



**AGRA** Earth & Environmental  
ENGINEERING GLOBAL SOLUTIONS

**AGRA Earth &  
Environmental, Inc.**  
11335 NE 122nd Way  
Suite 100  
Kirkland, Washington  
USA 98034-8918  
Tel (206) 820-4669  
Fax (206) 821-3914

11 August 1997  
7-91M-09977-E

Mason County Fire District No. 5  
P.O. Box 127  
Allyn, Washington 98524

Attention: Mr. Mike Snyder

**Subject: Quarterly Groundwater Monitoring Report**  
Mason County Fire District 5, Station Number 1  
E18411 Highway 3  
Allyn, Washington

Dear Mr. Snyder:

AGRA Earth & Environmental, Inc. (AEE) is pleased to present this letter report summarizing the results of quarterly groundwater monitoring conducted on 20 March 1997 and on 2 July 1997 at the above-referenced location. This work was authorized in our proposal dated 27 January 1997.

#### **BACKGROUND**

The site is currently a county-operated volunteer fire station facility located in Allyn, Washington. Two steel, single-walled 300-gallon USTs were removed from the site in November 1994. The USTs contained either diesel or gasoline fuel products. Approximately 20 cubic yards of petroleum-impacted soil was excavated around the UST area and stockpiled at fire station number 7. The bottom portion of the excavation was backfilled with 2-inch to 6-inch diameter crushed rock to act as an infiltration gallery. Previous investigations and remedial efforts concerning this site are documented in the following report:

- *Underground Storage Tank Site Assessment, Fire Station Number 1 (AEE), dated January 1995.*

#### **GROUNDWATER LEVEL MONITORING**

##### 20 March 1997

Static groundwater levels were measured in monitoring well MW-1 on 20 March 1997. The depth to groundwater measured in the well was approximately 2.11 feet below the top of well casing.



### 2 July 1997

Static groundwater levels were measured in monitoring well MW-1 on 2 July 1997. The depth to groundwater measured approximately 2.75 feet below the top of well casing.

### **ANALYTICAL LABORATORY TESTING**

At the time of our 20 March 1997 and 2 July 1997 site visit, groundwater samples were collected from monitoring well MW-1.

Monitoring well MW-1 was purged of approximately three well casing volumes of water prior to sampling. Purging and sampling was conducted using a disposable polyethylene bailer for each well. Groundwater samples were placed into laboratory prepared sample containers and placed into a chilled cooler for transport to the laboratory. AEE chain of custody procedures were maintained during transportation to the laboratory to document sample integrity.

Well MW-1 was sampled and analyzed for diesel-range petroleum hydrocarbons according to Washington State Method WTPH-D. A summary of the analytical laboratory results for the groundwater samples collected during 1997, is shown in Table 1. A copy of the analytical laboratory certificate for the testing conducted for March and July 1997 are attached.

### **RESULTS**

Laboratory results of the analytical testing indicated that dissolved levels of petroleum hydrocarbons in groundwater monitoring well MW-1 were below state cleanup levels. A summary of the analytical laboratory results is presented in Table 1 and the laboratory certificates have been attached.

### **ADDITIONAL SOIL SAMPLING**

On 30 July 1997, AEE sampled the 20 cubic yard soil stockpile at fire station number 7. This soil was produced as a result of UST removal activities at Fire Station Number 1. The three stockpile samples were composited and did not contain petroleum hydrocarbons above state cleanup levels. AEE recommends that the stockpile be left in place and utilized as site backfill material. In AEE's opinion, a Cleanup Action Plan for soil does not need to be prepared at this time. A summary of the analytical laboratory results is presented in Table 2 and the laboratory certificates have been attached.

### **CLOSURE**

The conclusions presented in this report are based upon specific analyses and explorations conducted for this investigation. These conclusions are based upon indications of subsurface conditions/groundwater quality in the vicinity of the explorations/wells only. The conclusions presented herein are therefore based upon limited data and hence, AEE makes no warranties, expressed or implied, that others would reach similar conclusions concerning subsurface conditions at the subject site. The number, location, and depth of explorations conducted

similar conclusions concerning subsurface conditions at the subject site. The number, location, and depth of explorations conducted during this assessment, including the analytical testing scope, were completed with the site and proposal constraints submitted to the Mason County Fire District Number 5.

