



October 27, 2003

Mr. Nnamdi Madakor  
Department of Ecology  
P.O. Box 47600  
300 Desmond Drive  
Lacey, Washington 98504-7600

Long Term Confirmational Groundwater  
Monitoring Plan and Summary of 2003  
Confirmational Sampling Results  
Former Forest Park Cleaners  
TCP I.D. # NW0167  
URS Job 33749307

Dear Mr. Madakor:

### INTRODUCTION

This monitoring plan is provided to address Ecology's request for long-term confirmational groundwater monitoring at the former Forest Park Cleaners in Lake Forest Park, Washington pursuant to your e-mail dated August 20, 2003 and your recent meeting with Mr. Jay Manning of Brown Reavis and Manning, LLP on October 7, 2003. Also provided herein are the results of the last round (3<sup>rd</sup> round) of confirmational groundwater monitoring implemented prior to initiating the long-term monitoring plan. Ecology had initially requested monitoring well FPC-9S be sampled quarterly for one additional year. However, it is our understanding that Seattle LFP, Associates LLP can initiate long-term confirmational monitoring after the completion of the 3<sup>rd</sup> round of sampling, the results of which are provided herein.

### CONFIRMATIONAL GROUNDWATER SAMPLING ANALYTICAL RESULTS

Confirmational groundwater monitoring at FPC-9S was performed in April, July and October 2003. Low flow sampling methods were employed in general conformance with URS' Final Post Remedial Monitoring Plan. North Creek Analytical (NCA), an Ecology-accredited laboratory, analyzed the samples for volatile organic compounds (VOCs) and low-level vinyl chloride (VC) using Method 8260B. The confirmational monitoring results are summarized in Table 1 and the laboratory analytical reports are provided in Appendix A.

Only one VOC was detected during the quarterly groundwater sampling at FPC-9S (Table 1). VC was detected in the groundwater at concentrations of 0.428 micrograms per liter (ug/l) (April 2003), 0.41 ug/l (July 2003) and 0.22 ug/l (October 2003), which exceeds the Model Toxics Control Act (MTCA) Method A groundwater cleanup level of 0.2 ug/l, but is well below the Method B surface water cleanup level of 3.69 ug/l. Based on these results, it is apparent that the VC concentration in the groundwater continue to decline (Table 1). The VC concentrations at FPC-9S have remained below the MTCA Method B surface water cleanup level (3.69 ug/l) since confirmational sampling was initiated in August 2000.



## LONG TERM CONFIRMATIONAL MONITORING PLAN

Long-term confirmational groundwater monitoring will be implemented at the former Forest Park Cleaners to confirm the long-term effectiveness of the remedial actions implemented at the site. The sampling procedures and frequency are provided below.

### Groundwater Sampling Procedures

Groundwater samples will be collected from monitoring well FPC-9S in conformance with Ecology's Guidance on Sampling and Data Analysis Methods (Ecology 1995). Prior to sampling, the depth to groundwater will be measured in the monitoring well. The monitoring well will be purged and sampled using low-flow groundwater sampling procedures in general conformance with U.S. Environmental Protection Agency (EPA) guidelines (EPA, 1996). Appropriate quality assurance/quality control (QA/QC) measures will be instituted during the groundwater sampling. Samples will be stored in cooled ice chests and transported to the analytical laboratory under chain-of-custody protocol. Groundwater samples will be analyzed for VOCs by EPA Method 8260B. The analytical testing will be conducted by an Ecology-accredited laboratory.

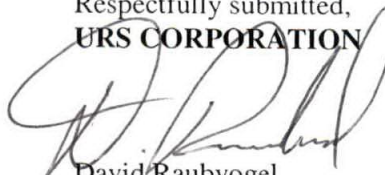
### Groundwater Sampling Frequency and Reporting

The long-term groundwater sampling events will be conducted in January 2005, 2007, and 2008. The groundwater sampling results will be provided to Ecology in a brief letter report within 6 weeks of the sampling event. The letter report will contain a data summary table, laboratory analytical report and our conclusions regarding the groundwater VOC (e.g. vinyl chloride) concentration trends and completeness of the prior remedial actions.

◆◆◆

We trust this plan meets Ecology's additional requirements for site closure. Pending the submission of this plan and the restrictive covenant, we understand that a No Further Action determination will be forthcoming. Please contact us if you have any questions or require additional information.

Respectfully submitted,  
**URS CORPORATION**



David Raubvogel  
Senior Geologist

Attachments: Table 1 – Summary of Confirmational Groundwater Sampling Results  
Appendix A – Laboratory Reports

Copy: Ms. Rebecca Coles  
Roland Siegl, Seattle LFP Associates  
Jay Manning, Brown, Reavis & Manning

**Table 1**  
**Summary of Confirmational Groundwater Sampling Results**  
**Former Forest Park Cleaners**

Analyte	Sample ID	FPC-9S											Applicable Agency Standards		
	Sample Intake (feet, bgs)	5.5											MTCA Method A or B Groundwater	Method B Surface Water Cleanup Level <sup>3</sup>	MCL <sup>4</sup>
	Sample Date	08/31/00	11/30/00	02/27/01 <sup>(2)</sup>	06/18/01	09/27/01	12/18/01	03/29/02	10/23/02	04/11/03	07/03/03	10/17/03			
<b>Volatile Organic Compounds <sup>(1)</sup> (µg/L)</b>															
cis-1,2-Dichloroethene		0.592	0.531	0.450	0.276	ND	0.207	ND	ND	ND	ND	ND	80 (B)	-	-
Vinyl chloride		<b>0.721</b>	<b>2.97</b>	<b>2.47</b>	<b>2.90</b>	<b>1.22</b>	<b>1.53</b>	<b>0.832</b>	<b>0.953</b>	<b>0.428</b>	<b>0.410</b>	<b>0.220</b>	0.2 (A)	3.69	2
Carbon Disulfide		ND	ND	ND	0.516	ND	ND	ND	1.21	ND	ND	ND	800 (B)	-	-

**Notes:**

<sup>(1)</sup> Analyses performed by using EPA method 8260.

<sup>(2)</sup> Methylene chloride was detected and considered to be a suspect laboratory contaminant.

<sup>(3)</sup> 2001 MTCA Method B Surface Water Cleanup Level

<sup>(4)</sup> USEPA Maximum Contaminant Level (MCL) for Drinkign Water

MTCA - Model Toxics Control Act

(A) - MTCA Method A groundwater cleanup level

(B) - MTCA Method B groundwater cleanup level

FPC = Forest Park Cleaners

bgs = below ground surface

S = Shallow

ND = Not Detected

Numbers in bold font indicate that the result reported exceeds the MTCA cleanup level.

