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San Francisco, CA 94111  
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13 August 1993  
Project 1736.11

Ms. Juliet Shin  
Alameda County Health Care Services Agency  
Division of Hazardous Materials  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, CA 94621

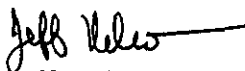
Subject: Quarterly Monitoring Report  
Calendar Quarter July - September 1993  
1020 Atlantic Avenue  
Marina Village Development  
Alameda, California


Dear Ms. Shin:

On behalf of Alameda Real Estate Investments, Inc. (AREI), Geomatrix Consultants, Inc. (Geomatrix), is submitting the subject report. The next quarterly groundwater sampling event is scheduled for October 1993. If you have any questions regarding this report, please call either of the undersigned.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

  
Jeff Nelson  
Project Manager

  
Elizabeth Nixon  
Senior Project Engineer

JCN/atr  
173611020QRT2.LTR

Enclosure

cc: Ms. Kathy Luck, AREI  
Mr. Richard Hiatt, Regional Water Quality Control Board

93 AUG 19 AM 11:23

**Geomatrix Consultants, Inc.**  
Engineers, Geologists, and Environmental Scientists



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**QUARTERLY MONITORING REPORT  
CALENDAR QUARTER JULY - SEPTEMBER 1993**

**1020 Atlantic Avenue  
Marina Village Development  
Alameda, California**

**Prepared for**

**Alameda Real Estate Investments  
1150 Marina Village Parkway  
Alameda, California**

**August 1993  
Project No. 1736.11**

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**Geomatrix Consultants**

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**QUARTERLY MONITORING REPORT  
CALENDAR QUARTER JULY - SEPTEMBER 1993**  
1020 Atlantic Avenue  
Marina Village Development  
Alameda, California

**1.0 INTRODUCTION**

This report presents a summary of groundwater monitoring activities conducted by Geomatrix Consultants, Inc. (Geomatrix), on behalf of Alameda Real Estate Investments, Inc. (AREI), at 1020 Atlantic Avenue, Alameda, California (Figure 1). These activities are part of a quarterly groundwater monitoring program initiated in January 1993 and conducted in July 1993. The purpose of this program is to comply with Alameda County Department of Environmental Health (ACDEH) requirements for closure of underground storage tank (UST) sites. Work at the site was completed in accordance with the scope of work submitted to ACDEH by Geomatrix on 29 December 1992.

**1.1 Background**

Two USTs apparently were installed at the site at least 15 years ago by former property owners and were used to store diesel fuel and possibly gasoline. AREI removed the tanks in 1988, as described in Levine-Fricke, Inc.'s (Levine-Fricke), 25 April 1988 report entitled "Removal of Petroleum-Affected Soils in the Vicinity of the Rigging International Building, 2051 Sherman Street, Alameda, California." Approximately 200 cubic yards of petroleum-affected soil were removed from the tank excavation at the time of the tank removal. The location of the former USTs and excavation boundary are shown on Figure 2. Since removal of the USTs and affected soil, the site has been developed with an office building and parking lot.

**2.0 QUARTERLY PROGRESS SUMMARY**

The work performed during this quarter is summarized below:

- Water levels were measured in the three on-site monitoring wells on 7 July 1993. Water-level measurements and procedures are described in Section 3.0.
- Geomatrix performed the third of four quarterly groundwater sampling events on 7 July 1993. Section 4.0 describes the groundwater sampling activities and analytical procedures and results.

### **3.0 QUARTERLY WATER-LEVEL MEASUREMENTS**

Geomatrix measured water levels in the three groundwater monitoring wells at the site on 7 July 1993; well construction information for these three wells is presented in Table 1. Water levels were measured to the nearest 0.01 foot using a Sinco electric well sounder in accordance with Geomatrix protocols previously submitted with the initial quarterly monitoring report for this project. Equipment used by Geomatrix personnel was washed with a detergent-water solution and rinsed with deionized water before each measurement was taken. Water-level measurements from this quarterly monitoring event are summarized in Table 2.

The water-level elevation ranged from 6.04 feet at well GMW-10 to 5.64 feet at well GMW-8 (City of Alameda Datum). Monitoring well locations and water-level elevations are shown on Figure 2. The horizontal hydraulic gradient over the site on 7 July 1993 was approximately 0.005 foot/foot, oriented generally to the north. Based on this gradient direction, monitoring well GMW-8 is downgradient of the former soil excavation.

