



**DAMES & MOORE**

A DAMES & MOORE GROUP COMPANY

**Prepared by:**

DAMES & MOORE, INC.  
5 Industrial Way  
Salem, New Hampshire 03079

December 10, 1998

PN: 41141-001-211:S19434

**UNDERGROUND STORAGE TANK  
CLOSURE REPORT  
MASS DEVELOPMENT  
OPERATIONS DIVISION  
DEVENS COMMERCE CENTER  
DEVENS, MASSACHUSETTS**

**UST NO. T-3816**

DCC 981270 DM

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**UNDERGROUND STORAGE TANK CLOSURE REPORT**  
**UST NO. T-3816**

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**EXECUTIVE SUMMARY**

The subject 500-gallon steel underground storage tank (UST) T-3816 located adjacent to Building #3816, a former air traffic control tower located at the former airfield, was utilized to store #2 heating oil and was installed in 1989 by the United States Army. The tank, was exposed, cleaned, and removed by Fleet Environmental Services on October 26, 1998. No groundwater, free product, or soil staining was observed in the excavation. A cement pad was located just below the tank and 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 four aliquots was collected from three tank grave sidewalls and the excavation base. A concrete vault was located along the north sidewall and no confirmation sample could be collected. Additional composite samples (ACO-1 and ACO-2) were collected from two locations on the excavation base at 8' and 10' below ground surface (bgs), respectively. The extra samples, requested by Mr. Ron Ostrowski with Mass Development, were collected in order to evaluate a past environmental condition adjacent to the former tank location. All of the samples were 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 RCS-1 levels was not identified. Based upon the field screening results and the laboratory data, the tank grave was backfilled, compacted and the area restored.

**UNDERGROUND STORAGE TANK CLOSURE REPORT**  
**UST NO. T-3816**

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**1.0 INTRODUCTION**

This 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-3816 was located adjacent to Building #3816, a former air traffic control tower located at the former U.S. Army Base airfield 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 adjacent to Building #3816 as illustrated in Figure 1. Global Positioning System (GPS) coordinates for the former tank location are 3034460 northing and 627707 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 1989. The tank was used to store #2 heating fuel and was complete with an electronic leak detection system. The associated tank piping included two ½-inch copper lines leading to a boiler inside of the building.

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**3.0 UST REMOVAL**

The subject UST was uncovered, cleaned and removed on October 26, 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 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. No impacted material that required off-site disposal was generated during the tank removal.

**4.0 FIELD OBSERVATIONS**

Upon removal, the UST was observed to be in good condition with no rust, no holes, and with a series of basins and electrical wires which serviced a leak detection monitoring system. Groundwater, free product or visual evidence of stained soils was not observed in the excavation. The tank was installed with a concrete base that was removed during the excavation. 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 three sidewalls were initially screened in at least two different locations using a Photoionization Detector (PID). No samples were collected along the north excavation sidewall due to a large concrete vault foundation.

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One composite soil sample, consisting of four aliquots from the base of the excavation and three sidewalls at a depth of 4' - 6' below ground surface (bgs), 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 0.0 parts per million (ppm) was recorded.

Petroflag hydrocarbon analysis was then 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 14 ppm for the composite sample was recorded.

Two additional composite samples were collected (ACO-1 and ACO-2) from the east and west ends of the excavation base at 8' and 10' bgs, respectively. The additional samples were collected under the direct instruction and supervision of Mr. Ron Ostrowski with Mass Development in order to evaluate a past environmental condition adjacent to the former tank location. The samples were collected with the excavator bucket and composited in a stainless steel bowl. No soil staining or visual or olfactory evidence of hydrocarbon impact was noted. No Petroflag analysis was conducted for the samples however no elevated PID readings were recorded.

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**5.0 LABORATORY ANALYTICAL RESULTS**

Based on the screening results, no further excavation was conducted and the three composite samples were sent to AMRO Laboratory in Merrimack, New Hampshire. The samples were 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 composite 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 area restored.

