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DEPT. OF ECOLOGY

BAINBRIDGE ISLAND OFFICE 179 Madrone Lane North Bainbridge Island, WA 98110 (206) 780-9370 FAX (206) 780-9438

CORPORATE OFFICE 911 Fifth Avenue, Suite 100 Kirkland, Washington 98033 (206) 827-7701 FAX (206) 827-5424

June 27, 1997 Project VB99711A

Ms. Mary O'Herron Washington State Department of Ecology NWRO 3190 160th Avenue SE Bellevue, WA 98008-5452

Subject:

PRELIMINARY REPORT OF PHASE II ENVIRONMENTAL SITE

ASSESSMENT ACTIVITIES

Former Chuck Olson Chevrolet Facility

17545 Aurora North Shoreline, Washington

Dear Ms. O'Herron:

On behalf of Chuck Olson Chevrolet, Associated Earth Sciences, Inc. (AESI) is submitting this report to fulfill the reporting requirements under WAC 173-340-300(2). This report provides a summary of the results of the recent Phase II Environmental Site Assessment (ESA) conducted by AESI at the Chuck Olson Chevrolet Facility, located at 17545 Aurora Avenue North in Shoreline, Washington.

Please do not hesitate to contact us at (206) 780-9370 if you have any questions, or if you should require additional information.

Sincerely,

ASSOCIATED EARTH SCIENCES, INC.

Bainbridge Island, Washington

William V. (Chip) Goodhue, RPG

Mehres a. Magn par server

Senior Project Hydrogeologist

cc w/o attachments:

Chuck Olson - Chuck Olson Chevrolet

Gary Stratton - Chuck Olson Chevrolet



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Kirkland, Washington 98033 (425) 827-7701 FAX (425) 827-5424

CORPORATE OFFICE

911 Fifth Avenue, Suite 100

June 27, 1997 Project VB99711A

DEPT. OF ECOLOGY

Messrs. Chuck Olson and Gary Stratton Chuck Olson Chevrolet 17545 Aurora North Shoreline, Washington 98133

Subject: PRELIMINARY REPORT OF PHASE II ENVIRONMENTAL SITE

ASSESSMENT ACTIVITIES

Former Chuck Olson Chevrolet Facility 17545 Aurora North Shoreline, Washington

Dear Sirs:

This letter report provides a summary of the results of the recent Phase II Environmental Site Assessment (ESA) conducted by Associated Earth Sciences, Inc. (AESI) at the Chuck Olson Chevrolet Facility, located at 17545 Aurora Avenue North in Shoreline, Washington. The site location is shown on the attached Figure 1.

### SUMMARY OF WORK CONDUCTED TO DATE

Soil Boring Installation and Soil Sampling

Soil borings were installed at the site between April 14 and May 13, 1997. A total of twelve soil borings were installed, two by hand auger and ten using a Geoprobe® drilling rig and Geoprobe® two-inch macrobore samplers with acetate sleeves. Target areas included the hydraulic lifts, the area of the former underground storage tank (UST), the former parts storage area at the southwest corner of the main service shop building, and the service shop sump. The location of the soil borings are shown on the attached Figures 2 and 3.

Soil samples were collected directly from the hand auger or by splitting the acetate liners of the Geoprobe® two-inch macrobore sampler. Each sample was field screened using visual, olfactory, and sheen testing methods. In addition, each sample was also screened for volatile organic compounds using a photoionization detector (PID) calibrated to isobutylene.

Soils encountered consisted of brown, loose to medium dense, moist silty sandy gravel (fill and decomposed glacial till) overlying gray, very dense, dry to moist silty sandy gravel (glacial till). The depth to till ranged from five feet in the former UST area to generally seven feet adjacent to the hydraulic lifts. Refusal was met in the till at depths of from seven to 14 feet. No evidence of saturated soils or ground water was noted in any of the borings.

Chuck Olson Chevrolet Project No. VB9711A June 27, 1997 Page 2

Based on the results of field screening, selected samples were placed in laboratory supplied glass jars, sealed, labeled, and placed in a cooler on ice. The samples were delivered under industry-standard chain-of-custody protocols to North Creek Analytical in Bothell, Washington.

All downhole drilling and sampling equipment was cleaned prior to the drilling of each boring to minimize the potential for cross contamination. The soil cuttings generated during soil boring installation were used as backfill in the respective borings.

Initial laboratory analyses included qualitative hydrocarbon identification by Washington State Method WTPH-HCID on eleven samples, and a volatile organic scan by EPA Method 8260 on two samples. Follow up hydrocarbon quantitation analyses were conducted based on the results of the WTPH-HCID hydrocarbon analyses. An additional volatile organic scan was also conducted based on field screening observations. The results of the laboratory analyses are shown in Tables 1 and 2. Laboratory-reported analytical testing results and chain-of-custody forms are provided in the attached Appendix A.

The following is a description of sampling activities and analytical results by area:

### Service Shop Bays

Eight soil samples were successfully collected around seven of the ten hydraulic lifts in the service shop bays. The results of the WTPH-HCID analyses indicated seven samples contained diesel- and heavy oil-range hydrocarbons, and six contained gasoline-range hydrocarbons. Follow-up quantitative analyses revealed high concentrations of diesel and heavy oil-range hydrocarbons in seven samples, and moderate concentrations of gasoline in three samples.

The sample collected from adjacent to the hydraulic lift in Bay #12 contained visible hydrocarbons and a moderate solvent-like odor. In addition to hydrocarbons, several volatile organic compounds including tetrachloroethene (a common industrial and dry cleaning solvent) were detected in this sample.

### Service Shop Sump

One soil sample was collected from adjacent to the service shop sump. Field screening indicators were negative, and no hydrocarbons were detected in the soil sample. Trace concentrations of two volatile organic compounds (tetrachloroethene and 1,1,1 trichloroethane) were present in the soil sample. However, the concentrations of both compounds were below currently applicable Model Toxics Control Act Method A residential soil cleanup standards.

### Former Parts Storage Area

One soil sample was collected from the former parts storage area outside the southwest corner of the service shop. Field screening indicators were negative, and no volatile organic compounds were detected in this sample. Due to the lack of field screening indicators, a WTPH-HCID hydrocarbon screen was not run on this sample.

Chuck Olson Chevrolet Project No. VB9711A June 27, 1997 Page 3

### Former UST Area

A utility locating contractor was unable to locate the former gasoline UST, which reportedly was removed in the 1980's. Two soil samples were collected from the general area of the reported UST location. No field evidence of hydrocarbons were noted in either soil sample. Laboratory analyses indicated moderate concentrations of diesel-and heavy oil-range hydrocarbons in one soil sample. These oil-range hydrocarbons are likely related to the long-term storage of scrap metal from the body shop in this area.

#### RECOMMENDATIONS

### Additional Site Investigation and Cleanup

Additional investigations will need to be conducted to evaluate the extent of hydrocarbons and other contaminants detected in soil during this Phase II assessment. The primary area of concern is within the footprint of the main service shop building. Unfortunately, the limited overhead clearance in this area, coupled with the presence of dense glacial till soil, preclude additional drilling within the building footprint. Additional borings could be installed outside of the building footprint, but would need to be angled beneath the building. This type of drilling is expensive, and collection of discrete soil samples is difficult using angled drilling methods.

Cleanup of contaminants from beneath the building will be very difficult and costly if the main service shop building remains in place. As we understand, future plans for the property may include demolition or modification of this building. Since future investigation and cleanup of the site will be more practical and less costly to conduct if this structure is removed, we recommend that you delay consideration of any additional investigation or cleanup activities until the status of the main service shop building is resolved.

Evaluation of cleanup standards that may apply to any future cleanup is premature at the present time. Additional future sampling and analysis activities should be conducted so as to permit evaluation of hydrocarbon cleanup standards using the Washington Department of Ecology (Ecology) Interim Policy for development of site-specific cleanup levels for hydrocarbons.

### Regulatory Approach

The most common approach to investigation and clean up of contaminated sites in Washington State is through the Independent Remedial Action Program (IRAP). Under this program, investigation and cleanup is conducted by the responsible party in accordance applicable regulations and guidance, but without oversight. After cleanup is complete, formal Ecology review and acceptance of IRAP cleanups is available for a fee. The IRAP process is likely to be the most efficient and cost-effective approach to investigation and cleanup at this facility, and we recommend you adopt this approach.

Chuck Olson Chevrolet Project No. VB9711A June 27, 1997 Page 4

### Reporting Requirements

A release of hazardous substances at the facility has been confirmed by laboratory analysis and will need to be reported to Ecology within 90 days of discovery. AESI will report the release by forwarding a copy of this report to the Ecology information officer prior to July 28, 1997.

Feel free to call us with any questions. Once the future status of the main service shop has been resolved, we will be happy to provide you with recommendations regarding additional site investigation and cleanup options.

Sincerely,

ASSOCIATED EARTH SCIENCES, INC.

Bainbridge Island, Washington

William V. (Chip) Goodhue, RPG Senior Project Hydrogeologist

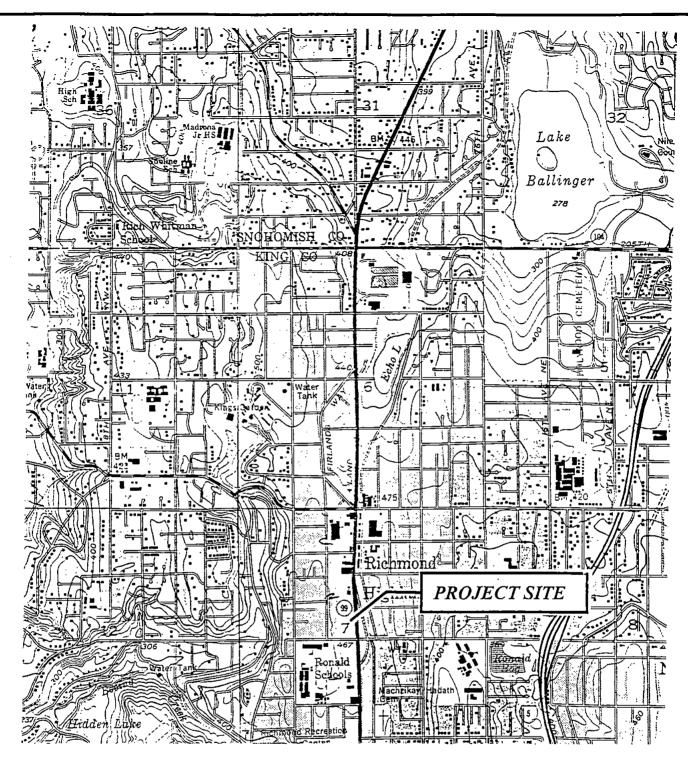
Attachments: Figure 1 - Vicinity Map

Figure 2 - Site Plan - Main Service Shop Figure 3 - Site Plan - Former UST Area

Table 1 - Soil Sample Analytical Results - Hydrocarbon Analyses
Table 2 - Soil Sample Analytical Results - Volatile Organic Analyses

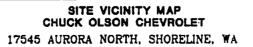
Appendix A - Laboratory-Reported Analytical Testing Results

cc w/ attachments: Mary O'Herron - Washington State Department of Ecology NWRO



Reference: USGS 7-1/2' Edmonds East, WA quadrangle.

