Post-Removal Report
Underground Storage Tank Closure
10,000 Gallon Diesel Fuel
UST No. 0016
Building 605
Fort Devens, Massachusetts

ATEC File: 37.07.91.07451
Contract No. DAK31-91-D-0015

Prepared for:

United States Army
Directorate of Contracting
Building 227
Fort Devens, Massachusetts

Attn: Mr. Robert J. Kruzewski,
Contracting Officer

May 19, 1992

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
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Norwell, Massachusetts 02061
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May 19, 1992

Mr. Robert J. Kruzewski, Contracting Officer
United States Army
Directorate of Contracting
Building 227
Fort Devens, Massachusetts 01433-5340

RE: Post-Removal Report
Underground Storage Tank Closure
10,000 Gallon Diesel Fuel - UST No. 0016
Building 605
Fort Devens, Massachusetts
ATEC File: 37.07.91.07451

Mr. Kruzewski:

Attached is a report by ATEC Associates, Inc. (ATEC), detailing the results of the closure of one 10,000-gallon, single wall, steel Underground Storage Tank (UST) referenced as UST No. 0016, located at property known as Building 605, Fort Devens, Massachusetts (the site). The purpose of the closure was to excavate the UST and to evaluate the potential for the presence of oil and hazardous material at the site.

ATEC appreciates the opportunity to be of service in this matter. If you have any questions or comments, please do not hesitate to contact our office.

Sincerely,

ATEC Associates, Inc.

Mark E. Baldi
Project Manager

James B. O'Brien
Group Manager

for Marta J. Nover
Environmental Consulting
Division Manager

EXECUTIVE SUMMARY

On April 29 and 30, 1992, ATEC closed one 10,000-gallon, single wall, steel Underground Storage Tank (UST) located at property known as Building 605, Fort Devens, Massachusetts (the site). This tank, referenced as UST NO. 0016, was located adjacent to two diesel fuel USTs (UST No. 0089 and UST No. 0084). The associated excavations were separated by two berms between 2.0 feet to 8.0 feet high (see Figure 1 - UST Location Plan). The purpose of the closure was to excavate the UST and evaluate the potential for the presence of oil and hazardous material at the site.

ATEC's conclusions are as follows:

Upon excavation and removal, the tank was observed to be in good condition with no holes, perforations, or severe corrosion.

Ground water was not encountered within the excavation.

Surface soil around the spill containment was observed to be visibly contaminted, and was segregated. Excavated soil required to free the tank was not visibly contaminated. Soil within the excavation was visibly contaminated.

Following the removal of UST No. 0016 and two adjacent tanks (UST No. 0084 and UST No. 0089), ten soil samples were obtained from the portion of the excavation associated with UST No. 0016 for field screening and field analysis utilizing a PID and NDIR Analysis respectively. PID readings ranged from 0.0 ppm to 18.6 ppm. NDIR results ranged from 21.4 ppm to 1,563.8 ppm TPH.

Three (3) composite soil samples (Stock-1, Stock-2, and Stock-3) were obtained from excavated, stockpiled soils required to free the UST No. 0016 and UST No. 0089 for PID and NDIR screening. PID results were 1.0 ppm, 2.8 ppm and 10.2 ppm, respectively. NDIR results were 45.8 ppm TPH for Stock-1, 70.7 ppm TPH for Stock-2, and 455.8 ppm for Stock-3. One soil sample (Spill-1) was obtained from visibly contaminated, stockpiled, surface soil excavated from the vicinity of the spill containment for PID and NDIR screening. PID results revealed 46 ppm; NDIR results revealed 5,005 ppm TPH for Spill-1.

Two (2) soil samples were obtained from the portion of the excavation associated with UST No. 0016 for laboratory analysis for TPH utilizing USEPA Extraction Method 9071 and Analysis Method (draft) 9073. Analytical results for LSS-1 obtained from the southwest wall of the excavation revealed 2,080 ppm TPH. Analytical results for LSS-2 obtained from the bottom of the excavation revealed 3,610 ppm TPH.

ATEC's recommendations are as follows:

Conduct remedial excavation until background levels of <100 ppm TPH by laboratory analysis is attained. Field screening of soil should be conducted during excavation utilizing a Photoionizing Detector until background levels of <1 ppm are attained prior to obtaining samples for laboratory analysis.

Advance soil borings and install ground water monitoring wells to determine the vertical and horizontal extent of contamination. Continuous split spoon sampling and analysis will be conducted utilizing field analysis techniques, i.e. Photoionization Detector and Non-Dispersive Infrared Analysis, and laboratory analysis to document soil contamination levels as specified in the Hazardous Waste Containment Plan.

Stockpiled soils should be laboratory analyzed for Total Petroleum Hydrocarbons, Volatile Organic Compounds, PCBs, 13 TCLP Metals, flashpoint, corrosivity, sulfide reactivity, and cyanide reactivity for disposal classification.

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POST-REMOVAL REPORT

United States Army
Building 605
Fort Devens, Massachusetts
ATEC Project No. 37.07.91.07451

1.0 INTRODUCTION

This Post-Removal Report details the results of the closure of one 10,000-gallon, single wall, steel, Underground Storage Tank (UST) referenced as UST No. 0016, located at property known as Building 605, Fort Devens, Massachusetts (the site). The purpose of the closure was to excavate the UST and evaluate the potential for the presence of oil and hazardous material at the site. The closure of this UST was conducted on April 29 and 30, 1992.

