

9210216 PM 1:25

STIP 3809

November 11, 1992

Ms. Susan Hugo  
Alameda County Department  
of Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94621

Re: Greyhound Terminal  
Location 8934  
Monthly Monitoring

Dear Ms. Hugo:

On behalf of Greyhound Lines, Inc., Engineering-Science, Inc. (ES) is pleased to submit the October 1992 monthly monitoring report for the Greyhound Terminal in Oakland. Attached you will find Table 1 which lists the measured water levels and free-product thicknesses from on-site wells monitored during our site visit. Figure 1 shows the locations of the monitoring wells.

During our site visit on October 6, free-phase hydrocarbons were observed in ES-1, ES-2, ES-5, and BC-1. All other wells were found to be clear.

During our site visit, quarterly groundwater sampling and analysis was performed as part of Greyhound's quarterly sampling program. Groundwater samples were collected from all monitoring wells not containing free phase hydrocarbons. The samples were analyzed for benzene, ethylbenzene, toluene and xylenes (BTEX) by EPA Method 8020 and total petroleum hydrocarbons as diesel (TPHD) by Modified EPA Method 8015. Analytical results are summarized on Table 2. Analytical laboratory reports and chain-of-custody are presented in Attachment A.

Greyhound is currently installing a hydrocarbon recovery system to address the free product plume at the facility. Greyhound acknowledges your verbal approval of the free product recovery system installation based on your recent telephone conversation with Mr. Ed Roberts of ES. Greyhound also acknowledges receipt of your letter dated October 23 and is in the process of preparing a response.

Ms. Susan Hugo  
November 11, 1992  
Page 2

Our next monitoring event will take place during the installation of the recovery system. If you have any questions or require additional information, please feel free to contact us at (315) 451-9560.

Sincerely,

ENGINEERING-SCIENCE, INC.

*MN Miller/aw*

Martin N. Miller  
Environmental Technician

*David A. Nickerson*

David A. Nickerson, P.G.  
Project Manager

*D Chaffin*

David L. Chaffin, R.G.  
California Registered Geologist  
(No. 4885)

MNM/DAN/DLC/lml

cc: Mr. Richard Hiatt, RWQCB  
Tom Portele, GLI, Dallas, TX

**TABLE 1**  
**GREYHOUND LINES, INC.**  
**OAKLAND, CA**  
**MONITORING SUMMARY**  
**OCTOBER 6, 1992**

Location	Depth to Liquid (feet)	Depth to Water (feet)	Product Thickness (feet)	Remarks
ES-1	19.08	19.10	.02	Free Product
ES-2	19.41	20.00	.59	Free Product
ES-3	19.96	19.96	0	Clear
ES-4	18.92	18.92	0	Clear
ES-5	18.24	21.37	3.13	Free Product
BC-1	18.82	21.14	2.32	Free Product
BC-2	18.50	18.50	0	Clear
BC-3	18.93	18.93	0	Clear