Scale: 1" = 2000'

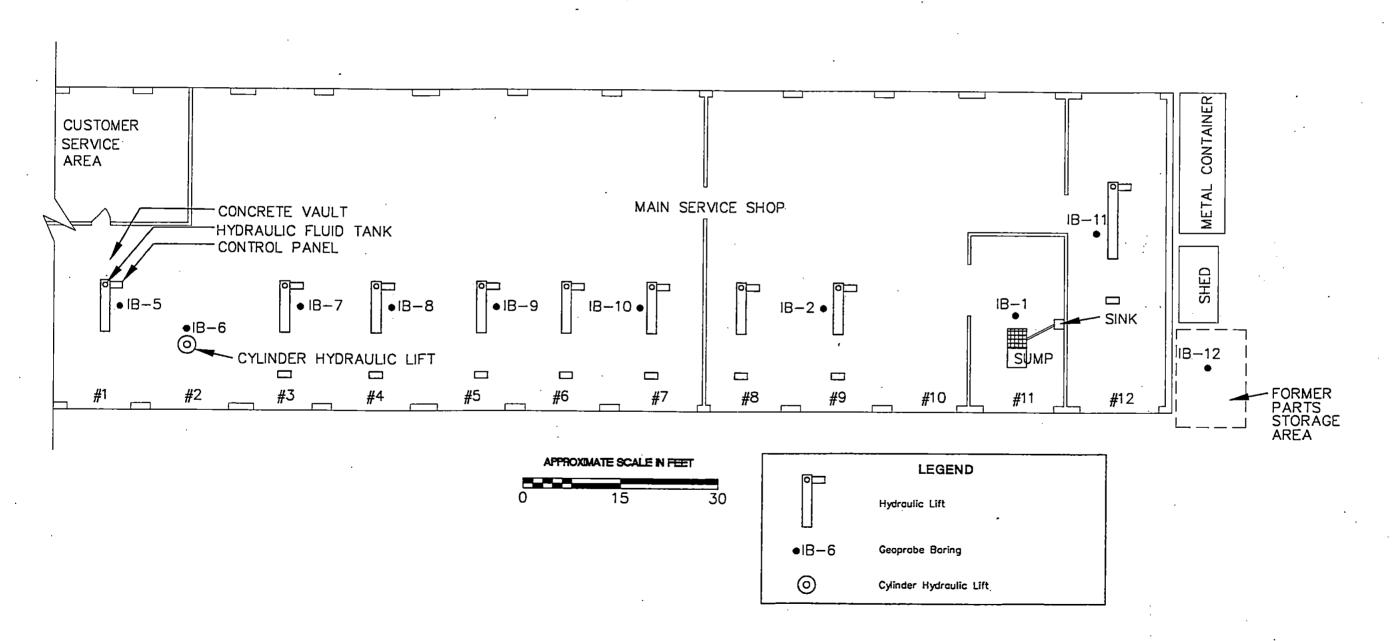


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179 Madrone Lane North (206) 780-9370 Bainbridge Island, WA 98110 FAX: (206) 780-9438

(206) 827-7701 FAX: (206) 827-5424

BB 5/28/97 SITE PLAN-MAIN SERVICE SHOP CHUCK OLSON CHEVROLET

VB9711

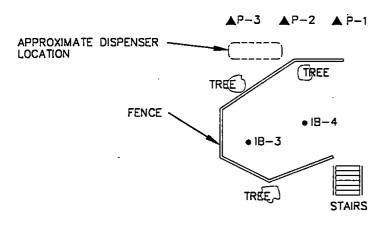
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17545 AURORA NORTH, SHORELINE, WA

MAIN SERVICE BLDG.

PARKING



BODY SHOP BLDG.

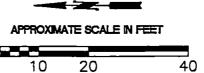
**LEGEND** 

• IB−5

Geoprobe Boring

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Probe



SITE PLAN-FORMER UST AREA CHUCK OLSON CHEVROLET 17545 AURORA NORTH, SHORELINE, WA

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FAI: (206) 827-7701 FAI: (206) 827-7701 FAI: (206) 827-5424

Table 1
Soil Sample Analytical Results - Hydrocarbon Analyses
Chuck Olson Chevrolet

Shoreline, Washington

ML D

	Sample Info	rmation						Analyses, mg/kg (ppm)						
					W	ТРН-НС	D			WTPH-G		Method 8020	0A or 8260A	
Sample Location	Sample Identification	Sample Date	Sample Depth, feet	Field Screening (Odors)	Gasoline	Diesel	Heavy Oil	Diesel Range	Heavy Oil Range	TPH-G	Benzene	Toluene	Ethyl- Benzene	Total Xylenes
Sump	IB-1	4/14/97	2.5-3	ND	< 20.0	DET	DET	< 10.0	< 25.0	NA	NA	NA	NA	NA
Bay #9	IB-2	4/14/97	8	ND	DET	DET	DET	5,050	17,400	< 10.0	< 0.100	< 0.100	< 0.100	< 0.200
Former UST Area	IB-3.1	5/13/97	8	ND	< 20.0	< 50.0	< 100.0	NA	NA	NA	NA	NA	NA	NA
Former UST Area	IB-4.1	5/13/97	7	ND	< 20.0	< 50.0	DET	116	253	NA	NA .	NA	NA	NA
Bay #1	IB-5.1	5/13/97	8	M/S	DET	DET	DET	18,300	52,400	30.6	< 0.0500	< 0.0500	< 0.0500	0.113
Bay #3	IB-7.1	5/13/97	8	ND	< 20.0	< 50.0	< 100.0	NA	NA	NA	NA	NA	NA	NA
Bay #4	IB-8.1	5/13/97	7	ND	< 20.0	DET	DET	3,260	5,820	NA	NA	NA	NA	NA
Bay #5	IB-9.1	5/13/97	7.5	S/M	DET	DET	DET	13,800	34,300	NA	NA	NA	NA	NA
Bay #5	IB-9.3	5/13/97	13.5	S/M	DET	DET	DET	5,150	20,900	NA	NA	. NA	NA	NA
Bay #7	IB-10.1	5/13/97	7	M/S	DET	DET	DET	16,900	44,800	419	< 0.500	0.582	1.03	10.5
Bay #12	IB-11.1	5/13/97	5	S/M-solvent	DET	DET	DET	9,080	20,400	567	< 0.500	< 0.500	0.618	7.00
Former Parts Area	IB-12.1	5/13/97	2.5	ND	NA	NA	NA	NA	NA.	NA	< 0.200	< 0.200	< 0.200	< 0.200

### NOTES:

S/M = slight to moderate odor

M/S = moderate to strong odor

ND = Not Detected

NA = Not Analyzed

DET = Detected

22,400

Table 2
Soil Sample Analytical Results
EPA Method 8260A
Chuck Olson Chevrolet
Shoreline, Washington
(all results reported as mg/kg)

	Sump Area	Southern Lift	Parts Area
Sample Identification:	IB-1	IB-11.1	IB-12.1
Sample Depth, feet:	3.0	5.0	8
Sample Date:	4/14/97	5/13/97	5/13/97
Field Screening (Odors):	ND	S/M	ND
n-Butylbenzene	< 0.200	0.91	< 0.200
sec-Butylbenzene	< 0.200	0.429	< 0.200
Ethylbenzene	< 0.200	0.259	< 0.200
Isopropylbenzene	< 0.200	0.323	< 0.200
p-Isopropyltoluene	< 0.200	1.2	< 0.200
Naphthalene	< 0.200	1.56	< 0.200
n-Propylbenzene	< 0.200	0.723	< 0.200
Tetrachloroethene	0.488	3.19	< 0.200
Toluene	< 0.200	0.293	< 0.200
1,1,1-Trichloroethane	0.317	2.74	< 0.200
1,2,4-Trimethylbenzene	< 0.200	7.04	< 0.200
1,3,5-Trimethylbenzene	< 0.200	2.02	< 0.200
o-Xylene	< 0.200	1.16	< 0.200
m,p-Xylene	< 0.200	1.94	< 0.200

NOTES:

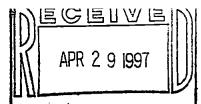
S/M = Slight to moderate odor

ND = No detectable odors

Results reported only for compounds detected in one or more samples

# APPENDIX A LABORATORY-REPORTED ANALYTICAL TESTING RESULTS





Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 97100
Project Manager: Chip Goodhue

Sampled: 4/14/97 Received: 4/16/97 Reported: 4/28/97 14:38

### ANALYTICAL REPORT FOR SAMPLES:

·			
Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
Sumple Beserption			
IB-I	B704326-01	Soil	4/14/97
1	D#0.4207.02	Soil	4/14/97
IB-2	B704326-02	3011	

North Creek Analytical, Inc.

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.

Kirk Gendron, Project Manager

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132

Page 1 of 14



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Sampled: 4/14/97 Received: 4/16/97

Project Manag

Project Number: VB 97100 Project Manager: Chip Goodhue

Reported: 4/28/97 14:38

### Hydrocarbon Identification by Washington DOE Method WTPH-HCID North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
IB-1 Gasoline Range Hydrocarbons Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	0470461	4/17/97	<u>B7043:</u> 4/18/97		20.0 50.0 100	ND DET DET	Soil mg/kg dry "	
Surrogate: 2-FBP	"	"	"	50.0-150		100	70	
IB-2 Gasoline Range Hydrocarbons Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons	0470461 "	4/17/97	<u>B7043</u> 4/18/97	<u>26-02</u>	20.0 50.0	DET DET DET	<u>Soil</u> mg/kg dry "	
Surrogate: 2-FBP	<i>"</i>	<i>"</i>	"	50.0-150	•	92.1	%	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences

Bainbridge Island, WA 98110

179 Madrone Lane N.

BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

Project: Chuck Olson Chevrolet Sampled: 4/14/97

Project Number: VB 97100 Received: 4/16/97 Reported: 4/28/97 14:38 Project Manager: Chip Goodhue

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A

### North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>IB-2</u>			B7043	26-02			<u>Soil</u>	
Gasoline Range Hydrocarbons	0470602	4/23/97	4/23/97		10.0	ND	mg/kg dry	
Benzene	···	u .	11		0.100	ND	n	
Toluene	ii .	n	11		0.100	ND	n	•
Ethylbenzene	10	**	11		0.100	ND	**	
Xylenes (total)	"	n .	.,		0.200	ND	n	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		76.0	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		81.6	n .	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences

Project: Chuck Olson Chevrolet

Sampled: 4/14/97

179 Madrone Lane N. Bainbridge Island, WA 98110 Project Number: VB 97100 Project Manager: Chip Goodhue Received: 4/16/97 Reported: 4/28/97 14:38

### Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) with Silica Gel Clean-up North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
ID 1			B7043	26-01			<u>Soil</u>	
IB-1 Diesel Range Hydrocarbons	0470610	4/24/97	4/24/97		10.0	ND	mg/kg dry	
Heavy Oil Range Hydrocarbons	"	"	"		25.0	ND	11	
Surrogate: 2-FBP	"	"	"	50.0-150		99.2	%	
<u>IB-2</u>			B7043	26-02			Soil	
Diesel Range Hydrocarbons	0470610	4/24/97	4/25/97	<del></del>	1010	5050	mg/kg dry	1
Heavy Oil Range Hydrocarbons	"	0	11		2530	17400		
Surrogate: 2-FBP	n	,,	"	50.0-150		61.9	%	

North Greek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



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PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences Project: Chuck Olson Chevrolet Sampled: 4/14/97

179 Madrone Lane N. Project Number: VB 97100 Received: 4/16/97

Bainbridge Island, WA 98110 Project Manager: Chip Goodhue Reported: 4/28/97 14:38