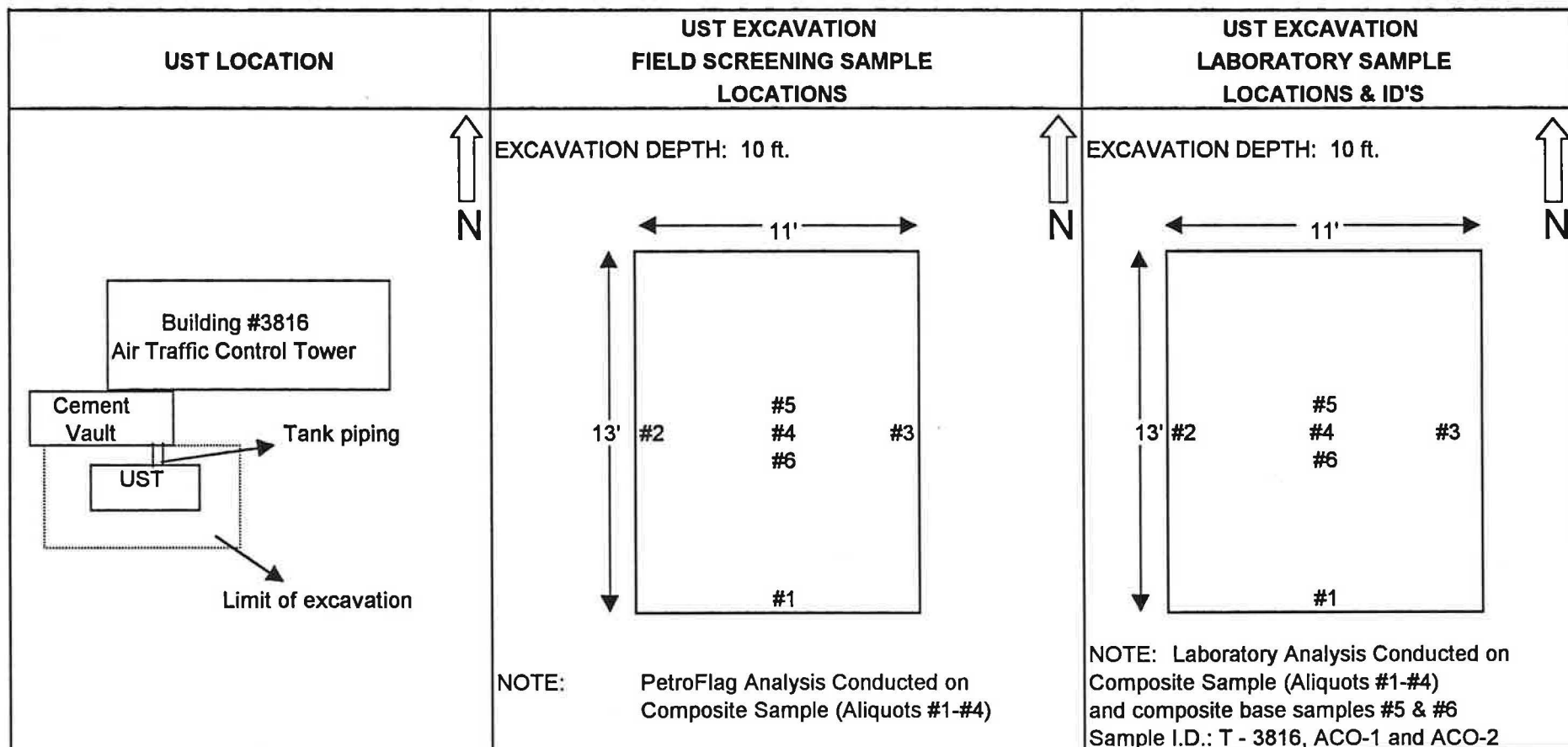
**7.0 CONCLUSIONS**

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. The tank was cleaned, removed, inspected, 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. Soil screening results including PID headspace and Petroflag analyses indicated limited