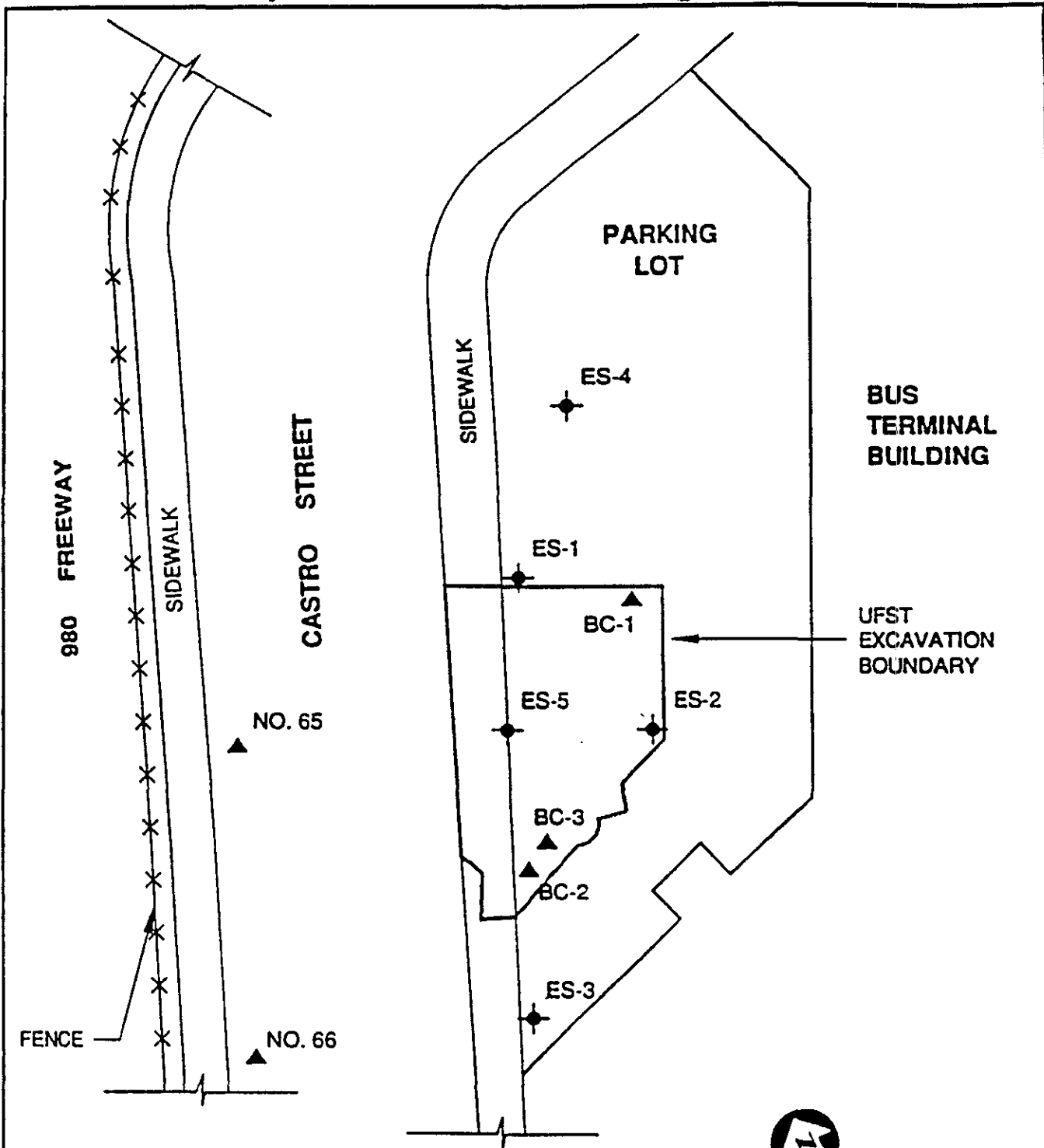
**TABLE 2**  
**ANALYTICAL DATA SUMMARY**  
**OAKLAND, CALIFORNIA**  
**OCTOBER 6, 1992**

Sample Location	Sample Matrix	Benzene	Toluene	Ethyl-benzene	Xylene	Total <sup>(1)</sup> BTEX	TPH <sup>(2)</sup>
ES-3	Water	93.0	18.0	ND	11.0	122	ND
ES-4	Water	100.0	8.2	ND	7.6	115.8	ND
BC-2	Water	ND	1.1	0.9	7.2	9.2	ND
BC-3	Water	ND	1.9	0.5	1.8	4.2	0.8
Wash Blank	Water	ND	ND	ND	ND	ND	ND
Trip Blank	Water	ND	ND	ND	ND	ND	ND

ND - Parameter analyzed but not detected above the Method Detection Limit.


(1) BTEX analysis by EPA Method 602, results reported in ug/l.


(2) TPHD (total petroleum hydrocarbons-diesel) analysis by EPA Modified Method 8015 (DTSC-LUFT), results reported in mg/l.



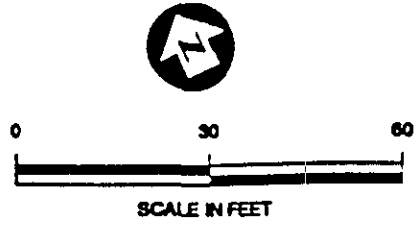
**EXPLANATION**

---

 ES-1  
 NEW MONITORING WELL

 BC-1  
 EXISTING MONITORING WELL

NOTE: WELLS BC-2, BC-3; CASINGS ARE NOT VERTICAL



GREYHOUND LINES, INC.  
 LOCATION 8934  
 2103 SAN PABLO AVENUE  
 OAKLAND, CALIFORNIA

**WELL LOCATION MAP**

**ATTACHMENT A**  
**ANALYTICAL LABORATORY REPORT**  
**AND**  
**CHAIN-OF-CUSTODY**

GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

PROJECT NAME: GREYHOUND/GLI OAKLAND

Work Order NO.: 4439

% Moisture: NA

Client ID: ES-3

Matrix: WATER

Laboratory ID: 4439-1

Level: NA

Date Collected: 10/06/92

Unit: UG/L

Dilution Factor: 10

Date Analyzed: 10/13/92

Date Confirmed: NA

Compound	Result	Reporting Limit
Benzene	93.0	3.0
Ethyl Benzene	ND	3.0
Toluene	18.0	3.0
Xylenes (total)	11.0	6.0