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

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
TD 1			B70432	)6_01			Soil	
IB-1 Acetone	0470571	4/22/97	<u>57043.</u> 4/23/97	50-01	2.00	ND	<u>son</u> mg∕kg dry	
Benzene	"	4/22/97	11 47 437 37		0.200	ND	mg/kg dry	
Bromobenzene	11	"	"		0.200	ND	11	
Bromochloromethane	n	**			0.200	ND		
Bromodichloromethane	n	17	n		0.200	ND	II.	
Bromodicnioromethane	"	11	17		0.200	ND	11	
	*1	11			0.200	ND		
Bromomethane	1)				2.00	ND	17	
2-Butanone	,, 19							
n-Butylbenzene		"	" "		0.200	ND		
sec-Butylbenzene	"	"	", n		0.200	ND		
tert-Butylbenzene	"				0.200	ND	0	
Carbon disulfide		tt	11		0.200	ND		
Carbon tetrachloride	"	11	11		0.200	ND		
Chlorobenzene	11	11	17		0.200	ND	"	
Chloroethane	. "	IF	19		0.200	ND	11	
Chloroform	11	**	, .		0.200	ND	n	
Chloromethane	II .	"	10		0.200	ND	**	
2-Chlorotoluene	11	**	10		0.200	ND	f1	
4-Chlorotoluene	"	**			0.200	ND	11	
Dibromochloromethane	11	**	H		0.200	ND	n	
1,2-Dibromo-3-chloropropane	**	н	**		1.00	ND	11	
1,2-Dibromoethane	u	17	19	•	0.200	ND	H	
Dibromomethane	14	u	**		0.200	ND	11	
1,2-Dichlorobenzene	n		17		0.200	ND	17	
1,3-Dichlorobenzene	n	17	10		0.200	ND	н	i.
1,4-Dichlorobenzene	"	19	10		0.200-	ND	Ħ	
Dichlorodifluoromethane	"	19	II.		0.200	ND	11	
1,1-Dichloroethane	Ħ				0.200	ND	11	
1.2-Dichloroethane	n	и	H		0.200	ND	11	
I,1-Dichloroethene	19	H	H		0.200	ND	**	
cis-I,2-Dichloroethene	н	n	,,		0.200	ND	11	
trans-1,2-Dichloroethene	n .	10	11		0.200	ND	n	
1,2-Dichloropropane	11	"	11		0.200	ND	n	
1,3-Dichloropropane	**	17	n		0.200	ND.	11	
2,2-Dichloropropane	19		11		0.200	ND	11	
1,1-Dichloropropene	11	n	11		0.200	ND	ti	
cis-1,3-Dichloropropene	11	н	ıı		0.200	ND	ti.	
	 19	11	**		0.200	ND	n	
trans-1,3-Dichloropropene	"			,	0.200	עא		

North Creek Apalytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110

Chuck Olson Chevrolet Project:

VB 97100 Chip Goodhue Project Manager:

Project Number:

Sampled: 4/14/97 Received: 4/16/97

Reported: 4/28/97 14:38

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

	Batch	Date	Date	Surrogate	Reporting			
		Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
Analyte	Number	Liebaren	Fillary Zed					
			B70432	26-01			<u>Soil</u>	
IB-1 (continued)	0470571	4/22/97	4/23/97		0.200	ND	mg/kg dry	
Ethylbenzene	0470571	4/24/9/	4123177		0.200	ND	"	
Hexachlorobutadiene	,,	11	,,		2.00	ND	79	
2-Hexanone	17		11		0.200	ND	11	
Isopropylbenzene	"	"	n		0.200	ND	11	
p-Isopropyltoluene	"	"			1.00	ND	u	
Methylene chloride	11	"	"		2.00	ND	n	
4-Methyl-2-pentanone		17	" II		0.200	ND	11	
Naphthalene		"	"		0.200	ND	II .	
n-Propylbenzene		"	"		0.200	ND	11	
Styrene	n	"	"		0.200	ND	tr	
1,1,1,2-Tetrachloroethane	ir.	19	,,		0.200	ND	•	
1,1,2,2-Tetrachloroethane	m 	"	"		0.200	0.488	11	
Tetrachloroethene	11	ır			0.200	ND	u	
Toluene	D		"		0.200	ND	1)	
1,2,3-Trichlorobenzene	11	"	и.		0.200	ND	U	
1,2,4-Trichlorobenzene	17		, .		0.200	0.317	n	
1,1,1-Trichloroethane	II.	"	" "		0.200	ND	11	
1,1,2-Trichloroethane	**	n	"		0.200	ND	n	
Trichloroethene	n	II .			0.200	ND	n	
Trichlorofluoromethane	II	"			0.200	ND	n	
1,2,3-Trichloropropane	n	19	**		0,200	ND	19	
1,2,4-Trimethylbenzene	10	11			0.200	ND	19	
1,3,5-Trimethylbenzene	"	79	H		0.200	ND		
Vinyl chloride	**	н	10		0.200	ND	11	
o-Xylene	t†	**	11		0.200	ND	**	
m,p-Xylene	"				0.200	78.2	%	
Surrogate: 1,2-DCA-d4	ii .	"	.,	70.0-130		92.1	"	
Surrogate: Toluene-d8	"	"	"	70.0-130		79.0	"	
Surrogate: 4-BFB	"	"	"	70.0-130		73.0		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 97100
Project Manager: Chip Goodhue

Sampled: 4/14/97 Received: 4/16/97

Reported: 4/28/97 14:38

### Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
IB-1	B704326-01	Soil	87.5	%
IB-2	B704326-02	Soil	88.8	%

North Creek Analytical, Inc.



Associated Earth Sciences

Project: Chuck Olson Chevrolet

Sampled: 4/14/97

179 Madrone Lane N.

Project Number: VB 97100

Received: 4/16/97

Bainbridge Island, WA 98110

Project Manager: Chip Goodhue

Reported: 4/28/97 14:38

## Hydrocarbon Identification by Washington DOE Method WTPH-HCID/Quality Control North Creek Analytical - Bothell

A -1	Date Analyzed	Spike Level	Sample Result	QC Result	I Units	Reporting Limit Recov. Limits	Recov.	RPD Limit	RPD %	Notes*		
Analyte	Analyzed	TGAGI	Kesuit	- ICSUIT	Oints	Trees. Billing						
Batch: 0470461	Date Prepa	<u> </u>				Extraction Method: HCID (WA)						
Blank	<u>0470461-Bl</u>	<u>LK1</u>										
Gasoline Range Hydrocarbons	4/18/97			ND	mg/kg di	ry <b>20.</b> 0						
Diesel Range Hydrocarbons	n			ND	Н	50.0						
Heavy Oil Range Hydrocarbons	17			ND	H	100						
Surrogate: 2-FBP	"	DET		DET	- "	50.0-150	91.7					

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N.

Project: Chuck Olson Chevrolet

Sampled: 4/14/97 Received: 4/16/97

Bainbridge Island, WA 98110

Project Number: VB 97100
Project Manager: Chip Goodhue

Reported: 4/28/97 14:38

Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/Quality Control
North Creek Analytical - Bothell

	Date	Spike	Sample	QC	F	Reporting Limit		RPD	RPD	_
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	<u>%</u>	Limit	%	Notes*
Batch: 0470602	Date Prepa	red: 4/23/9	97		Extracti	on Method: Me	OH Extr	action_		
Blank	0470602-BI		<u> </u>							
Gasoline Range Hydrocarbons	4/23/97	<del></del>		ND	mg/kg di	y 5.00				
Benzene	u			ND		0.0500				
Toluene	17			ND	II .	0.0500				
Ethylbenzene	11			ND	11	0.0500				
Xylenes (total)	19			ND	U	0.100				
Surrogate: 4-BFB (FID)		4.00		3.53	"	50.0-150	88.2			
Surrogate: 4-BFB (PID)	"	4.00		3.61	"	50.0-150	90.2			
LCS	0470602-BS	<u>51</u>								
Gasoline Range Hydrocarbons	4/23/97	25.0		23.7	mg/kg di	y 75.0-125	94.8			
Surrogate: 4-BFB (FID)	"	4.00		3.77	"	50.0-150	94.2			
<u>Duplicate</u>	0470602-D	UP1 B	704464-0 <u>4</u>							_
Gasoline Range Hydrocarbons	4/23/97		ND	ND	mg/kg di			50.0		
Surrogate: 4-BFB (FID)	"	5.35		3.11	"	50.0-150	58.1			
Matrix Spike	0470602-M	<u>S1</u> <u>B</u>	704366-0 <u>1</u>							
Benzene	4/23/97	0.612	ND	0.465	mg/kg di		76.0			
Toluene	II .	0.612	ND	0.495	n	60.0-140	80.9			
Ethylbenzene	11	0.612	ND	0.507	. "	60.0-140	82.8			
Xylenes (total)	10	1.84	ND	1.50	<u></u>	60.0-140	81.5			
Surrogate: 4-BFB (PID)	"	4.90		3.91	"	50.0-150	79.8			
Matrix Spike Dup	0470602-M	SD1 B	704366-01						0.40-3	
Benzene	4/23/97	0.612	ND	0.469	mg/kg di		76.6	20.0	0.786	
Toluene	11	0.612	ND	0.495	U	60.0-140	80.9	20.0	0	
Ethylbenzene	II .	0.612	ND	0.504	"	60.0-140	82.4	20.0	0.484	
Xylenes (total)	11	1.84	ND	1.51		60.0-140	82.1	20.0	0.733	
Surrogate: 4-BFB (PID)	<i>II</i>	4.90		3.98	n	50.0-150	81.2			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences

Project: Chuck Olson Chevrolet

Sampled: 4/14/97

179 Madrone Lane N.

Project Number: VB 97100

Received: 4/16/97

Bainbridge Island, WA 98110

Project Manager: Chip Goodhue

Reported: 4/28/97 14:38

### Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) with Silica Gel Clean-up/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0470610	Date Prepar	ed: 4/24/9	<u> 7</u>		Extracti	on Method: EPA	A 3550		
Blank	0470610-BL	<u>K1</u>							
Diesel Range Hydrocarbons	4/24/97		•	ND	mg/kg dr	y 10.0			•
Heavy Oil Range Hydrocarbons	н			ND	u	25.0			
Surrogate: 2-FBP	rr .	11.7		12.0	"	50.0-150	103		
LCS	0470610-BS1	<u> </u>							
Diesel Range Hydrocarbons	4/24/97	68.0		72.1	mg/kg dr	у 59.0-119	106		
Surrogate: 2-FBP	"	11.7		11.3	"	50.0-150	96.6		
Duplicate	0470610-DU	<u>P1 B7</u>	04326-01						
Diesel Range Hydrocarbons	4/24/97		ND	ND	mg/kg dr	у		56.0	
Surrogate: 2-FBP	"	13.3		14.3	<i>"</i>	50.0-150	108		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N. Project: Chuck Olson Chevrolet

Sampled: 4/14/97 Received: 4/16/97

Bainbridge Island, WA 98110

Project Number: VB 97100
Project Manager: Chip Goodhue

Reported: 4/28/97 14:38

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

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0470571	Date Prepa		<u>97</u>		Extrac	tion Method: Me	OH Extr	action	
<u>Blank</u>	<u>0470571-BI</u>	<u>LK1</u>							
Acetone	4/23/97			ND	mg/kg				-
Benzene	"			ND	n	0.200			
Bromobenzene	17			ND	"	0.200			
Bromochloromethane	п			ND	"	0.200			
Bromodichloromethane	и			ND	Ħ	0.200			
Bromoform	11			ND	13	0.200			
Bromomethane	17			ND	"	0.200			
2-Butanone	n			ND	D	2.00			
n-Butylbenzene	n			ND	19	0.200			
sec-Butylbenzene	"			ND	n	0.200			
tert-Butylbenzene	0			ND	н	0.200			
Carbon disulfide	n			ND .	19	0.200			
Carbon tetrachloride	D			ND	19	0.200			
Chlorobenzene	n			ND	10	0.200			
Chloroethane	"		•	ND	P	0.200			
Chloroform	11			ND	н	0.200			
Chloromethane	H .			ND	н	0.200			
2-Chlorotoluene	"			ND	11	0.200			
4-Chlorotoluene	"			ND	II.	0.200			
Dibromochloromethane	"			ND	11	0.200			
1,2-Dibromo-3-chloropropane	11			ND	H	1.00			
1,2-Dibromoethane	п			ND	D.	0.200			
Dibromomethane	11			ND	n	0.200			
1,2-Dichlorobenzene	11			ND	II.	0.200			
1,3-Dichlorobenzene	11			ND	n	0.200			•
1,4-Dichlorobenzene	n			ND	11	0.200			
Dichlorodifluoromethane	n			ND	"	0.200			
1,1-Dichloroethane	11			ND	n	0.200			
1,2-Dichloroethane	n			ND	11	0.200			
1,1-Dichloroethene	11			ND	11	0.200			
cis-1,2-Dichloroethene	17			ND	11	0.200			
trans-1,2-Dichloroethene	H			ND	đ	0.200			
1,2-Dichloropropane	н			ND	n	0.200			
1,3-Dichloropropane	IF			ND	n	0.200			
2,2-Dichloropropane	**			ND	11	0.200			
1,1-Dichloropropene	12			ND	D	0.200			
cis-1,3-Dichloropropene	н			ND	ir	0.200			
cis-1,3-Dicinoropropene				ND		0.200			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110

