

**THE COMMONWEALTH OF MASSACHUSETTS
GOVERNMENT LAND BANK
Devens Commerce Center
Devens, Massachusetts**

**UNDERGROUND STORAGE TANK
CLOSURE REPORT**

UST NO. 2687

SEPTEMBER 1996

**Prepared by:
S E A CONSULTANTS INC.
Science/Engineering/Architecture
Cambridge, Massachusetts
Rocky Hill, Connecticut
Londonderry, New Hampshire
Rochester, New York**

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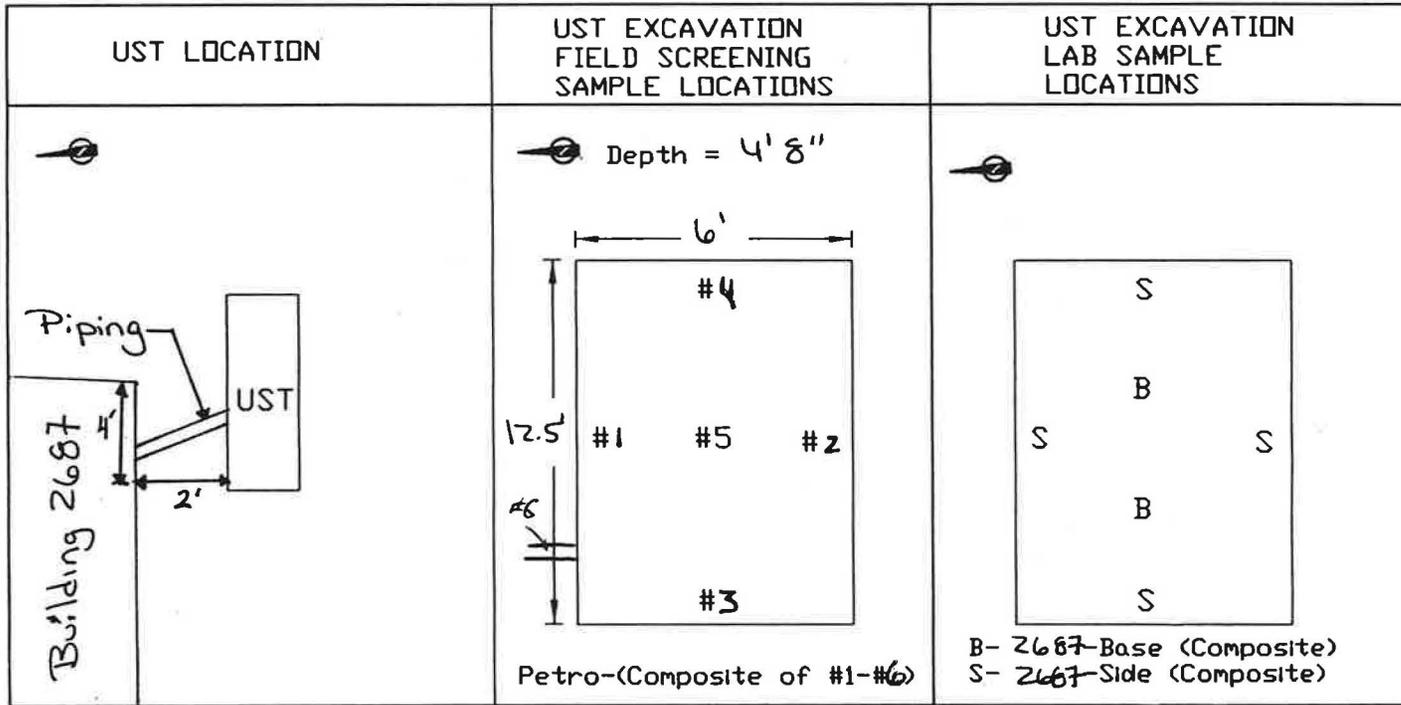
1.0 INTRODUCTION

This Underground Storage Tank (UST) Closure Report has been completed in accordance with the Commonwealth of Massachusetts Underground Storage Tank Closure Assessment Manual, dated April 9, 1996, and the Devens Commerce Center's (DCC) "*Underground Storage Tank Closure Protocol*" (Addendum to a DEP-approved Tier 1A permit), dated June 14, 1996. The 500-gallon UST was located at Building 2687, Jackson Road, Devens, Massachusetts (north/east [North American Datum, 1983] coordinates 3019948/622244). The former location of this UST is shown on Figure 1.

The 500-gallon steel UST, storing No. 2 heating oil, was removed on May 29, 1996. Headspace and Petroflag field screening on soil adjacent to the UST and associated piping indicated minimal impact to the soils from the UST/piping. Laboratory tests within the UST excavation confirmed contaminant levels below applicable regulatory levels outlined in the Massachusetts Contingency Plan (MCP) [310 CMR 40.0000]. Following review of the laboratory data, the excavated hole was backfilled.