### **4.0 QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS**

A groundwater sample was collected from monitoring well GMW-8 on 7 July 1993. Sample collection followed Geomatrix protocols previously submitted for this project. Immediately after collection, the groundwater sample was placed in an ice-chilled cooler and transported under Geomatrix chain-of-custody procedures to American Environmental Network (AEN) of Pleasant Hill, California, a state-certified analytical laboratory.

The sample was analyzed by AEN for total petroleum hydrocarbons as diesel (TPHd), according to Environmental Protection Agency (EPA) Method 3520 GCFID; total petroleum hydrocarbons as gasoline (TPHg) according to EPA Method 5030 GCFID; and benzene, toluene, ethylbenzene, and xylenes (BTEX) according to EPA Method 8020. Copies of chain-of-custody records are included in Appendix A.

The results of chemical analyses performed on groundwater samples collected in this quarter are presented in Table 3. No TPHg or BTEX were detected in the groundwater sample. A concentration of 100 micrograms per liter of extractable hydrocarbons as diesel was detected in the groundwater sample. Laboratory reports are included in Appendix A.

TABLE 1

WELL CONSTRUCTION DATA  
 1020 Atlantic Avenue  
 Marina Village  
 Alameda, California

Well Number	Date Constructed	Well Depth (ft. below grade)	Screened Interval (ft. below grade)	Filter Pack Interval (ft. below grade)	Measuring Point Elevation <sup>1</sup> (feet)	Ground Surface Elevation (feet) <sup>2</sup>
GMW-8 <sup>3</sup>	2/2/93	18	4-18	3-18	8.97	9.2
GMW-9 <sup>3</sup>	2/2/93	20	5-20	4-20	9.72	9.9
GMW-10 <sup>3</sup>	2/3/93	15	3-15	2.5-15	9.31	9.5

- <sup>1</sup> Top of PVC casing elevations were surveyed by Luk, Milani & Associates (formerly Stedman & Associates, Inc.) of Walnut Creek, California. Elevations are relative to City of Alameda Datum (6.4 feet above Mean Sea Level).
- <sup>2</sup> Ground surface elevations are approximate.
- <sup>3</sup> Installed by Geomatrix Consultants, Inc.

**TABLE 2**

**WATER-LEVEL MEASUREMENTS**

1020 Atlantic Avenue  
Marina Village  
Alameda, California

Well Number	Date Water Level Measured	Measuring Point (MP) Elevation <sup>1</sup> (feet)	Depth to Water Below MP (feet)	Water-Level Elevation <sup>1</sup> (feet)
GMW-8	2/9/93	8.97	3.09	5.88
GMW-9	2/9/93	9.72	1.48	8.24
GMW-10	2/9/93	9.31	2.92	6.39
GMW-8	4/5/93	8.97	2.61	6.36
GMW-9	4/5/93	9.72	2.81	6.91
GMW-10	4/5/93	9.31	2.97	6.34
GMW-8	7/7/93	8.97	3.33	5.64
GMW-9	7/7/93	9.72	3.87	5.85
GMW-10	7/7/93	9.31	3.27	6.04

<sup>1</sup> Top of PVC casing elevations were surveyed by Luk, Milani & Associates of Walnut Creek, California. Elevations are relative to City of Alameda Datum (6.4 feet above Mean Sea Level).