The basic Project Work Scope included:

1. Procurement/administration of all federal, state and local permits, manifests, regulations, etc., associated with UST system closure.

2. Excavating, venting, cleaning, transporting, and disposing of one 10,000-gallon UST by appropriately licensed contractors/facilities.

3. Disposal of UST slops at a licensed facility.

4. Field screening and analysis of soil in the excavations by Photoionizing Detector (PID) and field analyzed with a portable Non-Dispersive Infrared (NDIR) Analyzer, to identify evidence release of oil and hazardous materials from the UST, if any.

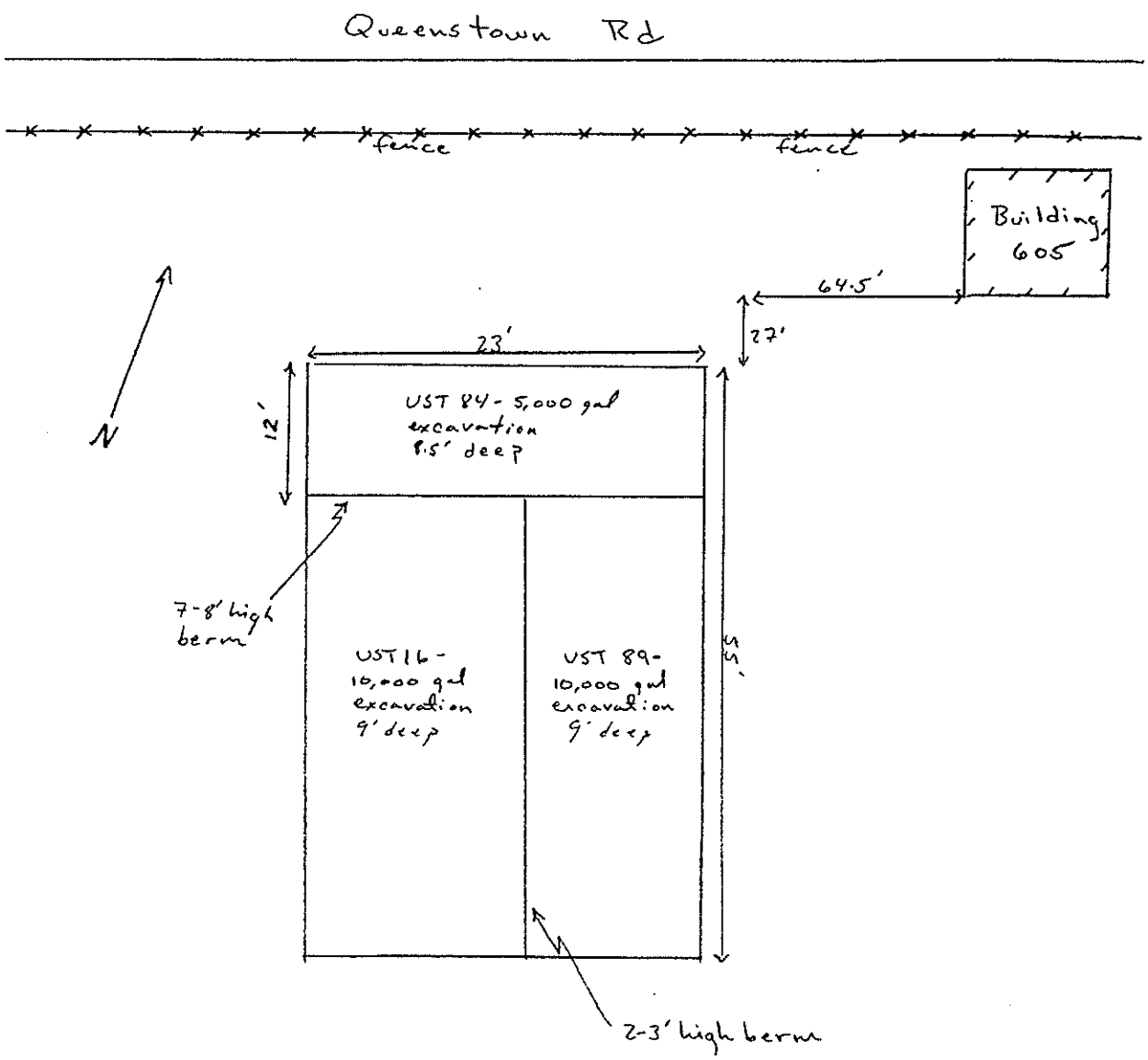
5. Laboratory Analysis of soil sampled from the UST excavation by a USEPA certified laboratory for Total Petroleum Hydrocarbons (USEPA Extraction Method 9071 and Analysis Method (draft) 9073).

6. Preparation of a Post-Removal Report, to include assimilation of information gathered; major findings; and conclusions.

2.0 SUBSURFACE STORAGE TANK EXCAVATION AND REMOVAL

On April 29 and 30, 1992, one 10,000-gallon, subsurface, diesel fuel, storage tank (UST No. 0016) was excavated and removed from the site. UST No. 0016 was located approximately 85 feet south of Building 605. UST No. 0016 was located adjacent to two diesel fuel USTs (UST No. 0089 and UST No. 0084). The associated excavations were separated by two berms between 2.0 feet to 8.0 feet high (see Figure 1 - UST Location Plan). Site topography is level. Approximately 350 southeast of the former UST location topography slopes moderately downgradient to the southeast. Surface cover at the site consists of asphalt.