**APPENDIX A**

**CONFIRMATIONAL GROUNDWATER MONITORING LABORATORY REPORTS**

**APRIL 2003**



**Seattle** 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
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907.334.9200 fax 907.334.9210

25 April 2003

David Raubvogel  
URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616  
RE: LFP-Forest Park Cleaners

Enclosed are amended results of analyses for samples received by the laboratory on 04/11/03 12:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott A. Woerman For Emanuel Hignutt  
PM





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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle WA/USA, 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 53-28171927.00  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 04/25/03 13:55

**ANALYTICAL REPORT FOR SAMPLES - Amended**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FPC-9S	B3D0279-01	Water	04/11/03 11:20	04/11/03 12:55

North Creek Analytical - Bothell

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Scott A. Woerman For Emanuel Hignutt, PM



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Project: LFP-Forest Park Cleaners  
 Project Number: 53-28171927.00  
 Project Manager: David Raubvogel

**Amended Report**  
 Issued: 04/25/03 13:55

## Volatile Organic Compounds by EPA Method 8260B

### North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FPC-9S (B3D0279-01) Water Sampled: 04/11/03 11:20 Received: 04/11/03 12:55									
1,1,1,2-Tetrachloroethane	ND	1.00	ug/l	1	3D18014	04/18/03	04/18/03	EPA 8260B	
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.00	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	"	
2-Butanone	ND	10.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.00	"	"	"	"	"	"	
2-Hexanone	ND	10.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.00	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10.0	"	"	"	"	"	"	
Acetone	ND	25.0	"	"	"	"	"	"	
Benzene	ND	1.00	"	"	"	"	"	"	
Bromobenzene	ND	1.00	"	"	"	"	"	"	
Bromochloromethane	ND	1.00	"	"	"	"	"	"	
Bromodichloromethane	ND	1.00	"	"	"	"	"	"	
Bromoform	ND	1.00	"	"	"	"	"	"	
Bromomethane	ND	2.00	"	"	"	"	"	"	
Carbon disulfide	ND	1.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.00	"	"	"	"	"	"	
Chlorobenzene	ND	1.00	"	"	"	"	"	"	
Chloroethane	ND	1.00	"	"	"	"	"	"	
Chloroform	ND	1.00	"	"	"	"	"	"	

North Creek Analytical - Bothell

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Scott A. Woerman For Emanuel Hignutt, PM

North Creek Analytical, Inc.  
 Environmental Laboratory Network

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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle WA/USA, 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 53-28171927.00  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 04/25/03 13:55

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>FPC-9S (B3D0279-01) Water Sampled: 04/11/03 11:20 Received: 04/11/03 12:55</b>									
Chloromethane	ND	5.00	ug/l	1	3D18014	04/18/03	04/18/03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	
Dibromochloromethane	ND	1.00	"	"	"	"	"	"	
Dibromomethane	ND	1.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.00	"	"	"	"	"	"	
Ethylbenzene	ND	1.00	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.00	"	"	"	"	"	"	
Isopropylbenzene	ND	1.00	"	"	"	"	"	"	
m,p-Xylene	ND	2.00	"	"	"	"	"	"	
Methylene chloride	ND	5.00	"	"	"	"	"	"	
n-Butylbenzene	ND	1.00	"	"	"	"	"	"	
n-Propylbenzene	ND	1.00	"	"	"	"	"	"	
Naphthalene	ND	1.00	"	"	"	"	"	"	
o-Xylene	ND	1.00	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.00	"	"	"	"	"	"	
Styrene	ND	1.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.00	"	"	"	"	"	"	
Tetrachloroethene	ND	1.00	"	"	"	"	"	"	
Toluene	ND	1.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	
Trichloroethene	ND	1.00	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	"	
Vinyl chloride	ND	1.00	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4	94.0 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	97.2 %	70-130			"	"	"	"	
Surrogate: 4-BFB	95.8 %	70-130			"	"	"	"	

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Project: LFP-Forest Park Cleaners  
Project Number: 53-28171927.00  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 04/25/03 13:55

**Volatile Organic Compounds by GC/MS with Selected Ion Monitoring**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>FPC-9S (B3D0279-01) Water</b> <b>Sampled: 04/11/03 11:20</b> <b>Received: 04/11/03 12:55</b>									
<b>Vinyl chloride</b>	<b>0.428</b>	<b>0.100</b>	ug/l	1	3D24023	04/24/03	04/24/03	EPA 8260 Mod	
Surrogate: 1,2-DCA-d4	102 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	101 %	70-130			"	"	"	"	
Surrogate: 4-BFB	100 %	70-130			"	"	"	"	

North Creek Analytical - Bothell

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**Amended Report**  
Issued: 04/25/03 13:55

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3D18014: Prepared 04/18/03 Using EPA 5030B**

**Blank (3D18014-BLK1)**

Methyl tert-butyl ether	ND	2.00	ug/l
n-Hexane	ND	2.00	"
1,1,1,2-Tetrachloroethane	ND	1.00	"
1,1,1-Trichloroethane	ND	1.00	"
1,1,2,2-Tetrachloroethane	ND	1.00	"
1,1,2-Trichloroethane	ND	1.00	"
1,1-Dichloroethane	ND	1.00	"
1,1-Dichloroethene	ND	1.00	"
1,1-Dichloropropene	ND	1.00	"
1,2,3-Trichlorobenzene	ND	1.00	"
1,2,3-Trichloropropane	ND	1.00	"
1,2,4-Trichlorobenzene	ND	1.00	"
1,2,4-Trimethylbenzene	ND	1.00	"
1,2-Dibromo-3-chloropropane	ND	5.00	"
1,2-Dibromoethane	ND	1.00	"
1,2-Dichlorobenzene	ND	1.00	"
1,2-Dichloroethane	ND	1.00	"
1,2-Dichloropropane	ND	1.00	"
1,3,5-Trimethylbenzene	ND	1.00	"
1,3-Dichlorobenzene	ND	1.00	"
1,3-Dichloropropane	ND	1.00	"
1,4-Dichlorobenzene	ND	1.00	"
2,2-Dichloropropane	ND	1.00	"
2-Butanone	ND	10.0	"
2-Chlorotoluene	ND	1.00	"
2-Hexanone	ND	10.0	"
4-Chlorotoluene	ND	1.00	"
4-Methyl-2-pentanone	ND	10.0	"
Acetone	ND	25.0	"
Benzene	ND	1.00	"
Bromobenzene	ND	1.00	"
Bromochloromethane	ND	1.00	"
Bromodichloromethane	ND	1.00	"
Bromoform	ND	1.00	"

North Creek Analytical - Bothell

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**Amended Report**  
 Issued: 04/25/03 13:55

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3D18014: Prepared 04/18/03 Using EPA 5030B**