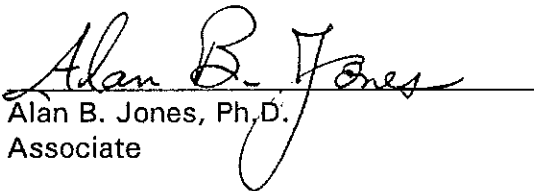
We appreciate this opportunity to be of service to the Mason County Fire District Number 5. Should you have any questions regarding this letter or other aspects of this report, please do not hesitate to call.

Respectfully submitted,

AGRA Earth & Environmental, Inc.



Robert A. Lauritzen, P.G.  
Project Geologist



Alan B. Jones, Ph.D.  
Associate

RAL/ABJ/lad

Enclosures: Table 1 — Summary of Analytical Data: Groundwater  
Figure 1 — Site and Exploration Plan  
Analytical Laboratory Certificate

**Table 1: Summary of Analytical Results: Groundwater (MW-1)  
Mason County - Fire Station No. 5  
Mason County, Washington  
AGRA Earth & Environmental, Inc. Project No. 7-91M-09977-E**

Sample ID	Date Collected	WTPH-D (ppb)
MW-1	20-Mar-97	398
MW-1/FS #1	02-Jul-97	ND
MTCA Method "A" Cleanup Level		1,000

**Notes:**

WTPH-D = Total petroleum hydrocarbons, diesel range (C12-C24), by Washington State Method WTPH-D.

ND = Compound was not detected in this specific sample.

MTCA = Washington State, Model Toxics Control Act, Method "A" Cleanup Guidelines.

All concentrations are expressed in parts per billion (ppb) (ug/L).

**Table 2: Summary of Analytical Results: Soil Stockpile**  
**Mason County - Fire Station No. 5**  
**Mason County, Washington**  
**AGRA Earth & Environmental, Inc. Project No. 7-91M-09977-E**

Sample ID	Date Collected	WTPH-D (ppm)	WTPH-G (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	Total Lead (ppm)
Composite of FS-7	30-Jul-97	28.1	ND	ND	ND	ND	ND	ND
MTCA Method "A" Cleanup Level		200	100	0.5	40	20	20	250

**Notes:**

WTPH-D = Total petroleum hydrocarbons, diesel range (C12-C24), by Washington State Method WTPH-D.  
WTPH-G = Total petroleum hydrocarbons, gasoline range (C6-C12), by Washington State Method WTPH-G.  
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTX), by EPA Method 8020.  
Total Lead by EPA Method 6000/7000 Series.  
ND = Compound was not detected in this specific sample.  
MTCA = Washington State, Model Toxics Control Act, Method "A" Cleanup Guidelines.  
All concentrations are expressed in parts per million (ppm) (mg/Kg).