2.0 BACKGROUND

The UST at Building 2687 was originally installed in 1966 by the U.S. Army to store No. 2 heating oil for Building 2687. Upon the closure of Fort Devens, the UST's ownership was transferred from the U.S. Army to the DCC. As part of the DCC's goal to develop Fort Devens, a number of USTs, including this UST at Building 2687, were removed. This steel UST had a diameter of four (4) feet and a length of 5.6 feet. The associated piping was copper tubing.



FIELD SCREENING				
SAMPLE #	DEPTH	TPH SCREEN	HEAD SPACE	LAB ANAL METHOD
#1	2-4'		12.6	
#2	↓		3.1	
#3	↓		0.5	
#4	↓		2.1	
#5	5'		4.8	
PETRO		242		
#6	1'		1.2	
2687-BASE				183
2687-SIDE				100

Figure 1
UST and Sample Locations

Massachusetts Land Bank
Devens, Massachusetts



SEA Consultants, Inc.
Scientists/Engineers/Architects

3.0 UST REMOVAL

On May 29, 1996, D&C Construction Co., Inc. of Rockland, Massachusetts, as part of its UST removal contract with the DCC, removed product from the UST with a vacuum truck. Later, soil above the UST and its associated piping was removed with an excavator and hand shovel. The UST was then tilted by the excavator to allow the remaining product to pool at the UST's bottom corner. A two-foot by two-foot access hole was then cut in the UST after it had been tested for combustible gases and oxygen. A laborer then made entry into the tank, and, using squeegee wipers, rags and a vacuum hose, cleaned out the remaining product from the tank. All product was transported off-site as hazardous waste. The manifests are in Appendix A. On May 29, 1996, the UST was removed and transported off-site. Transfer documentation (Forms FP290R and 291) is in Appendix B. A total of nine (9) cubic yards of soil were excavated as part of the UST removal. Contaminant levels within the stockpile were later found to be below applicable regulatory thresholds.

4.0 FIELD OBSERVATIONS AND ASSESSMENT

Upon removal of the UST, it was observed to be intact with very little rust. There was no visual or olfactory evidence of impacted soil within the excavation and groundwater was not observed.

Soil was then collected for Jar Headspace measurements using a Photoionization Detector (PID), and TPH readings were measured using a Petroflag Hydrocarbon Analyzer. PID readings ranged from 0.5 to 12.6 ppmv. A composite sample collected from the sidewalls and base of the excavation measured 242 ppm of Total Petroleum Hydrocarbons (TPH) using the Petroflag Hydrocarbon Analyzer. Results and sampling locations are shown in Figure 1. Due to the low levels of these field readings, no further excavation was conducted and samples were collected from the excavation and associated soil stockpile for laboratory

analysis. The sidewall and base of the excavation were analyzed for TPH [Method 418.1] and the associated stockpile was analyzed for TPH [Method 418.1], Polynuclear Aromatic Hydrocarbons (PAHs) [Method 8270] and Volatile Organic Compounds (VOCs) [Method 8260]. All samples were below the applicable MCP "RCS-2 Reportable Concentrations" and the more stringent "RCS-1 Reportable Concentrations". Results and sampling locations are shown in Table 1 and Figure 1, respectively. The laboratory analytical data package is contained in Appendix C.

After receipt of the laboratory data, the stockpiled soil was backfilled into the excavation. Off-site fill was then added and compacted to bring the excavation back to grade. Compaction documentation is contained in Appendix D.

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL RESULTS

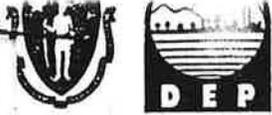
SAMPLE I.D. NUMBER	ANALYTE	LABORATORY RESULT (PPM)	RCS-2* (PPM)
2687-Base	TPH	183	2,500
2687-Side	TPH	106	2,500
2687-Stock	TPH	162	2,500
2687-Stock	Fluorene	ND	1,000
2687-Stock	Phenanthrene	ND	100
2687-Stock	Anthracene	ND	1,000
2687-Stock	Fluoranthene	ND	600
2687-Stock	Pyrene	ND	500
2687-Stock	Benzo(a)anthracene	ND	1.0
2687-Stock	Chrysene	ND	10
2687-Stock	Benzo(b)fluoranthene	ND	1.0
2687-Stock	Benzo(a)pyrene	ND	0.7
2687-Stock	Indeno(1,2,3-cd)pyrene	ND	1.0
2687-Stock	Toluene	ND	500
2687-Stock	Ethyl Benzene	ND	500
2687-Stock	Xylenes	ND	500

*Applicable Reportable Concentration (310 CMR 40.1600).

ND = Not Detected above laboratory detection limits.