Project: Chuck Olson Chevrolet Project Number: VB 97100

Sampled: 4/14/97 Received: 4/16/97

Project Manager: Chip Goodhue

Reported: 4/28/97 14:38

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

	Date	Spike	Sample	QC		eporting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes
Blank (continued)	0470571-BI	LK1								
trans-1,3-Dichloropropene	4/23/97			ND	mg/kg dr	y <b>0.200</b>				
Ethylbenzene	"			ND	n	0.200				
Hexachlorobutadiene	11			ND	11	0.200				
2-Hexanone	"			ND	11	2.00				
Isopropylbenzene	n			ND	II .	0.200				
p-Isopropyltoluene	17			ND	11	0.200				
Methylene chloride	11			ND	II	1.00				
4-Methyl-2-pentanone	11			ND	n	2.00				
Naphthalene	н			ND	11	0.200				
n-Propylbenzene	н			ŅD	11	0.200				
Styrene	10			ND	11	0.200				
1,1,1,2-Tetrachloroethane	n			ND	11	0.200				
1,1,2,2-Tetrachloroethane	n			ND	11	0.200				
Tetrachloroethene	n			ND	11	0.200				
	n			ND	n	0.200				
Toluene 1,2,3-Trichlorobenzene	ri		•	ND	11	0.200				
	ıt			ND	19	0.200				
1,2,4-Trichlorobenzene	н			ND	11	0.200				
1,1,1-Trichloroethane	н			ND	17	0.200				
1,1,2-Trichloroethane	10			ND	1)	0.200				
Trichloroethene	19			ND	1)	0.200				
Trichlorofluoromethane				ND	11	0.200				
1,2,3-Trichloropropane				ND ND		0.200				
1,2,4-Trimethylbenzene	"				11	0.200				
1,3,5-Trimethylbenzene	и н			ND	11	0.200				
Vinyl chloride	,,			ND		0.200				
o-Xylene	"			ND	U	0.200				
m,p-Xylene		3.00		ND 1.70	<del></del>	70.0-130	85.0			-
Surrogate: 1,2-DCA-d4	"	2.00		2.04	,,	70.0-130	102			
Surrogate: Toluene-d8	"	2.00			"	70.0-130	87.0			
Surrogate: 4-BFB	"	2.00		1.74		70.0-130	67.0			
Matrix Spike	<u>0470571-M</u>		704326-01							
Benzene	4/23/97	1.14	ND	1.12	mg/kg dr		98.2			
Chlorobenzene	**	1.14	ND	0.995	"	70.0-130	87.3			=
1,1-Dichloroethene	11	1.14	ND	0.782	"	70.0-130	68.6			-
Toluene .	11	1.14	ND	1.03	II.	70.0-130	90.4			
Trichloroethene	**	1.14	ND	0.930		70.0-130	81.6			
Surrogate: 1,2-DCA-d4	"	2.29		1.82	"	70.0-130	79.5			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (206) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences Project: Chuck Olson Chevrolet Sampled: 4/14/97

179 Madrone Lane N. Project Number: VB 97100 Received: 4/16/97

Bainbridge Island, WA 98110 Project Manager: Chip Goodhue Reported: 4/28/97 14:38

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

	Date	Spike	Sample	QC	Re	porting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Matrix Spike (continued)	0470571-M	<u>S1</u> <u>B</u>	704326- <u>01</u>							
Surrogate: Toluene-d8	4/23/97	2.29		2.13	mg/kg dry	70.0-130	93.0			
Surrogate: 4-BFB	"	2.29		1.82	"	70.0-130	<i>79.5</i>			
Matrix Spike Dup	0470571-M	SD1 B	704326-0 <u>1</u>							
Benzene	4/23/97	1.14	ND	1.12	mg/kg dry	70.0-130	98.2	15.0	0	
Chlorobenzene	n	1.14	ND	0.980	**	70.0-130	86.0	15.0	1.50	
1,1-Dichloroethene	Ħ	1.14	ND	0.788	H	70.0-130	69.1	15.0	0.726	3
Toluene	m	1.14	ND	1.02	11	70.0-130	89.5	15.0	1.00	
Trichloroethene	19	1.14	ND	0.923	II .	70.0-130	81.0	15.0	0.738	
Surrogate: 1,2-DCA-d4	"	2.29		1.80	"	70.0-130	78.6	-		
Surrogate: Toluene-d8	**	2.29		2.13	"	70.0-130	93.0			
Surrogate: 4-BFB	11	2.29		1.80	<b>"</b> .	70.0-130	78.6			

North Creak Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N.

Project: Chuck Olson Chevrolet

Sampled: 4/14/97 Received: 4/16/97

Bainbridge Island, WA 98110

Project Number: VB 97100 Project Manager: Chip Goodhue

Reported: 4/28/97 14:38

### Notes and Definitions

#	Note
1.	The diesel range organics present are due to hydrocarbons eluting primarily in the heavy oil range.
2	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
3	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
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
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical Inc.

 18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992

 East 11115 Montgomery, Suite B. Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290

 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

NORTH CREEK ANALYTICAL Environmental Laboratory Services

ANALYTICAL Environmental Laboratory Services CHAIN OF CUST	TODY REPORT	Γ	Work	Order#	B 700	1326
REPORT TO:	INVOICE TO:	personal and species and the second production	Affice of the section of the Section of	19	AROUND REQUEST	
ATTENTION: CHIP GOODHUE	ATTENTION: 5AM	46	V 4	1 Q	Organic & Inorgan	-
ADDRESS: 179 MADRAW (N.	ADDRESS:		20	Findand 7		3 2 I Same
BAINBRIDGE ISLAMD, WA 9811	<i>(</i> 0		. On 0. 3	<b>i</b> .	Fugls & Hydroc	curbon Analyses
PHONE: (266) 780-9370 FAX: (201) 780-94	38 P.O. NUMBER:	NCAGUIC NCAGUIC	OTE A	<b>E</b>	5 3-4 2	
PROJECT NAME: CHUCK OLSON CHEVROLET	Analysis Request:		S		SMINISH	
PROJECT NUMBER: 12397009 VB 9711	Request:	/V >/ /	7 / / /	OTHER	Specity:	
CLIENT SAMPLE SAMPLING SAMPLE DO						ard may incur Rush Charges.
IDENTIFICATION DATE/TIME (Labriagury Use Only				MATRIX (W. S. A. O)	# OF CONTAINERS	COMMENTS
1 IB-1 4/14 B709326	Not X X	( <b>/ M</b>		501	Z	
2 IB-2 4/14	ez X	144		504	2	
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						<del></del>
RELINQUISHED BY (Sugnidates SSS SSS)	DATE: 4/15/2	RECEIVED BY (Signature):	oletti Wiea	ve		DATE: 4.16.97
PRINT NAME: BSB BOOK FIRM: AESI	T TIME: 3:00 p	PRINT NAME: COLE-	olette weave	FI	IRM: UCA	TIME: (/ 15
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signular)				
PRINT NAME: FIRM:	тіме;	PRINT NAME:			UD14.	DATE:
ADDITIONAL REMARKS:				FI	IRAt:	TIME:
						PAGE OF



Associated Earth Sciences 179 Madrone Lane N.

Bainbridge Island, WA 98110

Project:

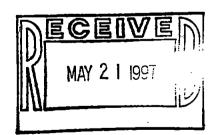
Chuck Olson Chevrolet

VB 9711 Project Number: Project Manager: Chip Goodhue Sampled: 5/13/97

Received: 5/13/97 Reported: 5/20/97 16:44

### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
IB-3.1 (8')	B705225-01	Soil	5/13/97
IB-4.1 (7')	B705225-02	Soil	5/13/97
IB-5.1 (8')	B705225-03	Soil	5/13/97
IB-7.1 (8')	B705225-04	Soil	5/13/97
IB-8.1 (7')	B705225-05	Soil	5/13/97
' IB-9.1 (7.5')	B705225-06	Soil	5/13/97
IB-9.3 (13.5')	B705225-08	Soil	5/13/97
IB-10.1 (7')	B705225-09	Soil	5/13/97
IB-11.1 (5')	B705225-10	Soil	5/13/97
IB-12.1 (2.5')	B705225-12	Soil	5/13/97



North Creek Analytical, Inc.

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.



Sampled: 5/13/97

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 9711 Project Manager: Chip Goodhue Received: 5/13/97

Reported: 5/20/97 16:44

### Hydrocarbon Identification by Washington DOE Method WTPH-HCID North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes
		· · · · ·						
IB-3.1 (8')			B70522	<u> 25-01</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0570363	5/14/97	5/15/97		20.0	ND	mg/kg dry	
Diesel Range Hydrocarbons	n	17	n		50.0	ND	11	
Heavy Oil Range Hydrocarbons	19	n	"		100	ND		
Surrogate: 2-FBP	"	"	"	50.0-150		119	%	
	•		D#0.50	25.02			Sail	
(B-4.1 (7')			<u>B70522</u>	<u> 25-02</u>	20.0	, ND	Soil	
Gasoline Range Hydrocarbons	0570363	5/14/97	5/15/97		20.0	ND	mg/kg dry "	
Diesel Range Hydrocarbons	11	"	11		50.0	ND		
Heavy Oil Range Hydrocarbons	11		n 		100	DET	11	
Surrogate: 2-FBP	"	10	"	50.0-150		110	%	
[B-5.1 <u>(8')</u>			B70522	25-03			Soil	
Gasoline Range Hydrocarbons	0570363	5/14/97	5/15/97		20.0	DET	mg/kg dry	
Diesel Range Hydrocarbons	"	11	"		50.0	DET	" "	I
Heavy Oil Range Hydrocarbons	**	n	n		100	DET	n	
Surrogate: 2-FBP		<u>"</u>	n ·	50.0-150		105	%	
Surrogale. 2-1 D1				50.0 150				
IB-7.1 (8')			B70522	<u>25-04</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0570363	5/14/97	5/15/97		20.0	ND	mg/kg dry	
Diesel Range Hydrocarbons	11	II .	н		50.0	ND	Ħ	
Heavy Oil Range Hydrocarbons	"		н		100	ND	н	
Surrogate: 2-FBP	"	11	"	50.0-150		113	%	
3								•
(B-8.1 (7')			<u>B7052</u>	<u> 25-05</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0570363	5/14/97	5/15/97		20.0	ND	mg/kg dry	
Diesel Range Hydrocarbons	"	II .	11		50.0	DET	18	`1
Heavy Oil Range Hydrocarbons	"	II .	n		100	DET	D	
Surrogate: 2-FBP	"	"	"	50.0-150		100	%	
(R 0 1 (7 5')			B7052	25-06			<u>Soil</u>	
(B-9.1 (7.5') Gasoline Range Hydrocarbons	0570363	5/14/97	5/16/97	<u></u>	20.0	DET	mg/kg dry	
	0270303	J/ 14/ <i>7/</i>	3/10/ <i>3</i> /		50.0	DET	"	1
Diesel Range Hydrocarbons		н	,		100	DET	11	-
Heavy Oil Range Hydrocarbons Surrogate: 2-FBP	<u> </u>	<i>"</i>	<i>"</i>	50.0-150	100	104	%	
an oguie. 2-4 Di	,							
(B-9.3 ( <u>13.5')</u>	1		B7052	<u>25-08</u>			<u>Soil</u>	
Gasoline Range Hydrocarbons	0570363	5/14/97	5/16/97		20.0	DET	mg/kg dry	
Diesel Range Hydrocarbons	i H	II.	n		50.0	DET	17	1