**Blank (3D18014-BLK1)**

Bromomethane	ND	2.00	ug/l
Carbon disulfide	ND	1.00	"
Carbon tetrachloride	ND	1.00	"
Chlorobenzene	ND	1.00	"
Chloroethane	ND	1.00	"
Chloroform	ND	1.00	"
Chloromethane	ND	5.00	"
cis-1,2-Dichloroethene	ND	1.00	"
cis-1,3-Dichloropropene	ND	1.00	"
Dibromochloromethane	ND	1.00	"
Dibromomethane	ND	1.00	"
Dichlorodifluoromethane	ND	1.00	"
Ethylbenzene	ND	1.00	"
Hexachlorobutadiene	ND	1.00	"
Isopropylbenzene	ND	1.00	"
m,p-Xylene	ND	2.00	"
Methylene chloride	ND	5.00	"
n-Butylbenzene	ND	1.00	"
n-Propylbenzene	ND	1.00	"
Naphthalene	ND	1.00	"
o-Xylene	ND	1.00	"
p-Isopropyltoluene	ND	1.00	"
sec-Butylbenzene	ND	1.00	"
Styrene	ND	1.00	"
tert-Butylbenzene	ND	1.00	"
Tetrachloroethene	ND	1.00	"
Toluene	ND	1.00	"
trans-1,2-Dichloroethene	ND	1.00	"
trans-1,3-Dichloropropene	ND	1.00	"
Trichloroethene	ND	1.00	"
Trichlorofluoromethane	ND	1.00	"
Vinyl chloride	ND	1.00	"

Surrogate: 1,2-DCA-d4	37.6	"	40.0	94.0	70-130
Surrogate: Toluene-d8	38.6	"	40.0	96.5	70-130
Surrogate: 4-BFB	38.3	"	40.0	95.8	70-130

North Creek Analytical - Bothell

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*[Signature]*

Scott A. Woerman For Emanuel Hignutt, PM

North Creek Analytical, Inc.  
 Environmental Laboratory Network

Page 6 of 10



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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle WA/USA, 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 53-28171927.00  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 04/25/03 13:55

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3D18014: Prepared 04/18/03 Using EPA 5030B**

**LCS (3D18014-BS1)**

1,1-Dichloroethene	20.8	1.00	ug/l	20.0		104	80-120			
Benzene	20.5	1.00	"	20.0		102	80-120			
Chlorobenzene	20.0	1.00	"	20.0		100	77-120			
Toluene	19.9	1.00	"	20.0		99.5	80-120			
Trichloroethene	20.1	1.00	"	20.0		100	80-120			
Surrogate: 1,2-DCA-d4	37.8		"	40.0		94.5	70-130			
Surrogate: Toluene-d8	39.4		"	40.0		98.5	70-130			
Surrogate: 4-BFB	42.3		"	40.0		106	70-130			

**LCS Dup (3D18014-BSD1)**

1,1-Dichloroethene	19.6	1.00	ug/l	20.0		98.0	80-120	5.94	20	
Benzene	19.7	1.00	"	20.0		98.5	80-120	3.98	20	
Chlorobenzene	19.3	1.00	"	20.0		96.5	77-120	3.56	20	
Toluene	19.2	1.00	"	20.0		96.0	80-120	3.58	20	
Trichloroethene	19.2	1.00	"	20.0		96.0	80-120	4.58	20	
Surrogate: 1,2-DCA-d4	37.7		"	40.0		94.2	70-130			
Surrogate: Toluene-d8	39.3		"	40.0		98.2	70-130			
Surrogate: 4-BFB	39.4		"	40.0		98.5	70-130			

**Matrix Spike (3D18014-MS1)**

**Source: B3D0374-03**

1,1-Dichloroethene	20.5	1.00	ug/l	20.0	ND	102	59-158			
Benzene	19.8	1.00	"	20.0	ND	99.0	63-148			
Chlorobenzene	19.6	1.00	"	20.0	ND	98.0	80-128			
Toluene	19.7	1.00	"	20.0	ND	98.5	72-127			
Trichloroethene	19.6	1.00	"	20.0	ND	98.0	80-126			
Surrogate: 1,2-DCA-d4	37.7		"	40.0		94.2	70-130			
Surrogate: Toluene-d8	40.2		"	40.0		100	70-130			
Surrogate: 4-BFB	41.1		"	40.0		103	70-130			

North Creek Analytical - Bothell

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**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 3D18014: Prepared 04/18/03 Using EPA 5030B</b>										
<b>Matrix Spike Dup (3D18014-MSD1)</b>					<b>Source: B3D0374-03</b>					
1,1-Dichloroethene	19.2	1.00	ug/l	20.0	ND	96.0	59-158	6.55	30	
Benzene	18.2	1.00	"	20.0	ND	91.0	63-148	8.42	20	
Chlorobenzene	18.1	1.00	"	20.0	ND	90.5	80-128	7.96	20	
Toluene	18.2	1.00	"	20.0	ND	91.0	72-127	7.92	20	
Trichloroethene	18.1	1.00	"	20.0	ND	90.5	80-126	7.96	20	
Surrogate: 1,2-DCA-d4	38.1		"	40.0		95.2	70-130			
Surrogate: Toluene-d8	40.1		"	40.0		100	70-130			
Surrogate: 4-BFB	39.9		"	40.0		99.8	70-130			

North Creek Analytical - Bothell

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**Amended Report**  
Issued: 04/25/03 13:55

**Volatile Organic Compounds by GC/MS with Selected Ion Monitoring - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3D24023: Prepared 04/24/03 Using EPA 5030B**

**Blank (3D24023-BLK1)**

Vinyl chloride	ND	0.100	ug/l							
Surrogate: 1,2-DCA-d4	1.99		"	2.00		99.5	70-130			
Surrogate: Toluene-d8	2.03		"	2.00		102	70-130			
Surrogate: 4-BFB	1.96		"	2.00		98.0	70-130			

**LCS (3D24023-BS1)**

Vinyl chloride	1.11	0.100	ug/l	1.02		109	60-140			
Surrogate: 1,2-DCA-d4	1.96		"	2.00		98.0	70-130			
Surrogate: Toluene-d8	2.03		"	2.00		102	70-130			
Surrogate: 4-BFB	2.00		"	2.00		100	70-130			

**LCS Dup (3D24023-BSD1)**

Vinyl chloride	1.04	0.100	ug/l	1.02		102	60-140	6.51	30	
Surrogate: 1,2-DCA-d4	1.97		"	2.00		98.5	70-130			
Surrogate: Toluene-d8	2.07		"	2.00		104	70-130			
Surrogate: 4-BFB	1.99		"	2.00		99.5	70-130			