The tank was covered by approximately 2.0 feet of soil. Staining of surface soil and excavated soil required to free the tank was observed in the vicinity of the spill containment at the center of the UST. From grade level to depth of approximately 1.0 feet soil was observed to consist primarily of medium brown, fine sand with little medium to coarse sand and some medium to coarse gravel. From a depth of approximately 1.0 feet to the bottom of the excavation soil consists primarily of light brown, fine sand with little fine to coarse gravel and trace cobbles. Trace pieces of the tank's asphalt coating were observed within the excavation. The bottom of the excavation was approximately 9.0 feet below grade. Soil within the excavation was observed to be visibly stained at the center of the excavation in the vicinity of the spill containment, and at the northwest end of the excavation in the vicinity of the fill pipe. Contamination was likely due to overfill which flowed around the sides of the tank in these two areas. Ground water was not encountered within the excavation. The removal and excavation was inspected by Mr. David Salvadore of the Commonwealth of Massachusetts Department of Environmental Protection (DEP).



UST LOCATION PLAN

1-5,000/2-10,000 gallon UST excavations relative to:
Building 605
Fort Devens, Massachusetts

PROJECT: 37.07.91.07451

NOT TO SCALE

FIGURE: 1

ĀTEC©

Associated piping was drained, and tank connections were removed. Inspection revealed piping to be in good condition. UST No. 0016 was estimated to contain 1290 gallons of diesel fuel. Approximately 1250 gallons were removed on April 16, 1992, and transported to a licensed T.S.D.F. (Olson's Greenhouses). Tank openings were capped, and the tank was removed from the excavation.

Upon excavation and removal, the tank was observed to be in good condition with no holes, perforations, or severe corrosion. Following venting of the tank, an access way was cut in the end of the tank to allow entry for cleaning. It was then entered and vacuumed/wiped clean of any residual slops. Approximately 40 gallons of diesel fuel and sludges were removed and drummed on April 30, 1992 for disposal at a later date. Appropriate hazardous waste manifests are included in Appendix F.

The scrap tank was disposed at Tombarello & Sons, a licensed Massachusetts tank yard, on May 1, 1992. A copy of the disposal receipt is included in Appendix G.

3.0 SAMPLING AND ANALYSIS PLAN

Ten (10) soil samples were obtained from the excavation for field screening with a Photoionizing Detector (PID) and field analyzed with a Non-Dispersive Infrared (NDIR) Analyzer. The PID field screening for Volatile Organic Compound (VOC) vapors was conducted with an HNu photoionizer utilizing the jar headspace screening protocol outlined in the Hazardous Materials Containment Plan. The NDIR field screening for Total Petroleum Hydrocarbons (TPH) was conducted with a Horiba OCMA 220, utilizing the procedures outlined in the Hazardous Materials Containment Plan.

Four (4) of the samples (SS-1 to SS-4) were obtained from the excavation walls at a depth of approximately 3.0 - 4.5 feet below grade. Two (2) of the samples (SS-5 and SS-6) were obtained from the berm separating the excavations associated with UST No. 0016 and UST No. 0084 at a depth of approximately 3.0 - 4.5 feet below grade. Two (2) of the samples (SS-7 and SS-8) were obtained from the berm separating the excavations associated with UST No. 0016 and UST No. 0089 at a depth of approximately 6.0 - 7.0 feet below grade.

Two (2) of the samples (SS-9 and SS-10) were obtained from the bottom of the excavation at a depth of approximately 9.0 feet below grade. Sampling locations for the excavation are depicted on the Sampling Schematic attached as Figure 2.