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (425) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet
Project Number: VB 9711

Project Manager: Chip Goodhue

Sampled: 5/13/97 Received: 5/13/97

Reported: 5/20/97 16:44

### Hydrocarbon Identification by Washington DOE Method WTPH-HCID North Creek Analytical - Bothell

1	•								
i		Batch	Date	Date	Surrogate	Reporting			
1	Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
1	IB-9.3 (13.5') (continued)			B70522	<u> 25-08</u>			Soil	
ì	Heavy Oil Range Hydrocarbons	0570363	5/14/97	5/16/97		100	DET	mg/kg dry	
	Surrogate: 2-FBP		H	"	50.0-150	-	107	%	•
1					•				
	IB-1 <u>0.1 (7')</u>			B7052	<u> 25-09</u>			<u>Soil</u>	
	Gasoline Range Hydrocarbons	0570363	5/14/97	5/16/97		20.0	DET	mg/kg dry	
į		"	11	11		50.0	DET		1
i	Diesel Range Hydrocarbons	**	ıt	н	•	100	DET	1)	
1	Heavy Oil Range Hydrocarbons			<del></del>	50.0-150		108	%	
•	Surrogate: 2-FBP				30.0-130				
ı	TD +1 1 /5!\			B7052	25-10		*	. <u>Soil</u>	
ı	IB-11.1 (5')	0570401	5/14/97	5/15/97	<del></del>	20.0	DET	mg/kg dry	
1	Gasoline Range Hydrocarbons	0370401	3/1 <del>4/3/</del>	91 13177		50.0	DET	"	1
	Diesel Range Hydrocarbons		"			100	DET	11	•
	Heavy Oil Range Hydrocarbons				70.0.150	100	101		
1	Surrogate: 2-FBP	"	"	ıt	50.0-150		101	/0	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 9711

Sampled: 5/13/97

Received: 5/13/97

Project Manager: Chip Goodhue

Reported: 5/20/97 16:44

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

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
		-	<del></del>				a	
<u>IB-11.1 (5')</u>	_		<u>B70522</u>	<u>25-10</u>	2.00	ND	Soil	
Acetone	0570470	5/16/97	5/16/97		2.00	ND	mg/kg dry "	
Benzene	U	**			0.200	ND		
Bromobenzene	11	11	ti .		0.200	ND		
Bromochloromethane	11	"	11		0.200	ND	"	
Bromodichloromethane	"	n	"		0.200	ND	)) D	
Bromoform	n	14	n		0.200	ND		•
Bromomethane	. "	11	n		0.200	ND	"	
2-Butanone	11	11	n .		2.00	ND	"	
n-Butylbenzene	11	n	н		0.200	0.910	D	
sec-Butyibenzene	n	н	U		0.200	0.429	"	
tert-Butylbenzene	n	n	"		0.200	ND	11	
Carbon disulfide	п	"	r,		0.200	ND	н	
Carbon tetrachloride	"	11	n		0.200	ND	"	
Chlorobenzene	**	10	н		0.200	ND	"	
Chloroethane	IT	II .	17		0.200	ND	"	
Chloroform	11	10	, .		0.200	ND	11	
Chloromethane	ıı .	n	n		0.200	ND	II .	
2-Chlorotoluene	u	17			0.200	ND	11	
4-Chlorotoluene	н	17	II.		0.200	ND	n	
Dibromochloromethane	19	19	н		0.200	ND	n	
1,2-Dibromo-3-chloropropane	11	19	н		1.00	ND	11	
1,2-Dibromoethane	11		11		0.200	ND	n .	
Dibromomethane	19		10		0.200	ND	11	
1,2-Dichlorobenzene	11	**	n		0.200	ND	n	
·	11	**	H		0.200	ND	11	
1,3-Dichlorobenzene	11	**	n		0.200	ND	n	•
1,4-Dichlorobenzene	"	H			0.200	ND	II.	
Dichlorodifluoromethane	11	**			0.200	ND	11	
1,1-Dichloroethane	n	**	н		0.200	ND	н	
1,2-Dichloroethane	a a	17	11		0.200	ND	17	
I,1-Dichloroethene		**	**		0.200	ND	**	
cis-1,2-Dichloroethene					0.200	ND	11	
trans-1,2-Dichloroethene	n n	 D	11		0.200	ND	19	
1,2-Dichloropropane	er er	"	"		0.200	ND	11	
1,3-Dichloropropane	"	'' ''	"		0.200	ND		
2,2-Dichloropropane							11	
1,1-Dichloropropene			"		0.200	ND	,,	
cis-1,3-Dichloropropene	. "	11	11		0.200	ND		
trans-1,3-Dichloropropene	11	D	11		0.200	ND		

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Sampled: 5/13/97

Associated Earth Sciences Project: Chuck Olson Chevrolet 179 Madrone Lane N. Project Number: VB 9711 Received: 5/13/97 Bainbridge Island, WA 98110 Project Manager: Chip Goodhue Reported: 5/20/97 16:44

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

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes
B-11.1 (5') (continued)			B70522	25_10			Soil	
Ethylbenzene	0570470	5/16/97	5/16/97	<u>,5-10</u>	0.200	0.259	mg/kg dry	
-lexachlorobutadiene	II	"	"		0.200	ND	"	
2-Hexanone	u .	11	11		2.00	ND	tr	
sopropylbenzene	n	n	**		0.200	0.323	11	
n-Isopropyltoluene	n	19	**		0.200	1.20		
Methylene chloride	н	n	r		1.00	ND	11	
l-Methyl-2-pentanone			tt		2.00	ND	n.	
Naphthalene	"		n		0.200	1.56	11	
-Propylbenzene	17	11	**		0.200	0.723	o o	
Styrene	U	**	71		0.200	ND	,,	
,1,1,2-Tetrachloroethane	ıı	н			0.200	ND	u .	
,1,2,2-Tetrachloroethane	u .		n		0.200	ND	,	
Cetrachloroethene	n		n		0.200	3.19	"	
Coluene	"	11	n		0.200	0.293	11	
,2,3-Trichlorobenzene	11	11	U		0.200	ND	o o	
,2,4-Trichlorobenzene	n	n	,		0.200	ND	11	
,1,1-Trichloroethane	n	11	н		0.200	2.74	11	
,1,2-Trichloroethane	. ,,	n	11		0.200	ND	"	
richloroethene	n	19	n		0.200	ND	11	
richlorofluoromethane	n	"			0.200	ND	u .	
,2,3-Trichloropropane	"	**	H		0.200	ND	11	
,2,4-Trimethylbenzene	U		Ħ		0.200	7.04	11	
,3,5-Trimethylbenzene	"	11	••		0.200	2.02	11	
/inyl chloride	"	11	н .		0.200	ND	11	
-Xylene	**	n	11		0.200	1.16	n	
n,p-Xylene		17	n		0.200	1.94	n	•
urrogate: 1,2-DCA-d4	· · · · · · · · · · · · · · · · · · ·	"	н	70.0-130	0.200	94.8	%	
urrogate: 1,2-DCA-44 'urrogate: Toluene-d8	"	· #	n	70.0-130		98.I	"	
urrogate: 4-BFB	,,	,,	77	70.0-130		90.1	"	

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PORTLAND = (503) 643-9200 = FAX 644-2202

