LUST INC. # 1110
Red Carpet Car Wash
King Co / Seattle

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HARTCROWSER

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699
Fax 206.328.5581
Tel 206.324.9530

Earth and Environmental Technologies

SR 12/12/95 DEPARTMENT OF ECOLOGY
NWRO/TCP TANKS UNIT

INTERIM CLEANUP REPORT	☑
SITE CHARACTERIZATON	☐
FINAL CLEANUP REPORT	☐
OTHER _____	☐
AFFECTED MEDIA: SOIL	☑
OTHER _____ GW	☑
INSPECTOR (INIT.) DATE 12-5-95	

J-3675-03

October 27, 1995

Mr. Gene Langdon
LSL Corporation
12900 Bel-Red Road
Bellevue, Washington 98005

Re: Results of September 1995 Groundwater Quality Monitoring
Former Red Carpet Car Wash Facility
1164 Denny Way
Seattle, Washington

Dear Mr. Langdon:

This letter report presents the September 1995 groundwater quality results for the former Red Carpet Car Wash site. This round of sampling and analysis is the second to be performed on the new biannual schedule as discussed later; the biannual schedule for this site is to be performed in March and September of each year. A discussion of this round of sampling results is provided below. Analytical laboratory certificates are presented in Attachment A.

Five groundwater monitoring wells (MW-1 through MW-5) located within the boundaries of the site, as shown on Figure 1, were sampled on October 2, 1995. Immediately prior to sampling, three well casing volumes of water were purged from each well using a stainless steel bailer. The purged water was placed in 55-gallon barrels, secured, and temporarily stored on site for eventual off-site disposal and treatment.

September 1995 Groundwater Quality Results

The analytical results of this sampling round and prior sampling rounds are provided in Table 1. The September 1995 data indicate the following:

- Groundwater samples from monitoring wells MW-1, MW-2, MW-3, and MW-5 do not contain concentrations of total petroleum hydrocarbons quantified as gasoline (TPH-G), or benzene, toluene, ethylbenzene, and xylenes (BTEX) above the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA -Chapter 173-240 WAC) Method A groundwater cleanup levels.

- Although below the MTCA Method A groundwater cleanup level of 1.0 mg/L, samples from monitoring wells MW-1 and MW-5 detected gasoline at concentrations of 0.25 and 0.11 mg/L, respectively. Benzene was also detected in groundwater from monitoring well MW-1, at a concentration of 0.0046 mg/L, slightly below the MTCA Method A groundwater cleanup level of 0.005 mg/L. Ethylbenzene was detected in groundwater in MW-1 and MW-5 at concentrations of 0.025 and 0.001 mg/L, respectively, below the MTCA Method A groundwater cleanup level of 0.03 mg/L.

- Groundwater from monitoring well MW-4 (located within the former UST area) contained concentrations of gasoline and BTEX exceeding MTCA Method A groundwater cleanup levels. The gasoline concentration was 17 mg/L and BTEX concentrations ranged from 0.71 to 3.5 mg/L. Groundwater from MW-4 has consistently contained concentrations exceeding MTCA Method A groundwater cleanup levels since September 10, 1993. Constituent concentrations from samples collected for this September 1995 monitoring round have generally remained constant compared to concentrations in the previous round in December 1994.

- Dissolved lead was not detected in any of the groundwater samples analyzed.

- No significant changes to groundwater quality from monitoring wells MW-1 through MW-5 during the September 1995 sampling round were observed relative to previous sampling rounds.

Groundwater Elevation Data Analysis

Water levels were obtained during the September 1995 sampling event from wells MW-1 through MW-5. A review of the data indicates the groundwater from monitoring well MW-2 continues to be significantly higher than the other wells. This high groundwater level may be the result of a leaking storm water catch basin that is providing a source of water to the immediate area. Lower groundwater elevations around MW-4 and MW-5 indicate a preferred flow path which may be the result of the coarser material used for backfill in the location of the former underground storage tanks. The groundwater elevation data for September 1995 indicate an overall site groundwater movement

immediately beneath the former Red Carpet Car Wash site to the east-northeast as shown on Figure 1.

Future Biannual Groundwater Monitoring Events

To date, we have completed eight rounds of groundwater sampling and data analysis for monitoring wells MW-1 through MW-3, and six rounds of groundwater sampling and data analysis for wells MW-4 and MW-5. We will continue to perform biannual monitoring during the typical dry (September) and wet (March) months of the year. As such, we propose to conduct the next biannual groundwater quality monitoring event in March 1996.