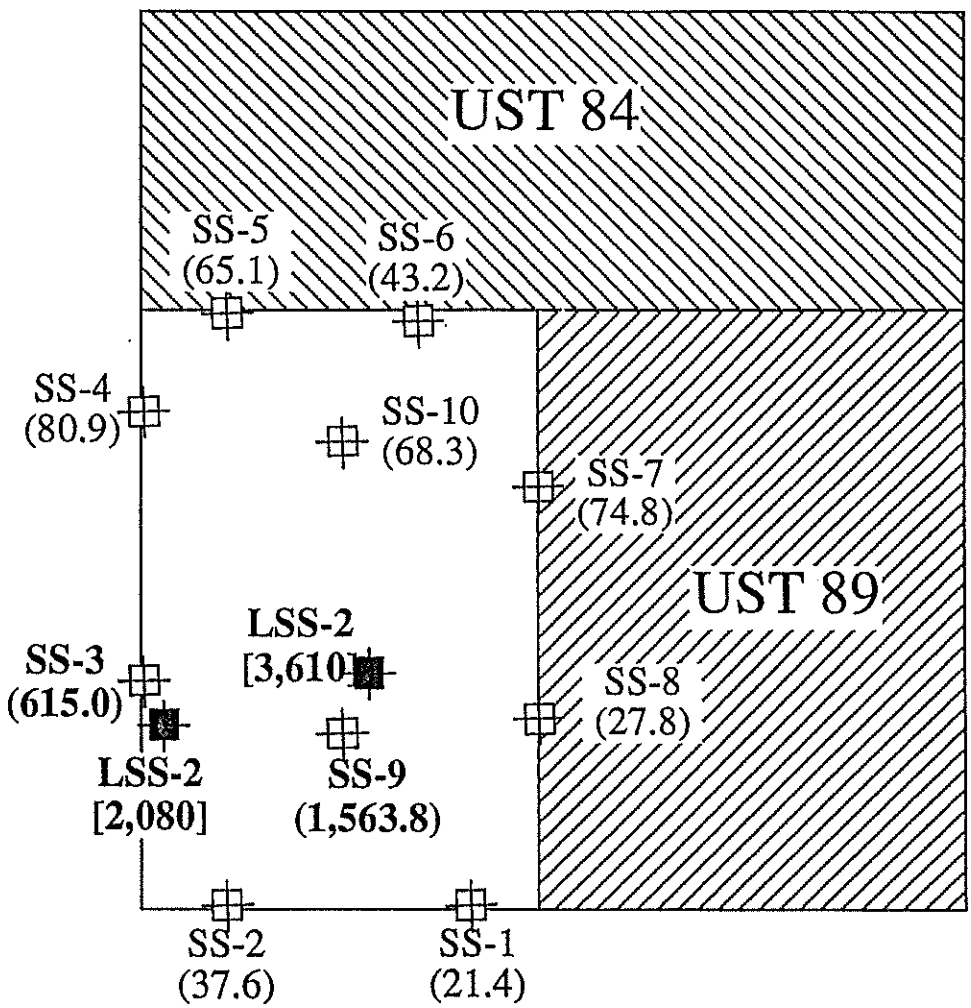
Three (3) composite soil samples (Stock-1, Stock-2, and Stock-3) were obtained from stockpiled soil required to free UST No. 0016 and UST No. 0089 for PID and NDIR analysis. Stock-1 was obtained from a stockpile located adjacent to the southeast of the excavation. Stock-2 and Stock-3 were obtained from a stockpile located adjacent to the north of the excavation. One (1) soil sample (Spill-1) was obtained from the segregated, visibly contaminated, surface soil assocaited with the spill containment for PID and NDIR analysis.

Two (2) soil samples (LSS-1 and LSS-2) were obtained from the excavation for laboratory analysis. Soil Sample LSS-1 was obtained from the southwest wall of the excavation. Soil sample LSS-2 was obtained from the bottom of the excavation. Both samples were obtained from areas within the excavation which were visibly contaminated. These samples were analyzed for TPH utilizing USEPA Extraction Method 9071 and Analysis Method (draft) 9073. Sampling locations are depicted on the Sampling Schematic attached as Figure 2.

The appropriate chain of custodies are included in Appendix E.

4.0 ANALYTICAL RESULTS

The results from analysis with the Photoionization Detector (PID) and the Non-Dispersive Infrared (NDIR) Analyzer of the ten (10) soil samples obtained from the excavation, the three (3) soil samples obtained from stockpiled soil required to free the tank, and one (1) segregated soil associated with the spill containment are as follows:



LEGEND:

- Field Screened Soil Sample
- Lab Analyzed Soil Sample
- ( ) NDIR Results in ppm
- [ ] Lab Analysis Results in ppm

Results in bold denote levels in excess of MA DEP Remedial Goal Level (100 ppm)

SAMPLING SCHEMATIC

10,000 gallon UST excavation (UST No. 0016) at:
Building 605
Fort Devens, Massachusetts

PROJECT: 37.07.91.07451

NOT TO SCALE

FIGURE: 2

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TABLE 1 - PID AND NDIR RESULTS

Sample No.	PID (ppm)	NDIR(ppm)
SS-1	0.0	21.4
SS-2	0.2	37.6
SS-3	18.6	615.0
SS-4	1.0	80.9
SS-5	0.4	65.1
SS-6	0.2	43.2
SS-7	5.8	74.8
SS-8	1.0	27.8
SS-9	14.2	1,563.8
SS-10	1.8	68.3
Stock-1	1.0	45.8
Stock-2	2.8	70.7
Stock-3	10.2	455.8
Spill-1	46	5,005.0

Laboratory analytical results of the two (2) soil samples obtained from the excavation revealed 2,080 ppm TPH for LSS-1, and 3,610 ppm TPH for LSS-2. See Appendix D.

5.0 CONCLUSIONS AND RECOMMENDATIONS

ATEC's conclusions are as follows:

Upon excavation and removal, the tank was observed to be in good condition with no holes, perforations, or severe corrosion.

Ground water was not encountered within the excavation.

Surface soil around the spill containment was observed to be visibly contaminted, and was segregated. Excavated soil required to free the tank was not visibly contaminated. Soil within the excavation was visibly contaminated.

Following the removal of UST No. 0016 and two adjacent tanks (UST No. 0084 and UST No. 0089), ten soil samples were obtained from the portion of the excavation associated with UST No. 0016 for field screening and field analysis utilizing a PID and NDIR Analysis respectively. PID readings ranged from 0.0 ppm to 18.6 ppm. NDIR results ranged from 21.4 ppm to 1,563.8 ppm TPH.