**Matrix Spike (3D24023-MS1)**

**Source: B3D0414-02**

Vinyl chloride	1.38	0.100	ug/l	1.02	ND	135	60-140			
Surrogate: 1,2-DCA-d4	2.04		"	2.00		102	70-130			
Surrogate: Toluene-d8	2.00		"	2.00		100	70-130			
Surrogate: 4-BFB	2.00		"	2.00		100	70-130			

**Matrix Spike Dup (3D24023-MSD1)**

**Source: B3D0414-02**

Vinyl chloride	1.32	0.100	ug/l	1.02	ND	129	60-140	4.44	30	
Surrogate: 1,2-DCA-d4	2.04		"	2.00		102	70-130			
Surrogate: Toluene-d8	1.73		"	2.00		86.5	70-130			
Surrogate: 4-BFB	1.98		"	2.00		99.0	70-130			

North Creek Analytical - Bothell

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### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

North Creek Analytical - Bothell

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# Revised Chain of Custody

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(509) 924-9200 FAX 924-9290  
(503) 906-9200 FAX 906-9210  
(541) 383-9310 FAX 382-7588

## CHAIN OF CUSTODY REPORT

Work Order #: **B3D0279**

CLIENT: <b>URS</b>		INVOICE TO: <b>Same as report to</b>		<b>TURNAROUND REQUEST in Business Days*</b> Organic & Inorganic Analyses <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. Petroleum Hydrocarbon Analyses <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. <input type="checkbox"/> OTHER Please Specify *Turnaround Requests less than standard may incur Rush Charges.																																																																																																																																																																																																															
REPORT TO: <b>David Raubvogel / Kevin Lundmark</b>		ADDRESS:																																																																																																																																																																																																																	
PHONE: <b>206-435-2700</b> FAX:		P.O. NUMBER:																																																																																																																																																																																																																	
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PRINT NAME: <b>Kevin Lundmark</b> FIRM: <b>URS</b>		TIME: <b>1130</b>		PRINT NAME: <b>Scott Wernman</b> FIRM: <b>NCA</b>		TIME: <b>1130</b>																																																																																																																																																																																																													
RELINQUISHED BY: <b>Scott Wernman</b>		DATE: <b>4/11/03</b>		RECEIVED BY: <b>Cathy Gambale</b>		DATE: <b>4/10/03</b>																																																																																																																																																																																																													
PRINT NAME: <b>Scott Wernman</b> FIRM: <b>NCA</b>		TIME: <b>1255</b>		PRINT NAME: <b>Cathy Gambale</b> FIRM: <b>NCA</b>		TIME: <b>1255</b>																																																																																																																																																																																																													
ADDITIONAL REMARKS:																																																																																																																																																																																																																			

**JULY 2003**



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17 July 2003

David Raubvogel  
URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616  
RE: LFP-Forest Park Cleaners

Enclosed are the results of analyses for samples received by the laboratory on 07/03/03 12:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Gerdes  
Project Manager



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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Reported:**  
07/17/03 12:36

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FPC-9S	B3G0139-01	Water	07/03/03 11:53	07/03/03 12:25

North Creek Analytical - Bothell

Jeff Gerdes, Project Manager

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URS Corporation  
 1501 4th Ave, Suite 1400  
 Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
 Project Number: 33749307  
 Project Manager: David Raubvogel

Reported:  
 07/17/03 12:36

### Volatile Organic Compounds by EPA Method 8260B North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FPC-9S (B3G0139-01) Water Sampled: 07/03/03 11:53 Received: 07/03/03 12:25									
Acetone	ND	25.0	ug/l	1	3G08057	07/03/03	07/03/03	EPA 8260B	
Benzene	ND	1.00	"	"	"	"	"	"	
Bromobenzene	ND	1.00	"	"	"	"	"	"	
Bromochloromethane	ND	1.00	"	"	"	"	"	"	
Bromodichloromethane	ND	1.00	"	"	"	"	"	"	
Bromoform	ND	1.00	"	"	"	"	"	"	
Bromomethane	ND	2.00	"	"	"	"	"	"	
2-Butanone	ND	10.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.00	"	"	"	"	"	"	
Carbon disulfide	ND	1.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.00	"	"	"	"	"	"	
Chlorobenzene	ND	1.00	"	"	"	"	"	"	
Chloroethane	ND	1.00	"	"	"	"	"	"	
Chloroform	ND	1.00	"	"	"	"	"	"	
Chloromethane	ND	5.00	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	"	
Dibromochloromethane	ND	1.00	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.00	"	"	"	"	"	"	
Dibromomethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	

North Creek Analytical - Bothell

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*Jeff Gerdes*

Jeff Gerdes, Project Manager

North Creek Analytical, Inc.  
 Environmental Laboratory Network

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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

Reported:  
07/17/03 12:36

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FPC-9S (B3G0139-01) Water Sampled: 07/03/03 11:53 Received: 07/03/03 12:25									
Ethylbenzene	ND	1.00	ug/l	1	3G08057	07/03/03	07/03/03	EPA 8260B	
Hexachlorobutadiene	ND	1.00	"	"	"	"	"	"	
2-Hexanone	ND	10.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.00	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.00	"	"	"	"	"	"	
Methylene chloride	ND	5.00	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10.0	"	"	"	"	"	"	
Naphthalene	ND	1.00	"	"	"	"	"	"	
n-Propylbenzene	ND	1.00	"	"	"	"	"	"	
Styrene	ND	1.00	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.00	"	"	"	"	"	"	
Tetrachloroethene	ND	1.00	"	"	"	"	"	"	
Toluene	ND	1.00	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.00	"	"	"	"	"	"	
Trichloroethene	ND	1.00	"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.00	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.00	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.00	"	"	"	"	"	"	
Vinyl chloride	ND	1.00	"	"	"	"	"	"	
o-Xylene	ND	1.00	"	"	"	"	"	"	
m,p-Xylene	ND	2.00	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4	101 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	99.5 %	70-130			"	"	"	"	
Surrogate: 4-BFB	100 %	70-130			"	"	"	"	

North Creek Analytical - Bothell

Jeff Gerdes, Project Manager

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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

Reported:  
07/17/03 12:36

**Volatile Organic Compounds by GC/MS with Selected Ion Monitoring**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
FPC-9S (B3G0139-01) Water    Sampled: 07/03/03 11:53    Received: 07/03/03 12:25									
Vinyl chloride	0.410	0.100	ug/l	1	3G16013	07/15/03	07/15/03	EPA 8260B Mod	
Surrogate: 1,2-DCA-d4	128 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	100 %	70-130			"	"	"	"	
Surrogate: 4-BFB	98.0 %	70-130			"	"	"	"	

North Creek Analytical - Bothell

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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