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**UST NO. T-3816**

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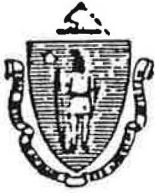
hydrocarbon impact to soils in the tank grave. One composite soil sample consisting of four aliquots from the three excavation sidewalls and the base was collected. No sample could be collected from the excavation north sidewall due a concrete vault extending along the wall. Additional composite samples (ACO-1 and ACO-2) were collected from the east and west ends of the excavation base at 8' and 10' below ground surface (bgs), respectively. The extra samples, requested by Mr. Ron Ostrowski with Mass Development, were collected in order to evaluate a past environmental condition adjacent to the former tank location. Three composite samples were analyzed for EPH by a Massachusetts-certified laboratory. Analytical results indicated the absence of hydrocarbon impact in excess of the MADEP MCP (RCS-1) Reportable Concentrations. Based upon the analytical data and field screening results, the excavation was backfilled, compacted and the grass area restored.



SCREENING SUMMARY				
LOCATION	SAMPLE #	DEPTH (ft.)	PID READING (PPM)	PETROFLAG RESULT (PPM)
North	No sample collected due to cement vault			
South	#1	4'-6'	0.0	NA
West	#2	4'-6'	0.0	NA
East	#3	4'-6'	0.0	NA
Base	#4	6'	0.0	NA
Composite	(#1- #4)	4'-6'	0.0	14.0
Base - ACO-1	#5	8'	2.0	NA
Base - ACO-2	#6	10'	1.0	NA

DEVENS COMMERCE CENTER	
FIGURE 1	
UST EXCAVATION SCHEMATIC	
UST T-3816	
DEVENS, MASSACHUSETTS	
Project # 41141-001	Dames & Moore

**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

To: HEAD OF FIRE DEPARTMENT  
Devens  
City or Town

\_\_\_\_ 19

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

DIG SAFE NUMBER
<u>983809302</u>
Start Date <u>7-23-78</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-3816  
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

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#

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

\_\_\_\_ 19

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

DIG SAFE NUMBER
<u>983809302</u>
Start Date <u>7-27-78</u>

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 INSUR  
CLINTON, MA

APPROVED TANK YARD NO. 011 Tank Yard Ledger 502 CMR 3.03 (4) Number: 98-335

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# 1 7 9 1 9 to transport this tank to this yard.

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

William T. [Signature] SCALE MANAGER 4 DEC 18  
SIGNATURE TITLE DATE SIGNED

This signed receipt of disposal must be returned to the local head of the fire department FDID# 1 7 9 1 9 pursuant to 502 CMR 3.00.

EACH TANK MUST HAVE A RECEIPT OF DISPOSAL

TANK DATA

Gallons 500

Previous Contents \_\_\_\_\_

Diameter \_\_\_\_\_ Length \_\_\_\_\_

Date Received 4 DEC 18

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**

SLIP No 25933

Date	Driver	Truck No.	Trailer No.	Terminal Bol No.			Split Ticket #
9/23/58	Kent	135	173				
Supply Point	No Lead	Plus	Super	LS Diesel	LS Kero	#2 Fuel	Other
	UN 1203	UN 1203	UN 1203	NA 1993	NA 1993	NA 1993	
Fort Devens						9000	
Destination	Stick Readings						
Global							
Chelms	Start	Finish	Reason				
Delay							
P/U <input type="checkbox"/> Del <input type="checkbox"/>	200	500	2 Hrs Delay (Meeting)				
Truck Rental	Description of Work						
# of Loads	9000 Black #2 oil						
# of Hours							
Signature For Delivery				Signature for Delay			
				[Signature]			

**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) PREFORMANCE 1101111111  
Received, subject to the classifications and tariffs in effect on the date of this Bill of Lading:

**SCAC.**

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

at FORT DEVENS date 9/23/78 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 this 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 or 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.)