Three (3) composite soil samples (Stock-1, Stock-2, and Stock-3) were obtained from excavated, stockpiled soils required to free the UST No. 0016 and UST No. 0089 for PID and NDIR screening. PID results were 1.0 ppm, 2.8 ppm and 10.2 ppm, respectively. NDIR results were 45.8 ppm TPH for Stock-1, 70.7 ppm TPH for Stock-2, and 455.8 ppm for Stock-3. One soil sample (Spill-1) was obtained from visibly contaminated, stockpiled, surface soil excavated from the vicinity of the spill containment for PID and NDIR screening. PID results revealed 46 ppm; NDIR results revealed 5,005.0 ppm TPH for Spill-1.

Two (2) soil samples were obtained from the portion of the excavation associated with UST No. 0016 for laboratory analysis for TPH utilizing USEPA Extraction Method 9071 and Analysis Method (draft) 9073. Analytical results for LSS-1 obtained from the southwest wall of the excavation revealed 2,080 ppm TPH. Analytical results for LSS-2 obtained from the bottom of the excavation revealed 3,610 ppm TPH.

ATEC's recommendations are as follows:

Conduct remedial excavation until background levels of <100 ppm TPH by laboratory analysis is attained. Field screening of soil should be conducted during excavation utilizing a Photoionizing Detector until background levels of <1 ppm are attained prior to obtaining samples for laboratory analysis.

Advance soil borings and install ground water monitoring wells to determine the vertical and horizontal extent of contamination. Continuous split spoon sampling and analysis will be conducted utilizing field analysis techniques, i.e. Photoionization Detector and Non-Dispersive Infrared Analysis, and laboratory analysis to document soil contamination levels as specified in the Hazardous Waste Containment Plan.

Stockpiled soils should be laboratory analyzed for Total Petroleum Hydrocarbons, Volatile Organic Compounds, PCBs, 13 TCLP Metals, flashpoint, corrosivity, sulfide reactivity, and cyanide reactivity for disposal classification.

6.0 CERTIFICATIONS & QUALIFICATIONS

This report is addressed to Mr. Robert J. Kruzewski, Contracting Officer of Directorate of Contracting, United States Army, Fort Devens with respect to UST No. 0016, located at property known as Building 605, Fort Devens, Massachusetts (the site).

ATEC certifies that to the best of their professional knowledge, information and belief:

The investigation of the site described in the report was performed by Mark E. Baldi, Project Manager; and James B. O'Brien, Group Manager (site investigators) who are qualified to make the investigations and formulate the opinions herein set forth.

The site investigators are familiar with the current provisions of the State of Massachusetts General Law Chapter 148; 527 CMR 9.00; and 502 CMR 3.00.

The site investigators are knowledgeable regarding the types of industrial, manufacturing, commercial or other processes or operations which might reasonably be expected to generate, use, treat, store or dispose of oil or hazardous material.

The site investigators have reviewed the recent history of the site and have considered the potential for the generation, use, treatment, storage, or disposal of oil or hazardous material by (a) the uses presently associated with the site and (b) to the extent ascertainable by inquiry, as noted.

In April 1992, the site investigators studied the site and, except as herein qualified, the areas in the vicinity of the site to assess the possible presence of oil and hazardous material at the site.

The following qualifications apply to ATEC's opinion:

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either expressed or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

The work performed in conjunction with this assessment and the data developed are intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

APPENDIX A: PHOTOGRAPHIC DOCUMENTATION

Building 605, Fort Devens, Massachusetts

ATEC File No. 37.07.91.07451

A-1: One (1) side of removed tank.

A-2: Opposite side of removed tank.

A-3: Excavation as viewed from southeast, facing northwest.

A-4: Excavation as viewed from northwest, facing southeast.

