

FINAL
UNDERGROUND STORAGE TANK REMOVAL
AND SITE ASSESSMENT REPORT

EVANS AREA, FORT MONMOUTH
WALL TOWNSHIP, NEW JERSEY
(VOLUME 2 OF 3)

Submitted to:



Directorate of Public Works, Fort Monmouth
and the
U.S. Army Materiel Command
Environmental Compliance Services
Contract No. DAAA08-94-D0007
Delivery Order No. 00069

Submitted by:



Tetra Tech EM Inc.

December 2000

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9028
Camp Evans Area*

NJDEP UST Registration No. 90029-11

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EXECUTIVE SUMMARY

UST Closure

On December 2, 1997, a fiberglass underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-11 (Fort Monmouth Identification No. 9028(A)), was located south of Building 9028 in the Camp Evans area of Fort Monmouth. The UST was a 2,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the eastern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and no evidence of potentially contaminated soil was observed. Samples collected at the time the UST was removed contained non-detectable concentrations of total petroleum hydrocarbons (TPHC). No soil was removed from the excavation.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9028 area as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-11 at Building 9028.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-11, was closed at Building 9028 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on December 2, 1997. The UST was a fiberglass 2,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-11 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no historical discharges are associated with UST No. 90029-11.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9028 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Monmouth Boulevard) as shown in Figure 1. UST No. 90029-11 was located south of Building 9028 and associated piping ran approximately 10 feet north from the UST to Building 9028. The UST fill port area was located directly above the eastern end of the tank. A site map is provided in Figure 1 showing the location of the UST-9028(A) removal relative to Building 9028.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST, associated piping, and a concrete pad above the UST. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of the concrete pad and purging of the associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a circular saw and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads. After the UST had been cleaned and removed, SMC excavated and removed the associated piping.

After the UST was cleaned and removed from the excavation, it was transported to the tank staging area (located adjacent to the west side of Building 9061), staged on polyethylene sheeting, and examined for holes. No holes were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of potential contamination was observed. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and tank residue removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was broken up and staged in a rolloff container from Marpal Disposal Company, in Tinton Falls, New Jersey for later pickup and disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate.

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, no soil exhibited evidence of contamination. Therefore, all of the clean native soil and the necessary amount of imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnelli Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461
- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and the associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit evidence of contamination.

2.2 SOIL SAMPLING

On December 3, 1997, after the UST removal, post-excavation soil samples 9028(A)E1, 9028(A)E2 (Duplicate of 9028(A)E1), 9028(A)N, 9028(A)S, 9028(A)W, 9028(A)DS, and 9028(A)RF were collected from six locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 10 to 10.5-feet below ground surface (bgs). No bottom samples could be collected because of the concrete pad. Sample 9028(A)DS was collected beneath the 9028(A)W sample location from 11.5 to 12-feet bgs. Sample 9028(A)RF was collected from next to Building 9028 along the former return/feed line piping length of the excavation, which was approximately 10 feet long. Sample 9028(A)RF was collected from 2 to 2.5-feet bgs. Samples 9028(A)OBS1, 9028(A)OBS2, and 9028(A)OBS3 were collected from the overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from six locations on December 3, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for the total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort

Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on December 3, 1997 from the UST excavation contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the 9028(A) UST excavation at Building 9028 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-11 at Building 9028.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities [UST 9028(A)]
 Building 9028, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9028(A)OBS1	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)OBS2	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)E1	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)E2	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)N	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)S	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)W	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)DS	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)OBS3	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(A)RF	12/3/97	12/4/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

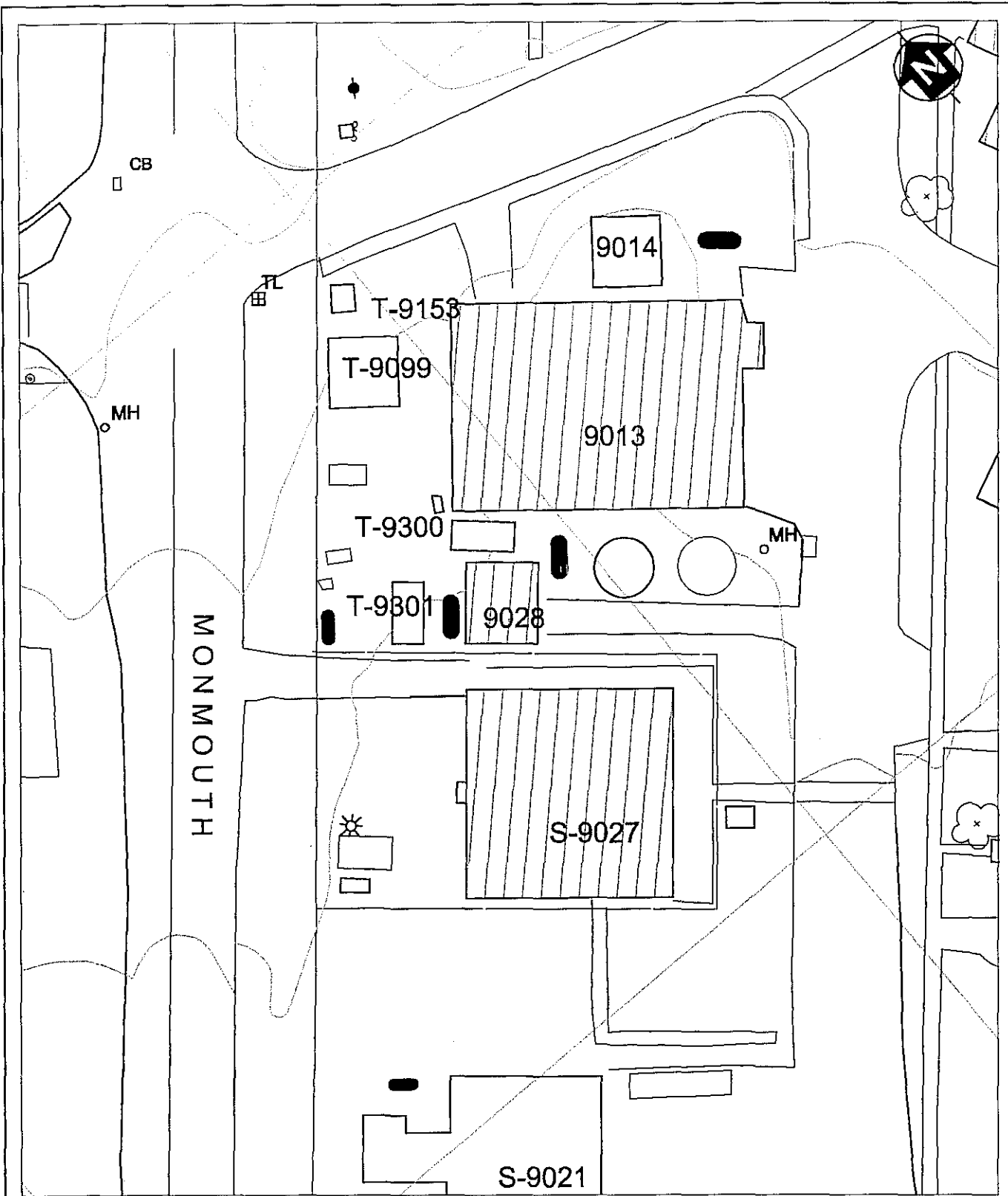
Table 2
 Post-Excavation Soil Sampling Results [UST 9028(A)]
 Building 9028, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9028(A)OBS1	3194.01	12/3/97	12/4 - 5/97	TPHC	176	ND	10,000	No
9028(A)OBS2	3194.02	12/3/97	12/4 - 5/97	TPHC	166	ND	10,000	No
9028(A)E1	3194.03	12/3/97	12/4 - 5/97	TPHC	167	ND	10,000	No
9028(A)E2	3194.04	12/3/97	12/4 - 5/97	TPHC	168	ND	10,000	No
9028(A)N	3194.05	12/3/97	12/4 - 5/97	TPHC	174	ND	10,000	No
9028(A)S	3194.06	12/3/97	12/4 - 5/97	TPHC	169	ND	10,000	No
9028(A)W	3194.07	12/3/97	12/4 - 5/97	TPHC	162	ND	10,000	No
9028(A)DS	3194.08	12/3/97	12/4 - 5/97	TPHC	157	ND	10,000	No
9028(A)OBS3	3194.09	12/3/97	12/4 - 5/97	TPHC	171	ND	10,000	No
9028(A)RF	3194.10	12/3/97	12/4 - 5/97	TPHC	174	ND	10,000	No

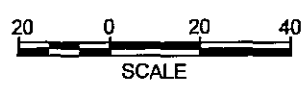
Note:

- * Tetra Tech EM Inc. used the NJDEP limit 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons

9028.DWG ASC 01/19/99



 UNDERGROUND STORAGE TANK

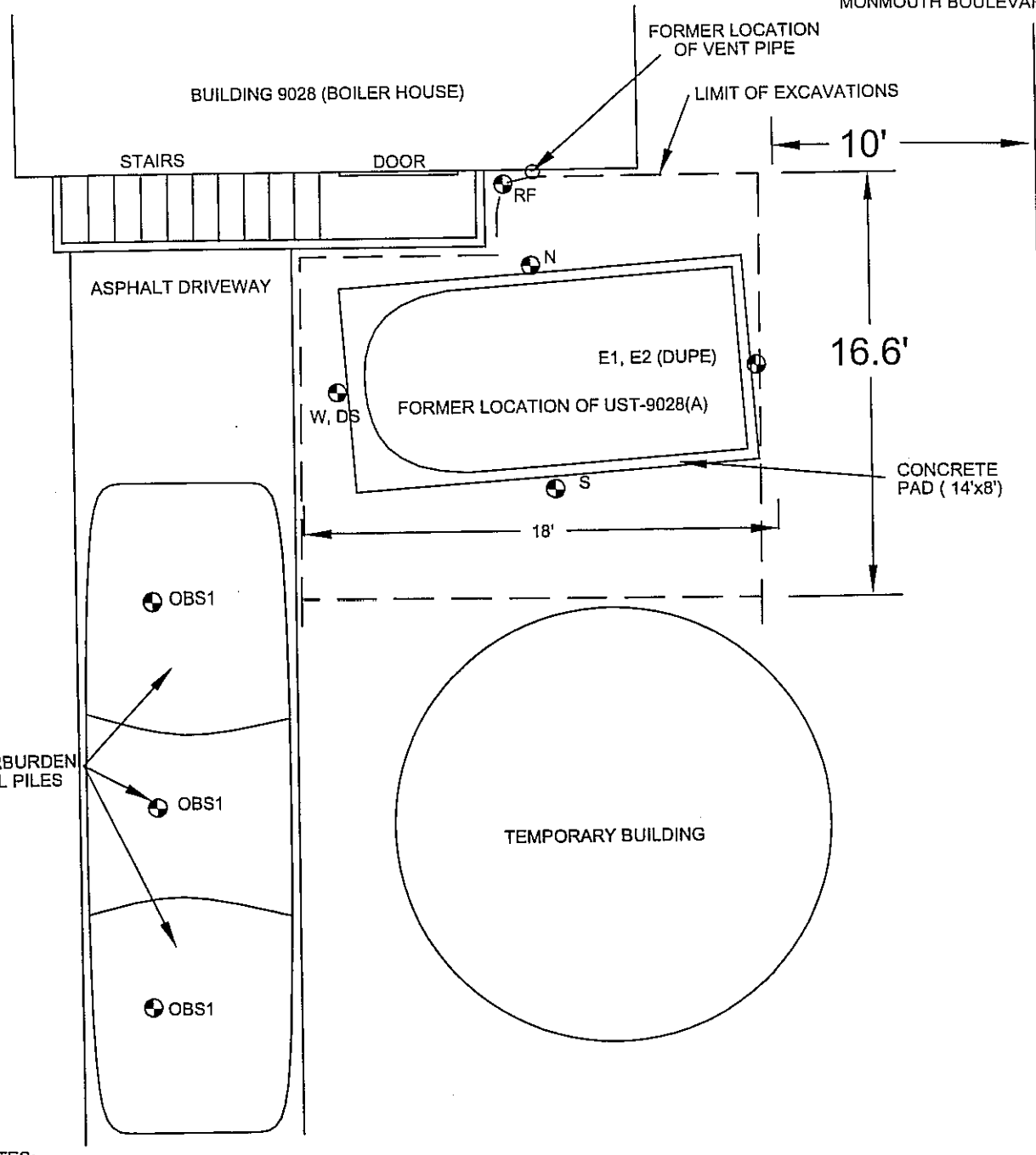


EVANS AREA
 FORT MONMOUTH, NEW JERSEY
 FIGURE 1
 BUILDING 9028 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES:

- 1) UST - 9028(A) WAS 11' LONG AND 6' IN DIAMETER.
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY : "9028(A)-"
- 3) SAMPLE DEPTHS:
 - A) E1, E2, N, S, W : 10.0' TO 10.5'
 - B) DS : 11.5' TO 12.0'
 - C) RF : 2.0' TO 2.5'
 - D) OBS1, OBS2, OBS3 : PILE(S)
- 4) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH
TOWARDS MONMOUTH BOULEVARD



SCALE IN FEET

EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 2
BUILDING 9028 - (UST A)
UST REMOVAL AND SOIL SAMPLE LOCATIONS



9028.DWG ASC 01/19/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-11

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 11
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

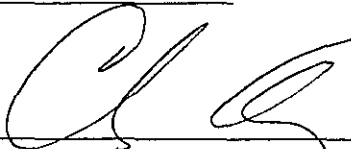
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-11

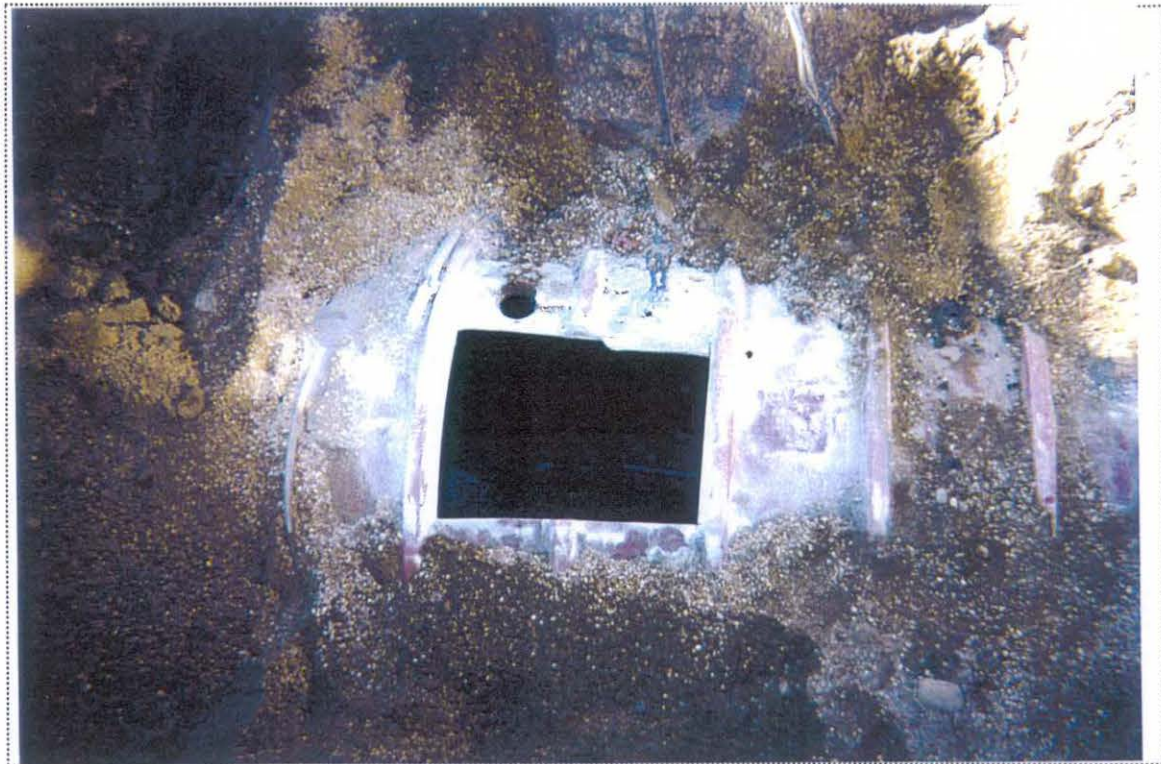


PHOTO 1: View of the cleaned interior of UST-9028(A) (looking north).



PHOTO 2: View of the UST-9028(A) being removed from the ground (looking west/northwest).



PHOTO 3: View of the sampling locations in the UST-9028(A) excavation (looking east).

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-11

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3194
 DPW. SELFM-PW-EV Date Rec'd: 03-Dec-97
 Bldg. 173 Analysis Start: 04-Dec-97
 Ft. Monmouth, NJ 07703 Analysis Complete: 05-Dec-97

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: BLDGS.
 9028, 9019
 9091

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3194.01	9028(A)-OBS1	1.00	15.39	86.90	176	ND
3194.02	9028(A)-OBS2	1.00	15.35	92.06	166	ND
3194.03	9028(A)-E1	1.00	15.39	91.66	167	ND
3194.04	9028(A)-E2	1.00	15.28	91.55	168	ND
3194.05	9028(A)-N	1.00	15.76	85.51	174	ND
3194.06	9028(A)-S	1.00	15.57	89.27	169	ND
3194.07	9028(A)-W	1.00	15.31	94.91	162	ND
3194.08	9028(A)-DS	1.00	15.55	96.48	157	ND
3194.09	9028(A)-OBS3	1.00	15.85	86.58	171	ND
3194.10	9028(A)-RF	1.00	15.45	87.27	174	ND
3194.11	9019-RF1	1.00	15.84	89.34	166	389.36
3194.12	9019-RF2	1.00	15.37	87.92	174	327.07
3194.13	9091 9019 (A)-A1	1.00	15.07	87.13	179	902.43
3194.14	9091 9019 (A)-A2	1.00	15.75	87.14	171	ND
3194.15	9091 9019 (B)-B1	1.00	15.71	97.14	154	ND
3194.16	9091 9019 (B)-B2	1.00	15.47	79.04	192	ND
3194.17	9091 9019 (C)-C1	1.00	15.47	94.86	160	ND
3194.18	9091 9019 (D)-D1	1.00	15.13	96.25	161	ND
METHOD BLANK	4-Dec-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-11



Reader From:
The Drawing Board
P.O. Box 2844 • Hartford, CT 06114-2844
Call Toll Free: 1-800-527-6238

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipment No. 021

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

Consignee <u>Marpal Disposal Company</u>	Shipper <u>U.S. Army Camp Evans</u>
Street <u>1861 Wayside Road</u>	Street <u>Building 9028A</u>
City/State <u>Tinton Falls, NJ 07724</u>	City/State <u>Wall NJ 07719</u>

No. Shipping Unit	Weight (Gross)	Rate	CHARGE
①	Crushed in Roll OFF 1-2,000 Gallon U.S.F		
	Building # 9028A TANK # 90029-11		

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
NOTE: Where the way is dependent on when, place, or quantity to be shipped, it is the shipper's responsibility to specify in writing the nature of service to be rendered.	This is to certify that the above named material is the property of the shipper, and is being shipped in accordance with the proper regulations for transportation.	TOTAL CHARGES: \$
The agreed or declared value of the property is hereby certified to be as stated by the shipper.	Signature of Shipper	Signature of Consignor

RECEIVED, subject to the conditions and terms in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, unopened, and delivered as indicated above which said carrier (the word "carrier" being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to the point of delivery of said destination, if on the road, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier at all or any of, said property, care of or any portion of said goods to destruction 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 bill of lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted by himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>Marpal Disposal Co.</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Scott Meyer</u>
	DATE <u>1-28-58</u>

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reader Form 20L1174 The Drawing Board, P.O. Box 2844, Hartford, CT 06114-2844 © EGI, 1958, Printed in U.S.A.

1958 8:52PM FROM JMT ENVIRON. TECH 610 789 6149

21

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9028A
VESSEL: 2,000 - Gallon Fiberglass UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 12/2/97, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-11**



Old Bridge, N.J. 08857
 (908) 721-0900
 Fax (908) 721-0231

STANDARD
 COLLECTION
 ORDER FORM

181260

GENERATOR/LOCATION EMD QUINS AREA SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

NAME S.M.C Environmental Services
 INFORMATION/ATTENTION LINE
 ACCOUNT APPROVAL CODE
 DELIVERY ADDRESS
WALL NJ STATE ZIP
 CITY
 PHONE NUMBER PURCHASE ORDER NUMBER
 USA EPA ID NO. (IF APPLICABLE) STATE ID NO. NA

501 Allendale Road
 CITY STATE ZIP
King of Prussia PA 19406
 PHONE NUMBER PURCHASE ORDER NUMBER
(610) 265-2700 16898
 MANIFEST NUMBER 9779

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL		<u>X600</u>				
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL						
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
41501	DRUM DISPOSAL						
41504	TANK ENTRY						
800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR		<u>1 AM - 1030 AM</u>				
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						
			<u>Pumped out Drums & Tank</u>				

600 gallons

3.5 hours

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.
 INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.
 GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is _____
 In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

DINKER N. DESAI Title
 Signature _____ Date _____
 GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.
 GENERATOR'S SIGNATURE _____

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS
1000 PPM

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

JOHN SALVATO Prim Name
 Signature _____ Date 12/31/97
 LORCO REPRESENTATIVE

ORIGINAL



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. *N/A*

Manifest No. *09779*

2. Page 1 of 1

NHZ 009779

Generator's Name and Mailing Address *US Army Communications Electronics Command*

CAMP EVANS AREA C/O J. Fallon Bldg 173

ATTN: SEIFM-PW-EV

FT Monmouth, NJ 07703

4. Generator's Phone *(732) 427-4371*

6. US EPA ID Number *N J D 0 8 4 0 4 4 0 6 4*

A. Transporter's Phone *908 721-0900*

5. Transporter 1 Company Name *LIONETTI OIL RECOVERY CC INC*

8. US EPA ID Number

B. Transporter's Phone

7. Transporter 2 Company Name

10. US EPA ID Number *N J D 0 8 4 0 4 4 0 6 4*

C. Facility's Phone *908 721-0900*

9. Designated Facility Name and Site Address *LIONETTI OIL RECOVERY CC INC DBA LORCO PETROLEUM SVCS*

*RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857*

11. Waste Shipping Name and Description

12. Containers		13. Total Quantity	14. Unit Wt/Vol
No.	Type		
<i>0</i>	<i>1</i>	<i>T</i>	<i>x 6.00</i>
			<i>G</i>

a. *PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII*

D. Additional Descriptions for Materials Listed Above
*T, L PETROLEUM OIL 90 %
WATER 10 %*

E. Handling Codes for Wastes Listed Above
T04 FILTRATION

15. Special Handling Instructions and Additional Information
*24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL# *808* ERG#128 DEXSIL TEST KIT RESULTS *1000* PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY*

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name <i>X DINKER M. DESAI</i>	Signature <i>X [Signature]</i>	Month <i>12</i>	Day <i>31</i>	Year <i>17</i>
--	-----------------------------------	--------------------	------------------	-------------------

Printed/Typed Name <i>JOHN SANATOIC</i>	Signature <i>[Signature]</i>	Month <i>12</i>	Day <i>31</i>	Year <i>17</i>
--	---------------------------------	--------------------	------------------	-------------------

Printed/Typed Name	Signature	Month	Day	Year
--------------------	-----------	-------	-----	------

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
--------------------	-----------	-------	-----	------

GENERATOR

TRANSPORTER

FACILITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Hazardous Waste Manifest No.

9779 dated 12/31/97,

is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

- X721: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.
- X722: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.
- X723: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.
- X724: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.
- X725: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.
- X726: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.
- X728. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: _____ PPM halogens.

I am duly authorized to sign said certification.

Generator US Army COMMUNICATIONS ELECTRONICS COMMAND CAMP GUINS AFB TX

Generator's EPA ID No. NJ3210020324

Address 90 Joseph Paine Blvd NJ Fort Monmouth NJ 07703
AND SAKM PWED

Print Name DINKEL. M. DESAI Signature R. L. R

Title ENVIRONMENTAL ENGINEER

Date 11/6/97

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9028
Camp Evans Area*

NJDEP UST Registration No. 90029-42

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Figure 2	Building 9028(B) - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On October 22, 1997, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-42 (Fort Monmouth Identification No. 9028(B)), was located north of Building 9028 in the Camp Evans area of Fort Monmouth. The UST was a 1,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the center of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). Two holes were noted in the bottom of the UST; however, the only evidence of potentially contaminated soil was observed directly adjacent to the tank and the UST fill port. Samples collected at the time the UST was removed (and after one truckload of additional soil had been excavated) contained non-detectable concentrations of total petroleum hydrocarbons (TPHC). The total amount of soil removed from the excavation was approximately 5 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-42 at Building 9028.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-42, was closed at Building 9028 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on October 22, 1997. The UST was a steel 1,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-42 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-42.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9028 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Monmouth Boulevard) as shown in Figure 1. UST No. 90029-42 was located north of Building 9028 and associated piping ran approximately 4 feet south from the UST to Building 9028. The UST fill port area was located directly above the center of the tank. A site map is provided in Figure 1 showing the location of the UST-9028(B) removal relative to Building 9028.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged on polyethylene sheeting, and examined for holes. Two holes were observed by the Tetra Tech site manager and the SMC subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. Evidence of contamination was observed in the soil beneath the tank as well as soil located adjacent to the fill port of the UST. Visual and PID/FID soil screening was also performed along piping associated with the UST. Indications of potential contamination were noted along the piping length as well as in the overburden soil

The tank residue and sludges removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil adjacent to the UST fill port and the underside of the tank was moderately contaminated. In addition, the overburden soil above the tank also revealed evidence of contamination. As a result, all excavated soil was removed to the staging area for disposal off site at a later date and imported clean fill was used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: David H. Daniels
Employer: SMC Environmental Services Group
Telephone No.: (215) 788-7844
NJDEP Certification No.: 0010279
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST, the fill port, and the overburden soil did exhibit evidence of contamination and was transported to the soil staging area.

2.2 SOIL SAMPLING

On October 22, 1997, after the UST removal and excavation of one truckload of potentially contaminated soil, post-excavation soil samples 9028(B)B1, 9028(B)B2 (Duplicate of 9028(B)B1), 9028(B)B3, 9028(B)W, 9028(B)E, 9028(B)S, and 9028(B)N were collected from six locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of and beneath the former UST location at a depth of 6.0 to 6.5 feet below ground surface (bgs). Bottom samples were collected from directly beneath the former UST location, or 6.5 to 7.0 feet bgs. No soil sample was collected beneath the former location of the return/feed line piping length because of the fact that all of the soil located between the tank and the building had been removed and transported to the soil staging area. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from six locations on October 22, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

The post-excavation soil samples collected on October 22, 1997 from the UST excavation contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the 9028(B) UST excavation at Building 9028 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion of 10,000 mg/kg for total organic contaminants, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-42 at Building 9028.

Legend of Sample identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities [UST 9028(B)]
 Building 9028, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9028RF1	10/21/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028RF2	10/21/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028RF3	10/21/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028RF4	10/21/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028RF5	10/21/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)B1	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)B2	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)B3	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)W	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)E	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)S	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)N	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(B)DS	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

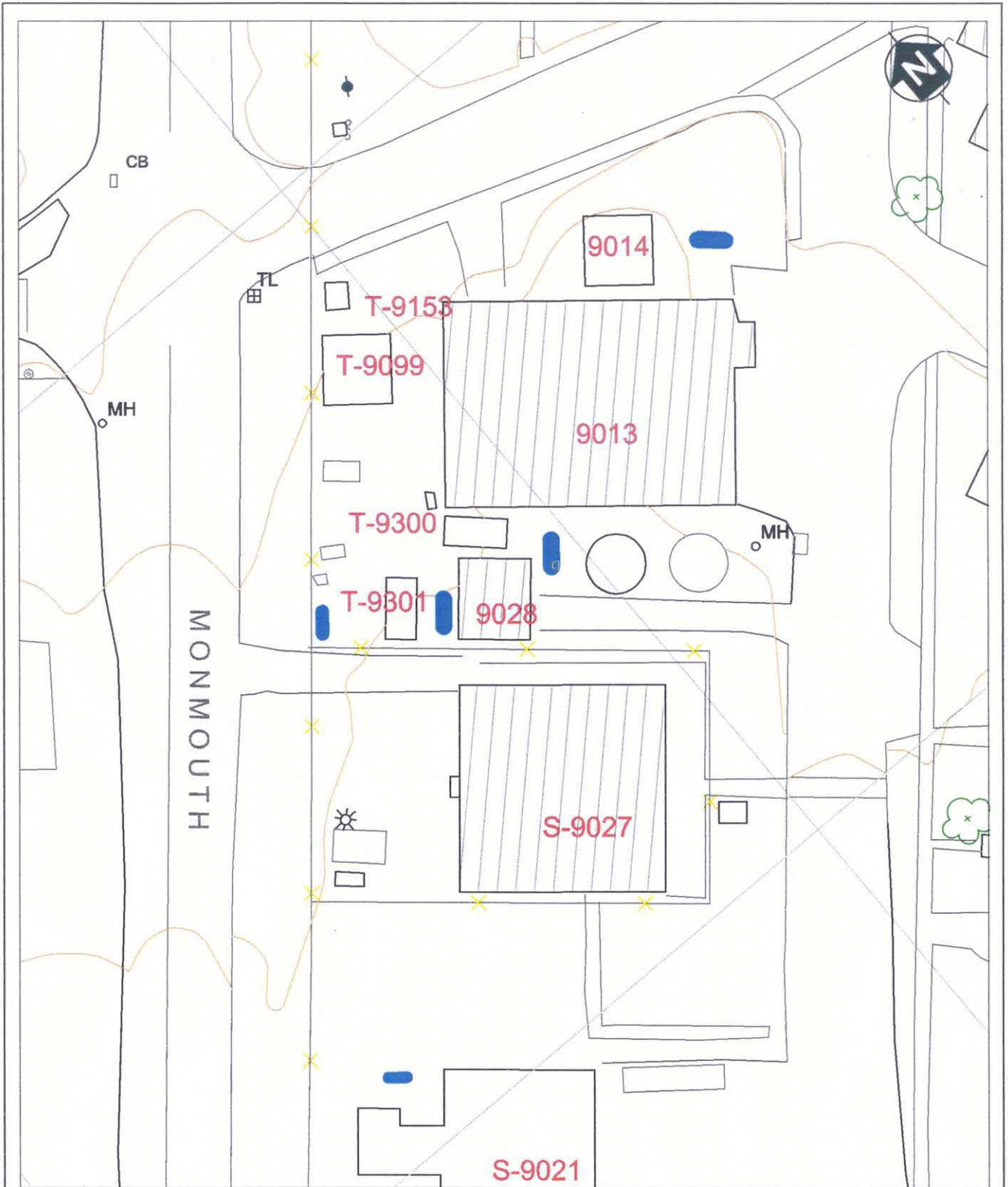
Table 2
 Post-Excavation Soil Sampling Results [UST 9028(B)]
 Building 9028, Camp Evans Area
 Wall Township, New Jersey


Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9028RF1	3092.01	10/21/97	10/24 - 27/97	TPHC	166	ND	10,000	No
9028RF2	3092.02	10/21/97	10/24 - 27/97	TPHC	168	ND	10,000	No
9028RF3	3092.03	10/21/97	10/24 - 27/97	TPHC	172	ND	10,000	No
9028RF4	3092.04	10/21/97	10/24 - 27/97	TPHC	176	ND	10,000	No
9028RF5	3092.05	10/21/97	10/24 - 27/97	TPHC	170	ND	10,000	No
9028(B)B1	3093.01	10/22/97	10/24 - 28/97	TPHC	168	ND	10,000	No
9028(B)B2	3093.02	10/22/97	10/24 - 28/97	TPHC	169	ND	10,000	No
9028(B)B3	3093.03	10/22/97	10/24 - 28/97	TPHC	153	ND	10,000	No
9028(B)W	3093.04	10/22/97	10/24 - 28/97	TPHC	165	ND	10,000	No
9028(B)E	3093.05	10/22/97	10/24 - 28/97	TPHC	170	ND	10,000	No
9028(B)S	3093.06	10/22/97	10/24 - 28/97	TPHC	175	ND	10,000	No
9028(B)N	3093.07	10/22/97	10/24 - 28/97	TPHC	166	ND	10,000	No
9028(B)DS	3093.08	10/22/97	10/24 - 28/97	TPHC	164	ND	10,000	No

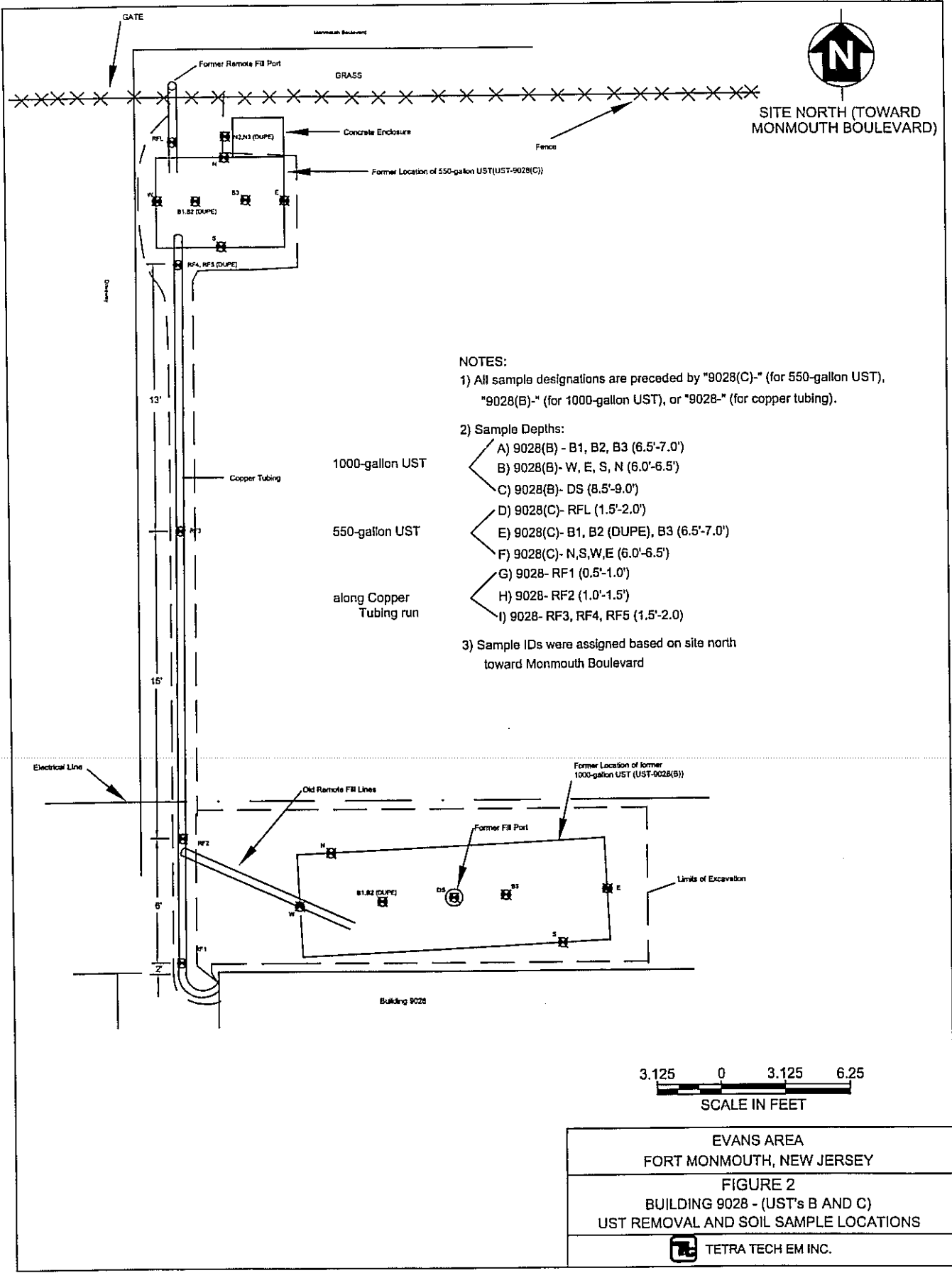
Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons

9028.DWG ASC 01/19/99



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 1
BUILDING 9028 - UST REMOVAL LOCATION MAP
 TETRA TECH EM INC.



NOTES:


1) All sample designations are preceded by "9028(C)-" (for 550-gallon UST), "9028(B)-" (for 1000-gallon UST), or "9028-" (for copper tubing).

2) Sample Depths:

- A) 9028(B) - B1, B2, B3 (6.5'-7.0')
- B) 9028(B) - W, E, S, N (6.0'-6.5')
- C) 9028(B) - DS (8.5'-9.0')
- D) 9028(C) - RFL (1.5'-2.0')
- E) 9028(C) - B1, B2 (DUPE), B3 (6.5'-7.0')
- F) 9028(C) - N, S, W, E (6.0'-6.5')
- G) 9028 - RF1 (0.5'-1.0')
- H) 9028 - RF2 (1.0'-1.5')
- I) 9028 - RF3, RF4, RF5 (1.5'-2.0')

3) Sample IDs were assigned based on site north toward Monmouth Boulevard

EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 2
BUILDING 9028 - (UST's B AND C)
UST REMOVAL AND SOIL SAMPLE LOCATIONS

 TETRA TECH EM INC.

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-42

(12/97) New Jersey Department of Environmental Protection Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 42
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)] as follows:

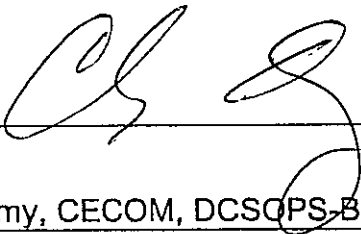
1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area
NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSQPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-42



PHOTO 1: View of the cleaned interior of UST-9028(B) (looking east).



PHOTO 2: View of the UST-9028(B) excavation prior to sampling (looking west).



PHOTO 3: View of the UST-9028(B) staged on the west side of UST-9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-42

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army
 DPW. SELFM-PW-EV
 Bldg. 173
 Ft. Monmouth, NJ 07703

Lab. ID # : 3092
 Date Rec'd: 22-Oct-97
 Analysis Start: 24-Oct-97
 Analysis Complete: 27-Oct-97

Analysis: OQA-QAM-025
 Matrix: Soil
 Analyst: D.DEINHARDT
 Ext. Meth: Shake

UST Reg. #:
 Closure #:
 DICAR #:
 Location #: BLDG. 9028

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3092.01	9028-RF1	1.00	15.60	90.98	166	ND
3092.02	9028-RF2	1.00	15.37	90.85	168	ND
3092.03	9028-RF3	1.00	15.71	87.00	172	ND
3092.04	9028-RF4	1.00	15.16	87.86	176	ND
3092.05	9028-RF5	1.00	15.58	88.50	170	ND
METHOD BLANK	26-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3093
	DPW. SELFM-PW-EV	Date Rec'd:	22-Oct-97
	Bldg. 173	Analysis Start:	24-Oct-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	28-Oct-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9028

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3093.01	9028(B)-B1	1.00	15.71	89.15	168	ND
3093.02	9028(B)-B2	1.00	15.15	91.91	169	ND
3093.03	9028(B)-B3	1.00	15.75	97.34	153	ND
3093.04	9028(B)-W	1.00	15.16	94.04	165	ND
3093.05	9028(B)-E	1.00	15.92	86.59	170	ND
3093.06	9028(B)-S	1.00	15.53	86.39	175	ND
3093.07	9028(B)-N	1.00	15.06	94.25	166	ND
3093.08	9028(B)-DS	1.00	15.26	94.03	164	ND
3093.09	9028(A)-RFL	1.00	15.86	91.42	162	ND
3093.10	9028(A)-B1	1.00	15.39	86.16	177	192.75
3093.11	9028(A)-B2	1.00	15.50	85.58	177	185.43
3093.12	9028(A)-B3	1.00	15.26	88.18	175	ND
3093.13	9028(A)-N	1.00	15.78	87.31	171	1007.13
3093.14	9028(A)-S	1.00	15.79	90.17	165	ND
3093.15	9028(A)-W	1.00	15.05	86.46	181	ND
3093.16	9028(A)-E	1.00	15.21	90.01	172	ND
METHOD BLANK	26-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-42



Reader From:
The Drawing Board
P.O. Box 2944 • Hartford, CT 06104-2944
Call Toll Free: 1-800-527-9639

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 016

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

To: Destination Mazza + Sons, Inc.	From: Shipper U.S. Army Camp Evans
Street 3230 Shatto Road	Street Building
Postoffice Tinton Falls, NJ 07753	Origin Wall NJ 07719

No. Pallets (Units)	Kind of Packaging, Description of Article, Special Marks and Packages	Weight (Subject to Correction)	RATE	CHARGES
①	FOR SEPAR ONLY 1,000 Gallon U.S.T Skel CLAIM # TANK # 90029-42 Building # 9028 B			

NEWT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
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 less than \$ _____	This is to certify that the above named article is the property of the shipper, described, packaged, marked and labeled, and is in proper condition for transportation according to the applicable regulations of the Department of Transportation. Signature _____	TOTAL CHARGES: \$ FREIGHT CHARGES Check box if not prepaid TANKAGE Check box if not prepaid INSURANCE Check box if not prepaid

RECEIVED, subject to the classifications and marks in effect on the date of the issue of this Bill of Lading, the property described above is accepted in good order, except as noted (contents and condition of contents of packages unknown, repacked, consolidated, and resealed as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to his usual place of delivery at said destination, if on its route, 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 bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER U.S. Army Camp Evans	CARRIER SMC ENVIRONMENTAL SERVICES GROUP
PER David H. Daniels (Agent)	PER [Signature]
	DATE 11/14/95

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reader Item #BLN74 The Drawing Board, P.O. Box 2944, Hartford, CT 06104-2944
©EGL, 1992, Printed in U.S.A.

1995 8:52PM FROM JMT ENVIRON. TECH 610 759 6149

①6

016

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

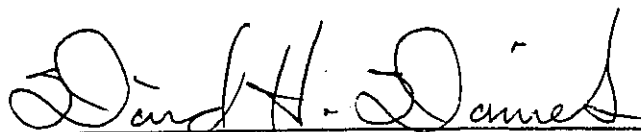
CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9028 B

VESSEL: 1,000 - Gallon steel tanks
(Formally # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on Oct 22, 1997, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION



Signature

David H. Daniels / site manager

Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-42**



Old Bridge, N.J. 08857
 (908) 721-0900
 Fax (908) 721-0231

STANDARD
 COLLECTION
 ORDER FORM

180363

GENERATOR/LOCATION SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

NAME US Army Garrison, Fort Monmouth		NAME SMV Environmental Services	
INFORMATION/ATTENTION LINE Camp Evans Area		INFORMATION/ATTENTION LINE	
DELIVERY ADDRESS 60 Fallon Blvd #173, Attn: SELEN RO-RV		DELIVERY ADDRESS 501 Attendale Road	
CITY Fort Monmouth	STATE NJ	CITY King of Prussia	STATE PA
ZIP 07703	ZIP 19406		
PHONE NUMBER (908) 532-6223	PURCHASE ORDER NUMBER	PHONE NUMBER (610) 263-2706	PURCHASE ORDER NUMBER 16898
USA EPA ID NO. (IF APPLICABLE) NJ3210020324	STATE ID NO.	MANIFEST NUMBER NJ2007082	

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL		525 gallons				
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
41501	DRUM DISPOSAL						
1504	TANK ENTRY						
40800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR		1	9.40	9.40		
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						

SMALL QUANTITY GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

Unknown 550-gallon UST tank of 9028.

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION. INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES. GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is Non-Haz in accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: Charles Appleby Title: _____
 Signature: [Signature] Date: 10-21-97
 GENERATOR/CUSTOMER

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS _____ PPM

Print Name: Dan MacKay
 Signature: [Signature] Date: 10-21-97
 LORCO REPRESENTATIVE

ORIGINAL

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9028
Camp Evans Area*

NJDEP UST Registration No. 90029-43

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES.....	2
1.1 Site Description	2
1.2 Underground Storage Tank Excavation And Cleaning	3
1.3 Underground Storage Tank Transportation And Disposal.....	3
1.4 Management Of Excavated Soils.....	4
2.0 SITE INVESTIGATION ACTIVITIES	4
2.1 Field Screening/Monitoring	5
2.2 Soil Sampling.....	5
3.0 SOIL SAMPLING RESULTS	6
4.0 CONCLUSIONS AND RECOMMENDATIONS.....	6

TABLES

Table 1	Summary of Post-Excavation Sampling Activities
Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9028(C) - UST Removal Location Map
Figure 2	Building 9028(C) - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On October 22, 1997, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-43 (Fort Monmouth Identification No. 9028(C)), was located north of Building 9028 in the Camp Evans area of Fort Monmouth. The UST was a 550-gallon No. 2 fuel oil tank. The UST fill port was located directly above the center of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed surrounding the fill port of the tank. Samples collected at the time the UST was removed contained total petroleum hydrocarbons (TPHC) concentrations ranging from non-detect to 1,007.13 milligrams per kilogram (mg/kg). After additional soil was excavated and removed, soil remaining in the excavation contained concentrations of TPHC ranging from non-detect to 192.75 mg/kg. The total amount of soil removed from the excavation was 10 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-43 at Building 9028.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-43, was closed at Building 9028 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on October 22, 1997. The UST was a steel 550-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-43 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that at least one historical discharge or overfill was associated with UST No. 90029-43.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9028 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Monmouth Boulevard) as shown in Figure 1. UST No. 90029-43 was located north of Building 9028 and associated piping ran approximately 35 feet south from the UST to Building 9028. The UST fill port area was located directly above the center of the tank. A site map is provided in Figure 1 showing the location of the UST-9028(C) removal relative to Building 9028.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC discovered that the tank was full of oil and water and called Lorco Petroleum Company to have a vacuum truck sent to the site to empty the tank. Afterwards, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged on polyethylene sheeting, and examined for holes. No holes were observed by the Tetra Tech site manager and the SMC subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed except for soil located adjacent to the fill port. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and tank residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tanks contents

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil adjacent to the UST fill port and the north side of the tank was moderately contaminated. This soil was removed to the staging area for disposal off site at a later date and imported clean fill was used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: David H. Daniels
Employer: SMC Environmental Services Group
Telephone No.: (215) 788-7844
NJDEP Certification No.: 0010279
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and associated piping, as well as most of the UST excavation and sidewalls, did not exhibit evidence of contamination; however, the overburden soil excavated from above the tank did exhibit indications of potential contamination and was transported to the soil staging area.

2.2 SOIL SAMPLING

On October 22, 1997, following removal of the UST, post-excavation soil samples 9028(C)RFL, 9028(C)B1, 9028(C)B2 (Duplicate of 9028(C)B1), 9028(C)B3, 9028(C)N, 9028(C)S, 9028(C)W, and 9028(C)E were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the former UST location at a depth of 6.0 to 6.5 feet below ground surface (bgs), and bottom samples were collected from 0 to 6-inches beneath the former UST location, or 6.5 to 7.0 feet bgs. Sample 9028(C)RFL was collected adjacent to the fence bordering Monmouth Boulevard along the former remote fill line piping length of the excavation, which was approximately 6 feet long. Sample 9028(C)RFL was collected from 1.5 to 2-feet bgs. All samples were analyzed for TPHC and total solids.

Analytical results of the original post-excavation samples revealed 1,007.13 milligrams per kilograms (mg/kg) TPHC at the 9028(C)N sample location. This concentration exceeds 1,000 mg/kg TPHC, which is NJDEP's criterion for additional soil removal/remediation or for required VOC sampling. As a result, on November 7, 1997, Tetra Tech and SMC excavated additional soil from the north side of the excavation and collected post-excavation soil samples 9028(C)N2 and 9028(C)N3 (duplicate of 9028(C)N2) from one sampling location. The sidewall samples were collected from 7.5 to 8.0 feet bgs. Both samples were analyzed for TPHC and total solids. Figure 2 presents the post-excavation sampling locations.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992.. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from eight locations on October 22, 1997 and November 7, 1997. All samples were analyzed for TPHC for total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion for total organic contaminants of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

One of the post-excavation soil samples collected from the UST excavation contained a concentration of TPHC of 1,007.13mg/kg which exceed the Fort Monmouth soil cleanup criteria of 1,000 mg/kg. The remainder of the samples contained TPHC concentrations from non-detect to 192.75 mg/kg.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the 9028(C) UST excavation at Building 9028 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, no longer exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-43 at Building 9028.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities [UST 9028(C)]
 Building 9028, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9028(C)RFL	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)B1	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)B2	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)B3	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)N	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)N2**	11/7/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)N3**	11/7/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)S	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)W	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9028(C)E	10/22/97	10/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

** Samples collected to remediate contamination found in sample above.

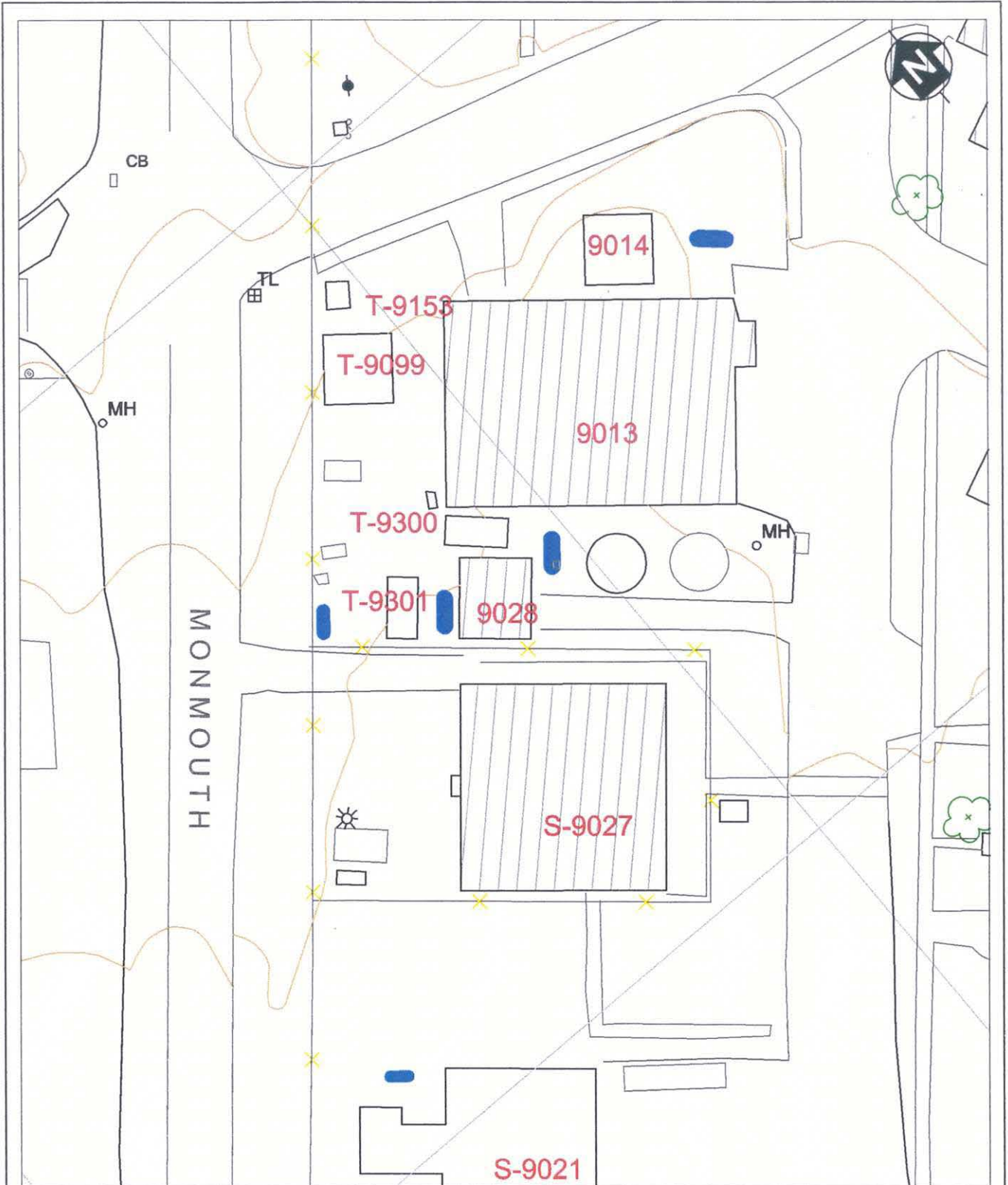
Table 2
 Post-Excavation Soil Sampling Results [UST 9028(C)]
 Building 9028, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9028(C)RFL	3093.09	10/22/97	10/24 - 28/97	TPHC	162	ND	10,000	No
9028(C)B1	3093.10	10/22/97	10/24 - 28/97	TPHC	177	192.75	10,000	No
9028(C)B2	3093.11	10/22/97	10/24 - 28/97	TPHC	177	185.43	10,000	No
9028(C)B3	3093.12	10/22/97	10/24 - 28/97	TPHC	175	ND	10,000	No
9028(C)N	3093.13	10/22/97	10/24 - 28/97	TPHC	171	1,007.13	10,000	No
9028(C)N2**	3153.01	11/7/97	11/10 - 11/97	TPHC	171	ND	10,000	No
9028(C)N3**	3153.02	11/7/97	11/10 - 11/97	TPHC	164	ND	10,000	No
9028(C)S	3093.14	10/22/97	10/24 - 28/97	TPHC	165	ND	10,000	No
9028(C)W	3093.15	10/22/97	10/24 - 28/97	TPHC	181	ND	10,000	No
9028(C)E	3093.10	10/22/97	10/24 - 28/97	TPHC	172	ND	10,000	No

Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria
- ND Not detected
- TPHC Total petroleum hydrocarbons
- ** Samples collected to remediate contamination found in sample above.


