



**DAMES & MOORE**

A DAMES & MOORE GROUP COMPANY

**Prepared by:**

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January 21, 1999

PN: 41141-001-211:S19478



**RELEASE ABATEMENT MEASURE COMPLETION AND  
UNDERGROUND STORAGE TANK  
CLOSURE REPORT  
MASS DEVELOPMENT  
OPERATIONS DIVISION  
DEVENS COMMERCE CENTER  
DEVENS, MASSACHUSETTS**

**UST NO. T-3810**

DCC 990119 DMR

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**RELEASE ABATEMENT MEASURE COMPLETION AND  
UNDERGROUND STORAGE TANK CLOSURE REPORT  
UST NO. T-3810**

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**EXECUTIVE SUMMARY**

The subject 500-gallon steel underground storage tank (UST) T-3810 located adjacent to a pump house for the MacPherson water well, Building #3810, was utilized to store diesel fuel and was installed by the United States Army in 1966. The tank serviced a generator in the adjacent pump house. The tank was exposed, cleaned, and removed by Fleet Environmental Services on October 29, 1998. No groundwater, free product or soil staining was observed in the excavation. A cement vault below and surrounding the UST was removed during tank excavation. Field screening methods, including soil jar headspace screening and Petroflag analysis on soil adjacent to the tank and associated piping indicated limited hydrocarbon impact. One composite confirmatory soil sample consisting of five aliquots was collected from the four tank grave sidewalls and the excavation base and analyzed for Extractable Petroleum Hydrocarbons (EPH) by Massachusetts Department of Environmental Protection (MADEP) Method 98-1. The analytical data was compared to applicable reportable concentrations for soil (RCS-1) which are outlined in the Massachusetts Contingency Plan (MCP) {310 CMR 40.0000}. Hydrocarbon contamination in excess of MCP RCS-1 levels was not identified.

Prior to backfilling procedures on December 2, 1998, a small mixture of oil and water and an area of limited soil staining as well as visual and olfactory evidence of impacted soils were observed in the northeast corner of the excavation. A sheen was observed on the moist soils and the minor release was interpreted to be unrelated to the previous UST removal. The minor release was interpreted to have been caused by water discharge from a sump pump located in the pump house immediately east of the excavation. Approximately three cubic yards of impacted soil was removed from the excavation and stockpiled separately. The material was later transported offsite for recycling on December 31, 1998 at the ESMI facility in Loudon, New Hampshire. After limited soil removal, discrete samples were collected from the base and the four sidewalls of the excavation. The samples were analyzed for EPH and hydrocarbon impact

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in excess of MCP RCS-1 levels was not identified. Based upon the field screening results and the laboratory data, the tank grave was backfilled to grade, compacted and the grass area restored.

All UST closure and Release Abatement Measure activities were completed on December 31, 1998 and the objectives of these activities have been met. Since the closure confirmation samples and visual observations indicate that the oil impacted soil has been removed to levels below the MCP's most stringent reporting levels (RCS-1), significant current and future potential exposure to impacted materials is unlikely. Possible receptors have not been identified. No ongoing activities that are related to the Release Abatement Measure (e.g., monitoring and maintenance) are required.

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**1.0 INTRODUCTION**

This Release Abatement Measure Completion and underground storage tank (UST) Closure report has been prepared in accordance with the Commonwealth of Massachusetts UST Closure Assessment Manual, dated April 6, 1996. Project specifications prepared for Mass Development at the Devens Commerce Center (DCC) including the UST Closure Protocol Addendum to Tier 1A Permit dated June 14, 1996, Project Specifications dated March 24, 1998, and the Release Abatement Measure Plan dated June 11, 1998, were also followed for the Multiple UST Removal project at the former United States Army base located in Devens, Massachusetts.

**2.0 BACKGROUND**

Tank T-3810 was located immediately west of Building #3810, a pump house for the MacPherson water well, on MacPherson Road at the Main Post of the U.S. Army Base in Devens, Massachusetts. Upon the closure of Fort Devens, ownership of the UST was transferred from the U.S. Army to Mass Development at the Devens Commerce Center. Pursuant to the Work Scope outlined in Administrative Consent Order ACO-CE-96-3001 issued by the Massachusetts Executive Office of Environmental Affairs to Mass Development for waste site cleanup in connection with the Fort Devens redevelopment, 99 USTs have been removed under this project.

The subject UST was located approximately two feet west of Building #3810, as illustrated in Figure 1. Global Positioning System (GPS) coordinates for the former tank location are 3028287 northing and 626262 easting. GPS data was collected in order to verify the tank location in the absence of current physical reference points. The United States Army installed the subject 500-gallon steel UST in 1966. The tank was used to store diesel fuel for a generator in the pump

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house and was coated with an outer tar "skin". The associated tank piping included two 3/8-inch copper lines leading to the generator inside of the building.

### **3.0 UST REMOVAL**

The subject UST was uncovered, cleaned and removed on September 29, 1998. Fleet Environmental Services (Fleet) of Lakeville, Massachusetts removed the top of the tank using a Komatsu Excavator in order to enter and clean the inside of the tank. A vacuum truck was used to remove the remaining #2 fuel oil, tank sludge, and residual water and product generated during tank cleaning activities. After cleaning procedures, the tank was pulled from the excavation and inspected by the Devens Fire Department. The Closure Permit for the subject UST is provided in Appendix A. The tank was crushed by the excavator, stored at Fleet's onsite staging area located in a fenced area on Antietam Street, and subsequently hauled for disposal to WM Reisner Scrap Metal in Clinton, Massachusetts. Liquid generated during tank closure was transferred from the vacuum truck to a storage tanker located at Fleet's staging area and later hauled for disposal to Global Oil in Revere, Massachusetts. Appendix B includes documentation for oil disposal generated from the subject UST and various other onsite #2 fuel oil USTs. Soil removed during the tank excavation was stockpiled adjacent to the tank grave and the hole was temporarily secured with CAUTION tape.

Prior to backfilling procedures, a small area of stained soils was observed in the northeast corner of the tank grave. On December 2, 1998, approximately three cubic yards of soil was removed from surface soils adjacent to the northeast corner of the excavation. This release is interpreted to be unrelated to the former UST. Impacted soil was stockpiled separately on plastic sheeting and transported off-site to ESMI in Loudon, New Hampshire for recycling. The soil Bill of Lading, shipment documentation and the results of the sampling and analysis is presented in Appendix B.

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**4.0 FIELD OBSERVATIONS**

Upon removal, the UST was observed to be in good condition with some rust, no holes, and the bituminous outer coat intact. Groundwater, free product or soil staining was not observed in the excavation. A cement vault located below and around the UST was removed after tank removal. In order to better view and screen the entire tank grave, the excavator removed sloughed soil along the excavation base and sidewalls. The tank grave base and four sidewalls were initially screened in at least two different locations using a Photoionization Detector (PID).

On September 29, 1998, one composite soil sample, consisting of five aliquots from the four excavation sidewalls and the base at a depth of 2' below ground surface (bgs), was collected. The composite sample was collected using a stainless steel sample spoon and bowl. Prior to sample collection, the spoon and bowl were decontaminated with non-phosphate soap and water. The composite sample was placed in amber glass soil jars for soil headspace, Petroflag and laboratory analyses. Figure 1 presents PID headspace and Petroflag results as well as confirmatory sample locations.

Soil jar headspace screening analysis was conducted in accordance with Appendix A of the Massachusetts Department of Environmental Protection UST Closure Manual. Two jars for soil headspace were covered with aluminum foil and set aside for a minimum of ten minutes. No jar headspace reading greater than 1.6 parts per million (ppm) was recorded.

Petroflag hydrocarbon analysis was conducted on ten grams of soil from the initial composite sample. Petroflag analysis consists of a liquid extraction and analysis of soil combined with a chemical reagent. Petroflag is most effective for heavy oils such as #2 and #4 fuel oils and gives an estimate of hydrocarbon concentrations in a given sample. A Petroflag reading of 24 ppm for the composite sample was recorded.

