducted to date, shallow groundwater is present beneath the site at depths ranging from about 12 to 20 feet below grade with a groundwater flow direction estimated to be towards the west. A groundwater gradient map is included as Figure 4. Well completion information is included in Table 1.

Laboratory Analysis Results

The laboratory analysis performed on the collected soil and groundwater samples was dependent upon the type of historical use that had been identified at or near the sampling location. The results of the subsurface assessments conducted to date indicate that soil with elevated concentrations of hydrocarbons or VOCs has not been identified. Low concentrations of fuel hydrocarbons were detected at one groundwater sample location (P-11) located near a former hardware store. Low concentrations of volatile organic compounds (VOCs) have been detected in several of the groundwater samples across the northern portion of the mall property. These include primarily tetrachloroethene (PCE) and its degradation products. Most of these occurrences are below either the Washington Method A or B cleanup levels. The laboratory

results and chain-of-custody records for each of the sampling events are included in Appendices A through D. Figure 5 shows all of the groundwater sampling locations and the associated PCE concentrations that have been detected in the groundwater at the site.

Based on the laboratory results from the groundwater sample collected at the probe P-12 location, which was at the second of the former Plaza Cleaners locations, some detected VOCs exceeded at least one of the state cleanup levels. Sample P-12 is located within the north-central portion of the mall. Additional focused assessment of the groundwater near and in the vicinity of the P-12 location has been conducted to both verify the detected concentrations and evaluate the lateral extent of the compounds identified in the P-12 sample. This has included the installation of three groundwater monitoring wells and the collection of six additional Geoprobe™ samples. Table 2 presents the results of the groundwater sample laboratory analyses that have been conducted to date.

Summary

An evaluation of the subsurface soil and groundwater beneath the Lakewood Mall site has not identified the presence of elevated concentrations of petroleum hydrocarbons or VOCs in the soil. Low concentrations of VOCs have been identified in the groundwater at several sample locations across the northern portion of the site. The only groundwater samples with elevated concentrations of VOCs were obtained initially from sample P-12, and subsequently from other locations in the near vicinity of P-12. This is near the former location of the Plaza Cleaners, in the north-central portion of the mall. Based on the extensive site-wide subsurface assessment conducted thus far, the area with elevated concentrations of VOCs (near the P-12 probe location) appears to be laterally restricted and not extensive.

Planned Additional Assessment

In order to further confirm and evaluate the presence of volatile organic compounds in the shallow groundwater beneath the site at the P-12 location, three or four additional shallow groundwater monitoring wells will be installed. The purpose of this additional assessment will be to both confirm the presence of and evaluate the lateral extent of previously detected VOCs at the site. The precise locations of the additional wells will be provided to your office upon their completion; however, the wells are expected to be located near previously identified elevated VOC concentrations and/or downgradient from prior sample locations with identified VOCs. Following installation of these additional wells, a program of quarterly groundwater monitoring and sampling will begin. Quarterly groundwater monitoring reports will be prepared and submitted to your office for your consideration. We expect to seek your review and file any additional reports when appropriate.

If there are any questions regarding any of the issues discussed in this document, please call us at your convenience. Any future correspondence may be directed to either of the undersigned.

Sincerely,

Impact Environmental, Inc.

Kathleen L. Dallaire, PhD
President

Wilbert P. Gaston, R.G. 4540
Project Geologist