A-1

A-2

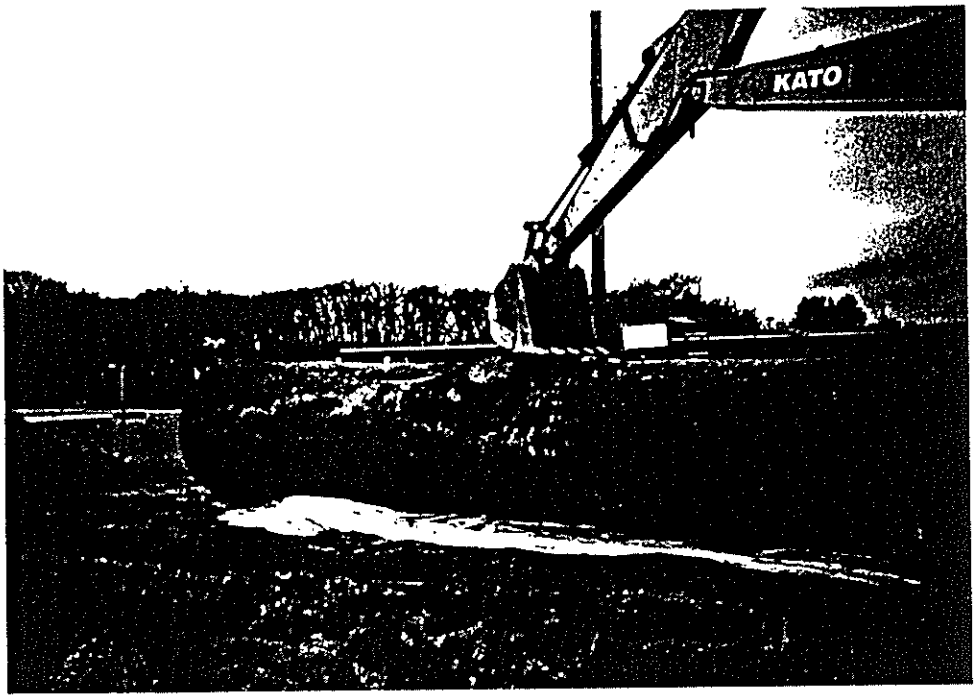

PHOTO DOCUMENTATION

10,000 gallon UST excavation at:
Building 605
Fort Devens, Massachusetts

PROJECT: 37.07.91.07451

ATEC

A-3

A-4

PHOTO DOCUMENTATION

10,000 gallon UST excavation at:
Building 605
Fort Devens, Massachusetts

PROJECT: 37.07.91.07451

ATEC

APPENDIX B: UST CLOSURE CHECKLIST

UST-CLOSURE O/C CHECK LIST	UST 16	- 10,000	gal diesel Bld, 605		
DEFINABLE FEATURE	DATE	TIME	MEASUREMENTS		NOTES
Calibrate PID & LEL/O2 meters	4/30/92				Site Topography: level, mod downgrad
					slight grade E, ≈ 350 SE of site
Drain & flush piping & pumps	4/30/92	8:30			
Excavate to top of tank	4/29/92	9:00-11:00			Depth to tank: 2'
					Asphalt surface cover
Vent tank note LEL/O2 levels & times	4/30/92		LEL	O2	
		T1: 11:30	01	20.9	
		T2: 11:40	01	20.7	
		T3: 11:50	0	20.9	
		T4: 12:00	0	20.9	
		T5: 1:00	0	20.9	
		T6: 1:15	0	20.9	
		T7: 1:30	0	20.9	
		T8: 1:45	0	20.9	
		T9: 2:00	0	20.9	
		T10: 2:15	0	20.9	
		T11: 2:30	0	20.9	
		T12:			
Pump & clean tank:	4/16/92	10:00	1250 gal liquid		Tank Dimensions: 35'L x 7'D
Note quantities liquid (gal) & sludge (lbs)	4/29/92		40 ~~gal~~ lbs. sludge		good condition, no holes, perf, or
					rust. Asphalt coating intact
Remove all tank connections, and cap openings	4/30/92	9:00			trace pieces in excav. Piping
					good condition
Excavate soils to free tank	4/30/92	10:30			
Segregate stained soils: Note PID readings			PID (ppm)	NDIR (ppm)	
(if >10 ppm NDIR also) ⇒ soils around			4C		spill-1A (vis. contam)
Spill containment visible contam ⇒			1.0		stock-1 (not vis contam)
dark stained ⇒ segreg ⇒ (<1 cy)			2.8		stock-2 (not vis contam)
other soil reg to free tank			10.2		stock-3 (not vis contam)
not visibly contam ⇒ slight					
					stock 1 & 2 ⇒ soil reg to free tank
					UST 16 & adj. to ooc and closed

...E-CLOSURE O/C CHECK LIST				
DEFINABLE FEATURE	DATE	TIME	MEASUREMENTS	NOTES
Remove tank, piping, pumps, and hardware.	4/30/92	11:00	Photographic Descriptions:	Soil Description: 0-1': med brown, fine sand
Photograph excavation; note descriptions.			Photo 1: Tank	w/little med-course sand, some med
Sketch Schematic			Photo 2: Tank	course gravel; 1'-9' light brown fine
			Photo 3: excav SE face NW	sand, little fine-course gravel, trace
			Photo 4: excav NW, face SE	cobble boulder
			Photo 5:	Depth to Groundwater/Conditions: N/A
			Photo 6:	
Place tank at safe distance from excavation	4/30/92	11:05		Depth of Excavation: 9'
				local areas of vis contam at center
Secure tanks transport off-site	5/1/92	8:00		(adj soil contam) & NW end (adj to fill)
				2-3' high berm sep from adj 10,000 gal UST
Obtain 10 soil samples from	6/1/92	3:30	PID (ppm) NDIR (ppm)	Sample locations: see schematic (3.0-4.5' deep)
excavation walls/bottom. Note PID/NDIR			SS1: 0.0	S wall
readings and sample locations.			SS2: 0.2	S wall
			SS3: 18.6	E wall ⇒ stained
			SS4: 1.0	W wall
			SS5: 0.4	N wall (berm)
			SS6: 0.2	N wall (berm)
			SS7: 5.8	E wall (berm) ⇒ stained
			SS8: 1.0	E wall (berm)
			SS9: 14.2	bottom ⇒ stained
			SS10: 1.8	bottom
			Excavations of adj USTs 16, 84; &	1-10,000 gal treated as 1
			excavation. See schematic	
Obtain 2 soil samples & 1 water samples	5/1/92	3:45		Sample Locations:
for laboratory analysis. Note sample locations.				LSS1: ~ SS3
				LSS2: ~ SS7
				LWS1:

CLOSURE O/C CHECK LIST

DEFINABLE FEATURE	DATE	TIME	MEASUREMENTS	NOTES
				____ tons of backfill
Backfill excavation (if clean): Not completed as of 5/15/92				Backfill description:
Note amount & type of backfill				
Close open excavation (if applicable) Not completed as of 5/15/92				
Restore surface and rope off	4/30/92	3:00	roped off surface/not surface restore	
Remove rubbish/debris	4/30/92	3:15		
Transport hazardous material off-site:				Amount Classification
Note amount/classification	4/16/92	11:00		1250 gal NA R70
Make copies of manifests, permits,				
and disposal receipts.				