Reported:  
07/17/03 12:36

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3G08057: Prepared 07/03/03 Using EPA 5030B

Blank (3G08057-BLK1)

Acetone	ND	25.0	ug/l
Benzene	ND	1.00	"
Bromobenzene	ND	1.00	"
Bromochloromethane	ND	1.00	"
Bromodichloromethane	ND	1.00	"
Bromoform	ND	1.00	"
Bromomethane	ND	2.00	"
2-Butanone	ND	10.0	"
n-Butylbenzene	ND	1.00	"
sec-Butylbenzene	ND	1.00	"
tert-Butylbenzene	ND	1.00	"
Carbon disulfide	ND	1.00	"
Carbon tetrachloride	ND	1.00	"
Chlorobenzene	ND	1.00	"
Chloroethane	ND	1.00	"
Chloroform	ND	1.00	"
Chloromethane	ND	5.00	"
2-Chlorotoluene	ND	1.00	"
4-Chlorotoluene	ND	1.00	"
1,2-Dibromo-3-chloropropane	ND	5.00	"
Dibromochloromethane	ND	1.00	"
1,2-Dibromoethane	ND	1.00	"
Dibromomethane	ND	1.00	"
1,2-Dichlorobenzene	ND	1.00	"
1,3-Dichlorobenzene	ND	1.00	"
1,4-Dichlorobenzene	ND	1.00	"
Dichlorodifluoromethane	ND	1.00	"
1,1-Dichloroethane	ND	1.00	"
1,2-Dichloroethane	ND	1.00	"
1,1-Dichloroethene	ND	1.00	"
cis-1,2-Dichloroethene	ND	1.00	"
trans-1,2-Dichloroethene	ND	1.00	"
1,2-Dichloropropane	ND	1.00	"
1,3-Dichloropropane	ND	1.00	"

North Creek Analytical - Bothell

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Jeff Gerdes, Project Manager

North Creek Analytical, Inc.  
Environmental Laboratory Network

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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

Reported:  
07/17/03 12:36

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3G08057: Prepared 07/03/03 Using EPA 5030B**

**Blank (3G08057-BLK1)**

2,2-Dichloropropane	ND	1.00	ug/l							
1,1-Dichloropropene	ND	1.00	"							
cis-1,3-Dichloropropene	ND	1.00	"							
trans-1,3-Dichloropropene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
Hexachlorobutadiene	ND	1.00	"							
2-Hexanone	ND	10.0	"							
Isopropylbenzene	ND	1.00	"							
p-Isopropyltoluene	ND	1.00	"							
Methylene chloride	ND	5.00	"							
4-Methyl-2-pentanone	ND	10.0	"							
Naphthalene	ND	1.00	"							
n-Propylbenzene	ND	1.00	"							
Styrene	ND	1.00	"							
1,2,3-Trichlorobenzene	ND	1.00	"							
1,2,4-Trichlorobenzene	ND	1.00	"							
1,1,1,2-Tetrachloroethane	ND	1.00	"							
1,1,2,2-Tetrachloroethane	ND	1.00	"							
Tetrachloroethene	ND	1.00	"							
Toluene	ND	1.00	"							
1,1,1-Trichloroethane	ND	1.00	"							
1,1,2-Trichloroethane	ND	1.00	"							
Trichloroethene	ND	1.00	"							
Trichlorofluoromethane	ND	1.00	"							
1,2,3-Trichloropropane	ND	1.00	"							
1,2,4-Trimethylbenzene	ND	1.00	"							
1,3,5-Trimethylbenzene	ND	1.00	"							
Vinyl chloride	ND	1.00	"							
o-Xylene	ND	1.00	"							
m,p-Xylene	ND	2.00	"							
Surrogate: 1,2-DCA-d4	19.5		"	20.0		97.5	70-130			
Surrogate: Toluene-d8	20.8		"	20.0		104	70-130			
Surrogate: 4-BFB	18.5		"	20.0		92.5	70-130			

North Creek Analytical - Bothell

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*Jeff Gerdes*

Jeff Gerdes, Project Manager

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Project: LFP-Forest Park Cleaners  
 Project Number: 33749307  
 Project Manager: David Raubvogel

Reported:  
 07/17/03 12:36

### Volatile Organic Compounds by EPA Method 8260B - Quality Control North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3G08057: Prepared 07/03/03 Using EPA 5030B**

**LCS (3G08057-BS1)**

Benzene	10.2	1.00	ug/l	10.0		102	80-120		
Chlorobenzene	10.2	1.00	"	10.0		102	77-120		
1,1-Dichloroethene	10.3	1.00	"	10.0		103	80-120		
Toluene	10.2	1.00	"	10.0		102	80-120		
Trichloroethene	10.1	1.00	"	10.0		101	80-120		
Surrogate: 1,2-DCA-d4	19.6		"	20.0		98.0	70-130		
Surrogate: Toluene-d8	19.8		"	20.0		99.0	70-130		
Surrogate: 4-BFB	19.8		"	20.0		99.0	70-130		

**LCS Dup (3G08057-BSD1)**

Benzene	10.2	1.00	ug/l	10.0		102	80-120	0.00	20
Chlorobenzene	10.4	1.00	"	10.0		104	77-120	1.94	20
1,1-Dichloroethene	10.0	1.00	"	10.0		100	80-120	2.96	20
Toluene	10.4	1.00	"	10.0		104	80-120	1.94	20
Trichloroethene	10.2	1.00	"	10.0		102	80-120	0.985	20
Surrogate: 1,2-DCA-d4	20.4		"	20.0		102	70-130		
Surrogate: Toluene-d8	21.1		"	20.0		106	70-130		
Surrogate: 4-BFB	20.3		"	20.0		102	70-130		

North Creek Analytical - Bothell

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*Jeff Gerdes*

Jeff Gerdes, Project Manager

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Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Reported:**  
07/17/03 12:36

**Volatile Organic Compounds by GC/MS with Selected Ion Monitoring - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

**Batch 3G16013: Prepared 07/15/03 Using EPA 5030B**

**Blank (3G16013-BLK1)**

Vinyl chloride	ND	0.100	ug/l						
Surrogate: 1,2-DCA-d4	2.31		"	2.00		116	70-130		
Surrogate: Toluene-d8	2.04		"	2.00		102	70-130		
Surrogate: 4-BFB	1.91		"	2.00		95.5	70-130		

**LCS (3G16013-BS1)**

Vinyl chloride	0.960	0.100	ug/l	1.00		96.0	60-140		
Surrogate: 1,2-DCA-d4	2.06		"	2.00		103	70-130		
Surrogate: Toluene-d8	2.07		"	2.00		104	70-130		
Surrogate: 4-BFB	1.83		"	2.00		91.5	70-130		