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Prior to backfilling on December 2, 1998, a small mixture of oil and water as well as stained soils were observed in the northeast corner of the excavation. A sheen was noted on the impacted materials and limited soil removal was conducted. The minor release was unrelated to the removal of the UST and associated tank piping. The minor release was interpreted to have been caused by water discharge from a sump pump located in the pump house immediately east of the excavation. After limited soil removal, Petroflag samples analyzed from the four sidewalls and the base indicated no further hydrocarbon impact throughout the tank grave. Five discrete soil samples were collected from the four sidewalls and the base of the excavation.

### **5.0 LABORATORY ANALYTICAL RESULTS**

The composite and five discrete samples were sent to AMRO Laboratory in Merrimack, New Hampshire and analyzed by Massachusetts Department of Environmental Protection (MADEP) Method 98-1 for Extractable Petroleum Hydrocarbons (EPH). As outlined in the project specifications, a list of four fuel oil-related polynuclear aromatic hydrocarbons (PAHs), which are specific target analytes of the C<sub>11</sub>-C<sub>22</sub> aromatic hydrocarbon range, are included with the EPH analytical data and presented in Appendix C. Analytical results for the samples indicated the absence of hydrocarbon impact in excess of the most stringent MADEP Massachusetts Contingency Plan Reportable Concentrations for soil (RCS-1).

### **6.0 BACKFILLING**

Stockpiled soil and off-site backfill material were used to fill the excavation. The hole was backfilled in approximately 18-inch lifts, sprayed with water, and compacted using the excavator bucket and a vibrating roller. No nuclear density compaction tests were completed during backfilling procedures. The excavation was backfilled to grade and the grass area restored.

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**7.0 CONCLUSIONS**

Removal of the subject UST was conducted in accordance with the Commonwealth of Massachusetts UST Closure Assessment Manual and the project specifications as outlined for Mass Development at the Devens Commerce Center. On October 29, 1998, the tank was cleaned, removed, inspected, crushed, and hauled to a scrap metal yard. Residual product, sludge and water was removed with a vacuum truck and was hauled to an oil recycling facility in bulk quantity with other on-site #2 fuel UST liquids. No groundwater, free product or soil staining was observed in the excavation. A cement vault below and surrounding the UST was removed during tank excavation. Field screening methods, including soil jar headspace screening and Petroflag analysis on soil adjacent to the tank and associated piping indicated limited hydrocarbon impact. One composite confirmatory soil sample consisting of five aliquots was collected from the four tank grave sidewalls and the excavation base and analyzed for Extractable Petroleum Hydrocarbons (EPH) by Massachusetts Department of Environmental Protection (MADEP) Method 98-1. The analytical data was compared to applicable reportable concentrations for soil (RCS-1) which are outlined in the Massachusetts Contingency Plan (MCP) {310 CMR 40.0000}. Hydrocarbon contamination in excess of MCP RCS-1 levels was not identified.

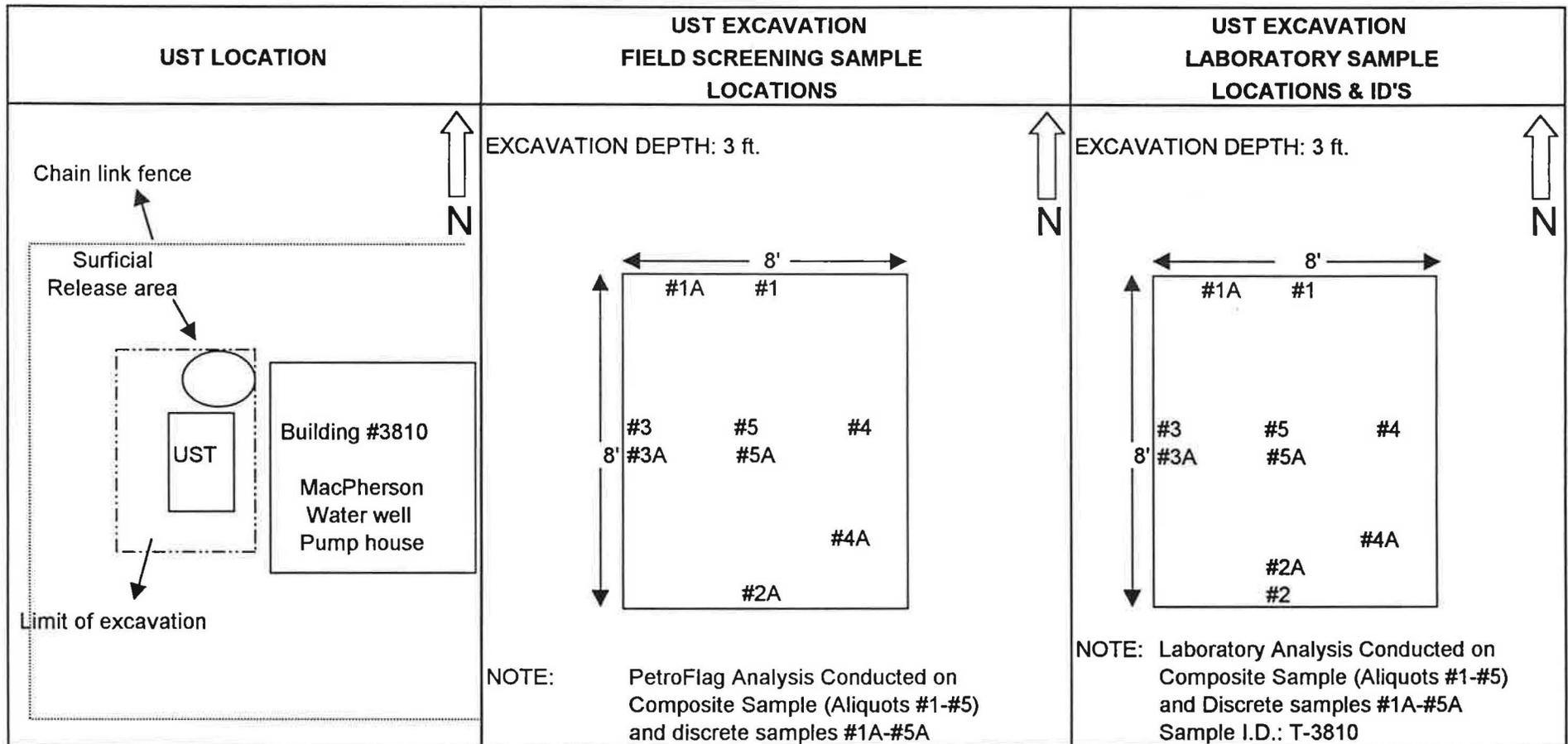
Prior to backfilling procedures on December 2, 1998, a small mixture of oil and water and an area of limited soil staining were observed in the northeast corner of the excavation. A sheen was observed on the moist soils and the minor release was interpreted to be unrelated to the previous UST removal. Approximately three cubic yards of impacted soil was removed from the excavation, stockpiled separately, and transported offsite for recycling at the ESMI facility in Loudon, New Hampshire. After limited soil removal, discrete samples were collected from the base and the four sidewalls of the excavation. The samples were analyzed for EPH and hydrocarbon impact in excess of MCP RCS-1 levels was not identified. Based upon the field

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screening results and the laboratory data, the tank grave was backfilled to grade, compacted and the grass area restored.

All UST closure and Release Abatement Measure activities were completed on December 31, 1998 and the objectives of these activities have been met. Since the closure confirmation samples and visual observations indicate that the oil impacted soil has been removed to levels below the MCP's most stringent reporting levels (RCS-1), significant current and future potential exposure to impacted materials is unlikely. Possible receptors have not been identified. No ongoing activities that are related to the Release Abatement Measure (e.g., monitoring and maintenance) are required.