APPENDIX C - OCMA 220 DATA SHEETS

ATEC Associates, Inc.

Consulting Geotechnical, Materials and Environmental Engineers

TPH SOIL ANALYSES BY NON-DISPERSIVE INFRARED ANALYZER - MODIFIED EPA STANDARD TEST METHOD 418.1

PROJECT NAME, NUMBER, TANK U.S. ARMY - FORT DEVENS 37.07.91.451 UST 6 DATE May 1, 1992

OPERATOR Charles Lagerquist

CALIBRATION DATA

TYPE CALIBRATION	FIRST READING INITIAL	FIRST READING FINAL	SECOND READING INITIAL	SECOND READING FINAL	THIRD READING INITIAL	THIRD READING FINAL	SPAN CHECK
ZERO:	0.1	0.0	0.0	0.0	0.0	0.0	27.7
SPAN:	37.6	40.0	44.0	40.0	40.5	40.0	
ZERO:	5.8	0.0	-5.0	0.0	0.2	0.0	

ANALYTICAL DATA

SAMPLE NUMBER	WEIGHT (g) GROSS	WEIGHT (g) TARE	1st DILUTION RATIO (ml) F-113	1st DILUTION RATIO (ml) SAMPLE	2nd DILUTION RATIO (ml) F-113	2nd DILUTION RATIO (ml) SAMPLE	INSTRUMENT RESULTS (ppm) 1st	2nd	3rd	CONCENTRATION mg/l
STOCK-1	83.5	75.0	17.5	3.0	—	—	2.1	1.9	—	45.8
STOCK-2	83.9	75.2	17.5	3.0	—	—	3.1	3.0	—	70.7
STOCK-3	83.5	75.0	17.5	3.0	—	—	18.9	18.9	—	455.8
SS-1	82.6	75.9	17.5	3.0	—	—	0.7	0.7	—	21.4
SS-2	81.0	75.0	17.5	3.0	—	—	0.6	1.1	—	37.6
SS-3	81.8	75.5	17.5	3.0	—	—	18.4	18.9	—	615.0
SS-4	83.7	76.1	17.5	3.0	—	—	2.9	3.0	—	80.9
SS-5	81.7	75.4	17.5	3.0	—	—	2.0	3.0	—	65.1
SS-6	82.6	75.0	17.5	3.0	—	—	1.5	1.6	—	43.2
SS-7	82.4	75.0	17.5	3.0	—	—	2.9	3.7	—	74.8
SS-8	80.4	74.5	17.5	3.0	—	—	0.8	0.9	—	27.8
SS-9	82.1	74.3	17.5	3.0	—	—	58.5	59.5	—	1561.3
SS-10	82.5	74.1	17.5	3.0	—	—	2.7	3.8	—	68.3
GL-	[illegible]3	75.[illegible]	[illegible].0	2.9	[illegible].0	1.0	78.9	89.5	38.5	5805.0

APPENDIX D - LABORATORY REPORTS

In Response To The Future

CERTIFICATE OF ANALYSIS

TOTAL PETROLEUM HYDROCARBON-IR
Method 418.1

Client: ATEC Environmental Consultants

Client Project ID: Ft. Devens, UST 16, Bldg 605 ESS Project ID: 921180

Date Samples Received: 5/7/92 Date Reported: 5/14/92

Client ID	Lab ID	Results	Units	MRL	% Solids
LSS-1	921180-01	2,080	mg/Kg	105	95%
LSS-2	921180-02	3,610	mg/Kg	104	96

MRL = Method Reporting Limit

Note: Results reported on a dry weight basis.

Approved by: _____ Date: 5/14/92

David Dickinson
Laboratory Director

Environmental Science Services

Island 02809 (401) 421-0398 Fax. (401) 421-5731

APPENDIX E - CHAIN OF CUSTODY FORMS

CHAIN OF CUSTODY RECORD

PROJ. NO. 37.07451 | PROJECT NAME UST 16 - Bldg 605 | CLIENT Ft. Devens P.O. 72289 | LAB PROJ. NO.

SAMPLERS: (Signature)

SAMPLING METHOD: grab

LABORATORY ANALYSIS

SAMPLE I.D. NO.	DATE	TIME	COMPOSITE	GRAB	WATER	SOIL		FILTERED	ACIDIFIED	ICED		NUMBER OF CONTAINERS	LAB I.D. NUMBER	VOLATILE ORGANICS	BTX & E	TOTAL HYDROCARBONS	PCB'S	E.P. TOXIC METALS	TOTAL METALS (8)	IGNITABILITY		SAMPLE LOCATION / REMARKS
LSS-1	5/1			X		X						1				X						
LSS-2	5/1			X		X						1				X						

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
62 Accord Park Drive
Norwell, MA 02061
(617) 878-6200

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	5/5				
Relinquished by: (Signature)	Date / Time	Received by Laboratory by: (Signature)	Date / Time	Project Manager / Phone #:	

MAY-14-1992 14:20 FROM ENVIRONMENTAL SCIENCE SVC TO 15087722956

CHAIN OF CUSTODY RECORD

PROJ. NO. 07.451

PROJECT NAME UST 16 - Bldg 605

CLIENT Ft. Devens

LAB PROJ. NO.