**LCS Dup (3G16013-BSD1)**

Vinyl chloride	1.01	0.100	ug/l	1.00		101	60-140	5.08	30
Surrogate: 1,2-DCA-d4	2.09		"	2.00		104	70-130		
Surrogate: Toluene-d8	1.98		"	2.00		99.0	70-130		
Surrogate: 4-BFB	1.91		"	2.00		95.5	70-130		

North Creek Analytical - Bothell

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*Jeff Gerdes*

Jeff Gerdes, Project Manager

North Creek Analytical, Inc.  
Environmental Laboratory Network

Page 8 of 9



**Seattle** 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

Reported:  
07/17/03 12:36

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

North Creek Analytical - Bothell

Jeff Gerdes, Project Manager

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North Creek Analytical, Inc.  
Environmental Laboratory Network

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541-383-9310 FAX 382-7588  
907-334-9200 FAX 334-9210



## CHAIN OF CUSTODY REPORT

Work Order #: B36130

CLIENT: <u>URS</u>		INVOICE TO:	
REPORT TO: <u>DAVID RAUBVOGEL</u>		SAME AS REPORT TO	
ADDRESS: <u>1501 4th AVE STE 1400</u>		P.O. NUMBER:	
<u>SEATTLE, WA 98101</u>			
PHONE: <u>(206) 434-2284</u> FAX:			
PROJECT NAME: <u>LFP- FOREST PARK</u>		PRESERVATIVE	
<u>CLEANERS</u>			
PROJECT NUMBER: <u>33749307</u>		REQUESTED ANALYSES	
SAMPLED BY: <u>LUND MARK</u>			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	URS	Log
1 FPC-98	7/3/03 1153	X	X
2			
3			
4			
5			
6			
7			
8			
9			
10			
RELEASED BY: <u>[Signature]</u>		DATE: <u>7/3/03</u>	
PRINT NAME: <u>LUND MARK</u> FIRM: <u>URS</u>		TIME: <u>1225</u>	
RELEASED BY: <u>[Signature]</u>		DATE: <u>7/3/03</u>	
PRINT NAME: <u>Scott Weerman</u> FIRM: <u>NCA</u>		TIME: <u>1320</u>	
RECEIVED BY: <u>[Signature]</u>		DATE: <u>7/3/03</u>	
PRINT NAME: <u>Demetri Hardman</u> FIRM: <u>NCA</u>		TIME: <u>12:25</u>	
ADDITIONAL REMARKS:		TEMP:	
<u>Please analyze for low-level vinyl chloride</u>		<u>30</u>	

### TURNAROUND REQUEST

In Business Days \*

Organic & Inorganic Analyses

☒ 7 ☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ <1

Petroleum Hydrocarbon Analyses

☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ <1

STD.

OTHER

Specify:

\* Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W, S, O)

# OF CONT.

LOCATION / COMMENTS

NCA WO ID

W

3

9

W/O



**OCTOBER 2003**



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907.563.9200 fax 907.563.9210

21 October 2003

David Raubvogel  
URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616  
RE: LFP-Forest Park Cleaners

Enclosed are **amended** results of analyses for samples received by the laboratory on 10/17/03 12:12. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott A. Woerman For Jeff Gerdes  
Project Manager



**Seattle** 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244  
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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**ANALYTICAL REPORT FOR SAMPLES - Amended**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FPC-9S	B3J0493-01	Water	10/17/03 10:55	10/17/03 12:12

North Creek Analytical - Bothell

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Scott A. Woerman For Jeff Gerdes, Project Manager



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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FPC-9S (B3J0493-01) Water Sampled: 10/17/03 10:55 Received: 10/17/03 12:12									
Acetone	ND	25.0	ug/l	1	3J17031	10/17/03	10/17/03	EPA 8260B	
Benzene	ND	1.00	"	"	"	"	"	"	
Bromobenzene	ND	1.00	"	"	"	"	"	"	
Bromochloromethane	ND	1.00	"	"	"	"	"	"	
Bromodichloromethane	ND	1.00	"	"	"	"	"	"	
Bromoform	ND	1.00	"	"	"	"	"	"	
Bromomethane	ND	2.00	"	"	"	"	"	"	
2-Butanone	ND	10.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.00	"	"	"	"	"	"	
Carbon disulfide	ND	1.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.00	"	"	"	"	"	"	
Chlorobenzene	ND	1.00	"	"	"	"	"	"	
Chloroethane	ND	1.00	"	"	"	"	"	"	
Chloroform	ND	1.00	"	"	"	"	"	"	
Chloromethane	ND	5.00	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.00	"	"	"	"	"	"	
Dibromochloromethane	ND	1.00	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.00	"	"	"	"	"	"	
Dibromomethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.00	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.00	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.00	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.00	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.00	"	"	"	"	"	"	

North Creek Analytical - Bothell

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Scott A. Woerman For Jeff Gerdes, Project Manager



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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by EPA Method 8260B**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
FPC-9S (B3J0493-01) Water    Sampled: 10/17/03 10:55    Received: 10/17/03 12:12										
Ethylbenzene	ND	1.00	ug/l	1		3J17031	10/17/03	10/17/03	EPA 8260B	
Hexachlorobutadiene	ND	1.00	"	"		"	"	"	"	
2-Hexanone	ND	10.0	"	"		"	"	"	"	
Isopropylbenzene	ND	1.00	"	"		"	"	"	"	
p-Isopropyltoluene	ND	1.00	"	"		"	"	"	"	
Methylene chloride	ND	5.00	"	"		"	"	"	"	
4-Methyl-2-pentanone	ND	10.0	"	"		"	"	"	"	
Naphthalene	ND	1.00	"	"		"	"	"	"	
n-Propylbenzene	ND	1.00	"	"		"	"	"	"	
Styrene	ND	1.00	"	"		"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	"	"		"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	"	"		"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.00	"	"		"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.00	"	"		"	"	"	"	
Tetrachloroethene	ND	1.00	"	"		"	"	"	"	
Toluene	ND	1.00	"	"		"	"	"	"	
1,1,1-Trichloroethane	ND	1.00	"	"		"	"	"	"	
1,1,2-Trichloroethane	ND	1.00	"	"		"	"	"	"	
Trichloroethene	ND	1.00	"	"		"	"	"	"	
Trichlorofluoromethane	ND	1.00	"	"		"	"	"	"	
1,2,3-Trichloropropane	ND	1.00	"	"		"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.00	"	"		"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.00	"	"		"	"	"	"	
Vinyl chloride	ND	1.00	"	"		"	"	"	"	
o-Xylene	ND	1.00	"	"		"	"	"	"	
m,p-Xylene	ND	2.00	"	"		"	"	"	"	
Surrogate: 1,2-DCA-d4	103 %	70-130				"	"	"	"	
Surrogate: Toluene-d8	99.5 %	70-130				"	"	"	"	
Surrogate: 4-BFB	98.5 %	70-130				"	"	"	"	