**TABLE 3**

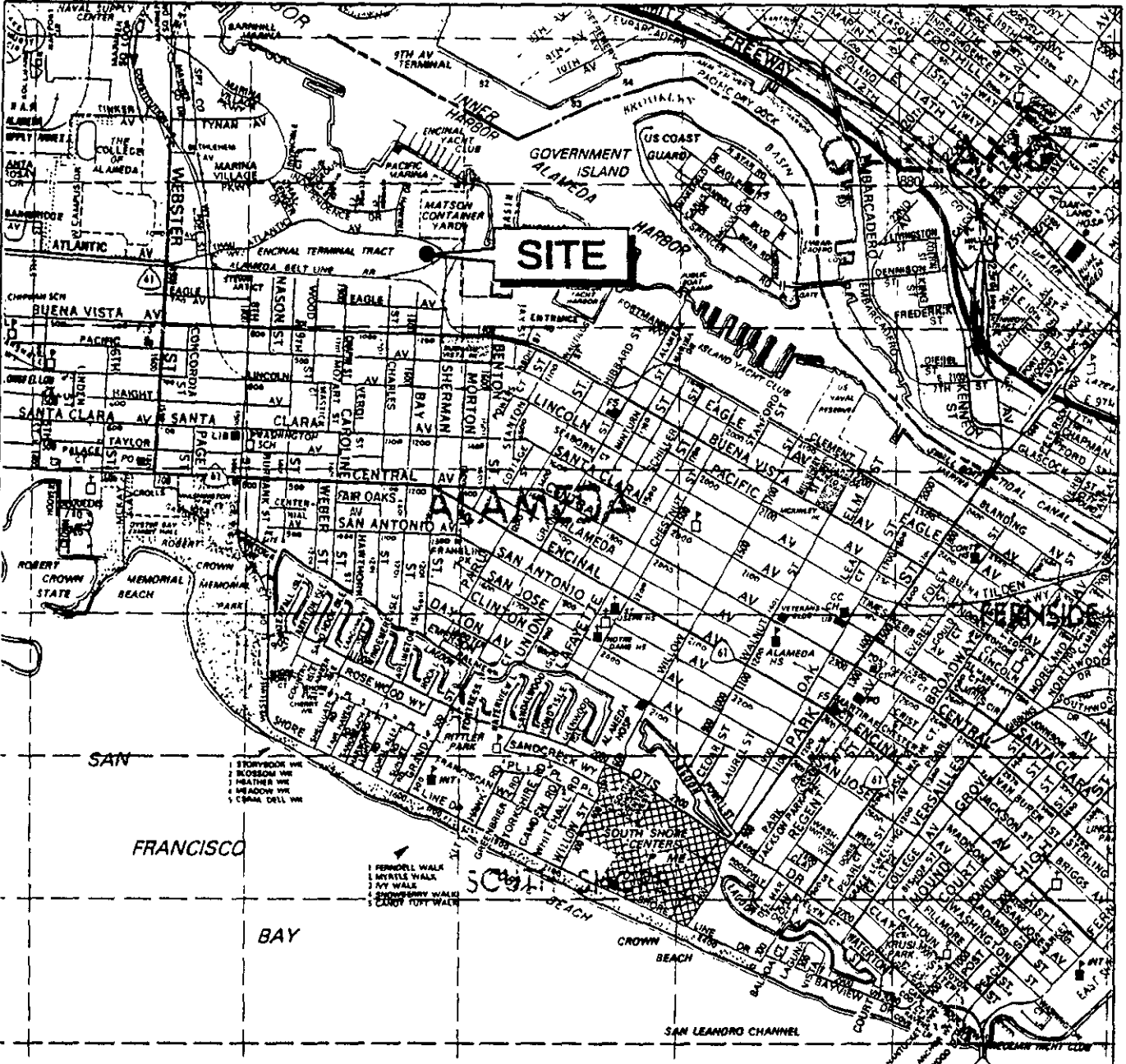
**ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES<sup>1</sup>**

1020 Atlantic Avenue  
Marina Village  
Alameda, California

Results in micrograms per liter ( $\mu\text{g/l}$ )

Well Number	Sample Date	Extractable Petroleum Hydrocarbons as Diesel	Purgeable Hydrocarbons as Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GMW-8	2/11/93	<50	<50	<0.5	<0.5	<0.5	<2
GMW-8	4/15/93	300	<50	<0.5	<0.5	<0.5	<2
GMW-8	7/7/93	100	<50	<0.5	<0.5	<0.5	<2