SCREENING SUMMARY				
LOCATION	SAMPLE #	DEPTH (ft.)	PID READING (PPM)	PETROFLAG RESULT (PPM)
North	#1A	2'-3'	NA	40
South	#2A	2'-3'	NA	153
West	#3A	2'-3'	NA	102
East	#4A	2'-3'	NA	27
Base	#5A	3'	NA	64
Composite	(#1- #5)	2'	1.6	24

<b>DEVENS COMMERCE CENTER</b>
<b>FIGURE 1</b>
<b>UST EXCAVATION SCHEMATIC</b>
<b>UST T-3810</b>
<b>DEVENS, MASSACHUSETTS</b>
Project # 41141-001 <span style="float: right;">Dames &amp; Moore</span>

**APPENDIX A**  
**TANK CLOSURE PERMIT**



# The Commonwealth of Massachusetts

## Department of Public Safety—Division of Fire Prevention

### APPLICATION FOR PERMIT FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

\_\_\_\_\_ 19

To: HEAD OF FIRE DEPARTMENT  
Devens  
City or Town

C.82 S.40 M.G.L.

DIG SAFE NUMBER
<u>983809302</u>
Start Date <u>7-23-98</u>

In accordance with the provisions of Chapter 148, G.L. as provided in Section 38A Application is hereby made by FLEET ENVIRONMENTAL SERVICES LLC  
(Name of Person, Firm or Corporation)

8 HARDING ST LAKEVILLE MASS  
Address

For permission to remove and transport underground steel storage tank(s) from  
T-3810  
Street address (city or town)

FDID# 17919 to approved Tank Yard# RIESNOR CORP #011

State clearly type of inert gas used in steel storage tank \_\_\_\_\_  
Type of inert gas used

Name of Person, Firm, Corporation disposing tank Fleet Environmental Services, LLC

Date issued - rejected \_\_\_\_\_ 19  
Date of expiration \_\_\_\_\_ 19 paid/due  
Fee \_\_\_\_\_ (MGL C-148, S-10A)  
By: [Signature]  
Signature of Applicant



# The Commonwealth of Massachusetts

## DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

# PERMIT

### FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

\_\_\_\_\_ 19

In accordance with the provisions of Chapter 148, G.L. as provided in Section 38A this permit is granted to

Name: Fleet Environmental Services LLC  
Full name of person, firm or Corporation

To transport underground steel storage tank(s) # 011  
to Approved tank yard# \_\_\_\_\_

C.82 S.40 M.G.L.

DIG SAFE NUMBER
<u>983809302</u>
Start Date <u>6-27-98</u>

State clearly type of inert gas used in steel storage tank \_\_\_\_\_  
steel tank: \_\_\_\_\_  
method

FDID# 17919  
Fee paid \$ \_\_\_\_\_  
Name and address of contractor disposing tank FLEET ENV. SERV. LLC  
Location to which tank will be transported

This permit will expire \_\_\_\_\_ 19

# 011  
Approved tank yard# \_\_\_\_\_  
[Signature]  
Signature of official granting permit (TITLE)  
(Head of Fire Dept.)



Form FP 291

Commonwealth of Massachusetts  
Department of Fire Services - Office of the State Fire Marshal  
RECEIPT OF DISPOSAL OF UNDERGROUND STEEL STORAGE TANK



NAME AND ADDRESS OF APPROVED TANK YARD  
WM PERSON  
CLINTON, MA

APPROVED TANK YARD NO. 04 Tank Yard Ledger 502 CMR 3.03 (4) Number: 18-330

I certify under penalty of law I have personally examined the underground steel storage tank delivered to this "approved tank yard" by firm, corporation or partnership \_\_\_\_\_ and accepted same in conformance with Massachusetts Fire Prevention Regulation 502 CMR 3.00 Provisions for Approving Underground Steel Storage Tank dismantling yards. A valid permit was issued by LOCAL Head of Fire Department. FDID# 17919 to transport this tank to this yard.

Name and official title of approved tank yard owner or owners authorized representative:

William C. Person SIGNATURE      SCALE MANAGER TITLE      4 DEC 98 DATE SIGNED

This signed receipt of disposal must be returned to the local head of the fire department FDID# 17919 pursuant to 502 CMR 3.00. EACH TANK MUST HAVE A RECEIPT OF DISPOSAL

TANK DATA

Gallons \_\_\_\_\_  
Previous Contents \_\_\_\_\_  
Diameter \_\_\_\_\_ Length \_\_\_\_\_  
Date Received 4 DEC 98  
Serial # (if available) \_\_\_\_\_  
Tank I.D. # (Form FP-290) \_\_\_\_\_

TANK REMOVED FROM

DEVENS  
(No. and Street)  
DEVENS  
(City or Town)  
Fire Department Permit # \_\_\_\_\_

Owner/Operator to mail revised copy of Notification Form (FP290, or FP290R) to : UST Compliance, Office of the State Fire Marshal, P.O. Box 1025 State Road, Stow, MA 01775.

**APPENDIX B**  
**WASTE DOCUMENTATION**

APR-07-99 WED 10:00 AM ESMI NH



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

BILL OF LADING (prescribed by 310 CMR 65.0030)

Release Tracking Number: 2 11270

A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:

Release Name (optional): Devers Commerce Center  
Street: 43 Buena Vista Street Location Aid: \_\_\_\_\_  
City/Town: Devers MA Zip Code: 01432  
Date/Period of Generation: 9/15/94 to 11/17/98  
Additional Release Tracking Numbers Associated with this Bill of Lading: \_\_\_\_\_

\*Note: If this Bill of Lading is the result of a Limited Removal Action (LRA) taken prior to Notification, a Release Tracking Number is not needed.

B. PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

Name of Organization: Devers Commerce Center  
Name of Contact: Ron Ostrowski Title: \_\_\_\_\_  
Street: 43 Buena Vista Street  
City/Town: Devers State: MA Zip Code: 01432  
Telephone: 978-772-6340 Ex. \_\_\_\_\_

C. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

(check one/specify)  
 RP Specify (circle one): Owner Operator Generator Transporter Other RP: \_\_\_\_\_  
 PRP Specify (circle one): Owner Operator Generator Transporter Other PRP: \_\_\_\_\_  
 Fleets/Secured Lender  
 Agency/Public Utility on a Right of Way  
 Other Person: \_\_\_\_\_

If an owner and/or operator is not conducting the response action associated with the Bill of Lading, provide on an attachment the name, contact person, address and telephone number, including any area code and extension, for each, if known.

D. TRANSPORTER/Common CARRIER INFORMATION:

Transporter/Common Carrier Name: Environmental Soil Management Inc.  
Contact Person: Laura Bayach Title: Transportation Manager  
Street: 57 International Drive  
City/Town: Landon State: NH Zip Code: 03301  
Telephone: 603-783-0228 Ex. \_\_\_\_\_

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:

Operator/Facility Name: Environmental Soil Management Inc.  
Contact Person: Michael Pharis Title: V.P. Sales  
Street: 60 International Drive  
City/Town: Landon State: NH Zip Code: 03301  
Telephone: 603-783-0228 Ex. \_\_\_\_\_

Type of Facility: (check one)  
 Asphalt Batch/Cold Mix  Landfill/Disposal  Incinerator  
 Asphalt Batch/Hot Mix  Landfill/Daily Cover  Temporary Storage  
 Thermal Processing  Landfill/Structural Fill  Other: \_\_\_\_\_

Division of Hazardous Waste/Class A Permit #: \_\_\_\_\_ Division of Solid Waste Management Permit #: \_\_\_\_\_ EPA Identification #: NH 9304785202

Actual Release Period of Temporary Storage (specify date if applicable): \_\_\_\_\_ to \_\_\_\_\_

Release of Temporary Storage (if applicable): \_\_\_\_\_

APR-07-99 WED 10:01 AM ESMT NH



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-012A

**BILL OF LADING** (pursuant to 310 CMR 40.0030)

Release Tracking Number: 11210

**E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION (continued):**

Temporary Storage Address:  
Street: \_\_\_\_\_  
City/Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