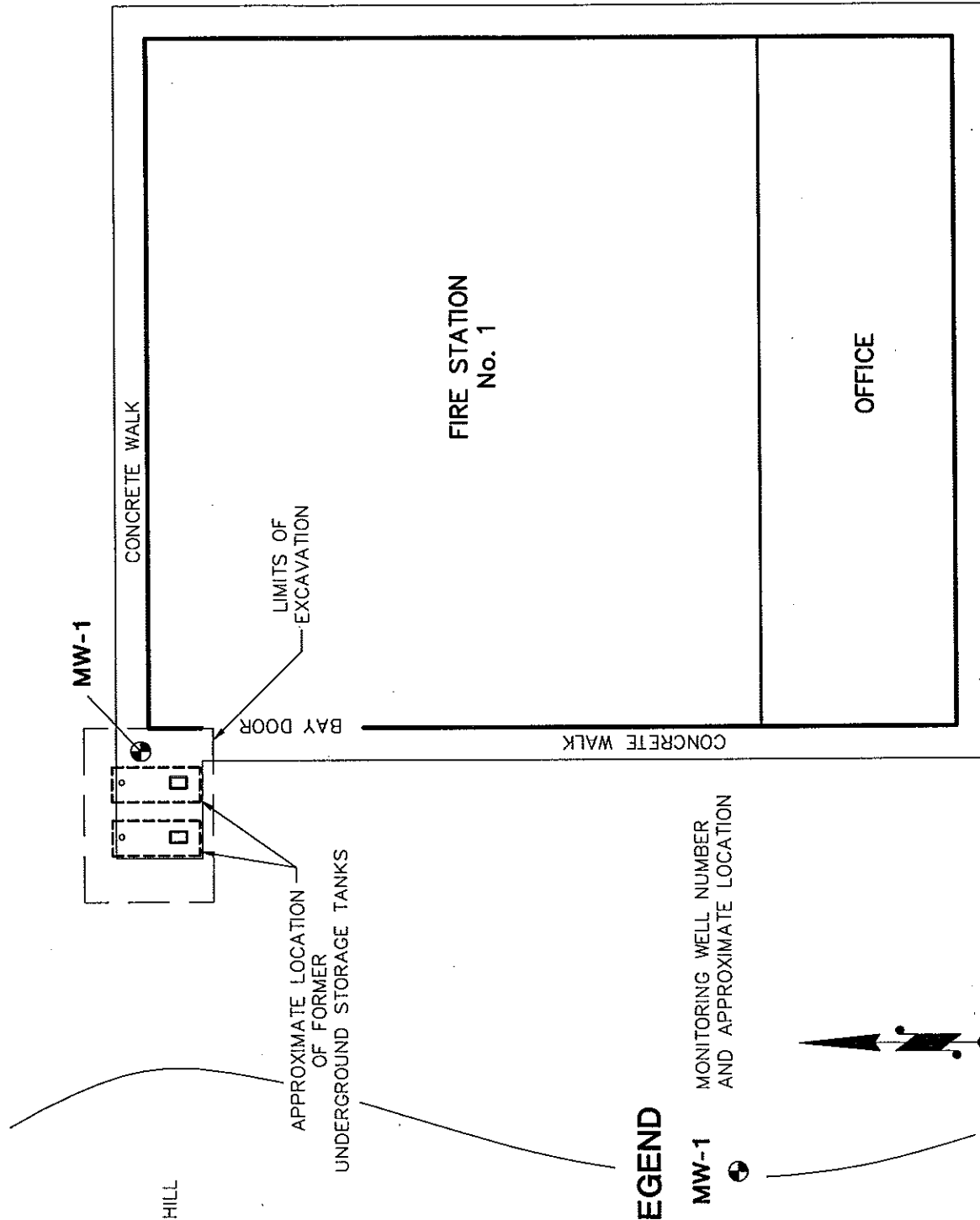


FIGURE 1

MASON COUNTY FIRE DISTRICT No. 5  
STATION No. 1  
MASON COUNTY, WASHINGTON  
SITE AND EXPLORATION PLAN

W.O.	7-91M-09977-E
DESIGN	RAL
DRAWN	JMR
DATE	AUG 1997
SCALE	1"=15'

**AGRA**  
**Earth & Environmental**  
11335 N.E. 122nd Way, Suite 100  
Kirkland, WA, U.S.A. 98034-6918

# LEGEND

MW-1 MONITORING WELL NUMBER  
AND APPROXIMATE LOCATION

0 15 30  
SCALE IN FEET



# NORTH CREEK ANALYTICAL

Environmental Laboratory Services

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

Agra Earth and Environmental  
11335 NE 122nd Way, Ste 100  
Kirkland, WA 98034

Project: Mason Co. Fire Station #5  
Project Number: 7-91M-09977-B  
Project Manager: Robert Lauritzen

Sampled: 3/20/97  
Received: 3/20/97  
Reported: 4/1/97 13:39

## ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW1	B703411-01	Water	3/20/97

North Creek Analytical, Inc.