Please feel free to call if you have any questions or comments concerning this report.

Sincerely,

HART CROWSER, INC.

ROY K. KUROIWA, P.E.
Sr. Project Engineer

LORI J. HERMAN
Sr. Associate Hydrogeologist, CGWP

jlf/RKK/LJH:bjg
1095gw.lr

Attachments:

Table 1 -	Groundwater Chemical Testing Data
Figure 1 -	Site Plan
Attachment A -	Analytical Laboratory Certificates Hart Crowser Chemistry Laboratory and Analytical Technologies, Inc.

cc: (w/Attachments)
James B. Dickensheets, The Seattle Times

Table 1 - Groundwater Chemical Testing Data
Former Red Carpet Car Wash Facility

Monitoring Well ID	Sampling Date	Concentration in mg/L (ppm)					
		Gasoline	Benzene	Ethylbenzene	Toluene	Xylenes	Lead
MW-1	4-15-93	2.0	0.48	0.21	0.008	0.40	NA
	6-16-93	0.2 J	0.061	0.001 U	0.002	0.012	NA
	9-10-93	0.5	0.12	0.005	0.001	0.026	NA
	12-30-93	0.16 J	0.02	0.02	0.001 U	0.002	0.003 U[1,2]
	3-10-94	0.2 U	0.003	0.001 U	0.001 U	0.001 U	0.003 U [2]
	6-29-94	0.2 U	0.007	0.006	0.001 U	0.002	0.003 U [2]
	12-28-94	0.078 J	0.0011	0.001 U	0.001 U	0.001 U	0.003 U[2]
	10-2-95	0.25	0.0046	0.025	0.001 U	0.001 U	0.003 U[2]
MW-2	4-15-93	0.2 U	0.007	0.003	0.001 U	0.006	NA
	6-16-93	0.25 U	0.001 U	0.001 U	0.001 U	0.001	NA
	9-10-93	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	NA
	12-30-93	0.2 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U[1,2]
	3-10-94	0.2 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U [2]
	6-29-94	0.34	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U [2]
	12-28-94	0.10 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U [2]
	10-2-95	0.1 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U [2]
MW-3	4-15-93	0.2 U	0.001	0.001 U	0.001 U	0.001	NA
	6-16-93	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	NA
	9-10-93	0.25 U	0.001 U	0.001 U	0.001 U	0.001 U	NA
	12-30-93	0.2 U	0.009	0.001 U	0.001 U	0.001 U	0.003 U[1,2]
	3-10-94	0.2 U	0.004	0.001 U	0.001 U	0.001 U	0.003 U [2]
	6-29-94	0.2 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U [2]
	12-28-94	0.10 U	0.0028	0.001 U	0.001 U	0.001 U	0.003 U [2]
	10-2-95	0.1 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U [2]