**F. DESCRIPTION OF REMEDIATION WASTE:**

(check all that apply)  
 Contaminated Media (circle all that apply): Soil Groundwater Surface Water Other: \_\_\_\_\_  
 Contaminated Debris (circle all that apply): Demolition/Construction Waste Vegetation/Organic Materials  
Inorganic Absorbent Materials Other: \_\_\_\_\_  
 Non-hazardous Uncontainerized Waste (circle all that apply): Non-aqueous Phase Liquid Other: \_\_\_\_\_  
 Non-hazardous Containerized Waste (circle all that apply): Tank Bottoms/Sludges Containers Drums  
Engineered Impoundments Other: \_\_\_\_\_  
Type of Contamination (circle all that apply): Gasoline Diesel Fuel #2 Oil #4 Oil #6 Oil Waste Oil  
Kerosene Jet Fuel Other: \_\_\_\_\_  
Estimated Volume of Material: Cubic Yards: \_\_\_\_\_ Tons: 300 Other: \_\_\_\_\_  
Contaminant Source (check one/specify):  Transportation Accident  Underground Storage Tank  Other: \_\_\_\_\_  
Response Action Associated with Bill of Lading (circle one): Immediate Response Action Release Abatement Measure  
Utility-Related Abatement Measure Limited Removal Action (LRA) Comprehensive Response Action  
Other (specify): \_\_\_\_\_

Remediation Waste Characterization Support Documentation attached:  
 Site History Information  Sampling and Analytical Methods and Procedures  Laboratory Data  Field Screening Data  
If supporting documentation is not appended, provide an attachment stating the date and in connection with what document such information was previously submitted to DEP.

**G. LICENSED SITE PROFESSIONAL (LSP) OPINION:**

Name of Organization: Dames & Moore  
LSP Name: Kenneth A. Richards Title: Associate  
Telephone: 603-893-0516 ext. 202

I have personally examined and am familiar with the information contained on and submitted with this form. Based on this information, it is my opinion that the testing and assessment actions undertaken were adequate to characterize the Remediation Waste, in accordance with 310 CMR 40.0030, and that the facility or location can accept remediation wastes with the characteristics described in this submittal. I am aware that significant penalties including, but not limited to, possible fines and imprisonment may result if I willfully submit information which I know to be false, inaccurate, or materially incomplete.

Signature: [Signature]  
Date: 11/19/98  
License Number: Number 5804



**H. CERTIFICATION OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:**

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: [Signature] Date: 11/19/98  
Name: [Name]



Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

Release Tracking Number:

BILL OF LADING (pursuant to 310 CMR 40.0030) LOG SHEET OF 1

2-11210

I. LOAD INFORMATION:

LOAD 1: Signature of Transporter Representative:

J. Martini

Date of Shipment: 12/31/98 Time of Shipment: 2:00:00 (circle one) am/pm
Truck/Tractor Registration: 16903-MA Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: 12/31/98 Time of Receipt: (circle one) am/pm
Load Size (cu. yds./tons): 5.78

LOAD 2: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: / / Time of Receipt: (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 3: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: / / Time of Receipt: (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 4: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: / / Time of Receipt: (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 5: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: / / Time of Receipt: (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 6: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: / / Time of Receipt: (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 7: Signature of Transporter Representative:

Date of Shipment: / / Time of Shipment: (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):

Receiving Facility/Temporary Storage Representative:

Date of Receipt: / / Time of Receipt: (circle one) am/pm
Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume This Page (cu. yds./tons) 5.78

Total Carried Forward (cu. yds./tons):

Total Carried Forward and This Page (cu. yds./tons) 5.78





**BILL OF LADING** (pursuant to 310 CMR 40.0030)  
**SUMMARY SHEET**

Release Tracking Number:

2 - 11210

**L. ACKNOWLEDGEMENT OF RECEIPT OF REMEDIATION WASTE AT RECEIVING FACILITY OR TEMPORARY STORAGE LOCATION:**

Receiving Facility/Temporary Location Representative (print): Laura J. Perreault Title: office mgr  
Signature: [Signature] Date: 10/31/99

**M. ACKNOWLEDGEMENT OF SHIPMENT AND RECEIPT OF REMEDIATION WASTE BY PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:**

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: R. J. Ostrouski Date: 8/2/99  
Name of Person (print): RONALD J. OSTROUSKI

ESMJ  
LOUDON, NEW HAMPSHIRE

Transaction No. 119979 Time In 10:52 Time Out 11:06 Date 12-31-98

Customer Name: FLEET ENVIRONMENTAL  
8 HARDING ST  
FLE10 LAKEVILLE, MA  
02347

Gross: 046380 lb INB  
Tare : 034820 lb  
-----  
Net : 11560 lb

Truck No. : FLEET  
FLEET

Net Tons : 5.78

Site : DEVENS  
Address :  
City : AYER  
State : MA

Driver : 

Weigh Master: 

COPY WORLD

01/27/99 WED 12:57 FAX 401 434 9116



236 Lunenburg St.  
 Fitchburg, MA 01420  
 978-345-5300 / 978-348-2528

SLIP NO 25033

Date	Driver	Truck No.	Trailer No.	Terminal Bol No.			Split Ticket #
9/23/98	Keith	135	173				
Supply Point	No. Lead	Plus	Super	LS Diesel	LS Kero	#2 Fuel	Other
Fort Devens	UN 1203	UN 1203	UN 1203	NA 1993	NA 1993	NA 1993	
						9000	
Destination	Stick Readings						
Global							
Charges	Start	Finish	Reason				
Delay	700	500	2 HRS Delay (Meeting)				
P/U <input type="checkbox"/> Del <input type="checkbox"/>							
Truck Rental	Description of Work						
# of Loads	9000 Black #2 oil						
# of Hours							
Signature For Delivery	Signature for Delay						

**THIS MEMORANDUM**

is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. \_\_\_\_\_

(Name of Carrier) PERFORMANCE TRANSPORTING SCAC. \_\_\_\_\_

Carrier's No. \_\_\_\_\_

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at FORT DEVENS date 9/23/98 from \_\_\_\_\_

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to \_\_\_\_\_ (Mail or street address of consignee - For purposes of notification only.)

Destination	State	County	Zip	Delivery Address*
GLOBAL OIL				

Route \_\_\_\_\_ (\*To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier	Car or Vehicle Initials	No.			
Number of Packages	Description of articles, special marks, and exceptions	*Weight (Sub. to correction)	Class or rate	Check column	Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.  (Signature of consignor)  If charges are to be prepaid, write or stamp here, "To be Prepaid".  Received \$ _____ to apply in prepayment of the charges on the property described hereon.  Agent or Cashier  Per _____ (The signature here acknowledges only the amount prepaid.)  Charges Advanced: \$ _____
9000	GALLONS #2 FUEL OIL				
	BLACK				
Collect On Delivery \$	and remit to	C.O.D. Charge to be paid by	Shipper <input type="checkbox"/>	Consignee <input type="checkbox"/>	

\*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note. - where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

**THIS MEMORANDUM**

is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. ①

(Name of Carrier) PRE PERFORMANCE TRANS SCAC. \_\_\_\_\_ Carrier's No. \_\_\_\_\_

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:  
at FORT DEVENS date 9/28/98 from DENNISON OIL

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any portion of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to \_\_\_\_\_ (Mail or street address of consignee - For purposes of notification only.)