CONVEYED TO DENNISON PETROLEUM

Destination	State	County	Zip	Delivery Address*
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Route GLOBAL OIL \_\_\_\_\_

Address CHINA \_\_\_\_\_

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

Delivering Carrier	Car or Vehicle Initials	No.
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Number of		Description of articles, special marks, and exceptions	*Weight	Class	Check	Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee
-----------	--	--	---------	-------	-------	--

Packages	Description of articles, special marks, and exceptions	(Sub. to correction)	or rate	column

7000 GALLONS ~~#~~ 2541 211

					(Signature of consignor)
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				If charges are to be prepaid, write or stamp here, "To be Prepaid".	
--	--	--	--	---	--

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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[illegible][illegible][illegible]

					per _____ (The signature here acknowledges only the amount prepaid.)
--	--	--	--	--	---

Collect On Delivery		and remit to	C.O.D. Charge		Shinner	<input type="checkbox"/>	Charges Advanced:
---------------------	--	--------------	---------------	--	---------	--------------------------	-------------------

\$		Excise Charge to be paid by	Shipper <input type="checkbox"/>	\$
			Consignee <input type="checkbox"/>	

**Note** – when 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) PRF FORMANCE TRAILS

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

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

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

at FORT DEVENSdate 9/28/98from 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 of said property over all or any portion of said route to destination, and as to each party at any time entered 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.)

DENNISON OIL

Destination

State

County

Zip

Delivery  
Address\*GLOBAL PETROLEUMMA

Route

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

BEST WAYDelivering  
CarrierPRF FORMANCE OILCar or  
Vehicle Initials49

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.
<u>9000</u>	<u>GALLON VIRGIN BLACK</u>				(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: \$ _____
	<u>#2 FUEL</u>				
Collect On Delivery and remit to		C.O.D. Charge	Shipper		HM EMERGENCY RESPONSE TELEPHONE NUMBER (§172.604)
\$ _____		to be paid by	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: \_\_\_\_\_

Agent: \_\_\_\_\_

Per: \_\_\_\_\_

Date: \_\_\_\_\_

Per: \_\_\_\_\_

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. (2)

(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 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 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

DENNISON OIL.

(Mail or street address of consignee - For purposes of notification only.)

Destination

State

County

Zip

Delivery  
Address\*GLOBAL PETROLEUMMA.

Route

BEST WAY

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

Delivering  
CarrierPERFORMANCE TRANS.Car or  
Vehicle Initials419

No.

176Number of  
Packages

Description of articles, special marks, and exceptions

\*Weight  
(Sub. to correction)Class  
or rateCheck  
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:

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 (\$172.604)

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:

Agent:

Per:

Date:

Per:

Date:

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 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 SENNISON OIL (Mail or street address of consignee - For purposes of notification only.)

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	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.
7000	GALLON VIRGIN BLACK #2 OIL				(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 (812.604)

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: \_\_\_\_\_ Date: \_\_\_\_\_ Per: S. Herman Date: 10-2-98

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

**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 DEAN 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 SENNISON OIL (Mail or street address of consignee - For purposes of notification only.)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	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.
<del>8500</del>	GALLON VIRGIN BLACK				(Signature of consignor)
8500	#2 OIL				If charges are to be prepaid, write or stamp here, "To be Prepaid".
1					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 Shipper ☐ to be paid by 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: PERFORMANCE Agent: S. Herwin  
Per: [Signature] Date: 10-2-98Permanent 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 \_\_\_\_\_ (Mail or street address of consignee - For purposes of notification only.)