9028.DWG ASC 01/19/99

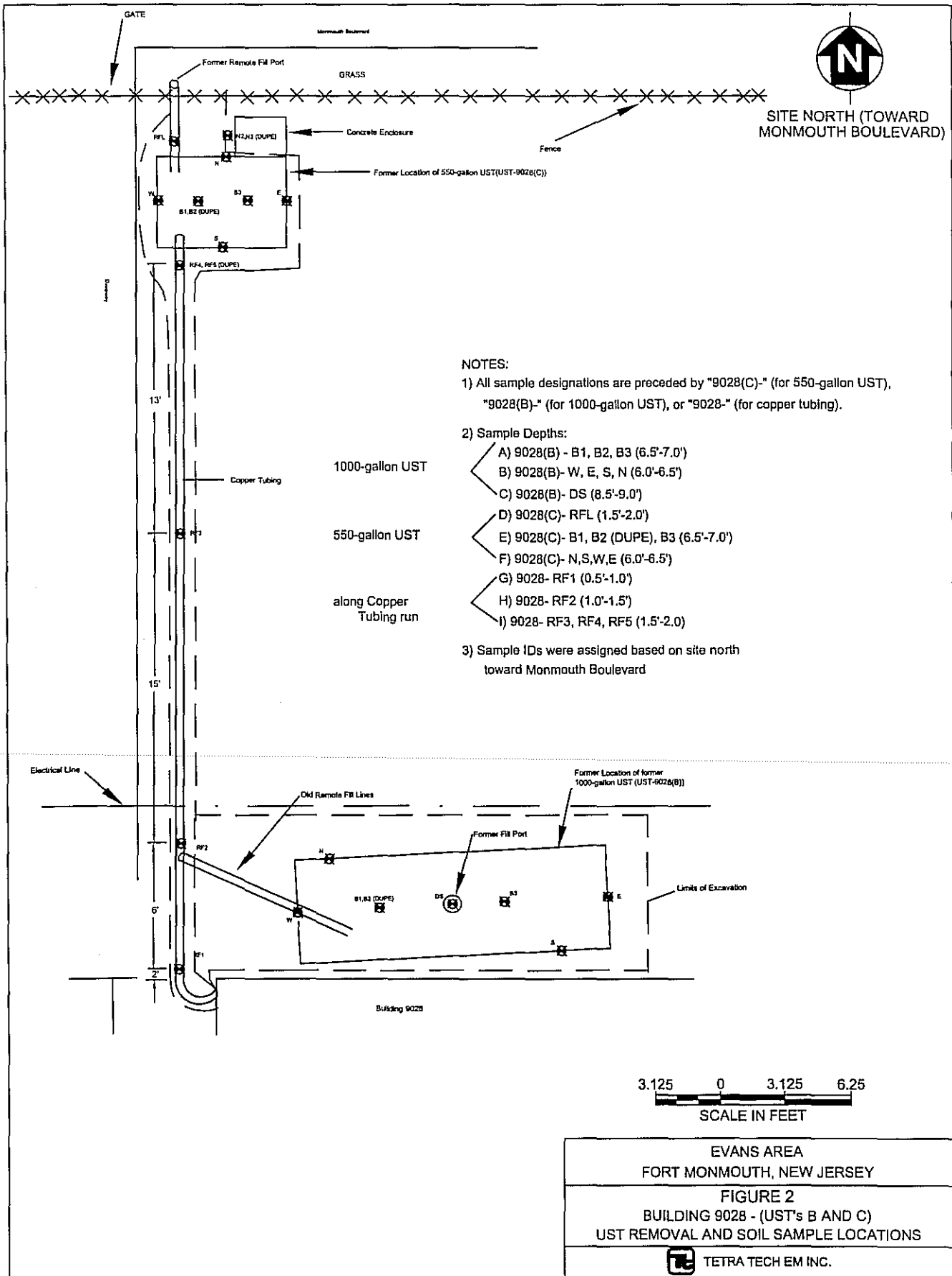


 UNDERGROUND STORAGE TANK



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 1
BUILDING 9028 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.



APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-43

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 43
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

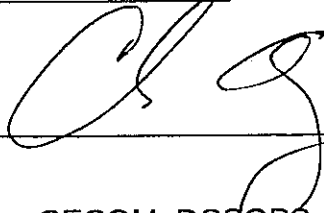
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-43



PHOTO 1: View of the sampling locations beneath the return/feed lines (copper tubing) between Building 9028 and UST-9028(C) (looking south/southwest).



PHOTO 2: View of the cleaning of UST-9028(C) (looking northeast).



PHOTO 3: View of the UST-9028(C) excavation after removal of the tank (looking north).



PHOTO 4: View of UST-9028(C) staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-43

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3093
	DPW. SELFM-PW-EV	Date Rec'd:	22-Oct-97
	Bldg. 173	Analysis Start:	24-Oct-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	28-Oct-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9028

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3093.01	9028(B)-B1	1.00	15.71	89.15	168	ND
3093.02	9028(B)-B2	1.00	15.15	91.91	169	ND
3093.03	9028(B)-B3	1.00	15.75	97.34	153	ND
3093.04	9028(B)-W	1.00	15.16	94.04	165	ND
3093.05	9028(B)-E	1.00	15.92	86.59	170	ND
3093.06	9028(B)-S	1.00	15.53	86.39	175	ND
3093.07	9028(B)-N	1.00	15.06	94.25	166	ND
3093.08	9028(B)-DS	1.00	15.26	94.03	164	ND
3093.09	9028(A)-RFL	1.00	15.86	91.42	162	ND
3093.10	9028(A)-B1	1.00	15.39	86.16	177	192.75
3093.11	9028(A)-B2	1.00	15.50	85.58	177	185.43
3093.12	9028(A)-B3	1.00	15.26	88.18	175	ND
3093.13	9028(A)-N	1.00	15.78	87.31	171	1007.13
3093.14	9028(A)-S	1.00	15.79	90.17	165	ND
3093.15	9028(A)-W	1.00	15.05	86.46	181	ND
3093.16	9028(A)-E	1.00	15.21	90.01	172	ND
METHOD BLANK	26-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-43



Reorder From:
The Drawing Board
P.O. Box 2044 - Hartford, CT 06104-2044
Call Toll Free: 1-800-827-9030

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 013

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Carrier)

Carrier No. _____

Date _____

To: <u>Mazza + Sons inc</u>	From Shipper: <u>U.S. Army Camp Evans</u>
Street: <u>3230 Shatto Road</u>	Street: <u>Building</u>
Postoffice: <u>Twinton Falls, NJ Zip Code 07753</u>	Origin: <u>Wall NJ 07719</u>
Route _____	

No. Shipping Units	PKS	Kind of Packaging, Description of Articles, Special Marks and Exceptions	Weight (Subject to Contract)	RATE	CHARGES
①		FOR SERAP ONLY 1-550 Gallon U.S.T. Shell C/Label 11 TANK # 90029-43 Building # 9028C			

NEMT C.O.D. TO: ADDRESS	COB Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
<small>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 exceed by \$ _____ per _____</small>	<small>This is to certify that the above named article is properly classified, described, packaged, marked and labeled, and put in proper condition for transportation according to the applicable Regulations of the Department of Transportation.</small> Signature _____	TOTAL CHARGES: \$ _____ <small>EXCESS CHARGES EXCESS WEIGHT EXCESS VOLUME EXCESS CUBIC FEET EXCESS CUBIC YARDS EXCESS CUBIC METERS EXCESS CUBIC FEET EXCESS CUBIC YARDS EXCESS CUBIC METERS</small>

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, received, consigned, and retained as indicated above which said carrier (the word carrier 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 route, 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 bill of lading terms and conditions in the governing classification and the said terms and conditions on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>[Signature]</u>
	DATE <u>11/11/97</u>

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.
Reorder Item #BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044
© EGI, 1992, Printed in U.S.A.

FROM JMT ENVIRON TECH 610 789 6149 1995 8:52PM

①

013

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9028C
VESSEL: 550 - Gallon steel tank
(Formerly # 2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on Oct 22, 1997, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-43**

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-12



Order From
The Drawing Board
P.O. Box 2044 • Hartford, CT 06104-2044
Call Toll Free 1-800-527-0236

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 019

Carrier No. _____

S.M.C. ENVIRONMENTAL SERVICES GROUP

(Name of Carrier)

Date _____

To: <u>Marpal Disposal Company</u>	From: <u>U.S. Army Camp Evans</u>
Street: <u>1861 Wayside Road</u>	Street: <u>Building 9030</u>
City: <u>Tinton Falls, NJ 07724</u>	City: <u>Wall, NJ 07719</u>

No. Shipping Unit	Weight (Pounds by Convention)	RATE	CHARGES
①	Crushed in Roll OFF 1-2000 Gallon U.S.F. Building # 9030 TANK # 90029-12		

NEWT C.O.D. TO: ADDRESS	COO Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
NOTE - Where the rate is dependent on value, shippers are required to state specifically in writing the amount of declared value of the property. The amount of declared value of the property is hereby specifically stated by the shipper to be not exceeded by _____ per _____	This is to certify that the above named material is properly classified, described, packaged, marked and labeled, and that it is proper for shipment in accordance with the applicable regulations of the Department of Transportation.	TOTAL CHARGES: \$

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above is apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, unopened, and delivered as indicated above which said carrier has over carrier being understood throughout this contract in 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 route, 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 bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>Marpal Disposal Co.</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Scott [unclear]</u>
DATE <u>1-28-58</u>	

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reorder Item BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044
© E.G.L. 1958, Printed in U.S.A.

FROM JMT ENVIRON. TECH. 618 789 6149

1955 8:52PM

19

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9030

VESSEL: 2,000 - Gallon Fiberglass UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 11/21/97, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated ~~steel recycling~~ ^{landfill} facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels

Signature

David H. Daniels / site manager
 Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-43**



NEW BRIDGE
Old Bridge, N.J. 08857
(908) 721-0900
Fax (908) 721-0231

STANDARD
COLLECTION
ORDER FORM

180363

GENERATOR/LOCATION SALES ORDER # BILL TO (IF DIFFERENT FROM LOCATION)

NAME: USA Environmental Services
INFORMATION/ATTENTION LINE: CAMP EDWARDS AREA
DELIVERY ADDRESS: 67 FALLOW BLDG 173 ATTN: SELEM RW-5V
CITY: FORD MONMOUTH STATE: NJ ZIP: 07703
PHONE NUMBER: (908) 532-6223
PURCHASE ORDER NUMBER: [blank]
USA EPA ID NO. (IF APPLICABLE): NJ3210020324
STATE ID NO.: [blank]

NAME: USA Environmental Services
INFORMATION/ATTENTION LINE: [blank]
DELIVERY ADDRESS: 501 Allendale Road
CITY: King of Prussia STATE: PA ZIP: 19406
PHONE NUMBER: (610) 263-2706
PURCHASE ORDER NUMBER: 16898
MANIFEST NUMBER: NA2007082

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL	1072	525 gallons				
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
41501	DRUM DISPOSAL						
1504	TANK ENTRY						
40800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR	1	9 AM to 12:00				
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

GENERATOR'S SIGNATURE

Unknown 550-gallon UST tank of 9028.

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.
INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.
GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is Non-Haz
In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: Charles Appleby Title: _____
Signature: [Signature] Date: 10-21-97
GENERATOR/CUSTOMER

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS _____ PPM

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

Print Name: Dan MacKay
Signature: [Signature] Date: 10-21-97
LORCO REPRESENTATIVE

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9030
Camp Evans Area*

NJDEP UST Registration No. 90029-12

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APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On November 21, 1997, a fiberglass underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-12 (Fort Monmouth Identification No. 9030), was located north of Building 9030 in the Camp Evans area of Fort Monmouth. The UST was a 2,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the southern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and no evidence of potentially contaminated soil was observed. Samples collected at the time the UST was removed contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 376.96 milligrams per kilogram (mg/kg). No soil was removed from the excavation.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9030 area as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-12 at Building 9030.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-12, was closed at Building 9030 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on November 21, 1997. The UST was a fiberglass 2,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-12 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no historical discharges are associated with UST No. 90029-12.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9030 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Monmouth Boulevard) as shown in Figure 1. UST No. 90029-12 was located north of Building 9030 and associated piping ran approximately 15 feet south from the UST to Building 9030. The UST fill port area was located directly above the southern end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9030.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST, associated piping, and a concrete pad above the UST. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of the concrete pad and purging of the associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a circular saw and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads. After the UST had been cleaned and removed, SMC excavated and removed the associated piping.

After the UST was cleaned and removed from the excavation, it was staged on polyethylene sheeting and examined for holes. No holes were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of potential contamination was observed. Visual and PID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and tank residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was broken up and staged in a rolloff container from Marpal Disposal Company, in Tinton Falls, New Jersey for later pickup and disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate.

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, no soil exhibited evidence of contamination. Therefore, all of the clean native soil and the necessary amount of imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461
- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and the associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit evidence of contamination.

2.2 SOIL SAMPLING

On November 21, 1997, after the UST removal, post-excavation soil samples 9030S1, 9030S2 (Duplicate of 9030S1), 9030DS, 9030E, 9030W, 9030N, and 9030RF/VL were collected from six locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 10 to 10.5-feet below ground surface (bgs). No bottom samples could be collected because of the concrete pad. Sample 9030DS was collected beneath the 9030S1 and 9030S2 sample locations from 11.5 to 12-feet bgs. Sample 9030RF/VL was collected from next to Building 9030 along the former return/feed line piping length of the excavation, which was approximately 15 feet long. Sample 9030RF/VL was collected from 1.5 to 2-feet bgs. Samples 9030OBS(A), 9030OBS(B), and 9030OBS(C) were collected from the overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from six locations on November 21, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on November 21, 1997 from the UST excavation contained concentrations of TPHC ranging from non-detect to 376.96 mg/kg.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9030 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-12 at Building 9030.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9030, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9030S1	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030S2	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030DS	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030E	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030W	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030N	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030OBS(A)	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030OBS(B)	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030OBS(C)	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9030RF/VL	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

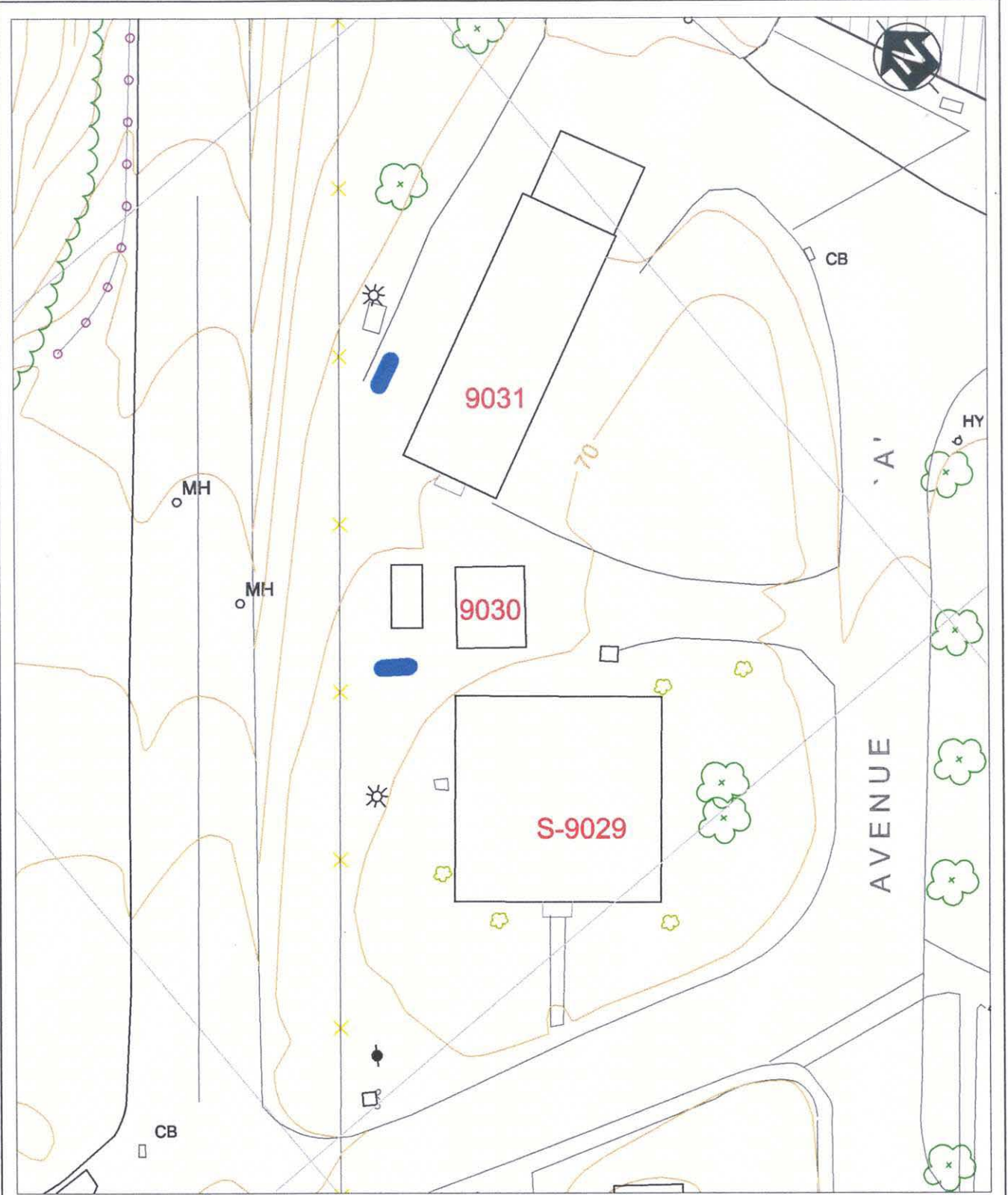
Table 2
 Post-Excavation Soil Sampling Results
 Building 9030, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9030S1	3172.01	11/21/97	11/24 - 26/97	TPHC	164	ND	10,000	No
9030S2	3172.02	11/21/97	11/24 - 26/97	TPHC	163	ND	10,000	No
9030DS	3172.03	11/21/97	11/24 - 26/97	TPHC	166	ND	10,000	No
9030E	3172.04	11/21/97	11/24 - 26/97	TPHC	169	ND	10,000	No
9030W	3172.05	11/21/97	11/24 - 26/97	TPHC	166	ND	10,000	No
9030N	3172.06	11/21/97	11/24 - 26/97	TPHC	160	ND	10,000	No
9030OBS(A)	3172.07	11/21/97	11/24 - 26/97	TPHC	166	ND	10,000	No
9030OBS(B)	3172.08	11/21/97	11/24 - 26/97	TPHC	165	ND	10,000	No
9030OBS(C)	3172.09	11/21/97	11/24 - 26/97	TPHC	158	ND	10,000	No
9030RF/VL	3172.10	11/21/97	11/24 - 26/97	TPHC	167	376.96	10,000	No

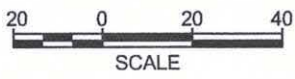
Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons

9030.DWG.jhd 01/19/99

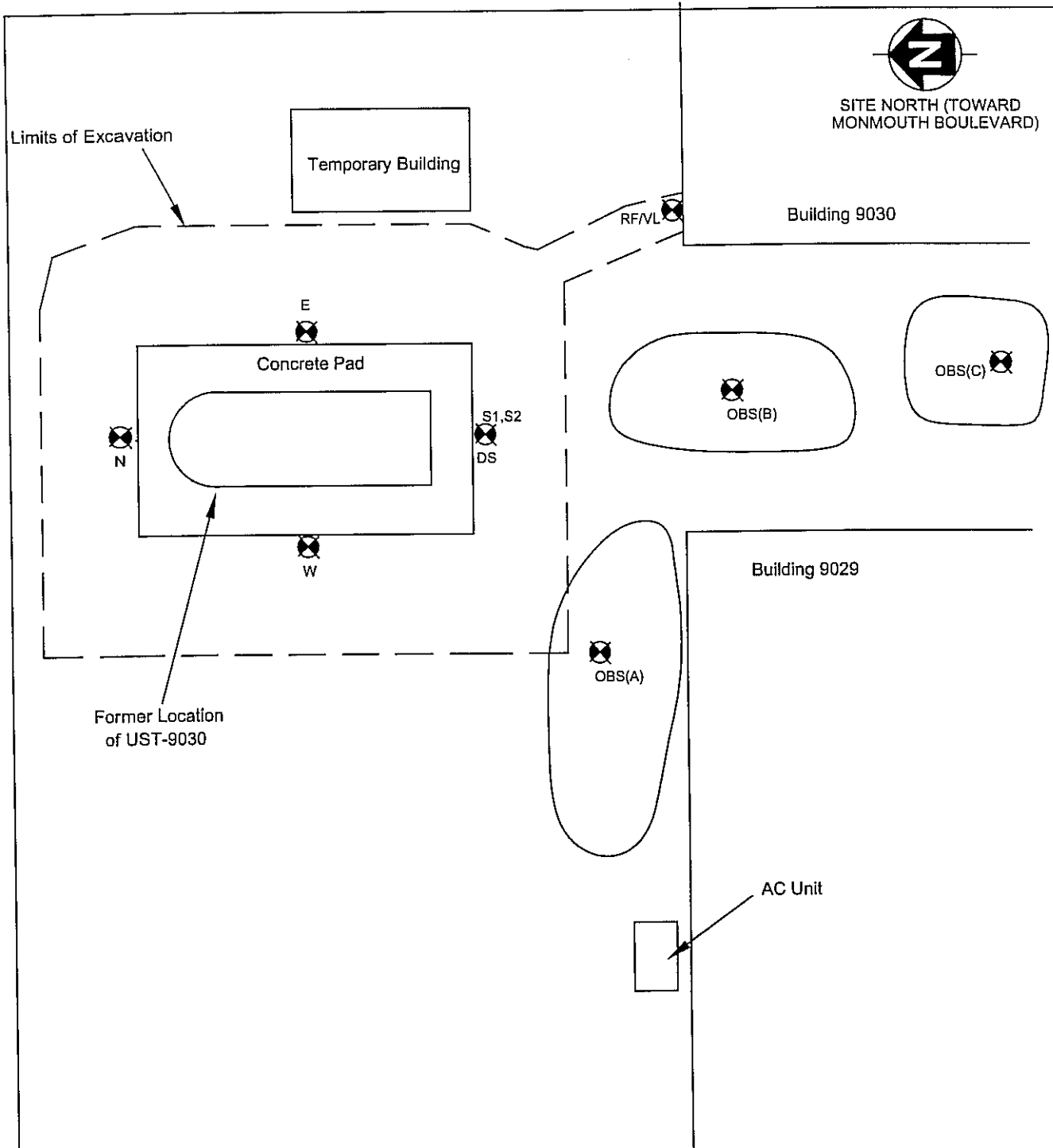


 UNDERGROUND STORAGE TANK



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 1
BUILDING 9030 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.



NOTES:

- A) All sample designations are preceded by "9030-"
- B) Sample Depths:
 - 1) S1, S2, E, W, N: 10.0'-10.5'
 - 2) DS: 11.5'-12.0'
 - 3) RF/VL: 1.5'-2.0'
 - 4) OBS (A), OBS(B), OBS(C): Pile
- C) UST-9030 is centered on concrete pad.
- D) UST-9030 is 11' long and 6' wide.
- E) Sample IDs were based on site north towards Monmouth Boulevard



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 2
BUILDING 9030 - UST REMOVAL
AND SOIL SAMPLE LOCATIONS
TETRA TECH EM INC.

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-12

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 12
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

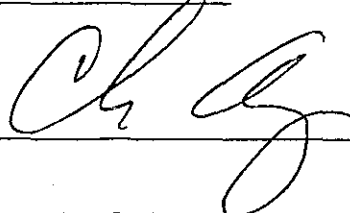
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-12



PHOTO 1: View of excavation activities commencing at the UST-9030 location (looking south/southeast).



PHOTO 2: View of the cleaned interior of UST-9030 (looking east) (the apparent "sludge" on the inside of the tank occurred from the no. 2 fuel oil staining the fiberglass).



PHOTO 3: View of UST-9030 being removed from the ground (looking southeast).



PHOTO 4: View of the sampling locations in the UST-9030 excavation (looking north).

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-12

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703


Lab. ID # : 3172
Date Rec'd: 21-Nov-97
Analysis Start: 24-Nov-97
Analysis Complete: 26-Nov-97

Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Location #: BLDGS. 9030, 9035

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3172.01	9030-S1	1.00	15.38	92.92	164	ND
3172.02	9030-S2	1.00	15.52	92.65	163	ND
3172.03	9030-DS	1.00	15.98	88.82	166	ND
3172.04	9030-E	1.00	15.66	88.65	169	ND
3172.05	9030-W	1.00	15.58	90.65	166	ND
3172.06	9030-N	1.00	15.26	96.48	160	ND
3172.07	9030-OBS(A)	1.00	15.46	91.50	166	ND
3172.08	9030-OBS(B)	1.00	15.82	90.17	165	ND
3172.09	9030-OBS(C)	1.00	16.03	92.86	158	ND
3172.10	9030-RF/VL	1.00	15.77	89.00	167	376.96
3172.11	9035-RF/VL	1.00	15.21	90.20	171	ND
METHOD BLANK	24-Nov-97	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-12



Order From
The Drawing Board
 P.O. Box 2844 • Hartford, CT 06104-2844
 Call Toll Free: 1-800-627-6336

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
 ORIGINAL - NOT NEGOTIABLE

Shipper No. 019

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

Consignee <u>Marpal Disposal Company</u>	From Shipper <u>U.S. Army Camp Evans</u>
Street <u>1861 Wayside Road</u>	Street <u>Building 9030</u>
City/State <u>Tuxton Falls, NJ 07724</u>	City/State <u>Wall, NJ 07719</u>

No. Shipping Unit	HTS	Kind of Packaging, Description of Article, Serial No. and Markings	Weight (Including In-Containers)	RATE	CHARGES
①		Crushed in Roll OFF 1-2000 Gallon U.S.T. Building # 9030 TANK # 90029-12			

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. F/F: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/> \$
<small>NOTE - When the rate is dependent on value, quantity or weight, the value, quantity or weight of the property is to be stated on the bill of lading. The actual or declared value of the property is hereby voluntarily stated by the shipper to be not exceeding _____.</small>	<small>This is to certify that the above named article is the property of the shipper, and is being shipped in accordance with the proper regulations for transportation to the destination specified on the bill of lading.</small>	TOTAL CHARGES: \$

RECEIVED, subject to the conditions and tariffs in effect as the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, removed, damaged, and damaged as indicated above which said carrier (the word carrier being understood throughout this contract to include any person or corporation in possession of the property under the contract) agrees to carry to the place of delivery and destination, if on its route, subject to delivery to whomever entitled on the face of said destination. It is mutually agreed as in each order of all or any of said property, none of the property shall be delivered to destination and as in 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 bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted by himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>Marpal Disposal Co.</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Scott Meier</u>
	DATE <u>1-28-58</u>

*Mark with "X" in duplicate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.
 Reorder Form BLN74 The Drawing Board, P.O. Box 2844, Hartford, CT 06104-2844
 © E.O. 12958, Printed in U.S.A.

1955 8:52PM FROM JMT ENVIRON. TECH. 618 789 6149

19

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9030

VESSEL: 2,000 - Gallon Fiberglass UST
(Formally # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 11/21/97, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
 Signature

David H. Daniels / site manager
 Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-12**



RD1 Box 5A
 Old Bridge, N.J. 08857
 (908) 721-0900
 Fax (908) 721-0231

STANDARD
 COLLECTION
 ORDER FORM
 181973

Example (Format)

GENERATOR/LOCATION SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

NAME: U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND
 INFORMATION/ATTENTION LINE: CAMP BURNS AREA
 DELIVERY ADDRESS: % J. FALLON BLDG 173 ATTN: SELFM-PW-EV
 CITY: FORT MONMOUTH STATE: NJ ZIP: 07703
 PHONE NUMBER: (732) 532-6223
 PURCHASE ORDER NUMBER: [blank]
 USA EPA ID NO. (IF APPLICABLE): NJ3210026324
 STATE ID NO.: [blank]

NAME: SMC Environmental Services
 INFORMATION/ATTENTION LINE: [blank]
 DELIVERY ADDRESS: 501 Allendale Road
 CITY: King of Prussia STATE: PA ZIP: 19406
 PHONE NUMBER: (610) 265-2700
 PURCHASE ORDER NUMBER: 16898
 MANIFEST NUMBER: NH2008114

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL	1072	500 gallons				
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
501	DRUM DISPOSAL						
504	TANK ENTRY						
40800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR	1	3 hours				
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.
 INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.
 GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

\$ []

Generator certifies that the waste is ID-72
 In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: Charles Appleby Title: SELM-PW-EV
 Signature: [Signature] Date: 11-6-97
 GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

N/A
 GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS
 PPM

550 gallon unknown
 UST at 9057

PAYMENT RECEIVED SECTION

CASH TOTAL RECEIVED
 CHECK NUMBER

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.
 Print Name: Don Mackey
 Signature: [Signature] Date: 11-6-97
 LORCO REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

NJ.3.2.1.0.0.2.0.3.2.9

Manifest Document No.

08114

2. Page 1 of 1

NHZ 008114

Generator's Name and Mailing Address

U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND EVANS ADA
c/o JOSEPH FALON BLDG. 173 ATTN: SELFM-PW-EV
FORT MONMOUTH, N.J. 07703

4. Generator's Phone (732) 532-6223

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers

No. Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII

0 0

T

0.0500

G

D. Additional Descriptions for Materials Listed Above

T, L PETROLEUM OIL 1 %
WATER 99 %

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL#87064 ERG#128 DEXSIL TEST KIT RESULTS <1000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name
Charles Appleby SELFM-PW-EV

Signature

Month Day Year

11 16 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name
Dan Mackay

Signature

Month Day Year

11 10 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

F

ITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Hazardous Waste Manifest No. NH2008114 dated 11-6-97,

is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

X721: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

ID 72

X722: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

X723: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

X724: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

X725: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

X726: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

X728. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: 1000 PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND CAMP EVANS AREA

Generator's EPA ID No. NJ3210020324

Address C/O JOSEPH FALLON BLDG 173
ATTN: SELFM-PW-EV FORT MONMOUTH, N.J. 07703

Print Name Charles Appledy Signature CS

Title Env. Pro Spec. SELFM-PW-EV

Date 11-6-97

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9031
Camp Evans Area*

NJDEP UST Registration No. 90029-13

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APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On October 2, 1997, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-13 (Fort Monmouth Identification No. 9031), was located north of Building 9031 in the Camp Evans area of Fort Monmouth.

The UST was a 550-gallon No. 2 fuel oil tank. The UST fill port was located directly above the center of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). Thirteen holes were noted in the side of the UST and contamination was observed in the soil located adjacent to the underside of the tank (soil registered 160 through 170 parts per million [ppm] on the air monitoring equipment). Samples collected at the time the UST was removed contained total petroleum hydrocarbons (TPHC) concentrations ranging from non-detect to 2,838.82 milligrams per kilogram (mg/kg). After additional soil was excavated and removed, soil remaining in the excavation contained TPHC concentrations ranging from non-detect to 326.89 mg/kg. The total amount of soil removed from the excavation was 230 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9031 area, as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-13 at Building 9031.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-13, was closed at Building 9031 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on October 2, 1997. The UST was a steel 550-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-13 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that at least one significant historical discharge was associated with UST No. 90029-13.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9031 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Monmouth Boulevard) as shown in Figure 1. UST No. 90029-13 was located north of Building 9031 and associated piping ran approximately 25 feet south from the UST to Building 9031. The UST fill port area was located directly above the center of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9031.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged on polyethylene sheeting, and examined for holes. Thirteen holes were observed on the side of the UST by the Tetra Tech site manager and the SMC subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. Contamination was observed or detected by the PID/FID in soil located adjacent to the underside of the tank. In addition, visual and PID/FID soil screening was also performed along piping associated with the UST. Contamination was noted at the location where the piping enters Building 9031.

The sludges and tank residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figures 2 and 3 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil adjacent to the tank underside and the location where the piping enters the building was contaminated. This soil was removed to the staging area for disposal off site at a later date and the clean excavated (overburden) soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: David H. Daniels
Employer: SMC Environmental Services Group
Telephone No.: (215) 788-7844
NJDEP Certification No.: 0010279
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and associated piping, as well as the UST excavation sidewalls and bottom, did exhibit evidence of contamination and was transported to the soil staging area; however, the overburden soil excavated from above the tank and the associated piping did not exhibit indications of contamination at the time of the UST removal.

2.2 SOIL SAMPLING

On October 2 and 3, 1997, following the removal of the UST post-excavation soil samples 9031B1, 9031RF1, and 9031RF2 were collected from one location in the UST excavation and two locations along the former return/feed line piping length. Figure 2 presents the sampling locations. The bottom sample (9031B1) was collected from 13.5 to 14.0 feet below ground surface (bgs) after several truckloads of contaminated soil had been removed. Sample 9031RF1 was collected from next to Building 9031 along the former return/feed line piping length of the excavation, which was approximately 25 feet long. Sample 9031RF2 was collected approximately 15 feet from the building along the former return/feed line piping length. Both sample 9031RF1 and sample 9031RF2 were collected from 1 to 1.5-feet bgs. Sample 9031OBS was collected from the overburden soil pile to verify that the pile was not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Analytical results of the original post-excavation samples revealed 2,838.82 milligrams per kilogram (mg/kg) TPHC at 9031RF1 sample location. This concentration exceeds 1,000 mg/kg TPHC, which is NJDEP's criterion for additional soil removal/remediation or for required VOC sampling. However, because of the fact that PID readings indicated that contamination was still present in the main UST excavation, Tetra Tech and SMC postponed further excavation along the former return/feed line piping length and excavated additional soil from the main UST excavation and collected post-excavation soil samples 9031S1, 9031S2 (Duplicate of 9031S1), 9031W1, 9031N1, 9031B2, 9031E1, 9031E2 (Duplicate

of 9031E1), 9031E3, and 9031E4 from a total of seven sampling locations. The bottom sample (9031B2) was collected from 13.5 to 14.0 feet bgs. Sidewall samples collected on October 17, 1997 were collected from 13.0 to 13.5 feet bgs while the sidewall samples collected on October 20, 1997 were collected between 6 to 6.5 feet bgs and 13.5 to 14.0 feet bgs. In addition, samples 9031OBS2, 9031OBS3, 9031OBS4, and 9031OBS5 were collected from four locations on the additional overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

After analytical results confirmed that the soil remaining in the UST excavation contained little or no contamination, Tetra Tech and SMC excavated additional soil from the location where the former return/feed line piping length entered Building 9031 and collected post-excavation soil samples 9031RB1, 9031RE1, 9031RS1, 9031RW1, 9031RB2, 9031RB3, and 9031RN1 from a total of six sampling locations (Subsequent laboratory analysis revealed that one sample, 9031RB1, contained a concentration of 6,871.73 mg/kg; however, the soil from this location was removed and transported to the soil staging area prior to the collection of samples 9031RB2 and 9031RB3). Bottom samples were collected between 3.5 to 4.0 feet bgs and 7.0 to 7.5 feet bgs. Sidewall samples were collected between 4.0 to 4.5 feet bgs and 4.5 to 5.0 feet bgs. All samples were analyzed for TPHC and total solids. Figure 3 presents additional post-excavation sampling locations

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from twenty locations between October 1997 and February 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the

NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figures 2 and 3. The analytical data package is provided in Appendix C.

Several of the post-excavation soil samples collected from the UST excavation and from below piping associated with the UST contained concentrations of TPHC of up to 6,871.73 mg/kg. The remainder of the samples contained TPHC concentrations from non-detect to 326.89 mg/kg.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9031 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, no longer exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-13 at Building 9031.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9031, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9031RF1	10/2/97	10/6/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RB1**	2/11/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RB2**	2/11/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RB3**	2/11/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RE1**	2/11/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RS1**	2/11/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RW1**	2/11/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RN1**	2/11/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031RF2	10/2/97	10/6/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031OBS	10/2/97	10/6/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031B1	10/3/97	10/6/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031S1	10/17/97	10/17/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031S2	10/17/97	10/17/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031W1	10/17/97	10/17/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031N1	10/17/97	10/17/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031B2	10/17/97	10/17/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031E1	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031E2	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031E3	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031E4	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031OBS2	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031OBS3	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031OBS4	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9031OBS5	10/20/97	10/21/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

** Samples collected to remediate contamination found in sample above.

Table 2
 Post-Excavation Soil Sampling Results
 Building 9031, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9031RF1	3029.01	10/2/97	10/6 - 8/97	TPHC	188	2,838.82	10,000	No
9031RB1**	3338.01	2/11/98	2/21/98	TPHC	186	6,871.73	10,000	No
9031RB2	3338.05	2/11/98	2/21/98	TPHC	161	ND	10,000	No
9031RB3	3338.06	2/11/98	2/21/98	TPHC	153	ND	10,000	No
9031RE1**	3338.02	2/11/98	2/21/98	TPHC	185	ND	10,000	No
9031RS1**	3338.03	2/11/98	2/21/98	TPHC	169	ND	10,000	No
9031RW1**	3338.04	2/11/98	2/21/98	TPHC	164	ND	10,000	No
9031RN1**	3338.07	2/11/98	2/21/98	TPHC	178	ND	10,000	No
9031RF2**	3029.02	10/2/97	10/6 - 8/97	TPHC	168	288.36	10,000	No
9031OBS	3029.03	10/2/97	10/6 - 8/97	TPHC	181	326.89	10,000	No
9031B1	3030.01	10/3/97	10/6 - 8/97	TPHC	169	ND	10,000	No
9031S1	3082.01	10/17/97	10/17 - 18/97	TPHC	166	ND	10,000	No
9031S2	3082.02	10/17/97	10/17 - 18/97	TPHC	170	193.96	10,000	No
9031W1	3082.03	10/17/97	10/17 - 18/97	TPHC	172	210.62	10,000	No
9031N1	3082.04	10/17/97	10/17 - 18/97	TPHC	171	305.94	10,000	No
9031B2	3082.05	10/17/97	10/17 - 18/97	TPHC	172	184.96	10,000	No
9031E1	3085.01	10/20/97	10/21 - 22/97	TPHC	178	ND	10,000	No
9031E2	3085.02	10/20/97	10/21 - 22/97	TPHC	176	ND	10,000	No
9031E3	3085.03	10/20/97	10/21 - 22/97	TPHC	154	ND	10,000	No
9031E4	3085.04	10/20/97	10/21 - 22/97	TPHC	167	ND	10,000	No
9031OBS2	3085.05	10/20/97	10/21 - 22/97	TPHC	167	ND	10,000	No
9031OBS3	3085.06	10/20/97	10/21 - 22/97	TPHC	163	ND	10,000	No
9031OBS4	3085.07	10/20/97	10/21 - 22/97	TPHC	165	ND	10,000	No
9031OBS5	3085.08	10/20/97	10/21 - 22/97	TPHC	174	197.33	10,000	No

Note:

The contamination present in sample 9031RB1 was excavated and removed prior to collection of samples 9031RB2 and 9031RB3.

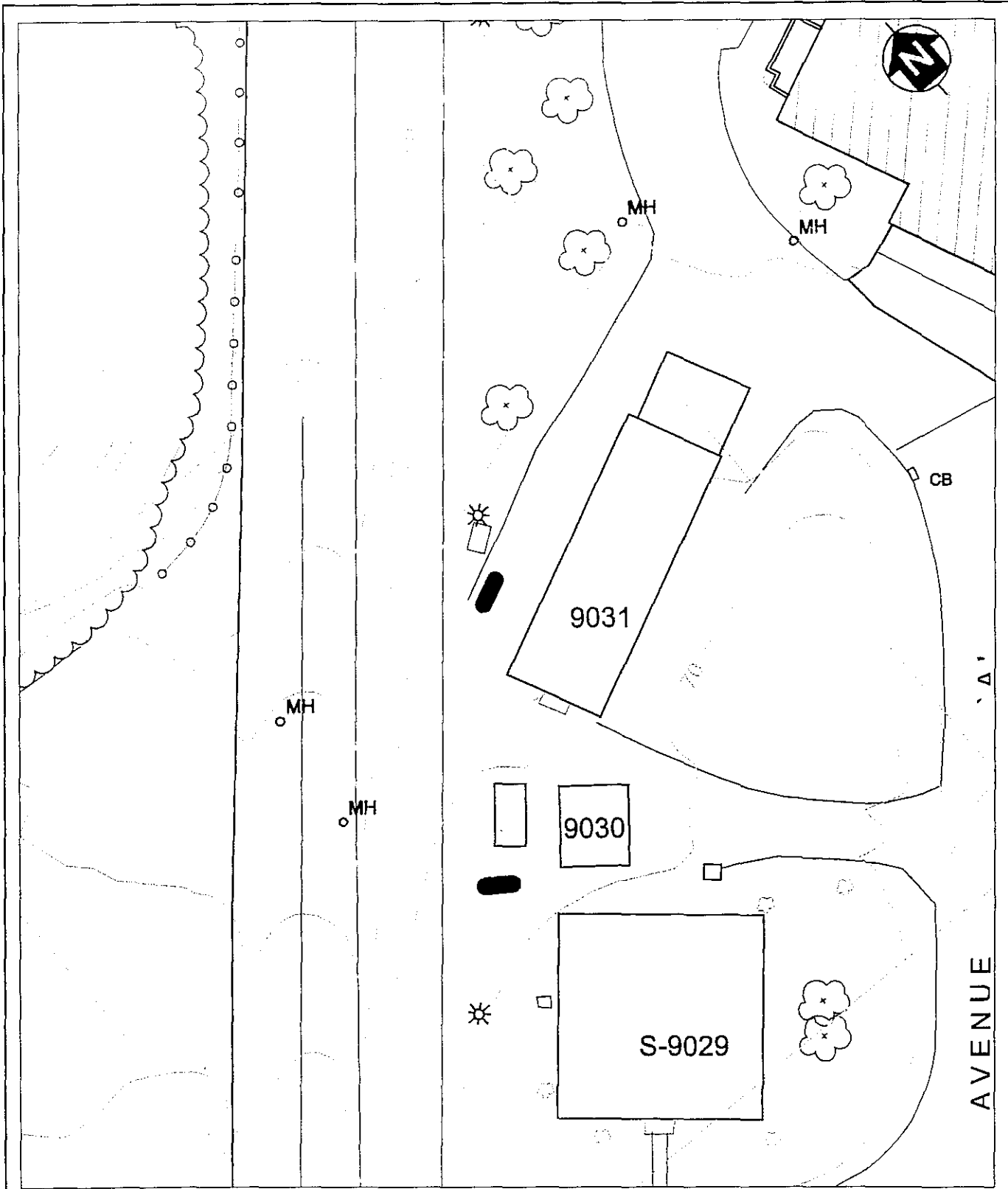
* Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.

ND Not detected

TPHC Total petroleum hydrocarbons


** Samples collected to remediate contamination found in sample above.

9031.DWG ASC 01/19/99



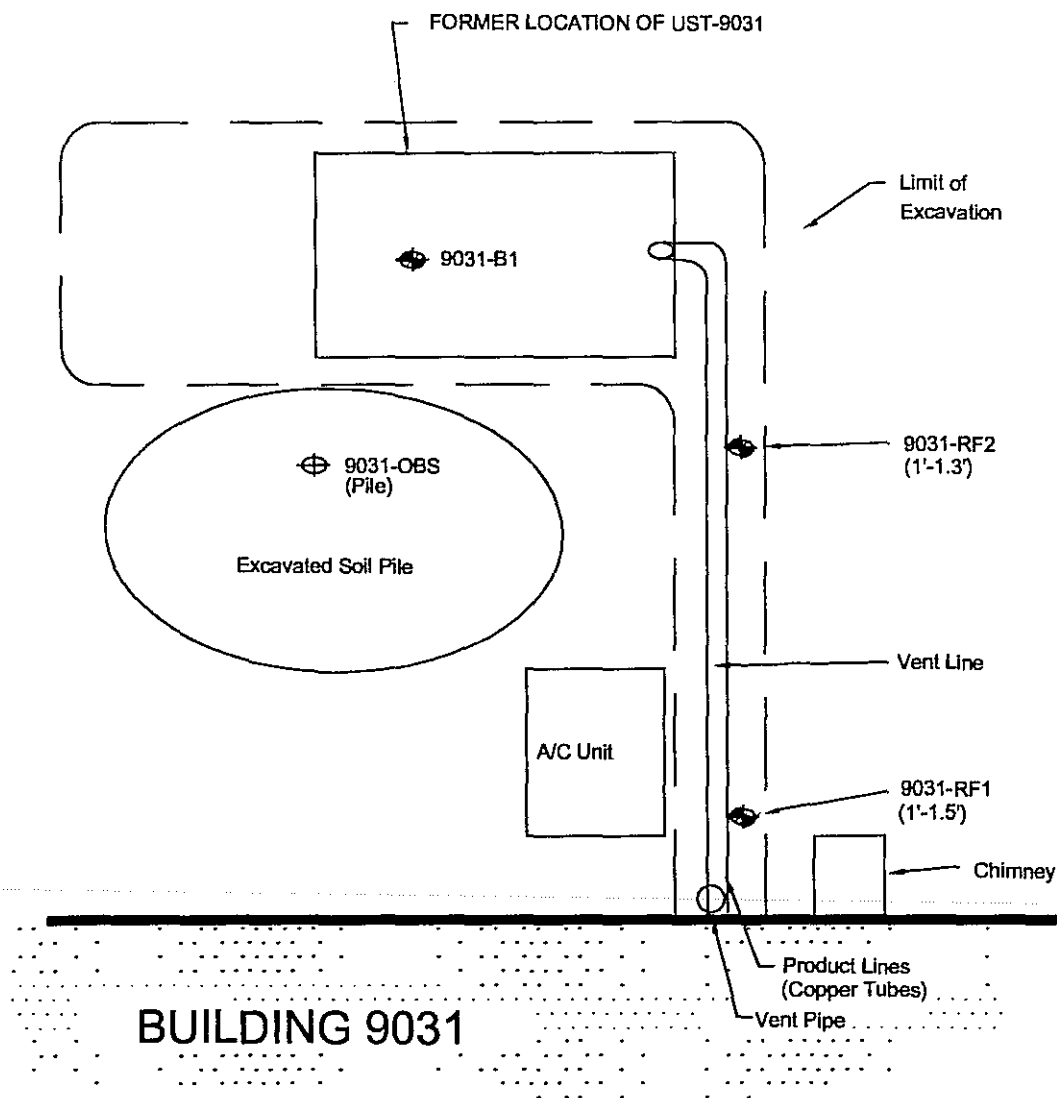
 UNDERGROUND STORAGE TANK



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 1
BUILDING 9031 - UST REMOVAL LOCATION MAP
 TETRA TECH EM INC.



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES:

- 1) UST WAS 6' LONG
- 2) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARD MONMOUTH BOULEVARD



EVANS AREA

FORT MONMOUTH, NEW JERSEY

FIGURE 2

BUILDING 9031

UST REMOVAL AND SOIL SAMPLE LOCATIONS



TETRA TECH EM INC.

9031.DWG ASC 01/19/99



SITE NORTH (TOWARD MONMOUTH BOULEVARD)

DIAGRAM A:

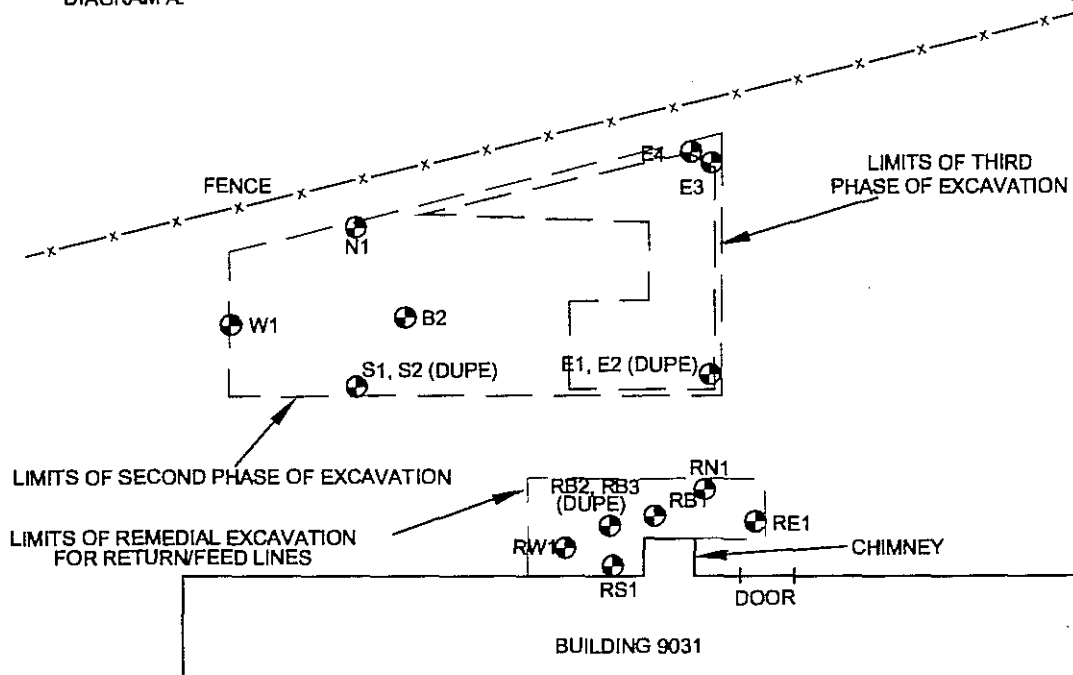
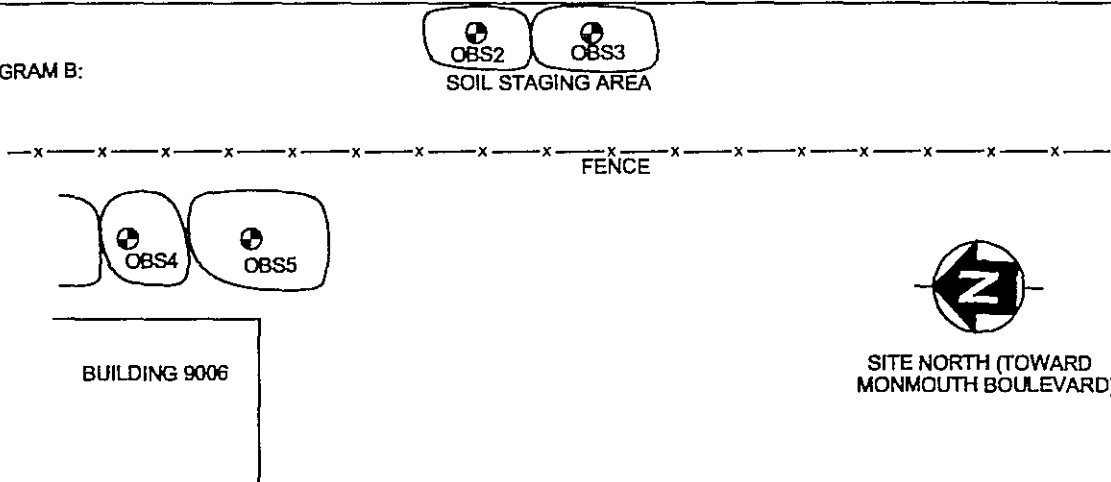



DIAGRAM B:



NOTE: SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARD MONMOUTH BOULEVARD

EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 3
BUILDING 9031 - UST REMEDIAL SOIL SAMPLE LOCATIONS
 TETRA TECH EM INC.