Destination DENNISON OIL State \_\_\_\_\_ County \_\_\_\_\_ Zip \_\_\_\_\_ Delivery Address\* \_\_\_\_\_

Route GLOBAL PETROLEUM MA (\*To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier PRE PERFORMANCE OIL Car or Vehicle Initials 49 No. 176

Number of Packages	Description of articles, special marks, and exceptions	*Weight (Sub. to correction)	Class or rate	Check column	Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.  (Signature of consignor)  If charges are to be prepaid, write or stamp here, "To be Prepaid".  Received \$ _____ to apply in prepayment of the charges on the property described hereon.  Agent or Cashier  Per _____ (The signature here acknowledges only the amount prepaid.)  Charges Advanced: _____ \$ _____
9000	GALLON VIRGIN BLACK #2 FUEL				

Collect On Delivery and remit to \$ \_\_\_\_\_ C.O.D. Charge to be paid by Shipper  Consignee

\*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note. - where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \_\_\_\_\_ per \_\_\_\_\_

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per \_\_\_\_\_ Agent: \_\_\_\_\_ Date: \_\_\_\_\_ Date: 9/28/98

Permanent post-office address of shipper  
FORM NO. 1 BLS (Rev. 8/95)

3



**THIS MEMORANDUM** is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. \_\_\_\_\_

(Name of Carrier) PERFORMANCE TRANS SCAC. \_\_\_\_\_ Carrier's No. \_\_\_\_\_

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at FORT DEVANS date 10-2-98 from SENNISON OIL

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to \_\_\_\_\_ (Mail or street address of consignee - For purposes of notification only.)

SENNISON OIL

Destination GLOBAL PETROLEUM State \_\_\_\_\_ County \_\_\_\_\_ Zip \_\_\_\_\_ Delivery Address\* \_\_\_\_\_

Route BEST WAY (\*To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier PERFORMANCE TRANS Car or Vehicle Initials 49 No. 176

Number of Packages	Description of articles, special marks, and exceptions	*Weight (Sub. to correction)	Class or rate	Check column	<small>Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.</small>
<u>9000</u>	<u>GALLON VIRGIN BLACK #2 OIL</u>				

Collect On Delivery and remit to \$ \_\_\_\_\_ C.O.D. Charge to be paid by Shipper  Consignee

\*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".  
Note. - where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.  
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \_\_\_\_\_ per \_\_\_\_\_

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per \_\_\_\_\_

Shipper: [Signature] Agent: \_\_\_\_\_  
 Per: [Signature] Date: \_\_\_\_\_ Per: [Signature] Date: 10-2-98

Permanent post-office address of shipper  
 FORM NO. 1 BLS (Rev. 8/95)

3

**THIS SHIPPING ORDER**

must be legibly filled in, in Ink, in Indelible Pencil, or in Carbon, and retained by the Agent

Shipper's No. \_\_\_\_\_

(Name of Carrier) PERFORMANCE TRANS SCAC. \_\_\_\_\_ Carrier's No. \_\_\_\_\_

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at FORT DEWANS date 10-2-98 from SENNISON OIL

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to \_\_\_\_\_ (Mail or street address of consignee - For purposes of notification only.)

SENNISON OIL

Destination GLOBAL PETROLEUM State \_\_\_\_\_ County \_\_\_\_\_ Zip \_\_\_\_\_ Delivery Address\* \_\_\_\_\_

Route BEST WAY (\*To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier PERFORMANCE TRANS Car or Vehicle Initials 49 No. 176

Number of Packages	Description of articles, special marks, and exceptions	*Weight (Sub. to correction)	Class or rate	Check column
<del>8500</del>	GALLON VIRGIN BLACK			
8500	#2 OIL			
1				

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:  
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor)

If charges are to be prepaid, write or stamp here, "To be Prepaid".

Received \$ \_\_\_\_\_ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per \_\_\_\_\_ (The signature here acknowledges only the amount prepaid.)

Charges Advanced:

\$ \_\_\_\_\_

Collect On Delivery and remit to \$ \_\_\_\_\_ C.O.D. Charge to be paid by Shipper  Consignee

\*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". Note. - where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \_\_\_\_\_ per \_\_\_\_\_

HM EMERGENCY RESPONSE TELEPHONE NUMBER (5172.604)

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per \_\_\_\_\_

Shipper: PERFORMANCE TRANS Agent: \_\_\_\_\_  
Per: [Signature] Date: \_\_\_\_\_ Per: [Signature] Date: 10-2-98

Permanent post-office address of shipper  
FORM NO. 1 BLS (Rev. 8/95)

2

Agent must detach and retain this Shipping Order and must sign the Original Bill of Lading.

**THIS MEMORANDUM**

is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, not a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. \_\_\_\_\_

(Name of Carrier) TRUCK SERVICE

SCAC. \_\_\_\_\_

Carrier's No. \_\_\_\_\_

Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

at DEVENS, MA date 12-17-98 from DEVENS, MA

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, (as specified in Appendix B to Part 1035) which are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to FLEET ENVIRONMENTAL (Mail or street address of consignee - For purposes of notification only.)

Destination GLOBAL OIL State MA County \_\_\_\_\_ Zip \_\_\_\_\_ Delivery Address\* CHELSEA, MA

Route BEST WAY (\*To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier TRUCK SERVICE Car or Vehicle Initials \_\_\_\_\_ No. \_\_\_\_\_

Number of Packages	Description of articles, special marks, and exceptions	*Weight (Sub. to correction)	Class or rate	Check column	Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
<u>6000</u>	<u>#2 FUEL OIL (BLACK)</u>				
					If charges are to be prepaid, write or stamp here, "To be Prepaid".
					Received \$ _____ to apply in prepayment of the charges on the property described hereon.
					Agent or Cashier
					Per (The signature here acknowledges only the amount prepaid.)
					Charges Advanced:

Collect On Delivery and remit to \$ \_\_\_\_\_ C.O.D. Charge to be paid by Shipper  Consignee

\*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".  
Note. - where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.  
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \_\_\_\_\_ per \_\_\_\_\_

HM EMERGENCY RESPONSE TELEPHONE NUMBER (3172.604)

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per \_\_\_\_\_

Shipper: D. Meneis Agent: [Signature]  
Per: \_\_\_\_\_ Date: 12-17-98 Per: \_\_\_\_\_ Date: \_\_\_\_\_

Permanent post-office address of shipper  
FORM NO. 1 BLS (Rev. 8/95)

**APPENDIX C**  
**LABORATORY ANALYTICAL RESULTS**

November 05, 1998

Mr. Brian House  
Fleet Environmental Svc., LLC  
8 Harding St.  
Lakeville, MA 02347

RE Your project: Devens UST

Dear Brian:

Enclosed please find the results for the above-referenced project, received on October 30, 1998. AMRO operates a Quality Control Program which meets or exceeds EPA and state requirements. A copy of the appropriate State Certificate is attached. The enclosed Sample Receipt Checklist details the condition of your sample upon receipt. This project was assigned AMRO Project Number 20755. If you have any questions regarding this project in the future, please refer to this number.

Please be advised that any unused sample volume and sample extracts will be stored for a period of thirty (30) days from this report date. After this time, AMRO will properly dispose of the remaining sample. If you require further analysis, or need the samples held for a longer period, please contact us immediately.

This letter is an integral part of your data report.

Please do not hesitate to call if you have any questions.

Sincerely,



Richard Ravenelle  
Organics Laboratory Manager

Encl.

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	3810	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20755-01	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	10/29/98	
	Date Received	10/30/98	
	Date Extracted	11/02/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	11/04/98	
	Dilution Factor	1	
	% Solids	94.5	
<b>Range/Target Analyte</b>	<b>UNITS</b>	<b>RESULTS</b>	<b>RL</b>
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	52
C <sub>9</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	52
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons <sup>1,2,3</sup>	mg/Kg	ND	26
Naphthalene	mg/Kg	ND	0.26
2-Methylnaphthalene	mg/Kg	ND	0.26
Acenaphthene	mg/Kg	ND	0.26
Phenanthrene	mg/Kg	ND	0.26
2-Fluorobiphenyl % Recovery	%	114	N/A
2-Bromonaphthalene % Recovery	%	116	N/A
o-Terphenyl % Recovery	%	100	N/A
1-Chlorooctadecane % Recovery	%	94.4	N/A
Surrogate Acceptance Range	%	40-140%	40-140%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

<sup>2</sup> C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

<sup>3</sup> Reporting limit based on calculated MDL, not the prescribed procedure in MADEP EPH Revision 1.0 method.