  
Kirk Gendron, Project Manager

*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.*

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East 11115 Montgomery, Suite B, Spokane, WA 99206-4776  
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132



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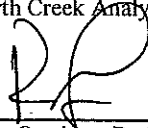
Sampled: 3/20/97  
Received: 3/20/97  
Reported: 4/1/97 13:39

## Diesel Hydrocarbons (C12-C24) by WTPH-D North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>MW1</u>								
Diesel Range Hydrocarbons	0370639	3/24/97	3/30/97		0.250	0.398	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		92.9	%	

North Creek Analytical, Inc.

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

  
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Page 2 of 4



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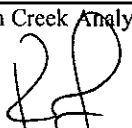
Sampled: 3/20/97  
Received: 3/20/97  
Reported: 4/1/97 13:39

## Diesel Hydrocarbons (C12-C24) by WTPH-D/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Batch: 0370639</b>										
<b>Date Prepared: 3/24/97</b>										
<b>Extraction Method: EPA 3520/600 Series</b>										
<b>Blank</b>										
Diesel Range Hydrocarbons	3/26/97			ND	mg/l	0.250				
Surrogate: 2-FBP	"	0.344		0.306	"	50.0-150	89.0			
<b>LCS</b>										
Diesel Range Hydrocarbons	3/26/97	2.04		2.12	mg/l	52.0-131	104			
Surrogate: 2-FBP	"	0.344		0.319	"	50.0-150	92.7			
<b>Duplicate</b>										
			<b>0370639-DUP1</b>	<b>B703331-03</b>						<b>1</b>
Diesel Range Hydrocarbons	3/26/97		0.546	0.547	mg/l			44.0	0.183	
Surrogate: 2-FBP	"	0.648		0.553	"	50.0-150	85.3			
<b>Duplicate</b>										
			<b>0370639-DUP2</b>	<b>B703331-04</b>						<b>1</b>
Diesel Range Hydrocarbons	3/26/97		0.464	0.476	mg/l			44.0	2.55	
Surrogate: 2-FBP	"	0.687		0.666	"	50.0-150	96.9			

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

  
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Page 3 of 4



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

Agra Earth and Environmental  
11335 NE 122nd Way, Ste 100  
Kirkland, WA 98034


Project: Mason Co. Fire Station #5  
Project Number: 7-91M-09977-B  
Project Manager: Robert Lauritzen

Sampled: 3/20/97  
Received: 3/20/97  
Reported: 4/1/97 13:39

## Notes and Definitions

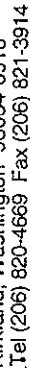
#	Note
1	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical, Inc.

  
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Page 4 of 4



## CHAIN OF CUSTODY

## CHAIN OF CUSTODY

SAMPLE RECEIPT		LABORATORY		TURNAROUND TIME		SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS	
TOTAL # CONTAINERS		SHIPPING I.D. / AIRBILL #		<input type="checkbox"/> 8 HOUR <input type="checkbox"/> 24 HOUR <input type="checkbox"/> 1 WEEK <input checked="" type="checkbox"/> 2 WEEK (standard) <input type="checkbox"/> OTHER			
CONDITION OF CONTAINERS		CARRIER					
CONDITION OF SEALS		DOT DESIGNATION					
1. <i>[Signature]</i>		DATE 3/20/97		ACCEPTED BY / AFFILIATION <i>[Signature]</i> NCA-B		DATE 3/20/97	
2. <i>[Signature]</i>		TIME 3:22		1. <i>[Signature]</i>		TIME 1522	
3. <i>[Signature]</i>				2. <i>[Signature]</i>			
				3. <i>[Signature]</i>			

PAGE 1 OF 1



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BOTHELL ■ (425) 481-9200 ■ FAX 485-2992  
SPOKANE ■ (509) 924-9200 ■ FAX 924-9290  
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Agra Earth and Environmental  
11335 NE 122nd Way, Ste 100  
Kirkland, WA 98034

Project: Mason Co. Fire Station #1  
Project Number: 7-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/2/97  
Received: 7/8/97  
Reported: 7/15/97 12:17

## ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1 FS #1	B707172-01	Water	7/2/97

North Creek Analytical, Inc.