ND-Not Detected  
NA-Not Applicable  
D-Dilution Factor

ANALYST: *AS*

GROUP LEADER: *[Signature]*

GC ANALYTICAL REPORT  
Analytical Method  
Modified EPA 8015  
TPHD GC/FID (3510)

-----

Work Order NO.: 4439 (GreyHound/ GLI Oakland)	% Moisture: NA
Laboratory ID: 4439-01	Matrix: WATER
Client ID: ES-3	Level: NA
Date Collected: 10-06-92	Units: mg/L

DIESEL:  
Date Extracted: 10-20-92  
Dilution Factor: 1.0  
Date Analyzed: 10-23-92  
Inst. Ser. #: EGC-2  
QC Batch #: W92QCB014DES

-----

Compound	Result	Reporting Limit
-----		
DIESEL	ND	0.05

ND-Not Detected  
NA-Not Applicable

ANALYST: *ml*

GROUP LEADER: *[Signature]*



GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

PROJECT NAME: GREYHOUND/GLI OAKLAND

Work Order NO.: 4439

% Moisture: NA

Client ID: ES-4

Matrix: WATER

Laboratory ID: 4439-2

Level: NA

Date Collected: 10/06/92

Unit: UG/L

Dilution Factor: 10

Date Analyzed: 10/13/92

Date Confirmed: NA

=====

Compound	Result	Reporting Limit
Benzene	100.0	3.0
Ethyl Benzene	ND	3.0
Toluene	8.2	3.0
Xylenes (total)	7.6	6.0

ND-Not Detected  
NA-Not Applicable  
D-Dilution Factor

ANALYST: *Ans*

GROUP LEADER: *Kevin*

GC ANALYTICAL REPORT  
Analytical Method  
Modified EPA 8015  
TPHD GCFID (3510)

-----

Work Order NO.: 4439 (GreyHound/GLI Oakland)	% Moisture: NA
Laboratory ID: 4439-02	Matrix: WATER
Client ID: ES-4	Level: NA
Date Collected: 10-06-92	Units: mg/L

DIESEL:  
Date Extracted: 10-20-92  
Dilution Factor: 1.0  
Date Analyzed: 10-23-92  
Inst. Ser. #: EGC-2  
QC Batch #: W92QCB014DES

-----

Compound	Result	Reporting Limit
-----		
DIESEL	ND	0.05

ND-Not Detected  
NA-Not Applicable

ANALYST: *ml*

GROUP LEADER: *Russell*

GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

PROJECT NAME: GREYHOUND/GLI OAKLAND

Work Order NO.: 4439

% Moisture: NA

Client ID: BC-2

Matrix: WATER

Laboratory ID: 4439-3

Level: NA

Date Collected: 10/06/92

Unit: UG/L

Dilution Factor: 1

Date Analyzed: 10/13/92

Date Confirmed: NA

=====

Compound	Result	Reporting Limit
----------	--------	-----------------

=====

Benzene	ND	0.3
Ethyl Benzene	0.9	0.3
Toluene	1.1	0.3
Xylenes (total)	7.2	0.6

ND-Not Detected  
NA-Not Applicable  
D-Dilution Factor

ANALYST: *AD*

GROUP LEADER: *huv*

GC ANALYTICAL REPORT  
Analytical Method  
Modified EPA 8015  
TPHD GCFID (3510)

Work Order NO.:4439 (GreyHound/GLI Oakland)	% Moisture:NA
Laboratory ID:4439-03	Matrix:WATER
Client ID:BC-2	Level:NA
Date Collected:10-06-92	Units:mg/L

DIESEL:  
Date Extracted:10-20-92  
Dilution Factor: 1.0  
Date Analyzed:10-23-92  
Inst. Ser. #:EGC-2  
QC Batch #:W92QCB014DES