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

### COMMENTS:

### CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	<input checked="" type="checkbox"/> Yes [ ] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	<input checked="" type="checkbox"/> Yes [ ] No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	[ ] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/6/98

CHAIN OF CUSTODY RECORD

Project No.		Project Name				Project State		MATRIX		PAGE <u>1</u> OF <u>1</u>	
Samplers (Signature)						Type Size, & No. of Containers		Water - A Soil/Solid-S Waste-W Other-O Explain			
Lab. No.	Date	Time	Comp	Grab	Station Location			EPH	UPH	Remarks	
3810	10/29/98	11:00	X		3810	8 oz Amber		X		Sample <del>Hot</del> SAC	
3906	10/29/98	9:15	X		3906	.. ..		X	X	HOT SAMPLE	
2538	10/29/98	12:30	X		2538	.. ..		X	X	Sample Hot	

Please print clearly, legibly and completely. Samples cannot be logged on and the turnaround time clock will not start until any ambiguities are resolved.

**PRIORITY TURNAROUND TIME AUTHORIZATION**  
 Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded T.A.T. AUTHORIZATION NUMBER.

AUTHORIZATION NO. \_\_\_\_\_ T.A.T. authorized by: \_\_\_\_\_

Relinquished by (Signature)	Date Time	Received by (Signature)	<input checked="" type="checkbox"/> Fax to (phone)	Send Results to:
	10/29/98 3:00	Stefan C. Sohnd	Dim Flut	Ken Richards Dams and More
Relinquished by (Signature)	Date Time	Received by (Signature)	Results needed	Brian Howe Fuel
Stefan C. Sohnd	10/30/98 12:15		Standard TAT	
Relinquished by (Signature)	Date Time	Received by (Signature)	PO#	
	10/30/98 1:15			
Relinquished by (Signature)	Date Time	Received for Laboratory by: (Signature)	AMRO Project No.	Remarks
	10-30-98 15:15		20755	Standard TAT, please report TAT's as always.
Relinquished by (Signature)	Date Time		Seal Intact?	
			Yes No N/A	

## Sample Receipt Checklist

Client: <u>FLEET</u>	AMRO ID: <u>20755</u>
Project Name: <u>Devens US7</u>	Date Rec.: <u>10-30-98</u>
Ship via: (circle one) Fed Ex., UPS, <u>AMRO Courier</u> ,	Date Due: <u>11-06-98</u>
Hand Del., Other Courier, Other _____	

Items to be Checked Upon Receipt	Yes	No	NA	Comments
----------------------------------	-----	----	----	----------

1. Custody Seals present?		X		
2. Custody Seals Intact?			X	
3. Air Bill included in folder if received?			X	
4. Is COC included with samples?	X			
5. Is COC signed and dated by client?	X			
6. Pick up temperature of the samples. Temp. = <u>    </u>				
7. Laboratory receipt temperature. Temp. = <u>5°C</u>				
Samples rec. with ice <input checked="" type="checkbox"/> ice packs <input type="checkbox"/> neither <input type="checkbox"/>				
8. Were samples received the same day they were sampled?		X		
Is client temperature < 6 degrees C?	X			
If no obtain authorization from the client for the analyses.			X	
Client authorization from: _____ Date: _____ Obtained by: _____			X	
9. Is the COC filled out correctly and completely?	X			
10. Does the info on the COC match the samples?	X			
11. Were samples rec. within holding time?	X			
12. Were all samples properly labeled?	X			
13. Were all samples properly preserved?	X			
14. Were proper sample containers used?	X			
15. Were all samples received intact? (none broken or leaking)	X			
16. Were VOA vials rec. with no air bubbles?			X	
17. Were the sample volumes sufficient for requested analysis?	X			
18. Were all samples received?	X			
19. VPH Soils only:				
Samples preserved in Methanol or air tight container?	X			
Samples received in Methanol covering the soil?	X			
Samples received in air tight container?	X			
20. Subcontracted Samples:			X	
What samples sent:				
Where sent:				
Date:				
Analysis:				
TAT:				
21. Information entered into:				
Internal Tracking Log?	X			
Dry Weight Log?	X			
Client Log?	X			
Received By: <u>PCN</u>				Date: <u>10-30-98</u>
Labeled By: <u>  </u>				Date: <u>  </u>
Logged in By: <u>  </u>				Date: <u>  </u>
Checked By: <u>  </u>				Date: <u>  </u>



111 Herrick Street, Merrimack, NH 03054  
TEL: (603) 424-2022 · FAX: (603) 429-8496

December 14, 1998

Mr. Brian House  
Fleet Environmental Svc., LLC  
8 Harding St.  
Lakeville, MA 02347

RE Your project: Devens UST

Dear Brian:

Enclosed please find the results for the above-referenced project, received on December 02, 1998. AMRO operates a Quality Control Program which meets or exceeds EPA and state requirements. A copy of the appropriate State Certificate is attached. The enclosed Sample Receipt Checklist details the condition of your sample upon receipt. No quality control deviations which impact the enclosed results were noted during the analyses associated with this project. This project was assigned AMRO Project Number 21155. If you have any questions regarding this project in the future, please refer to this number.

Please be advised that any unused sample volume and sample extracts will be stored for a period of thirty (30) days from this report date. After this time, AMRO will properly dispose of the remaining sample. If you require further analysis, or need the samples held for a longer period, please contact us immediately.

This letter is an integral part of your data report.

Please do not hesitate to call if you have any questions.

Sincerely,

Richard Ravenelle  
Organics Laboratory Manager

Encl.

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	3810 North Wall	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21155-01	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	12/02/98	
	Date Received	12/02/98	
	Date Extracted	12/03/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	12/11/98	
	Dilution Factor	1	
	% Solids	92.7	
<b>Range/Target Analyte</b>	<b>UNITS</b>	<b>RESULTS</b>	<b>RL</b>
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	54
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	54
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons <sup>1,2,3</sup>	mg/Kg	ND	27
Naphthalene	mg/Kg	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.27
Acenaphthene	mg/Kg	ND	0.27
Phenanthrene	mg/Kg	ND	0.27
2-Fluorobiphenyl % Recovery	%	113	N/A
2-Bromonaphthalene % Recovery	%	109	N/A
o-Terphenyl % Recovery	%	82.6	N/A
1-Chlorooctadecane % Recovery	%	97.6	N/A
Surrogate Acceptance Range	%	40-140%	40-140%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

<sup>2</sup> C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

<sup>3</sup> Reporting limit based on calculated MDL, not the prescribed procedure in MADEP EPH Revision 1.0 method.

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

**COMMENTS:** Batch matrix spike had low recovery for Pyrene and Chrysene. LCS is acceptable.  
No impact to this sample.

### CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?  Yes  No - See Comments  
 Were all performance/acceptance standards for required QA/QC procedures achieved?  Yes  No - See Comments  
 Were any significant modifications made to the EPH method, as specified in Sect 11.3?  No  Yes - Details attached

*I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.*

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 12/14/98

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	3810 South Wall	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21155-02	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	12/02/98	
	Date Received	12/02/98	
	Date Extracted	12/03/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	12/11/98	
	Dilution Factor	1	
	% Solids	87.5	
<b>Range/Target Analyte</b>	<b>UNITS</b>	<b>RESULTS</b>	<b>RL</b>
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	57
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	57
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons <sup>1,2,3</sup>	mg/Kg	ND	29
Naphthalene	mg/Kg	ND	0.29
2-Methylnaphthalene	mg/Kg	ND	0.29
Acenaphthene	mg/Kg	ND	0.29
Phenanthrene	mg/Kg	ND	0.29
2-Fluorobiphenyl % Recovery	%	125	N/A
2-Bromonaphthalene % Recovery	%	121	N/A
o-Terphenyl % Recovery	%	76.8	N/A
1-Chlorooctadecane % Recovery	%	112	N/A
Surrogate Acceptance Range	%	40-140%	40-140%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

<sup>2</sup> C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

<sup>3</sup> Reporting limit based on calculated MDL, not the prescribed procedure in MADEP EPH Revision 1.0 method.