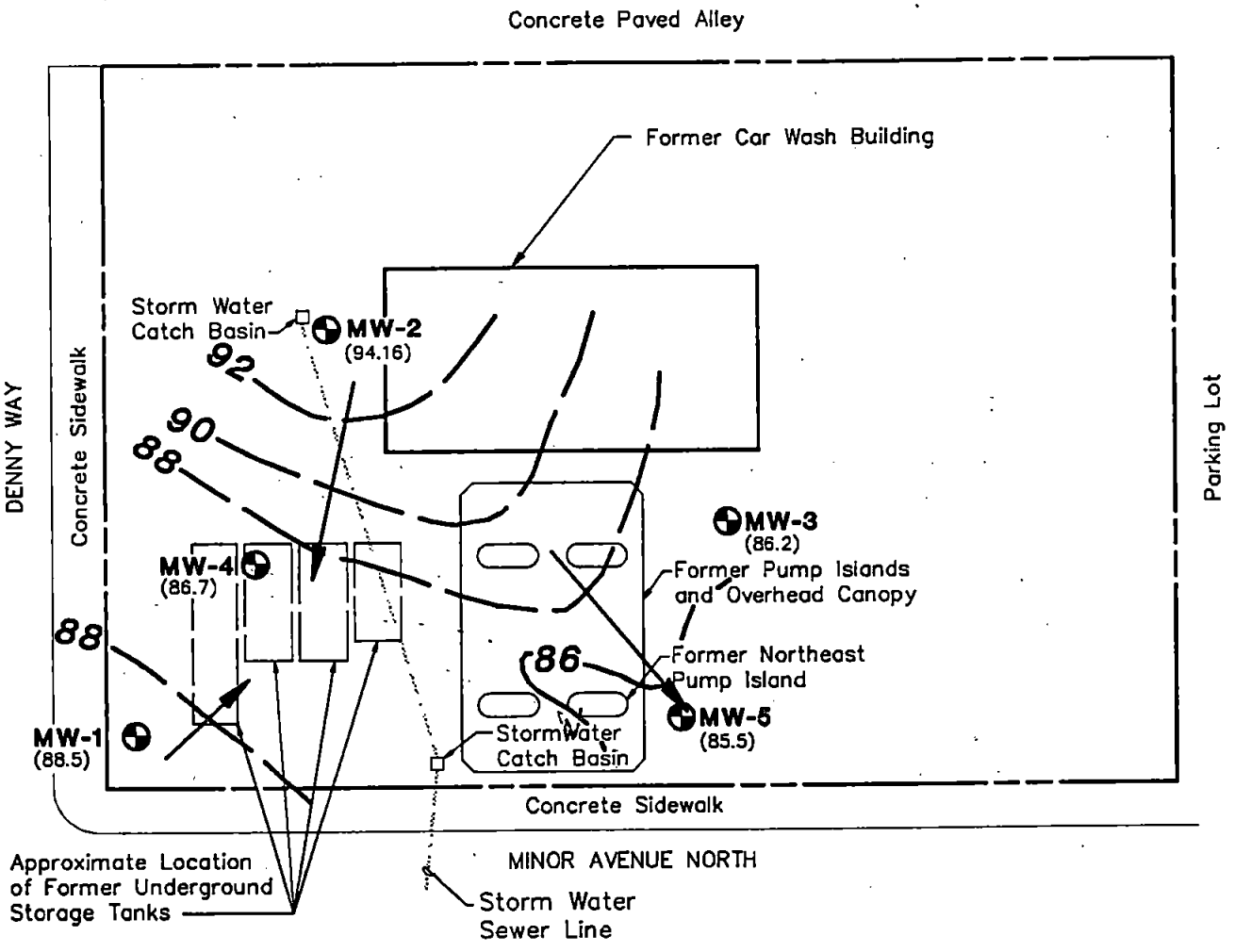
Table 1 - Continued

Monitoring Well ID	Sampling Date	Concentration in mg/L (ppm)					
		Gasoline	Benzene	Ethylbenzene	Toluene	Xylenes	Lead
MW-4	9-10-93	24	3.6	0.086	0.97	5.3	NA
	12-30-93	44	3.3	2.5	2.0	9.2	0.003 U[1,2]
	3-10-94	47	3.1	2.7	2.8	11.0	0.003 U [2]
	6-29-94	37	2.4	2.2	2.0	8.7	0.003 U [2]
	12-28-94	17	0.980	1.3	0.460	3.8	0.003 U [2]
	10-2-95	17	1.6	1.4	0.71	3.5	0.003 U [2]
MW-5	9-10-93	0.25	0.0026	0.001 U	0.001 U	0.015	NA
	12-30-93	0.2 U	0.003	0.001 U	0.001 U	0.001 U	0.003 U[1,2]
	3-10-94	0.42	0.016	0.009	0.003	0.025	0.003 U [2]
	6-29-94	0.2 U	0.001 U	0.001 U	0.001 U	0.001 U	0.003 U [2]
	12-28-94	0.25	0.0041	0.0051	0.001 U	0.0023 U	0.003 U [2]
	10-2-95	0.11	0.001 U	0.001	0.001 U	0.001 U	0.003 U [2]
MTCA Method A Groundwater Cleanup Levels		1	0.005	0.03	0.04	0.02	0.005

Notes:
J = Estimated value below laboratory analytical detection limit.
NA = Not analyzed.
U = Not detected at method detection limit indicated.
Shading indicates groundwater sample exceeds MTCA Method A groundwater cleanup levels.
[1] = Lead sampling date: January 13, 1994.
[2] = Analyses performed by Analytical Technologies, Inc., Renton.
Other analyses performed by Hart Crowser Chemistry Laboratory.
Gasoline analyzed by Washington State Method WTPH-G; benzene, ethylbenzene, toluene, and xylenes by EPA Method 8020; and Total lead by EPA Method 7420.