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Page 1 of 6

Agra Earth and Environmental 11335 NE 122nd Way, Ste 100 Kirkland, WA 98034	Project: Mason Co. Fire Station #1 Project Number: 7-91M-09977-E Project Manager: Robert Lauritzen	Sampled: 7/2/97 Received: 7/8/97 Reported: 7/15/97 12:17
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**Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A**  
**North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<b>MW-1 FS #1</b>				<b>B707172-01</b>			<b>Water</b>	
Gasoline Range Hydrocarbons	0770350	7/11/97	7/14/97		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		78.8	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		106	"	



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SPOKANE ■ (509) 924-9200 ■ FAX 924-9290  
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Sampled: 7/2/97  
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## Diesel Hydrocarbons (C12-C24) by WTPH-D North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<b>MW-1 FS #1</b>				<b>B707172-01</b>			<b>Water</b>	
Diesel Range Hydrocarbons	0770261	7/9/97	7/11/97		0.250	ND	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		87.0	%	

North Creek Analytical, Inc.

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

  
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Page 3 of 6



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Sampled: 7/2/97  
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Reported: 7/15/97 12:17

## Gasoline Hydrocarbons (Toluene to Dodecane) and BTEX by WTPH-G and EPA 8020A/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*
<b>Batch: 0770350</b>		<b>Date Prepared: 7/11/97</b>			<b>Extraction Method: EPA 5030</b>					
<b>Blank</b>		<b>0770350-BLK1</b>								
Gasoline Range Hydrocarbons	7/11/97			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	1.00				
Surrogate: 4-BFB (FID)	"	16.0		12.8	"	50.0-150	80.0			
Surrogate: 4-BFB (PID)	"	16.0		16.7	"	50.0-150	104			
<b>LCS</b>		<b>0770350-BS1</b>								
Gasoline Range Hydrocarbons	7/11/97	500		481	ug/l	80.0-120	96.2			
Surrogate: 4-BFB (FID)	"	16.0		16.1	"	50.0-150	101			
<b>Duplicate</b>		<b>0770350-DUP1</b>		<b>B707173-05</b>						
Gasoline Range Hydrocarbons	7/11/97		14400	12000	ug/l			25.0	18.2	
Surrogate: 4-BFB (FID)	"	16.0		17.3	"	50.0-150	108			
<b>Duplicate</b>		<b>0770350-DUP2</b>		<b>B707171-07</b>						
Gasoline Range Hydrocarbons	7/11/97		14300	12800	ug/l			25.0	11.1	
Surrogate: 4-BFB (FID)	"	16.0		13.3	"	50.0-150	83.1			
<b>Matrix Spike</b>		<b>0770350-MS1</b>		<b>B707171-01</b>						
Benzene	7/11/97	10.0	ND	9.66	ug/l	70.0-130	96.6			
Toluene	"	10.0	ND	10.4	"	70.0-130	104			
Ethylbenzene	"	10.0	ND	10.4	"	70.0-130	104			
Xylenes (total)	"	30.0	ND	31.4	"	70.0-130	105			
Surrogate: 4-BFB (PID)	"	16.0		17.5	"	50.0-150	109			
<b>Matrix Spike Dup</b>		<b>0770350-MSD1</b>		<b>B707171-01</b>						
Benzene	7/11/97	10.0	ND	9.96	ug/l	70.0-130	99.6	15.0	3.06	
Toluene	"	10.0	ND	10.6	"	70.0-130	106	15.0	1.90	
Ethylbenzene	"	10.0	ND	10.6	"	70.0-130	106	15.0	1.90	
Xylenes (total)	"	30.0	ND	31.9	"	70.0-130	106	15.0	0.948	
Surrogate: 4-BFB (PID)	"	16.0		17.3	"	50.0-150	108			