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Batch matrix spike had low recovery for Pyrene and Chrysene. LCS is acceptable.  
No impact to this sample.

### CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 12/14/98

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	3810 East Wall	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21155-03	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	12/02/98	
	Date Received	12/02/98	
	Date Extracted	12/03/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	12/11/98	
	Dilution Factor	1	
	% Solids	96.3	
<b>Range/Target Analyte</b>	<b>UNITS</b>	<b>RESULTS</b>	<b>RL</b>
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	52
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	52
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons <sup>1,2,3</sup>	mg/Kg	ND	26
Naphthalene	mg/Kg	ND	0.26
2-Methylnaphthalene	mg/Kg	ND	0.26
Acenaphthene	mg/Kg	ND	0.26
Phenanthrene	mg/Kg	ND	0.26
2-Fluorobiphenyl % Recovery	%	115	N/A
2-Bromonaphthalene % Recovery	%	108	N/A
o-Terphenyl % Recovery	%	79.8	N/A
1-Chlorooctadecane % Recovery	%	96.3	N/A
Surrogate Acceptance Range	%	40-140%	40-140%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

<sup>2</sup> C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

<sup>3</sup> Reporting limit based on calculated MDL, not the prescribed procedure in MADEP EPH Revision 1.0 method.

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Batch matrix spike had low recovery for Pyrene and Chrysene. LCS is acceptable. No impact to this sample.

### CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?  Yes  No - See Comments  
 Were all performance/acceptance standards for required QA/QC procedures achieved?  Yes  No - See Comments  
 Were any significant modifications made to the EPH method, as specified in Sect 11.3?  No  Yes - Details attached

*I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.*

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 12/14/98

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	3810 West Wall	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21155-04	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	12/02/98	
	Date Received	12/02/98	
	Date Extracted	12/03/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	12/11/98	
	Dilution Factor	1	
	% Solids	88.6	
<b>Range/Target Analyte</b>	<b>UNITS</b>	<b>RESULTS</b>	<b>RL</b>
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	56
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	56
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons <sup>1,2,3</sup>	mg/Kg	ND	28
Naphthalene	mg/Kg	ND	0.28
2-Methylnaphthalene	mg/Kg	ND	0.28
Acenaphthene	mg/Kg	ND	0.28
Phenanthrene	mg/Kg	ND	0.28
2-Fluorobiphenyl % Recovery	%	108	N/A
2-Bromonaphthalene % Recovery	%	105	N/A
o-Terphenyl % Recovery	%	76.7	N/A
1-Chlorooctadecane % Recovery	%	93.2	N/A
Surrogate Acceptance Range	%	40-140%	40-140%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

<sup>2</sup> C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

<sup>3</sup> Reporting limit based on calculated MDL, not the prescribed procedure in MADEP EPH Revision 1.0 method.

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

**COMMENTS:** Batch matrix spike had low recovery for Pyrene and Chrysene. LCS is acceptable. No impact to this sample.

### CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes - Details attached

*I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.*

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 12/14/98

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	3810 Base	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21155-05	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	12/02/98	
	Date Received	12/02/98	
	Date Extracted	12/03/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	12/11/98	
	Dilution Factor	1	
	% Solids	95.3	
<b>Range/Target Analyte</b>	<b>UNITS</b>	<b>RESULTS</b>	<b>RL</b>
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	52
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	52
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons <sup>1,2,3</sup>	mg/Kg	ND	26
Naphthalene	mg/Kg	ND	0.26
2-Methylnaphthalene	mg/Kg	ND	0.26
Acenaphthene	mg/Kg	ND	0.26
Phenanthrene	mg/Kg	ND	0.26
2-Fluorobiphenyl % Recovery	%	107	N/A
2-Bromonaphthalene % Recovery	%	103	N/A
o-Terphenyl % Recovery	%	81.8	N/A
1-Chlorooctadecane % Recovery	%	107	N/A
Surrogate Acceptance Range	%	40-140%	40-140%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

<sup>2</sup> C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

<sup>3</sup> Reporting limit based on calculated MDL, not the prescribed procedure in MADEP EPH Revision 1.0 method.

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Batch matrix spike had low recovery for Pyrene and Chrysene. LCS is acceptable. No impact to this sample.

### CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?  Yes  No - See Comments  
 Were all performance/acceptance standards for required QA/QC procedures achieved?  Yes  No - See Comments  
 Were any significant modifications made to the EPH method, as specified in Sect 11.3?  No  Yes - Details attached

*I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.*

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 12/14/98

**AMRO Environmental Laboratories Corporation**

111 Herrick Street  
 Merrimack, N.H. 03054  
 Office: 603-424-2022 Fax: 603-429-8496

**CHAIN OF CUSTODY RECORD**

25055

Proj. No.		Project Name <i>Deyens UST</i>				Project State <i>MA</i>	MATRIX Water - A Soil/Solid-S Waste-W Other-O Explain							PAGE <u>1</u> OF <u>1</u>	
Samplers (Signature) <i>Janet Alind</i>						Type Size, & No. of Containers	E-PH								
Sta. No.	Date	Time	Comp	Grab	Station Location									Remarks	
<i>3810N</i>	<i>12/2/98</i>	<i>9:00</i>		<i>X</i>	<i>3810 North Wall</i>	<i>4oz Amber</i>								<i>X</i>	<i>ASAP Turn</i>
<i>3810S</i>	<i>12/2/98</i>	<i>9:00</i>		<i>X</i>	<i>3810 South Wall</i>	<i>" "</i>								<i>X</i>	<i>around time</i>
<i>3810E</i>	<i>12/2/98</i>	<i>9:00</i>		<i>X</i>	<i>3810 Exit Wall</i>	<i>" "</i>								<i>X</i>	
<i>3810W</i>	<i>12/2/98</i>	<i>9:00</i>		<i>X</i>	<i>3810 West Wall</i>	<i>" "</i>								<i>X</i>	
<i>3810 Base</i>	<i>12/2/98</i>	<i>9:00</i>		<i>X</i>	<i>3810 Base</i>	<i>" "</i>	<i>X</i>								

Please print clearly, legibly and completely. Samples cannot be logged in and the turnaround time clock will not start until any ambiguities are resolved.

**PRIORITY TURNAROUND TIME AUTHORIZATION**

Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded T.A.T. AUTHORIZATION NUMBER.

AUTHORIZATION NO. \_\_\_\_\_ T.A.T. authorized by: \_\_\_\_\_

Relinquished by (Signature) <i>Janet Alind</i>	Date Time <i>3:00</i> <i>12-2-98</i>	Received by (Signature) <i>Bob Hawkins</i>	<input type="checkbox"/> Fax to (phone)	Send Results to: <i>Kon Richards - Dams &amp; Moore</i> <i>Brian Huse - Fleet</i>
Relinquished by (Signature)	Date Time	Received by (Signature)	Results needed	
Relinquished by (Signature)	Date Time	Received by (Signature)	PO#	
Relinquished by (Signature)	Date Time	Received by (Signature)	AMRO Project No. <i>21155</i>	Remarks <i>ASAP Turn around time</i>
Relinquished by (Signature) <i>Bob Hawkins</i>	Date Time <i>4:00</i> <i>12-2-98</i>	Received for Laboratory by: (Signature) <i>Bob Hawkins</i>	Seal Intact? Yes No N/A	

White: Lab copy

Yellow: Accompanies report

Pink: Client copy

**Volatile Petroleum Hydrocarbons (VPH)**  
**Massachusetts Department of Environmental Protection (MADEP)**  
**Method 1.0 - January 1998**  
**AMRO Modifications**

This modification is based on the use of a purge and trap gas chromatography mass spectrometer (GCMS) system to analyze samples for VPH. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates potential false positives for the target analytes while providing accurate hydrocarbon range data.