1095GW.LR

Groundwater Elevation Contour Map
Former Red Carpet Car Wash



N

0 30 60

Scale in Feet

MW-1 Monitoring Well Location and Number

(88.5) Approximate Water Level Elevation in Feet

88 Groundwater Elevation Contour in Feet

Generalized Groundwater Flow Direction

HARTCROWSER

J-3675-03 10/95

Figure 1

36750302

Hart Crowser
J-3675-03

ATTACHMENT A
ANALYTICAL LABORATORY CERTIFICATES
HART CROWSER CHEMISTRY LABORATORY AND
ANALYTICAL TECHNOLOGIES, INC.

Hart Crowser
J-3675-03

HART CROWSER CHEMISTRY LABORATORY

HARTCROWSER

Earth and Environmental Technologies

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699
Fax 206.328.5581
Tel 206.324.9530

CHEMISTRY LABORATORY ANALYTICAL REPORT

October 23, 1995

Roy Kuroiwa, Senior Project Engineer, Hart Crowser

RE: Red Carpet Car Wash, J-3675-03, Sequence K

Attached are the compiled results from analyses conducted on samples collected on October 2, 1995, and received on October 3, 1995. We performed extractions and analyses as indicated:

	Matrix	Quantity	Date Extracted	Date Analyzed
▸ TPH-G	Water	6	10/5/95	10/5/95
▸ Aromatic Volatiles (8020/602)	Water	6	10/5/95	10/5/95

This report contains the following:

- Analytical results for water samples.
- Data qualifiers.
- Results for method blanks.
- Recoveries for laboratory control sample.
- Analytical reporting limits.
- Copies of chain of custody forms.

Analytical Limitations

The compound(s) detected in the volatiles analysis are identified by single column analysis.

The following samples were analyzed, and results are presented in this report:

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6

HART CROWSER, INC.

CARL E. ROBERTS
Assistant Laboratory Manager
Washington State Department of Ecology
Laboratory Accreditation Number C134
Corps of Engineers Validation 4/14/94

Analytical Results

Results in ppm (mg/kg or mg/L)

Compound	MW-1	MW-2	MW-3
Matrix	Water	Water	Water
TPH-G (gasoline) toluene > C12	0.25	0.10 U	0.10 U

Results in ppb (µg/kg or µg/L)

Benzene	4.6	1.0 U	1.0 U
Toluene	1.0 U	1.0 U	1.0 U
Ethylbenzene	25	1.0 U	1.0 U
Xylenes	1.0 U	1.0 U	1.0 U
a,a,a-Trifluorotoluene(surr)	100%	103%	98%
1,2-Bromofluorobenzene (surr)	100%	104%	99%

Analytical Results, continued

Results in ppm (mg/kg or mg/L)

Compound	MW-4	MW-5	MW-6
Matrix	Water	Water	Water
TPH-G (gasoline) toluene > C12	17	0.11	0.10 U

Results in ppb (µg/kg or µg/L)

Benzene	1,600	1.0 U	1.0 U
Toluene	710	1.0 U	1.0 U
Ethylbenzene	1,400	1.0	0.85 J
Xylenes	3,500	1.0 U	1.0 U
a,a,a-Trifluorotoluene(surr)	97%	111%	100%
1,2-Bromofluorobenzene (surr)	M	112%	100%

Analytical Results, continued

Results in ppm (mg/kg or mg/L)

Compound	Duplicate MW-6
Matrix	Water
TPH-G (gasoline) toluene > C12	0.10 U

Results in ppb (μg/kg or μg/L)

Benzene	1.0 U
Toluene	1.0 U
Ethylbenzene	0.88 J
Xylenes	1.0 U
a,a,a-Trifluorotoluene(surr)	100%
1,2-Bromofluorobenzene (surr)	101%

Data Qualifiers

U	Not detected at indicated detection limit.
-	Below detection limit.
J	Estimated value below detection limit.
B	Also detected in associated method blank.
M	Unable to calculate recovery due to matrix interference.
n/t	Test not performed.
n/a	Not applicable.
Surr	Surrogate compound.