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Sampled: 7/2/97  
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## Diesel Hydrocarbons (C12-C24) by WTPH-D/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Batch: 0770261</b>										
<b>Date Prepared: 7/9/97</b>										
<b>Extraction Method: EPA 3510/600 Series</b>										
<b>Blank</b>										
Diesel Range Hydrocarbons	7/10/97			ND	mg/l	0.250				
Surrogate: 2-FBP	"	0.350		0.307	"	50.0-150	87.7			
<b>LCS</b>										
Diesel Range Hydrocarbons	7/10/97	2.04		2.18	mg/l	52.0-131	107			
Surrogate: 2-FBP	"	0.350		0.291	"	50.0-150	83.1			
<b>Duplicate</b>										
Diesel Range Hydrocarbons	7/10/97		ND	ND	mg/l				44.0	
Surrogate: 2-FBP	"	0.661		0.483	"	50.0-150	73.1			
<b>Duplicate</b>										
Diesel Range Hydrocarbons	7/10/97		ND	ND	mg/l				44.0	
Surrogate: 2-FBP	"	0.661		0.445	"	50.0-150	67.3			

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## Notes and Definitions

#	Note
---	------

DET	Analyte DETECTED
-----	------------------

ND	Analyte NOT DETECTED at or above the reporting limit
----	--

NR	Not Reported
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dry	Sample results reported on a dry weight basis
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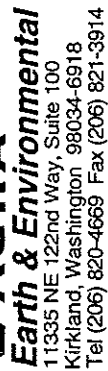
Recov.	Recovery
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RPD	Relative Percent Difference
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North Creek Analytical, Inc.

Kirk Gendron, Project Manager

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6707/2202931

# CHAIN OF CUSTODY

PROJECT		PROJECT No.		ANALYSIS REQUESTED (circle, check box or write preferred method in box)	
CLIENT	MASON CO. FIRE STATION #1	PHONE No.	691m-9977E		
PROJECT MANAGER	MASON Co.	PHONE No.	820-4669		
SAMPLER'S NAME (please print)	BOB LAORTEN	PHONE No.	790-2176		
SAMPLER'S SIGNATURE	Scott Overdick				
SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS
				No.	VOL
1. MW-1 FS #1	7-2-97	1245	W	HCl	3 150A
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

SAMPLE RECEIPT		LABORATORY		TURNAROUND TIME		SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS	
TOTAL # CONTAINERS		SHIPPING I.D. / AIRBILL #		<input type="checkbox"/> 8 HOUR <input type="checkbox"/> 24 HOUR <input checked="" type="checkbox"/> 1 WEEK <u>STANDARD</u> <input type="checkbox"/> 2 WEEK (standard) <input type="checkbox"/> OTHER _____			
CONDITION OF CONTAINERS		CARRIER					
CONDITION OF SEALS		DOT DESIGNATION					
RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME
1. <u>Sgt. Charles / AFE</u>		<u>8-8-97</u>	<u>7:30</u>	1. <u>Walter / NCA</u>		<u>7/8/97</u>	<u>1300</u>
2. <u>Walter / NCA</u>		<u>7-8-97</u>	<u>1330</u>	2. <u>Dana / AFE B</u>		<u>7/8/97</u>	<u>1330</u>
3. _____				3. _____			

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Agra Earth and Environmental  
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Kirkland, WA 98034

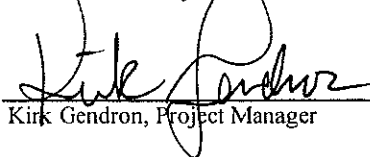
Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

## ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
COMPOSITE OF FS-7	B708010-04	Soil	7/30/97

North Creek Analytical, Inc.

  
Kirk Gendron, Project Manager

*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.*

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Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

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

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<b>COMPOSITE OF FS-7</b>			<b>B708010-04</b>				<b>Soil</b>	
Gasoline Range Hydrocarbons	0870056	8/4/97	8/6/97		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	50.0-150		77.7	%	
Surrogate: 4-BFB (PID)	"	"	"	50.0-150		88.4	"	

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

  
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Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

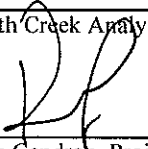
Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

## Diesel Hydrocarbons (C12-C24) by WTPH-D North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<b>COMPOSITE OF FS-7</b>				<b>B708010-04</b>			<b>Soil</b>	
<b>Diesel Range Hydrocarbons</b>	0870112	8/5/97	8/6/97		10.0	<b>28.1</b>	mg/kg dry	
<i>Surrogate: 2-FBP</i>	"	"	"	50.0-150		90.6	%	

North Creek Analytical, Inc.