The chromatographic column is an HP-624 capillary column which has been validated by GCMS analysis of a gasoline standard to correctly identify the marker compounds and elution order of specific gasoline components. Batch quality control includes, at a minimum, method blank, laboratory control sample, and duplicate analysis. A matrix spike and/or matrix spike duplicate is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 0.6-2.8 mg/kg in soil and 25-110 µg/L in water. The RL of this method for the target analytes ranges from approximately 0.05-0.13 mg/kg in soil and 2.0-5.0 µg/L for water samples.

**Extractable Petroleum Hydrocarbons (EPH)**  
**Massachusetts Department of Environmental Protection (MADEP)**  
**Method 1.0 - January 1998**  
**AMRO Modifications**

This modification is based on a solvent extraction and gas chromatography mass spectrometer (GCMS) analysis. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates the silica gel solid-phase fractionation step. False positives for targeted PAH analytes are eliminated by using GCMS as the primary analysis technique.

The chromatographic column is a J&W Scientific DB-5ms capillary column. Internal standard calibration is performed using 5α-Androstane at a concentration of 40 ng/µL. o-Terphenyl and 1-Chlorooctadecane are added as surrogate compounds at 20 ng/µL in the sample extract. These two surrogates monitor the effects of the sample matrix and extraction efficiency. Two additional surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, are added to the finished extract prior to analysis to monitor instrument performance. Batch quality control includes, at a minimum, a procedure blank, laboratory control sample and duplicate sample analysis. A matrix spike is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 2-15 mg/kg in soil and 10-50 µg/L in water. The RL of this method for the Target PAH analytes ranges from approximately 0.25 to 0.5 mg/kg in soil, 1.0 µg/L for water when operating the GCMS in full scan mode, and 0.1 to 1.0 µg/L when operating the GCMS in SIM mode. For sites requiring the lowest levels cited in the Massachusetts Contingency Plan for water, GCMS in the Selected Ion Monitoring (SIM) mode is used.

*The Commonwealth of Massachusetts*



*Department of Environmental Protection*

*Division of Environmental Analysis*

*Senator William X. Wall Experiment Station*

*certifies*

M- NH012 Amro Environmental Lab  
111 Herrick St.  
Merrimack, NH 03054

*Laboratory Director: Nancy Stewart*

*for the Chemical Analysis of Potable and Non-Potable Water*

*pursuant to 310 CMR 42.00*

*This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.*

*This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.*

*Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.*

A handwritten signature in cursive script, appearing to read "Dea C. Pausello".

*Director, Division of Environmental Analysis*

*Issued: 07/01/98*

*Expires: 06/30/99*



**RELEASE & UTILITY-RELATED ABATEMENT  
MEASURE (RAM & URAM) TRANSMITTAL FORM**

Release Tracking Number

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

2 - 11210

**A. SITE LOCATION:**

Site Name: (optional) Devens Commerce Center

Street: Main Post - Building #3810 Location Aid: Building #3810

City/Town: Devens ZIP Code: 01439-9999

Check here if a Tier Classification Submittal has been provided to DEP for this Release Tracking Number.

Related Release Tracking Numbers That This RAM or URAM Addresses: \_\_\_\_\_

**B. THIS FORM IS BEING USED TO:** (check all that apply)

- Submit a **RAM Plan** (complete Sections A, B, C, D, E, F, J, K, L and M).
  - Check here if this RAM Plan is an update or modification of a previously approved written RAM Plan. Date Submitted: \_\_\_\_\_
- Submit a **RAM Status Report** (complete Sections A, B, C, E, J, K, L and M).
- Submit a **RAM Completion Statement** (complete Sections A, B, C, D, E, G, J, K, L and M).
- Confirm or Provide **URAM Notification** (complete Sections A, B, H, K, L and M).
- Submit a **URAM Status Report** (complete Sections A, B, C, E, J, K, L and M).
- Submit a **URAM Completion Statement** (complete Sections A, B, C, D, E, I, J, K, L and M).

**You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.**

**C. SITE CONDITIONS:**

- Check here if the source of the Release or Threat of Release is known.
- If yes, check all sources that apply:
  - UST
  - Pipe/Hose/Line
  - AST
  - Drums
  - Transformer
  - Boat
  - Tanker Truck
  - Vehicle
  - Other Specify: \_\_\_\_\_

- Identify Media and Receptors Affected: (check all that apply)
- Air
  - Groundwater
  - Surface Water
  - Sediments
  - Soil
  - Wetlands
  - Storm Drain
  - Paved Surface
  - Private Well
  - Public Water Supply
  - Zone 2
  - Residence
  - School
  - Unknown
  - Other Specify: \_\_\_\_\_

Identify Release and/or Threat of Release Conditions at Site: (check all that apply)

- 2 and 72 Hour Reporting Condition(s)
- 120 Day Reporting Condition(s)
- Other Condition(s)

Describe: Visual and olefactory evidence of oil impacted soil

**RAMs may be conducted concurrently with an IRA only with written DEP approval  
URAMs may not be conducted if any 2 or 72 Hour conditions exist at the site.**

- Identify Oils and Hazardous Materials Released: (check all that apply)
- Oils
  - Chlorinated Solvents
  - Heavy Metals
  - Others Specify: \_\_\_\_\_

**D. DESCRIPTION OF RESPONSE ACTIONS:** (check all that apply)

- Assessment and/or Monitoring Only
- Excavation of Contaminated Soils
  - Re-use, Recycling or Treatment
    - On Site
    - Off Site
    - Est. Vol.: 3 cubic yards
    - Describe: Thermal Processing/Asphalt Batch Cold
  - Store
    - On Site
    - Off Site
    - Est. Vol.: \_\_\_\_\_ cubic yards
- Deployment of Absorbant or Containment Materials
- Temporary Covers or Caps
- Bioremediation
- Soil Vapor Extraction
- Structure Venting System
- Product or NAPL Recovery

**SECTION D IS CONTINUED ON THE NEXT PAGE.**

**RAM TRANSMITTAL FORM SECTION J ATTACHMENT**

**STATEMENT OF ORDERS/PERMITS/APPROVALS UNDER WHICH RAM  
WAS PERFORMED**

This Release Abatement Measure was conducted in accordance with:

- The Release Abatement Measure Plan (RAM) "Mega-RAM" for the Multiple Underground Storage Tank Removal Project for Mass Development at the DCC dated June 11, 1998
- The UST Closure Protocol Addendum to Tier 1A Permit dated June 14, 1996
- The Administrative Consent Order ACO-CE-96-3001 issued by the Massachusetts Executive Office of Environmental Affairs to Mass Development for waste site cleanup in connection with the Fort Devens redevelopment

January 21, 1999

Mr. Kenneth A. Richards, CPG  
Dames & Moore, Inc.  
5 Industrial Way  
Salem, NH 03079

Re: Multiple Underground Storage Tank Removal  
Release Abatement Measure "MEGA-RAM" Project  
DEP BWSC Transmittal Form  
Certification Statement Authorization

Dear Ken:

The purpose of this correspondence is to provide written authorization, as required in 310 CMR 40.0009, for you to sign, on my behalf, the Certification Statement Section of Massachusetts Department of Environmental Protection (DEP) Bureau of Waste Site Cleanup (BWSC) Transmittal Forms attached to DEP submittals related to the Multiple Underground Storage Tank Removal Release Abatement Measure "MEGA-RAM" Project conducted at Devens Commerce Center, Devens, MA.

Sincerely,

*R. J. Ostrowski*  
Ronald J. Ostrowski  
Environmental Project Manager