Compound	Result	Reporting Limit
DIESEL	ND	0.05

ND-Not Detected  
NA-Not Applicable

ANALYST: *ml*

GROUP LEADER: *Pr real*

GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

Project Name: GreyHound/GLI OAKLAND

Work Order NO.: 4439

% Moisture: NA

Client ID: BC-3

Matrix: WATER

Laboratory ID: 4439-4

Level: NA

Date Collected: 10/06/92

Unit: UG/L

Dilution Factor: 1

Date Analyzed: 10/12/92

Date Confirmed: NA

Compound	Result	Reporting Limit
----------	--------	-----------------

Benzene	ND	0.3
Ethyl Benzene	0.5	0.3
Toluene	1.9	0.3
Xylenes (total)	1.8	0.6

ND-Not Detected  
NA-Not Applicable  
D-Dilution Factor

ANALYST: *AMS*

GROUP LEADER: *[Signature]*

GC ANALYTICAL REPORT  
Analytical Method  
Modified EPA 8015  
TPHD GCFID (3510)

Work Order NO.: 4439 (GreyHound/GLI Oakland)	% Moisture: NA
Laboratory ID: 4439-04	Matrix: WATER
Client ID: BC-3	Level: NA
Date Collected: 10-06-92	Units: mg/L

DIESEL:  
Date Extracted: 10-20-92  
Dilution Factor: 1.0  
Date Analyzed: 10-23-92  
Inst. Ser. #: EGC-2  
QC Batch #: W92QCB014DES

Compound	Result	Reporting Limit
DIESEL	0.8	0.05

ND-Not Detected  
NA-Not Applicable

ANALYST: *[Signature]*

GROUP LEADER: *[Signature]*

GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

PROJECT NAME: GREYHOUND/GLI OAKLAND

Work Order NO.:4439

% Moisture:NA

Client ID:EQUIP BLANK

Matrix:WATER

Laboratory ID:4439-5

Level:NA

Date Collected: 10/06/92

Unit:UG/L

Dilution Factor: 1

Date Analyzed:10/12/92

Date Confirmed:NA

Compound	Result	Reporting Limit
Benzene	ND	0.3
Ethyl Benzene	ND	0.3
Toluene	ND	0.3
Xylenes (total)	ND	0.6

ND-Not Detected  
NA-Not Applicable  
D-Dilution factor

ANALYST: *AM*

GROUP LEADER: *[Signature]*

GC ANALYTICAL REPORT  
Analytical Method  
Modified EPA 8015  
TPHD GCFID (3510)

```

-----
Work Order NO.:4439 (GreyHound/GLI Oakland)   % Moisture:NA
Laboratory ID:4439-05                         Matrix:WATER
Client ID:EQUIP BLANK                         Level:NA
Date Collected:10-06-92                      Units:mg/L

```

DIESEL:  
Date Extracted:10-20-92  
Dilution Factor: 1.0  
Date Analyzed:10-23-92  
Inst. Ser. #:EGC-2  
QC Batch #:W92QCB014DES

```

-----
Compound                Result                Reporting
                        ND                Limit
-----
DIESEL                  ND                0.05

```

ND-Not Detected  
NA-Not Applicable

ANALYST: *ml*

GROUP LEADER: *Wood*



GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

PROJECT NAME: GREYHOUND/GLI OAKLAND

Work Order NO.: 4439

% Moisture: NA

Client ID: TRIP BLANK

Matrix: WATER

Laboratory ID: 4439-6

Level: NA

Date Collected: 10/06/92

Unit: UG/L

Dilution Factor: 1

Date Analyzed: 10/12/92

Date Confirmed: NA

=====

Compound	Result	Reporting Limit
Benzene	ND	0.3
Ethyl Benzene	ND	0.3
Toluene	ND	0.3
Xylenes (total)	ND	0.6

ND-Not Detected  
NA-Not Applicable  
D-Dilution Factor

ANALYST: *AS*

GROUP LEADER: *[Signature]*

GC ANALYTICAL REPORT  
Analytical Method  
Modified EPA 8015  
TPHD GC/FID (3510)

-----

Work Order NO.:4439 (GreyHound/GLI Oakland)	% Moisture:NA
Laboratory ID:MWDES921020	Matrix:WATER
Client ID:(METHOD BLANK)	Level:NA
Date Collected:NA	Units:mg/L

DIESEL:  
Date Extracted:10-20-92  
Dilution Factor: 1.0  
Date Analyzed:10-23-92  
Inst. Ser. #:EGC-2  
QC Batch #:W92QCB014DES