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

  
Kirk Gendron, Project Manager

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Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

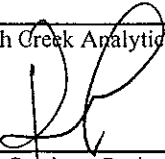
Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

## Total Metals by EPA 6000/7000 Series Methods North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<u>COMPOSITE OF FS-7</u>				<u>B708010-04</u>			<u>Soil</u>	
Lead	0870206	8/7/97	8/8/97	EPA 6010A	10.0	ND	mg/kg dry	

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

  
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Kirkland, WA 98034

Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

## Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
COMPOSITE OF FS-7	B708010-04	Soil	91.2	%

North Creek Analytical, Inc.

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Kirkland, WA 98034

Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Batch: 0870056</b>										
<b>Blank</b>										
<b>0870056-BLK1</b>										
<b>Extraction Method: MeOH Extraction</b>										
Gasoline Range Hydrocarbons	8/6/97			ND	mg/kg dry	5.00				
Benzene	"			ND	"	0.0500				
Toluene	"			ND	"	0.0500				
Ethylbenzene	"			ND	"	0.0500				
Xylenes (total)	"			ND	"	0.100				
Surrogate: 4-BFB (FID)	"	4.00		3.39	"	50.0-150	84.8			
Surrogate: 4-BFB (PID)	"	4.00		3.81	"	50.0-150	95.2			
<b>LCS</b>										
<b>0870056-BS1</b>										
Gasoline Range Hydrocarbons	8/6/97	25.0		20.8	mg/kg dry	75.0-125	83.2			
Surrogate: 4-BFB (FID)	"	4.00		3.92	"	50.0-150	98.0			
<b>Duplicate</b>										
<b>0870056-DUP1 B708018-02</b>										
Gasoline Range Hydrocarbons	8/6/97		ND	ND	mg/kg dry				50.0	
Surrogate: 4-BFB (FID)	"	5.35		3.89	"	50.0-150	72.7			
<b>Duplicate</b>										
<b>0870056-DUP2 B708018-04</b>										
Gasoline Range Hydrocarbons	8/6/97		ND	ND	mg/kg dry				50.0	
Surrogate: 4-BFB (FID)	"	5.00		3.72	"	50.0-150	74.4			
<b>Matrix Spike</b>										
<b>0870056-MS1 B708001-01</b>										
Benzene	8/6/97	0.518	ND	0.627	mg/kg dry	60.0-140	121			
Toluene	"	0.518	ND	0.630	"	60.0-140	122			
Ethylbenzene	"	0.518	ND	0.622	"	60.0-140	120			
Xylenes (total)	"	1.55	ND	1.93	"	60.0-140	125			
Surrogate: 4-BFB (PID)	"	4.14		4.68	"	50.0-150	113			
<b>Matrix Spike Dup</b>										
<b>0870056-MSD1 B708001-01</b>										
Benzene	8/6/97	0.518	ND	0.558	mg/kg dry	60.0-140	108	20.0	11.4	
Toluene	"	0.518	ND	0.560	"	60.0-140	108	20.0	12.2	
Ethylbenzene	"	0.518	ND	0.547	"	60.0-140	106	20.0	12.4	
Xylenes (total)	"	1.55	ND	1.71	"	60.0-140	110	20.0	12.8	
Surrogate: 4-BFB (PID)	"	4.14		4.33	"	50.0-150	105			

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Agra Earth and Environmental  
11335 NE 122nd Way, Ste 100  
Kirkland, WA 98034

Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

## Diesel Hydrocarbons (C12-C24) by WTPH-D/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recovery Limits	Recovery %	RPD Limit	RPD %	Notes*
<b>Batch: 0870112</b>										
<b>Blank</b>										
<b>Date Prepared: 8/5/97</b>										
<b>0870112-BLK1</b>										
<b>Extraction Method: EPA 3540</b>										
Diesel Range Hydrocarbons	8/7/97			ND	mg/kg dry	10.0				
Surrogate: 2-FBP	"	11.7		9.81	"	50.0-150	83.8			
<b>LCS</b>										
<b>0870112-BS1</b>										
Diesel Range Hydrocarbons	8/7/97	68.0		62.6	mg/kg dry	59.0-135	92.1			
Surrogate: 2-FBP	"	11.7		10.0	"	50.0-150	85.5			
<b>Duplicate</b>										
<b>0870112-DUP1 B708025-14</b>										
Diesel Range Hydrocarbons	8/7/97		2900	4050	mg/kg dry			50.0	33.1	
Surrogate: Octacosane	"	13.1		18.5	"	50.0-150	141			
<b>Duplicate</b>										
<b>0870112-DUP2 B708025-13</b>										
Diesel Range Hydrocarbons	8/7/97		1590	1870	mg/kg dry			50.0	16.2	
Surrogate: 2-FBP	"	12.3		10.9	"	50.0-150	88.6			

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Kirkland, WA 98034

Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

## Total Metals by EPA 6000/7000 Series Methods/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
<b>Batch: 0870206</b>										
<b>Blank</b>										
Lead	8/8/97			ND	mg/kg dry	10.0				
<b>LCS</b>										
Lead	8/8/97	50.0		40.0	mg/kg dry	70.0-130	80.0			
<b>LCS</b>										
Lead	8/8/97	44.3		46.4	mg/kg dry	70.0-130	105			
<b>Duplicate</b>										
Lead	8/8/97		B708062-14		mg/kg dry			20.0		
<b>Matrix Spike</b>										
Lead	8/8/97		B708062-14		mg/kg dry	70.0-130				
<b>Matrix Spike Dup</b>										
Lead	8/8/97		B708062-14		mg/kg dry	70.0-130		20.0		

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Project: Mason County Fire Station #7  
Project Number: 6-91M-09977-E  
Project Manager: Robert Lauritzen

Sampled: 7/30/97  
Received: 8/1/97  
Reported: 8/8/97 16:20

## Notes and Definitions

#	Note
---	------

DET	Analyte DETECTED
-----	------------------

ND	Analyte NOT DETECTED at or above the reporting limit
----	--

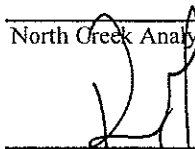
NR	Not Reported
----	--------------

dry	Sample results reported on a dry weight basis
-----	---

Recov.	Recovery
--------	----------

RPD	Relative Percent Difference
-----	-----------------------------

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Kirk Gendron, Project Manager

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B708010

00470

# CHAIN OF CUSTODY

PROJECT		PROJECT No.		ANALYSIS REQUESTED (circle, check box or write preferred method in box)															
CLIENT		PHONE No.																	
PROJECT MANAGER		PHONE No.																	
SAMPLER'S NAME (please print)		PHONE No.																	
SAMPLER'S SIGNATURE		PHONE No.																	
Mason County Fire Station #7		6-91M-09977-E																	
AGRA		820-4669																	
Bob Lauritzen		11																	
Konrad Mueller		11																	
Paul Mueller																			
SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS														
1. FS-7/S-1	7/30/97		Soil	Chill	1														
2. FS-7/S-2					1														
3. FS-7/S-3					1														
4. COMPOSITE FS-7					1														
5.																			
6.																			
7.																			
8.																			
9.																			
10.																			

SAMPLE RECEIPT		LABORATORY		TURNAROUND TIME		SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS	
TOTAL # CONTAINERS	SHIPPING I.D. / AIRBILL #						
3						Composite as one sample,	
CONDITION OF CONTAINERS	CARRIER						
CONDITION OF SEALS	DOT DESIGNATION						
RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION	
Robert J. [Signature]		7/31/97		4:00		Nate Murphy	
Nate Murphy		7/31		5:15		[Signature]	

RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME	
1. Robert J. [Signature]		7/31/97		4:00		Nate Murphy		7/31		4:00	
2. Nate Murphy		7/31		5:15		[Signature]		7/31		17:15	
3.											

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