9031.DWG ASC 01/19/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-13

UST Site/Remedial Investigation Report Certification Form

<p>A. Facility Name: <u>US Army, Fort Monmouth, Evans Area</u></p> <p>Facility Street Address: <u>Building 1207, DCSOPS-BID</u></p> <p>Municipality: <u>Wall Township</u> County : <u>Monmouth</u></p> <p>Block: <u>240, 241 and 242</u> Lot(s): <u>240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)</u></p> <p>Telephone Number : <u>(732) 239-2427</u></p>	
<p>B. Owner (RP)'s Name: <u>US Army, CECOM</u></p> <p>Street Address: <u>DCSOPS-BID, Bldg. 1207</u> City : <u>Fort Monmouth</u></p> <p>State: <u>NJ</u> Zip: <u>07703</u> Telephone Number : <u>(732) 532-5052</u></p>	
<p>C. (Check as appropriate)</p> <ul style="list-style-type: none">• Site Investigation <p>Report (SIR) \$500 Fee</p> <ul style="list-style-type: none">• Remedial Investigation <p>Report (RIR) \$1000 Fee</p>	<p>D. (Complete all that apply)</p> <ul style="list-style-type: none">• Assigned Case Manager : <u>Mr. Ian Curtis</u>• UST Registration Number : (7 digits): <u>90029 - 13</u>• Incident Report Number (10 or 12 digits): _____• Tank Closure Number C(N)9 (7 characters): <u>Approved by Case Manager</u>
<p>E. Certification by the Subsurface Evaluator:</p> <p>The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : <u>Yes</u></p> <p>Name: <u>Kevin J. Phelan</u> Signature: <u>Kevin J. Phelan</u> UST Cert. No.: <u>0018436</u></p> <p>Firm: <u>Tetra Tech EM, Inc.</u> Firm's UST Cert. Number: <u>US00457</u></p> <p>Firm Address: <u>1 Bank Street, Suite 103</u> City: <u>Rockaway</u></p> <p>State: <u>NJ</u> Zip: <u>07866</u> Telephone Number : <u>(973) 9830507, Ext. 230</u></p>	

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

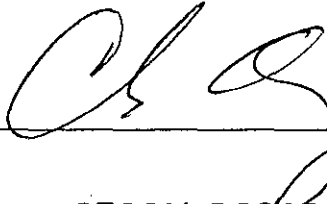
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-13

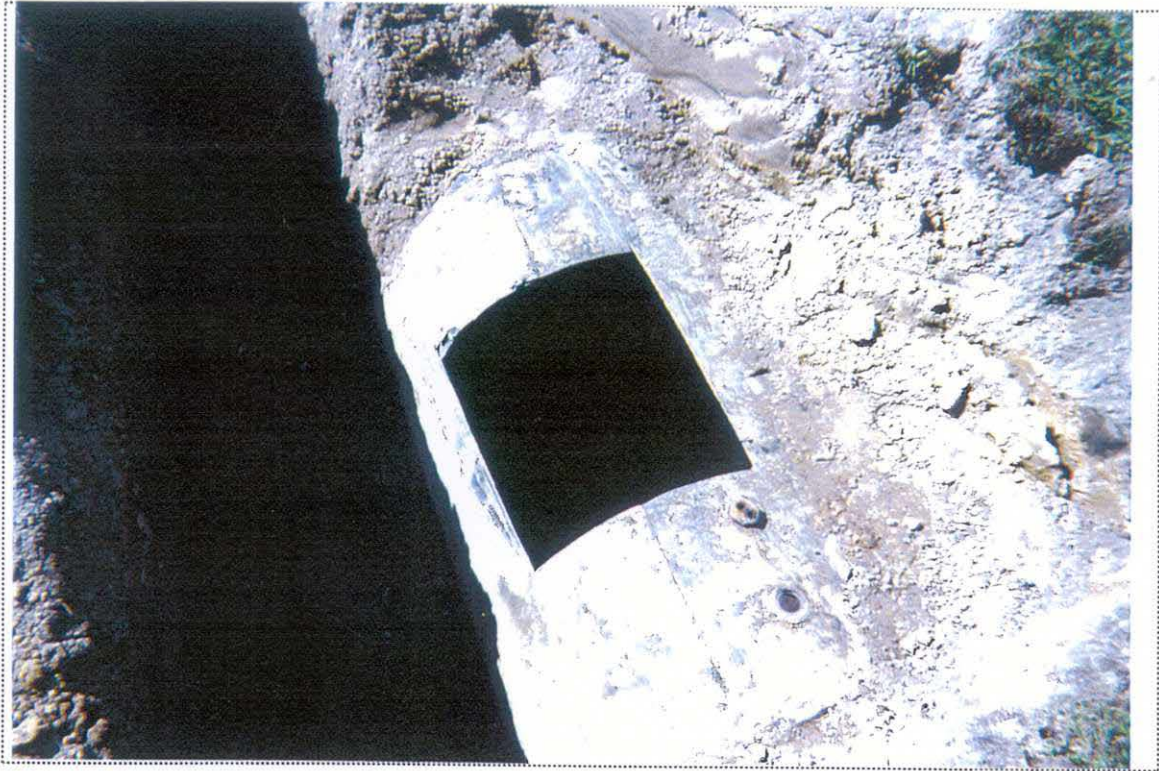


PHOTO 1: View of UST-9031 after cleaning the interior (looking northwest).



PHOTO 2: View of the eastern end of UST-9031 showing holes (circled with white paint) (looking west).



PHOTO 3: View of the remedial excavation at the former UST-9031 location (looking west).

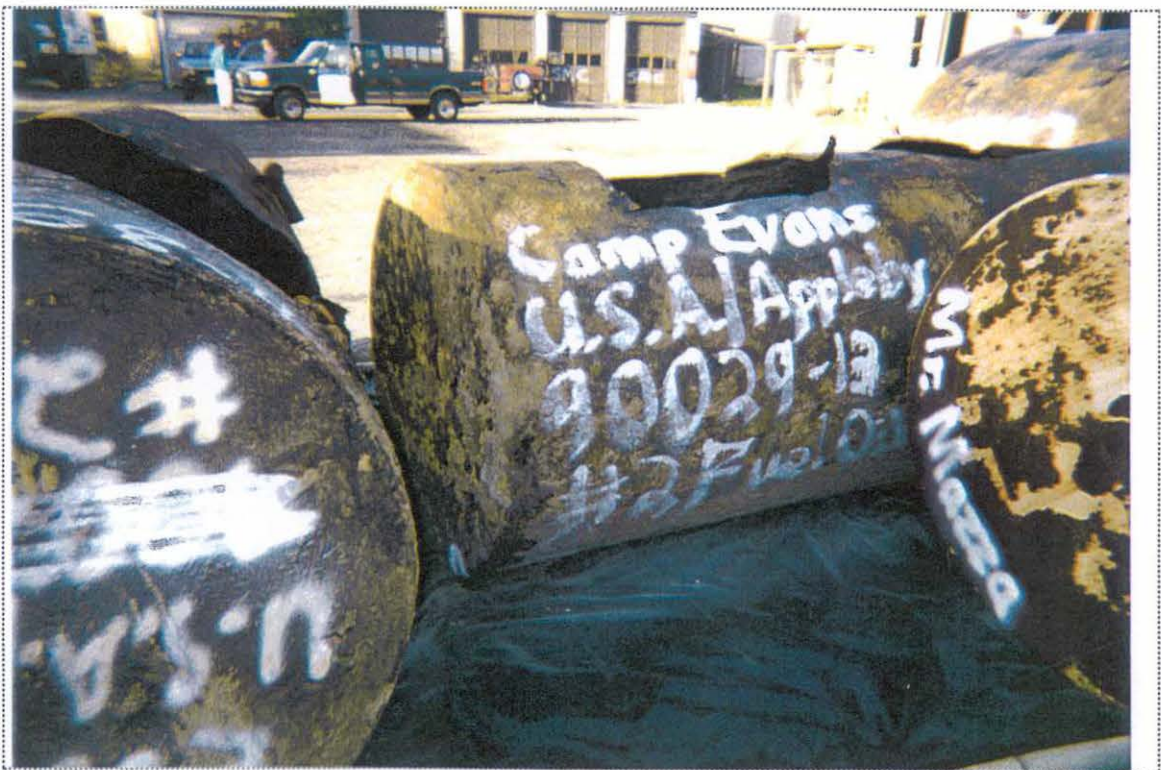


PHOTO 4: View of UST-9031 staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-13

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3029
	DPW. SELFM-PW-EV	Date Rec'd:	03-Oct-97
	Bldg. 173	Analysis Start:	06-Oct-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	08-Oct-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9031

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3029.01	9031-RF1	1.00	15.74	79.53	188	2888.82
3029.02	9031-RF2	1.00	15.47	90.42	168	288.36
3029.03	9031-OBS	1.00	15.04	86.28	181	326.89
METHOD BLANK	6-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit

Daniel K. Wright
 Laboratory Director


Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3030
	DPW. SELFM-PW-EV	Date Rec'd:	03-Oct-97
	Bldg. 173	Analysis Start:	06-Oct-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	08-Oct-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9031

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3030.01	9031-B1	1.00	15.28	90.86	169	ND
METHOD BLANK	6-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director


Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3082
	DPW. SELFM-PW-EV	Date Rec'd:	17-Oct-97
	Bldg. 173	Analysis Start:	17-Oct-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	19-Oct-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9031

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3082.01	9031-S1	1.00	15.50	91.33	166	ND
3082.02	9031-S2	1.00	14.98	92.24	170	193.96
3082.03	9031-W1	1.00	15.37	88.71	172	210.62
3082.04	9031-N1	1.00	14.95	91.92	171	305.94
3082.05	9031-B2	1.00	15.06	90.56	172	184.96
METHOD BLANK	17-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director


Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3085
DPW. SELFM-PW-EV Date Rec'd: 21-Oct-97
Bldg. 173 Analysis Start: 21-Oct-97
Ft. Monmouth, NJ 07703 Analysis Complete: 22-Oct-97

Analysis: OQA-QAM-025 UST Reg. #:
Matrix: Soil Closure #:
Analyst: D.DEINHARDT DICAR #:
Ext. Meth: Shake Location #: BLDG. 9031

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3085.01	9031-E1	1.00	15.17	87.24	178	ND
3085.02	9031-E2	1.00	15.18	88.00	176	ND
3085.03	9031-E3	1.00	15.67	97.66	154	ND
3085.04	9031-E4	1.00	15.58	90.29	167	ND
3085.05	9031-OBS2	1.00	15.90	88.27	167	ND
3085.06	9031-OBS3	1.00	15.79	91.53	163	ND
3085.07	9031-OBS4	1.00	15.86	89.63	165	ND
3085.08	9031-OBS5	1.00	15.51	87.08	174	197.83
METHOD BLANK	17-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client: U.S. Army Lab. ID #: 3338
 DPW. SELFM-PW-EV Date Rec'd: 11-Feb-98
 Bldg. 173 Analysis Start: 21-Feb-98
 Ft. Monmouth, NJ 07703 Analysis Complete: 21-Feb-98

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: Bldg 9031

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3338.01	9031-RB1	1.00	15.39	81.94	186	6871.73
3338.02	9031-RE1	1.00	15.13	83.78	185	ND
3338.03	9031-RS1	1.00	15.92	87.49	169	ND
3338.04	9031-RW1	1.00	15.76	90.91	164	ND
3338.05	9031-RB2	1.00	15.01	97.24	161	ND
3338.06	9031-RB3	1.00	15.76	97.39	153	ND
3338.07	9031-RN1	1.00	15.07	87.51	178	ND
METHOD BLANK	12-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-13



Reader From:
The Drawing Board
P.O. Box 2944 - Hartford, CT 06104-2944
Call Toll Free: 1-800-427-9239

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 008

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Units _____

To: Designee <u>Mazza + Sons, Inc</u>		From: Shipper <u>U.S. Army Camp Evans</u>	
Street: <u>3230 Shatto Road</u>		Street: <u>Building 9031</u>	
Mailing: <u>Twinton Falls, NJ 07753</u>		City: <u>Wall NJ 07719</u>	
State: _____		Vehicle Number: _____	

No. Shipping Units	Rate	Kind of Packaging, Description of Article, Special Marks and Emblems	Weight (Subject to Correction)	RATE	CHARGES
①		For Setup Only 1 - 550 Gallon U.S. St Skel "Claim"			
		TANK # 90029-13 Building # 9031			

REMIT C.O.D. TO: ADDRESS NOTE - Where the rate is dependent on volume, shippers are required to state specifically in writing the amount or declared value of the property. The amount or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$ _____	This is to certify that the above named article is the property described, described, packaged, marked and insured, and that proper conditions for transport are being observed in accordance with the regulations of the Department of Transportation.	COD Amt: \$ _____ Subject to Section 7 of the conditions, this bill of lading is to be delivered to the consignee without recourse on the part of the carrier, the carrier's liability for the following statement: The carrier shall not be liable for the shipment without payment of freight and all other local charges.	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/> TOTAL CHARGES: \$ _____ SPECIAL CHARGES: _____ THE CARRIER'S LIABILITY IS LIMITED TO THE AMOUNT OF THE CHARGES PAID BY THE SHIPPER.
--	---	---	---

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above is apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, consigned, and delivered as indicated above which said carrier is being understood throughout this contract as meaning any percent or cooperation in possession of the property under the contract except to carry to its usual place of delivery at said destination, if on its route, 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 bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Tom H. Appenbauer</u>
DATE <u>10-13-72</u>	

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.
Reorder Item BDL74 The Drawing Board, P.O. Box 2944, Hartford, CT 06104-2944
©EGL, 1982, Printed in U.S.A.

1985 8:52PM FROM JMT ENVIRON. TECH. 618 759 6149

②

8

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building 9031
VESSEL: 550-gallon steel tank
(formally #2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 10.2.97, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that **SMC Environmental Services Group** has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. **SMC Environmental Services Group** will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-13**



RD1 Box 5A
Old Bridge, N.J. 08857
(908) 721-0900
Fax (908) 721-0231

STANDARD
COLLECTION
ORDER FORM

176848

GENERATOR/LOCATION		SALES ORDER #	BILL TO (IF DIFFERENT FROM LOCATION)	
NAME		NAME		
INFORMATION/ATTENTION LINE		INFORMATION/ATTENTION LINE		
ACCOUNT APPROVAL CODE		ACCOUNT APPROVAL CODE		
DELIVERY ADDRESS		DELIVERY ADDRESS		
CITY		CITY		
STATE		STATE		
ZIP		ZIP		
PHONE NUMBER		PHONE NUMBER		
PURCHASE ORDER NUMBER		PURCHASE ORDER NUMBER		
USA EPA ID NO. (IF APPLICABLE)		STATE ID NO.		
		MANIFEST NUMBER		

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE
				Combustible Liquid UN 1204 PG 1/1	SW

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	Tank	Volume
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL					9307	55
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL		344	Gal		9162	55
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
41501	DRUM DISPOSAL					9196	55
41504	TANK ENTRY					9116	55
40800	PARTS WASHER SERVICE						
41500	TRUCK OPERATOR		8.5	hours		9003	30
41511	NEW 55 GAL DRUM 17H						
41503	QAQC ANALYTICAL TESTING					9006	200
42001	DEXSIL TEST KIT TAX						
41509	TRANSPORTATION					9059	30
						9031	30

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.
INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.
GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is Non-Haz
In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: Charles Appleby Title: Env. Prod. Sp.
Signature: [Signature] Date: 10-7-97
GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

GENERATOR'S SIGNATURE

Tank to the North of 9028 had 344 gallons of water

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS

PPM

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

Print Name: Guy Wick
Signature: [Signature] Date: 10-7-97
LORCO REPRESENTATIVE

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 9033
Camp Evans Area

NJDEP UST Registration No. 90029-14

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APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On January 22, 1998, a fiberglass underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-14 (Fort Monmouth Identification No. 9033), was located south of Building 9033 in the Camp Evans area of Fort Monmouth. The UST was a 6,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the eastern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed surrounding the fill port of the tank. Samples collected at the time the UST was removed contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 249.82 milligrams per kilogram (mg/kg). The total amount of soil removed from the excavation was less than 5 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9033 area as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-14 at Building 9033.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-14, was closed at Building 9033 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on January 22, 1998. The UST was a fiberglass 6,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-14 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-14.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9033 is located at the eastern end of the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Building 9032) as shown in Figure 1. UST No. 90029-14 was located south of Building 9033 and associated piping ran approximately 20 feet north from the UST to Building 9033. The UST fill port area was located directly above the eastern end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9033.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST, associated piping, and a concrete pad above the UST. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to removal because of the low volatility of No. 2 fuel oil. After the removal of the concrete pad and purging of the associated piping, soil excavation continued to uncover the UST. Because of the large size of the UST, SMC decided to remove the tank from the ground prior to opening and cleaning the tank in order to avoid a confined space entry situation. Once the UST was removed and temporarily staged on the asphalt driveway, SMC cut open the tank with a circular saw and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads. After the UST had been cleaned and removed, SMC excavated and removed the associated piping.

After the UST was removed from the excavation, it was examined for holes. No holes were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of potential contamination was observed except for soil located adjacent to the fill port. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and tank residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was broken up and staged in a rolloff container from Marpal Disposal Company, in Tinton Falls, New Jersey for later pickup and disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate.

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil located adjacent to the fill port of the tank was contaminated. This soil was removed to the staging area for disposal off site at a later date and the clean native soil and the necessary amount of imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and the associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit evidence of contamination.

2.2 SOIL SAMPLING

On January 22, 1998, after the UST removal, post-excavation soil samples 9033W1, 9033W2 (Duplicate of 9033W1), 9033DS, 9033N1, 9033N2, 9033E, 9033R/F/VL1, 9033S1, 9033S2, and 9033R/F/VL2 were collected from nine locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 10 to 10.5-feet below ground surface (bgs). No bottom samples could be collected because of the concrete pad. Sample 9033DS was collected beneath the 9033W1 and 9033W2 sample location from 13.5 to 14-feet bgs. Sample 9033R/F/VL1 was collected from next to the UST excavation along the former return/feed line piping length of the excavation, which was approximately 20 feet long. Sample 9033R/F/VL1 was collected from 2 to 2.5-feet bgs. Sample 9033R/F/VL2 was collected from next to Building 9033 along the former return/feed line piping length from 2 to 2.5-feet bgs. In addition, samples 9033OBS1, 9033OBS2, and 9033OBS3 were collected from the overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Further investigation of the return/feed line piping revealed that an older portion of the piping had previously run adjacent to the west side of Building 9033. As a result, on February 24, 1998, Tetra Tech and SMC excavated the older portion of the piping and collected post-excavation soil samples 9033R/F/VL3 and 9033R/F/VL4 (Duplicate of 9033R/F/VL3) from a total of one sampling location (at the point where the return/feed line piping entered the west side of the building). Both samples were collected from 0.5 to 1-foot bgs and were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from nine locations on January 22, 1998 and one location on February 24, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on January 22, 1998 and February 24, 1998 from the UST excavation contained concentrations of TPHC ranging from non-detect to 249.82 mg/kg.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9033 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-14 at Building 9033.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9033, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9033W1	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033W2	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033DS	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033N1	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033N2	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033E	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033R/F/VL1	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033S1	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033S2	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033OBS1	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033OBS2	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033OBS3	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033R/F/VL2	1/22/98	1/26/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033R/F/VL3	2/24/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9033R/F/VL4	2/24/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

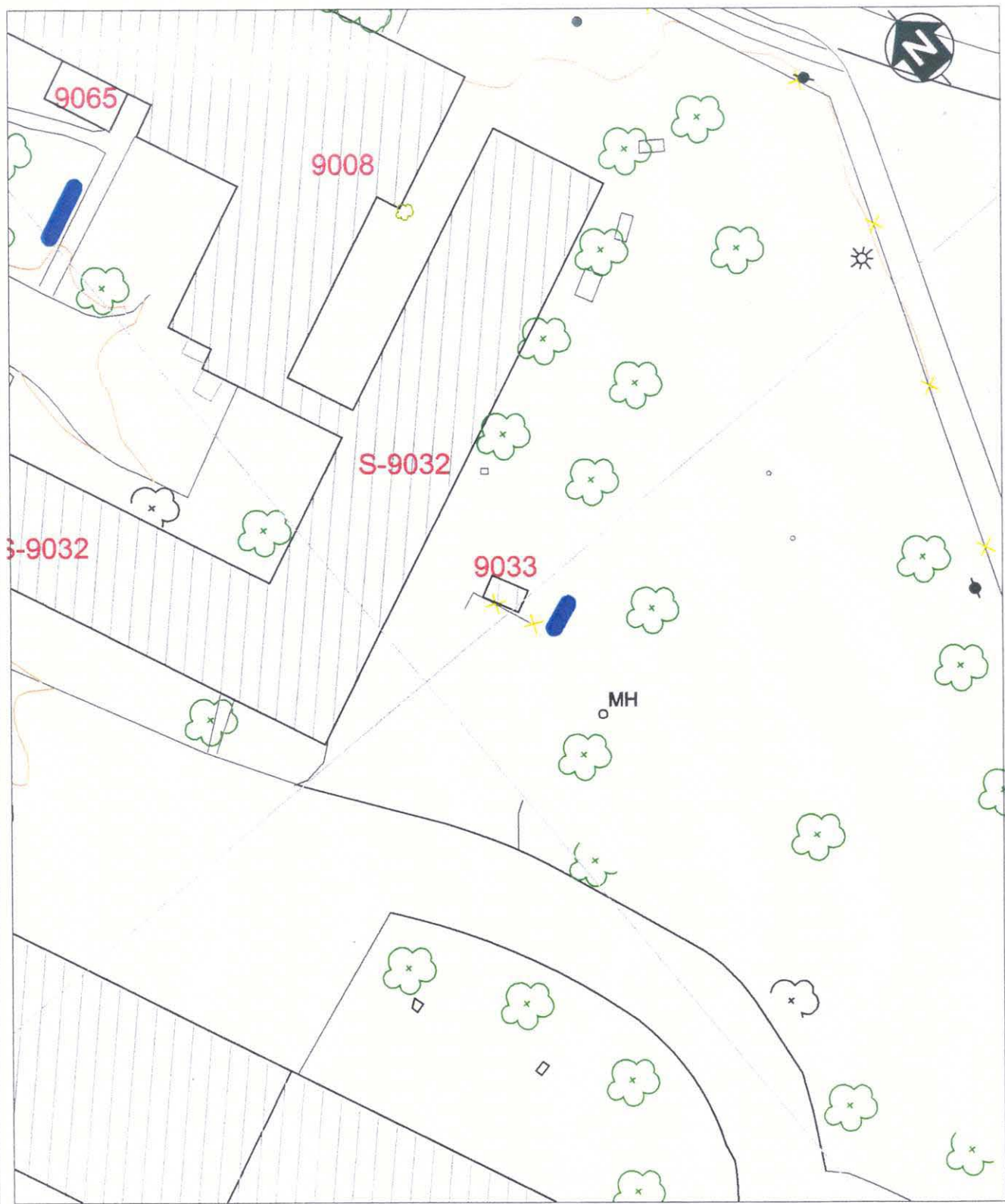
* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9033, Camp Evans Area
 Wall Township, New Jersey

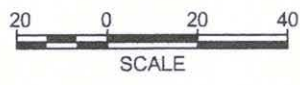
Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9033W1	3295.01	1/22/98	1/26 - 27/98	TPHC	163	ND	10,000	No
9033W2	3295.02	1/22/98	1/26 - 27/98	TPHC	159	ND	10,000	No
9033DS	3295.03	1/22/98	1/26 - 27/98	TPHC	159	ND	10,000	No
9033N1	3295.04	1/22/98	1/26 - 27/98	TPHC	172	ND	10,000	No
9033N2	3295.05	1/22/98	1/26 - 27/98	TPHC	164	ND	10,000	No
9033E	3295.06	1/22/98	1/26 - 27/98	TPHC	167	ND	10,000	No
9033R/F/VL1	3295.07	1/22/98	1/26 - 27/98	TPHC	174	ND	10,000	No
9033S1	3295.08	1/22/98	1/26 - 27/98	TPHC	181	ND	10,000	No
9033S2	3295.09	1/22/98	1/26 - 27/98	TPHC	165	ND	10,000	No
9033OBS1	3295.10	1/22/98	1/26 - 27/98	TPHC	160	ND	10,000	No
9033OBS2	3295.11	1/22/98	1/26 - 27/98	TPHC	177	ND	10,000	No
9033OBS3	3295.12	1/22/98	1/26 - 27/98	TPHC	174	ND	10,000	No
9033R/F/VL2	3295.13	1/22/98	1/26 - 27/98	TPHC	170	249.82	10,000	No
9033R/F/VL3	3364.01	2/24/98	2/27 - 28/98	TPHC	177	ND	10,000	No
9033R/F/VL4	3364.02	2/24/98	2/27 - 28/98	TPHC	178	ND	10,000	No

Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



UNDERGROUND STORAGE TANK



SCALE

EVANS AREA
FORT MONMOUTH, NEW JERSEY

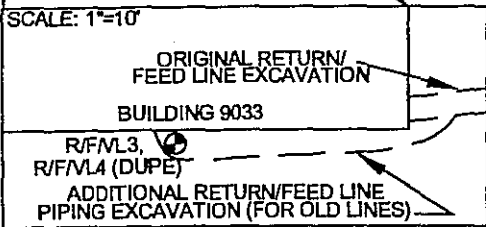
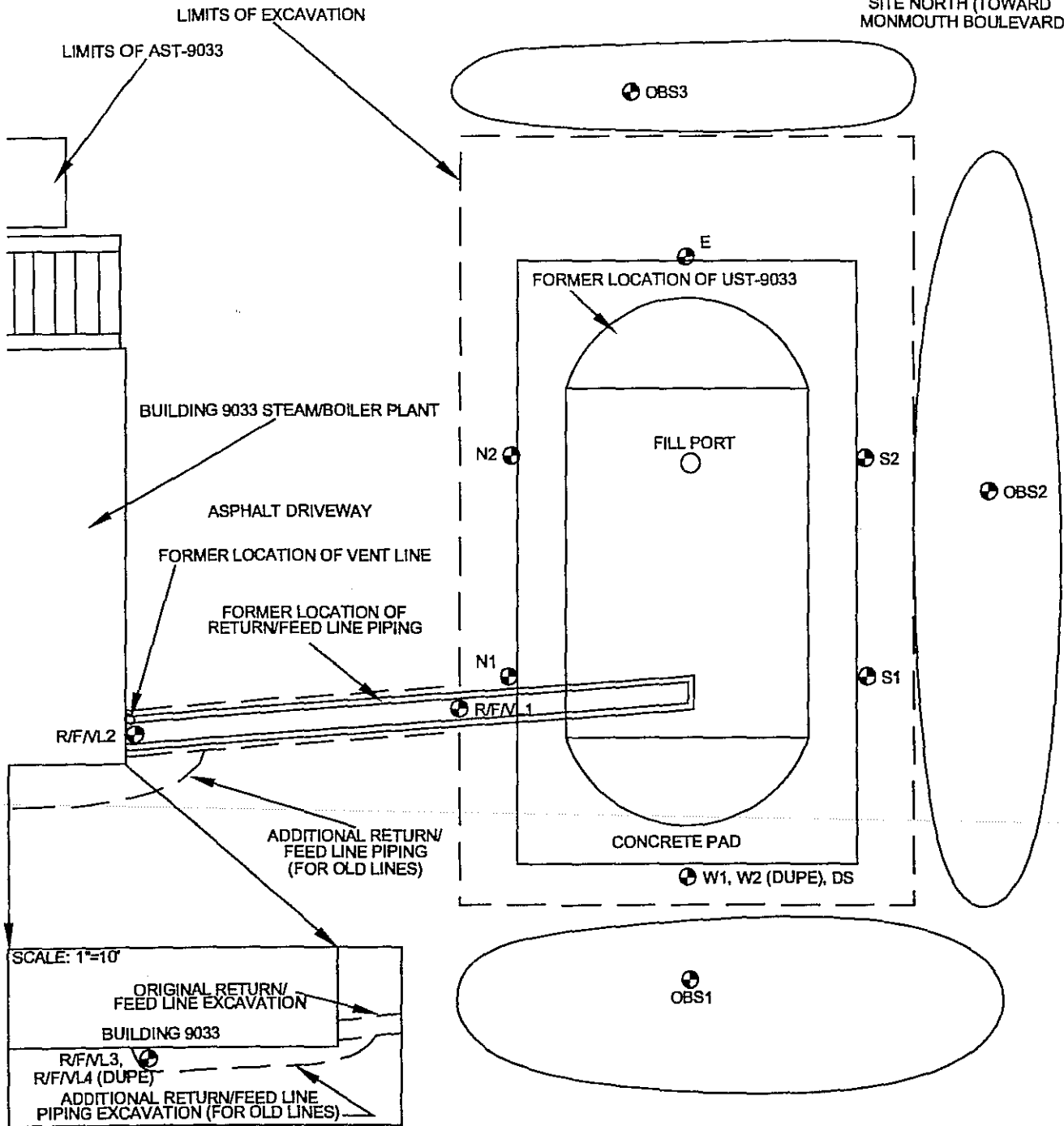
FIGURE 1
BUILDING 9033 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.

9033.DWG ASC 01/19/99



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES:

- 1) UST-9033 WAS 18' LONG AND 8' WIDE
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9033-"
- 3) SAMPLE DEPTHS
 - A) W1, W2, N1, N2, E, S1, S2: 12.5' TO 13'
 - B) DS: 13.5' TO 14.0'
 - C) R/FM1, R/FM2: 2.0' TO 2.5'
 - D) R/FM3, R/FM4: 0.5' TO 1.0'
 - E) OBS1, OBS2, OBS3: PILE
- 4) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARDS MONMOUTH BOULEVARD



EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 2 BUILDING 9033 UST REMOVAL AND SOIL SAMPLE LOCATIONS
TETRA TECH EM INC.

9033.DWG ASC 01/19/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-14

UST Site/Remedial Investigation Report Certification Form

<p>A. Facility Name: <u>US Army, Fort Monmouth, Evans Area</u></p> <p>Facility Street Address: <u>Building 1207, DCSOPS-BID</u></p> <p>Municipality: <u>Wall Township</u> County : <u>Monmouth</u></p> <p>Block: <u>240, 241 and 242</u> Lot(s): <u>240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)</u></p> <p>Telephone Number : <u>(732) 239-2427</u></p>	
<p>B. Owner (RP)'s Name: <u>US Army, CECOM</u></p> <p>Street Address: <u>DCSOPS-BID, Bldg. 1207</u> City : <u>Fort Monmouth</u></p> <p>State: <u>NJ</u> Zip: <u>07703</u> Telephone Number : <u>(732) 532-5052</u></p>	
<p>C. (Check as appropriate)</p> <ul style="list-style-type: none">• Site Investigation Report (SIR) \$500 Fee• Remedial Investigation Report (RIR) \$1000 Fee	<p>D. (Complete all that apply)</p> <ul style="list-style-type: none">• Assigned Case Manager : <u>Mr. Ian Curtis</u>• UST Registration Number : (7 digits): <u>90029 - 14</u>• Incident Report Number (10 or 12 digits): _____• Tank Closure Number C(N)9 (7 characters): <u>Approved by Case Manager</u>
<p>E. Certification by the Subsurface Evaluator:</p> <p>The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : <u>Yes</u></p> <p>Name: <u>Kevin J. Phelan</u> Signature: <u>Kevin J. Phelan</u> UST Cert. No.: <u>0018436</u></p> <p>Firm: <u>Tetra Tech EM, Inc.</u> Firm's UST Cert. Number: <u>US00457</u></p> <p>Firm Address: <u>1 Bank Street, Suite 103</u> City: <u>Rockaway</u></p> <p>State: <u>NJ</u> Zip: <u>07866</u> Telephone Number : <u>(973) 9830507, Ext. 230</u></p>	

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

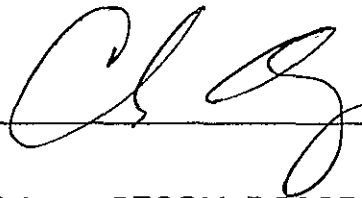
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-14



PHOTO 1: View of UST-9033 being uncovered (looking east/northeast).



PHOTO 2: View of the UST-9033 being removed from the ground (looking east).

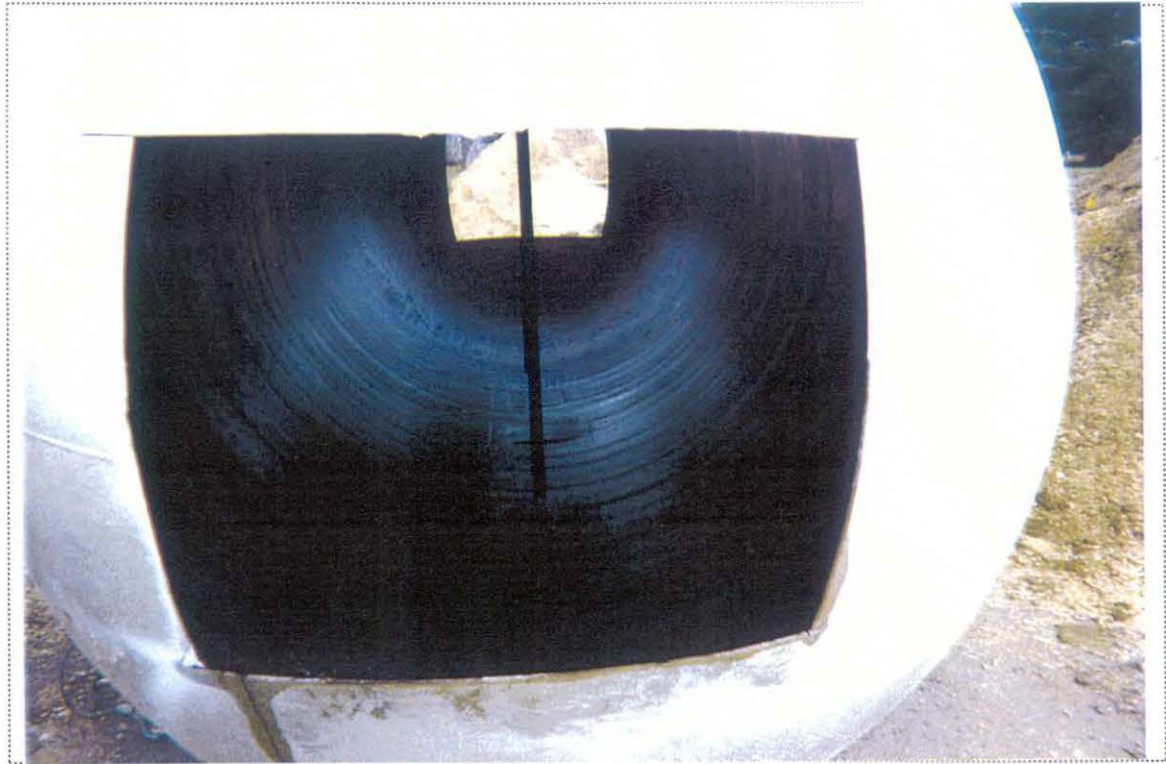


PHOTO 3: View of the cleaned interior of UST-9033 (looking east/southeast).

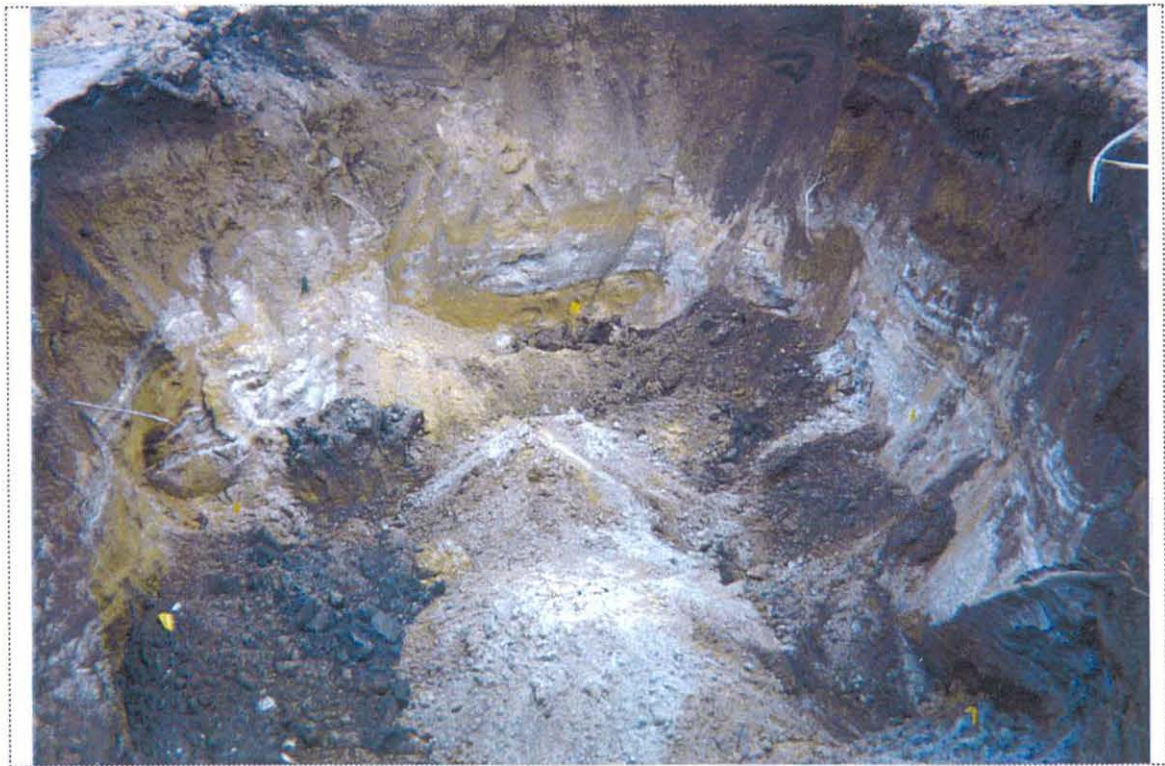


PHOTO 4: View of the sampling locations in the UST-9033 excavation (looking east).

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-14


Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID #:	3295
	DPW. SELFM-PW-EV	Date Rec'd:	23-Jan-98
	Bldg. 173	Analysis Start:	26-Jan-98
	Ft. Monmouth, NJ 07703	Analysis Complete:	27-Jan-98

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9033

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3295.01	9033-W1	1.00	15.00	96.32	163	ND
3295.02	9033-W2	1.00	15.39	95.76	159	ND
3295.03	9033DS	1.00	15.56	94.82	159	ND
3295.04	9033-N1	1.00	15.19	90.12	172	ND
3295.05	9033-N2	1.00	15.00	95.78	164	ND
3295.06	9033-E	1.00	15.06	93.40	167	ND
3295.07	9033-R/F/VL1	1.00	15.51	87.18	174	ND
3295.08	9033-S1	1.00	15.52	83.78	181	ND
3295.09	9033-S2	1.00	15.69	90.92	165	ND
3295.10	9033-OBS1	1.00	15.74	93.54	160	ND
3295.11	9033-OBS2	1.00	15.47	85.64	177	ND
3295.12	9033-OBS3	1.00	15.04	89.88	174	ND
3295.13	9033-R/F/VL2	1.00	15.46	89.49	170	249.82
3295.14	CSP-1	1.00	15.26	90.51	170	ND
METHOD BLANK	26-Jan-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

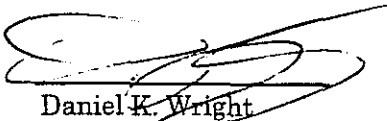
Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3364
	DPW. SELFM-PW-EV	Date Rec'd:	25-Feb-98
	Bldg. 173	Analysis Start:	26-Feb-98
	Ft. Monmouth, NJ 07703	Analysis Complete:	28-Feb-98

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9033

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3364.01	9033-RF/VL3	1.00	15.25	86.94	177	ND
3364.02	9033-RF/VL4	1.00	15.24	86.39	178	ND
METHOD BLANK	26-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-14



Member From
The Drawing Board
928 5th Avenue, New York, NY 10017-2498

NEORDER ITEM # 04174

**STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE**

Shipper No. 033

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Carrier)

Carrier No. _____
Date _____

To: <u>Macpal Disposal Company</u>		From: <u>U.S. Army Camp Evans</u>	
Street: <u>1861 Wayside Road</u>		Room: <u>Building 9033</u>	
City: <u>Tinton Falls, NJ 07724</u>		State: <u>Wall NJ 07719</u>	

No. of Packages	Weight (Subject to Inspection)	Rate	Charges
①	Crushed in Roll OFF 1 - 600 Gallon U.S.F		
	Building # <u>9033</u> TANK # <u>90029-14</u>		

NEWT C.O.D. TO ADDRESS	COD Amount \$	COD. fee: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
NOTE - Where the rate is dependent on value, liability or weight, the shipper is required to declare the value of the property to be shipped. The carrier will not be liable for loss or damage to property unless the value is so declared. The carrier will not be liable for loss or damage to property unless the value is so declared.	Shipped to Section 7 of the manifest. This bill of lading is subject to the terms and conditions of the carrier's tariff. The carrier will not be liable for loss or damage to property unless the value is so declared.	TOTAL CHARGES: \$

RECEIVED, subject to the conditions and terms in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, as well as rated, counted and counted in accordance with the terms, conditions, and clauses of the bill of lading contract. The carrier will not be liable for loss or damage to property unless the value is so declared. The carrier will not be liable for loss or damage to property unless the value is so declared.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>Macpal Disposal Co.</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Scott Meyer</u>
	DATE <u>1-28-98</u>

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.
Member From 928 5th Avenue, New York, NY 10017-2498
© SMC, 1998, Printed in U.S.A.

1995 8:52PM FROM JMT ENVIRON TECH 618 789 6149

33

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9033

VESSEL: 6,000-Gallon Fiberglass UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 1/22/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
 Signature

David H. Daniels / site manager
 Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-14**



Old Bridge, NJ 08857
 (732) 721-5100
 FAX (732) 721-0281

STANDARD
 ORDER FORM

GENERATOR/LESSOR INFORMATION

NAME: **SCARP, EVAN**

INFORMATION ATTENTION LINE: **ACCOUNT APPROVAL CODE**

DELIVERY ADDRESS: **1000 ROUTE 100**

CITY: **WALL** STATE: **NJ**

PHONE NUMBER: **732-721-5100**

PURCHASE ORDER NUMBER: **1128-98**

SALES TAX APPLICABLE: **YES**

SHIPPER/LESSOR INFORMATION

NAME: **SCARP, EVAN**

INFORMATION ATTENTION LINE: **ACCOUNT APPROVAL CODE**

DELIVERY ADDRESS: **1000 ROUTE 100**

CITY: **WALL** STATE: **NJ**

PHONE NUMBER: **732-721-5100**

PURCHASE ORDER NUMBER: **1128-98**

MANIFEST NUMBER: **1128-98**

SHIPPING INFORMATION

NO.	TYPE	QTY	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE
-----	------	-----	------	---	----------------------

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL						
40502	SLUDGE DISPOSAL	1072	500	GAL			
41001	GASOLINE/WATER						
4501	DRUM DISPOSAL						
4504	TANK ENTRY						
4800	PARTS WASHER SERVICE						
41500	TRUCK OPERATOR						
4151	NEW 55 GAL DRUM						
41503	SOAC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT						
41509	TRANSPORTATION						

(DUMP OUT DRUMS - 2 OIL BOTTOMS 500-600 GALS)

CHARGE BY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.

INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 12% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.

GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED, LORCO, HEREUNDER, HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is: **EXHA**

In accordance with the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: **Chris Healey**

Signature: *Chris Healey*

DATE: **1-28-98**

GENERATOR/CUSTOMER

GENERATOR CERTIFICATION

(Certify that the generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 CFR 261.3 and does not accumulate more than 1,000 kilograms of such waste during the month.)

GENERATOR'S SIGNATURE: *[Signature]*

LARGE QUANTITY GENERATOR CERTIFICATION

TEST RESULTS: **n/a** PPM

PAYMENT RECEIVED SECTION

<input type="checkbox"/> CASH	TOTAL RECEIVED
<input type="checkbox"/> CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266.5 (3)(i), LORCO has notified the USEPA of its location and used for management purposes.

Signature: *[Signature]*

DATE: **1-28-98**

LORCO REPRESENTATIVE

CUSTOMER



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

NHZ 009548

NJ 321002032409548

Generator's Name and Mailing Address

*US Army Communications Electronics Command
Camp Evans Area, Ft. Monmouth, N.J., 07703*

4. Generator's Phone ()

5. Transporter 1 Company Name

LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number

N J D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone

908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

*LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857*

10. US EPA ID Number

N J D 0 8 4 0 4 4 0 6 4

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers

13. Total Quantity

14. Unit Wt/Vol

a. *PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGI II*

No. Type

0 0 1 T X.600 G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

*T, L PETROLEUM OIL 98%
WATER 2%*

E. Handling Codes for Wastes Listed Above

.T04 FILTRATION

15. Special Handling Instructions and Additional Information

*24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL # 87084 ERG# 128 DEXSIL TEST KIT RESULTS N/A PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY*

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

Month Day Year

Charles Apalick

SELF EMPLOYED

6/12/89

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

DON TAGUINOT

Don Taguinot

6/12/89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR'S COPY

GENERATOR

TRANSPORTER

FACTORY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. 09548 dated 1-28-98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

- L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.
- L-22: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.
- L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.
- L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.
- L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.
- L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.
- L-28. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: N/A PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communications Electronics Command
Generator's EPA ID No. NJ3210020324
Address Camp Evans Area, Ft. Monmouth, N.J., 07703
Print Name Charles Appleby Signature [Signature]
Title Env. Prot. Spec. SELPM-PW-EV
Date 1-28-98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9035
Camp Evans Area*

NJDEP UST Registration No. 90029-15

TABLE OF CONTENTS

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4.0 CONCLUSIONS AND RECOMMENDATIONS.....	6

TABLES

Table 1	Summary of Post-Excavation Sampling Activities
Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9035 - UST Removal Location Map
Figure 2	Building 9035 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On November 18, 1997, a fiberglass underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-15 (Fort Monmouth Identification No. 9035), was located east of Building 9035 in the Camp Evans area of Fort Monmouth. The UST was a 2,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the center of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed surrounding the UST fill port. Samples collected at the time the UST was removed contained non-detectable concentrations of total petroleum hydrocarbons (TPHC). The total amount of soil removed from the excavation was less than 5 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9035 area as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total for organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-15 at Building 9035.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-15, was closed at Building 9035 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on November 18, 1997. The UST was a fiberglass 2,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-15 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-15.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9035 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base as shown in Figure 1. UST No. 90029-15 was located east of Building 9035 and associated piping ran approximately 10 feet west from the UST to Building 9035. The UST fill port area was located directly above the center of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9035.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST, associated piping, and a concrete pad above the UST. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of the concrete pad, soil excavation continued to uncover the UST and the associated piping. Once the UST was uncovered, SMC cut open the tank with a circular saw and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads. After the tank cleaning had been completed, SMC removed all of the associated piping from the ground.

After the UST was cleaned, it was removed from the excavation, staged on polyethylene sheeting, and examined for holes. No holes were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. The only evidence of potential contamination was observed in soil located adjacent to the fill port of the UST. Visual and PID/FID soil screening was also performed along piping associated with the UST. A small amount of contaminated soil, less than 1 cubic yard, was noted along the piping length where residual oil had leaked out of the lines during the removal of the piping.

The sludges and tank residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was broken up and staged in a rolloff container from Marpal Disposal Company, in Tinton Falls, New Jersey for later pickup and disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate.

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, only soil adjacent to the UST fill port (less than 1 cubic yard) and the associated piping (less than 1 cubic yard) was contaminated. This soil was removed to the staging area for disposal off site at a later date and the clean native soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and the majority of the associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit evidence of contamination.

2.2 SOIL SAMPLING

On November 19, 1997 and November 21, 1997, after the UST removal, post-excavation soil samples 9035S1, 9035S2 (Duplicate of 9035S1), 9035DS, 9035E, 9035N, 9035W, and 9035RF/VL were collected from six locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 11 to 11.5 feet below ground surface (bgs). No bottom samples could be collected because of the concrete pad. Sample 9035DS was collected from 12 to 12.5 feet bgs adjacent to the southeastern corner of the concrete pad. Sample 9035RF/VL was collected from next to Building 9035 along the former return/feed line piping length of the excavation, which was approximately 10 feet long. Sample 9035RF/VL was collected from 2.5 to 3.0 feet bgs. Samples 9035OBS(A) and 9035OBS(B) were collected from the overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from six locations on November 19, 1997 and November 21, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on November 19, 1997 and November 21, 1997 from the UST excavation contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9035 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil clean up criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-15 at Building 9035.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9035, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9035OBS(A)	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035OBS(B)	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035S1	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035S2	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035DS	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035E	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035N	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035W	11/19/97	11/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9035RF/VL	11/21/97	11/24/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

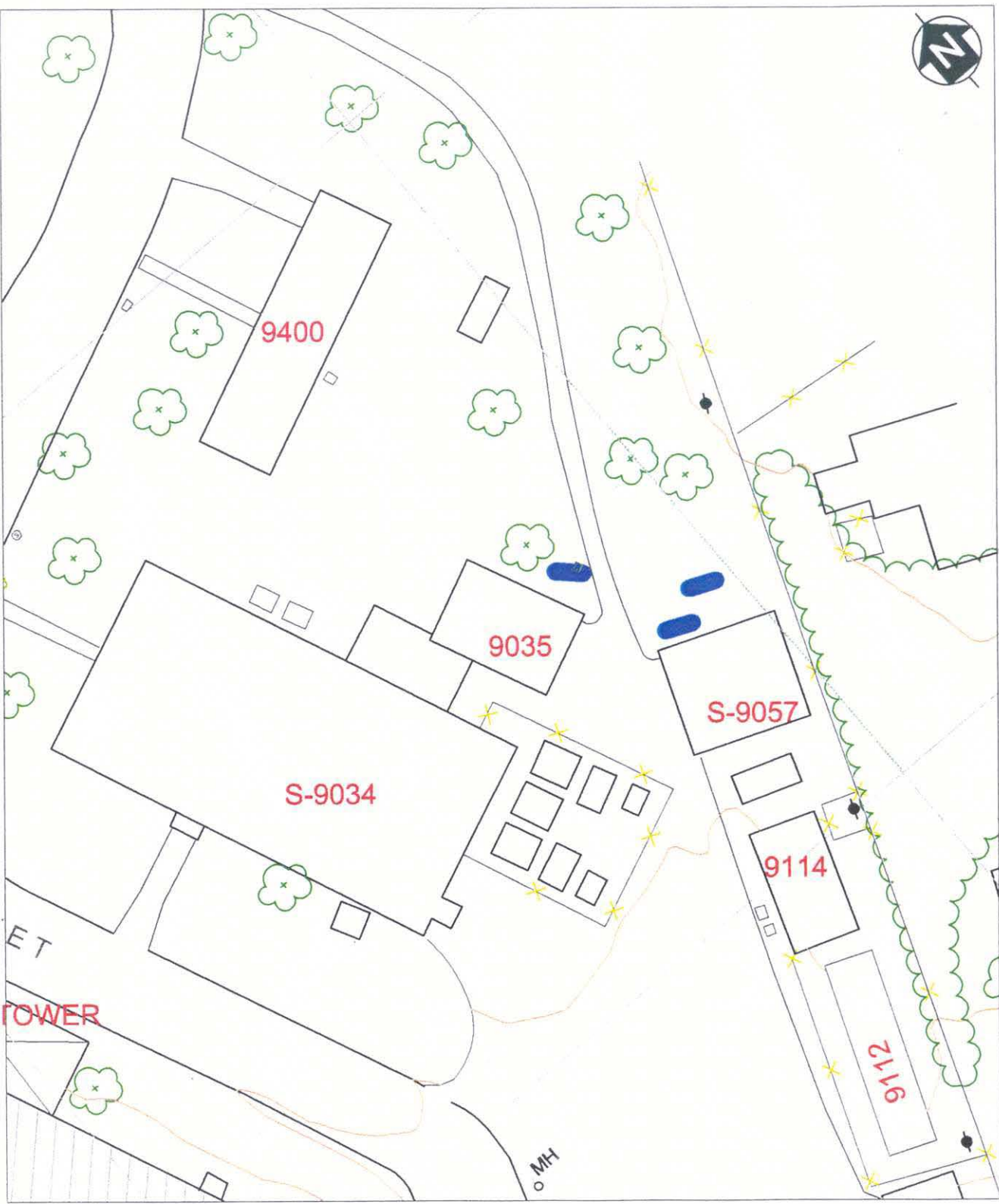
* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9035, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9035OBS(A)	3167.01	11/19/97	11/20/97	TPHC	170	ND	10,000	No
9035OBS(B)	3167.02	11/19/97	11/20/97	TPHC	173	ND	10,000	No
9035S1	3167.03	11/19/97	11/20/97	TPHC	180	ND	10,000	No
9035S2	3167.04	11/19/97	11/20/97	TPHC	172	ND	10,000	No
9035DS	3167.05	11/19/97	11/20/97	TPHC	168	ND	10,000	No
9035E	3167.06	11/19/97	11/20/97	TPHC	164	ND	10,000	No
9035N	3167.07	11/19/97	11/20/97	TPHC	168	ND	10,000	No
9035W	3167.08	11/19/97	11/20/97	TPHC	169	ND	10,000	No
9035RF/VL	3172.11	11/21/97	11/24 - 26/97	TPHC	171	ND	10,000	No

Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria
- ND Not detected
- TPHC Total petroleum hydrocarbons



9035.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK



SCALE

EVANS AREA
FORT MONMOUTH, NEW JERSEY

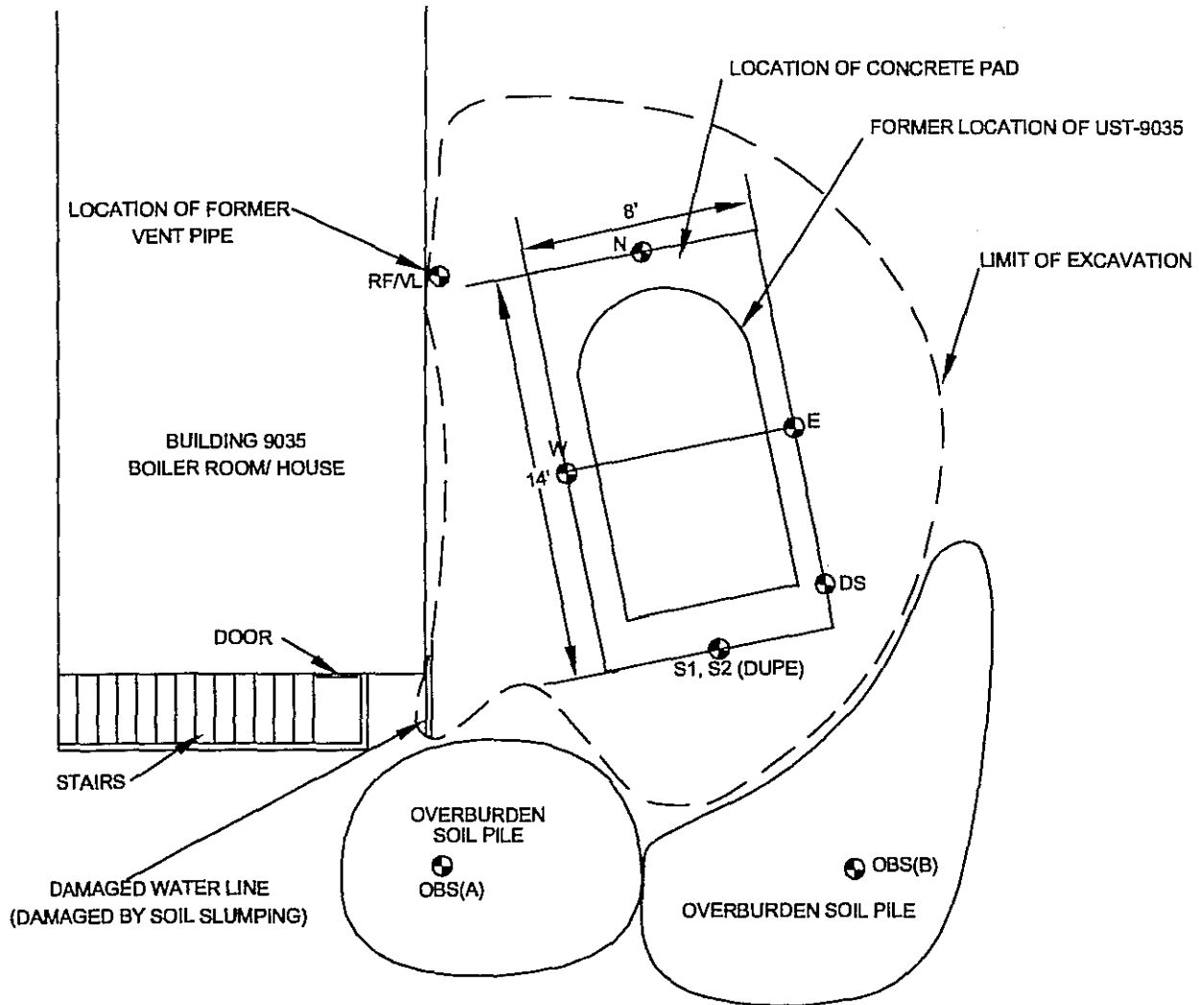
FIGURE 1
BUILDING 9035 - UST REMOVAL LOCATION MAP



TETRA TECH EM INC.