-----

Compound	Result	Reporting Limit
DIESEL	ND	0.05

-----

ND-Not Detected  
NA-Not Applicable

ANALYST: *ml*

GROUP LEADER: *[Signature]*

GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

PROJECT NAME: GREYHOUND/GL1 OAKLAND

Work Order NO.:4439

% Moisture:NA

Client ID:METHOD BLANK

Matrix:WATER

Laboratory ID:MWUG3921012B

Level:NA

Date Collected: NA

Unit:UG/L

Dilution Factor: 1

Date Analyzed:10/12/92

Date Confirmed:NA

=====

Compound

Result

Reporting  
Limit

=====

Benzene

ND

0.3

Ethyl Benzene

ND

0.3

Toluene

ND

0.3


Xylenes (total)

ND

0.6

ND-Not Detected  
NA-Not Applicable  
D-Dilution Factor

ANALYST: AB

GROUP LEADER: 

GC ANALYTICAL REPORT

Analytical Method

BTEX Aromatic Compounds (EPA Method 602)

PROJECT NAME: GREYHOUND/GLI OAKLAND

Work Order NO.:4439

% Moisture:NA

Client ID:METHOD BLANK

Matrix:WATER

Laboratory ID:MWUG3921013B

Level:NA

Date Collected: NA

Unit:UG/L

Dilution Factor: 1

Date Analyzed:10/13/92

Date Confirmed:NA

=====

Compound	Result	Reporting Limit
----------	--------	-----------------

=====

Benzene	ND	0.3
Ethyl Benzene	ND	0.3
Toluene	ND	0.3
Xylenes (total)	ND	0.6

ND-Not Detected  
NA-Not Applicable  
D-Dilution Factor

ANALYST: *AB*

GROUP LEADER: *[Signature]*

-----  
 QUALITY CONTROL RESULTS SUMMARY  
 ANALYTICAL REPORT  
 BTEX AROMATIC COMPOUNDS

Work Order No.: 4439

QI, sample No.: 5WUG3921009A&B

Date analyzed: 10/09/92

Matrix: WATER

Dilution factor: 1

```

=====
|          COMPOUND          | SA | SR | MS | MSD |          | QC LIMITS | |
|          |          |          |          |          |          |          |
| 8010 analysis | UG/L | UG/L | UG/L |          |          | RPD | PR |
=====
|          COMPOUND          | SA | SR | MS | MSD |          | QC LIMITS | |
|          |          |          |          |          |          |          |
| 8020 analysis | UG/L | UG/L | UG/L |          |          | RPD | PR |
=====
| Benzene          | 20.0 | ND  | 24.4 | 122 | 24.4 | 122 | 0 | 29 | 39-150 |
|                  |      |     |      |     |      |     |   |   |         |
| Toluene          | 20.0 | ND  | 17   | 85  | 18.4 | 92  | 8 | 28 | 46-148 |
|                  |      |     |      |     |      |     |   |   |         |
=====
    
```

MS = Spike sample  
 MSD = Spike sample duplicate  
 SR = Sample result  
 SA = Spike added  
 ND = Not Found At or Above Detection Limits

NC = Not calculated  
 NA = Not Applicable  
 \*\* = Out of limits

$RPD = 100 \times (MS - MSD) / ((MS + MSD) / 2)$

$PR = 100 \times ((MS \text{ or } MSD) - SR) / SA$

ANALYST: *AB*

QC: *JMB*

QUALITY CONTROL RESULTS SUMMARY  
VOLATILE ORGANICS ANALYSIS  
METHOD 8015

Work Order No.: 4410, 4415, 4439      Date collected: NA  
 QC sample No.: SWDES921006 A&B      Date Extracted: 10-06-92  
 Matrix: WATER      Date analyzed: 10-23-92  
 Units: mg/L      Dilution factor: 1

COMPOUND	SA	SR	MS	MS	MSD	MSD	RPD	QC LIMITS	
	mg/L	mg/L	mg/L	PR	mg/L	PR		RPD	PR
DIESEL	5	NA	4.1	82	4.2	84	2	25	50-150

MS = Spike sample  
 MSD = Spike sample duplicate  
 SR = Sample result  
 SA = Spike added

NC = Not calculated  
 \*\* = Out of limits

$RPD = 100 \times (MS - MSD) / ((MS + MSD) / 2)$

$PR = 100 \times ((MS \text{ or } MSD) - SR) / SA$

ANALYST: *ml*

QA: *MVB*