Sampled: 5/13/97

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet
Project Number: VB 9711

VB 9711 Received: 5/13/97

Project Manager: Chip Goodhue

Reported: 5/20/97 16:44

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

Analyte Number Prepared Analyzed Blands Soil		Batch	Date	Date	Surrogate	Reporting			
	Analyte	Number	Prepared	Analyzed	Limits	<u>Limit</u>	Result	Units	Notes*
				·= <del></del>				e.u	
Accorde	<u>IB-12.1 (2.5')</u>				2 <u>5-12</u>	<b>2.</b> 2.2	310		
Benzene									
Bromochane	Benzene								
Bromodichoromethane	Bromobenzene						_		
Bromofethoromethane		•					-		
Bromoform	Bromodichloromethane								
Bromomethane		11					_		
2-Butanone n-Butylbenzene sec-Butylbenzene tert-Butylbenzene tert-Butylbenzene tert-Butylbenzene tert-Butylbenzene tert-Butylbenzene carbon disulfide Carbon tetrachloride Chlorobenzene									
n-Burylbenzene	2-Butanone	17	II						
sec-Butylbenzene         """"""""""""""""""""""""""""""""""""	<b>—</b> — — — — — — — — — — — — — — — — — —	"	11	U					
tert-Butylbenzene         " " " " " " " " " " " " " " " " " " "		H		"					
Carbon disulfide         """"""""""""""""""""""""""""""""""""			н	11					
Carbon tetrachloride         " 0.200 ND "           Chlorobenzene         " 0.200 ND "           Chlorotethane         " 0.200 ND "           Chloroform         " 0.200 ND "           Chlorotethane         " 0.200 ND "           Chlorotethane         " 0.200 ND "           2-Chlorotoluene         " 0.200 ND "           Pibromochloromethane         " 0.200 ND "           1,2-Dibromo-3-chloropropane         " 0.200 ND "           1,2-Dibromoethane         " 0.200 ND "           1,2-Dibromoethane         " 0.200 ND "           1,2-Diblorobenzene         " 0.200 ND "           1,3-Dichlorobenzene         " 0.200 ND "           1,4-Dichlorobenzene         " 0.200 ND "           1,1-Dichlorotethane         " 0.200 ND "           1,2-Dichlorotethane         " 0.200 ND "           1,2-Dichlorotethene         " 0.200 ND "           1,2-Dichloropopane         " 0.200 ND "		17	11	n					
Chlorobenzene		11	"	10					
Chloroethane		11	11	n					
Chloroform         """"         0.200         ND         """           Chloromethane         """"         0.200         ND         ""           2-Chlorotoluene         """"         0.200         ND         ""           4-Chlorotoluene         """"         0.200         ND         ""           Dibromochloromethane         """"         0.200         ND         ""           1,2-Dibromo-3-chloropropane         """"         0.200         ND         ""           1,2-Dibromoethane         """"         0.200         ND         ""           1,2-Dichlorobenzene         """"         0.200         ND         ""           1,3-Dichlorobenzene         """"         0.200         ND         ""           1,4-Dichlorobenzene         """"         0.200         ND         ""           1,4-Dichlorobenzene         """"         0.200         ND         ""           1,1-Dichloroethane         """"         0.200         ND         ""           1,1-Dichloroethane         """         0.200         ND         ""           1,2-Dichloroethene         """         0.200         ND         ""           trans-1,2-Dichloroptopane         """         0.200		**	н	"					
Chloromethane 2-Chlorotoluene 4-Chlorotoluene 4-Chlorotoluene 4-Chlorotoluene 4-Chlorotoluene 7		10	"	"			ND		
2-Chlorotoluene		11	n	11					
4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromochloromethane 1,2-Dibromoethane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichlorothane 1,1-Dichloropropane 1,		н	II .	H		0.200	ND		
Dibromochloromethane		**	n	"		0.200	ND		
1,2-Dibromo-3-chloropropane       " " " " Dibromoethane       0.200 ND " " " " " Dibromomethane         1,2-Dibromoethane       " " " Dibromomethane       0.200 ND " " Dibromomethane         1,2-Dichlorobenzene       " " " Dibromomethane       0.200 ND " " Dibromomethane         1,3-Dichlorobenzene       " " " Dibromomethane       0.200 ND " " Dibromomethane         1,4-Dichlorobenzene       " " " Dibromomethane       0.200 ND " " Dibromomethane         1,1-Dichloroethane       " " " Dibromomethane       0.200 ND " " Dibromomethane         1,1-Dichloroethane       " " " Dibromomethane       0.200 ND " " Dibromomethane         1,1-Dichloroethane       " " " Dibromomethane       0.200 ND " Dibromomethane         1,1-Dichloroethane       " " " Dibromomethane       0.200 ND " Dibromomethane         1,1-Dichloroethane       " " " Dibromomethane       0.200 ND " Dibromomethane         1,1-Dichloroethane       " " " " Dichloroethane       0.200 ND " Dibromomethane         1,1-Dichloroethane       " " " " " " Dichloroethane       0.200 ND " " Dibromomethane         1,2-Dichloroethane       " " " " " " " " " Dichloroethane       0.200 ND " " Dibromomethane         1,2-Dichloropropane       " " " " " " " " " Dichloroethane       0.200 ND " " Dibromomethane         1,3-Dichloropropane       " " " " " " " " " " Dichloroethane       0.200 ND " " Dibromomethane </td <td></td> <td>,11</td> <td>**</td> <td>II .</td> <td></td> <td>0.200</td> <td>ND</td> <td></td> <td></td>		,11	**	II .		0.200	ND		
1,2-Dibromoethane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,3-Dichloropanae 1,3-Dichloropanae 1,3-Dichloropanae 1,3-Dichloropanae 1,1-Dichloropanae 1,1-Dichl		11*	11	н	•		ND	11	
1,2-Diornomethane	·	10	<b>II</b>	11	•		ND	n	
1,2-Dichlorobenzene	•	"	D.	11				n	
1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethene 1,1-Dichloroethene 1,1-Dichloroethene 1,1-Dichloroethene 1,1-Dichloroethene 1,1-Dichloroethene 1,1-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloroethene 1,2-Dichloropropane 1,2-Dichloropropane 1,2-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 1,1-Dichloropropane 1								II .	
1,4-Dichlorobenzene  1,4-Dichlorobenzene  Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,3-Dichloropropane 1,3-Dichloroprop	•			IF				II .	
1,4-Dichlorodifluoromethane	•							п	•
1,1-Dichloroethane       " " " " " 0.200 ND "         1,2-Dichloroethane       " " " " 0.200 ND "         1,1-Dichloroethene       " " " 0.200 ND "         cis-1,2-Dichloroethene       " " " 0.200 ND "         trans-1,2-Dichloroethene       " " " 0.200 ND "         1,2-Dichloropropane       " " " 0.200 ND "         1,3-Dichloropropane       " " " 0.200 ND "         2,2-Dichloropropane       " " 0.200 ND "         1,1-Dichloropropene       " " " 0.200 ND "         cis-1,3-Dichloropropene       " " 0.200 ND "					•			"	
1,2-Dichloroethane       " " " " D.200 ND "         1,1-Dichloroethane       " " " D.200 ND "         1,1-Dichloroethene       " " " D.200 ND "         cis-1,2-Dichloroethene       " " " D.200 ND "         trans-1,2-Dichloropropane       " " " D.200 ND "         1,3-Dichloropropane       " " " D.200 ND "         2,2-Dichloropropane       " " " D.200 ND "         1,1-Dichloropropane       " " D.200 ND "         1,1-Dichloropropane       " " D.200 ND "         1,1-Dichloropropane       " " D.200 ND "								19	
1,2-Dichloroethane       " " " " " 0.200 ND "         1,1-Dichloroethene       " " " 0.200 ND "         cis-1,2-Dichloroethene       " " " 0.200 ND "         trans-1,2-Dichloropropane       " " 0.200 ND "         1,3-Dichloropropane       " " 0.200 ND "         2,2-Dichloropropane       " " 0.200 ND "         1,1-Dichloropropene       " " 0.200 ND "         cis-1,3-Dichloropropene       " " 0.200 ND "		•						11	
1,1-Dichloroperhene	•						_	17	
trans-1,2-Dichloroethene 1,2-Dichloropropane 1,2-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 1,1-Dichloropropane 1,1-Dichloropropene								n	
1,2-Dichloropropane       " " " " 0.200 ND "         1,3-Dichloropropane       " " 0.200 ND "         2,2-Dichloropropane       " " 0.200 ND "         1,1-Dichloropropene       " " 0.200 ND "         cis-1,3-Dichloropropene       " " 0.200 ND "	•						_	ıı	
1,3-Dichloropropane       " " " " 0.200 ND "         2,2-Dichloropropane       " " 0.200 ND "         1,1-Dichloropropene       " " 0.200 ND "         cis-1,3-Dichloropropene       " " 0.200 ND "								и	
1,3-Dichloropropane       " " " " 0.200 ND "         2,2-Dichloropropane       " " " 0.200 ND "         1,1-Dichloropropene       " " 0.200 ND "         cis-1,3-Dichloropropene       " " 0.200 ND "			•					н	
1,1-Dichloropropene       " " " 0.200 ND "         cis-1,3-Dichloropropene       " " 0.200 ND "	• •	•						17	
cis-1,3-Dichloropropene " " " 0.200 ND "	· ·						-	,,	
cts-1,3-Dictrioroproperte									
trans-1,3-Dichloropropene " " " 0.200 ND "									
	trans-1,3-Dichloropropene	11	11	п		0.200	ND		

North Creek Analytical, Inc.

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Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 9711
Project Manager: Chip Goodhue

Sampled: 5/13/97 Received: 5/13/97

Reported: 5/20/97 16:44

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

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
IB-12.1 (2.5') (continued)			B70522	25-12			<u>Soil</u>	
Ethylbenzene	0570470	5/16/97	5/16/97	<u>-v</u>	0.200	ND	mg/kg dry	
Hexachlorobutadiene	" .	"	"		0.200	ND	, ,	
2-Hexanone	11	n	**		2.00	ND	11	
Isopropylbenzene	II .	ı)	**		0.200	ND	"	
	17	n	n		0.200	ND	II .	
p-Isopropyltoluene	11	11	19		1.00	ND	U	
Methylene chloride	n	19	11		2.00	ND	11	
4-Methyl-2-pentanone	n	10			0.200	ND	u .	
Naphthalene	,		"		0.200	ND	<b>"</b> '	
n-Propylbenzene	,,	11	, .		0.200	ND	*	
Styrene	,,				0.200	ND	•	
1,1,1,2-Tetrachloroethane		 n	,,		0.200	ND	n	
1,1,2,2-Tetrachloroethane	 U		9		0.200	ND	"	
Tetrachloroethene	 !				0.200	ND	"	
Toluene	"	"	"		0.200	ND	,,	
1,2,3-Trichlorobenzene		"	, .			ND	,,	
1,2,4-Trichlorobenzene	· n		"		0.200	ND ND	,,	
1,1,1-Trichloroethane	11	n			0.200			
1,1,2-Trichloroethane	11			•	0.200	ND		
Trichloroethene	17	n	H		0.200	ND	 I <del>t</del>	
Trichlorofluoromethane	19	17	".		0.200	ND		
1,2,3-Trichloropropane	17	19			0.200	ND	10	
1,2,4-Trimethylbenzene	n	"	п		. 0.200	ND	H .	
1,3,5-Trimethylbenzene	"	11	17		0.200	ND	19	
Vinyl chloride	H	n	**		0.200	ND	h	
o-Xylene	11	II	**		0.200	ND	**	
m,p-Xylene		н	11		0.200	ND_		
Surrogate: 1,2-DCA-d4	"	**	"	70.0-130		<i>89.7</i>	%	
Surrogate: Toluene-d8	"	,,	"	70.0-130		84.8	"	
Surrogate: 4-BFB	"	"	"	70.0-130		81.1	"	

North Greek Analytical, Inc.

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BOTHELL = (425) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences 179 Madrone Lane N.

Project: Chuck Olson Chevrolet

Sampled: 5/13/97 Received: 5/13/97

Bainbridge Island, WA 98110

Project Number: VB 9711
Project Manager: Chip Goodhue

Reported: 5/20/97 16:44

### Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
IB-3.1 (8')	B705225-01	Soil	90.1	%
IB-4.1 (7')	B705225-02	Soil	89.3	%
IB-5.1 (8')	B705225-03	Soil	93.3	%
IB-7.1 (8')	B705225-04	Soil	89.9	%
IB-8.1 (7')	B705225-05	Soil	88.5	%
IB-9.I (7.5')	B705225-06	Soil	88.0	%
IB-9.3 (13.5')	B705225-08	Soil	93.6	%
IB-10.1 (7')	B705225-09	Soil	90.7	%
IB-11.1 (5')	B705225-10	Soil	93.8	%
IB-12.1 (2.5')	B705225-12	Soil	82.3	%

North Creek Apalytical, Inc.



Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 9711

Project Manager: Chip Goodhue

Sampled: 5/13/97 Received: 5/13/97

Reported: 5/20/97 16:44

# Hydrocarbon Identification by Washington DOE Method WTPH-HCID/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units_	Reporting Limit Recov. Limits	Recov.	RPD Limit	RPD % Notes*
Batch: 0570363 Blank Gasoline Range Hydrocarbons Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons Surrogate: 2-FBP	Date Prepa 0570363-BI 5/15/97		<u>97</u>	ND ND ND	Extracti mg/kg di "	ry 20.0 50.0 100 50.0-150	ID (WA)		
Batch: 0570401  Blank Gasoline Range Hydrocarbons Diesel Range Hydrocarbons Heavy Oil Range Hydrocarbons Surrogate: 2-FBP	<u>Date Prepa</u> <u>0570401-B</u> <u>5/15/97</u>		97	ND ND ND	Extract mg/kg d	ry 20.0 50.0 100 50.0-150		<u> </u>	

North Greek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



BOTHELL = (425) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290

PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 9711

Sampled: 5/13/97 Received: 5/13/97

חממ

Project Manager: Chip Goodhue Reported: 5/20/97 16:44

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

	Date	Spike	Sample	QC	Į	Reporting Limit		RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0570470	Date Prepa	rad: 5/16/	97		Extracti	ion Method: Me	OH Extr	action	
Blank	0570470-BI		2.1		<u> aniaci</u>	ion incuioa. Me	JIX MAII		
	5/16/97	LIXI		ND	mg/kg d	гу 2.00			
Acetone Benzene	<i>Ji</i> 10/ <i>9 i</i>			ND ND	mg/kg u.	0.200			
	п			ND	tt	0.200			
Bromobenzene Bromochloromethane	11			ND ND	11	0.200			
Bromodichloromethane	11			ND ND	11	0.200			
<b></b>	11			ND	11	0.200			
Bromoform				ND	"	0.200			
Bromomethane					n	2.00			
2-Butanone	••			ND	19	0.200			
n-Butylbenzene				ND	n				
sec-Butylbenzene				ND		0.200			
tert-Butylbenzene	n .			ND	19	0.200			
Carbon disulfide	11			ND		0.200			
Carbon tetrachloride	"			ND		0.200			
Chlorobenzene	l)			ND	H	0.200			
Chloroethane	11			ND	11	0.200			
Chloroform	n			ND	0	0.200			
Chloromethane	11			ND	H	0.200			
2-Chlorotoluene	"			ND	"	0.200			
4-Chlorotoluene	11			ND	11	0.200			
Dibromochloromethane	"			ND	"	0.200			
1,2-Dibromo-3-chloropropane	n			ND	17	1.00			
1,2-Dibromoethane	n			ND	19	0.200			
Dibromomethane	19			ND	19	0.200			
1,2-Dichlorobenzene	H			ND	H	0.200			
1,3-Dichlorobenzene	11		•	ND	19	0.200			•
1,4-Dichlorobenzene	11			ND	11	0.200			
Dichlorodifluoromethane	11			ND	19	0.200			
1,1-Dichloroethane	11			ND	11	0.200			
1,2-Dichloroethane	n			ND	11	0.200			
1,1-Dichloroethene	n			ND	10	0.200			
cis-1,2-Dichloroethene	tr			ND	**	0.200			
trans-1,2-Dichloroethene	n		•	ND	n	0.200			
1,2-Dichloropropane	n			ND	*1	0.200	•		
1,3-Dichloropropane	**			ND	n	0.200			
2,2-Dichloropropane	11			ND	n	0.200			
1,1-Dichloropropene				ND	II .	0.200			
	"			ND	19	0.200			
cis-1,3-Dichloropropene				ND		0.200			