Method Blanks

Results in ppm (mg/kg or mg/L)

Compound	10/05/95
Matrix	Water
TPH-G (gasoline) toluene > C12	0.10 U

Results in ppb (μg/kg or μg/L)

Benzene	1.0 U
Toluene	1.0 U
Ethylbenzene	1.0 U
Xylenes	1.0 U
a,a,a-Trifluorotoluene(surr)	96%
1,2-Bromofluorobenzene (surr)	97%

Laboratory Control Sample

% Recovery

Compound	10/05/95
Matrix	Water
TPH-G (gasoline) toluene > C12	90%
a,a,a-Trifluorotoluene(surr)	106%
1,2-Bromofluorobenzene (surr)	M

Analytical Reporting Limits

Compound	Soil	Water
TPH-G in mg/kg or mg/L (ppm)		
Gasoline (toluene > C12)	5.0	0.10
8020 Volatiles µg/kg or µg/L (ppb)		
Benzene	50	1
Toluene	50	1
Ethylbenzene	50	1
Chlorobenzene	50	1
m-Dichlorobenzene	50	1
p-Dichlorobenzene	50	1
o-Dichlorobenzene	50	1
Xylenes	50	1

(K)

Sample Custody Record

DATE 10-2-95 PAGE 1 OF 1

HART CROWSER

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699

JOB NUMBER 3675-02 LAB NUMBER

PROJECT MANAGER KUROIWA

PROJECT NAME RED CARPET CAR WASH-1

SAMPLED BY: FELDER

LAB NO.	SAMPLE	TIME	STATION	MATRIX	TESTING: WTPH-G/BTEX	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
		10:30	MW-1	H2O	X	2	
		12:00	MW-2		X	2	
		0945	MW-3		X	2	
		11:15	MW-4		X	2	
		12:30	MW-5		X	2	
		12:30	MW-6		X	2	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE: J. Felder	10/2/95	Brian Van Ysseldyk	10/3/95
PRINTED NAME: J. FELDER	TIME 1800	PRINTED NAME: Brian Van Ysseldyk	TIME 800
COMPANY: HC		COMPANY: HCI	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	
PRINTED NAME	TIME	PRINTED NAME	TIME
COMPANY		COMPANY	

TOTAL NUMBER OF CONTAINERS: 12

METHOD OF SHIPMENT: HD

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS: Norm - T.A.T. (R-7)
Custody Seals Intact - BV 10/3/95

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Hart Crowser
J-3675-03

ANALYTICAL TECHNOLOGIES, INC.

Analytical Technologies, Inc.
560 Naches Avenue, S.W., Suite 101, Renton, WA 98055 (206) 228-8335
John M. Buerger, Laboratory Manager

ATI I.D. # 510006

October 20, 1995

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle WA 98102-3699

Attention : Roy Kuroiwa

Project Number : 3675-02

Project Name : Red Carpet Car Wash

Dear Mr. Kuroiwa:

On October 2, 1995, Analytical Technologies, Inc. (ATI), received six samples for analysis. The samples were analyzed with EPA methodology or equivalent methods as specified in the attached analytical schedule. The results, sample cross reference, and quality control data are enclosed.

Sincerely,

Jeffery L. Pettit
Senior Project Manager

JLP/hal/elf

Enclosure

Analytical Technologies, Inc.

ATI I.D. # 510006

SAMPLE CROSS REFERENCE SHEET

CLIENT : HART CROWSER, INC.
PROJECT # : 3675-02
PROJECT NAME : RED CARPET CAR WASH

ATI #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
510006-1	MW-1	10/02/95	WATER
510006-2	MW-2	10/02/95	WATER
510006-3	MW-3	10/02/95	WATER
510006-4	MW-4	10/02/95	WATER
510006-5	MW-5	10/02/95	WATER
510006-6	MW-6	10/02/95	WATER

----- TOTALS -----

MATRIX	# SAMPLES
WATER	6

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

ATI I.D. # 510006

ANALYTICAL SCHEDULE

CLIENT : HART CROWSER, INC.
PROJECT # : 3675-02
PROJECT NAME : RED CARPET CAR WASH

ANALYSIS	TECHNIQUE	REFERENCE	LAB
LEAD	AA/GF	EPA 7421	R

R = ATI - Renton
SD = ATI - San Diego
PHX = ATI - Phoenix
PTL = ATI - Portland
ANC = ATI - Anchorage
PNR = ATI - Pensacola
FC = ATI - Fort Collins
SUB = Subcontract

Analytical**Technologies,**Inc.