North Creek Analytical - Bothell

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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by GC/MS with Selected Ion Monitoring**  
**North Creek Analytical - Bothell**

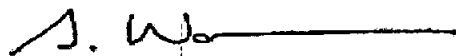
Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							

**FPC-9S (B3J0493-01) Water** Sampled: 10/17/03 10:55 Received: 10/17/03 12:12

<b>Vinyl chloride</b>	<b>0.220</b>	<b>0.0200</b>	<b>ug/l</b>	<b>1</b>	<b>3J17041</b>	<b>10/17/03</b>	<b>10/17/03</b>	<b>EPA 8260B Mod</b>	
Surrogate: 1,2-DCA-d4	101 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	102 %	70-130			"	"	"	"	
Surrogate: 4-BFB	97.5 %	70-130			"	"	"	"	

North Creek Analytical - Bothell

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Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

**Batch 3J17031: Prepared 10/17/03 Using EPA 5030B**

**Blank (3J17031-BLK1)**

Acetone	ND	25.0	ug/l
Benzene	ND	1.00	"
Bromobenzene	ND	1.00	"
Bromochloromethane	ND	1.00	"
Bromodichloromethane	ND	1.00	"
Bromoform	ND	1.00	"
Bromomethane	ND	2.00	"
2-Butanone	ND	10.0	"
n-Butylbenzene	ND	1.00	"
sec-Butylbenzene	ND	1.00	"
tert-Butylbenzene	ND	1.00	"
Carbon disulfide	ND	1.00	"
Carbon tetrachloride	ND	1.00	"
Chlorobenzene	ND	1.00	"
Chloroethane	ND	1.00	"
Chloroform	ND	1.00	"
Chloromethane	ND	5.00	"
2-Chlorotoluene	ND	1.00	"
4-Chlorotoluene	ND	1.00	"
1,2-Dibromo-3-chloropropane	ND	5.00	"
Dibromochloromethane	ND	1.00	"
1,2-Dibromoethane	ND	1.00	"
Dibromomethane	ND	1.00	"
1,2-Dichlorobenzene	ND	1.00	"
1,3-Dichlorobenzene	ND	1.00	"
1,4-Dichlorobenzene	ND	1.00	"
Dichlorodifluoromethane	ND	1.00	"
1,1-Dichloroethane	ND	1.00	"
1,2-Dichloroethane	ND	1.00	"
1,1-Dichloroethene	ND	1.00	"
cis-1,2-Dichloroethene	ND	1.00	"
trans-1,2-Dichloroethene	ND	1.00	"
1,2-Dichloropropane	ND	1.00	"
1,3-Dichloropropane	ND	1.00	"

North Creek Analytical - Bothell

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Scott A. Woerman For Jeff Gerdes, Project Manager

North Creek Analytical, Inc.  
Environmental Laboratory Network

Page 5 of 10



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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	--------------	-------

**Batch 3J17031: Prepared 10/17/03 Using EPA 5030B**

**Blank (3J17031-BLK1)**

2,2-Dichloropropane	ND	1.00	ug/l					
1,1-Dichloropropene	ND	1.00	"					
cis-1,3-Dichloropropene	ND	1.00	"					
trans-1,3-Dichloropropene	ND	1.00	"					
Ethylbenzene	ND	1.00	"					
Hexachlorobutadiene	ND	1.00	"					
2-Hexanone	ND	10.0	"					
Isopropylbenzene	ND	1.00	"					
p-Isopropyltoluene	ND	1.00	"					
Methylene chloride	ND	5.00	"					
4-Methyl-2-pentanone	ND	10.0	"					
Naphthalene	ND	1.00	"					
n-Propylbenzene	ND	1.00	"					
Styrene	ND	1.00	"					
1,2,3-Trichlorobenzene	ND	1.00	"					
1,2,4-Trichlorobenzene	ND	1.00	"					
1,1,1,2-Tetrachloroethane	ND	1.00	"					
1,1,1,2,2-Tetrachloroethane	ND	1.00	"					
Tetrachloroethene	ND	1.00	"					
Toluene	ND	1.00	"					
1,1,1-Trichloroethane	ND	1.00	"					
1,1,2-Trichloroethane	ND	1.00	"					
Trichloroethene	ND	1.00	"					
Trichlorofluoromethane	ND	1.00	"					
1,2,3-Trichloropropane	ND	1.00	"					
1,2,4-Trimethylbenzene	ND	1.00	"					
1,3,5-Trimethylbenzene	ND	1.00	"					
Vinyl chloride	ND	1.00	"					
o-Xylene	ND	1.00	"					
m,p-Xylene	ND	2.00	"					
Surrogate: 1,2-DCA-d4	20.4		"	20.0		102	70-130	
Surrogate: Toluene-d8	20.1		"	20.0		100	70-130	
Surrogate: 4-BFB	19.6		"	20.0		98.0	70-130	

North Creek Analytical - Bothell

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Scott A. Woerman For Jeff Gerdes, Project Manager





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URS Corporation  
1501 4th Ave, Suite 1400  
Seattle, WA/USA 98101-1616

Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3J17031: Prepared 10/17/03 Using EPA 5030B**

**LCS (3J17031-BS1)**

Benzene	9.62	1.00	ug/l	10.0		96.2	80-120			
Chlorobenzene	9.62	1.00	"	10.0		96.2	77-120			
1,1-Dichloroethene	10.0	1.00	"	10.0		100	80-120			
Toluene	9.71	1.00	"	10.0		97.1	80-120			
Trichloroethene	9.96	1.00	"	10.0		99.6	80-120			
Surrogate: 1,2-DCA-d4	20.3		"	20.0		102	70-130			
Surrogate: Toluene-d8	20.0		"	20.0		100	70-130			
Surrogate: 4-BFB	19.5		"	20.0		97.5	70-130			

**LCS Dup (3J17031-BSD1)**

Benzene	10.2	1.00	ug/l	10.0		102	80-120	5.85	20	
Chlorobenzene	9.71	1.00	"	10.0		97.1	77-120	0.931	20	
1,1-Dichloroethene	10.0	1.00	"	10.0		100	80-120	0.00	20	
Toluene	9.87	1.00	"	10.0		98.7	80-120	1.63	20	
Trichloroethene	10.1	1.00	"	10.0		101	80-120	1.40	20	
Surrogate: 1,2-DCA-d4	20.6		"	20.0		103	70-130			
Surrogate: Toluene-d8	20.0		"	20.0		100	70-130			
Surrogate: 4-BFB	19.5		"	20.0		97.5	70-130			