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\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 9711
Project Manager: Chip Goodhue

Sampled: 5/13/97 Received: 5/13/97

Reported: 5/20/97 16:44

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

	Date	Spike	Sample	QC		porting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	. %	Notes*
Blank (continued)	0570470-BI	.K1								
trans-1,3-Dichloropropene	5/16/97	<u> </u>		ND	mg/kg dry	0.200				
Ethylbenzene	"			ND	n	0.200				
Hexachlorobutadiene	11			ND		0.200				
2-Hexanone	**			ND	n	2.00				
Isopropylbenzene	11			ND	H	0.200				
	H			ND	n	0.200				
p-Isopropyltoluene	H			ND	"	1.00				
Methylene chloride	n			ND	11	2.00				
4-Methyl-2-pentanone				ND	ur.	0.200				
Naphthalene	II.			ND	19	0.200				
n-Propylbenzene	11			ND	m	0.200				
Styrene				ND	10	0.200				
1,1,1,2-Tetrachloroethane	n			ND ND	н	0.200				
1,1,2,2-Tetrachloroethane	n.			ND ND	17	0.200				
Tetrachloroethene	**				11	0.200				
Toluene	"			ND	11	0.200				
1,2,3-Trichlorobenzene	,,		•	ND		0.200				
1,2,4-Trichlorobenzene	"			ND	u u	0.200				
1,1,1-Trichloroethane				ND	,,					
1,1,2-Trichloroethane	11			ND	.,	0.200				
Trichloroethene	"			ND	"	0.200				
Trichlorofluoromethane	U			ND		0.200				
1,2,3-Trichloropropane	n			ND	n.	0.200				
1,2,4-Trimethylbenzene	н			ND	11	0.200				
1,3,5-Trimethylbenzene	н			ND	"	0.200				
Vinyl chloride	11			ND		0.200				
o-Xylene	n			ND	11	0.200				
m,p-Xylene	n		_	ND		0.200				
Surrogate: 1,2-DCA-d4	"	2.00		2.14	**	70.0-130	107			
Surrogate: Toluene-d8	"	2.00		1.98	"	70.0-130	99.0			
Surrogate: 4-BFB	"	2.00	,	1.90	rr .	70.0-130	95.0			
Matrix Spike	0570470-M	S1 B'	705250-11				•			
Benzene	5/19/97	1.20	ND	1.06	mg/kg dry	70.0-130	88.3			
Chlorobenzene	11	1.20	ND	1.09	"	70.0-130	90.8			
1,1-Dichloroethene	n	1.20	ND	0.845	11	70.0-130	70.4			
Toluene	II.	1.20	ND	1.09	19	70.0-130	90.8			
• • • • • • • • • • • • • • • • • • • •	tt .	1.20	ND	1.10	n	70.0-130	91.7			
Trichloroethene Surrogate: 1,2-DCA-d4		2.39		2.26		70.0-130	94.6			

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences
179 Madrone Lane N.

Project: Chuck Olson Chevrolet

Sampled: 5/13/97

179 Madrone Lane N.

Project Number: VB 9711

Received: 5/13/97

Bainbridge Island, WA 98110

Project Manager: Chip Goodhue

Reported: 5/20/97 16:44

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Re Units	eporting Limit Recov. Limits	Recov.	RPD Limit	RPD %	Notes*
Matrix Spike (continued)	<u>0570470-M</u>	<del></del>	705250-11			70.0.120	07.1		_	
Surrogate: Toluene-d8 Surrogate: 4-BFB	5/19/97 "	2.39 2.39		2.32 2.16	mg/kg dry "	70.0-130 70.0-130	97.1 90.4			
Matrix Spike Dup	0570 <u>470-M</u>	<u>SD1</u> <u>B</u> '	705250-11							
Benzene	5/19/97	1.20	ND	1.08	mg/kg dry	70.0-130	90.0	15.0	1.91	
Chlorobenzene	pt .	1.20	ND	1.09	19	70.0-130	90.8	15.0	0	
1.1-Dichloroethene	Ħ	1.20	ND	0.860	IP.	70.0-130	71.7	15.0	1.83	
Toluene	и	1.20	ND	1.10	79	70.0-130	91.7	15.0	0.986	
Trichloroethene	н	1.20	ND	1.11	**	70.0-130	92.5	15.0	0.869	_
Surrogate: 1,2-DCA-d4	<u>"</u>	2.39		2.18	19	70.0-130	91.2			
Surrogate: Toluene-d8	n	2.39		2.29	"	70.0-130	95.8			
Surrogate: 4-BFB	"	2.39		2.14	"	70.0-130	89.5			

North Greek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences

Bainbridge Island, WA 98110

179 Madrone Lane N.

BOTHELL = (425) 481-9200 = FAX 485-2992 SPOKANE = (509) 924-9200 = FAX 924-9290 PORTLAND = (503) 643-9200 = FAX 644-2202

Project: Chuck Olson Chevrolet

Project Number: VB 9711

Project Manager: Chip Goodhue

Sampled: 5/13/97

Received: 5/13/97

Reported: 5/20/97 16:44

#### Notes and Definitions

#	Note
1	The heavy oil range organics present are due to hydrocarbons eluting primarily in the diesel range.
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
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical, Inc.

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 485-2992



#### CHAIN OF CUCTODY DEDODT

East 11115 Montgomery, Suite B. Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 643-9200 FAX 644-2202

ANALYTICAL Environmental Laboratory Services CHAIN OF CUS	STODY REPORT	Work Order # B705225
REPORT TO:	INVOICE TO:	
ATTENTION: CHIP GOODHUE	ATTENTION:	TURNAROUND REQUEST In Business Days *
ADDRESS: 179 MADRING (ANK MOTH		Organic & Inorganic Analyses  19 7 5 4 3 2 1 Same 12ay
		Fuels & Hydrocarbon Analyses
PHONE: (20) 780 - 93 70 FAX:	P.O. NUMBER: NCA QUOTE #:	5 3-4 2 1 Same bay
PROJECTNAME: CHULL OLSON CHA).	Analysis Request:	Signalard
PROJECT NUMBER: VB 9711	Request:	OTHER Specify:
SAMPLED BY: BC BO SAMPLING SAMPLE SAMPLE		* Turnaround Requests less than standard may incur Rush Charges.
IDENTIFICATION DATE/TIME (LEGISLATIVE)		MATRIX # OF (W. S. A. O) CONTAINERS COMMENTS
18-3,1 (8') 5/13 50500	5.01 14	
2 IB-4.1(7)		
1 18-5.1 (81)	13 D	
10-7.1 (8')	904   1   1   1   1   1   1   1   1   1	
· 16-8.1 (7)	305	
16-9.1 (7t)	206 2	
1 1B-9.2 (//±)		
B-83 (13 1/2)	08 L auto	
· 1B-10.1 (7')	209	
III. TB-11.1 (5') +	(o) V	
RELINQUISHED BY (Signature) Foll Bay	DATE: 5/13 RECEIVED BY (SIGNAL OFF)	atully DATES-139
PRINT NAME: Bob Broger FIRM: AC	ST TIME: 3:57 PRINT NAME: LISA	then OFIRM: NCA TIME: 5:57
RELINQUISHED BY (Equators)	DATE: RECEIVED BY (Signature)	DATE:
PRINT NAME: FIRM:	TIME: PRINT NAME:	FIRM: TIME:
ADDITIONAL REMARKS:		
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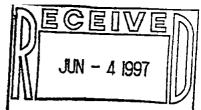
#### CHAIN OF CUSTODY REPORT

Work Order #

 1/1	100		resident
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REPORT TO:	<u>करलद्रकम्र १५४५५। धन्यत्रमञ्जनसः १,५८</u>	INVOI	CE TO:	sku Zakatel	seine vie	<u> </u>	S	<u>`</u>		<u></u>	., .	· · ·	·	LI BOUND DEO	UPOT !- D	to yet yet the second
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ATTENTION: CHIP GOODAUS		ATTENT	IION:									<u></u>			norganic Anal	
ATTENTION: CHIP GOODHUE ADDRESS: 179 MANNOWE LANG	Nength	ADDRE	<u>ss:</u>			_				_			10 7	5 4	3 :	2 1 Same Day
				<u>.</u>											lydrocarbon A	
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PROJECT NAME: Chuch O/sa Chou.		Analysis		/.	10/											
PROJECT NUMBER: UB - 97//		Request:	,	ره./	/	$/\Omega$					/ .	/	OTHER	Specify:		<u> </u>
SAMPLED BY: Be Ber				/ 0 6)	<i>(</i>	\$/							• Turnarow	d Requests less than	standard may	incur Rush Charges.
CLIENT SAMPLE SAMPLING SAMPLING	A SAMPLE ID			<u> </u>	<u>/`</u>	<u>Y                                    </u>		_	_				MATRIX (W. S. A. O)	# OF CONTAINERS		COMMENTS
IB-11.2 (8') 5/13 678	SUSZU				V											·
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ADDITIONAL REMARKS:																
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PORTLAND = (503) 643-9200 = FAX 644-2202

Sampled: 5/13/97

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet

Project Number: VB 9711 Received: 5/13/97
Project Manager: Chip Goodhue Reported: 6/3/97 10:37

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
IB-4.1 (7')	B705225-02	Soil	5/13/97
IB-5.1 (8')	B705225-03	Soil	5/13/97
IB-8.1 (7')	B705225-05	Soil	5/13/97
IB-9.1 (7.5')	B705225-06	Soil	5/13/97
IB-9.3 (13.5')	B705225-08	Soil	5/13/97
IB-10.1 (7')	B705225-09	Soil	5/13/97
IB-11.1 (5')	B705225-10	Soil	5/13/97

North Creek Analytical, Inc.

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.