APPENDIX A

UNIFORM HAZARDOUS WASTE MANIFESTS



FEDERAL GOVERNMENT
DIVISION OF HAZARDOUS MATERIALS
 One Winter Street
 Boston, Massachusetts 02108

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator US EPA ID No. MA0508772634	Manifest Document No. 48181	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address DEVENS COMMERCE CENTER 43 BUENA VISTA ST. P-12 FORT DEVENS, MA 01433		6. US EPA ID Number		A. State Manifest Document Number MA 48181	
4. Generator's Phone (508 772-6340)		6. US EPA ID Number		B. State Gen. ID SAME	
5. Transporter 1 Company Name ENVIRONMENTAL PRODUCTS & SERVICES, INC		6. US EPA ID Number MA0508772634		C. State Trans. ID 138704CT	
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone (315 471-0503)	
9. Designated Facility Name and Site Address OLSENS GREENHOUSES 590 SOUTH STREET EAST RAYNHAM, MA 02767		10. US EPA ID Number MA05059730578		E. State Trans. ID	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity	
a. FUEL OIL MIXTURE, COMBUSTIBLE LIQUID, NA1993, PGI II		No. Type		Unit Wt/Vol	
b.		c.		Waste No.	
c.		d.		e.	
d.		f.		g.	
J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)		K. Handling Codes for Wastes Listed Above			
a. #2 OIL, WATER		a. D 89			
b.		b.			
b.		c.			
c.		d.			
15. Special Handling Instructions and Additional Information Job #: E0653 PO #: Emergency #: (315)471-0503 ERG A. 27					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.					
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name		Signature		Date	
17. Transporter 1 Acknowledgement of Receipt of Materials RONALD J. OSTROWSKI		RJO		05/29/96	
Printed/Typed Name		Signature		Date	
18. Transporter 2 Acknowledgement of Receipt of Materials Philip Pike Jr		[Signature]		05/29/96	
Printed/Typed Name		Signature		Date	
19. Discrepancy Indication Space		Signature		Date	
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.		Signature		Date	
[Signature]		[Signature]		05/29/96	

MA J148181 COPY>3: FACILITY MAILS TO GENERATOR

In case of emergency or spill, immediately call the National Response Center (800) 424-8802.

APPENDIX B

TANK MANIFESTS AND RECEIPTS

~~SECRET~~ S-29-76



The Commonwealth of Massachusetts

Department of Public Safety—Division of Fire Prevention

APPLICATION FOR PERMIT FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

29 MAY 1996
(Date)

#0055596 To: HEAD OF FIRE DEPARTMENT
TO CHIEF PARENTEAU
#0063596 City or Town

C.82 S.40 M.G.L.
DIG SAFE NUMBER
961907225
Start Date MAY 96

In accordance with the provisions of Chapter 148, G.L. as provided in Section 38A Application is hereby made by

9 TOTAL 2687, 2688, 2687, 2979
1431, 1437, 1468, 1602, 3596
(BLDG #'s)

JIM MORRIS
(Name of Person, Firm or Corporation)
248 RIVER ST. NORWELL, MA 02061
Address

For permission to remove and transport underground steel storage tank(s) from:

DEVENS COMMERCE CENTER
Street address (city or town) FT. DEVENS, MA 01731

FDID# 17919 to approved Tank Yard# 008

State clearly type of
Inert gas used in
steel storage tank

CO2
Type of Inert gas used

Name of Person, Firm, Corporation disposing tank J GRANT, READING, MA.

Date issued - rejected _____ 19
Date of expiration _____ 19 paid/due
Fee 25.00 PER (MGL C-148, S-10A)
REC'D TOTAL 225.00

By: G. Moran
Signature of Applicant



The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

PERMIT

FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

C.82 S.40 M.G.L.
DIG SAFE NUMBER
Start Date

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

Name: _____
Full name of person, firm or Corporation
To transport underground steel storage tank(s)
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 _____
Location to which tank will
be transported _____

This permit will expire _____ 19

Approved tank yard# _____
Signature of official granting permit (TITLE)
(Head of Fire Dept.) CAPT. GEORGE P. 3

Tank Data

Gallons 500

Previous Contents #2 F.O

Diameter _____ Length _____

Date Received 5-29-96

Serial # (if available) _____

Tank I.D. # (Form FP-290) _____

Owner/Operator to mail revised copy of Notification Form (FP-290, or FP-290R) to: UST Compliance, Office of the State Fire Marshal, 1010 Commonwealth Avenue, Boston, Ma. 02215.