FLEET ENVIRONMENTAL

Destination \_\_\_\_\_ State MA County \_\_\_\_\_ Zip \_\_\_\_\_ Delivery Address\* CHICLSEA, 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>				(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 (§172.804)

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. Menon Agent: R. Menon

Per: D. Menon Date: 12-17-98 Per: \_\_\_\_\_ Date: \_\_\_\_\_

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

3

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



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

October 30, 1998

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

RE Your project: Fleet - Devens

Dear Brian:

Enclosed please find the results for the above-referenced project, received on October 26, 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 20706. 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	T-3816	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20706-03	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	10/26/98	
	Date Received	10/26/98	
	Date Extracted	10/27/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	10/30/98	
	Dilution Factor	1	
	% Solids	91.0	
<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	55
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	55
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	%	96.1	N/A
2-Bromonaphthalene % Recovery	%	90.8	N/A
o-Terphenyl % Recovery	%	74.6	N/A
1-Chlorooctadecane % Recovery	%	76.7	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?	[ X ] Yes [ ] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[ X ] 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: 10/30/98

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	ACO-1	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20706-01	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	10/26/98	
	Date Received	10/26/98	
	Date Extracted	10/27/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	10/30/98	
	Dilution Factor	1	
	% Solids	95.0	
<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	53
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	53
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	%	99.7	N/A
2-Bromonaphthalene % Recovery	%	98.0	N/A
o-Terphenyl % Recovery	%	81.2	N/A
1-Chlorooctadecane % Recovery	%	86.7	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? ☒ 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:



POSITION: Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

10/30/98

## Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

### EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	ACO-2	
Method for Ranges: MADEP EPH 98-1			
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20706-02	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	10/26/98	
	Date Received	10/26/98	
	Date Extracted	10/27/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	10/30/98	
	Dilution Factor	1	
	% Solids	94.9	
Range/Target Analyte	UNITS	RESULTS	RL
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	51
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons <sup>1</sup>	mg/Kg	ND	51
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	%	100	N/A
2-Bromonaphthalene % Recovery	%	101	N/A
o-Terphenyl % Recovery	%	88.6	N/A
1-Chlorooctadecane % Recovery	%	89.1	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	<input type="checkbox"/> No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	<input checked="" type="checkbox"/> Yes	<input 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: 10/30/98

**AMRO Environmental Laboratories Corporation**

 111 Herrick Street  
 Merrimack, N.H. 03054

Office: 603-424-2022 Fax: 603-429-8496

22956

**CHAIN OF CUSTODY RECORD**

Proj. No.		Project Name <i>Fleet - Devens</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>[Signature]</i>						Type Size, & No. of Containers		<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">EPH</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VPH</div> </div>			
Sta. No.	Date	Time	Comp	Grab	Station Location						
ACO-1	10/26	1130	X		ACO-1	1-chess	X				
ACO-2	"	1145	X		ACO-2	"	X				
3816	"	1030	X		T-3816	"	X				
3803	"	1400	X		T-3803	"	X				
952	"	1442	X		T-952	"	X				
3800	"	1345	X		T-3800	"	X				
2474	"	915	X		T-2474	"	X				
3572	"	1130		X	T-3572 - Southwall	1-chess	X				
3572	"	1130		X	T-3572 - Southwall	1-VOA		X			

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>[Signature]</i>	Date Time 10/26/98 1530	Received by (Signature) <i>[Signature]</i>	<input checked="" type="checkbox"/> Fax to (phone) Results needed 1-week PO#	Send Results to: <i>Fleet - Devens - Merrimack</i>
Relinquished by (Signature) <i>[Signature]</i>	Date Time 10/26/98 4:30	Received by (Signature) <i>[Signature]</i>		
Relinquished by (Signature)	Date Time	Received by (Signature)	AMRO Project No. <i>20706</i>	Remarks <i>Standard T.A.T. Report as always!</i>
Relinquished by (Signature)	Date Time 10/26/98 4:30	Received for Laboratory by: (Signature) <i>[Signature]</i>	Seal Intact? Yes No N/A	<i>40c</i>