Project

Project:

Project: Chuck Olson Chevrolet

Sampled: 5/13/97

Bainbridge Island, WA 98110

Associated Earth Sciences

179 Madrone Lane N.

Project Number: VB 9711
Project Manager: Chip Goodhue

Received: 5/13/97 Reported: 6/3/97 10:37

#### Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A North Creek Analytical - Bothell

•	Batch	Date	Date	Surrogate	Reporting	-		
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
IB-5.1 (8')			B70522	25-03			<u>Soil</u>	
Gasoline Range Hydrocarbons	0570678	5/27/97	5/27/97		5.00	30.6	mg/kg dry	
Benzene	"	11	<i>3121171</i>		0.0500	ND	"	
Toluene	n	n	n		0.0500	ND	U	
Ethylbenzene	Ħ	11	n		0.0500	ND	**	
Xylenes (total)	"	H	17		0.100	0.113		
Surrogate: 4-BFB (FID)	<u>"</u>	- "	<i>"</i> ·····	50.0-150		81.8	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		93.0	"	
IB-10.1 (7')			B70522	25-09			<u>Soil</u>	
Gasoline Range Hydrocarbons	0570678	5/27/97	5/27/97		50.0	419	mg/kg dry	
Benzene	"	U	n		0.500	ND	"	
Toluene	11	H	n		0.500	0.582	10	
Ethylbenzene	tg	п	IT		0.500	1.03	11	
Xylenes (total)	**	··	n		1.00	10.5	19	
Surrogate: 4-BFB (FID)	"	"	" .	50.0-150		89.6	%	
Surrogate: 4-BFB (PID)	#	"	"	50.0-150	•	94.3	"	
IB-11.1 (5')			B70522	25-10			Soil	
Gasoline Range Hydrocarbons	0570678	5/27/97	5/27/97		50.0	567	mg/kg dry	
Benzene	н	n	11		0.500	ND	11	
Toluene	n ·	n	Ħ	•	0.500	ND	*1	
Ethylbenzene	11	**	**		0.500	0.618	11	
Xylenes (total)	17	rt	11		1.00	7.00	•	
Surrogate: 4-BFB (FID)	"	<i>"</i>		50.0-150		NR	%	1
Surrogate: 4-BFB (PID)	. "	"	"	50.0-150		100	"	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences Project: Chuck Olson Chevrolet Sampled: 5/13/97
179 Madrone Lane N. Project Number: VB 9711 Received: 5/13/97
Bainbridge Island, WA 98110 Project Manager: Chip Goodhue Reported: 6/3/97 10:37

### Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended) North Creek Analytical - Bothell

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>IB-4.1 (7')</u>			<u>B7052</u> 2	<u>25-02</u>			<u>Soil</u>	
Diesel Range Hydrocarbons	0570686	5/27/97	6/2/97		10.0	116	mg/kg dry	2
Heavy Oil Range Hydrocarbons	. н	U			25.0	253		
Surrogate: 2-FBP	"	"	"	<i>50.0-150</i>		94.7	%	
TD = 4 (0)			2000		,		0.7	
<u>IB-5.1 (8')</u>	0.550		B70522	<u> 25-03</u>	410	10200	<u>Soil</u>	2
Diesel Range Hydrocarbons	05 <b>7</b> 0686	5/27/97	6/2/97		410	18300	mg/kg dry "	2
Heavy Oil Range Hydrocarbons		<u>"</u>	<u>"</u>	50.0.150	1030	52400		
Surrogate: 2-FBP	,,	.,	•	50.0-150		110	%	
IB-8.1 (7')			B70522	25-05			Soi <u>l</u>	
Diesel Range Hydrocarbons	0570686	5/27/97	6/2/97	<del></del>	210	3260	mg/kg dry	
Heavy Oil Range Hydrocarbons	n	11	"		525	5820	, "	
Surrogate: 2-FBP	"	17	"	50.0-150		90.9	%	
TO 0.1 /5 50			D50531	35 06			Ca:I	
IB-9.1 (7.5')	0570696	<i>5107107</i>	B70522	<u> 25-06</u>	1010	13800	Soil	2
Diesel Range Hydrocarbons	0570686 "	5/27/97 "	6/2/97				mg/kg dry "	4
Heavy Oil Range Hydrocarbons		···	<i>"</i>	50.0-150	2530	34300 87.2	%	
Surrogate: 2-FBP				30.0-130	_	0/.2	%	
IB-9.3 (13.5')			B70522	25-08			Soil	
Diesel Range Hydrocarbons	0570686	5/27/97	6/2/97		410	5150	mg/kg dry	2
Heavy Oil Range Hydrocarbons	**	n	n		1030	20900	"	
Surrogate: 2-FBP	11	n	n	50.0-150		97.6	%	
IB-10.1 (7')			B70522	2500			Soil	3
Diesel Range Hydrocarbons	0570686	5/27/97	6/2/97	•J=07	1010	16900	mg/kg dry	<u>3</u> 2
<del>-</del> -	0370080	3121191 11	0/ <i>2/91</i>		2530	44800	mg/kg dry	4
Heavy Oil Range Hydrocarbons					2330	44000		
<u>IB-11.1 (5')</u>			B70522	<u>25-10</u>			<u>Soil</u>	
Diesel Range Hydrocarbons	0570686	5/27/97	6/2/97		1010	9080	mg/kg dry	2
Heavy Oil Range Hydrocarbons	19	**	H		2530	20400		
Surrogate: 2-FBP	n .	n	"	50.0-150		123	%	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N.

Bainbridge Island, WA 98110

Project: Chuck Olson Chevrolet

Project Number: VB 9711

Sampled: 5/13/97

Received: 5/13/97 Reported: 6/3/97 10:37

Project Manager: Chip Goodhue

#### **Dry Weight Determination** North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
IB-4.1 (7')	B705225-02	Soil	89.3	%
. IB-5.1 (8')	B705225-03	Soil	93.3	%
IB-8.1 (7')	B705225-05	Soil	88.5	%
IB-9.1 (7.5')	B705225-06	Soil	88.0	%
IB-9.3 (13.5')	B705225-08	Soil	93.6	%
IB-10.1 (7')	B705225-09	Soil	90.7	%
IB-11.1 (5')	B705225-10	Soil	93.8	%

North Creek Analytical, Inc.

irk Gendron, Project Manager

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PORTLAND = (503) 643-9200 = FAX 644-2202

Associated Earth Sciences 179 Madrone Lane N. Bainbridge Island, WA 98110 Project: Chuck Olson Chevrolet Project Number: VB 9711

Project Manager: Chip Goodhue

Sampled: 5/13/97 Received: 5/13/97

Reported: 6/3/97 10:37

# Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	<u></u> %	Notes*
					<b></b>	North L. ED	A =020			
Batch: 0570678	Date Prepa		<u>97</u>		Extractio	n Method: EP	4 5030			
Blank	<u>0570678-BI</u>	<u>LK1</u>				= 00				
Gasoline Range Hydrocarbons	5/27/97			ND	mg/kg dry					
Benzene	"			ND		0.0500				
Toluene	11			ND	R	0.0500				
Ethylbenzene	н			ND	19	0.0500				
Xylenes (total)				ND		0.100				
Surrogate: 4-BFB (FID)	"	4.00		2.67	"	50.0-150	66.8			
Surrogate: 4-BFB (PID)	"	4.00		<i>3.18</i>	"	50.0-150	<i>79.5</i>			
LCS	0570678-BS	<u>81</u>								
Gasoline Range Hydrocarbons	5/27/97			20.1	mg/kg dry		80.4			
Surrogate: 4-BFB (FID)	"	4.00		3.62	''	50.0-150	90.5			
Duplicate	0570678-D	UP1 B	705458 <u>-01</u>					•		
Gasoline Range Hydrocarbons	5/27/97		ND	ND	mg/kg dr			50.0		
Surrogate: 4-BFB (FID)	11	5.53		3.66	"	50.0-150	66.2			
Matrix Spike	0570678- <u>M</u>	<u>S1</u> <u>B</u>	70 <u>5412-01</u>			*				
Benzene	5/27/97	0.538	ND	0.533	mg/kg dr	y 60.0-140	99.1			
Toluene	n	0.538	ND	0.507	n	60.0-140	94.2			
Ethylbenzene		0.538	ND	0.497	11	60.0-140	92.4			
Xylenes (total)	u .	1.61	ND	1.46	W	60.0-140	90.7			
Surrogate: 4-BFB (PID)	"	4.31		4.29	17	50.0-150	99.5			
Matrix Spike Dup	0570678 <u>-</u> M	ISD1 B	705412-01							
Benzene	5/27/97	0.538	ND	0.538	mg/kg dr	y 60.0-140	100	20.0	0.904	
Toluene	0	0.538	ND	0.517	11	60.0-140	96.1	20.0	2.00	
Ethylbenzene	11	0.538	ND	0.505	11	60.0-140	93.9	20.0	1.61	
Xylenes (total)	O	1.61	ND	1.47	17	60.0-140	91.3	20.0	0.659	
Surrogate: 4-BFB (PID)	"	4.31		4.28	"	50.0-150	99.3			

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\*Refer to end of report for text of notes and definitions.



Associated Earth Sciences 179 Madrone Lane N.

Project: Chuck Olson Chevrolet Sampled: 5/13/97

Bainbridge Island, WA 98110

Project Number: VB 9711 Project Manager: Chip Goodhue Received: 5/13/97 Reported: 6/3/97 10:37

# Diesel Hydrocarbons (C12-C24) and Heavy Oil (C24-C40) by WTPH-D (extended)/Quality Control North Creek Analytical - Bothell

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes
Batch: 0570686	Date Prepa	red: 5/27/	9 <u>7</u>		Extraction	n Method: EPA	3550		
Blank	0570686-BI	LK1							
Diesel Range Hydrocarbons	6/2/97			ND	mg/kg dr	y <b>10.</b> 0			
Heavy Oil Range Hydrocarbons	H			ND	11	25.0			
Surrogate: 2-FBP	"	11.7		9.68	11	50.0-150	82.7		
LCS	0570686-BS	51							
Diesel Range Hydrocarbons	6/2/97	 68.0		41.3	mg/kg dr	y 59.0-135	60.7		
Surrogate: 2-FBP	"	11.7		6.49	"	50.0-150	55.5		
Duplicate	0570686-DI	<u>UP1 B</u>	705225-10						
Diesel Range Hydrocarbons	6/2/97		9080	6860	mg/kg dry	/		50.0	27.9
Surrogate: 2-FBP	"	12.4	-	14.8	11	50.0-150	119		

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#### Notes and Definitions

#	Note		
1	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.		
2	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.		
3	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.		
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		
Recov.	Recovery		
RPD	Relative Percent Difference		

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ANALYTICAL		200. 3. W. Mills	ous Avenue, Beaverton, OR 97(08-7132 (503) 643-92(0) FAX 644-2202
Environmental Laboratory Services CHAIN OF	CUSTODY REPORT	Γ Wor	k Order # 8705225
REPORT TO:	INVOICE TO:		
ATTENTION: C410 GOODHUE			TURNAROUND REQUEST in Business Days *
4	AFTENTION: 50	X O	Organie & Inorganie Analyses
ADURESS: 79 MADRONG (ANY, M	ADDRESS:		10 7 5 4 3 2 1 Saint Day
PHONE: (28) 780 - 5370 FAX:	P.O. NUMBER:	N OUE .	Fuels & Hydrocarbon Analyses  5 3-4 2 1 Same 1863
PROJECT NAME: CHUCK OCSON CHOW.	Analysis		Stastas Line
PROJECT NUMBER: VIS 971/ SAMPLED BY: BC BO9—	Request:		OTHER Spenty
	SAMPLE ID ANY Use Only)		* Tuenatounal Requests less than standard may ment Rash Charges
, , , , ,	SAMPLE ID		MATRIX # OF
18-31 (8') 5/13 BAD	5775-01		(W. S. A. O) CONTAINERS COMMENTS
IB-4.1(7)			
1N-5.1 (81)	03 V	V V	
IB-7.1 (8')	04		
16-8,1 (7')	05	*	
16-91 (75)	06	X	
18-9.2 ((12)	M		
15-83 (13/21)	08	* and	
1B-10.1 (7')	19	<b>X X</b>	
" TB-11.1 (5') Y	[0] V	XX	
RELINQUISHED BY chandrages (C.C.)	DATE: 5/13	RECEIVED BY Evenoper MA	- 1
PRINT NAME: Bob Bugar FIRM:	AEST THE 3.57	PRINT NAME: LISA +TV	Mlly 15-139
RELINQUISHED BY (Signature)	DATE		FIRM: (VC) HME. 13.15
PRINT NAME: FIRM:		RECEIVED BY (Viganous)	DATE
ADDITIONAL REMARKS:	TIME	PRINT NAME:	FIRM: DME.