SAMPLERS: *(Signature)* Mark E Zaldokas

SAMPLING METHOD grab

LABORATORY ANALYSIS

SAMPLE I.D. NO.	DATE	TIME	COMPOSITE	GRAB	WATER	SOIL		FILTERED	ACIDIFIED	ICED		NUMBER OF CONTAINERS	LAB I.D. NUMBER	VOLATILE ORGANICS	BTX & E	TOTAL HYDROCARBONS	PCB'S	E.P. TOXIC METALS	TOTAL METALS (8)	IGNITABILITY		SAMPLE LOCATION / REMARKS
LSS-1	5/1			X		X						1				X						Split
LSS-2	5/1			X		X						1				X						Split

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
62 Accord Park Drive
Norwell, MA 02061
(617) 878-6200

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Mark E Zaldokas	5/8				
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Project Manager / Phone #:	

APPENDIX F - HAZARDOUS WASTE MANIFESTS

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE
One Winter Street
Boston, Massachusetts 02108

FOR IN-STATE WASTE OIL ONLY OR IN-STATE VSQG HW/WO

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

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator US EPA ID No. / Manifest Document No.: MA 7210 02 85 56 411 9 MB 4

2. Page 1 of 1

Information in the shaded areas is not required by Federal law

3. Generator's Name and Mailing Address: HEDQTR Fort Devens, Bldg 605, Fort Devens MA, ~~Bld. 2613~~ AFZD-Em Box 19, 01433

4. Generator's Phone: 508-796-2117

A. State Manifest Document Number: MA F419986

B. State Gen. ID: SAME

5. Transporter 1 Company Name: MAYFLOWER SALVAGE CO.

6. US EPA ID Number: MAD000846188

C. State Trans. ID: MA 8 D R 1 4 5

D. Transporter's Phone: 508 880-6002

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. State Trans. ID:

F. Transporter's Phone ( )

9. Designated Facility Name and Site Address:
OLSON'S GREENHOUSES
590 SOUTH STREET – EAST
RAYNHAM, MA 02767

10. US EPA ID Number: MAD059733378

G. State Facility's ID: Not Required

H. Facility's Phone (508) 822-1151

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. WASTE PETROLEUM OIL N.O.S. COMBUSTIBLE LIQUID NA 1270	001	TT	2500	G	MA98
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. WASTE OIL DIESEL FUEL mb
b.
d.

K. Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information
LAB. NO. MATERIAL TESTEDON TRUCK – BEING MARKETED AS MA98 Pre TESTED For Recycle

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: Mark Boser | Signature: [signature] | Date Month Day Year: 04 16 92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: John R McLAREN | Signature: [signature] | Date Month Day Year: 04 16 92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: | Signature: | Date Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: | Signature: | Date Month Day Year:

MA F419986 COPY 1: FACILITY MAILS TO GENERATOR

Form Approved OMB No. 2050-0039. Expires 9-30-91
EPA Form 8700-22 (Rev 9-88) Previous editions are obsolete

Approximately 40 gallons of diesel fuel and sludges were removed and drummed on April 30, 1992 for disposal at a later date. The appropriate hazardous waste manifest will be forwarded to the Contracting Office following disposal of the drummed material.

APPENDIX G - PERMITS/CERTIFICATIONS

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

PERMIT

FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

_____ 19

C.93 S.40 M.G.L.
DIG SAFE NUMBER
92160232
Start Date 4/16/92

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

Name: ATEC ENVIRONMENTAL ASSOCIATES INC
Full name of person, firm or Corporation

To transport underground steel storage tank(s) to Approved tank yard# 14901 BLDG # 605

State clearly type of inert gas used in steel storage tank: DRY ICE
method

TANK # 16

10,000 GAL DIESEL

FOID# 17919

Fee paid $ N/A

Name and address of contractor disposing tank SAME AS ABOVE.

Location to which tank will be transported

14901
Approved tank yard#

This permit will expire 5-13 1992

Signature of official granting permit (TITLE)
(Head of Fire Dept.)

RECEIPT OF DISPOSAL OF UNDERGROUND STEEL STORAGE TANK

NAME AND ADDRESS OF APPROVED TANK YARD: JOHN C. TOMBARELLO & SONS, 267 ALLSTON ST., LAWRENCE, MASS. 01841

APPROVED TANK YARD NO. 1 4 9 0 1

Tank Yard Ledger 502 CMR 3.03(4) Number: 9 2 0 0 7 2 4

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 Atec Environmental 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:

James Morando	CMW	5-1-92
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)

FORM F.P. 291 (rev. 9/88) (OVER) MASSACHUSETTS STATE FIRE MARSHAL'S OFFICE

DIMENSIONS

	Width (feet)		Length (feet)
Tank 1	84"	X	35'7"
Tank 2	-----	X	-----
Tank 3	-----	X	-----
Tank 4	-----	X	-----
Tank 5	-----	X	-----

Tank Removed From

Ft. Devens Bldg #605: tank #6
(no. street)

Ayer
(city or town)

Fire Department Permit # None-listed (if applicable)