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES :

- 1) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9035-".
- 2) SAMPLE DEPTHS :
 - A) S1, S2, E, N, W : 11.0' TO 11.5'
 - B) DS : 12.0' TO 12.5'
 - D) RF/VL : 2.5' TO 3.0'
 - F) OBS(A), OBS(B) : PILES
- 3) UST-9035 WAS 11' LONG, 4' WIDE, AND 6' IN DIAMETER
- 4) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARDS MONMOUTH BOULEVARD



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 2
BUILDING 9035
UST REMOVAL AND SOIL SAMPLE LOCATIONS

 TETRA TECH EM INC.

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-15

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 15
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

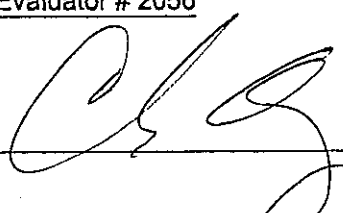
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-15



PHOTO 1: View of excavation activities commencing at the UST-9035 location (looking northeast).

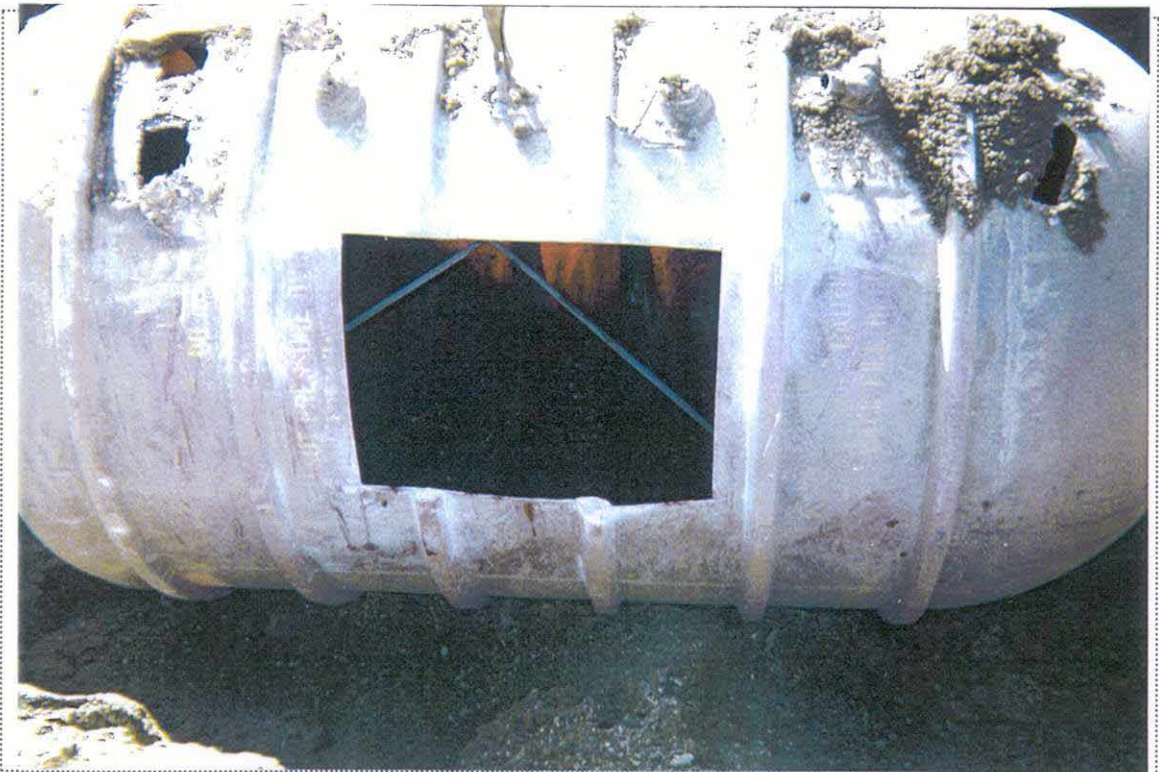


PHOTO 2: View of the cleaned interior of UST-9035 (looking west/southwest) (Note: A small amount of soil fell inside the tank after cleaning the interior was completed).



PHOTO 3: View of UST-9035 being removed from the ground (looking northeast).



PHOTO 4: View of the sampling locations in the UST-9035 excavation (looking southwest).

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-15

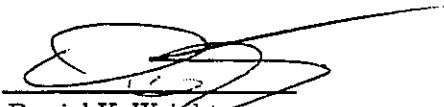
Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3167
	DPW. SELFM-PW-EV	Date Rec'd:	19-Nov-97
	Bldg. 173	Analysis Start:	20-Nov-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	20-Nov-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDG. 9035

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3167.01	9035-OBS(A)(PILE)	1.00	15.49	89.42	170	ND
3167.02	9035-OBS(B)(PILE)	1.00	15.04	90.30	173	ND
3167.03	9035-S1(11-11.5)	1.00	15.19	85.75	180	ND
3167.04	9035-S2(11-11.5)	1.00	15.72	86.92	172	ND
3167.05	9035-DS(12-12.5)	1.00	15.11	92.49	168	ND
3167.06	9035-E(11-11.5)	1.00	15.60	92.09	164	ND
3167.07	9035-N(11-11.5)	1.00	15.75	88.96	168	ND
3167.08	9035-W(11-11.5)	1.00	15.48	89.65	169	ND
METHOD BLANK	19-Nov-97	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director


Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army	Lab. ID # :	3172
	DPW. SELFM-PW-EV	Date Rec'd:	21-Nov-97
	Bldg. 173	Analysis Start:	24-Nov-97
	Ft. Monmouth, NJ 07703	Analysis Complete:	26-Nov-97

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	BLDGS. 9030, 9035

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3172.01	9030-S1	1.00	15.38	92.92	164	ND
3172.02	9030-S2	1.00	15.52	92.65	163	ND
3172.03	9030-DS	1.00	15.98	88.82	166	ND
3172.04	9030-E	1.00	15.66	88.85	169	ND
3172.05	9030-W	1.00	15.58	90.65	166	ND
3172.06	9030-N	1.00	15.26	96.48	160	ND
3172.07	9030-OBS(A)	1.00	15.46	91.50	166	ND
3172.08	9030-OBS(B)	1.00	15.82	90.17	165	ND
3172.09	9030-OBS(C)	1.00	16.03	92.86	158	ND
3172.10	9030-RF/VL	1.00	15.77	89.00	167	376.96
3172.11	9035-RF/VL	1.00	15.21	90.20	171	ND
METHOD BLANK	24-Nov-97	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-15



Order From
The Drawing Board
 P.O. Box 2844 • Hartford, CT 06104-2844
 Call Toll Free: 1-800-637-9238

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
 ORIGINAL - NOT NEGOTIABLE

Shipper No. 018

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

To: <u>Marpal Disposal Company</u>	From: <u>U.S. Army Camp Evans</u>
Street: <u>11861 Wayside Road</u>	City: <u>Building 9035</u>
Postoffice: <u>Tinton Falls, NJ 07724</u>	State: <u>Wall NJ 07719</u>
Form	

No. Shipping Unit	Weight (Gross)	Kind of Packing, Description of Articles, Special Marks and Exceptions	Rate	Charges
①		Crushed in Roll Off 1-2,000 Gallon U.S. St Building # 9035 TANK # 90029-15		

NEARBY C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> COLLECT <input type="checkbox"/>
NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of this property. The agreed or declared value of the property is hereby voluntarily stated by the shipper to be not less than \$ _____ per _____	This is to certify that the above named article is the property of the shipper, and that the same is being transported in accordance with the provisions of the Interstate Commerce Act and the Regulations thereunder. The shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing specification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his consignee.	TOTAL CHARGES: \$

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above is accepted in good order, except as noted (contents and condition of contents of packages unknown, marked, secured, and delivered as indicated above which said carrier has no control being understood throughout this contract in receiving any damage or compensation in possession of the property under the contract) agree to carry to his usual place of delivery at said destination, if on his route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each corner 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 bill of lading terms and conditions in the governing specification on the date of shipment. The shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing specification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his consignee.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>Marpal Disposal Co.</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>[Signature]</u>
DATE <u>1-28-58</u>	

*Mark with "X" in duplicate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reorder Item #BLN74 The Drawing Board, P.O. Box 2844, Hartford, CT 06104-2844
 © EGI, 1952, Printed in U.S.A.

619 789 6149

FROM JMT ENVIRON. TECH.

1955 8:52PM

16*

18

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9035
VESSEL: 2,000 - Gallon Fiberglass UST
(Formerly # 2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 11/18/97, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated ~~steel recycling facility~~ ^{landfill}. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-15**



RD1 Box 5A
Old Bridge, N.J. 08857
(908) 721-0900
Fax (908) 721-0231

STANDARD
COLLECTION
ORDER FORM

181973

Example (Format)

GENERATOR/LOCATION SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

NAME: U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND
INFORMATION/ATTENTION LINE: CAMP EVANS AREA
DELIVERY ADDRESS: 3/0 J. FALLON BLDG 173 ATTN: SELFM-PW-EV
CITY: FORT MONMOUTH STATE: NJ ZIP: 07703
PHONE NUMBER: (732) 532-6223
USA EPA ID NO. (IF APPLICABLE): NJ3210026324
PURCHASE ORDER NUMBER: [blank]
STATE ID NO.: [blank]

NAME: SMC Environmental Services
INFORMATION/ATTENTION LINE: [blank]
DELIVERY ADDRESS: 501 Allendale Road
CITY: King of Prussia STATE: PA ZIP: 19406
PHONE NUMBER: (610) 265-2700 PURCHASE ORDER NUMBER: 16898
MANIFEST NUMBER: NH2008114

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL	1D72	500 gallons				
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
501	DRUM DISPOSAL						
504	TANK ENTRY						
40800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR	1	3 hours				
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.
INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.
GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

\$ []

Generator certifies that the waste is ID-72
In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Charles Appleby SELFM-PW-EV
Print Name Title
Signature Date 11-6-97
GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

N/A
GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS
PPM

550 gallon unknown
UST at 9057

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

Dan Mackey
Print Name Signature
Date 11-6-97
LORCO REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

NJ.3.2.1.0.0.2.0.3.2.4

Manifest Document No.

68114

2. Page 1

of 1

NHZ 008114

Generator's Name and Mailing Address

U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND EVANS AFB
c/o JOSEPH FALLOON BLDG. 173 ATTN: SELFM-PW-EV
FORT MONMOUTH, N.J. 07703

4. Generator's Phone (732) 532-6223

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers

No.

Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII

0 0

T

0.0500

G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

T, L PETROLEUM OIL 1 %
WATER 99 %

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL#87064 ERG#128 DEXSIL TEST KIT RESULTS <1000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

Month Day Year

Charles Appleby SELFM-PW-EV

11 | 11 | 06 | 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

DAN MACKAY

11 | 11 | 06 | 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

ORIGINAL - RETURN TO GENERATOR

GENERATOR

TRANSPORTER

FACILITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Hazardous Waste Manifest No.

NH2008114 dated 11-6-97,

is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

X721: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

ID 72

X722: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

X723: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

X724: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

X725: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

X726: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

X728. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: 5000 PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND CAMP BUNDS AREA

Generator's EPA ID No. NJ3210020324

Address ATTN: SELFM-PW-EV
9/O JOSEPH FALLON BLDG 173
FORT MONMOUTH, N.J. 07703

Print Name Charles Applody Signature [Signature]

Title Env. Pro Spec. SELFM-PW-EV

Date 11-6-97

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9038
Camp Evans Area*

NJDEP UST Registration No. 90029-16

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Figure 2	Building 9038 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On February 19, 1998, a fiberglass underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-16 (Fort Monmouth Identification No. 9038), was located south of Building 9038 in the Camp Evans area of Fort Monmouth. The UST was a 10,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the southern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed surrounding the UST fill port. Samples collected at the time the UST was removed contained non-detectable concentrations of total petroleum hydrocarbons (TPHC). The total amount of soil removed from the excavation was less than 5 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with several loads of 1.5-inch quarry processed stone (because the excavation was located in an asphalt driveway) and clean native soil from the Building 9038 area, as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then compacted and restored to its original condition (except for the asphalt paving which was to be taken care of by Fort Monmouth at a later date).

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-16 at Building 9038.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-16, was closed at Building 9038 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on February 19, 1998. The UST was a fiberglass 10,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-16 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-16 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9038 is located adjacent to Buildings 9036 and 9037 in the main section of the Camp Evans area of the Fort Monmouth Army Base, as shown in Figure 1. UST No. 90029-16 was located south of Building 9038 and associated piping ran approximately 16 feet north from the UST into Building 9038. The UST fill port area was located directly above the southern end of the tank. A site map is provided in Figure 1 showing the location of the UST removed relative to Building 9038.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST, associated piping, and a concrete pad above the UST. Before the decommissioning activities could proceed further, SMC had to break up and remove the concrete pad and transport the fragments to the soil staging area. Afterwards, all free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to removal because of the low volatility of No. 2 fuel oil. After the removal of the concrete pad and the purging and removal of the associated piping, soil excavation continued to uncover the UST. Because of the large size of the UST, SMC decided to remove the tank from the ground prior to opening and cleaning the tank in order to avoid a confined space entry situation. Once the UST was uncovered, SMC cut open the tank with a circular saw and the remaining contents of the tank were removed by a vacuum truck from the Lorco Petroleum Company.

After the majority of the residual sludge in the UST had been removed, the UST was removed from the excavation, staged temporarily on the asphalt driveway, and examined for holes. No holes were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. After the inspection of the UST was completed, SMC transported the tank to Building 9352 where the tank was cut into sections for final cleaning (wiping the interior out with oil absorbent pads).

Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed except for soil located adjacent to the UST fill port. Visual and PID/FID soil screening was also performed along exposed piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was broken up and staged in a rolloff container from Marpal Disposal Company, in Tinton Falls, New Jersey for later pickup and disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate.

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results, visual observations, and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil adjacent to the UST fill port was contaminated. This soil was removed to the staging area for disposal off site at a later date. Afterwards, the excavation was backfilled with several loads of 1.5-inch-diameter quarry processed stone and then clean native soil, as well as clean imported soil, was placed in lifts and compacted with a vibratory roller (because the excavation was located in an asphalt parking lot).

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and the associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit evidence of contamination.

2.2 SOIL SAMPLING

On February 18 and 19, 1998, after the UST removal, post-excavation soil samples 9038N1, 9038N2 (Duplicate of 9038N1), 9038VL, 9038RF, 9038W1, 9038W2, 9038E1, 9038E2, 9038S1, 9038S2 (Duplicate of 9038S1), and 9038DS were collected from nine locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 11.5 to 12-feet below ground surface (bgs) (samples 9038N1 and 9038N2) and 12 to 12.5-feet bgs (samples 9038W1, 9038W2, 9038E1, 9038E2, 9038S1, and 9038S2). No bottom samples could be collected because of the concrete pad. Sample 9038DS was collected from beneath the 9038S1 and 9038S2 sample location at a depth of 13.5 to 14-feet bgs. Sample 9038RF was collected from next to Building 9038 along the former return/feed line piping length of the excavation, which was approximately 16 feet long. Sample 9038RF was collected from 2 to 2.5-feet bgs. Sample 9038VL was collected beneath the former vent line location at a depth of 7 to 7.5-feet bgs. In addition, samples 9038OBS1, 9038OBS2, and 9038OBS3 were collected from the overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from nine locations on February 18 and 19, 1998. All samples were analyzed for TPHC. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on February 18 and 19, 1998 from the UST excavation contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9038 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-16 at Building 9038.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9038, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9038N1	2/18/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038N2	2/18/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038VL	2/18/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038RF	2/18/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038W1	2/18/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038W2	2/18/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038E1	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038E2	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038S1	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038S2	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038DS	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038OBS1	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038OBS2	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9038OBS3	2/19/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

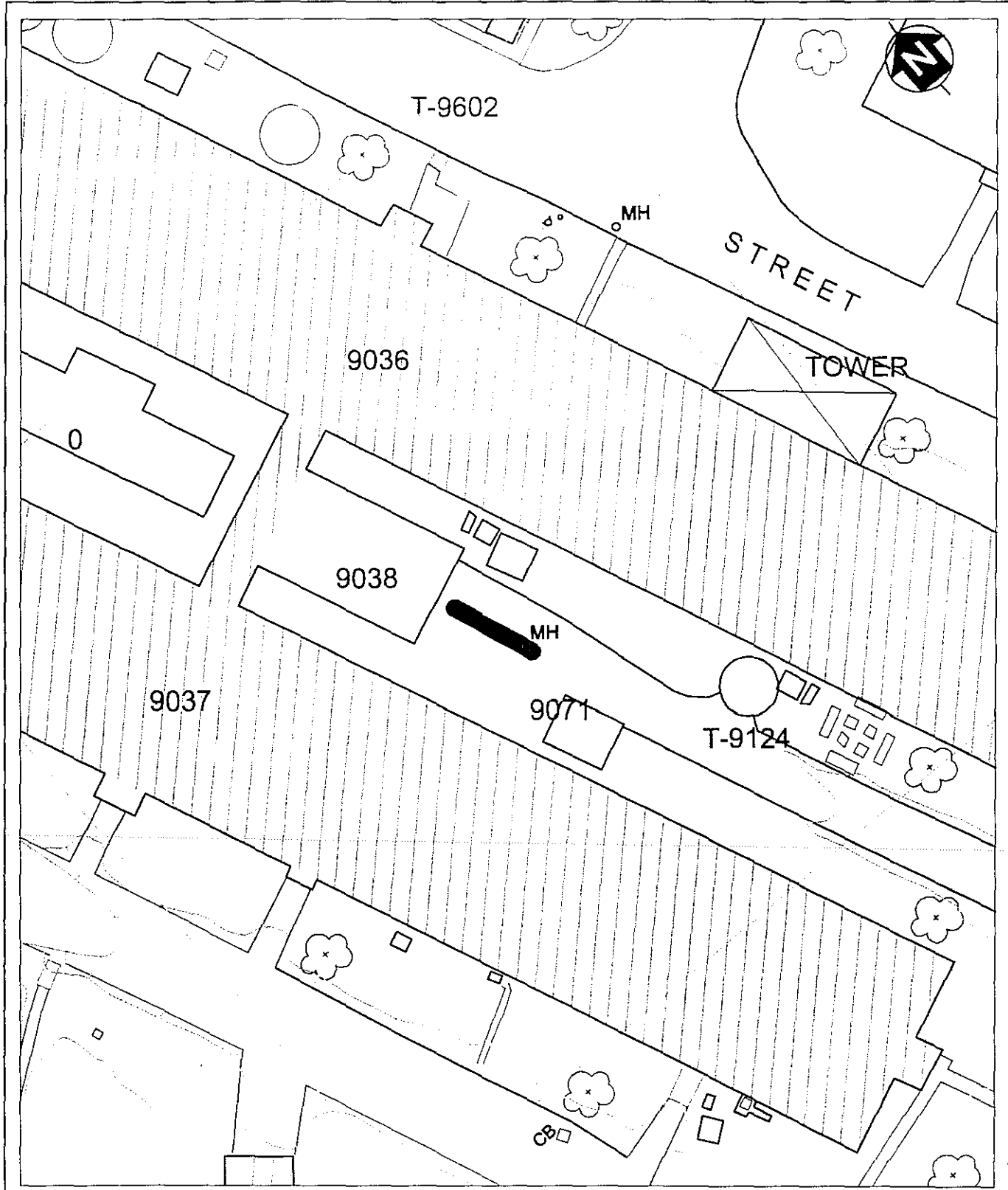
* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9038, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9038N1	3351.01	2/18/98	2/19 - 20/98	TPHC	176	ND	10,000	No
9038N2	3351.02	2/18/98	2/19 - 20/98	TPHC	189	ND	10,000	No
9038VL	3351.03	2/18/98	2/19 - 20/98	TPHC	206	ND	10,000	No
9038RF	3351.04	2/18/98	2/19 - 20/98	TPHC	178	ND	10,000	No
9038W1	3351.05	2/18/98	2/19 - 20/98	TPHC	166	ND	10,000	No
9038W2	3351.06	2/18/98	2/19 - 20/98	TPHC	173	ND	10,000	No
9038E1	3351.07	2/19/98	2/19 - 20/98	TPHC	180	ND	10,000	No
9038E2	3351.08	2/19/98	2/19 - 20/98	TPHC	164	ND	10,000	No
9038S1	3351.09	2/19/98	2/19 - 20/98	TPHC	164	ND	10,000	No
9038S2	3351.10	2/19/98	2/19 - 20/98	TPHC	167	ND	10,000	No
9038DS	3351.11	2/19/98	2/19 - 20/98	TPHC	168	ND	10,000	No
9038OBS1	3351.12	2/19/98	2/19 - 20/98	TPHC	174	ND	10,000	No
9038OBS2	3351.13	2/19/98	2/19 - 20/98	TPHC	167	ND	10,000	No
9038OBS3	3351.14	2/19/98	2/19 - 20/98	TPHC	171	ND	10,000	No

Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



9038.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK

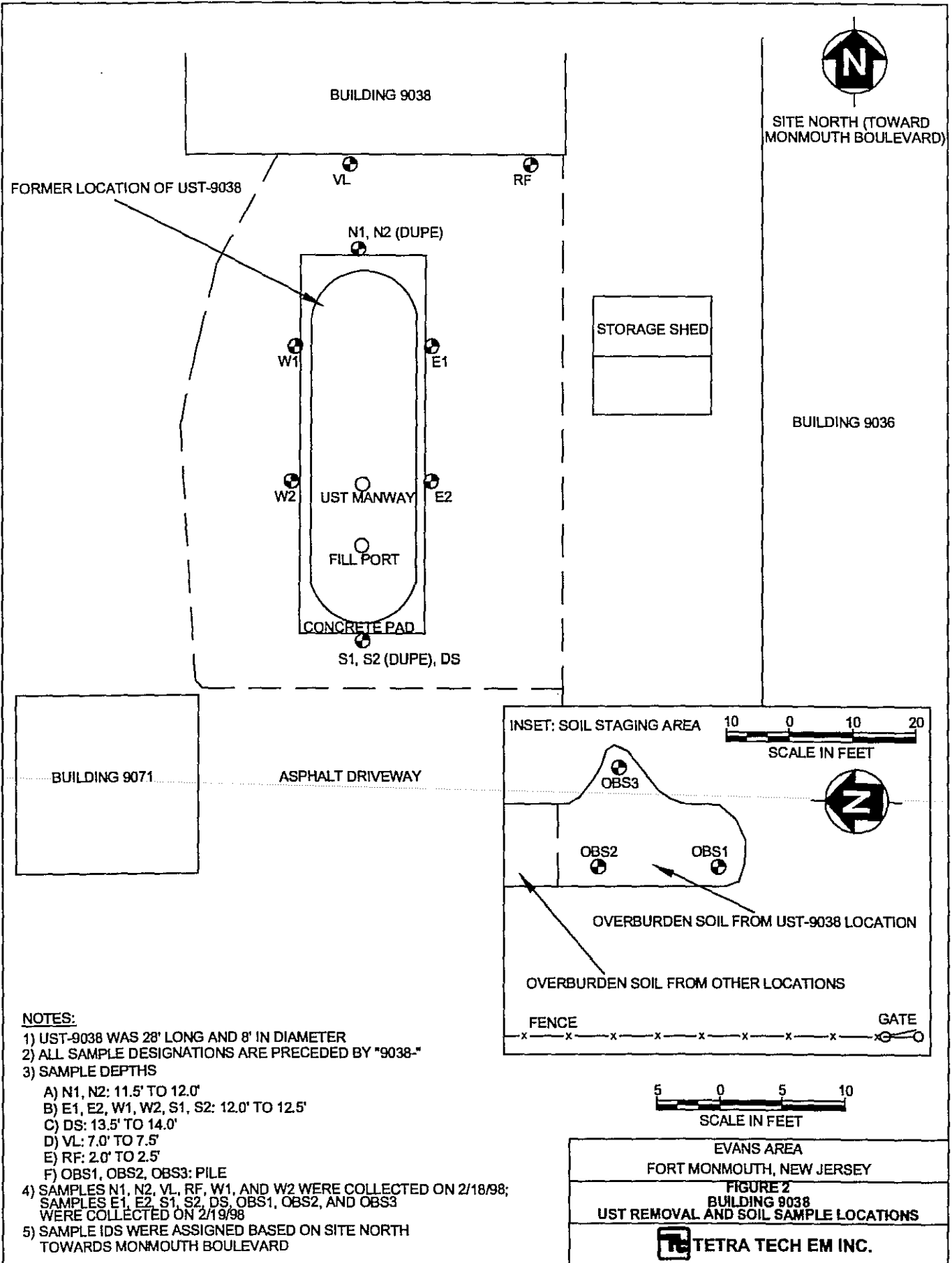


SCALE

EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 1
BUILDING 9038 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.




NOTES:

- 1) UST-9038 WAS 28' LONG AND 8' IN DIAMETER
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9038"
- 3) SAMPLE DEPTHS
 - A) N1, N2: 11.5' TO 12.0'
 - B) E1, E2, W1, W2, S1, S2: 12.0' TO 12.5'
 - C) DS: 13.5' TO 14.0'
 - D) VL: 7.0' TO 7.5'
 - E) RF: 2.0' TO 2.5'
 - F) OBS1, OBS2, OBS3: PILE
- 4) SAMPLES N1, N2, VL, RF, W1, AND W2 WERE COLLECTED ON 2/18/98; SAMPLES E1, E2, S1, S2, DS, OBS1, OBS2, AND OBS3 WERE COLLECTED ON 2/19/98
- 5) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARDS MONMOUTH BOULEVARD

9038.DWG ASC 01/19/99

EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 2
BUILDING 9038
UST REMOVAL AND SOIL SAMPLE LOCATIONS

 **TETRA TECH EM INC.**

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-16

(12/97) New Jersey Department of Environmental Protection Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 16
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-16



PHOTO 1: View of SMC and Lorco personnel removing oil residue/sludge from the interior of UST-9038 (looking south/southeast).



PHOTO 2: View of UST-9038 being removed from the ground (looking northwest).



PHOTO 3: View of sampling activities in the UST-9038 excavation.

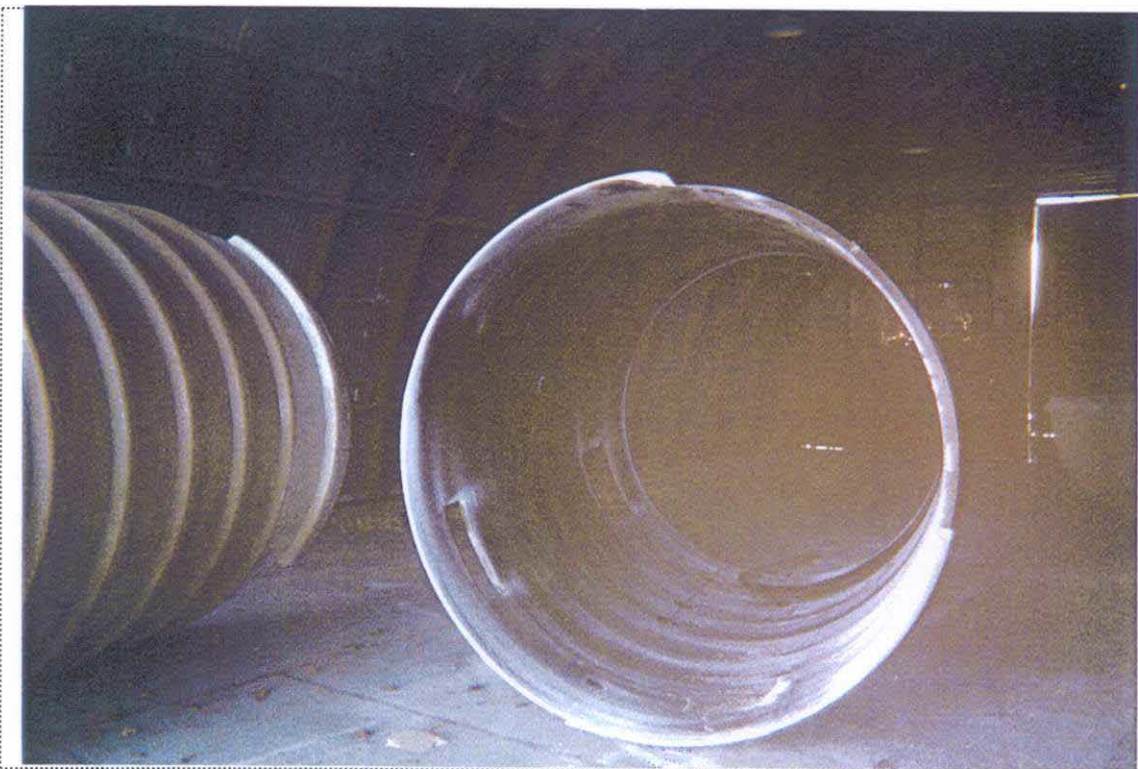


PHOTO 4: Cleaned sections of UST-9038 staged temporarily in Building 9352 prior to being crushed in “roll off” container for ultimate disposal.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-16

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703


Lab. ID # : 3351
Date Rec'd: 19-Feb-98
Analysis Start: 19-Feb-98
Analysis Complete: 20-Feb-98

Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Location #: Bldg 9038

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3351.01	9038-N1	1.00	15.57	85.95	176	ND
3351.02	9038-N2	1.00	15.10	82.22	189	ND
3351.03	9038-VL	1.00	15.13	75.38	206	ND
3351.04	9038-RF	1.00	15.78	83.90	178	ND
3351.05	9038-W1	1.00	15.95	88.67	166	ND
3351.06	9038-W2	1.00	15.31	88.97	173	ND
3351.07	9038-E1	1.00	15.28	85.42	180	ND
3351.08	9038-E2	1.00	15.43	93.04	164	ND
3351.09	9038-S1	1.00	15.61	91.93	164	ND
3351.10	9038-S2	1.00	15.36	91.36	167	ND
3351.11	9038-DS	1.00	15.04	92.73	168	ND
3351.12	9038-OBS1	1.00	15.36	87.87	174	ND
3351.13	9038-OBS2	1.00	15.76	89.39	167	ND
3351.14	9038-OBS3	1.00	15.56	88.40	171	ND
METHOD BLANK	19-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit



Daniel K. Wright
Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-16



Member From
The Drawing Board
PO Box 2044, Hartford, CT 06114-0044

NEORDER ITEM # 04174

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 037

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

Consignee: Macpal Disposal Company | Shipper: U.S. Army Camp Evans
 Street: 1861 Wayside Road | Street: Building 9038
 City/State: Tinton Falls, NJ 07724 | City/State: Wall NJ 07719

No. of Packages (Units)	Weight (Gross)	Kind of Packaging, Description of Articles, Special Marks and Markings	Weight (Gross)	RATE	CHARGES
①		Crushed in Roll OFF 1-10,000 Gallon U.S.F Building # 9038 TANK # 90029-16			

DEST. C.O.D. TO ADDRESS <small>NOTE - Where the ship is directed to deliver, delivery is required to take precedence in making the receipt or delivery of the property.</small> <small>The value of declared value of the property is hereby declared to be correct.</small>	COD Amt: \$ _____ <small>This is to certify that the above named article(s) is/are properly packed, secured, stowed, loaded, unloaded, and delivered in proper condition for transport to the destination indicated on this Bill of Lading.</small>	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ _____ COLLECT <input type="checkbox"/> \$ _____ TOTAL CHARGES: \$ _____
		<small>Signature of Shipper</small> <small>Signature of Consignee</small>

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, reweighed, and delivered as indicated above which shall apply to the vessel carrier being transported throughout this contract in making any portion of carriers' run in possession of the property under the contract agree to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as in each order of all of any of, said property over or on any portion of said route to destination and as in each party at any time interested in all of any of said property, that every service to be rendered hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his agents.

SHIPPER U.S. Army Camp Evans | CARRIER Macpal Disposal Co.
 PER David H. Daniels (Agent) | PER [Signature]
 DATE Mar 10 1998

*Mark with "K" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations. Record Item 04174 The Drawing Board, P.O. Box 2044, Hartford, CT 06114-0044 © 1998, Printed in U.S.A.

FROM INT ENVIRON. TECH. 610 789 6149 1998 8:52PM

37

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9038
VESSEL: 10,000 - Gallon Fiberglass UST
(Formerly # 2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 2/19/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-16**

GENERATOR LOCATION	SHIP TO
QUANTITY	DATE
DELIVERY ADDRESS	CITY
STATE	ZIP
PURCHASE ORDER NUMBER	MANIFEST NUMBER

SHIPPING INFORMATION

IS DOT... IS AIR... IS HAZ...

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	WILLY WATER DISPOSAL						
40502	SLUDGE DISPOSAL						
41001	KEROSENE WATER						
41501	DRUM DISPOSAL						
504	WALKWAY						
801	WASHER SERVICE						
41500	DRUM OPERATOR						
41301	WHEELS SCALDRUM						
41503	WALKWAY MAINTENANCE						
42001	WALKWAY SEPARATION						
41509	WALKWAY PARTS						

CHARGE IN ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.

INVOICES SUBJECT TO CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF 10% PER MONTH UNLESS PERMITTED BY LAW IN ANY JURISDICTION. PAYMENT IS DUE WITHIN 30 DAYS. LATE FEES WILL BE CHARGED AT THE RATE OF 1% PER MONTH UNLESS OTHERWISE PROVIDED BY LAW. LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION INCLUDING REASONABLE ATTORNEY'S FEES.

GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED HEREUNDER HAVE NOT BEEN MIXED OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO CERCLA. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

SMALL QUANTITY GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kg of waste per month as defined in 40 CFR 261.2 and does not accumulate more than 1000 kg of waste at any time.

[Signature]
Generator's Signature

PAYMENT RECEIVED SECTION

AMOUNT RECEIVED: \$

DATE RECEIVED: *2/19/98*

BY: *[Signature]*

Generator certifies that the waste is *SP11*. In accordance with the NAC 726.121 at section 726.121 has the required permits to accept the above described waste.

[Signature]
Generator/Customer

LARGE QUANTITY GENERATOR CERTIFICATION

TEST RESULTS: *PPM*

[Signature]
Generator/Customer

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266.53(b) LORCO has notified the USEPA of its location and used of this site.

[Signature]
Generator/Customer



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

N.J. 37.1.U.O.20.3.2.Y

Manifest Document No.

2. Page 1 of

NHZ 010679

Generator's Name and Mailing Address

U.S. Army Command Post ARSA
71 505TH FAHD Bldg 173 ATTN: SELM-PW-EU
600 Monmouth NJ 07703

4. Generator's Phone (732) 532-6223

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number
NJ 2234941054

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUMYONCHEESEWAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number
NJ 2234941054

C. Facility's Phone
908 721-0900

11. Waste Shipping Name and Description

12. Containers
No. Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UNICLASSIFIED

3 3 X4343 3

b.
c.
d.

D. Additional Descriptions for Materials Listed Above

1. - PETROLEUM OIL
WATER 1 %

3

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL # 87083 BERGM 128 DEXSIL TEST KIT RESULTS 11000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name
X Thomas Appleby SELM-PW-EU

Signature
[Signature]

Month Day Year
12 19 98

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name
Wick

Signature
[Signature]

Month Day Year
12 19 98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR
TRANSPORTER
FACILITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. NH2010679 dated 2.19.98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

1072

L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

L-22: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

L-28. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: _____ PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communication Electronics Center Camp Evans, ALA.

Generator's EPA ID No. US 3210020324

Address c/o Joseph FA1101 BLDG 173. ATTN: SLEFM PW-EV FORT MONMOUTH, N.J. 07703

Print Name Charles Appleby Signature [Signature]

Title Env. Pro Spec. SLEFM-PW-EV

Date 2.19.98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9041
Camp Evans Area*

NJDEP UST Registration No. 90029-17

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Figure 2	Building 9041 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On January 27, 1998, a fiberglass underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-17 (Fort Monmouth Identification No. 9041), was located west of Building 9041 in the Camp Evans area of Fort Monmouth. The UST was a 10,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the southern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and no evidence of contaminated soil was observed. Samples collected at the time the UST was removed contained non-detectable concentrations of total petroleum hydrocarbons (TPHC). No soil was removed from the excavation.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with several loads of quarry processed stone (because the excavation was located in an asphalt parking lot) as well as stockpiled clean overburden soil and clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then compacted and restored to its original condition (except for the asphalt paving which was to be taken care of by Fort Monmouth at a later date).

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-17 at Building 9041.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-17, was closed at Building 9041 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on January 27, 1998. The UST was a fiberglass 10,000-gallon tank containing No. 2 fuel oil. A site location map is provided in Figure 1.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-17 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no historical discharges are associated with UST No. 90029-17.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9041 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Monmouth Boulevard) as shown in Figure 1. UST No. 90029-17 was located west of Building 9041 and associated piping ran approximately 12 feet north/east to a concrete utility passageway that led from the UST into Building 9041. The UST fill port area was located directly above the southern end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9041.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST, associated piping, and a concrete pad above the UST. Before the decommissioning activities could proceed further, SMC had to break up and remove the concrete pad and transport the fragments to the soil staging area. Afterwards, all free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to removal because of the low volatility of No. 2 fuel oil. After the removal of the concrete pad and purging of the associated piping, soil excavation continued to uncover the UST. Because of the large size of the UST, SMC decided to remove the tank from the ground prior to opening and cleaning the tank in order to avoid a confined space entry situation. Once the UST was removed and temporarily staged on the asphalt driveway, SMC cut open the tank with a circular saw and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads. After the UST had been cleaned and removed, SMC excavated and removed the associated piping.

After the UST was removed from the excavation, it was examined for holes. No holes were observed by the Tetra Tech subsurface evaluator (except for a small hole that occurred after the UST was removed from the ground). Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed. Visual and PID/FID soil screening was also performed along exposed piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was broken up and staged in a rolloff container from Marpal Disposal Company, in Tinton Falls, New Jersey for later pickup and disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate.

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, no contaminated soil was present in the excavation. SMC attempted to backfill the excavation with the clean native soil; however, due to rainwater collecting in the excavation, the clean native soil had to be removed to the soil staging area to be stockpiled and dried out (for later use as backfill material for other excavations). As a result, the excavation first had to be backfilled with several loads of quarry processed stone and then clean imported soil were placed in lifts and compacted with a vibratory roller (because the excavation was located in an asphalt parking lot).

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436

- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461
- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and the associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit evidence of contamination.

2.2 SOIL SAMPLING

On January 29, 1998, after the UST removal, post-excavation soil samples 9041S1, 9041S2 (Duplicate of 9041S1), 9041DS, 9041W1, 9041W2, 9041N, 9041VL, and 9041R/F were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations (Samples were not collected from the east side of the excavation at the time due to the possibility that further soil excavation would cause soil slumping and undermine/rupture a utility on that side of the excavation). Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 10.5 to 11-feet below ground surface (bgs). No bottom samples could be collected because of the concrete pad. Sample 9041DS was collected beneath the 9041S1 and 9041S2 sample location from 11.5 to 12-feet bgs. Sample 9041R/F was collected from next to the location where the former return/feed line piping length entered the concrete utility passageway leading into the Building 9041 Furnace Room. Sample 9041R/F was collected from 4.5 to 5-feet bgs. Sample 9041VL was collected from the former vent line location adjacent to Building 9041 from 1 to 1.5-feet bgs. In addition, samples 9041OBS1, 9041OBS2, and 9041OBS3 were collected from the overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Analytical results for the original post-excavation samples revealed that no contamination was present in the areas that were sampled. As a result, on February 17, 1998, Tetra Tech and SMC backfilled the majority of the existing excavation and then excavated the proposed sampling locations on the east side of the former UST location and collected post-excavation soil samples 9041E1, 9041E2 (Duplicate of 9041E1), 9041E3, and 9041CNFRM1 were collected from a total of three sampling locations. The sidewall samples were collected from 10.5 to 11-foot bgs. Sample 9041CNFRM1 was collected from an area of suspected contamination (based on visual observations) from 8.5 to 9-foot bgs. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on January 29, 1998 and three locations on February 17, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on January 29, 1998 and February 17, 1998 from the UST excavation contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9041 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-17 at Building 9041.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9041, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9041S1	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041S2	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041DS	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041W1	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041W2	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041N	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041R/F	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041OBS1	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041OBS2	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041OBS3	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041VL	1/29/98	1/30/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041E1	2/17/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041E2	2/17/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041CNFRM1	2/17/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9041E3	2/17/98	2/19/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9041, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9041S1	3305.01	1/29/98	1/30/98	TPHC	170	ND	10,000	No
9041S2	3305.02	1/29/98	1/30/98	TPHC	167	ND	10,000	No
9041DS	3305.03	1/29/98	1/30/98	TPHC	169	ND	10,000	No
9041W1	3305.04	1/29/98	1/30/98	TPHC	165	ND	10,000	No
9041W2	3305.05	1/29/98	1/30/98	TPHC	157	ND	10,000	No
9041N	3305.06	1/29/98	1/30/98	TPHC	165	ND	10,000	No
9041R/F	3305.07	1/29/98	1/30/98	TPHC	173	ND	10,000	No
9041OBS	3305.08	1/29/98	1/30/98	TPHC	169	ND	10,000	No
9041OBS	3305.09	1/29/98	1/30/98	TPHC	177	ND	10,000	No
9041OBS	3305.10	1/29/98	1/30/98	TPHC	169	ND	10,000	No
9041VL	3305.11	1/29/98	1/30/98	TPHC	178	ND	10,000	No
9041E1	3345.01	2/17/98	2/19/98	TPHC	164	ND	10,000	No
9041E2	3345.02	2/17/98	2/19/98	TPHC	166	ND	10,000	No
9041CNFRM1	3345.03	2/17/98	2/19/98	TPHC	173	ND	10,000	No
9041E3	3345.04	2/17/98	2/19/98	TPHC	176	ND	10,000	No

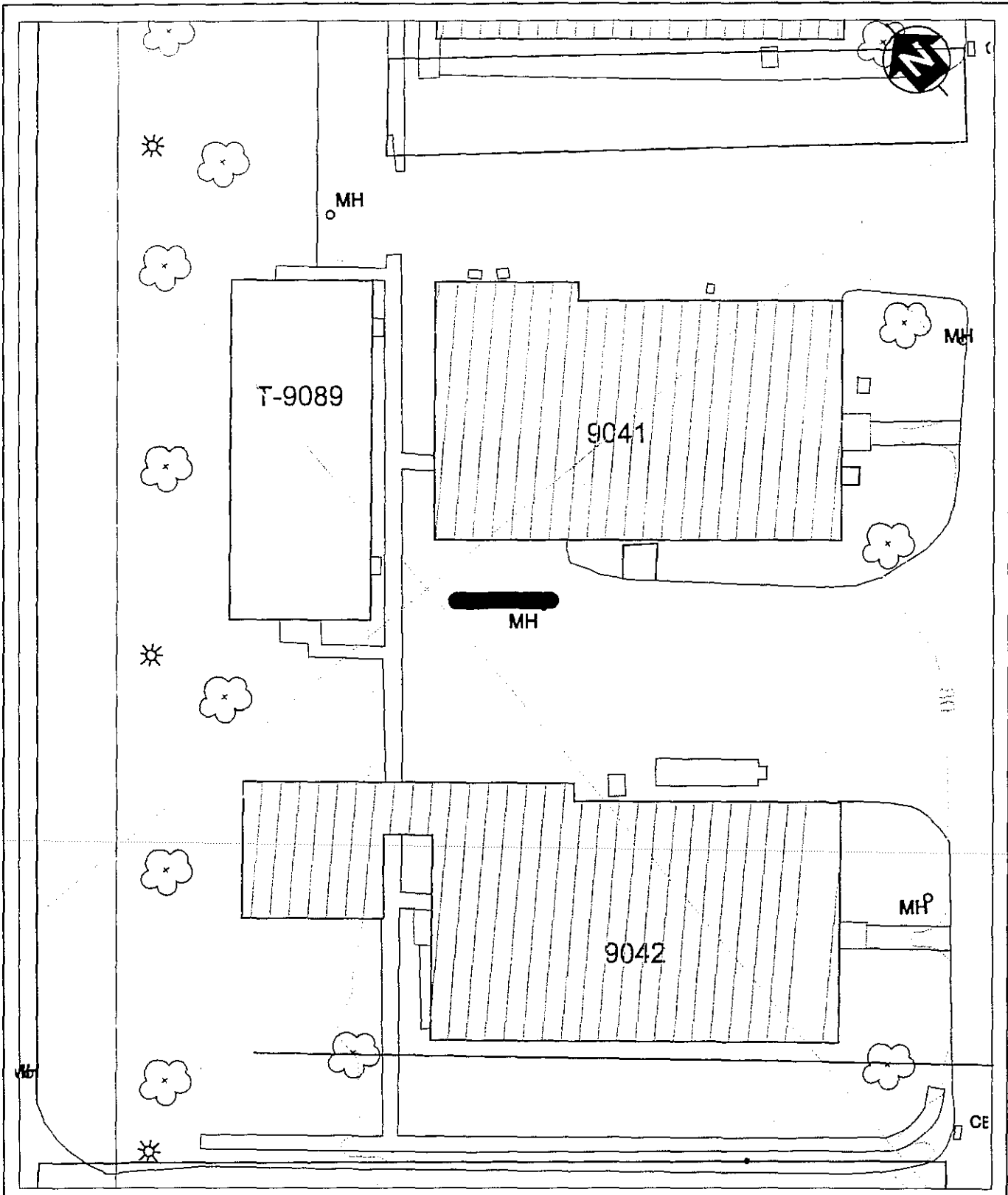
Note:

* Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.

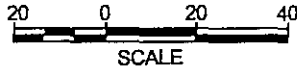
ND Not detected

TPHC Total petroleum hydrocarbons

9041.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 1
BUILDING 9041 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.

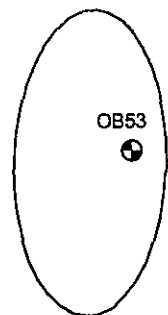
BUILDING 9089



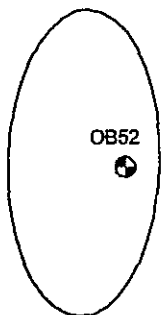
SITE NORTH (TOWARD MONMOUTH BOULEVARD)

CONCRETE UTILITY PASSAGEWAY

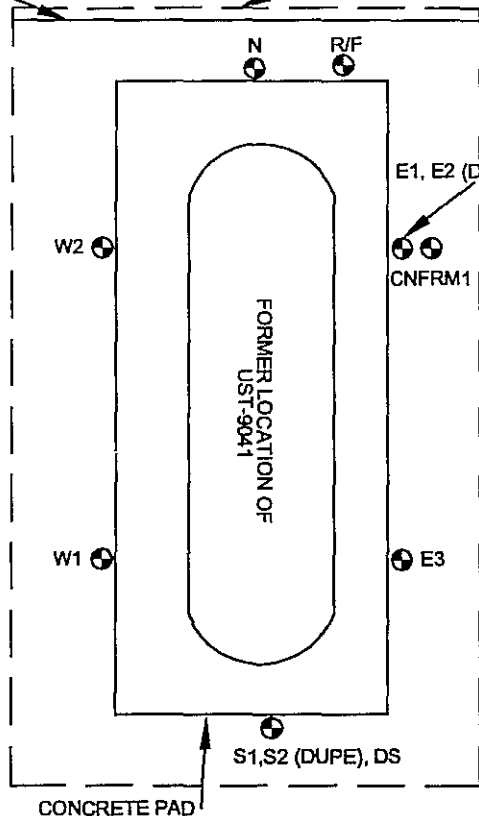
LIMITS OF EXCAVATION



OB53



OB52



FORMER LOCATION OF UST-9041

W2

W1

N

R/F

E1, E2 (DUPE)

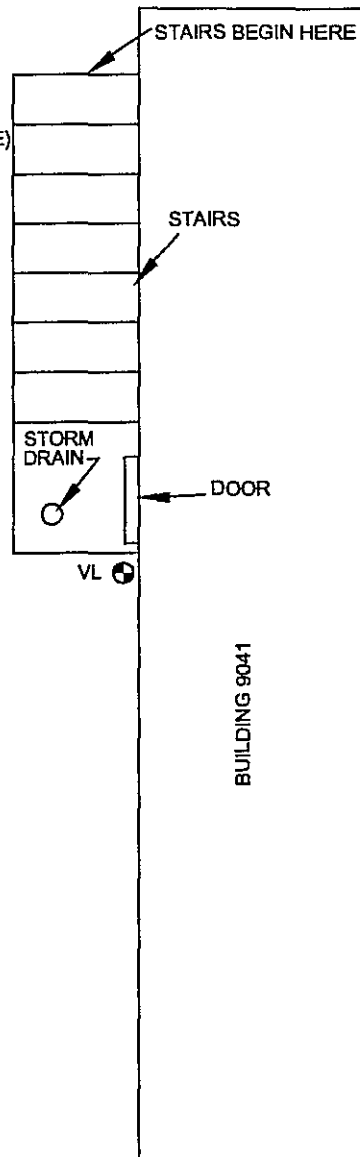
CNFRM1

E3

S1, S2 (DUPE), DS

CONCRETE PAD

OB51



STAIRS BEGIN HERE

STAIRS

STORM DRAIN

DOOR

VL

BUILDING 9041

NOTES:

- 1) UST-9041 WAS 28' LONG AND 8' IN DIAMETER.
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9041."
- 3) SAMPLE DEPTHS:
 - A) S1, S2, W1, W2, N, E1, E2, E3 : 10.5' TO 11.0'
 - B) DS : 11.5' TO 12.0'
 - C) R/F : 4.5' TO 5.0'
 - D) OBS1, OBS2, OBS3: PILE
 - E) VL: 1.0' TO 1.5'
 - F) CNFRM1 : 8.5' TO 9.0'
- 4) SAMPLES FROM THE N,W, AND S SIDES AND THE OVERBURDEN SOIL PILES WERE COLLECTED ON 1/29/98; SAMPLES FROM THE E SIDE AND CNFRM1 WERE COLLECTED ON 2/17/98.
- 5) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARD MONMOUTH BOULEVARD



SCALE IN FEET

EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 2
BUILDING 9041
UST REMOVAL AND SOIL SAMPLE LOCATIONS



9041.DWG ASC 01/19/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-17

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 17
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

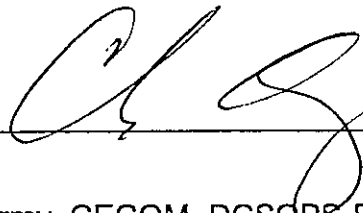
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-17



PHOTO 1: View of UST-9041 being uncovered (looking north).