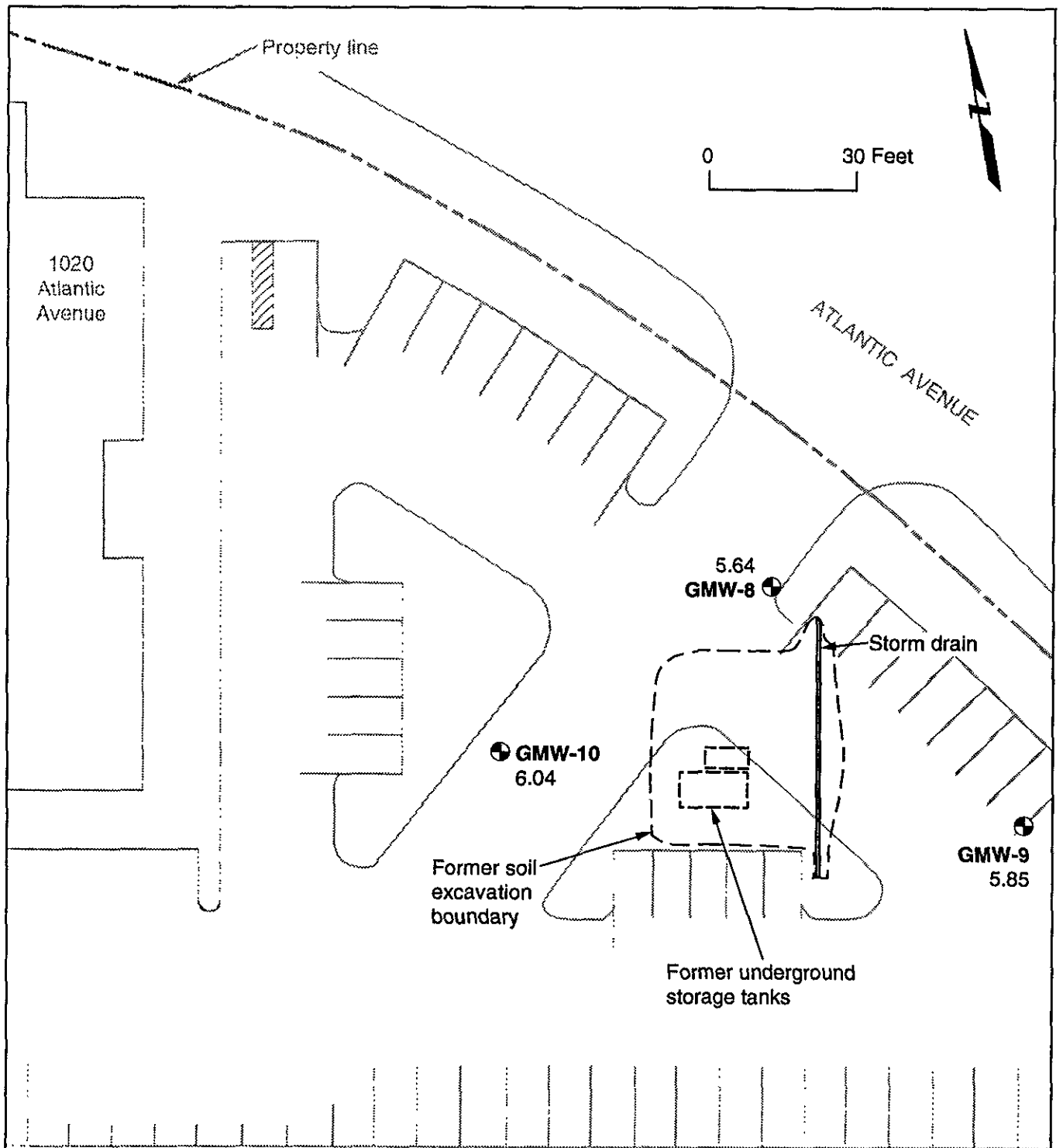
<sup>1</sup> Samples collected by Geomatrix Consultants, Inc. and analyzed by American Environmental Network (formerly Quanteq Laboratories) of Pleasant Hill, California.




**SITE VICINITY MAP**  
 1020 Atlantic Avenue (Formerly 2051 Sherman Street  
 Rigging International Building)  
 Marina Village Development  
 Alameda, California


Figure  
 1  
 Project No.  
 1736.11





**EXPLANATION**

- 
 Groundwater monitoring well (installed by Geomatrix on 2/93) showing water-level elevation, in feet (City of Alameda datum)

	<b>MONITORING WELLS AND WATER-LEVEL ELEVATIONS (JULY 1993)</b> 1020 Atlantic Avenue (Formerly 2051 Sherman Street Rigging International Building) Marina Village Development Alameda, California	Figure <b>2</b>
		Project No. 1736.11

# American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 94523-001

PAGE 1 OF 6

GEOMATRIX CONSULTANTS  
100 PINE STREET  
10TH FLOOR  
SAN FRANCISCO, CA 94111  
ATTN: JEFF NELSON

REPORT DATE: 07/21/93  
DATE SAMPLED: 07/07/93  
DATE RECEIVED: 07/07/93

CLIENT PROJ. ID: 1736.11  
C.O.C. NO: 3085

AEN JOB NO: 9307068

## PROJECT SUMMARY:

On July 7, 1993, this laboratory received one (1) water sample.

Client requested the sample be analyzed for organic parameters. Sample identification, methodologies, results and dates analyzed are summarized on the following pages.

Sample extract for Extractable Hydrocarbons as Diesel was treated with silica gel prior to analysis.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

If you have any questions, please contact Client Services at (510) 930-9090.