**Matrix Spike (3J17031-MS1)**

**Source: B3J0338-12**

Benzene	10.4	1.00	ug/l	10.0	ND	104	63-148			
Chlorobenzene	10.1	1.00	"	10.0	ND	101	80-128			
1,1-Dichloroethene	10.4	1.00	"	10.0	ND	104	59-158			
Toluene	10.0	1.00	"	10.0	ND	100	72-127			
Trichloroethene	11.6	1.00	"	10.0	0.970	106	80-126			
Surrogate: 1,2-DCA-d4	20.6		"	20.0		103	70-130			
Surrogate: Toluene-d8	19.7		"	20.0		98.5	70-130			
Surrogate: 4-BFB	19.4		"	20.0		97.0	70-130			

North Creek Analytical - Bothell

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URS Corporation  
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Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3J17031: Prepared 10/17/03 Using EPA 5030B**

**Matrix Spike Dup (3J17031-MSD1)**

**Source: B3J0338-12**

Benzene	9.96	1.00	ug/l	10.0	ND	99.6	63-148	4.32	20	
Chlorobenzene	10.1	1.00	"	10.0	ND	101	80-128	0.00	20	
1,1-Dichloroethene	9.75	1.00	"	10.0	ND	97.5	59-158	6.45	30	
Toluene	10.0	1.00	"	10.0	ND	100	72-127	0.00	20	
Trichloroethene	10.8	1.00	"	10.0	0.970	98.3	80-126	7.14	20	
Surrogate: 1,2-DCA-d4	20.0		"	20.0		100	70-130			
Surrogate: Toluene-d8	19.9		"	20.0		99.5	70-130			
Surrogate: 4-BFB	19.6		"	20.0		98.0	70-130			

North Creek Analytical - Bothell

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**North Creek Analytical, Inc.**  
**Environmental Laboratory Network**

Page 8 of 10



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Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

**Volatile Organic Compounds by GC/MS with Selected Ion Monitoring - Quality Control**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 3J17041: Prepared 10/17/03 Using EPA 5030B</b>										
<b>Blank (3J17041-BLK1)</b>										
Carbon tetrachloride	ND	0.0500	ug/l							
1,1-Dichloroethene	ND	0.0500	"							
1,1,2,2-Tetrachloroethane	ND	0.100	"							
Vinyl chloride	ND	0.0200	"							
Surrogate: 1,2-DCA-d4	2.26		"	2.00		113	70-130			
Surrogate: Toluene-d8	1.97		"	2.00		98.5	70-130			
Surrogate: 4-BFB	1.98		"	2.00		99.0	70-130			
<b>LCS (3J17041-BS1)</b>										
1,1-Dichloroethene	1.07	0.0500	ug/l	1.00		107	60-140			
Surrogate: 1,2-DCA-d4	2.17		"	2.00		108	70-130			
Surrogate: Toluene-d8	1.92		"	2.00		96.0	70-130			
Surrogate: 4-BFB	1.95		"	2.00		97.5	70-130			
<b>LCS Dup (3J17041-BSD1)</b>										
1,1-Dichloroethene	1.15	0.0500	ug/l	1.00		115	60-140	7.21	30	
Surrogate: 1,2-DCA-d4	2.21		"	2.00		110	70-130			
Surrogate: Toluene-d8	1.96		"	2.00		98.0	70-130			
Surrogate: 4-BFB	1.98		"	2.00		99.0	70-130			
<b>Matrix Spike (3J17041-MS1) Source: B3J0338-12</b>										
1,1-Dichloroethene	1.14	0.0500	ug/l	1.00	ND	114	60-140			
Surrogate: 1,2-DCA-d4	1.65		"	2.00		82.5	70-130			
Surrogate: Toluene-d8	1.98		"	2.00		99.0	70-130			
Surrogate: 4-BFB	1.96		"	2.00		98.0	70-130			
<b>Matrix Spike Dup (3J17041-MSD1) Source: B3J0338-12</b>										
1,1-Dichloroethene	1.14	0.0500	ug/l	1.00	ND	114	60-140	0.00	30	
Surrogate: 1,2-DCA-d4	2.06		"	2.00		103	70-130			
Surrogate: Toluene-d8	1.97		"	2.00		98.5	70-130			
Surrogate: 4-BFB	1.99		"	2.00		99.5	70-130			

North Creek Analytical - Bothell

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Project: LFP-Forest Park Cleaners  
Project Number: 33749307  
Project Manager: David Raubvogel

**Amended Report**  
Issued: 10/21/03 17:34

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

North Creek Analytical - Bothell

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## CHAIN OF CUSTODY REPORT

Work Order #: **B306493**

CLIENT: <b>URS</b>		INVOICE TO: <b>SAME AS REPORT TO</b>		<b>TURNAROUND REQUEST</b> in Business Days * Organic & Inorganic Analyses <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. Petroleum Hydrocarbon Analyses <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. <b>OTHER</b> Specify: * Turnaround Requests less than standard may incur Rush Charges.				
REPORT TO: <b>DAVID RAUSVOGEL</b> ADDRESS: <b>1501 4th AVE STE 1400</b> <b>SEATTLE, WA 98101</b>		P.O. NUMBER:						
PROJECT NAME: <b>LFP-FPC</b>		PRESERVATIVE						
PROJECT NUMBER: <b>33749307</b>								
SAMPLED BY: <b>LUND MARK</b>		REQUESTED ANALYSES						
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	URS	V.C.	LFP-FPC	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1 FPC-98	10/17/03 1055	X	X		W	3		01
2 Trip Blank	10/17/03 12:00							02
3 AD 10/17/03								
4								
5								
6								
7								
8								
9								
10								
RELEASED BY: <b>[Signature]</b>		DATE: <b>10-17-03</b>		RECEIVED BY: <b>[Signature]</b>		DATE: <b>10/17/03</b>		
PRINT NAME: <b>LUND MARK</b>		TIME: <b>11:16</b>		PRINT NAME: <b>Scott Worman</b>		TIME: <b>11:16</b>		
RELEASED BY: <b>[Signature]</b>		DATE: <b>10/17/03</b>		RECEIVED BY: <b>[Signature]</b>		DATE: <b>10/17/03</b>		
PRINT NAME: <b>Scott Worman</b>		TIME: <b>12:12</b>		PRINT NAME: <b>[Signature]</b>		TIME: <b>12:12</b>		
FIRM: <b>URS</b>		FIRM: <b>NCA</b>		FIRM: <b>NCA</b>		FIRM: <b>NCA</b>		
ADDITIONAL REMARKS:								
COC REV 1/03						TEMP: <b>3.8°C</b>		PAGE <b>1</b> OF <b>1</b>

Revised Chain of Custody

W/O CS