White: Lab copy

Yellow: Accompanies report

Pink: Client copy

## Sample Receipt Checklist

Client: <u>Fleet</u>		AMRO ID: <u>20206</u>	
Project Name: <u>Fleet - DARTS</u>		Date Rec.: <u>10/26/98</u>	
Ship via: (circle one) Fed Ex., UPS, AMRO Courier,		Date Due: <u>11/2/98</u>	
Hand Del., Other Courier, <u>Other LULIAD</u>			
Items to be Checked Upon Receipt		Yes	No NA Comments
1. Custody Seals present?			✓
2. Custody Seals intact?			✓
3. Air Bill included in folder if received?			✓
4. Is COC included with samples?		✓	
5. Is COC signed and dated by client?		✓	
6. Pick up temperature of the samples. Temp. =		✓	
7. Laboratory receipt temperature. Temp. = <u>30C</u>		✓	
Samples rec. with ice <input checked="" type="checkbox"/> ice packs <input type="checkbox"/> neither		✓	
8. Were samples received the same day they were sampled?		✓	
Is client temperature < 6 degrees C?			✓
If no obtain authorization from the client for the analyses.			
Client authorization from: Date: Obtained by:			
9. Is the COC filled out correctly and completely?		✓	
10. Does the info on the COC match the samples?		✓	
11. Were samples rec. within holding time?		✓	
12. Were all samples properly labeled?		✓	
13. Were all samples properly preserved?		✓	
14. Were proper sample containers used?		✓	
15. Were all samples received intact? (none broken or leaking)		✓	
16. Were VOA vials rec. with no air bubbles?			✓
17. Were the sample volumes sufficient for requested analysis?		✓	
18. Were all samples received?		✓	
19. VPH Soils only:			
Samples preserved in Methanol or air tight container?		✓	
Samples received in Methanol covering the soil?		✓	
Samples received in air tight container?		✓	
20. Subcontracted Samples:			✓
What samples sent:			
Where sent:			
Date:			
Analysis:			
TAT:			
21. Information entered into:			
Internal Tracking Log?		✓	
Dry Weight Log?		✓	
Client Log?		✓	
Received By: <u>Bi</u>		Date: <u>10/26/98</u>	
Labeled By:		Date:	
Logged in By: <u>✓</u>		Date: - <u>✓</u>	
Checked By:		Date: -	

**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 5 $\alpha$ -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 Commonwealth of Massachusetts*



## *Department of Environmental Protection*

*Division of Environmental Analysis  
Senator William K. 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 dark ink, appearing to read "David L. Rancic", written over a horizontal line.

*Director, Division of Environmental Analysis*

*Issued: 07/01/98*

*Expires: 06/30/99*

# *The Commonwealth of Massachusetts*



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A handwritten signature in dark ink, appearing to read "David C. P..." followed by a flourish.

*Director, Division of Environmental Analysis*

*Issued: 07/01/98*

*Expires: 06/30/99*

# *The Commonwealth of Massachusetts*



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A handwritten signature in cursive script, likely of the Director, Division of Environmental Analysis.

*Director, Division of Environmental Analysis*

*Issued: 07/01/98*

*Expires: 06/30/99*



Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup

BWSC-106

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

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

Release Tracking Number

2 - 11210

A. SITE LOCATION:

Site Name: (optional) Devens Commerce Center

Street: 23 Lake George Street

Location Aid: Building #2601

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: >100 ppmv in sample headspace; visual 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.: 63 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.



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

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

Release Tracking Number

2 - 11210

**L. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RAM or URAM:** (check one)

- ☒ RP or PRP Specify: ☒ Owner ☐ Operator ☐ Generator ☐ Transporter Other RP or PRP: \_\_\_\_\_
- ☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- ☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- ☐ Any Other Person Undertaking RAM or URAM Specify Relationship: \_\_\_\_\_

**M. CERTIFICATION OF PERSON UNDERTAKING RAM OR URAM:**

I, Ronald J. Ostrowski, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: [Signature] Title: Associate  
(signature)

For: Ronald J. Ostrowski Date: June 23, 2000  
(print name of person or entity recorded in Section K)

Enter address of person providing certification, if different from address recorded in Section K:

Street: c/o Dames & Moore, 5 Industrial Way

City/Town: Salem State: NH ZIP Code: 03079-9999

Telephone: 603-893-0616 Ext.: \_\_\_\_\_ FAX: (optional) 603-893-6240

**YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

**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