  
\_\_\_\_\_  
Larry Klein  
General Manager

Results FAXed 07/16/93

GEOMATRIX CONSULTANTS

DATE SAMPLED: 07/07/93  
DATE RECEIVED: 07/07/93  
CLIENT PROJ. ID: 1736.11

REPORT DATE: 07/21/93  
AEN JOB NO: 9307068

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Client Sample Id.	AEN Lab Id.	Extractable Hydrocarbons as Diesel (mg/L)
GMW-8	01G	0.1
Reporting Limit		0.05
Method: 3520 GCFID		
Instrument: C		
Date Extracted: 07/09/93		
Date Analyzed: 07/13/93		

GEOMATRIX CONSULTANTS

SAMPLE ID: GMW-8  
CLIENT PROJ. ID: 1736.11  
DATE SAMPLED: 07/07/93  
DATE RECEIVED: 07/07/93  
REPORT DATE: 07/21/93

AEN LAB NO: 9307068-01A  
AEN JOB NO: 9307068  
DATE ANALYZED: 07/08/93  
INSTRUMENT: F

BTEX AND HYDROCARBONS (WATER MATRIX)  
METHOD: EPA 8020, 5030 GCFID

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.5
Toluene	108-88-2	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Xylenes, Total	1330-20-7	ND	2

PURGEABLE HYDROCARBONS AS:

Gasoline ND mg/L 0.05 mg/L

ND = Not Detected

QUALITY CONTROL DATA

DATE EXTRACTED: 07/09/93  
 DATE ANALYZED: 07/13/93  
 CLIENT PROJ. ID: 1736.11

AEN JOB NO: 9307068  
 SAMPLE SPIKED: D.I. WATER  
 INSTRUMENT: C

MATRIX SPIKE RECOVERY SUMMARY  
 TPH EXTRACTABLE WATER  
 METHOD: EPA 3520 GCFID

ANALYTE	Spike Conc. (mg/L)	Sample Result (mg/L)	MS Result (mg/L)	MSD Result (mg/L)	Average Percent Recovery	RPD
Diesel	2.02	ND	1.75	1.62	83.4	7.7

CURRENT QC LIMITS (Revised 06/22/92)

Analyte	Percent Recovery	RPD
Diesel	(45.0-103.3)	25

MS = Matrix Spike  
 MSD = Matrix Spike Duplicate  
 RPD = Relative Percent Difference  
 ND = Not Detected

QUALITY CONTROL DATA

CLIENT PROJ. ID: 1736.11

AEN JOB NO: 9307068

INSTRUMENT: F

SURROGATE STANDARD RECOVERY SUMMARY  
METHOD: EPA 8020  
(WATER MATRIX)

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Date Analyzed	SAMPLE IDENTIFICATION		SURROGATE RECOVERY (PERCENT)
	Client Id.	Lab Id.	Fluorobenzene
07/08/93	GMW-8	01B	92.8

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CURRENT QC LIMITS

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Fluorobenzene	(70-115)



QUALITY CONTROL DATA

DATE ANALYZED: 07/08/93  
 SAMPLE SPIKED: 9307044-01A  
 CLIENT PROJ. ID: 1736.11

AEN JOB NO: 9307068  
 INSTRUMENT: F

MATRIX SPIKE RECOVERY SUMMARY  
 METHOD: EPA 8020, 5030 GCFID  
 (WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
Benzene	13.1	ND	12.7	12.1	94.7	4.8
Toluene	45.4	ND	45.0	42.6	96.5	5.5
Hydrocarbons as Gasoline	500	ND	531	502	103.3	5.6

CURRENT QC LIMITS (Revised 05/14/92)

Analyte	Percent Recovery	RPD
Benzene	(81.4-115.3)	10.2
Toluene	(85.3-112.4)	9.4
Gasoline	(72.0-119.4)	12.3

MS = Matrix Spike  
 MSD = Matrix Spike Duplicate  
 RPD = Relative Percent Difference  
 ND = Not Detected

R-3, S-3  
R-1, S-C/G

9307068

Chain-of-Custody Record			No 3085				Date 7/7/93		Page 1 of 1					
Project No. 1736.11			ANALYSES						REMARKS					
Samplers (Signatures) James M. Carolan			EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX 9020	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
Date	Time	Sample Number												
7/7/93	10:20	Gmw-8					X	X	X	X	W	X	8	01A-H  Silica gel Cleanup requested for TPH
			Turnaround time: Standard		Results to: Jeff Nelson		Total No. of containers: 8							
Relinquished by: Signature: James M. Carolan Printed name: Jim Carolan Company: Geomatrix		Date: 7/7/93	Relinquished by: Signature: [Signature] Printed name: NEIL HERRICK Company:		Date: 7/7/93	Relinquished by: Signature: Printed name: Company:		Date:	Method of shipment: Lab Pickup Laboratory comments and Log No:					
Received by: Signature: NEIL HERRICK Printed name: Company: AEN		Time: 6:05	Received by: Signature: Gina Gillespie Printed name: AEN Company:		Time: 7:15	Received by: Signature: Printed name: Company:		Time:						



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