ATI I.D. # 510006

METALS ANALYSIS

CLIENT : HART CROWSER, INC. MATRIX : WATER
PROJECT # : 3675-02
PROJECT NAME : RED CARPET CAR WASH

ELEMENT	DATE PREPARED	DATE ANALYZED
LEAD	10/10/95	10/13/95

Analytical Technologies, Inc.

ATI I.D. # 510006

METALS ANALYSIS
DATA SUMMARY

CLIENT : HART CROWSER, INC. MATRIX : WATER
PROJECT # : 3675-02
PROJECT NAME : RED CARPET CAR WASH UNITS : mg/L

ATI I.D. #	CLIENT I.D.	LEAD
510006-1	MW-1	<0.0030
510006-2	MW-2	<0.0030
510006-3	MW-3	<0.0030
510006-4	MW-4	<0.0030
510006-5	MW-5	<0.0030
510006-6	MW-6	<0.0030
METHOD BLANK	-	<0.0030

Analytical Technologies, Inc.

ATI I.D. # 510006

METALS ANALYSIS
QUALITY CONTROL DATA

CLIENT : HART CROWSER, INC.
PROJECT # : 3675-02
PROJECT NAME : RED CARPET CAR WASH

MATRIX : WATER
UNITS : mg/L

ELEMENT	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED RESULT	SPIKE ADDED	% REC.
LEAD	BLANK	<0.00300	N/A	N/A	0.0237	0.0250	95
LEAD	509154-3	0.0248	0.0263	6	0.0485	0.0250	95
LEAD	510031-11	<0.00300	<0.00300	NC	0.0256	0.0250	102

NC = Not calculable.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{|(\text{Sample Result} - \text{Duplicate Result})|}{\text{Average Result}} \times 100$$

Sample Custody Record

DATE 10-2-95 PAGE 1 OF 1

HARTCROWSER

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699

JOB NUMBER 3675-02 LAB NUMBER 510006

PROJECT MANAGER ROY KUROIWA

PROJECT NAME RED CARPET CAR WASH

SAMPLED BY: FEIDER

LAB NO.	SAMPLE	TIME	STATION	MATRIX	TESTING: Diss. Pb 7421	NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS
1		10:30	MW-1	H_2O	X	1	
2		12:00	MW-2		X	1	
3		9:45	MW-3		X	1	
4		11:15	MW-4		X	1	
5		12:30	MW-5		X	1	
6		12:30	MW-6		X	1	

RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE: J. FEIDER	10-2-1995	SIGNATURE: Brian Sender	10/2/95
PRINTED NAME: J. FEIDER	TIME: 1330	PRINTED NAME: Brian Sender	TIME
COMPANY: HC-SEA		COMPANY: ATI	
RELINQUISHED BY	DATE	RECEIVED BY	DATE
SIGNATURE		SIGNATURE	
PRINTED NAME	TIME	PRINTED NAME	TIME
COMPANY		COMPANY	

TOTAL NUMBER OF CONTAINERS: 6

METHOD OF SHIPMENT: Courier

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS: Normal T.A.T.

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HARTCROWSER

Earth and Environmental Technologies

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102-3699
Fax 206.328.5581
Tel 206.324.9530

J-3675-03

October 25, 1995

Gene Langdon
LSL Corporation
12900 Bel-Red Road
Bellevue, Washington 98005

Re: Results of September 1995 Groundwater Quality Monitoring
Former Red Carpet Car Wash Facility
1164 Denny Way
Seattle, Washington

Dear Mr. Langdon:

Enclosed please find two copies of the above-referenced report. One copy is for your files. The second copy should be forwarded under a cover letter to:

Joe Hickey
Washington State Department of Ecology
N.W. Regional Office
3190 - 160th Avenue, S.E.
Bellevue, WA 98008-5452

Please feel free to call if you have any questions or comments.

Sincerely,

HART CROWSER, INC.

ROY K. KUROIWA, P.E.
Senior Project Engineer

Enclosures (2): Results of September 1995 Groundwater Quality Monitoring
Former Red Carpet Car Wash Facility
cc: Mr. James Dickensheets, The Seattle Times (w/Enclosures)
RKK:yw
9cover.ltr