PHOTO 2: View of UST-9041 being removed from the ground (looking north/northwest).



PHOTO 3: View of sampling locations in the UST-9041 excavation (looking south).



PHOTO 4: View of cleaned sections of UST-9041 awaiting staging in a roll off container for disposal off site.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-17

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client : U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703


Lab. ID #: 3305
Date Rec'd: 30-Jan-98
Analysis Start: 30-Jan-98
Analysis Complete: 30-Jan-98

Analysis: OQA-QAM-025
Matrix: Soil
Analyst: D.DEINHARDT
Ext. Meth: Shake

UST Reg. #:
Closure #:
DICAR #:
Location #: Bldg 9041

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3305.01	S1(10.5-11)	1.00	15.37	89.68	170	ND
3305.02	S2(10.5-11)	1.00	15.49	90.86	167	ND
3305.03	DS(11.5-12)	1.00	15.53	89.62	169	ND
3305.04	W1(10.5-11)	1.00	15.74	90.41	165	ND
3305.05	W2(10.5-11)	1.00	15.55	96.37	157	ND
3305.06	N(10.5-11)	1.00	15.58	91.63	165	ND
3305.07	R/F(4.5-5)	1.00	15.74	86.07	173	ND
3305.08	OBS1(PILE)	1.00	15.25	91.05	169	ND
3305.09	OBS2(PILE)	1.00	15.57	85.46	177	ND
3305.10	OBS3(PILE)	1.00	15.84	87.80	169	ND
3305.11	VL(1-1.5)	1.00	15.67	84.34	178	ND
METHOD BLANK	30-Jan-98	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

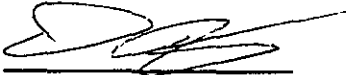
Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client :	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	Lab. ID # : Date Rec'd: Analysis Start: Analysis Complete:	3345 18-Feb-98 19-Feb-98 19-Feb-98
----------	--	---	---

Analysis: Matrix: Analyst: Ext. Meth:	OQA-QAM-025 Soil D.DEINHARDT Shake	UST Reg. #: Closure #: DICAR #: Location #:	 Bldg 9041
--	---	--	-----------------------

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3345.01	9041-E1	1.00	15.65	91.44	164	ND
3345.02	9041-E2	1.00	15.68	90.51	166	ND
3345.03	9041-CNFRM1	1.00	15.62	87.05	173	ND
3345.04	9041-E3	1.00	15.02	88.96	176	ND
METHOD BLANK	18-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-17



Member From
The Drawing Board
 833 Broadway, New York, NY 10014-0004
 212-677-1222

REORDER ITEM # 04N74

STRAIGHT BILL OF LADING
 ORIGINAL - NOT NEGOTIABLE

Shipper No. 034

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

To: <u>Marpal Disposal Company</u>		From: <u>U.S. Army Camp Evans</u>	
Route: <u>1861 Wayside Road</u>		Street: <u>Building 9041</u>	
Destination: <u>Tinton Falls, N.J. 07724</u>		Origin: <u>Wall NJ 07719</u>	
Name: _____		Vehicle Number: _____	

No. of Packages (Units)	Rate	Kind of Property, Description of Contents, Special Markings and Labels	Weight (Including Container)	Rate	CHARGES
①		Crushed in Roll OFF 1-10,000 Gallon U.S.T Building # 9041 TANK # 90029-35			

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/> \$ TOTAL CHARGES: \$
<small>NOTE - Where the rate of shipment is other than the rate specified in this bill of lading, the shipper shall be held responsible for the payment of the excess charges.</small> <small>The carrier or delivery agent of the property is hereby authorized to deliver the property to the consignee at the address shown on this bill of lading.</small>	<small>This bill of lading is subject to the terms, conditions, and regulations of the carrier's tariff and to the applicable regulations of the Department of Transportation.</small>	<small>Subject to Section 7 of the carrier's Tariff of Rates it is agreed that the carrier will not be liable for loss or damage to the property if the carrier is not notified of the nature of the property and its weight at the time of shipment.</small>

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above is accepted good and true, except as noted (contents and condition of contents of packages unknown, packed, secured, and sealed as indicated above which shall remain the responsibility of the shipper) and is being transported through the carrier's contract of carriage in accordance with the terms and conditions of the contract of carriage. It is mutually agreed as to each parcel of all or any part, 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 bill of lading terms and conditions in the governing classification on the date of shipment. It is further agreed that the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his agents.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>Marpal Disposal Co.</u>
PER <u>Daniel H. Danisco (Agent)</u>	PER <u>[Signature]</u>
DATE _____	DATE <u>2/12/98</u>

*Mark with "K" to designate Hazardous Material as defined by Title 49 of the Code of Federal Regulations.

1996 8:52PM FROM JMT ENVIRON TECH 618 789 6149

1 ← *
6 *

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

34

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9041

VESSEL: 10,000 - Gallon Fiberglass UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 1/28/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated ^{landfill} steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
 Signature

David H. Daniels / site manager
 Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-17**



Old Branch No. 08857
7321721000
7321721023

SALES
ORDER

GENERATOR/LOCATION

UNIT

INFORMATION ATTENTION LINE

UNIT APPROVAL CODES

INFORMATION ATTENTION LINE

UNIT APPROVAL CODES

DELIVERY ADDRESS

DELIVERY ADDRESS

CITY

CITY

PHONE NUMBER

PURCHASE ORDER NUMBER

PHONE NUMBER

PURCHASE ORDER NUMBER

STATE ID NUMBER

STATE ID NUMBER

MANIFEST NUMBER

SHIPPING INFORMATION

The quantity and the proper name, materials are properly classified, described, packaged, labeled and marked in proper conformity with the regulations of the Department of Transportation, DOT, and the US DOT Description (including proper Shipping Name, Hazard Class and ID Number)

SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL						
40502	SLUDGE DISPOSAL	DOT	600	GAL			
41001	GASOLINE/WATER						
4501	DRUM DISPOSAL						
4504	TANK ENTRY						
4800	PARTS WASHER SERVICE						
41500	TRUCK OPERATOR						
4151	NEW 55 GAL DRUM						
4150	3G ACC ANALYTICAL TESTING						
4200	INDEX TEST KITS						
41509	TRANSPORTATION						

PUMPOUT DRUMS - 2 OIL BOTTOMS 500-600 GALS

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION. INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION INCLUDING REASONABLE ATTORNEY'S FEES. GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is **DOT** in accordance with the N.J.A.C. 7:26-12.1 et seq. LORCO has the required permits to accept the above described waste.

Signature: *Charles Deely*
Date: *1-28-98*
GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL
GENERATOR CERTIFICATION

Certify that this generator generates less than 100 kilograms of hazardous waste per month as defined at 40 CFR 261 and does not accumulate more than 1,000 kilograms of such waste during the month.
Signature: *[Signature]*
GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION
SIX-MONTH TEST RESULTS
Signature: *[Signature]*
PPM

PAYMENT RECEIVED SECTION

CASH	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

Signature: *[Signature]*
Date: *1-28-98*
SALES REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

NHZ 009548

NJ321002032409548

Generator's Name and Mailing Address

US Army Communications Electronics Command
Camp Evans Area, Ft. Monmouth, N.J., 07703

4. Generator's Phone ()

5. Transporter 1 Company Name

LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number

NJD084044064

A. Transporter's Phone

908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEWAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number

NJD084044064

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers No. Type

13. Total Quantity

14. Unit W/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII

001 TTX 600 G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

T,L PETROLEUM OIL 98%
WATER 2%

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL# 8704 ERG#128 DEXSIL TEST KIT RESULTS N/A PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Charles Apala

Signature

SELF EMPLOYED

Month Day Year

01/12/89

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

DON TAGUINOT

Signature

Don Taguinot

Month Day Year

01/12/89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR'S COPY

GENERATOR

TRANSPORTER

FACILITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. 09548 dated 1-28-98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

L-22: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

L-28: Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: N/A PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communications Electronics Command

Generator's EPA ID No. NJ3210020324

Address Camp Evans Area, Ft. Monmouth, N.J., 07703

Print Name Charles Appleby Signature CA

Title Env. Prot. Spec. SELPM-PW-EV

Date 1-28-98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9045
Camp Evans Area*

NJDEP UST Registration No. 90029-18

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES.....	2
1.1 Site Description	2
1.2 Underground Storage Tank Excavation And Cleaning	3
1.3 Underground Storage Tank Transportation And Disposal.....	3
1.4 Management Of Excavated Soils.....	4
2.0 SITE INVESTIGATION ACTIVITIES	4
2.1 Field Screening/Monitoring	5
2.2 Soil Sampling.....	5
3.0 SOIL SAMPLING RESULTS	6
4.0 CONCLUSIONS AND RECOMMENDATIONS.....	6

TABLES

Table 1	Summary of Post-Excavation Sampling Activities
Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9045 - UST Removal Location Map
Figure 2	Building 9045 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On January 5, 1998, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-18 (Fort Monmouth Identification No. 9045), was located west of Building 9045 in the Camp Evans area of Fort Monmouth. The UST was a 1,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the southern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed surrounding the fill port. Samples collected at the time the UST was removed contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 303.69 milligrams per kilogram (mg/kg). The total amount of soil removed from the excavation was 20 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9045 area and clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-18 at Building 9045.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-18, was closed at Building 9045 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on January 5, 1998. The UST was a steel 1,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-18 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-18 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9045 is the Radiation Safety Building located in the main section of the Camp Evans area of the Fort Monmouth Army Base as shown in Figure 1. UST No. 90029-18 was located west of Building 9045 and associated piping ran approximately 6 feet east from the UST to Building 9045. The UST fill port area was located directly above the southern end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9045.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged on polyethylene sheeting, and examined for holes. No holes or punctures were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed or detected by the PID/FID except for soil located adjacent to the UST fill port. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil adjacent to the UST fill port was contaminated. This soil was removed to the staging area for disposal off site at a later date and the clean excavated soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit any evidence of potential contamination at the time of the UST removal; however, soil adjacent to the UST fill port did exhibit indications of contamination and was transported to the soil staging area.

2.2 SOIL SAMPLING

On January 5, 1997, after UST removal, post-excavation soil samples 9045B1, 9045B2 (Duplicate of 9045B1), 9045B3, 9045DS, 9045N, 9045E, 9045S, 9045W, 9045VL, and 9045RF were collected from nine locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the former UST location, and bottom samples were collected from 0 to 6-inches beneath the former UST location, or 6.5 to 7-feet below ground surface (bgs). The sidewall samples were collected from 6 to 6.5-feet bgs. Sample 9045DS was collected beneath the 9045B3 sample location from 8 to 8.5-feet bgs. In addition, sample 9045VL was collected adjacent to Building 9045 at the former location of the vent line from 2 to 2.5-feet bgs. Sample 9045RF was collected from next to Building 9045 along the former return/feed line piping length of the excavation, which was approximately 6 feet long. Sample 9045RF was collected from 3 to 3.5-feet bgs. Lastly, samples 9045OBS1 and 9045OBS2 were collected from the overburden soil piles to verify that the piles were not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from nine locations on January 5, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on January 5, 1998, from the UST excavation, from below piping associated with the UST, and from the overburden soil piles contained concentrations of TPHC ranging from non-detect to 303.69 milligrams per kilograms (mg/kg).

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9045 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-18 at Building 9045.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9045, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9045OBS1	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045OBS2	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045B1	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045B2	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045B3	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045DS	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045N	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045E	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045S	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045W	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045VL	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9045RF	1/5/98	1/6/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

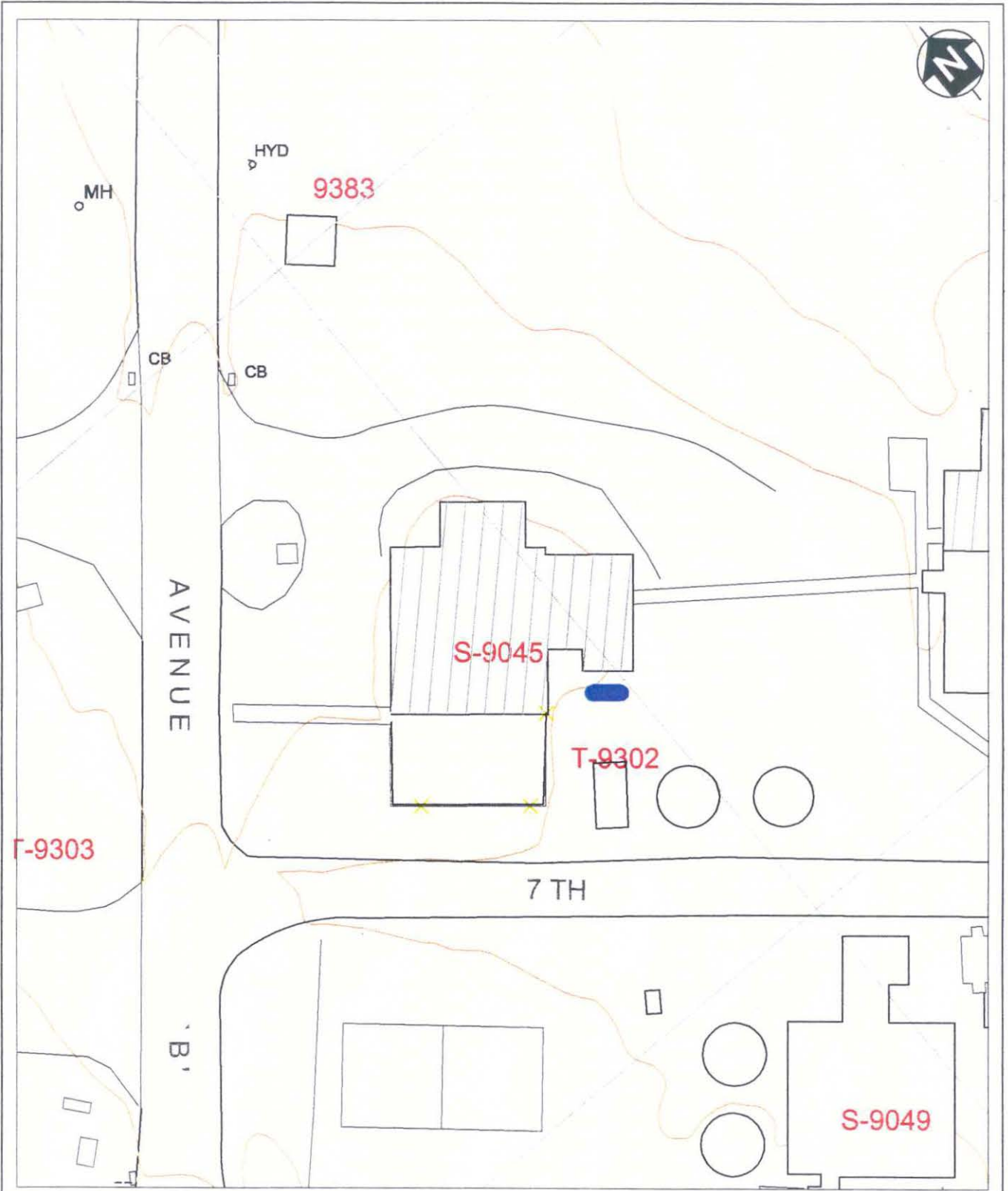
* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9045, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9045OBS1	3265.01	1/5/98	1/6 - 7/98	TPHC	181	ND	10,000	No
9045OBS2	3265.02	1/5/98	1/6 - 7/98	TPHC	179	ND	10,000	No
9045B1	3265.03	1/5/98	1/6 - 7/98	TPHC	156	ND	10,000	No
9045B2	3265.04	1/5/98	1/6 - 7/98	TPHC	165	ND	10,000	No
9045B3	3265.05	1/5/98	1/6 - 7/98	TPHC	162	ND	10,000	No
9045DS	3265.06	1/5/98	1/6 - 7/98	TPHC	166	ND	10,000	No
9045N	3265.07	1/5/98	1/6 - 7/98	TPHC	161	ND	10,000	No
9045E	3265.08	1/5/98	1/6 - 7/98	TPHC	165	ND	10,000	No
9045S	3265.09	1/5/98	1/6 - 7/98	TPHC	163	ND	10,000	No
9045W	3265.10	1/5/98	1/6 - 7/98	TPHC	165	ND	10,000	No
9045VL	3265.11	1/5/98	1/6 - 7/98	TPHC	177	303.69	10,000	No
9045RF	3265.12	1/5/8	1/6 - 7/98	TPHC	180	ND	10,000	No

Note:

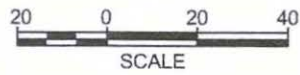
- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons




9045.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK

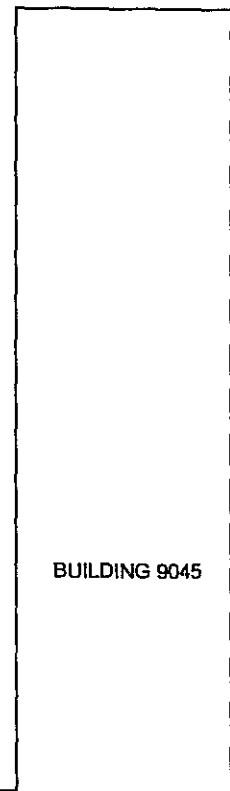
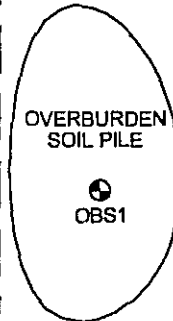
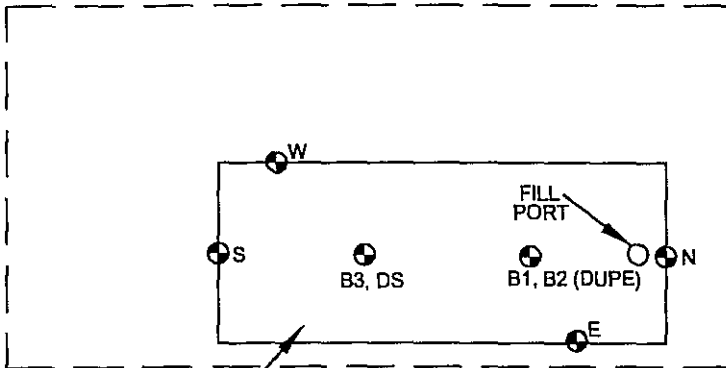
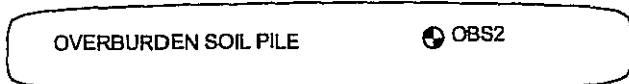


SCALE

EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 1 BUILDING 9045 - UST REMOVAL LOCATION MAP
 TETRA TECH EM INC.

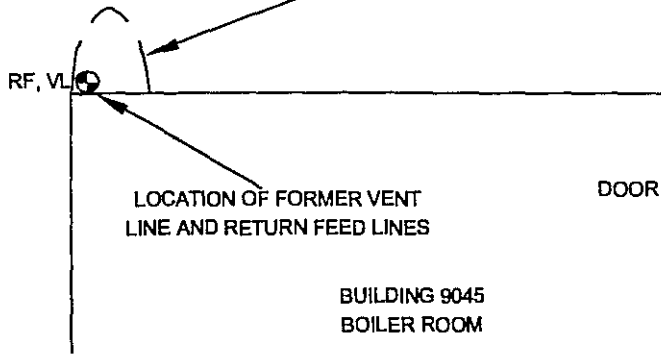


SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



FORMER LOCATION OF UST-9045


LIMIT OF EXCAVATION



NOTES :

- 1) UST-9045 WAS 10' LONG AND 4' IN DIAMETER
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9045-".
- 3) SAMPLE DEPTHS :
 - A) B1, B2, B3 : 6.5' TO 7.0'
 - B) DS : 8.0' TO 8.5'
 - C) N, E, S, W : 6.0' TO 6.5'
 - D) VL : 2.0' TO 2.5'
 - E) RF : 3.0' TO 3.5'
 - F) OBS1, OBS2 : PILES
- 4) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARDS MONMOUTH BOULEVARD



EVANS AREA
FORT MONMOUTH, NEW JERSEY
FIGURE 2
BUILDING 9045
UST REMOVAL AND SOIL SAMPLE LOCATIONS
 TETRA TECH EM INC.

9045.DWG ASC 01/19/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-18

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 18
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

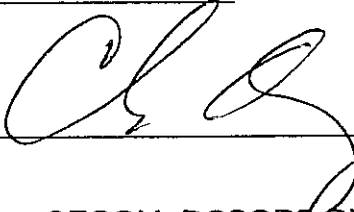
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-18



PHOTO 1: View of UST-9045 after cleaning (looking southeast).



PHOTO 2: View of UST-9045 being removed from the ground (looking south/southwest).



PHOTO 3: View of sampling locations in the UST-9045 excavation (looking north/northeast).



PHOTO 4: View of UST-9045 staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-18

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

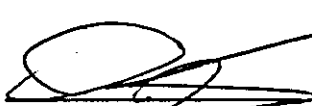
Client :	U.S. Army	Lab. ID # :	3265
	DPW. SELFM-PW-EV	Date Rec'd:	06-Jan-98
	Bldg. 173	Analysis Start:	06-Jan-98
	Ft. Monmouth, NJ 07703	Analysis Complete:	07-Jan-98

Analysis:	OQA-QAM-025	UST Reg. #:	
Matrix:	Soil	Closure #:	
Analyst:	D.DEINHARDT	DICAR #:	
Ext. Meth:	Shake	Location #:	Bldg. 9045

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3265.01	9045-OBS1	1.00	15.02	86.53	181	ND
3265.02	9045-OBS2	1.00	15.29	85.71	179	ND
3265.03	9045-B1	1.00	15.85	95.05	156	ND
3265.04	9045-B2	1.00	15.36	92.78	165	ND
3265.05	9045-B3	1.00	15.49	93.57	162	ND
3265.06	9045-DS	1.00	15.05	94.21	166	ND
3265.07	9045-N	1.00	15.61	93.58	161	ND
3265.08	9045-E	1.00	15.26	93.26	165	ND
3265.09	9045-S	1.00	15.35	93.73	163	ND
3265.10	9045-W	1.00	15.15	93.98	165	ND
3265.11	9045-VL	1.00	15.64	84.70	177	303.69
3265.12	9045-RF	1.00	15.42	84.48	180	ND
METHOD BLANK	6-Jan-98	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-18



Reader From:
The Drawing Board
P.O. Box 2044 - Hartford, CT 06104-2044
Call Toll Free: 1-800-527-6339

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 029

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

To: <u>Mazza + Sons, inc</u>	From: <u>U.S. Army Camp Evans</u>
Street: <u>3230 Shafto Road</u>	Street: <u>Building 9045</u>
Port/Zone: <u>Tinton Falls, NJ 07753</u>	City: <u>Wall, NJ 07719</u>

No. Shipping Unit	HTS	Kind of Package, Description of Article, Special Marks and Instructions	Weight (Subject to Correction)	RATE	CHARGES
①		FOR SAMP ONLY 1-1,000 Gallon U.S.T. SKILL CLAM # Building # 9045 TANK # 90029-18			

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> COLLECT <input type="checkbox"/>
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 article is the property described, described, packaged, marked and labeled, & of proper condition for transportation according to the applicable regulations of the Department of Transportation.	TOTAL CHARGES: \$
	Signature _____ (Signature of Consignor)	PRINTER CHECKS: INCORPORATED Check box if checked <input type="checkbox"/> OTHER CHARGES: <input type="checkbox"/>

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, received, consigned, and retained as indicated above which said carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract agree to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all of 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 bill of lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Mark C. Apolito</u>
	DATE <u>1/19/88</u>

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations. Reorder Item #BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044 © EGI, 1982, Printed in U.S.A.

1985 8:52PM FROM JMT ENVIRON. TECH. 610 789 6149

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

29

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9045
VESSEL: 4,000-gallon steel UST
(Formerly # 2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 1/5/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels

Signature

David H. Daniels / site manager

Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-18**



Old Bldg. No. 08857
73217210900
EX 73217210231

STANDARD
COLLECTION
OFFER

GENERATOR/LOCATION

DATE

INFORMATION ATTENTION LINE	ACCOUNT APPROVAL CODE	INFORMATION ATTENTION LINE	ACCOUNT APPROVAL CODE
DELIVERY ADDRESS	DELIVERY ADDRESS	DELIVERY ADDRESS	DELIVERY ADDRESS
CITY	CITY	CITY	CITY
PHONE NUMBER	PHONE NUMBER	PHONE NUMBER	PHONE NUMBER
USA PERIODIC APPLICABLE	STATE ID NO.	MANIFEST NUMBER	

SHIPPING INFORMATION

These materials are properly classified, described, packaged, marked and labeled and are in proper condition for shipment according to the Department of Transportation regulations (49 CFR 171-177) and the US DOT description (including proper shipping name, hazard class and ID number).

NO. TYPE OF DMT US DOT Description (including proper shipping name, hazard class and ID number) SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	MINES TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL						
40502	SLUDGE DISPOSAL	2072	600	GAL			
41001	GASOLINE/WATER						
501	DRUM DISPOSAL						
304	TANK ENTRY						
0800	PARTS WASHER SERVICE						
41500	TRUCK OPERATOR FEE						
4151	NEW 55 GAL DRUM FEE						
41503	COAG ANALYTICAL TESTING						
42001	DEYSIL TEST KIT						
41509	TRANSPORTATION						
			QUANTITY TOTAL				

QUANTITY TOTAL 500-600 GALS

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION. INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION INCLUDING REASONABLE ATTORNEY'S FEES.

GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED TO LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF, OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is 2072 in accordance with the N.J.A.C. 7:26-12.1 et seq. LORCO has the required permits to accept the above described waste.

Print Name: Chas Acley
Signature: [Signature]
Date: 1-28-98
GENERATOR/CUSTOMER

GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month as defined at 40 CFR 261 and does not accumulate more than 1,000 kilograms of such waste during the month.

[Signature]
GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

DEYSIL TEST RESULTS: N/A PPM

PAYMENT RECEIVED SECTION

CASH	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 265.57(a) LORCO has notified the USEPA of this location and used formal permit activities.

Signature: [Signature]
Date: 1-28-98
LORCO REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

NHZ 009548

WJ3 21002032409548

Generator's Name and Mailing Address
US Army Communications Electronics Command
Camp Evans Area, Ft. Monmouth, N.J., 07703

4. Generator's Phone ()

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

C. Facility's Phone
908 721-0900

11. Waste Shipping Name and Description

12. Containers

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII

No. Type
0 0 1 T X X 600 G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above
T, L PETROLEUM OIL 98%
WATER 2%

E. Handling Codes for Wastes Listed Above
T04 FILTRATION

15. Special Handling Instructions and Additional Information
24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL# 87084 EMERG#128 DEXSIL TEST KIT RESULTS N/A PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

Month Day Year

Charles Apalick

SELF EMPLOYED

[Signature]

6/12/87

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

Don Tagliavini

[Signature]

6/12/87

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR FACILITY

GENERATOR'S COPY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. 09548 dated 1-28-98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

L-22: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

L-28. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: N/A PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communications Electronics Command

Generator's EPA ID No. NJ3210020324

Address Camp Evans Area, Ft. Monmouth, N.J., 07703

Print Name Charles Appleby

Signature CA

Title Env. Prot. Spec SEUPM PW-EV

Date 1-28-98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9047
Camp Evans Area*

NJDEP UST Registration No. 90029-19

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FIGURES

Figure 1	Building 9047 - UST Removal Location Map
Figure 2	Building 9047 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On February 27, 1998, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-19 (Fort Monmouth Identification No. 9047), was located north of Building 9047 in the Camp Evans area of Fort Monmouth. The UST was a 1,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the center of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). One hole approximately 0.125-inch in diameter was noted in the UST and evidence of potentially contaminated soil was observed above and surrounding the tank. Samples collected at the time the UST was removed contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 299.27 milligrams per kilogram (mg/kg). The total amount of soil removed from the excavation was 15 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-19 at Building 9047.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-19, was closed at Building 9047 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on February 27, 1998. The UST was a steel 1,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-19 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that at least one historical discharge was associated with UST No. 90029-19 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9047 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Area "G"), as shown in Figure 1. UST No. 90029-19 was located north of Building 9047 and associated piping ran approximately 10 feet south from the UST to Building 9047. The UST fill port area was located directly above the center of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9047.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged on polyethylene sheeting, and examined for holes. One hole approximately 0.125-inch in diameter was observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. Evidence of contamination was observed or detected by the PID/FID in soil located adjacent to the UST. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil adjacent to the UST was contaminated. This soil was removed to the staging area for disposal off site at a later date and imported clean fill was used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST did exhibit evidence of potential contamination at the time of the UST removal and was transported to the soil staging area; however, soil adjacent to the associated piping as well as the UST excavation sidewalls and bottom did not exhibit indications of contamination.

2.2 SOIL SAMPLING

On February 27, 1998, after UST removal, post-excavation soil samples 9047B1, 9047B2 (Duplicate of 9047B1), 9047B3, 9047E, 9047S, 9047N, 9047W, and 9047R/F/VL were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the former UST location, and bottom samples were collected from 0 to 6-inches beneath the former UST location, or 5.5 to 6-feet below ground surface (bgs). The sidewall samples were collected from 5 to 5.5-feet bgs. Sample 9047R/F/VL was collected from next to Building 9047 along the former return/feed line piping length of the excavation, which was approximately 10 feet long. Sample 9047R/F/VL was collected from 1 to 1.5-feet bgs. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on February 27, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on February 27, 1998, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC ranging from non-detect to 299.27 milligrams per kilogram (mg/kg).

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9047 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-19 at Building 9047.

Legend of Sample identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9047, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9047R/FVL	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9047B1	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9047B2	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9047B3	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9047E	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9047S	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9047N	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9047W	2/27/98	3/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

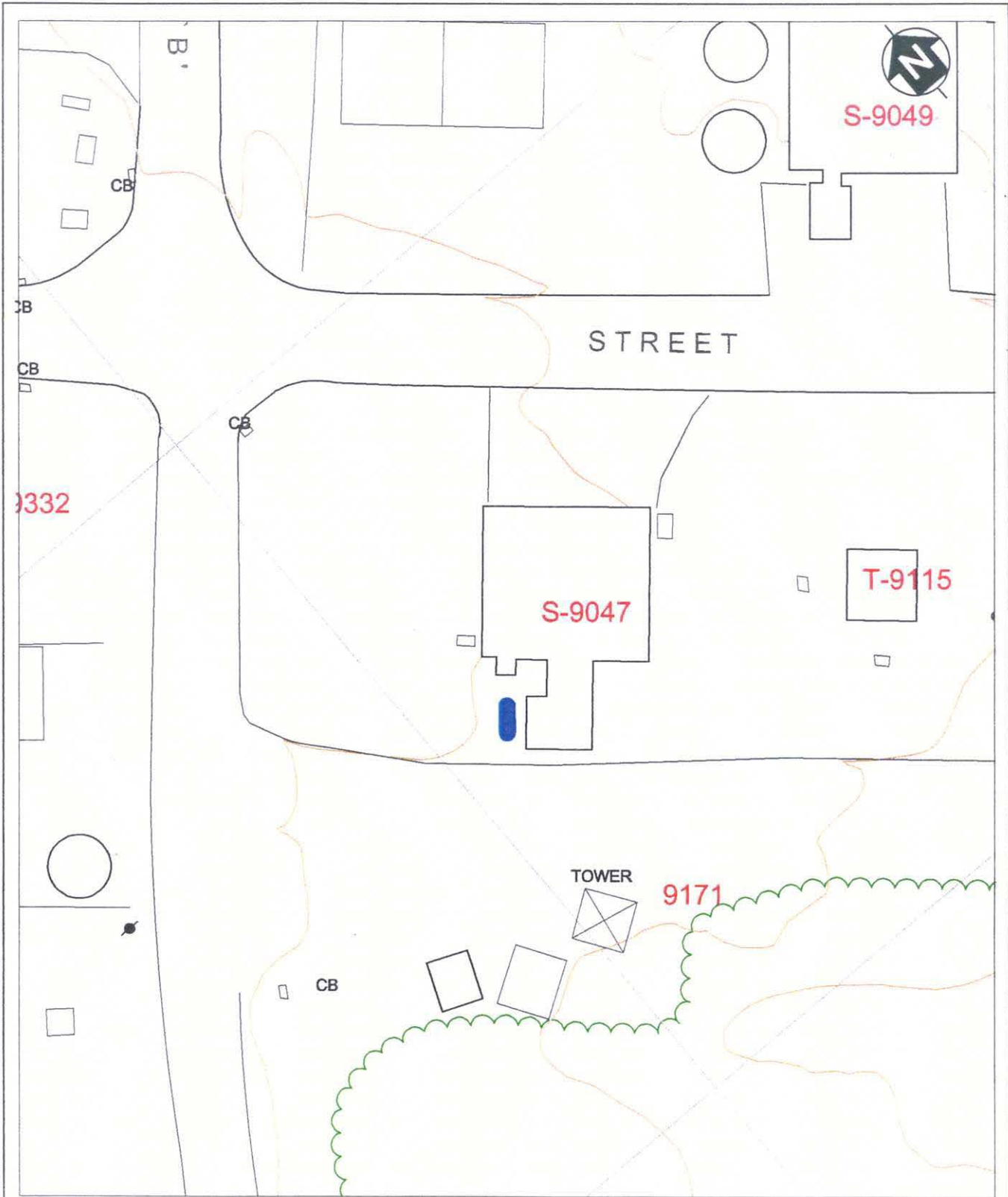
*TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9047, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9047R/F/VL	3377.01	2/27/98	3/2 - 3/98	TPHC	177	299.27	10,000	No
9047B1	3377.02	2/27/98	3/2 - 3/98	TPHC	172	ND	10,000	No
9047B2	3377.03	2/27/98	3/2 - 3/98	TPHC	167	ND	10,000	No
9047B3	3377.04	2/27/98	3/2 - 3/98	TPHC	170	ND	10,000	No
9047E	3377.05	2/27/98	3/2 - 3/98	TPHC	164	ND	10,000	No
9047S	3377.06	2/27/98	3/2 - 3/98	TPHC	172	ND	10,000	No
9047N	3377.07	2/27/98	3/2 - 3/98	TPHC	171	ND	10,000	No
9047W	3377.08	2/27/98	3/2 - 3/98	TPHC	164	ND	10,000	No

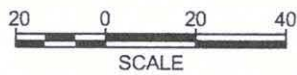
Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



9047.DWG ASC 01/19/99

 UNDERGROUND STORAGE TANK



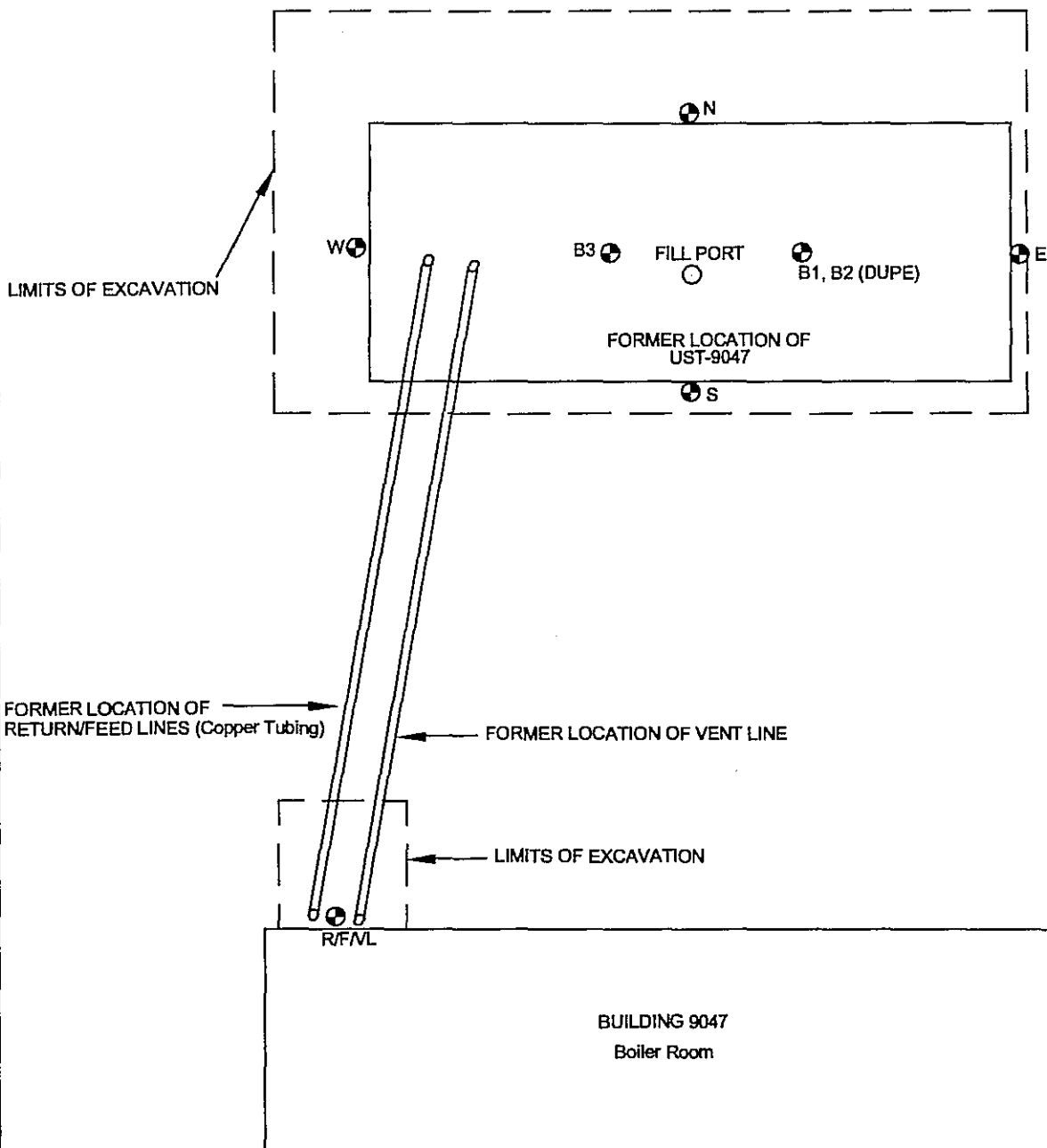
EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 1
BUILDING 9047 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES:

- 1) UST-9047 WAS 10' LONG AND 4' IN DIAMETER.
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9047-"
- 3) SAMPLE DEPTHS:
 - A) B1, B2, B3: 5.5' TO 6.0'
 - B) E,S,N,W: 5.0' TO 5.5'
 - C) R/F/VL: 1.0' TO 1.5'
- 4) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARD MONMOUTH BOULEVARD



EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 2
BUILDING 9047
UST REMOVAL AND SOIL SAMPLE LOCATIONS



9047.DWG ASC 01/19/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-19

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 19
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____

Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-19

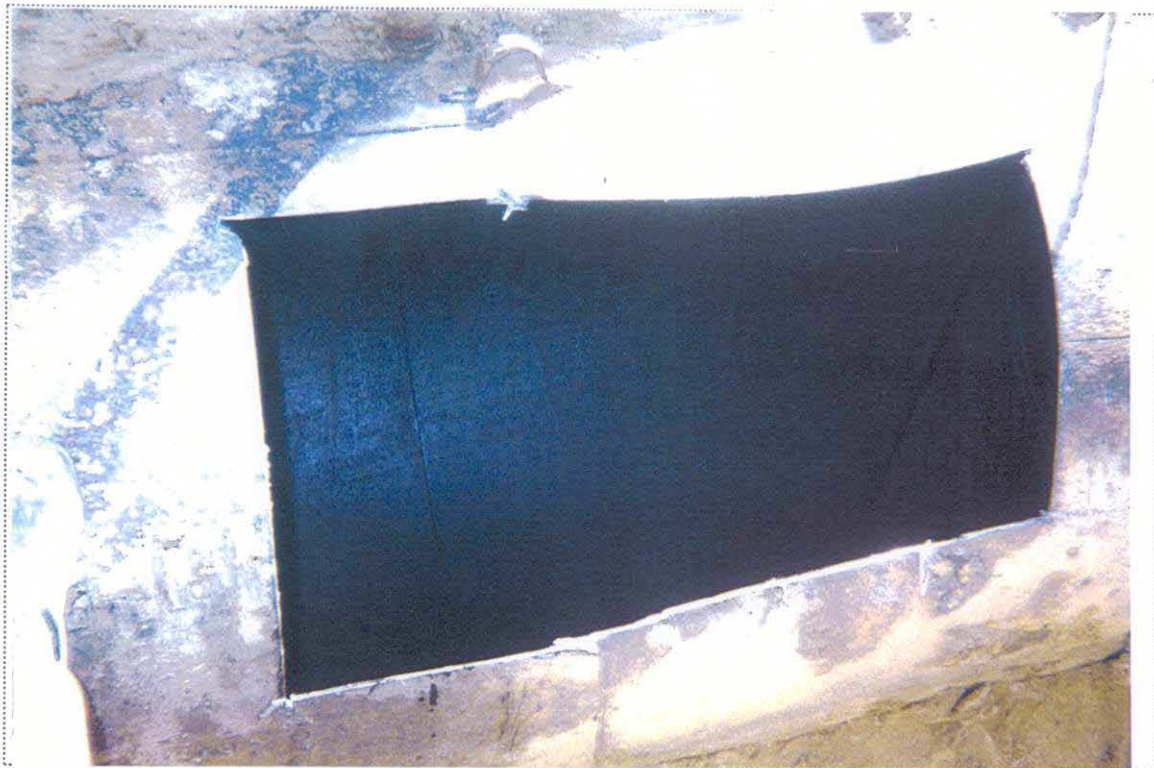


PHOTO 1: View of the cleaned interior of UST-9047 (looking south/southwest).



PHOTO 2: View of UST-9047 being removed from the ground (looking south/southwest).



PHOTO 3: View of the sampling locations in the UST-9047 excavation (looking east).



PHOTO 4: View of UST-9047 staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-19

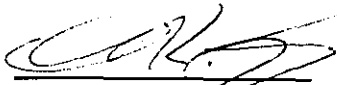
Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID #: 3377
 DPW. SELFM-PW-EV Date Rec'd: 27-Feb-98
 Bldg. 173 Analysis Start: 02-Mar-98
 Ft. Monmouth, NJ 07703 Analysis Complete: 03-Mar-98

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: BLDG. 9047

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3377.01	9047-R/F/VL	1.00	15.38	86.26	177	299.27
3377.02	9047-B1	1.00	15.23	89.69	172	ND
3377.03	9047-B2	1.00	15.52	90.79	167	ND
3377.04	9047-B3	1.00	15.38	90.13	170	ND
3377.05	9047-E	1.00	15.63	91.49	164	ND
3377.06	9047-S	1.00	15.45	88.22	172	ND
3377.07	9047-N	1.00	15.16	90.76	171	ND
3377.08	9047-W	1.00	15.51	92.38	164	ND
METHOD BLANK	2-Mar-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-19



Reader From:
The Drawing Board
P.O. Box 2844 • Hartford, CT 06104-2844
Call Toll Free: 1-800-527-8838

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 040

Carrier No. _____

Date _____

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Carrier)

Consignee <u>Mazza + Sons inc</u>	Place of Origin <u>U.S. Army Camp Evans</u>
Street <u>3230 Shatto Road</u>	Street <u>Building 9047</u>
Post Office <u>Tinton Falls, NJ 07753</u>	Post Office <u>Wall NJ 07719</u>

No. of Packages	Weight (Subject to Convention)	RATE	CHARGES
①	1,000 Gallon U.S. Std Skel		
	FOR SERAP ONLY		
	Building # 9047		
	TANK # 90029-19		

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
<small>NOTE - When 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 exceed by</small>	<small>This is to certify that the above named material is as properly classified, described, packed, loaded and braced and that proper conditions for transportation according to the applicable regulations of the Department of Transportation.</small>	<small>Signature of Shipper</small>
<small>Subject to Section 7 of the conditions, if this shipment is to be delivered in the (country) without recourse on the part of the carrier, the carrier shall sign the following statement (The carrier shall not pay) difference of the shipment without payment of freight and all other lawful charges.</small>	<small>Signature of Consignor</small>	TOTAL CHARGES: \$

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, removed, damaged, and retained as indicated above which said carrier has been advised being understood throughout this contract as meaning any person or corporation in possession of the property under the contract agrees to carry in the usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. If not actually carried as in each order of bill of lading, or said property over all or any portion of said route to destination and on 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 bill of lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>Daryl H. Daniels (Agent)</u>	PER <u>Jim K...</u>
DATE <u>3/9/98</u>	

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reorder Item BLN74 The Drawing Board, P.O. Box 2844, Hartford, CT 06104-2844
©EGL, 1992, Printed in U.S.A.

FROM JMT ENVIRON. TECH. 610 789 6149

1995 8:52PM

40

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9047
VESSEL: 1,000 - Gallon steel UST
(Formerly # 2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 2/27/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-19**

GENERAL DESIGNATION _____

BILL TO: CHIEF ENGINEER'S OFFICE _____

SHIPMENT NUMBER _____
 PURCHASE ORDER NUMBER _____
 STATE OF ORIGIN _____

SHIPMENT DATE _____
 SHIPMENT ADDRESS _____
 MANIFEST NUMBER _____

SHIPPING INFORMATION

SHIPMENT TYPE _____
 SHIPMENT CLASSIFICATION _____
 SHIPMENT WEIGHT _____
 SHIPMENT VOLUME _____

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	AIR/WATER DISPOSAL	101	234.5	0.40			
40502	MUD/SUDGE DISPOSAL						
41001	ACQUAINE WATER						
41501	DRUM DISPOSAL						
41502	TANK ENTRY						
41503	WASHER SERVICE						
41504	PUMP OPERATOR						
41505	NEW/REPAIR DRUM/TANK						
41506	ACQUAINE LOGICAL TESTING						
41507	WATER DISPOSAL						
41508	TRANSPOBREM						

CHARGE TO ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.
 INVOICES REFLECT CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF 1.5% PER MONTH (18% PER ANNUUM) WITH A MAXIMUM FEE ALLOWED BY ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. THE VENDOR OR SUPPLIER SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION INCLUDING REASONABLE ATTORNEY'S FEES.
 GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED TO LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER FEDERAL LAWS INCLUDING BUT NOT LIMITED TO RCRA. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is SPILL
 In accordance with N.J.A.C. 7:26-12.1 et seq. LORCO has the required permits to accept the above described waste.

 DATE: 2/19/98
 GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that the generator generates less than 100 pounds of hazardous waste per month or 1,200 pounds and does not accumulate more than 1,000 pounds of hazardous waste at any time.

 GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

 GENERATOR'S SIGNATURE

 CUSTOMER

PAYMENT RECEIVED SECTION

AMOUNT RECEIVED _____
 CHECK NUMBER _____

CUSTOMER SERVICE EVERY 30 DAYS

In accordance with 40 CFR 265.195, LORCO has notified the US EPA of this facility and is subject to the RCRA EPCRA 112(r) reporting requirements.

 CUSTOMER



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

N.J. 37.1.U.O.20.3.2.Y

Manifest Document No.

010679

2. Page 1 of

NHZ 010679

Generator's Name and Mailing Address: U.S. Army Ordnance Command Post Area, 7650 SSM Fallon Blvd 173, Attn: SELLM-PW-EV, Fort Monmouth NJ 07703

4. Generator's Phone (732) 532-6223

5. Transporter 1 Company Name: LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number: NJ 0000000000000000

A. Transporter's Phone: 908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address: LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS, RUMMONCHEESELAKE RDS, OLD BRIDGE, NJ 08857

10. US EPA ID Number: NJ 0000000000000000

C. Facility's Phone: 908 721-0900

11. Waste Shipping Name and Description

12. Containers No. Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL) COMBUSTIBLE LIQUID UNAGRD PAINT

2 3 X4343 3

b. c. d.

D. Additional Descriptions for Materials Listed Above: 1% PETROLEUM OIL 99% WATER 1%

E. Handling Codes for Wastes Listed Above: T04 FILTRATION

15. Special Handling Instructions and Additional Information: 24 HR EMERGENCY RESPONSE# (908) 721-0900, DECAL# 97083 ERG# 128 DEXSIL TEST KIT RESULTS <1000 PPM, MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: X Harris Applby SELLM-PW-EV, Signature: [Signature], Month Day Year: 12/19/98

17. Transporter 1 Acknowledgement of Receipt of Materials: Printed/Typed Name: [Name], Signature: [Signature], Month Day Year: 12/19/98

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

19. Discrepancy Indication Space

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



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. NH2010679 dated 2.19.98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

- L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.
- 1072
L-22: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.
- L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.
- L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.
- L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.
- L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.
- L-28. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: _____ PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communication Electronics Center Camp Evans AFW.

Generator's EPA ID No. NJ. 321002032U

Address c/o Joseph Fallo BLDG 173. ATTN: SLEFM PW-EV FORT MONMOUTH, NJ. 07703

Print Name Charles Appleby Signature [Signature]

Title Env. Pro Spec. SLEFM-PW-EV

Date 2.19.98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9051
Camp Evans Area*

NJDEP UST Registration No. 90029-21

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Table 1	Summary of Post-Excavation Sampling Activities
Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9051 - UST Removal Location Map
Figure 2	Building 9051 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On February 25, 1998, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-21 (Fort Monmouth Identification No. 9051), was located north of Building 9051 in the Camp Evans area of Fort Monmouth.

The UST was a 1,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the eastern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). Three holes approximately 0.125-inch in diameter were noted in the UST and evidence of potentially contaminated soil was observed surrounding the tank. Samples collected at the time the UST was removed (and after slightly more than two truckloads of additional soil had been excavated) contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 547.82 milligrams per kilogram (mg/kg). The total amount of soil removed from the excavation was approximately 30 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9051 area as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg or the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-21 at Building 9051.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-21, was closed at Building 9051 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on February 25, 1998. The UST was a steel 1,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-21 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that at least one significant historical discharge was associated with UST No. 90029-21 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9051 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Area "G"), as shown in Figure 1. UST No. 90029-21 was located north of Building 9051 and associated piping ran approximately 9 feet south from the UST to Building 9051. The UST fill port area was located directly above the eastern end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9051.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to removal because of the low volatility of No. 2 fuel oil. After the purging of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads. After the UST had been cleaned and removed, SMC excavated and removed the associated piping.

After the UST was removed from the excavation, it was staged temporarily on asphalt, and examined for holes. Three holes approximately 0.125-inch in diameter were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. Evidence of contamination was observed or detected by the PID/FID in soil located adjacent to the UST. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and visual observations, soil adjacent to the UST was contaminated. This soil was removed to the staging area for disposal off site at a later date and the excavated clean (overburden) soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST did exhibit evidence of potential contamination at the time of the UST removal and was transported to the soil staging area; however, soil adjacent to the associated piping as well as the UST excavation sidewalls and bottom did not exhibit indications of contamination.

2.2 SOIL SAMPLING

On February 27, 1998, after UST removal and excavation of slightly more than two truckloads of potentially contaminated soil, post-excavation soil samples 9051B1, 9051B2 (Duplicate of 9051B1), 9051B3, 9051E, 9051W, 9051S, 9051N, and 9051R/F/VL were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of and beneath the former UST location, and bottom samples were collected from directly beneath the former UST location, or 8.5 to 9-feet below ground surface (bgs). The sidewall samples were collected from 8 to 8.5-feet bgs. Sample 9051R/F/VL was collected from next to Building 9051 along the former return/feed line piping length of the excavation, which was approximately 9 feet long. Sample 9051R/F/VL was collected from 0.5 to 1-feet bgs. Sample 9051OBS was collected from the overburden soil pile to verify that the pile was not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on February 25, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on February 25, 1998, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC ranging from non-detect to 547.82 milligrams per kilogram (mg/kg).