Tank Removed From:

DEVERIS COMPLIANCE CS
(No. and Street)

FJ. DEVERIS
(City or Town)

Fire Dept. Permit # _____

RECEIPT OF DISPOSAL OF UNDERGROUND STEEL STORAGE TANK
NAME AND ADDRESS

OF JAMES G. GRANT CO INC

APPROVED TANK YARD R. 28 VOLCOFF ST

APPROVED TANK YARD NO. READVILLE, MA 02137 #0008

Tank Yard Ledger 502 CMR 3.03(4) Number: 96 22363



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 SIM MONNISE DLE CONSR 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:

[Signature] [Signature] 5-29-96
SIGNATURE TITLE 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)

APPENDIX C

LABORATORY ANALYTICAL RESULTS

Received: 05/30/96

06/10/96 12:41:30

REPORT D & C CONSTRUCTION CO.
TO 415 VFW DRIVE
ROCKLAND, MA. 02370
617-871-8200 FAX: 871-8871
ATTEN WHITEY MORRIS

PREPARED TOXIKON CORPORATION
BY 15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

Paul Lezberg
CERTIFIED BY
CONTACT JOHNN

CLIENT D C CONSTRUC SAMPLES 24
COMPANY D & C CONSTRUCTION CO.
FACILITY 415 VFW DRIVE
ROCKLAND, MA. 02370

MA CERT # M-MA064: TRACE METALS, SULFATE, CYANIDE, RES. FREE
CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS.
DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778
FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID DEVENS
TAKEN 5/29/96 AND 5/30/96
TRANS _____
TYPE SOIL
P.O. # _____
INVOICE under separate cover

VERIFIED BY: *Douglas Shealy*
CERT # M-MA064

SAMPLE IDENTIFICATION

TEST CODES and NAMES used on this workorder

- 01 208-STOCK
- 02 208-BASE
- 03 208-SIDE
- 04 209-STOCK
- 05 209-BASE
- 06 209-SIDE
- 07 1601-STOCK
- 08 1601-BASE
- 09 1601-SIDE
- 10 1602-STOCK
- 11 1602-BASE
- 12 1602-SIDE
- 13 1603-STOCK
- 14 2729-SIDE
- 15 2729-STOCK
- 16 1657-BASE
- 17 1657-SIDE
- 18 1657-STOCK
- 19 2687-SIDE
- 20 2687-STOCK
- 21 2687-BASE
- 22 2688-SIDE
- 23 2688-STOCK
- 24 2688-BASE

- 8260 PURGEABLE ORGANICS VOA
- 827PAH 8270 PAH ONLY
- TPH IR TPH BY IR

TOXIKON CORPORATION
JUL 16 1996
RECEIVED

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TOXIKON CORP.

REPORT

Work Order # 96-05-571

Received: 05/30/96

Results by Sample

SAMPLE ID <u>2687-SIDE</u>	SAMPLE # <u>19</u> FRACTIONS: <u>A</u>
Date & Time Collected <u>05/30/96 11:00:00</u> Category <u>SOIL</u>	
TPH <u>IR</u> <u>106</u>	
mg/Kg DL=40	

SAMPLE ID <u>2687-STOCK</u>	SAMPLE # <u>20</u> FRACTIONS: <u>A</u>
Date & Time Collected <u>05/30/96 11:00:00</u> Category <u>SOIL</u>	
TPH <u>IR</u> <u>162</u>	
mg/Kg DL=40	

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TOXIKON CORP.

REPORT

Work Order # 96-05-571

Received: 05/30/96

Results by Sample

SAMPLE ID 2687-STOCKFRACTION 20ATEST CODE 8260NAME PURGEABLE ORGANICS YDADate & Time Collected 05/30/96 11:00:00Category SOIL**EPA 8260 PURGEABLE ORGANICS**

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	10	m-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	p-Xylene	ND	5.0
Chloroethane	ND	10	1,2-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,3-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Trichlorofluoromethane	ND	10	Naphthalene	ND	10
1,1-Dichloroethane	ND	5.0	n-Propylbenzene	ND	10
Trans-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	Bromochloromethane	ND	5.0
1,2-Dichloroethane	ND	5.0	n-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	sec-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	tert-Butylbenzene	ND	10
Bromodichloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	4-Chlorotoluene	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Dibromochloromethane	ND	5.0	1,2-Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dibromomethane	ND	5.0
Benzene	ND	5.0	Dichlorodifluoromethane	ND	10
1,1-Dichloropropane	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0	1,3-Dichloropropane	ND	5.0
Bromofora	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Hexachlorobutadiene	ND	10	1,2,3-Trichlorobenzene	ND	5.0
Isopropylbenzene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Toluene	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Ethyl Benzene	ND	5.0			
p-Isopropyltoluene	ND	10			

Notes and definitions for this report:

DATE RUN 06/08/96
 ANALYST CHD
 INSTRUMENT _____ G
 DIL. FACTOR 1
 UNITS ug/Kg
 COMMENTS _____

ND = Not detected at detection limit