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9051 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-21 at Building 9051.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9051, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9051R/F/VL	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051OBS	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051B1	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051B2	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051B3	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051E	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051W	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051S	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9051N	2/25/98	2/27/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

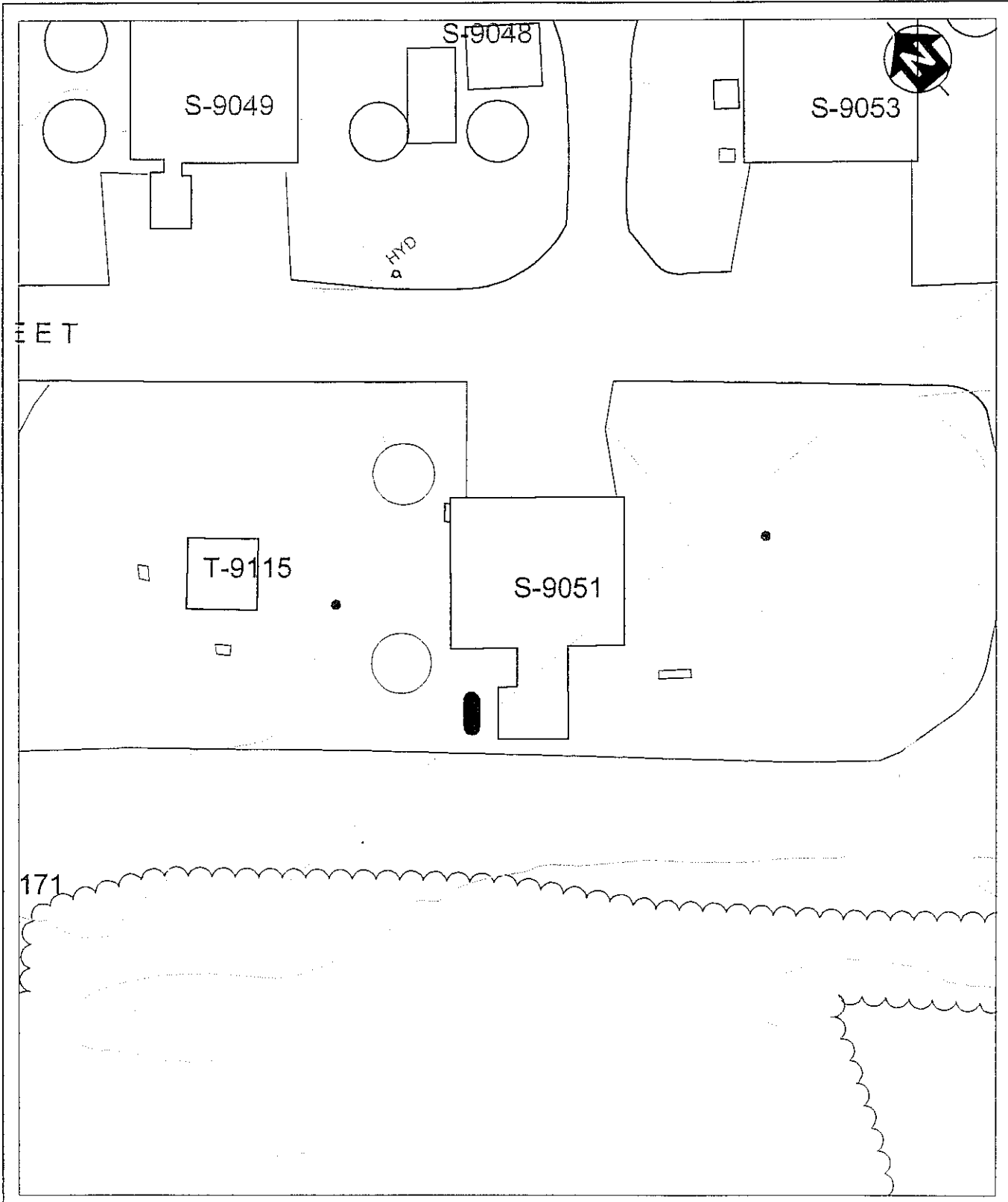
*TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9051, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9051R/F/VL	3365.01	2/25/98	2/27/98	TPHC	200	547.82	10,000	No
9051OBS	3365.02	2/25/98	2/27/98	TPHC	178	ND	10,000	No
9051B1	3365.03	2/25/98	2/27/98	TPHC	168	ND	10,000	No
9051B2	3365.04	2/25/98	2/27/98	TPHC	175	ND	10,000	No
9051B3	3365.05	2/25/98	2/27/98	TPHC	161	ND	10,000	No
9051E	3365.06	2/25/98	2/27/98	TPHC	168	ND	10,000	No
9051W	3365.07	2/25/98	2/27/98	TPHC	168	ND	10,000	No
9051S	3365.08	2/25/98	2/27/98	TPHC	176	ND	10,000	No
9051N	3365.09	2/25/98	2/27/98	TPHC	178	ND	10,000	No

Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



FEET

171

9051.DWG ASC 01/19/99



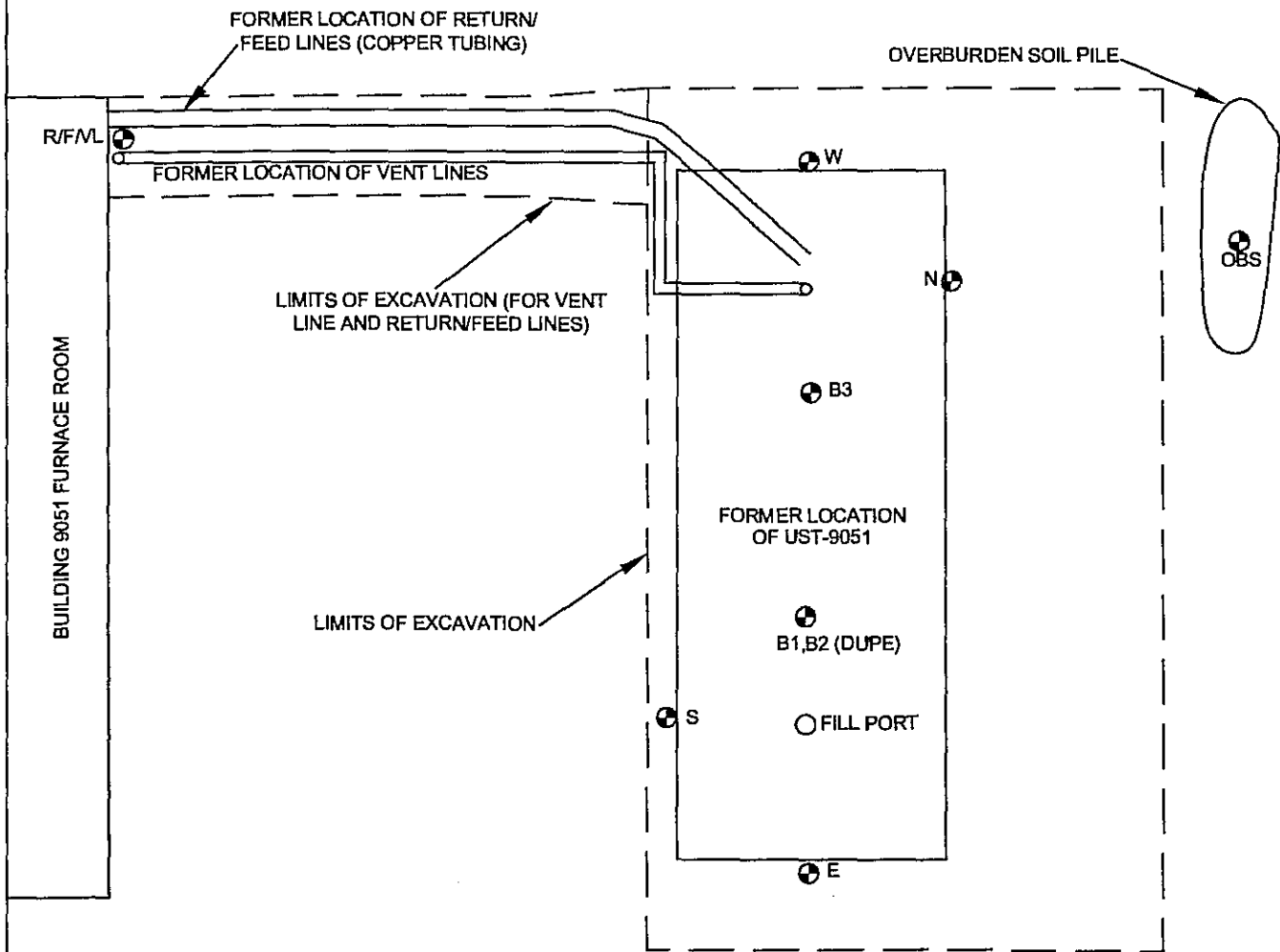
UNDERGROUND STORAGE TANK



EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 1 BUILDING 9051 - UST REMOVAL LOCATION MAP
TETRA TECH EM INC.



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES:

- 1) UST-9051 WAS 10' IN LENGTH AND 4' IN DIAMETER
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9051-"
- 3) SAMPLE DEPTHS
 - A) B1, B2, B3: 8.5' TO 9.0'
 - B) E, S, N, W: 8.0' TO 8.5'
 - C) R/F/V/L: 0.5' TO 1.0'
 - D) OBS: PILE
- 4) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARD MONMOUTH BOULEVARD



EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 2
BUILDING 9051
UST REMOVAL AND SOIL SAMPLE LOCATIONS

 TETRA TECH EM INC.

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-21

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 21
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

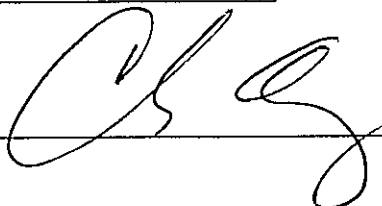
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-21



PHOTO 1: View of the cleaned interior of UST-9051 (looking southeast).



PHOTO 2: View of UST-9051 being removed from the ground (looking west/southwest).



PHOTO 3: View of sampling locations in the UST-9051 excavation (looking east).



PHOTO 4: View of UST-9051 staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-21


Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3365
 DPW. SELFM-PW-EV Date Rec'd: 26-Feb-98
 Bldg. 173 Analysis Start: 27-Feb-98
 Ft. Monmouth, NJ 07703 Analysis Complete: 27-Feb-98

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: Bldg 9051

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3365.01	9051-R/F/VL	1.00	15.05	78.06	200	547.82
3365.02	9051-OBS	1.00	15.19	87.01	178	ND
3365.03	9051-B1	1.00	15.96	87.76	168	ND
3365.04	9051-B2	1.00	15.32	87.74	175	ND
3365.05	9051-B3	1.00	15.72	93.08	161	ND
3365.06	9051-E	1.00	15.48	90.20	168	ND
3365.07	9051-W	1.00	15.55	90.19	168	ND
3365.08	9051-S	1.00	15.18	87.99	176	ND
3365.09	9051-N	1.00	15.08	87.75	178	ND
METHOD BLANK	26-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-21



Order From
The Drawing Board
P.O. Box 2944 - Hartford, CT 06144-2944
Cell Tel. Area 1-800-827-5036

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 039

Carrier No. _____

SMC ENVIRONMENTAL SERVICES GROUP

(Name of Carrier)

Rate _____

To Order <u>Mazza + Sons, Inc</u>	Shipper <u>U.S. Army Camp Evans</u>
From <u>3230 Shatto Road</u>	Street <u>Building 9051</u>
Destination <u>Twinton Falls, NJ 07753</u>	City <u>Wall NJ 07719</u>

No. Shipping Unit	Weight (Gross)	Rate	Charges
①	1-1,000 Gallon U.S.F. Skid		
	Building # 9051		
	TANK # 90029-21		

NEARIT C.O.D. TO: ADDRESS	COB Amt: \$	C.O.D. FFI: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
NOTE - When the rate is dependent on value, shippers are required to state specifically in writing the amount of declared value of the property.	This is to certify that the above named article is the property described, described, packed, marked, and labeled, and in proper condition for transportation according to the applicable regulations of the Department of Transportation.	TOTAL CHARGES: \$

RECEIVED, subject to the conditions and terms in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packaged contents, marked, and described as indicated above which said carrier has understood throughout this contract to be in possession of the property under the contract agree to carry to the usual place of delivery of said destination, if on its route, 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 of any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing specification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing specification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his agents.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>[Signature]</u>
	DATE <u>3/9/98</u>

*Mark with "K" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations. Recorder Item BLN74 The Drawing Board, P.O. Box 2944, Hartford, CT 06144-2944 ©EQ, 1992, Printed in U.S.A.

1995 8:52PM FROM JMT ENVIRON. TECH 618 789 6149

39

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9051
VESSEL: 1,000 - Gallon steel UST
(Formerly # 2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 2/23/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-21**

GENERATOR INFORMATION

SALES ORDER

SHIP TO INFORMATION

GENERATOR NAME: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 PHONE: _____
 FAX: _____
 SERVICE ORDER NUMBER: _____
 SALES ORDER NUMBER: _____

SHIP TO NAME: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 PHONE: _____
 FAX: _____
 MANIFEST NUMBER: _____

SHIPPING INFORMATION

COUNTRY: _____
 TYPE: _____ QUANTITY: _____ UNIT: _____
 US DOT HAZARDOUS MATERIALS REGULATIONS: _____
 UN NUMBER: _____

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	WILLY WATER DISPOSAL	105	2413	6.40			
40502	SLUDGE DISPOSAL						
41001	COASOLINE WATER						
41501	SPDM DISPOSAL						
504	TANK ENTRY						
601	WASHER SERVICE						
710	OPERATOR						
715	REPAIRS						
720	ANALYTICAL TESTING						
730	WIPES						
740	TRANSPORTATION						

CHARGE IN ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED. FINAL PAYMENT SECTION.
 WORKS PERFORMED CHARGES TO CUSTOMER.
 ARE SUBJECT TO AN INTEREST RATE OF 1% PER MONTH. THE MAXIMUM PERCENTAGE ALLOWED BY ANY FEDERAL LAW IS 18% PER ANNUM. THE MAXIMUM PERCENTAGE ALLOWED BY ANY FEDERAL LAW IS 18% PER ANNUM. THE MAXIMUM PERCENTAGE ALLOWED BY ANY FEDERAL LAW IS 18% PER ANNUM.
 ARE NOT PAID WITHIN 30 DAYS IN THE EVENT OF A DISPUTE, WE SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.
 GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED FOR COLLECTION HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER FEDERAL LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that the generator has provided the information requested on this form and that the waste is not a regulated material under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
 I certify that the waste is not a regulated material under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
 I certify that the waste is not a regulated material under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
 GENERATOR SIGNATURE: _____
 DATE: _____

PAYMENT RECEIVED SECTION

CHECK NUMBER: _____
 DATE: _____
 AMOUNT: _____
 CUSTOMER SERVICE EVERY 30 DAYS:

Generator certifies that the waste is: USED OIL
 In accordance with 40 CFR 266.543(b) LORCO has the required permits to accept the above described waste.
 Signature: _____
 Title: _____
 Date: 2/19/96
 GENERATOR/CUSTOMER

LARGE QUANTITY GENERATOR CERTIFICATION

I certify that the generator has provided the information requested on this form and that the waste is not a regulated material under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
 I certify that the waste is not a regulated material under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
 I certify that the waste is not a regulated material under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
 GENERATOR SIGNATURE: _____
 DATE: _____

In accordance with 40 CFR 266.543(b) LORCO has notified the USEPA of this location and used of the generator services.
 Signature: _____
 Title: _____
 Date: _____
 LORCO REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

N.J. 27.1.U.O.20.3.2.Y 010679

Manifest Document No.

2. Page 1 of

NHZ 010679

Generator's Name and Mailing Address

U.S. Army Command Center
1/6 So Sstn FA 110A Bld 173 ATTN:SELF-PW-EU
5.25 MO. UNIT 11 NJ 07703

4. Generator's Phone (732) 532-6223

5. Transporter 1 Company Name
LIGNETTI OIL RECOVERY CO INC

6. US EPA ID Number
NJ 27.1.U.O.20.3.2.Y 010679

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIGNETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUMYON/CHEESELAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number
NJ 27.1.U.O.20.3.2.Y 010679

C. Facility's Phone
908 721-0900

11. Waste Shipping Name and Description

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UNAGGREGATED

12. Containers No. Type 13. Total Quantity 14. Unit Wt/Vol

3 3 X4343 3

GENERATOR

D. Additional Descriptions for Materials Listed Above

T. PETROLEUM OIL
WATER 1 %

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL # 2083 BERG # 128 DEXSIL TEST KIT RESULTS <100 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: X Chris Appley SELF-PW-EU X Signature: [Signature] Month Day Year: 12/19/98

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: [Name] Signature: [Signature] Month Day Year: 12/19/98

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: [Name] Signature: [Signature] Month Day Year: [Blank]

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: [Blank] Signature: [Blank] Month Day Year: [Blank]

GENERATOR'S COPY

GENERATOR

TRANSPORTER

FACILITY

Y



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. NH2 010679 dated 2-19-98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

1072

- L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.
- (L-22): Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.
- L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.
- L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.
- L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.
- L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.
- L-28: Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: _____ PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communication Electronics Command Camp Evans AEN

Generator's EPA ID No. NS. 3210020324

Address c/o 703rd FA (U) BLDG 173. ATTN: SELFM-PW-EU FORT MONMOUTH, N.J. 07703

Print Name Charles Appleby Signature [Signature]

Title Env. Pro Spec. SELFM-PW-EU

Date 2-19-98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 9053
Camp Evans Area

NJDEP UST Registration No. 90029-22

TABLE OF CONTENTS

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1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES.....	2
1.1 Site Description	2
1.2 Underground Storage Tank Excavation And Cleaning	3
1.3 Underground Storage Tank Transportation And Disposal.....	3
1.4 Management Of Excavated Soils	4
2.0 SITE INVESTIGATION ACTIVITIES	4
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3.0 SOIL SAMPLING RESULTS	6
4.0 CONCLUSIONS AND RECOMMENDATIONS.....	7

TABLES

Table 1	Summary of Post-Excavation Sampling Activities
Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9053 - UST Removal Location Map
Figure 2	Building 9053 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On January 8, 1998, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-22 (Fort Monmouth Identification No. 9053), was located north of Building 9053 in the Camp Evans area of Fort Monmouth. The UST was a 1,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the eastern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). Two holes approximately 0.25-inches in diameter were noted in the UST and evidence of contaminated soil was observed surrounding the western end and the northwest corner of the tank. Samples collected from the eastern end and the center of the excavation at the time the UST was removed contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 201.52 milligrams per kilogram (mg/kg); however, samples collected from the western end and the northwestern corner of the excavation contained TPHC concentrations ranging from non-detect to 720.56 mg/kg and one of the samples of the overburden soil pile contained a concentration of 8,039.66 mg/kg TPHC. After additional soil was excavated and removed, TPHC concentrations in the remaining soil range from non-detect to 720.56 mg/kg. The total amount of soil removed from the excavation was approximately 70 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-22 at Building 9053.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-22, was closed at Building 9053 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on January 8, 1998. The UST was a steel 1,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-22 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that at least one significant historical discharge was associated with UST No. 90029-22 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9053 is located in the southern portion of the main section of the Camp Evans area of the Fort Monmouth Army Base (near Area "G"), as shown in Figure 1. UST No. 90029-22 was located north of Building 9053 and associated piping ran approximately 5 feet south from the UST to Building 9053. The UST fill port area was located directly above the eastern end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9053.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged temporarily on asphalt, and examined for holes. Two holes approximately 0.25-inches in diameter were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. Evidence of contamination was observed or detected by the PID/FID in soil located adjacent to the western end or the northwestern corner of the tank. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, overburden soil and soil adjacent to the western end and the northwestern corner of the tank was contaminated. This soil was removed to the staging area for disposal off site at a later date and imported clean fill was used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by Tecom-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the western end and the northwestern corner of the UST as well as the overburden soil, did exhibit evidence of contamination and was transported to the soil staging area; however, soil excavated from around the remainder of the UST, as well as the UST excavation sidewalls and bottom, did not exhibit indication of contamination at the time of the UST removal.

2.2 SOIL SAMPLING

On January 8, 1998, after UST removal, post-excavation soil samples 9053B1, 9053B2 (Duplicate of 9053B1), 9053B3, 9053E, 9053S, 9053VL, and 9053RF were collected from seven locations in the eastern and center portions of the UST excavation. Because of high PID readings, the western end of the UST excavation was not sampled until additional soil could be excavated. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the former UST location, and bottom samples were collected from 0 to 6-inches beneath the former UST location, or 6 to 6.5-feet below ground surface (bgs). The sidewall samples were collected from 5.5 to 6-feet bgs. Sample 9053DS was collected from beneath the center of the former UST location from 7.5 to 8-feet bgs. Sample 9053VL was collected from 1 to 1.5-feet beneath the former location of the vent line. Sample 9053RF was collected from next to Building 9053 along the former return/feed line piping length of the excavation, which was approximately 5 feet long. Sample 9053RF was collected from 2 to 2.5-feet bgs. All samples were analyzed for TPHC and total solids.

Following the additional soil removal from the western end of the UST excavation on January 12, 1998, Tetra Tech and SMC collected post-excavation soil samples 9053B4, 9053(W)E1, 9053(W)E2 (Duplicate of 9053(W)E1), 9053 OBS1, 9053OBS2, 9053B5, 9053W, 9053S2, 9053N1, and 9053N2 from a total of seven sampling locations. Samples 9053B4 and 9053B5 were collected from the bottom of the western half of the excavation at depths of 9.5 to 10-feet bgs and 10 to 10.5-feet bgs, respectively. Samples 9053(W)E1 and 9053(W)E2 were collected from next to the original UST excavation from 9 to

9.5-foot bgs. Sample 9053W was collected from the western end of the excavation at a depth of 9.5 to 10-foot bgs. Sample 9053S2 was collected from the south side of the western half of the excavation at a depth of 9.5 to 10-foot bgs. Samples 9053N1 and 9053N2 were collected from the north side of the western half of the excavation. Sample 9053N1 was collected at a depth of 7.5 to 8-foot bgs and sample 9053N2 was collected at a depth of 5.5 to 6-foot bgs. In addition, samples 9053OBS1 and 9053OBS2 were collected from the overburden soil to verify that the pile was not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Analytical results for the post-excavation samples collected from the original portion of the UST excavation revealed TPHC concentrations ranging from non-detect to 201.52 milligrams per kilogram (mg/kg); however, analytical results for the post-excavation samples collected from the western half of the excavation revealed 8,039.66 mg/kg TPHC at the 9053OBS2 sample location (which had been excavated from the western end of the excavation). This concentration exceeded 1,000 mg/kg TPHC, which is NJDEP's criterion for additional soil removal/remediation or for required VOC sampling. In addition, a work crew from TVS inadvertently backfilled the eastern end of the excavation with the overburden soil pile, including the contaminated portion where 9053OBS2 was collected, while repairing the water line to Building 9053 which had been disconnected while the excavation activities were underway. As a result, on February 13, 1998, Tetra Tech and SMC re-excavated the contaminated soil and collected post-excavation soil samples 9053CNFMB1, 9053CNFMB2 (Duplicate of 9053CNFMB1), 9053CNFME, 9053CNFMW, 9053CNFMS, and 9053CNFMN from a total of five sampling locations. All samples were collected from 7 to 7.5-foot bgs and were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on January 8, 1998, seven locations on January 12, 1998, and five sampling locations on February 13, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion

of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

One of the overburden soil pile samples collected on January 12, 1998 contained a TPHC concentration of 8,039.66 milligrams per kilograms (mg/kg). The other overburden soil pile sample and all of the post-excavation soil samples collected from the UST excavation and from below piping associated with the UST contained concentrations of TPHC ranging from non-detect to 596.97 mg/kg.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9053 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, no longer exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-22 at Building 9053.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9053, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9053B1	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053B2	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053B3	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053DS	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053E	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053S	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053VL	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053RF	1/8/98	1/12/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053B4	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053(W)E1	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053(W)E2	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053OBS1	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053OBS2	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053GNFMB1**	2/13/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053GNFMB2**	2/13/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053GNFME**	2/13/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053GNFMW**	2/13/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053GNFMS**	2/13/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053GNFMN**	2/13/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053B5	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053W	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053S2	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053N1	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9053N2	1/12/98	1/13/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

*TPHC Total petroleum hydrocarbons

** Samples collected to remediate contamination found in sample above.

Table 2
 Post-Excavation Soil Sampling Results
 Building 9053, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9053B1	3273.01	1/8/98	1/12/98	TPHC	166	ND	1,000	No
9053B2	3273.02	1/8/98	1/12/98	TPHC	180	ND	1,000	No
9052B3	3273.03	1/8/98	1/12/98	TPHC	180	ND	1,000	No
9052DS	3273.04	1/8/98	1/12/98	TPHC	183	ND	1,000	No
9053E	3273.05	1/8/98	1/12/98	TPHC	186	ND	1,000	No
9053S	3273.06	1/8/98	1/12/98	TPHC	167	ND	1,000	No
9053VL	3273.07	1/8/98	1/12/98	TPHC	180	201.52	1,000	No
9053RF	3273.08	1/8/98	1/12/98	TPHC	172	ND	1,000	No
9053B4	3277.01	1/12/98	1/13/98	TPHC	162	ND	1,000	No
9053(W)E1	3277.02	1/12/98	1/13/98	TPHC	159	436.58	1,000	No
9053(W)E2	3277.03	1/12/98	1/13/98	TPHC	158	720.56	1,000	No
9053OBS1	3277.04	1/12/98	1/13/98	TPHC	179	ND	1,000	No
9053OBS2	3277.05	1/12/98	1/13/98	TPHC	170	8,039.66	1,000	Yes
9053CNFMB1**	3343.01	2/13/98	2/21/98	TPHC	161	ND	1,000	No
9053CNFMB2**	3343.02	2/13/98	2/21/98	TPHC	168	ND	1,000	No
9053CNFME**	3343.03	2/13/98	2/21/98	TPHC	176	ND	1,000	No
9053CNFMW**	3343.04	2/13/98	2/21/98	TPHC	168	596.97	1,000	No
9053CNFMS**	3343.05	2/13/98	2/21/98	TPHC	173	ND	1,000	No
9053CNFMN**	3343.06	2/13/98	2/21/98	TPHC	176	ND	1,000	No
9053B5	3277.06	1/12/98	1/13/98	TPHC	168	ND	1,000	No
9053W	3277.07	1/12/98	1/13/98	TPHC	168	ND	1,000	No
9053S2	3277.08	1/12/98	1/13/98	TPHC	160	173.68	1,000	No
9053N1	3277.09	1/12/98	1/13/98	TPHC	189	ND	1,000	No
9053N2	3277.10	1/12/98	1/13/98	TPHC	180	ND	1,000	No

Note:

* Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.

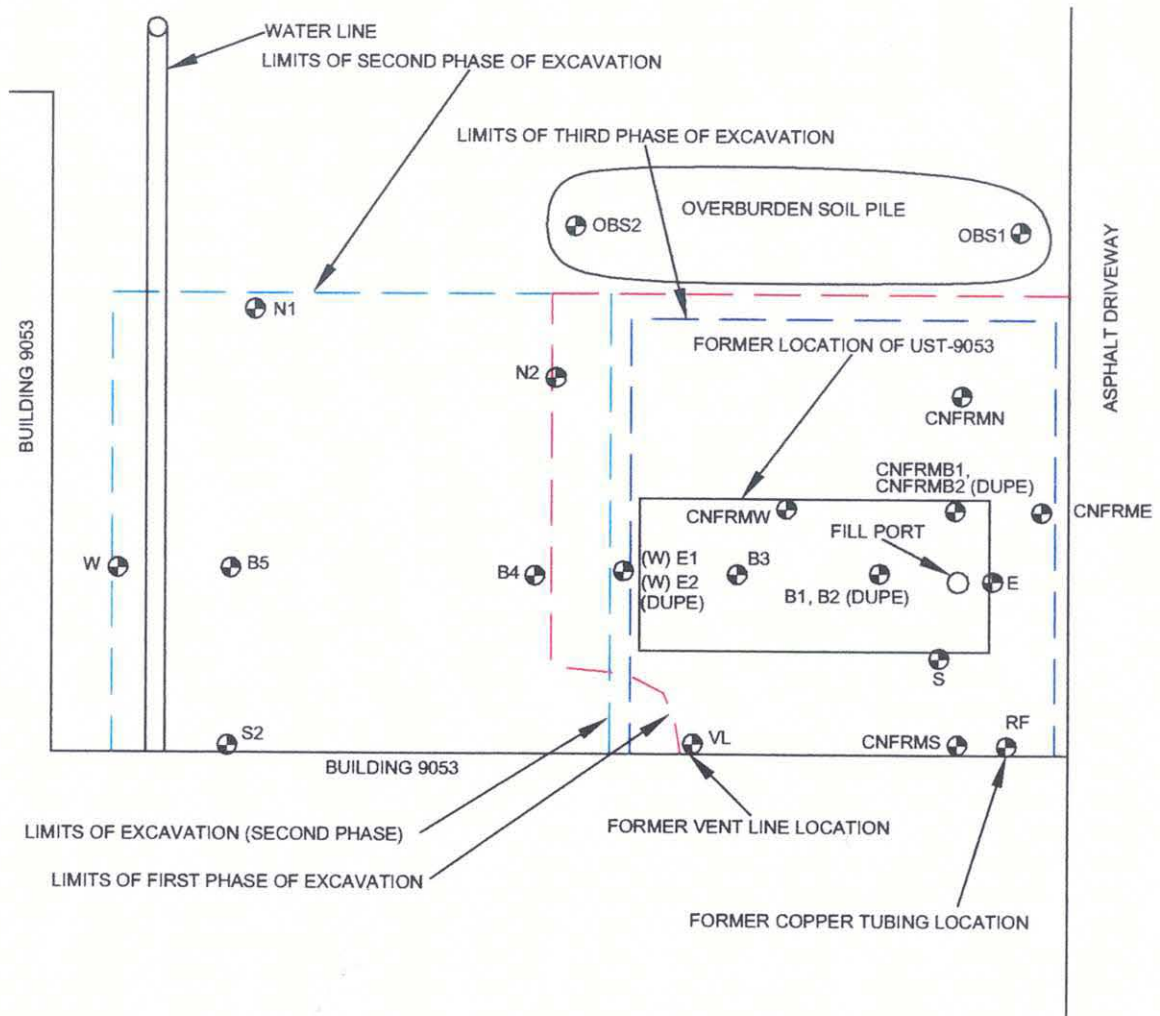
ND Not detected

TPHC Total petroleum hydrocarbons

** Samples collected to remediate contamination found in sample above.



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)

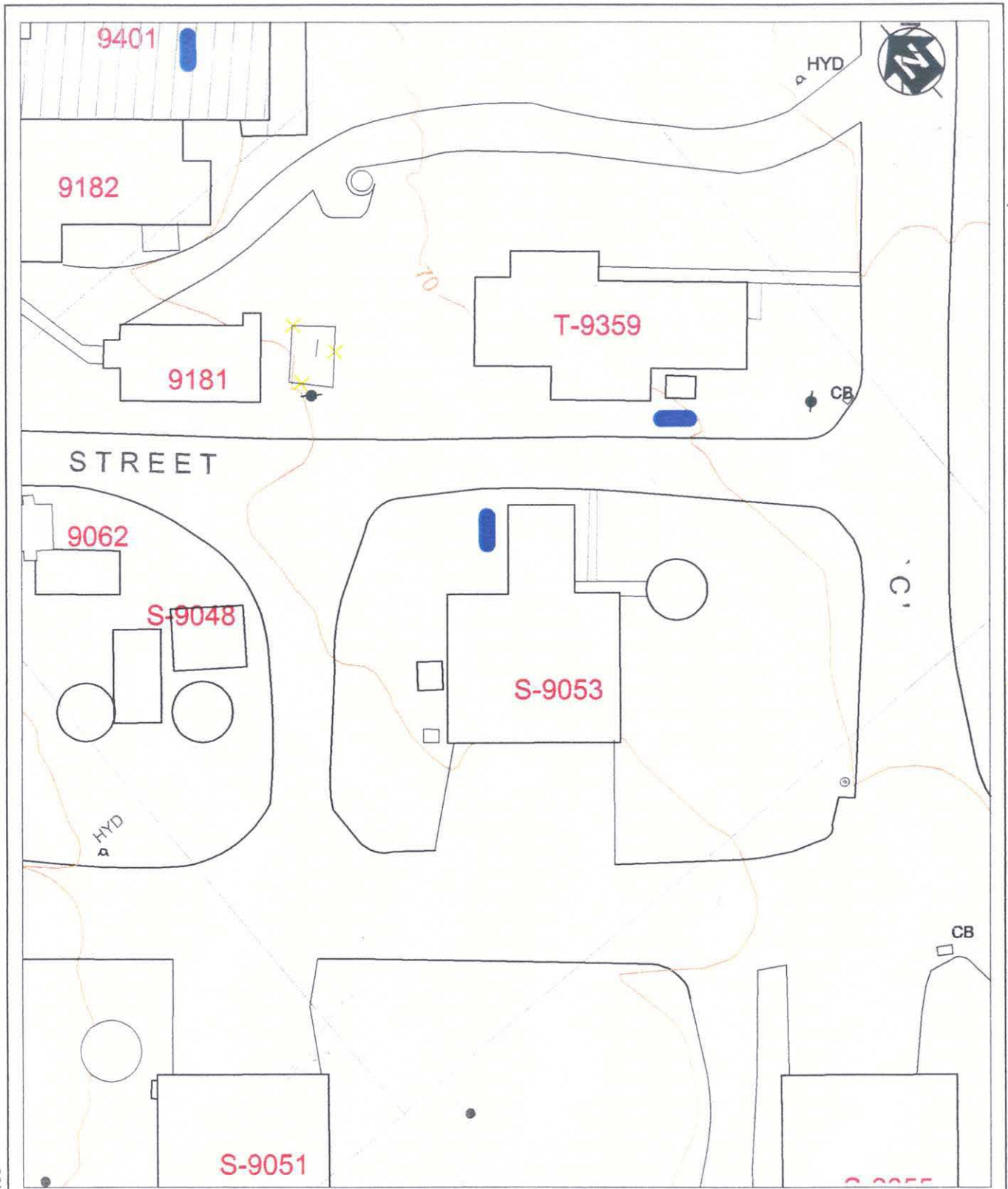


NOTE: ALL SAMPLE IDS WERE ASSIGNED BASED ON
SITE NORTH TOWARDS MONMOUTH BOULEVARD



EVANS AREA
 FORT MONMOUTH, NEW JERSEY
FIGURE 2
BUILDING 9053
UST REMOVAL AND SOIL SAMPLE LOCATIONS

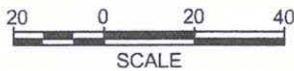




9053.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK



EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 1
BUILDING 9053 - UST REMOVAL LOCATION MAP



TETRA TECH EM INC.

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-22

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 22
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)] as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

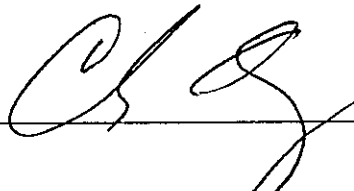
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-22



PHOTO 1: View of UST-9053 after completion of cleaning activities (looking southwest).



PHOTO 2: View of 0.25 inch hole located at the western end of UST-9053.



PHOTO 3: View of sampling locations in the UST-9053 excavation (looking west).



PHOTO 4: View of UST-9053 staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-22

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3277
 DPW. SELFM-PW-EV Date Rec'd: 13-Jan-98
 Bldg. 173 Analysis Start: 13-Jan-98
 Ft. Monmouth, NJ 07703 Analysis Complete: 13-Jan-98

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: BLDG. 9053

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3277.01	9053-B4	1.00	15.69	92.57	162	ND
3277.02	9053-(W)E1	1.00	15.55	95.17	159	436.58
3277.03	9053-(W)E2	1.00	15.32	96.97	158	720.56
3277.04	9053-OBS1	1.00	15.44	85.11	179	ND
3277.05	9053-OBS2	1.00	15.24	90.44	170	8039.66
3277.06	9053-B5	1.00	15.09	92.52	168	ND
3277.07	9053-W	1.00	15.55	89.77	168	ND
3277.08	9053-S2	1.00	15.74	93.12	160	173.68
3277.09	9053-N1	1.00	15.27	81.23	189	ND
3277.10	9053-N2	1.00	15.89	82.26	180	ND
METHOD BLANK	13-Jan-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director


Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3343
 DPW. SELFM-PW-EV Date Rec'd: 13-Feb-98
 Bldg. 173 Analysis Start: 21-Feb-98
 Ft. Monmouth, NJ 07703 Analysis Complete: 21-Feb-98

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: Bldg 9053

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3343.01	9053-CNFMB1	1.00	15.91	91.80	161	ND
3343.02	9053-CNFMB2	1.00	15.16	92.03	168	ND
3343.03	9053-CNFME	1.00	15.44	86.35	176	ND
3343.04	9053-CNFMW	1.00	15.65	89.43	168	596.97
3343.05	9053-CNFMS	1.00	15.88	85.47	173	ND
3343.06	9053-CNFMN	1.00	15.24	87.45	176	ND
METHOD BLANK	18-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-22



Reader From:
The Drawing Board
P.O. Box 2044 - Hartford, CT 06104-2044
Call Toll Free: 1-800-327-0230

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 030

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Shipper)

Carrier No. _____

Date _____

To: <u>Mazza + Sons, inc</u>	From: <u>U.S. Army Camp Evans</u>
Street: <u>3230 Shatto Road</u>	Street: <u>Building 9053</u>
Postoffice: <u>Tinton Falls, NJ 07753</u>	City: <u>Wall NJ 07719</u>

No. Shipping Unit	Weight (Gross)	Kind of Package, Description of Article, Special Marks and Endorsements	Rate	Charges
①		<p>FOR SEPAR ONLY</p> <p>1-1,000 Gallon U.S.T Skel</p> <p>Building # 9053</p> <p>TANK # 90029-22</p>		

NEMT C.O.D. TO: ADDRESS:	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
<small>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 less than \$ _____ per _____</small>	<small>This is to certify that the above named article is properly classified, described, packaged, marked and labeled, and fit for proper transport for transportation according to the applicable regulations of the Department of Transportation.</small>	TOTAL CHARGES: \$ <small>PREPAID COLLECTIBLE</small> <small>SHIPPING CHARGES</small> <input type="checkbox"/> <small>Over haul</small> <small>INSURANCE</small> <input type="checkbox"/> <small>2nd 1/3rd 2/3rd</small> <small>EXCESS WEIGHT</small> <input type="checkbox"/> <small>1/3rd 2/3rd</small>

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading. The property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, resealed, and resealed as indicated above when said carrier is aware carrier 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 route, 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 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 bill of lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>Daniel H. Daniels (Agent)</u>	PER <u>Mark O. [Signature]</u>
DATE <u>7/19/98</u>	

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reader Form BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044
© EGI, 1992, Printed in U.S.A.

1995 8:52PM FROM JMT ENVIRON TECH 610 759 6149

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9053

VESSEL: 1,000-Gallon Steel UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 11/8/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

**SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION**

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-22**



Old Bridge, NJ 08857
 (732) 721-1000
 FAX (732) 721-0281

SALES
 10/27/98

GENERATOR/LOCATION

SALES ORDER #

BILL TO

INFORMATION ATTENTION LINE

INFORMATION ATTENTION LINE

DELIVERY ADDRESS

DELIVERY ADDRESS

CITY

CITY

PHONE NUMBER

PHONE NUMBER

STATE ID NUMBER

STATE ID NUMBER

MANIFEST NUMBER

SHIPPING INFORMATION

These materials are properly classified, described, packaged, marked and labeled in accordance with the regulations of the Department of Transportation. NO. TYPE QTY UNIT US DOT Description (including proper shipping name, hazard class and ID number) SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL						
40502	SLUDGE DISPOSAL	AD72	600	GAL			
41001	GASOLINE/WATER						
41501	DRUM DISPOSAL						
504	TANK ENTRY						
800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR						
41511	NEW 55 GAL DRUM						
41503	ECOLOGICAL TESTING						
42001	DEXSIL TEST KIT						
41509	TRANSPORTATION						

(PUMPOUT DRUMS - 2 OIL BOTTOMS 500-600 GALS) SMALL TOTAL

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION. INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION INCLUDING REASONABLE ATTORNEY'S FEES. GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED TO LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF, OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is: **AD72**
 In accordance with N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: **Charles Avelly**
 Signature: *Charles Avelly*
 Date: **1-28-98**
 GENERATOR/CUSTOMER

GENERATOR CERTIFICATION

I hereby certify that this generator generates less than 100 kilograms of hazardous waste per month as defined at 40 CFR 261.2 and does not accumulate more than 1,000 kilograms of such waste during the month.

Signature: *[Signature]*
 GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL TEST RESULTS: **1/28 PPM**

PAYMENT RECEIVED SECTION

CASH TOTAL RECEIVED
 CHECK NUMBER

CUSTOMER SERVICED EVERY 30 DAYS

Signature: *[Signature]*
 Date: **1-28-98**
 SALES REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

NHZ 009548

HT321002032409548

Generator's Name and Mailing Address
**US Army Communications Electronics Command
Camp Evans Area, Ft. Monmouth, N.J., 07703**

4. Generator's Phone ()

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number
N J D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
**LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEWAKE RDS
OLD BRIDGE, NJ 08857**

10. US EPA ID Number
N J D 0 8 4 0 4 4 0 6 4

C. Facility's Phone
908 721-0900

11. Waste Shipping Name and Description

12. Containers
No. Type

13. Total Quantity

14. Unit Wt/Vol

a. **PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII**

0 0 1 T XX 600 G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above
**T.L. PETROLEUM OIL 98%
WATER 2%**

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information
**24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL # 87084 ERG#128 DEXSIL TEST KIT RESULTS N/A PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY**

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

Month Day Year

Charles Apalich

SELF EMPLOYED

[Signature]

12/12/89

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

DON TAGUINET

[Signature]

12/12/89

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR'S COPY

GENERATOR
TRANSPORTER
FACILITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No.

09548 dated 1-28-98,

is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

L-22: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

L-28. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: N/A PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communications Electronics Command

Generator's EPA ID No. NJ3210020324

Address Camp Evans Area, Ft. Monmouth, N.J., 07703

Print Name Charles Appleby Signature CA

Title Env. Prot. Spec. S&E/PW-EV

Date 1-28-98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9055
Camp Evans Area*

NJDEP UST Registration No. 90029-23

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Figure 2	Building 9055 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On January 30, 1998, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-23 (Fort Monmouth Identification No. 9055), was located north of Building 9055 in the Camp Evans area of Fort Monmouth. The UST was a 1,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the eastern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). Several small holes were noted in the UST; however, only slight evidence of potentially contaminated soil was observed surrounding the tank. Samples collected at the time the UST was removed contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 3,300.15 milligrams per kilogram (mg/kg). After additional soil was excavated and removed, soil remaining in the excavation contained non-detectable concentrations of TPHC. The total amount of soil removed from the excavation was 30 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9055 area, as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-23 at Building 9055.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-23, was closed at Building 9055 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on January 30, 1998. The UST was a steel 1,000-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-23 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that at least one significant historical discharge was associated with UST No. 90029-23 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9055 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Area "G"), as shown in Figure 1. UST No. 90029-23 was located north of Building 9055 and associated piping ran approximately 10 feet south from the UST to Building 9055. The UST fill port area was located directly above the eastern end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9055.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged temporarily on the asphalt driveway, and examined for holes. Several pinholes in the southeastern corner of the UST were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. Visual evidence of contamination was observed and detected by the PID/FID in soil located in the southeast and southwest corners and the bottom of the excavation as well as soil located adjacent to the UST fill port. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length. The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil at the 9055S sampling location (southeastern corner of the excavation) was contaminated. This soil was removed to the staging area for disposal off site at a later date and the clean excavated soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST, as well as the UST excavation sidewalls and bottom, did exhibit evidence of potential contamination at the time of the UST removal and was removed to the staging area; however, soil adjacent to the associated piping did not exhibit indications of contamination.

2.2 SOIL SAMPLING

On January 30, 1998, after UST removal, post-excavation soil samples 9055B1, 9055B2 (Duplicate of 9055B1), 9055B3, 9055E, 9055W, 9055N, 9055S, 9055R/F, 9055VL1, and 9055VL2 were collected from nine locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the former UST location, and bottom samples were collected from 0 to 6-inches beneath the former UST location, or 7.5 to 8-feet below ground surface (bgs). The sidewall samples were collected from 7 to 7.5-feet bgs. Sample 9055R/F was collected from next to Building 9055 along the former return/feed line piping length of the excavation, which was approximately 10 feet long. Sample 9055R/F was collected from 2 to 2.5-feet bgs. In addition, sample 9055VL1 was collected from next to Building 9055 at the former vent line location and sample 9055VL2 was collected at the edge of the main UST excavation. Both samples were collected from 2 to 2.5-foot bgs. Samples 9055OBS was collected from the overburden soil pile to verify that the pile was not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Analytical results for the original post-excavation samples revealed 3,300.15 milligrams per kilogram (mg/kg) TPHC at the 9055S sample location. This concentration exceeds 1,000 mg/kg TPHC, which is NJDEP's criterion for additional soil removal/remediation or for required VOC sampling. As a result, on February 10, 1998, Tetra Tech and SMC excavated additional soil from the bottom, east, west, and south sides of the excavation and collected post-excavation samples 9055RB1, 9055RB2 (duplicate of 9055RB1), 9055RS1, 9055RW1, and 9055RE1 from a total of four sampling locations. Bottom samples

were collected from 7 to 7.5-foot bgs and sidewall samples were collected from 6.5 to 7-foot bgs. All samples were analyzed for TPHC and total solids.

Laboratory analytical results for the first remedial post-excavation samples revealed TPHC concentrations 2,723.28 mg/kg at the 9055RB1 sample location and 2,673.69 mg/kg at the 9055RB2 sample location. These concentrations also exceed the NJDEP's cleanup criterion of 1,000 mg/kg TPHC for additional soil removal or volatile organic compound (VOC) sampling. As a result, on March 2, 1998, Tetra Tech and SMC performed a second phase of additional soil excavation from the southern half of the original UST excavation and collected post-excavation soil samples 9055RB3, 9055RB4 (Duplicate of 9055RB3), 9055RN1, 9055RS2, 9055RE2, and 9055RW2 from a total of five sampling locations. All samples were collected from 10 to 10.5-foot bgs and were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's "Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from nine locations on January 30, 1998, four locations on February 10, 1998, and five locations on March 2, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on January 30, 1998 and February 10, 1998, contained concentrations of TPHC ranging from non-detect to 3,300.15 milligrams per kilogram (mg/kg). The samples collected on March 2, 1998 contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9055 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, no longer exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-23 at Building 9055.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9055, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9055OBS	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055B1	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055B2	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055B3	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055E	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055W	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055N	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055S	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RB1**	2/10/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RB2**	2/10/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RS1**	2/10/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RW1**	2/10/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RE1**	2/10/98	2/21/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RB3**	3/2/98	3/3/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RB4**	3/2/98	3/3/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RN1**	3/2/98	3/3/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RS2**	3/2/98	3/3/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RE2**	3/2/98	3/3/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055RW2**	3/2/98	3/3/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055R/F**	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055VL1**	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9055VL2**	1/30/98	2/2/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

*TPHC Total petroleum hydrocarbons

** Samples collected to remediate contamination found in sample above.

Table 2
 Post-Excavation Soil Sampling Results
 Building 9055, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9055OBS	3309.01	1/30/98	2/2 - 4/98	TPHC	174	ND	10,000	No
9055B1	3309.02	1/30/98	2/2 - 4/98	TPHC	177	392.8	10,000	No
9055B2	3309.03	1/30/98	2/2 - 4/98	TPHC	175	278.98	10,000	No
9055B3	3309.04	1/30/98	2/2 - 4/98	TPHC	176	348.16	10,000	No
9055E	3309.05	1/30/98	2/2 - 4/98	TPHC	191	663.4	10,000	No
9055W	3309.06	1/30/98	2/2 - 4/98	TPHC	167	ND	10,000	No
9055N	3309.07	1/30/98	2/2 - 4/98	TPHC	160	ND	10,000	No
9055S	3309.08	1/30/98	2/2 - 4/98	TPHC	170	3,300.15	10,000	No
9055RS1**	3337.02	2/10/98	2/21/98	TPHC	164	ND	10,000	No
9055RW1**	3337.04	2/10/98	2/21/98	TPHC	168	ND	10,000	No
9055RE1**	3337.05	2/10/98	2/21/98	TPHC	169	ND	10,000	No
9055RB1**	3337.01	2/10/98	2/21/98	TPHC	165	2,723.28	10,000	No
9055RB2**	3337.03	2/10/98	2/21/98	TPHC	171	2,673.69	10,000	No
9055RB3**	3380.01	3/2/98	3/3 - 4/98	TPHC	174	ND	10,000	No
9055RB4**	3380.02	3/2/98	3/3 - 4/98	TPHC	179	ND	10,000	No
9055RN1	3380.03	3/2/98	3/3 - 4/98	TPHC	167	ND	10,000	No
9055RS2	3380.04	3/2/98	3/3 - 4/98	TPHC	177	ND	10,000	No
9055RE2	3380.05	3/2/98	3/3 - 4/98	TPHC	171	ND	10,000	No
9055RW2**	3380.06	3/2/98	3/3 - 4/98	TPHC	167	ND	10,000	No
9055R/F**	3309.09	1/30/98	2/2 - 4/98	TPHC	174	370.26	10,000	No
9055VL1	3309.10	1/30/98	2/2 - 4/98	TPHC	175	ND	10,000	No
9055VL2	3309.11	1/30/98	2/2 - 4/98	TPHC	183	ND	10,000	No

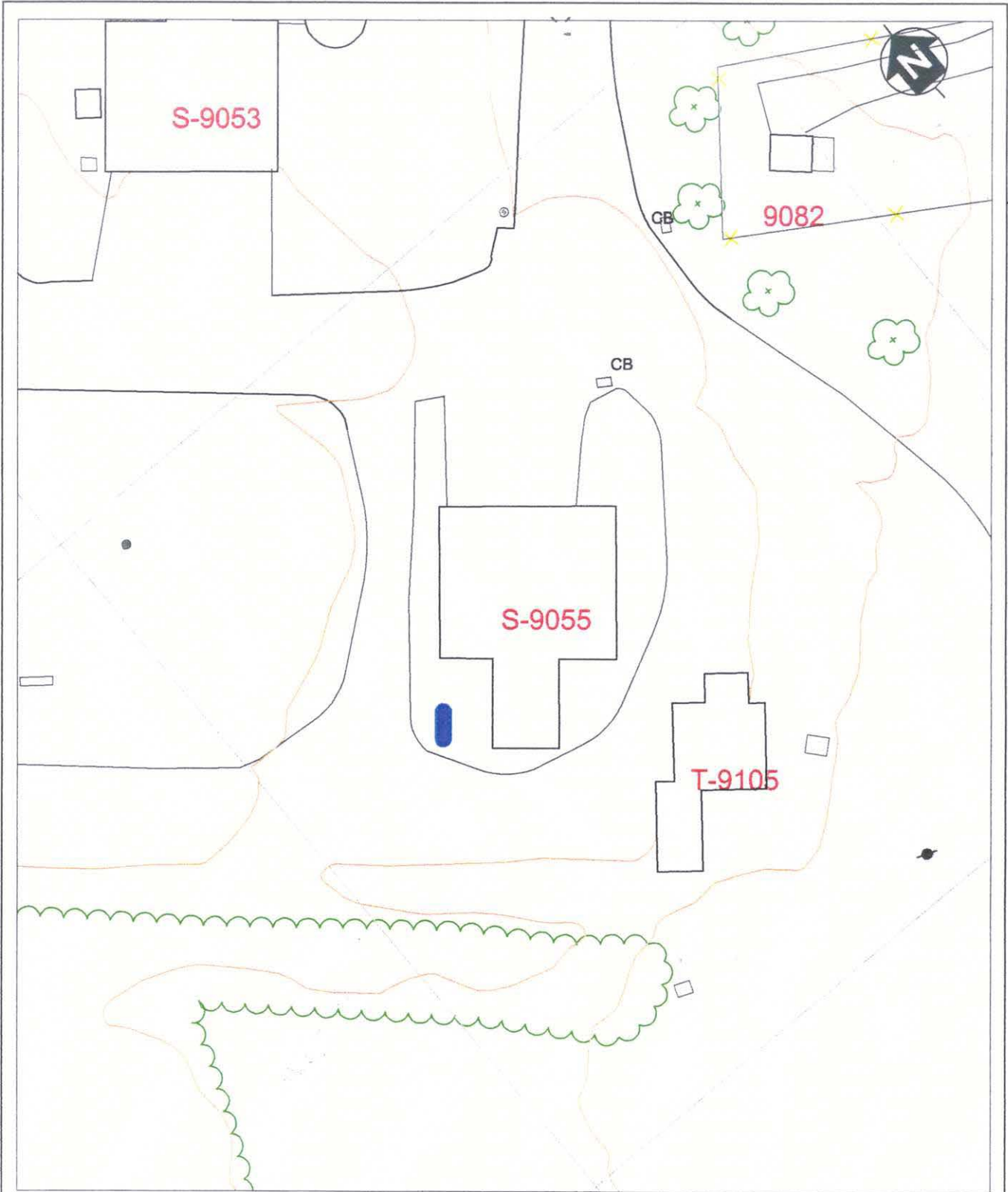
Note:

* Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.

ND Not detected

TPHC Total petroleum hydrocarbons

** Samples collected to remediate contamination found in sample above.



9055.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK



SCALE

EVANS AREA
FORT MONMOUTH, NEW JERSEY

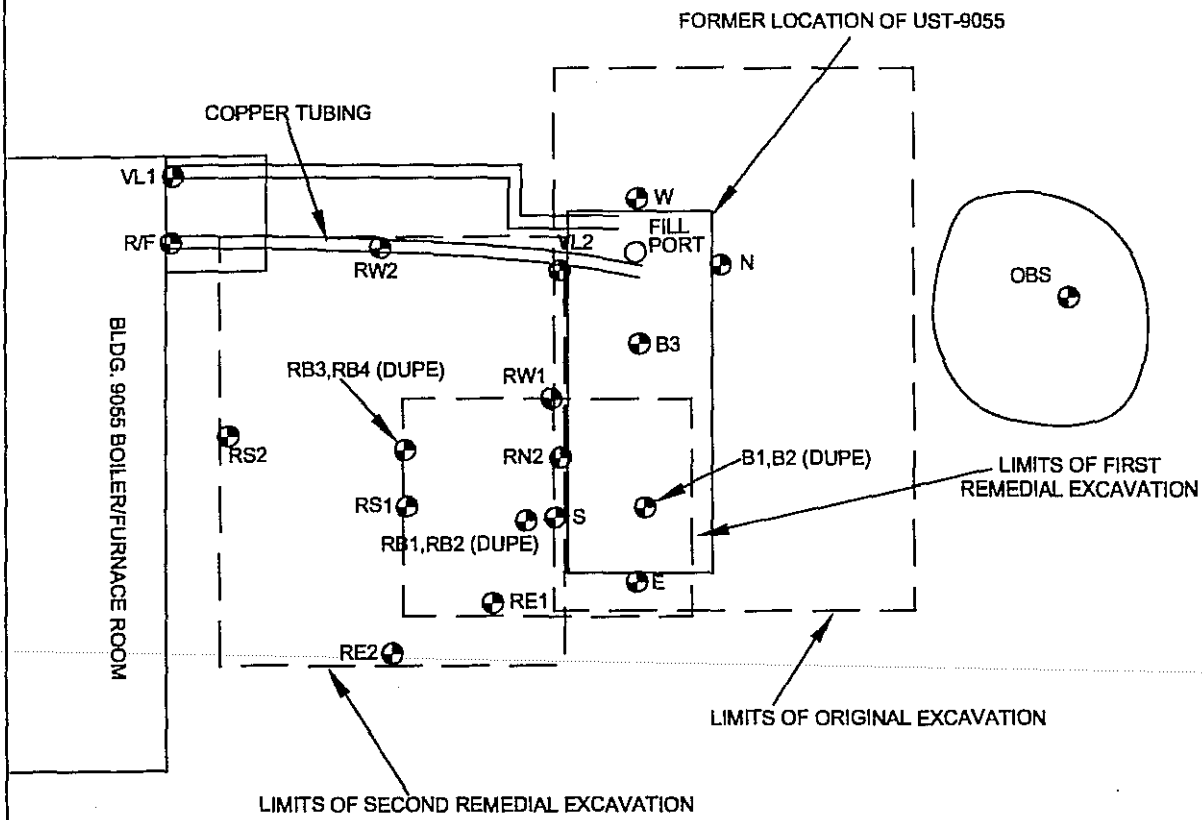
FIGURE 1
BUILDING 9055 - UST REMOVAL LOCATION MAP



TETRA TECH EM INC.



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES:

- 1) UST-9055 WAS 10' LONG AND 4' WIDE
- 2) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARDS MONMOUTH BOULEVARD

EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 2
BUILDING 9055
UST REMOVAL AND SOIL SAMPLE LOCATIONS

 TETRA TECH EM INC.

9055.DWG ASC 01/19/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-23

(12/97) **New Jersey Department of Environmental Protection Site Remediation Program**

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 23
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

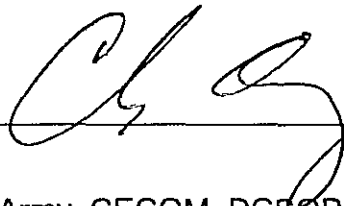
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-23



PHOTO 1: View of the cleaned interior of UST-9055 (looking south/southwest).



PHOTO 2: View of UST-9055 being removed from the ground (looking southeast).



PHOTO 3: View of the sampling locations in the original UST-9055 excavation (looking west).



PHOTO 4: View of the sampling locations in the remedial UST-9055 excavation (looking south/southwest).

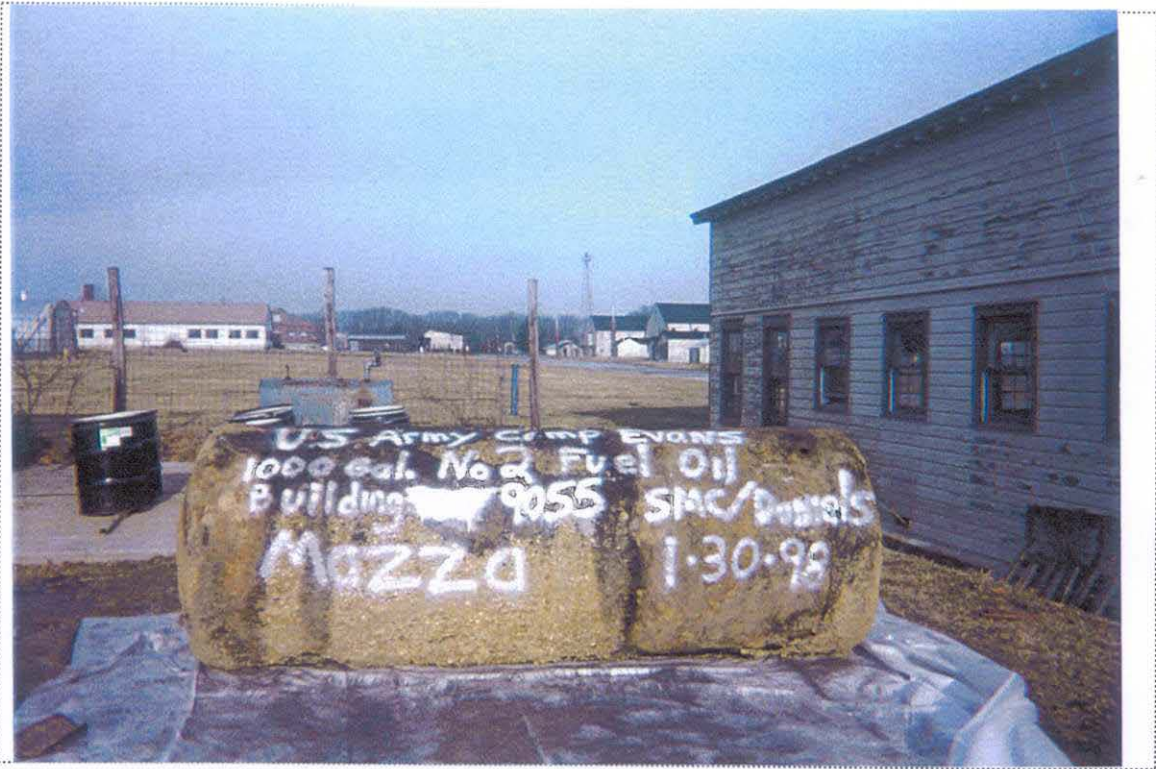


PHOTO 5: View of UST-9055 staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-23

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3309
DPW. SELFM-PW-EV Date Rec'd: 30-Jan-98
Bldg. 173 Analysis Start: 02-Feb-98
Ft. Monmouth, NJ 07703 Analysis Complete: 04-Feb-98

Analysis: OQA-QAM-025 UST Reg. #:
Matrix: Soil Closure #:
Analyst: D.DEINHARDT DICAR #:
Ext. Meth: Shake Location #: BLDG. 9055

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3309.01	9055-OBS	1.00	15.50	86.89	174	ND
3309.02	9055-B1	1.00	15.13	87.52	177	392.80
3309.03	9055-B2	1.00	15.16	88.51	175	278.98
3309.04	9055-B3	1.00	15.17	88.14	176	348.16
3309.05	9055-E	1.00	15.27	80.77	191	663.40
3309.06	9055-W	1.00	15.60	90.19	167	ND
3309.07	9055-N	1.00	15.69	93.54	160	ND
3309.08	9055-S	1.00	15.30	90.10	170	3300.15
3309.09	9055-R/F	1.00	15.90	85.07	174	370.26
3309.10	9055-VL1	1.00	15.51	86.44	175	ND
3309.11	9055-VL2	1.00	15.01	85.48	183	ND
METHOD BLANK	2-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director


Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3337
 DPW. SELFM-PW-EV Date Rec'd: 11-Feb-98
 Bldg. 173 Analysis Start: 21-Feb-98
 Ft. Monmouth, NJ 07703 Analysis Complete: 21-Feb-98

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: Bldg 9055

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3337.01	9055-RB1	1.00	15.42	92.48	165	2723.28
3337.02	9055-RS1	1.00	15.58	92.10	164	ND
3337.03	9055-RB2	1.00	15.17	90.41	171	2673.69
3337.04	9055-RW1	1.00	15.67	89.49	168	ND
3337.05	9055-RE1	1.00	15.05	92.62	169	ND
METHOD BLANK	12-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected
 MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-23



Recorder From:
The Drawing Board
P.O. Box 2044 • Hartford, CT 06104-2044
Call Tel Fax: 1-800-527-9339

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 038

Carrier No. _____

SMC ENVIRONMENTAL SERVICES GROUP

(Name of Carrier)

Date _____

Shipper <u>Mazza + Sons, Inc</u>	Place of Origin <u>U.S. Army Camp Evans</u>
Street <u>3230 Shatto Road</u>	Street <u>Building 9055</u>
Post Office <u>Twinton Falls, NJ 07753</u>	Post Office <u>Wall NJ 07719</u>

No. Shipping Units	PKG	Kind of Package, Description of Article, Special Marks and Emblems	Weight (Including In Containers)	RATE	CHARGE
①		<u>FOR SERAP ONLY</u> <u>1-1,000 Gallon U.S.T. Tank</u> <u>Building # 9055</u> <u>TANK # 90029-23</u>			

NEMT C.O.D. TO: ADDRESS <small>NOTE - Where the rate is dependent on value, shippers are required to state specifically in writing the amount or description of the property. The agreed or derived value of the property is hereby irrevocably stated by the shipper to be not exceeded by _____ \$</small>	COD Amt: \$ _____ <small>This is to certify that the above named article is properly classified, described, packaged, marked and labeled, and is in proper condition for transportation according to the applicable regulations of the Department of Transportation.</small> Signature _____	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ _____ COLLECT <input type="checkbox"/> \$ _____ TOTAL CHARGES: \$ _____ <small>PRIGHT CHARGES FRICTION PLATE CHECK FOR IF SHIPPED IN CONTAINER IF NOT CHECK</small>
---	--	---

RECEIVED, subject to the classifications and marks in effect on the date of the issue of this Bill of Lading, the property described above is apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, and damaged as indicated above which said carrier and warehouse carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agree to carry to its usual place of delivery at said destination, if on the route, 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 bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Mark C. Daniels</u>
	DATE <u>2/23/98</u>

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Recorder Item #BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044
© EGI, 1992, Printed in U.S.A.

1995 8:52PM FROM JMT ENVIRON. TECH 610 789 6149

38

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9055
VESSEL: 1,000 - Gallon UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 11/30/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-23**



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

N.J. 32.1.00.20.3.2.Y

Manifest Document No.

010679

2. Page 1 of

NHZ 010679

Generator's Name and Mailing Address

U.S. Army (OIA) 623 ELLIOTT AFB COMMAND FUEL AREA
4150 35TH FAIRWAY OLD 173 ATTN: SELM-PW-EV.
ELLIOTT AFB NJ 07703

4. Generator's Phone (732) 532-6223

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number

NJ 32.1.00.20.3.2.Y

A. Transporter's Phone

908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC ORA LORCO PETROLEUM SVCS
RUMMOND CHEESE LAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number

NJ 32.1.00.20.3.2.Y

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers

No.

Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1993 PAH

3

3

X4343

3

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

1. PETROLEUM OIL 99%
WATER 1%

3

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL# 17083 ERG# 128 DEXSIL TEST KIT RESULTS <1000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

X 1 Harris Applying SELM-PW-EV

Signature

[Signature]

Month Day Year

12 19 98

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

[Signature]

Signature

[Signature]

Month Day Year

12 19 98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR

TRANSPORTER

FACILITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. NH2 010679 dated 2-19-98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

1072
(L-22): Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

L-28. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: _____ PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communication Electronics Center Camp Evans AFB.

Generator's EPA ID No. NJ. 3210020324

Address c/o Joseph Fallo, Bldg 173, ATTN: SLEFM PW-EU, FORT MONMOUTH, N.J. 07703

Print Name Charles Appleby Signature [Signature]

Title Env. Pro Spec SLEFM-PW-EU

Date 2-19-98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9057
Camp Evans Area*

NJDEP UST Registration No. 90029-41

TABLE OF CONTENTS

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1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES.....	2
1.1 Site Description	2
1.2 Underground Storage Tank Excavation And Cleaning	3
1.3 Underground Storage Tank Transportation And Disposal.....	3
1.4 Management Of Excavated Soils.....	4
2.0 SITE INVESTIGATION ACTIVITIES	4
2.1 Field Screening/Monitoring	5
2.2 Soil Sampling.....	5
3.0 SOIL SAMPLING RESULTS	6
4.0 CONCLUSIONS AND RECOMMENDATIONS.....	6

TABLES

Table 1	Summary of Post-Excavation Sampling Activities
Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9057(A) - UST Removal Location Map
Figure 2	Building 9057(A) - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On November 6, 1997, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-41 (Fort Monmouth Identification No. 9057(A)), was located east of Building 9057 in the Camp Evans area of Fort Monmouth. The UST was a 550-gallon tank used to store diesel fuel. The former UST fill port location was located directly above the center of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST; however, evidence of potentially contaminated soil was observed in the overburden soil, adjacent to the fill port location and surrounding the tank. After this soil had been excavated, samples collected at the time of the UST removal contained non-detectable concentrations of total petroleum hydrocarbons (TPHC). The total amount of soil removed from the excavation was approximately 15 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-41 at Building 9057.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-41, was closed at Building 9057 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on November 6, 1997. The UST was a steel 550-gallon tank used to store diesel fuel.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-41 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-41.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9057 is located adjacent to the eastern perimeter of the main section of the Camp Evans area of the Fort Monmouth Army Base as shown in Figure 1. UST No. 90029-41 was located north of Building 9057 and associated piping formerly ran approximately 6 feet west from the UST to Building 9057. The former UST fill port area was located directly above the center of the tank. A site map is provided in Figure 1 showing the location of the UST-9057(A) removal relative to Building 9057.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and the associated piping. No free product was present in the piping because the UST was out-of-service when removed; however, the UST had previously been found to be full of water when it was discovered (Note: At the time that the project began, no one knew that UST No. 90029-41 was still in place). As a result, SMC called Lorco Petroleum Company and made arrangements for a vacuum truck to be sent to the site to remove the water from the UST. After that had been completed, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with a drum vacuum device. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, transported to the UST staging area (located adjacent to the west side of Building 9061), and examined for holes. No holes or punctures were observed by the Tetra Tech subsurface evaluator. Appendix C provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed or detected by the PID/FID except for soil located adjacent to the UST fill port and surrounding the UST. Visual and PID/FID soil screening was also performed along the piping associated with the UST. No contamination was noted anywhere along the former piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from (test trench) post-excavation soil samples, soil located adjacent to the UST fill port and surrounding the tank was contaminated (see Exploratory Test Trench Report). This soil was removed to the staging area for disposal off site at a later date and the clean excavated soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from adjacent to the former UST fill port location and surrounding the tank did exhibit evidence of contamination and was transported to the soil staging area.

2.2 SOIL SAMPLING

On November 6, 1997, after the UST removal and the excavation of three truckloads of potentially contaminated soil, post-excavation soil samples 9057(A)B1, 9057(A)B2 (Duplicate of 9057(A)B1), 9057(A)B3, 9057(A)N, 9057(A)E, 9057(A)S, 9057(A)W, and 9057(A)RF1 were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of and beneath the former UST location, and bottom samples were collected from directly beneath the former UST location, or 7.5 to 8-feet below ground surface (bgs). The sidewall samples were collected from 7 to 7.5-feet bgs. Sample 9057(A)RF1 was collected from next to Building 9057 along the former return/feed line piping length of the excavation, which was approximately 6 feet long. Sample 9057(A)RF1 was collected from 3 to 3.5-feet bgs. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's "Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on November 6, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact VOC soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on November 6, 1997 from the UST excavation and from below the former location of piping associated with the UST contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the 9057(A) UST excavation at Building 9057 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-41 at Building 9057.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities [UST 9057(A)]
 Building 9057, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9057(A)RF1	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(A)B1	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(A)B2	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(A)B3	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(A)N	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(A)E	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(A)S	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(A)W	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

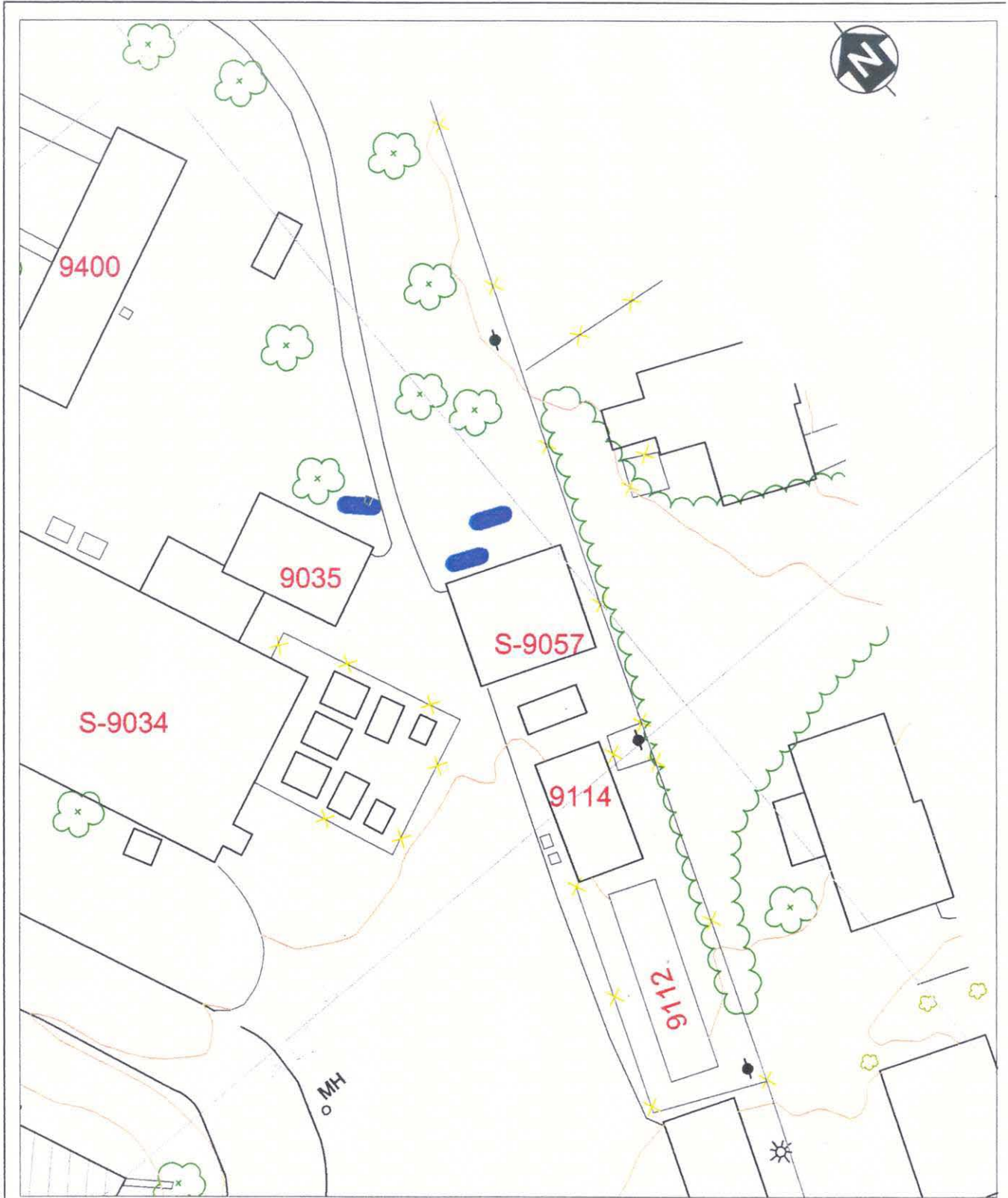
*TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results [UST 9057(A)]
 Building 9057, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9057(A)RF1	3152.03	11/6/97	11/10 - 11/97	TPHC	171	ND	10,000	No
9057(A)B1	3152.04	11/6/97	11/10 - 11/97	TPHC	179	ND	10,000	No
9057(A)B2	3152.05	11/6/97	11/10 - 11/97	TPHC	176	ND	10,000	No
9057(A)B3	3152.06	11/6/97	11/10 - 11/97	TPHC	178	ND	10,000	No
9057(A)N	3152.07	11/6/97	11/10 - 11/97	TPHC	163	ND	10,000	No
9057(A)E	3152.08	11/6/97	11/10 - 11/97	TPHC	177	ND	10,000	No
9057(A)S	3152.09	11/6/97	11/10 - 11/97	TPHC	174	ND	10,000	No
9057(A)W	3152.10	11/6/97	11/10 - 11/97	TPHC	168	ND	10,000	No

Note:

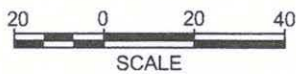
- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



9057.DWG ASC 01/19/99



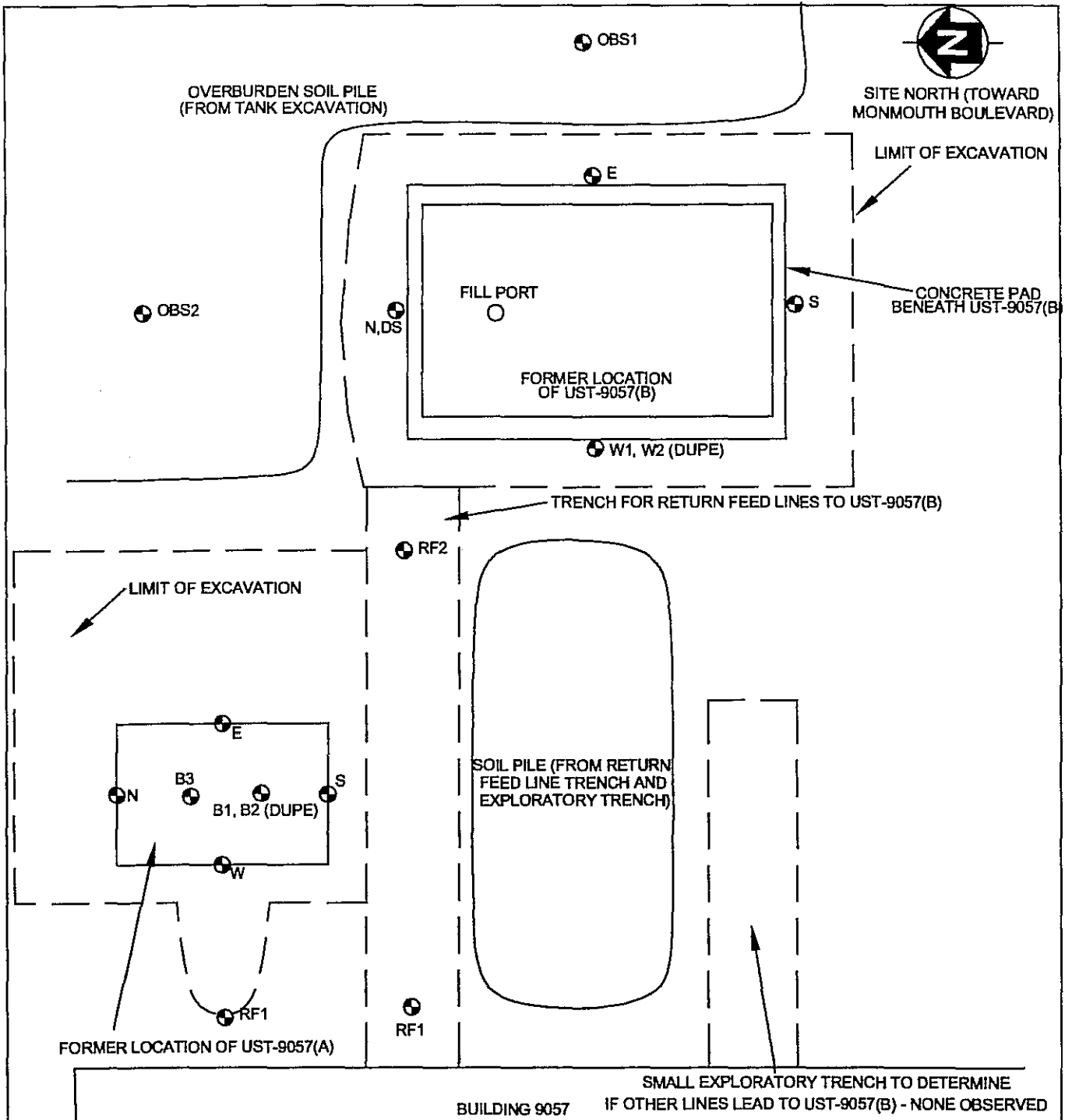
UNDERGROUND STORAGE TANK



EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 1
BUILDING 9057 - UST REMOVAL LOCATION MAP

 TETRA TECH EM INC.



NOTES:

- 1) UST-9057(A) WAS 6' LONG AND 4' IN DIAMETER.
- 2) UST-9057(B) WAS 10' LONG AND 6' IN DIAMETER.
- 3) ALL SAMPLE DESIGNATIONS FOR UST-9057(A) ARE PRECEDED BY "9057(A)-"
- 4) ALL SAMPLE DESIGNATIONS FOR UST-9057(B) ARE PRECEDED BY "9057(B)-"
- 5) SAMPLE DEPTHS (UST-9057(A)) :
 - A) B1, B2, B3 : 7.5' TO 8.0'
 - B) N, E, S, W : 7.0' TO 7.5'
 - C) RF1 : 3.0' TO 3.5'
- 6) SAMPLE DEPTHS (UST-9057(B)) :
 - A) N, E, S, W1, W2 : 7.0' TO 7.5'
 - B) DS : 8.5' TO 9.0'
 - C) RF1, RF2 : 1.0' TO 1.5'
 - D) OBS1, OBS2 : PILE
- 7) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARD MONMOUTH BOULEVARD



EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 2 BUILDING 9057 UST REMOVAL AND SOIL SAMPLE LOCATIONS
TETRA TECH EM INC.

9057.DWG ASC 01/19/89

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-41

UST Site/Remedial Investigation Report Certification Form

<p>A. Facility Name: <u>US Army, Fort Monmouth, Evans Area</u></p> <p>Facility Street Address: <u>Building 1207, DCSOPS-BID</u></p> <p>Municipality: <u>Wall Township</u> County : <u>Monmouth</u></p> <p>Block: <u>240, 241 and 242</u> Lot(s): <u>240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)</u></p> <p>Telephone Number : <u>(732) 239-2427</u></p>	
<p>B. Owner (RP)'s Name: <u>US Army, CECOM</u></p> <p>Street Address: <u>DCSOPS-BID, Bldg. 1207</u> City : <u>Fort Monmouth</u></p> <p>State: <u>NJ</u> Zip: <u>07703</u> Telephone Number : <u>(732) 532-5052</u></p>	
<p>C. (Check as appropriate)</p> <ul style="list-style-type: none">• Site Investigation <p>Report (SIR) \$500 Fee</p> <ul style="list-style-type: none">• Remedial Investigation <p>Report (RIR) \$1000 Fee</p>	<p>D. (Complete all that apply)</p> <ul style="list-style-type: none">• Assigned Case Manager : <u>Mr. Ian Curtis</u>• UST Registration Number : (7 digits): <u>90029 - 41</u>• Incident Report Number (10 or 12 digits): _____ • Tank Closure Number C(N)9 (7 characters): <u>Approved by Case Manager</u>
<p>E. Certification by the Subsurface Evaluator:</p> <p>The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : <u>Yes</u></p> <p>Name: Kevin J. Phelan Signature: <u>Kevin J. Phelan</u> UST Cert. No.: <u>0018436</u></p> <p>Firm: <u>Tetra Tech EM, Inc.</u> Firm's UST Cert. Number: <u>US00457</u></p> <p>Firm Address: <u>1 Bank Street, Suite 103</u> City: <u>Rockaway</u></p> <p>State: <u>NJ</u> Zip: <u>07866</u> Telephone Number : <u>(973) 9830507, Ext. 230</u></p>	

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

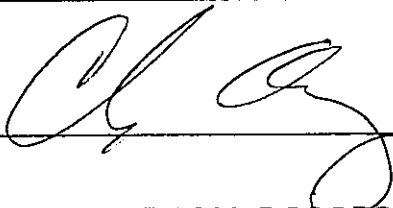
1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area
NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-41



PHOTO 1: View of the sampling location beneath the return/feed line piping of UST-9057(A) (looking northwest).



PHOTO 2: View of the sampling locations in the UST-9057(A) excavation (looking north).



PHOTO 3: View of UST-9057(A) staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-41

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3152
 DPW. SELFM-PW-EV Date Rec'd: 07-Nov-97
 Bldg. 173 Analysis Start: 10-Nov-97
 Ft. Monmouth, NJ 07703 Analysis Complete: 11-Nov-97

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: BLDG. 9057

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3152.01	9057(B)-RF1	1.00	15.22	87.44	177	ND
3152.02	9057(B)-RF2	1.00	15.31	86.91	177	209.70
3152.03	9057(A)-RF1	1.00	15.82	86.85	171	ND
3152.04	9057(A)-B1	1.00	15.16	86.47	179	ND
3152.05	9057(A)-B2	1.00	15.40	86.65	176	ND
3152.06	9057(A)-B3	1.00	15.19	86.98	178	ND
3152.07	9057(A)-N	1.00	15.13	95.49	163	ND
3152.08	9057(A)-E	1.00	15.14	87.80	177	ND
3152.09	9057(A)-S	1.00	15.51	87.21	174	ND
3152.1	9057(A)-W	1.00	15.19	92.36	168	ND
3152.11	9057(B)-N	1.00	15.83	88.76	167	ND
3152.12	9057(B)-DS	1.00	15.28	95.37	161	ND
3152.13	9057(B)-E	1.00	15.29	92.06	167	ND
3152.14	9057(B)-W1	1.00	15.57	95.14	159	ND
3152.15	9057(B)-S	1.00	15.63	86.53	174	325.03
3152.16	9057(B)-OBS1	1.00	15.57	86.68	174	ND
3152.17	9057(B)-OBS2	1.00	15.24	87.44	176	ND
3152.18	9057(B)-W2	1.00	15.49	92.06	165	ND
METHOD BLANK	10-Nov-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-41



Reorder From:
The Drawing Board
 P.O. Box 2044 - Hartford, CT 06104-2044
 Call Toll Free: 1-800-527-9639

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
 ORIGINAL - NOT NEGOTIABLE

Shipper No. 014

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Carrier)

Carrier No. _____

Date _____

To: <u>Mazza + Sons, Inc.</u>	From: <u>U.S. Army Camp Evans</u>
Street: <u>3230 Shatto Road</u>	Street: <u>Building</u>
City/State: <u>Twinton Falls, NJ</u> Zip Code: <u>07753</u>	City/State: <u>Wall, NJ</u> Zip Code: <u>07719</u>
State: _____	

No. Shipping Units	Weight (Subject to Contract)	RATE	CHARGES
①	1-550 Gallon U.S.F. Shell		
	FOR SCRAP ONLY		
	TANK # 90029-41		
	Building # 9057A		

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> COLLECT <input type="checkbox"/>
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 voluntarily stated by the shipper to be not less than \$ _____	This is to certify that the above named material is not property classified, described, packaged, marked and treated, and is in proper condition for transportation according to the applicable regulations of the Department of Transportation.	TOTAL CHARGES: \$

RECEIVED, subject to the classifications and terms in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, received, concealed, and retained as indicated above which said carrier has been understood throughout this contract to be 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 route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all of 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 bill of lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>[Signature]</u>
DATE <u>11/11/97</u>	

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reorder Item #BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044
 © EGI, INC. Printed in U.S.A.

FROM JMT ENVIRON. TECH 610 759 6149

1995 8:52PM

11

014

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9057A

VESSEL: 550 - Gallon steel tanks
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on Nov. 6, 1997, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that **SMC Environmental Services Group** has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. **SMC Environmental Services Group** will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels

Signature

David H. Daniels / site manager

Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-41**



RD1 Box 5A
Old Bridge, N.J. 08857
(908) 721-0900
Fax (908) 721-0231

STANDARD
COLLECTION
ORDER FORM

181973

~~Example~~ (Format)

GENERATOR/LOCATION SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

NAME: U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND
INFORMATION/ATTENTION LINE: CAMP EVANS AREA
DELIVERY ADDRESS: % J. FALLON BLDG 173 ATTN: SELFM-RD-EV
CITY: FORT MONMOUTH STATE: NJ ZIP: 07703
PHONE NUMBER: (732) 532-6223
USA EPA ID NO. (IF APPLICABLE): NJ3210026324

NAME: SMC Environmental Services
INFORMATION/ATTENTION LINE:
DELIVERY ADDRESS: 501 Allendale Road
CITY: King of Prussia STATE: PA ZIP: 19406
PHONE NUMBER: (610) 265-2700 PURCHASE ORDER NUMBER: 16898
MANIFEST NUMBER: NH2008114

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL	1072	500 gallons				
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
701	DRUM DISPOSAL						
604	TANK ENTRY						
40800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR	1	3 hours				
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.

INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.

GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261, GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is ID-72
In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: Charles Appleby Title: SELF-M-PW-EV
Signature: [Signature] Date: 11-6-97
GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

N/A
GENERATOR'S SIGNATURE

LARGE QUANTITY TOTAL GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS
PPM

550 gallon unknown
UST at 9057

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

Print Name: Dan Mackay
Signature: [Signature] Date: 11-6-97
LORCO REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

NJ 3.2.1.0.0.2.0.3.2.4

Manifest Document No.

68114

2. Page 1 of 1

NHZ 008114

Generator's Name and Mailing Address
U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND EVANS ADA
40 JOSEPH FALLON BLDG. 173 ATTN: SELM-PW-EV
FORT MONMOUTH, N.J. 07703

4. Generator's Phone (732) 532-6223

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. Transporter 1 US EPA ID Number
NJ D 084044064

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON & CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10. Facility US EPA ID Number
NJ D 084044064

C. Facility's Phone
908 721-0900

11. Waste Shipping Name and Description

12. Containers
No. Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII

00

T

0.0500

G

GENERATOR

D. Additional Descriptions for Materials Listed Above
T, L PETROLEUM OIL
WATER 99%

E. Handling Codes for Wastes Listed Above
T04 FILTRATION

15. Special Handling Instructions and Additional Information
24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL #87064 ERG#128 DEXSIL TEST KIT RESULTS <1000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name
Charles Appleby SELM-PW-EV

Signature
Charles Appleby

Month Day Year
11 16 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name
Dan MacKay

Signature
D MacKay

Month Day Year
11 16 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

TRANSPORTER

F

T

Y

ORIGINAL - RETURN TO GENERATOR



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Hazardous Waste Manifest No.

NH2008114 dated 11-6-97,

is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

X721: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

72

X722: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

X723: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

X724: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

X725: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

X726: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

X728. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: 51000 PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND CAMP BUNGS AREA

Generator's EPA ID No. NJ3210020324

Address ATTN: SELFM-PW-EV Q/O JOSEPH FALLON BLDG 173 FORT MONMOUTH, N.J. 07703

Print Name Charles Appledy Signature [Signature]

Title Env. Pro Spec. SELFM-PW-EV

Date 11-6-97

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 9057
Camp Evans Area

NJDEP UST Registration No. 90029-45

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Figure 1	Building 9057(B) - UST Removal Location Map
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APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On November 6, 1997, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-45 (Fort Monmouth Identification No. 9057(B)), was located east of Building 9057 in the Camp Evans area of Fort Monmouth. The UST was a 1,500-gallon tank used to store diesel fuel. The former UST fill port location was located directly above the northern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed surrounding the fill port. Samples collected at the time the UST was removed contained levels of total petroleum hydrocarbons (TPHC) concentrations ranging from non-detect to 325.03 milligrams per kilogram (mg/kg). The total amount of soil removed from the excavation was approximately 15 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9057 area as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-45 at Building 9057.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-45, was closed at Building 9057 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on November 6, 1997. The UST was a steel 1,500-gallon tank containing diesel fuel.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-45 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-45.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9057 is located adjacent to the eastern perimeter of the main section of the Camp Evans area of the Fort Monmouth Army Base as shown in Figure 1. UST No. 90029-45 was located east of Building 9057 and associated piping formerly ran approximately 20 feet west from the UST to Building 9057. The former UST fill port area was located directly above the northern end of the tank. A site map is provided in Figure 1 showing the location of the UST-9057(B) removal relative to Building 9057.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and the associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with a drum vacuum device. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, transported to the UST staging area (located adjacent to the west side of Building 9061), and examined for holes. No holes or punctures were observed by the Tetra Tech subsurface evaluator. Appendix C provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed or detected by the PID/FID except for soil located adjacent to the UST fill port and the overburden soil (at the western end of the tank). Visual and PID/FID soil screening was also performed along the piping associated with the UST. No contamination was noted anywhere along the former piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil located adjacent to the UST fill port and the overburden soil (at the northern end of the tank) was contaminated. This soil was removed to the staging area for disposal off site at a later date and the clean excavated soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from adjacent to the former UST fill port location and the overburden soil from the northern end of the tank did exhibit evidence of contamination and was transported to the soil staging area.

2.2 SOIL SAMPLING

On November 6, 1997, after the UST removal, post-excavation soil samples 9057(B)N, 9057(B)DS, 9057(B)E, 9057(B)W1, 9057(B)W2 (Duplicate of 9057(B)W1), 9057(B)S, 9057(B)RF1, and 9057(B)RF2 were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 7 to 7.5-feet below ground surface (bgs). No bottom samples could be collected because of the concrete pad. Sample 9057(B)RF1 was collected from next to Building 9057 along the former return/feed line piping length of the excavation, which was approximately 20 feet long. Sample 9057(B)DS was collected beneath the 9057(B)N sample location from 8.5 to 9-feet bgs. Sample 9057(B)RF1 was collected from 1 to 1.5-feet bgs. Sample 9057(B)RF2 was collected approximately 15 feet east of Building 9057 along the former return/feed line piping length of the excavation from 1 to 1.5-feet bgs. Samples 9057(B)OBS1 and 9057(B)OBS2 were collected from the overburden soil pile to verify that the pile was not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on November 6, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figures 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on November 6, 1997 from the UST excavation and from below the former location of piping associated with the UST contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the 9057(B) UST excavation at Building 9057 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-45 at Building 9057.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities [UST 9057(B)]
 Building 9057, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9057(B)RF1	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)RF2	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)N	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)DS	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)E	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)W1	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)S	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)OBS1	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)OBS2	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9057(B)W2	11/6/97	11/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

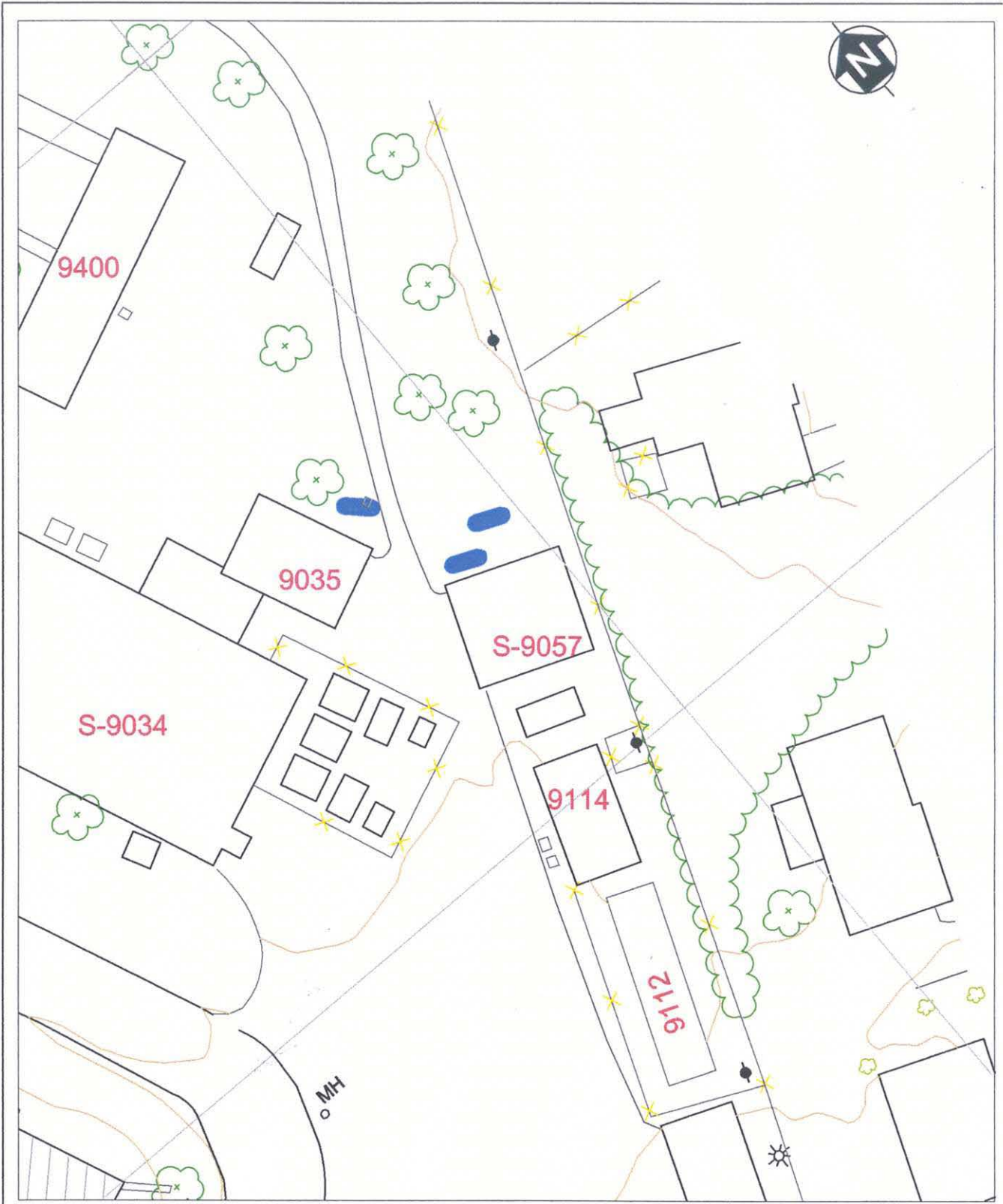
* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results [UST 9057(B)]
 Building 9057, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9057(B)RF1	3152.01	11/6/97	11/10 - 11/97	TPHC	177	ND	10,000	No
9057(B)RF2	3152.02	11/6/97	11/10 - 11/97	TPHC	177	209.70	10,000	No
9057(B)N	3152.11	11/6/97	11/10 - 11/97	TPHC	167	ND	10,000	No
9057(B)DS	3152.12	11/6/97	11/10 - 11/97	TPHC	161	ND	10,000	No
9057(B)E	3152.13	11/6/97	11/10 - 11/97	TPHC	167	ND	10,000	No
9057(B)W1	3152.14	11/6/97	11/10 - 11/97	TPHC	159	ND	10,000	No
9057(B)S	3152.15	11/6/97	11/10 - 11/97	TPHC	174	325.03	10,000	No
9057(B)OBS1	3152.16	11/6/97	11/10 - 11/97	TPHC	174	ND	10,000	No
9057(B)OBS2	3152.17	11/6/97	11/10 - 11/97	TPHC	176	ND	10,000	No
9057(B)W2	3152.18	11/6/97	11/10 - 11/97	TPHC	165	ND	10,000	No

Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons




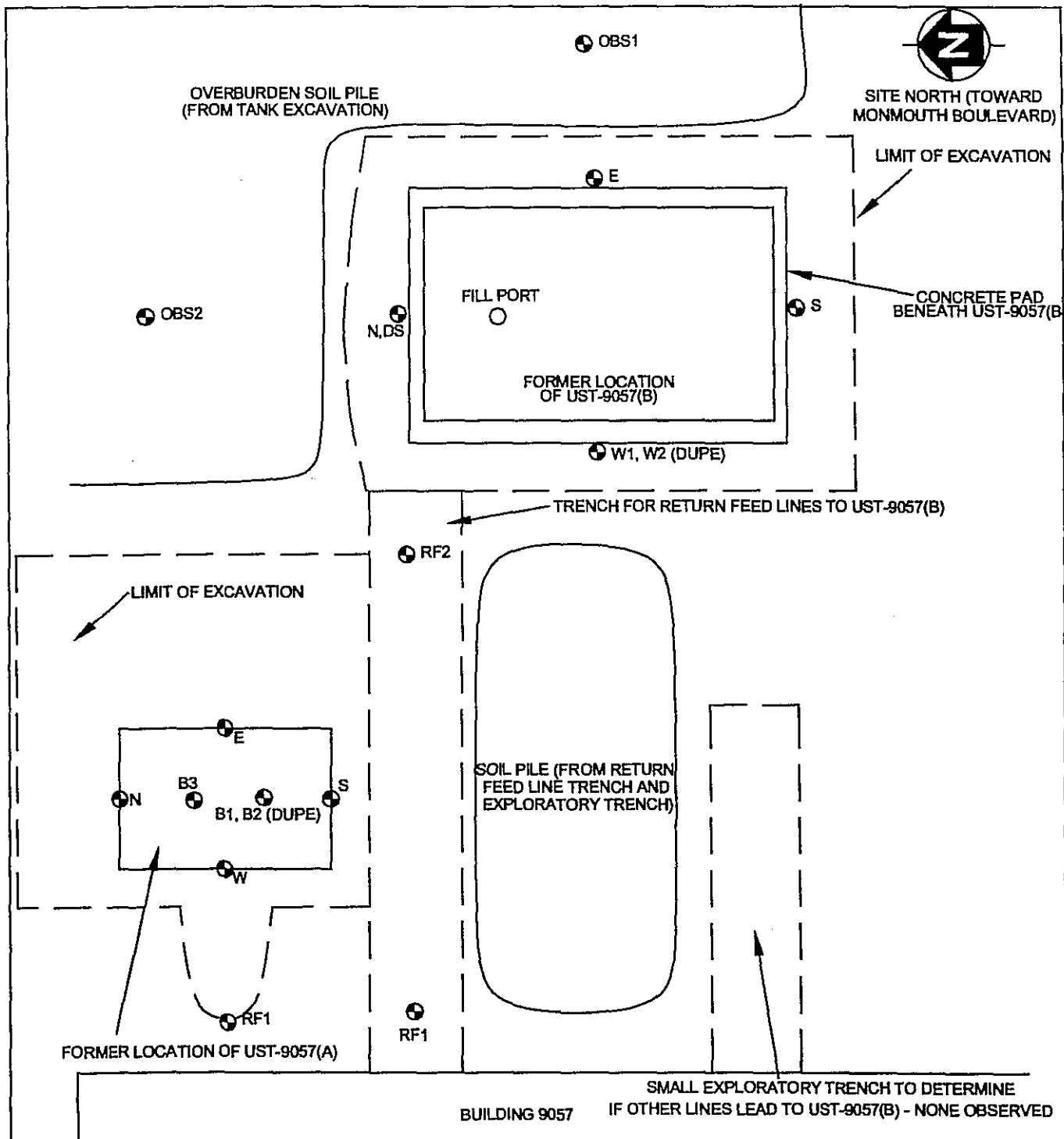
9057.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK



EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 1 BUILDING 9057 - UST REMOVAL LOCATION MAP
 TETRA TECH EM INC.



NOTES:

- 1) UST-9057(A) WAS 6' LONG AND 4' IN DIAMETER.
- 2) UST-9057(B) WAS 10' LONG AND 6' IN DIAMETER.
- 3) ALL SAMPLE DESIGNATIONS FOR UST-9057(A) ARE PRECEDED BY "9057(A)-"
- 4) ALL SAMPLE DESIGNATIONS FOR UST-9057(B) ARE PRECEDED BY "9057(B)-"
- 5) SAMPLE DEPTHS (UST-9057(A)) :
 A) B1, B2, B3 : 7.5' TO 8.0'
 B) N, E, S, W : 7.0' TO 7.5'
 C) RF1 : 3.0' TO 3.5'
- 6) SAMPLE DEPTHS (UST-9057(B)) :
 A) N, E, S, W1, W2 : 7.0' TO 7.5'
 B) DS : 8.5' TO 9.0'
 C) RF1, RF2 : 1.0' TO 1.5'
- 7) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARD MONMOUTH BOULEVARD



EVANS AREA
 FORT MONMOUTH, NEW JERSEY
 FIGURE 2
 BUILDING 9057
 UST REMOVAL AND SOIL SAMPLE LOCATIONS
 TETRA TECH EM INC.

9057.DWG ASC 01/19/89

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-45

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 45
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

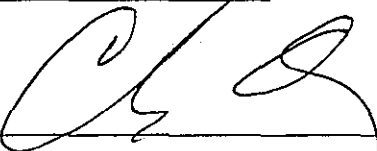
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-45



PHOTO 1: View of the cleaned interior of UST-9057(B) (looking east/southeast).

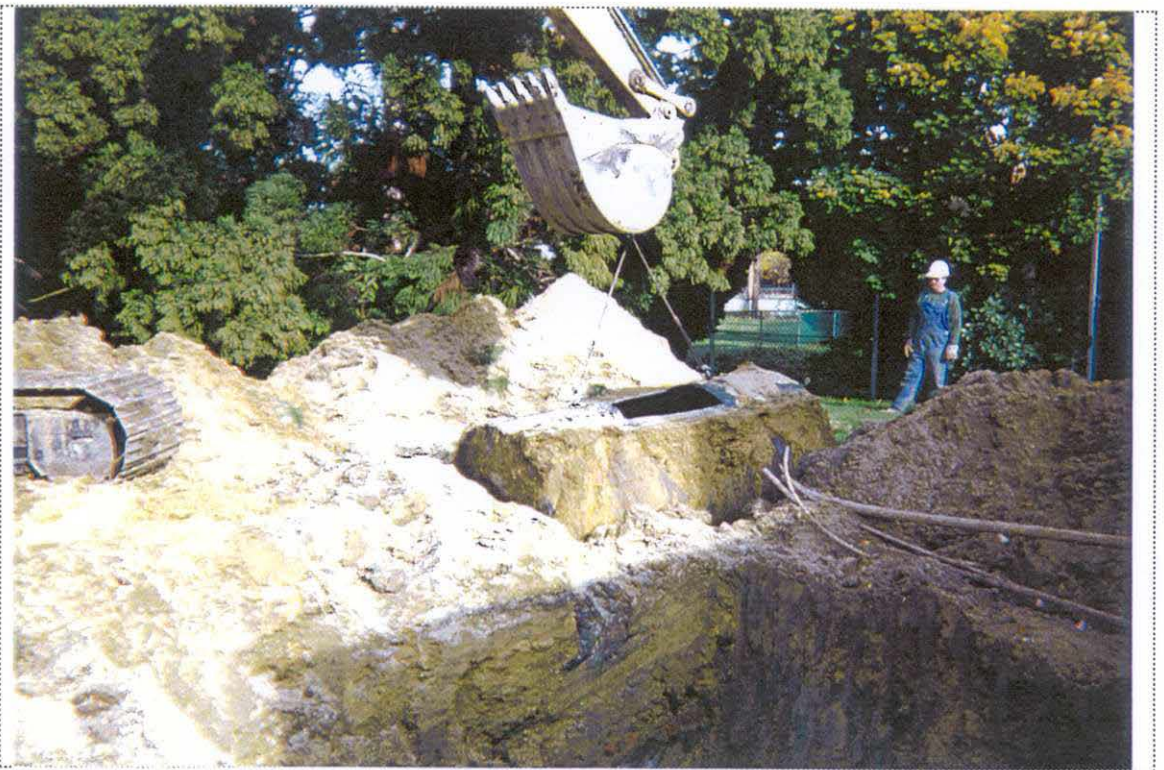


PHOTO 2: View of UST-9057(B) being removed from the ground (looking southeast).



PHOTO 3: View of the sampling locations in the UST-9057(B) excavation (looking north).



PHOTO 4: View of UST-9057(B) (on the right) staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-45

Report of Analysis
 U.S. Army, Fort Monmouth Environmental Laboratory
 NJDEP Certification # 13461

Client : U.S. Army Lab. ID # : 3152
 DPW. SELFM-PW-EV Date Rec'd: 07-Nov-97
 Bldg. 173 Analysis Start: 10-Nov-97
 Ft. Monmouth, NJ 07703 Analysis Complete: 11-Nov-97

Analysis: OQA-QAM-025 UST Reg. #:
 Matrix: Soil Closure #:
 Analyst: D.DEINHARDT DICAR #:
 Ext. Meth: Shake Location #: BLDG. 9057

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3152.01	9057(B)-RF1	1.00	15.22	87.44	177	ND
3152.02	9057(B)-RF2	1.00	15.31	86.91	177	209.70
3152.03	9057(A)-RF1	1.00	15.82	86.85	171	ND
3152.04	9057(A)-B1	1.00	15.16	86.47	179	ND
3152.05	9057(A)-B2	1.00	15.40	86.65	176	ND
3152.06	9057(A)-B3	1.00	15.19	86.98	178	ND
3152.07	9057(A)-N	1.00	15.13	95.49	163	ND
3152.08	9057(A)-E	1.00	15.14	87.80	177	ND
3152.09	9057(A)-S	1.00	15.51	87.21	174	ND
3152.1	9057(A)-W	1.00	15.19	92.36	168	ND
3152.11	9057(B)-N	1.00	15.83	88.76	167	ND
3152.12	9057(B)-DS	1.00	15.28	95.37	161	ND
3152.13	9057(B)-E	1.00	15.29	92.06	167	ND
3152.14	9057(B)-W1	1.00	15.57	95.14	159	ND
3152.15	9057(B)-S	1.00	15.63	86.53	174	325.03
3152.16	9057(B)-OBS1	1.00	15.57	86.68	174	ND
3152.17	9057(B)-OBS2	1.00	15.24	87.44	176	ND
3152.18	9057(B)-W2	1.00	15.49	92.06	165	ND
METHOD BLANK	10-Nov-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


 Daniel K. Wright
 Laboratory Director

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-45



Reorder From:
The Drawing Board
P.O. Box 2044 - Hartford, CT 06104-2044
Call Toll Free: 1-800-527-9630

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 015

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Carrier)

Carrier No. _____

Date _____

To: <u>Mazza + Sons, inc</u>	From: <u>U.S. Army Camp Evans</u>
Street: <u>3230 Shatto Road</u>	Street: <u>Building</u>
Postoffice: <u>Tinton Falls, NJ zip code 07753</u>	Origin: <u>Wall NJ 07719</u>

No. Shipping Units	Rate	Kind of Packaging, Description of Article, Special Marks and Exceptions	Weight (Subject to Contract)	RATE	CHARGES
①		FOR SERAP ONLY 1-1,000 Gallon U.S.T. Shell Chlorine TANK # 90029-45 Building # 9057B			

REMIT C.O.D. TO: ADDRESS	COD Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
NOTE - Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.	Subject to Section 7 of the conditions, this shipment is being delivered to the consignee without recourse on the part of the carrier if the shipper's following statement is true: (See carrier's bill of lading for details of this shipment without payment of freight and other lawful charges.)	TOTAL CHARGES: \$
\$ _____ per _____	Signature _____	Signature of Consignee _____

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown, repacked, consolidated, and destined as indicated above which said carrier (the word carrier 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 route, 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 bill of lading terms and conditions in the governing classification on the date of shipment. Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>[Signature]</u>
DATE <u>11/18/97</u>	

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reorder Item BLN74 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044 ©EGE, 1992, Printed in U.S.A.

15

1995 8:52PM FROM JMT ENVIRON. TECH 610 759 6149

015

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9057 B

VESSEL: 1,000 - Gallon steel tank
(Formerly # 2 Fuel oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on Nov 6, 1997, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
 Signature

David H. Daniels / site manager
 Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-45**



RD1 Box 5A
Old Bridge, N.J. 08857
(908) 721-0900
Fax (908) 721-0231

STANDARD
COLLECTION
ORDER FORM

181973

Example (Format)

GENERATOR/LOCATION SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

NAME: U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND
INFORMATION/ATTENTION LINE: CAMP EVANS AREA
DELIVERY ADDRESS: 16 J. FALLON BLDG 173 ATTN: SELFM-PW-EV
CITY: FORT MONMOUTH STATE: NJ ZIP: 07703
PHONE NUMBER: (732) 532-6223
USA EPA ID NO. (IF APPLICABLE): NJ3210026324

NAME: SMC Environmental Services
INFORMATION/ATTENTION LINE: SMC Environmental Services
DELIVERY ADDRESS: 501 Allendale Road
CITY: King of Prussia STATE: PA ZIP: 19406
PHONE NUMBER: (610) 265-2700
PURCHASE ORDER NUMBER: 16898
MANIFEST NUMBER: NH2008114

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL	1072	500 gallons				
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
501	DRUM DISPOSAL						
504	TANK ENTRY						
40800	PARTS WASHER SERVICE						
41500	TRUCK & OPERATOR	1	3 hours				
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.

INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.

GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is ID-72
In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: Charles Appleby Title: SELFM-PW-EV
Signature: [Signature] Date: 11-6-97
GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

N/A

GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS PPM

550 gallon unknown
UST at 9057

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

Print Name: Don MacKay
Signature: [Signature] Date: 11-6-97
LORCO REPRESENTATIVE



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

NJ.3.2.1.0.0.2.0.3.2.4

Manifest Document No. 08-1-14

2. Page 1 of 1

NHZ 008114

Generator's Name and Mailing Address

U.S. ARMY COMMUNICATIONS ELECTRONIC COMMAND EVANS AREA
40 JOSEPH FALLON BLDG. 173 ATTN: SELFM-PW-EV
FORT MONMOUTH, N.J. 07703

4. Generator's Phone (732) 532-6223

5. Transporter Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number
NJ D 0 8 4 0 4 4 0 6 4

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers
No. Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1270 PGIII

00

T

0.0500

G

GENERATOR

D. Additional Descriptions for Materials Listed Above

1, L PETROLEUM OIL 1 %
WATER 99 %

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL#87064 ERG#128 DEXSIL TEST KIT RESULTS <1000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Charles Appleby SELFM-PW-EV

Signature

Month Day Year

11 16 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Dan Mackay

Signature

Month Day Year

11 16 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

TRANSPORTER

CITY

ORIGINAL - RETURN TO GENERATOR



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Hazardous Waste Manifest No.

NH2008114 dated 11-6-97,

is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

X721: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.

ID 72
X722: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.

X723: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.

X724: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.

X725: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.

X726: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.

X728. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: <1000 PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND CAMP BURNS AREA

Generator's EPA ID No. NJ3210020324

Address c/o JOSEPH FALLON BLDG 173
ATTN: SELFM-PW-EV FORT MONMOUTH, N.J. 07703

Print Name Charles Appledy Signature [Signature]

Title Env. Pro Spec. SELFM-PW-EV

Date 11-6-97

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 9059
Camp Evans Area

NJDEP UST Registration No. 90029-24

TABLE OF CONTENTS

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4.0 CONCLUSIONS AND RECOMMENDATIONS.....	6

TABLES

Table 1	Summary of Post-Excavation Sampling Activities
Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9059 - UST Removal Location Map
Figure 2	Building 9059 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On October 1, 1997, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-24 (Fort Monmouth Identification No. 9059), was located west of Building 9059 in the Camp Evans area of Fort Monmouth. The UST was a 550-gallon No. 2 fuel oil tank. The UST fill port was located directly above the center of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed surrounding the fill port. Samples collected at the time the UST was removed contained total petroleum hydrocarbons (TPHC) concentrations ranging from non-detect to 213.33 milligrams per kilogram (mg/kg). The total amount of soil removed from the excavation was 5 cubic yards or less.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9059 area, as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-24 at Building 9059.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-24, was closed at Building 9059 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on October 1, 1997. The UST was a steel 550-gallon tank containing No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-24 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-24 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9059 is located in the northeastern portion of the main section of the Camp Evans area of the Fort Monmouth Army Base as shown in Figure 1. UST No. 90029-24 was located west of Building 9059 and associated piping ran approximately 6 feet east from the UST to Building 9059. The UST fill port area was located directly above the center of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9059.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the removal of associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation, staged on polyethylene sheeting, and examined for holes. No holes or punctures were observed by the Tetra Tech site manager and the SMC subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed or detected by the PID/FID except for soil located adjacent to the UST fill port. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and tanks residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons Inc., in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil adjacent to the UST fill port was contaminated. This soil was removed to the staging area for disposal off site at a later date and the clean excavated soil and imported clean fill were used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: David H. Daniels
Employer: SMC Environmental Services Group
Telephone No.: (215) 788-7844
NJDEP Certification No.: 0010279
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit evidence of contamination.

2.2 SOIL SAMPLING

On October 1, 1997, following the removal of the UST, post-excavation soil samples 9059B1, 9059B2 (Duplicate of 9059B1), 9059E, 9059W, 9059S, 9059N, 9059RF, and 9059DS were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the former UST location at a depth of 4.5 to 5.0 feet below ground surface (bgs). Bottom samples 9051B1 and 9059B2 were collected from 0 to 6 inches beneath the former UST location, or 5.5 to 6.0 feet bgs. The deep sample, 9059DS, was collected from 7.5 to 8.0 feet bgs. Sample 9059RF was collected from next to Building 9059 along the former return/feed line piping length of the excavation, which was approximately 6 feet long. Sample 9059RF was collected from 2.5 to 3.0 feet bgs. Sample 9059OBS was collected from the overburden soil pile to verify that the pile was not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on October 1, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

The post-excavation soil samples collected on October 1, 1997, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC ranging from non-detect to 213.33 mg/kg.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9059 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-24 at Building 9059.

Legend of Sample identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/FVL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9059, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9059B1	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059E	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059W	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059S	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059N	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059B2	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059RF	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059OBS	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9059DS	10/1/97	10/3/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9059, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9059B1	3024.01	10/1/97	10/3 - 4/97	TPHC	162	ND	10,000	No
9059E	3024.02	10/1/97	10/3 - 4/97	TPHC	164	205.73	10,000	No
9059W	3024.03	10/1/97	10/3 - 4/97	TPHC	163	ND	10,000	No
9059S	3024.04	10/1/97	10/3 - 4/97	TPHC	157	179.91	10,000	No
9059N	3024.05	10/1/97	10/3 - 4/97	TPHC	160	184.52	10,000	No
9059B2	3024.06	10/1/97	10/3 - 4/97	TPHC	158	ND	10,000	No
9059RF	3024.07	10/1/97	10/3 - 4/97	TPHC	170	ND	10,000	No
9059OBS	3024.08	10/1/97	10/3 - 4/97	TPHC	166	213.33	10,000	No
9059DS	3024.09	10/1/97	10/3 - 4/97	TPHC	149	ND	10,000	No

Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



9006

FIRST STREET

S-9059

S-9

MH

HYD

MH

MH

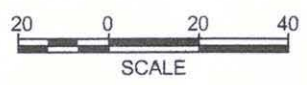
SECOND STREET

MH

9047.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK



SCALE

EVANS AREA
FORT MONMOUTH, NEW JERSEY

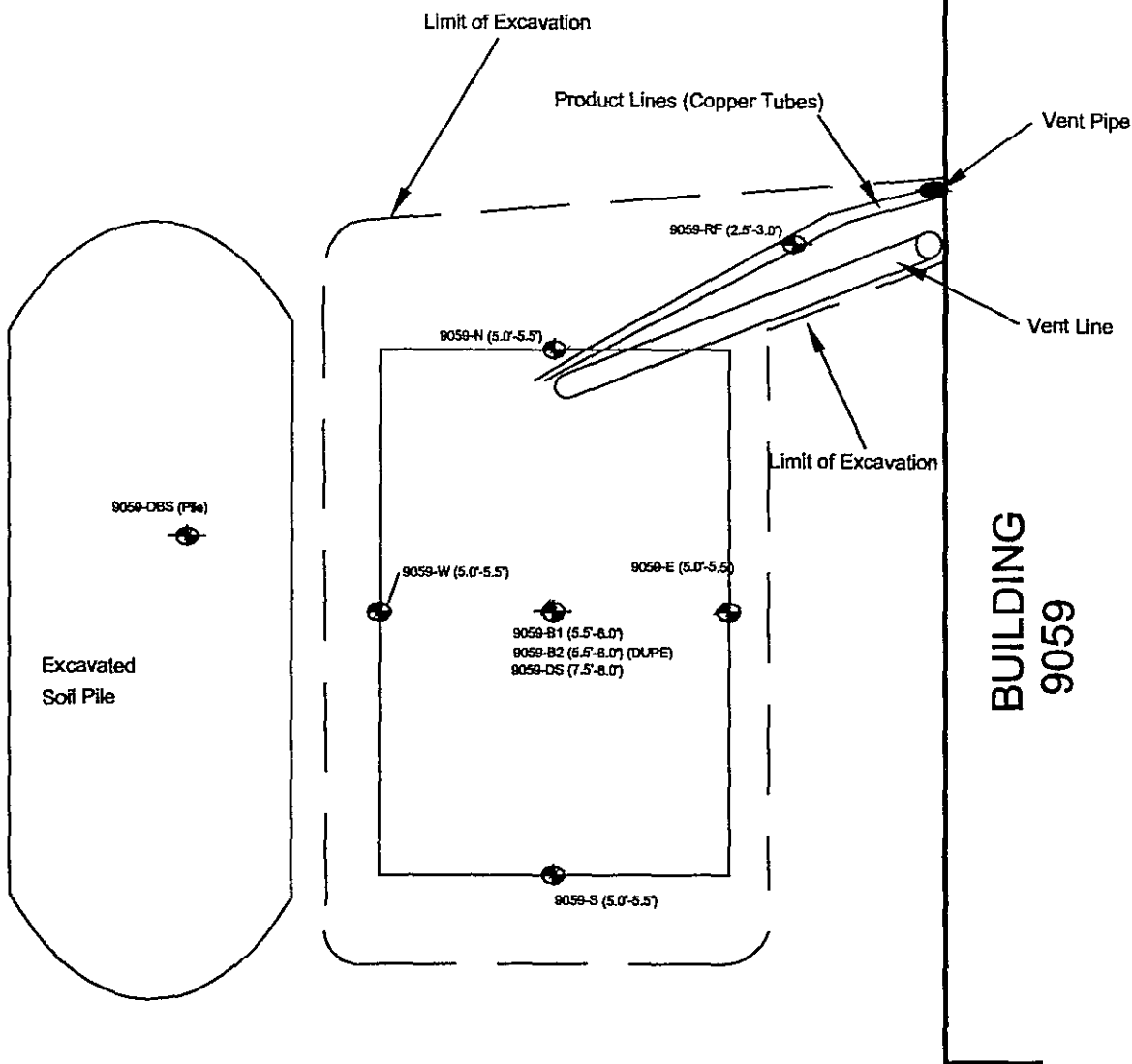
FIGURE 1
BUILDING 9059 - UST REMOVAL LOCATION MAP



TETRA TECH EM INC.




SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES: 1) UST-9059 WAS 6' LONG AND 4' WIDE
 2) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH
 TOWARD MONMOUTH BOULEVARD



EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 2 BUILDING 9059 - UST REMOVAL AND SOIL SAMPLE LOCATIONS
 TETRA TECH EM INC.

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-24

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 24
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

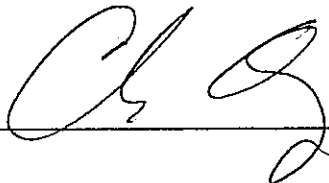
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-24



PHOTO 1: View of SMC personnel cutting open the top of UST-9059 (looking south/southeast).



PHOTO 2: View of the cleaned interior of UST-9059 (looking south/southeast).

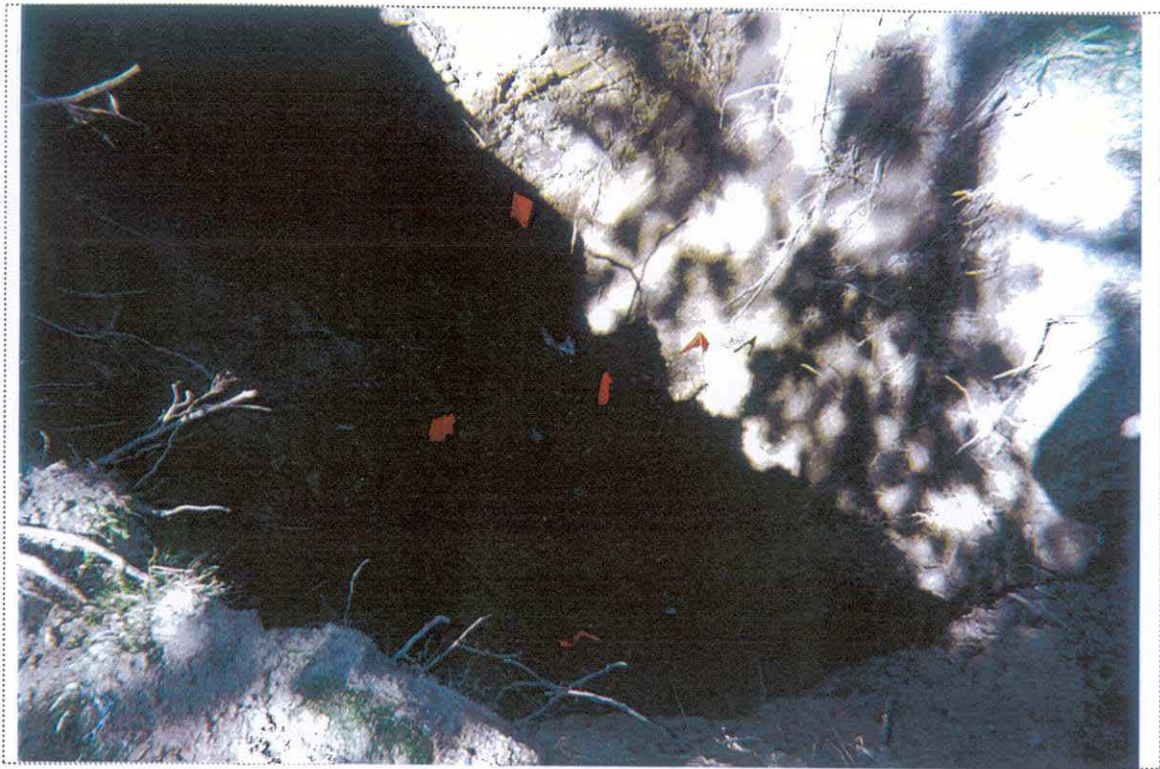


PHOTO 3: View of the sampling locations in the UST-9059 excavation (looking northeast).



PHOTO 4: View of UST-9059 staged on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-24

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-24



Header From:
The Drawing Board
P.O. Box 2844 • Hartford, CT 06104-2844
Call Toll Free: 1-800-827-9639

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 007

SMC ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

To: <u>Mazza + Sons, inc</u>		From: <u>U.S. Army Camp Evans</u>	
Street: <u>3230 Shatto Road</u>		Street: <u>Building 9059</u>	
Port/State: <u>Twiton Falls, NJ Zip Code 07753</u>		Origin: <u>Wall NJ 07719</u>	
To: _____		Vehicle Number: _____	

No. Pallets	PKT	Kind of Packaging, Description of Article, Special Marks and Symbols	Weight (Subject to Correction)	RATE	CHARGES
①		<u>FOR SERAP ONLY</u>			
		<u>1.550 Gallon U.S.T. Shell</u>			
		<u>CLAIM !!</u>			
		<u>TANK # 90029-24</u>			
		<u>Building # 9059</u>			

NEMT C.O.D. TO: ADDRESS	COO Amt: \$	C.O.D. FEE: PREPAID <input type="checkbox"/> \$ COLLECT <input type="checkbox"/>
<small>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 covered by _____</small>	<small>This is to certify that the above - named article is the property stated, described, packaged, marked and labeled and put in proper condition for transportation according to the applicable regulations of the Department of Transportation.</small>	TOTAL CHARGES: \$ <small>FRIGHT CHARGES FREIGHT COLLECT PREPAID <input type="checkbox"/> COLLECT <input type="checkbox"/></small>
Signature _____	Signature of Consignor _____	

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of packages unknown, repacked, consigned, and destined as indicated above which said carrier has been 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 his route, 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 bill of lading terms and conditions in the governing specification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing specification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Jim Rappenhaver</u>
	DATE <u>10-13-97</u>

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reorder Item 80LN74 The Drawing Board, P.O. Box 2844, Hartford, CT 06104-2844
© EGI, 1992, Printed in U.S.A.

FROM JMT ENVIRON. TECH. 610 759 6149

1996 8:52PM

②

7

SMC Environmental Services Group

A Subsidiary of Science Management Corporation

P.O. Box 859

Valley Forge, Pennsylvania 19482

Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building 9059

VESSEL: 550 gallon steel tank
(Formerly #2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 10.1.97, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels

Signature

David H. Daniels / Site Manager

Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-24**



RD1 Box 5A
Old Bridge, N.J. 08857
(908) 721-0900
Fax (908) 721-0231

STANDARD
COLLECTION
ORDER FORM

176848

GENERATOR/LOCATION

SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

NAME: *Alisa*
 INFORMATION ATTENTION LINE: *Alisa*
 ACCOUNT APPROVAL CODE:
 DELIVERY ADDRESS: *...*
 CITY: STATE: ZIP:
 PHONE NUMBER: PURCHASE ORDER NUMBER:
 USA EPA ID NO. (IF APPLICABLE): STATE ID NO.:

NAME: *...*
 INFORMATION ATTENTION LINE:
 ACCOUNT APPROVAL CODE:
 DELIVERY ADDRESS: *...*
 CITY: STATE: ZIP:
 PHONE NUMBER: PURCHASE ORDER NUMBER:
 MANIFEST NUMBER: *...*

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE
				<i>Combustible Liquid UN 1202 PG II</i>	<i>...</i>

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	Tank Volume
40500	USED OIL REMOVAL					
40300	ANTI-FREEZE REMOVAL					
40600	USED OIL FILTER REMOVAL					
40501	OILY WATER DISPOSAL		<i>844</i>	<i>Gal</i>		<i>9307 55</i>
40502	SLUDGE DISPOSAL					<i>9162 55</i>
41001	GASOLINE/WATER					
41501	DRUM DISPOSAL				<i>9196</i>	<i>55</i>
1504	TANK ENTRY					
40800	PARTS WASHER SERVICE				<i>9116</i>	<i>55</i>
41500	TRUCK OPERATOR		<i>800</i>	<i>hours</i>		
41511	NEW 55 GAL DRUM WITH				<i>9003</i>	<i>30</i>
41503	QAQC ANALYTICAL TESTING					
42001	DEXSIL TEST KIT TAX				<i>9006</i>	<i>200</i>
41509	TRANSPORTATION				<i>9059</i>	<i>30</i>
					<i>9031</i>	<i>30</i>

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION. INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES. GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is *non-haz* in accordance with the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

Print Name: *Charles Apples* Title: *Env. Prod. Mgr.*
 Signature: *[Signature]* Date: *10-7-97*
 GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS
 PPM

Tank to the North of 9028 had 344 gallons of water

PAYMENT RECEIVED SECTION

CASH TOTAL RECEIVED
 CHECK NUMBER

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

Print Name: *Greg Week*
 Signature: *[Signature]* Date: *10-7-97*
 LORCO REPRESENTATIVE

CUSTOMER

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 9064
Camp Evans Area

NJDEP UST Registration No. 90029-27

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4.0 CONCLUSIONS AND RECOMMENDATIONS.....7

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Table 1 Summary of Post-Excavation Sampling Activities

Table 2 Post-Excavation Soil Sampling Results

FIGURES

Figure 1 Building 9064 - UST Removal Location Map

Figure 2 Building 9064 - UST Removal and Soil Sample Locations

APPENDICES

Appendix A Signed Site Assessment Summary

Appendix B Photographs of UST Closure

Appendix C Soil Sample Analytical Data Package

Appendix D UST Disposal Certificate

Appendix E Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On February 9, 1998, a fiberglass underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-27 (Fort Monmouth Identification No. 9064), was located west of Building 9064 in the Camp Evans area of Fort Monmouth. The UST was a 6,000-gallon No. 2 fuel oil tank. The UST fill port was located directly above the southern end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). One hole/fracture was noted in the UST, but the only evidence of potentially contaminated soil was observed surrounding the fill port of the tank. Samples collected at the time the UST was removed contained concentrations of total petroleum hydrocarbons (TPHC) ranging from non-detect to 342.30 milligrams per kilogram (mg/kg); however, it was suggested that a discharge from the fracture in the UST, over a period of several years, could have seeped along and underneath the concrete pad beneath the UST. As a result, Fort Monmouth approved the removal of the pad and sampling of the underlying soil. After the concrete pad was broken up and removed, additional samples were collected and contained TPHC concentrations ranging from non-detect to 728.88 mg/kg. The total amount of soil removed from the excavation was 40 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean native soil from the Building 9064 area, as well as clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in remaining soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-27 at Building 9064.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-27, was closed at Building 9064 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on February 9, 1998. The UST was a fiberglass 6,000-gallon tank containing No. 2 fuel oil. A site location map is provided in Figure 1 showing the location of the UST removal relative to Building 9064.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-27 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that at least one historical discharge was associated with UST No. 90029-27 or its associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9064 is located at the northwest corner of the main section of the Camp Evans area of the Fort Monmouth Army Base (adjacent to Monmouth Boulevard), as shown in Figure 1. UST No. 90029-27 was located west of Building 9064 and associated piping ran approximately 6 feet east from the UST to Building 9064. The UST fill port area was located directly above the southern end of the tank.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST, associated piping, and a concrete pad above the UST. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to removal because of the low volatility of No. 2 fuel oil. After the removal of the concrete pad and purging of the associated piping, soil excavation continued to uncover the UST. Because of the large size of the UST, SMC decided to remove the tank from the ground prior to opening and cleaning the tank in order to avoid a confined space entry situation. Once the UST was removed and temporarily staged on the asphalt driveway, SMC cut open the tank with a circular saw and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads. After the UST had been cleaned and removed, SMC excavated and removed the associated piping.

After the UST was staged and cleaned, it was examined for holes. One hole/fracture was observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of potential contamination was observed except for soil located adjacent to the fill port. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was broken up and staged in a rolloff container from Marpal Disposal Company, in Tinton Falls, New Jersey for later pickup and disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate.

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results and total petroleum hydrocarbon (TPHC) results from post-excavation soil samples, soil located adjacent to the UST fill port was contaminated. This soil was removed to the staging area for disposal off site at a later date. Prior to the backfilling of the excavation, however, the suggestion was made that a discharge from the fracture in the underside of the UST could have run along and beneath the concrete pad over a period of several years and would result in contamination that might not be detected via standard sampling (at the edges of the pad). As a result, Fort Monmouth authorized the demolition and removal of the pad and post-excavation sampling beneath the former pad location. After post-excavation samples were collected which showed that no contamination was present that exceeded the soil cleanup standards, the excavation was backfilled with the clean excavated soil and imported clean fill.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461
- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST fill port and the concrete pad beneath the tank, did exhibit evidence of potential contamination and was removed to the soil staging area; however, soil excavated from around the UST and associated piping, as well as the UST excavation sidewalls and bottom did not exhibit indications of contamination.

2.2 SOIL SAMPLING

On February 9, 1998, after the UST removal, post-excavation soil samples 9064W1, 9064E1, 9064W2, 9064E2, 9064N1, 9064N2 (duplicate of 9064N1), 9064DS, 9064RF1, and 9064S were collected from eight locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the concrete pad beneath the former UST location from 11 to 11.5-feet below ground surface (bgs). No bottom samples could be collected because of the concrete pad. Sample 9064DS was collected beneath the 9064N1 and 9064N2 sample location from 11.5 to 12-feet bgs. Sample 9064RF1 was collected from next to the edge of the UST excavation along the former return/feed line piping length of the excavation, which was approximately 6 feet long. Sample 9064RF1 was collected from 2 to 2.5-feet bgs. In addition, samples 9064RF2 and 9064RF3 (Duplicate of 9064RF2) were collected on March 13, 1998 from next to Building 9064 at a depth of 2 to 2.5-feet bgs. Sample 9064VL was collected along the excavation perimeter from the former vent line location at a depth of 1.5 to 2-feet bgs. Samples 9064OBS1, 9064OBS2, and 9064OBS3 were collected from the

overburden soil pile to verify that the pile was not contaminated and could be used as clean backfill for the excavation. All samples were analyzed for TPHC and total solids.

Analytical results for the original post-excavation samples did not reveal any contamination that exceeded 1,000 milligrams per kilogram TPHC, which is the NJDEP's criterion for additional soil removal/remediation or for required VOC sampling. However, because of the possibility of contamination beneath the tank, Tetra Tech and SMC demolished and then removed the concrete pad (with Fort Monmouth's approval) and collected post-excavation soil samples 9064CNFRM1, 9064CNFRM2 (Duplicate of 9064CNFRM1), and 9064CNFRM 3 on March 20, 1998 and 9064CNFRM4, 9064CNFRM5 (Duplicate of 9064CNFRM4), 9064CNFRM6, 9064CNFRM7, 9064CNFRM8, 9064CNFRM9, 9064CNFRM10, and 9064CNFRM11 on March 24, 1998 from a total of nine sampling locations. Samples were collected from 13.5 to 14-foot bgs or 14 to 14.5-foot bgs. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual" dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from nine locations on February 9, 1998, two locations on March 20, 1998, and seven locations on March 24, 1998. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected from the UST excavation and from below piping associated with the UST contained concentrations of TPHC ranging from non-detect to 728.88 milligrams per kilograms (mg/kg).

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9064 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-27 at Building 9064.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9064, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9064OBS1	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064OBS2	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064OBS3	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064W1	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064E1	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064W2	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064E2	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064N1	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064N2	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064DS	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064RF1	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064S	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064VL	2/9/98	2/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064RF2	3/13/98	3/16/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064RF3	3/13/98	3/16/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM1	3/20/98	3/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM2	3/20/98	3/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM3	3/20/98	3/20/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM4	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM5	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM6	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM7	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM8	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM9	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM10	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
9064CNFRM11	3/24/98	3/24/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9064, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9064OBS1	3329.01	2/9/98	2/20/98	TPHC	166	ND	10,000	No
9064OBS2	3329.02	2/9/98	2/20/98	TPHC	165	ND	10,000	No
9064OBS3	3329.03	2/9/98	2/20/98	TPHC	166	ND	10,000	No
9064W1	3329.04	2/9/98	2/20/98	TPHC	160	ND	10,000	No
9064E1	3329.05	2/9/98	2/20/98	TPHC	157	ND	10,000	No
9064W2	3329.06	2/9/98	2/20/98	TPHC	158	ND	10,000	No
9064E2	3329.07	2/9/98	2/20/98	TPHC	161	ND	10,000	No
9064N1	3329.08	2/9/98	2/20/98	TPHC	156	ND	10,000	No
9064N2	3329.09	2/9/98	2/20/98	TPHC	160	ND	10,000	No
9064DS	3329.10	2/9/98	2/20/98	TPHC	156	ND	10,000	No
9064RF1	3329.11	2/9/98	2/20/98	TPHC	160	ND	10,000	No
9064S	3329.12	2/9/98	2/20/98	TPHC	161	ND	10,000	No
9064VL	3329.13	2/9/98	2/20/98	TPHC	163	ND	10,000	No
9064RF2	3409.14	3/13/98	3/16 - 17/98	TPHC	170	213.78	10,000	No
9064RF3	3409.15	3/13/98	3/16 - 17/98	TPHC	173	275.28	10,000	No
9064CNFRM1	3423.01	3/20/98	3/20/98	TPHC	173	ND	10,000	No
9064CNFRM2	3423.02	3/20/98	3/20/98	TPHC	159	ND	10,000	No
9064CNFRM3	3423.03	3/20/98	3/20/98	TPHC	157	190.52	10,000	No
9064CNFRM4	3426.01	3/24/98	3/24/98	TPHC	164	ND	10,000	No
9064CNFRM5	3426.02	3/24/98	3/24/98	TPHC	171	ND	10,000	No
9064CNFRM6	3426.03	3/24/98	3/24/98	TPHC	163	ND	10,000	No
9064CNFRM7	3426.04	3/24/98	3/24/98	TPHC	187	ND	10,000	No
9064CNFRM8	3426.05	3/24/98	3/24/98	TPHC	162	ND	10,000	No
9064CNFRM9	3426.06	3/24/98	3/24/98	TPHC	187	ND	10,000	No
9064CNFRM10	3426.07	3/24/98	3/24/98	TPHC	173	728.33	10,000	No
9064CNFRM11	3426.08	3/24/98	3/24/98	TPHC	199	ND	10,000	No

Note:

Samples collected on 2/9/98 were originally analyzed between 2/10/98 and 2/12/98. The results of the original analysis showed all of the samples as ND except for 9064OBS2 which had a TPHC concentration of 324.30 mg/kg. However, after a malfunction was discovered in the laboratory instrumentation, the samples were re-analyzed on the above-noted date with the above noted results.

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



9064.DWG ASC 01/19/99



UNDERGROUND STORAGE TANK

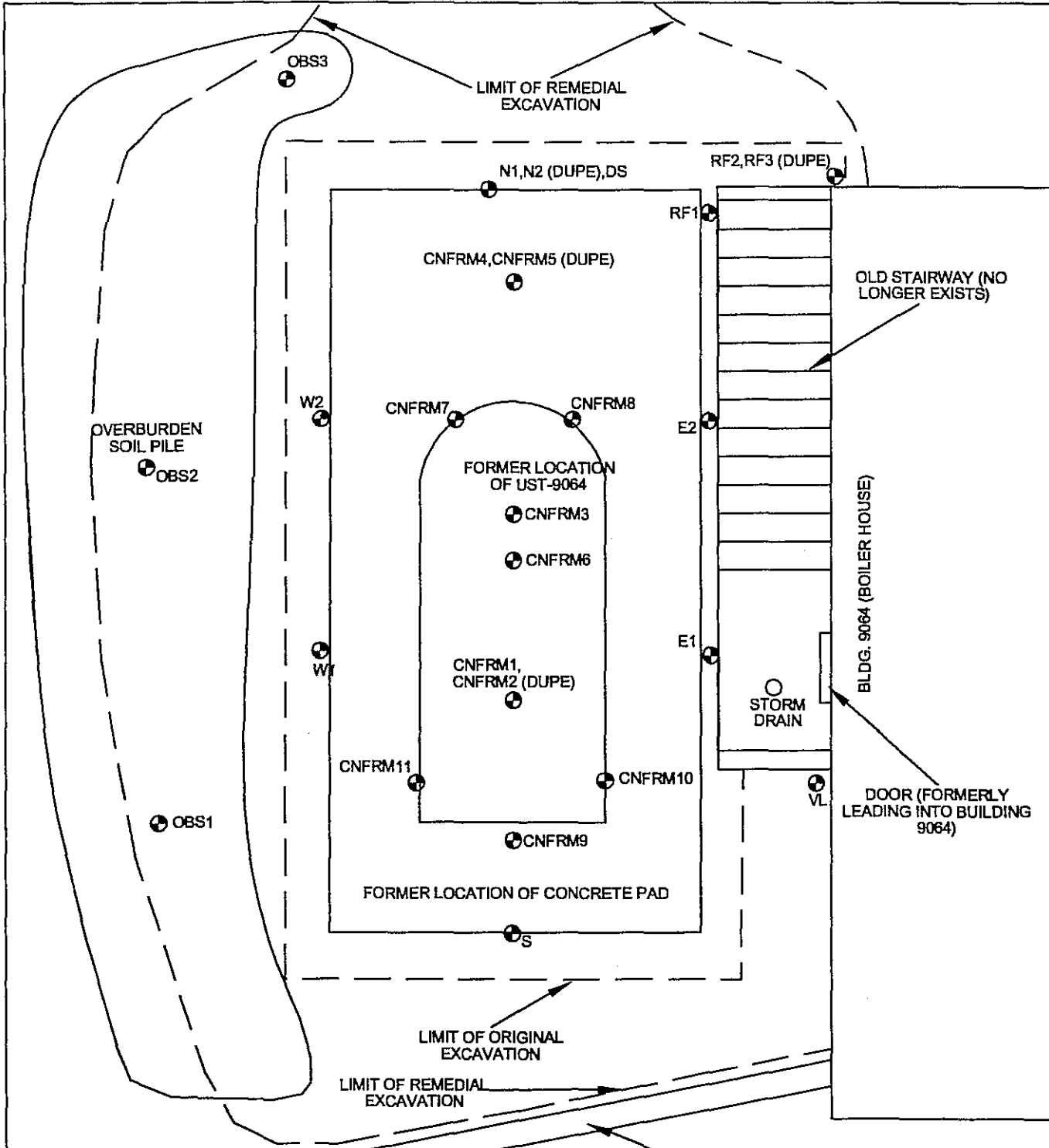


EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 1
BUILDING 9064 - UST REMOVAL LOCATION MAP



TETRA TECH EM INC.



9064.DWG ASC 01/19/99

- NOTES:**
- 1) UST-9064 WAS 18' LONG AND 8' WIDE
 - 2) 2' BETWEEN CONCRETE PAD AND LIMIT OF ORIGINAL EXCAVATION
 - 2) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARDS MONMOUTH BOULEVARD



SITE NORTH (TOWARD MONMOUTH BOULEVARD)



EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 2 BUILDING 9064 UST REMOVAL AND SOIL SAMPLE LOCATIONS
TETRA TECH EM INC.

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-27

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02)

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation

Report (SIR) \$500 Fee

- Remedial Investigation

Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 27
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.


"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-27



PHOTO 1: View of the UST-9064 being uncovered (looking south/southeast).



PHOTO 2: View of the UST-9064 being removed from the ground (looking south/southwest).



PHOTO 3: View of the sampling locations in the UST-9064 excavation (looking south/southwest).



PHOTO 4: View of a section of UST-9064 in the rolloff container waiting to be crushed prior to ultimate disposal (looking north).



PHOTO 5: View of SMC removing a section of the concrete pad located beneath UST-9064 prior to confirmatory sampling (looking north).



PHOTO 6: View of the confirmatory sampling activities in the UST-9064 excavation (looking northeast).

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-27

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-27



Member From
The Drawing Board
222 Broadway, New York, NY 10004-2004

NEORDER ITEM # 04LN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 036

S.M.C. ENVIRONMENTAL SERVICES GROUP

Carrier No. _____

Date _____

To Order <u>Marpal Disposal Company</u>		From Order <u>U.S. Army Camp Evans</u>	
Street <u>1861 Wayside Road</u>		Street <u>Building 9064</u>	
Post Office <u>Tinton Falls, N.J. 07724</u>		City <u>Wall NJ 07719</u>	

No. of Packages	Weight	Kind of Goods, Description of Articles, Special Marks and Packages	Volume Number	RATE	CHARGES
①		Crushed in Roll OFF 1-6,000 Gallon U.S.T Building # 9064 TANK # 90029-27			

SHIPPER C.O.D. TO ADDRESS	COO Amt: \$	C.O.D. FF: <input type="checkbox"/> PREPAID <input type="checkbox"/> COLLECT <input type="checkbox"/>
<small>NOTE: Where the rate of shipment is taken subject to payment by the shipper, the shipper is responsible for the payment of the freight and the charges thereon. The agent or broker of the shipper is hereby authorized to receive the freight and charges thereon.</small>	<small>This is to certify that the above named article is the property of the shipper, that it is in good order and condition, and that it is being transported in accordance with the regulations of the Department of Transportation.</small>	<small>Subject to Section 7 of the conditions of the contract, the shipper is hereby authorized to deliver the goods to the consignee at the place of destination, and to receive the freight and charges thereon.</small>
Signature	Signature of Consignor	TOTAL CHARGES: \$

RECEIVED, subject to the classification and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, amount and nature (contents and condition of packages unknown), received, weighed, and counted as indicated above which I and carrier (the word carrier being understood to include this carrier or any person or corporation in possession of the property during the carriage) agree to carry to the named place of delivery at total destination, if on the route, otherwise to deliver to another place on the route in said destination. It is mutually agreed as to each article of all or any of said property that the carrier and shipper shall be jointly and severally liable for the loss of or damage to any article hereon in all or any of said property, that every article to be hereon transported shall be subject to the Bill of Lading terms and conditions in the governing classification on the date of shipment. The carrier hereby certifies that he is familiar with all the Bill of Lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted by himself and his agents.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>Marpal Disposal Co.</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Mal JH</u>
DATE <u>July 10 94</u>	

*Mark with "K" to designate Hazardous Materials as defined in Title 49 of the Code of Federal Regulations. Member From 0067174 The Drawing Board, P.O. Box 2044, New York, NY 10004-2044 ©S.M.C. 1992, Printed in U.S.A.

1995 8:52PM FROM JMT ENVIRON TECH 618 759 6149

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SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9064
VESSEL: 6,000 - Gallon Fiberglass UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 2/9/98, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated ~~steel-recycling~~ ^{land fill} facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

**SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION**

David H. Daniels

Signature

David H. Daniels / site manager

Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS
UST NO. 90029-27**

GENERATOR INFORMATION

NAME: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 PHONE: _____
 PURCHASE ORDER NO.: _____
 ORDER NO.: _____
 DATE: _____

SHIPMENT INFORMATION

QUANTITY: _____
 UNIT: _____
 WEIGHT: _____
 DIMENSIONS: _____
 DANGEROUS: _____
 SPECIAL HANDLING: _____
 MANIFEST NUMBER: _____

SHIPPING INFORMATION

US DOT DESCRIPTION: _____
 SHIPPER'S NAME: _____
 SHIPPER'S ADDRESS: _____
 SHIPPER'S CITY: _____ STATE: _____ ZIP: _____
 SHIPPER'S PHONE: _____

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	WILLY WATER DISPOSAL						
40502	SLUDGE DISPOSAL						
41001	GASOLINE WATER						
41501	TIRES DISPOSAL						
400	TANK RENT						
400	PARTS WASHER SERVICE						
4150	TECHNICAL OPERATOR						
4150	TECHNICAL OPERATOR						
4150	TECHNICAL OPERATOR						
4200	TECHNICAL OPERATOR						
4500	TRANSPORTATION						

SMALL QUANTITY TOTAL
GENERATOR CERTIFICATION

CHARGE MAY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED. NO BULK PAYMENTS ALLOWED. ALL CHARGES TO CUSTOMER. INVOICES SUBJECT TO AN INTEREST RATE OF 18% PER ANNUM. PAYMENT TO BE MADE WITHIN 30 DAYS IN THE EVENT OF DEFAULT. LOSS SHALL BE LIMITED TO THE COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY FEES. GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED FOR LOGCO HEREUNDER HAVE NOT BEEN MIXED OR COMBINED OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIAL CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LOGCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

Generator certifies that the waste is _____
 In accordance with the NPLA C 7726-121 et seq. LOGCO has the required permits to accept the above described waste.

 DATE: _____
 GENERATOR/CUSTOMER

Certify that the Generator certifies that the waste is not PCB or any other material defined as hazardous waste under applicable laws, including but not limited to 40 CFR Part 261 and does not accumulate more than 1,000 kg or 1,100 lbs of such waste at any time.

 GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

 GENERATOR'S SIGNATURE

 CUSTOMER

PAYMENT RECEIVED SECTION

CHECK NO. _____
 DATE _____
 AMOUNT _____
 RECEIVED BY _____
 CUSTOMER SERVICE EVERY 30 DAYS
 In accordance with 40 CFR 265.53 (b) (1) (ii) the generator has notified the USEPA of its location and use of the material.



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

NJ.22.V.U.O.20.3.2.Y

Manifest Document No. 010679

2. Page 1 of

NHZ 010679

Generator's Name and Mailing Address

U.S. Army Command Post ARSA
4150 55th FAIRBOLD RD 173
ATM SELM-PW-EV
605 MC JUNCTION NJ 07703

4. Generator's Phone (732) 532-0223

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CO INC

6. US EPA ID Number

4402034041000

A. Transporter's Phone

908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUMYON CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number

4402034041000

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers

No. Type

13. Total Quantity

14. Unit Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)
COMBUSTIBLE LIQUID UN1970 PAH

3 3

X4343

3

GENERATOR

D. Additional Descriptions for Materials Listed Above

1. PETROLEUM OIL 99%
WATER 1%

3

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL# 17083 BERG# 128 DEXSIL TEST KIT RESULTS 1100 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: X1 Harris Applby SELM-PW-EV
Signature: [Signature]
Month Day Year: 12/19/98

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: [Signature]
Signature: [Signature]
Month Day Year: 12/19/98

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

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.
Printed/Typed Name: [Signature]
Signature: [Signature]
Month Day Year: [Signature]



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Non Hazardous Waste Manifest No. NH2 010679 dated 2.19.98, is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

D72

- L-21: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.
- L-22: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.
- L-23: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.
- L-24: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.
- L-25: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.
- L-26: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.
- L-28. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: _____ PPM halogens.

I am duly authorized to sign said certification.

Generator U.S. Army Communication Electronics Command Camp Evans APO

Generator's EPA ID No. US 3210020324

Address c/o Joseph Falvo BLDG 173
ATTN SELFm PW-EV FORT MONMOUTH, N.J. 07703

Print Name Charles Appleby Signature [Signature]

Title Env. Pro Spec SELFm-PW-EV

Date 2.19.98

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

*Building 9079
Camp Evans Area*

NJDEP UST Registration No. 90029-28

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Table 2	Post-Excavation Soil Sampling Results

FIGURES

Figure 1	Building 9079 - UST Removal Location Map
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APPENDICES

Appendix A	Signed Site Assessment Summary
Appendix B	Photographs of UST Closure
Appendix C	Soil Sample Analytical Data Package
Appendix D	UST Disposal Certificate
Appendix E	Waste Manifest for Off-site Transport of UST Contents

EXECUTIVE SUMMARY

UST Closure

On December 18, 1997, a steel underground storage tank (UST) was closed by removal at the Camp Evans area of the U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey. The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-28 (Fort Monmouth Identification No. 9079), was located south of Building 9079 in the Camp Evans area of Fort Monmouth. The UST was a 550-gallon No. 2 fuel oil tank. The UST fill port was located directly above the western end of the tank.

Site Assessment

The site assessment was performed by Tetra Tech EM Inc. (Tetra Tech) and SMC Environmental Services Group (SMC). No holes were noted in the UST and the only evidence of potentially contaminated soil was observed adjacent to the UST fill port and in the overburden soil. Samples collected at the time the UST was removed contained non-detectable concentrations of total petroleum hydrocarbons (TPHC). The total amount of soil removed from the excavation was 20 cubic yards.

Site Restoration

After receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean soil imported from the New Jersey Sand and Gravel Company. The excavation site was then restored to its original condition.

Conclusions and Recommendations

Based on post-excavation soil sampling results, TPHC concentrations in soil do not exceed the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg, or the more stringent soil cleanup criteria of 1,000 mg/kg TPHC used by Fort Monmouth, at the former location of the UST or associated piping. No further action is proposed with regard to the closure and site assessment of UST No. 90029-28 at Building 9079.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90029-28, was closed at Building 9079 at the Camp Evans area of U.S. Army Fort Monmouth, Fort Monmouth, Wall Township, New Jersey on December 18, 1997. The UST was a steel 550-gallon tank with fiberglass sheathing on the exterior and contained No. 2 fuel oil.

The UST removal was performed in accordance with the Fort Monmouth UST Management Plan (S.O.P. Number 19), which had previously been approved by the NJDEP. The signed site assessment summary form for UST No. 90029-28 is included in Appendix A.

Based on an inspection of the UST, field screening of subsurface soil, and soil sample analytical results, Tetra Tech has concluded that no significant historical discharges are associated with UST No. 90029-28 or associated piping.

This report was prepared based on information collected at the time of UST closure. Section 1 of this UST closure and site investigation report provides a site description and summarizes UST removal activities. Section 2 describes site investigation activities, including field screening and soil sampling. Section 3 presents the post-excavation soil sampling results. Conclusions and recommendations are presented in Section 4 of this report.

1.1 SITE DESCRIPTION

Building 9079 is located in the main section of the Camp Evans area of the Fort Monmouth Army Base (on the south side of Avenue "A"), as shown in Figure 1. UST No. 90029-28 was located south of Building 9079 and associated piping ran approximately 4 feet north from the UST to Building 9079. The UST fill port area was located directly above the western end of the tank. A site map is provided in Figure 1 showing the location of the UST removal relative to Building 9079.

1.2 UNDERGROUND STORAGE TANK EXCAVATION AND CLEANING

Prior to UST decommissioning activities, surficial soil was excavated to expose the UST and associated piping. All free product present in the piping was purged with compressed air into the UST. The UST was not purged prior to the removal of the piping because of the low volatility of No. 2 fuel oil. After the purging of the associated piping, soil excavation continued to uncover the UST. Once the UST was uncovered, SMC cut open the tank with a nonsparking pneumatic cutter and the remaining contents of the tank were removed with drum vacuum equipment. SMC completed cleaning the UST by wiping the interior out with oil absorbent pads.

After the UST was cleaned, it was removed from the excavation and examined for holes. No holes or punctures were observed by the Tetra Tech subsurface evaluator. Appendix B provides photographs of the tank. After the UST was removed, SMC excavated and removed the associated piping. Soil around the UST was screened visually and with a photoionization detector (PID) and flame ionization detector (FID) for contamination. No evidence of contamination was observed or detected by the PID/FID except for soil located adjacent to the UST fill port and the overburden soil. Visual and PID/FID soil screening was also performed along piping associated with the UST. No contamination was noted anywhere along the piping length.

The sludges and residues removed from the UST were transported by Lorco Petroleum Company to its NJDEP-approved petroleum recycling and disposal facility in Old Bridge, New Jersey. Appendix E provides a copy of the waste manifest for the off-site transport of the tank contents.

1.3 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The cleaned tank was transported to Mazza and Sons, Inc. in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. Appendix D provides a copy of the UST Disposal Certificate. Prior to transport, the UST was labeled with the following information:

- Site of origin
- Contact person
- NJDEP UST facility identification number
- Name of transporter and contact person
- Destination site and contact person

1.4 MANAGEMENT OF EXCAVATED SOILS

Post-excavation soil sampling locations are shown in Figure 2 and discussed in Section 2.2. Based on PID/FID air monitoring results, soil adjacent to the UST fill port and the overburden soil was contaminated. This soil was removed to the staging area for disposal off site at a later date and the imported clean fill was used to backfill the UST excavation.

2.0 SITE INVESTIGATION ACTIVITIES

In accordance with NJDEP's "Technical Requirements for Site Remediation" and "Field Sampling Procedures Manual," Tetra Tech and SMC personnel conducted the site assessment. The site investigation was managed by Tetra Tech and performed by SMC. All analyses were performed and results reported by the U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory operated by TECOM-Vinnell Services, Inc. (TVS). All sampling was performed under the direct supervision of a NJDEP certified subsurface evaluator in accordance with methods described in NJDEP's "Field Sampling Procedures Manual" dated 1992. Sampling frequency and parameters analyzed complied with applicable regulations at the date of UST closure specified in NJDEP-BUST's document "Interim Closure Requirements for Underground Storage Tank Systems" dated October 1990; revisions dated November 1, 1991. All records of site investigation activities are maintained by Tetra Tech and the Fort Monmouth Department of Public Works (DPW) Environmental Office.

The following parties participated in UST closure and site investigation activities:

- Subsurface Evaluator: Kevin J. Phelan
Employer: Tetra Tech EM Inc.
Telephone No.: (973) 983-0507
NJDEP Certification No.: 0018436
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Telephone No.: (732) 532-4359
NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Company
Contact Person: Dan MacKay
Telephone No.: (732) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

2.1 FIELD SCREENING/MONITORING

Visual screening and field screening using a PID/FID were performed by a NJDEP certified subsurface evaluator to identify potentially contaminated material. Soil excavated from around the UST and associated piping, as well as the UST excavation sidewalls and bottom, did not exhibit any evidence of potential contamination; however, soil located adjacent to the UST fill port and the overburden soil did exhibit indications of contamination and was removed to the soil staging area.

2.2 SOIL SAMPLING

On December 18, 1997, after UST removal, post-excavation soil samples 9079B1, 9079B2 (Duplicate of 9079B1), 9079DS, 9079E, 9079W, 9079N, 9079S, and 9079R/F/VL were collected from seven locations in the UST excavation. Figure 2 presents the sampling locations. Excavation sidewall samples were collected at the edge of the former UST location, and bottom samples were collected from 0 to 6-inches beneath the former UST location, or 8 to 8.5-feet below ground surface (bgs). The sidewall samples were collected from 7.5 to 8-feet bgs. Sample 9079DS was collected beneath the 9079B1 and 9079B2 sample location from 10.5 to 11-feet bgs. Sample 9079R/F/VL was collected from next to Building 9079 along the former return/feed line piping length of the excavation, which was approximately 4 feet long. Sample 9079R/F/VL was collected from 0 to 0.5-feet bgs. In addition, samples 9079SCNT1 and 9079SCNT2 were collected from locations that appeared to be contaminated based on visual observations. Sample 9079SCNT1 was collected from 7 to 7.5-feet bgs and sample 9079SCNT2 was collected from 3.5 to 4-feet bgs. All samples were analyzed for TPHC and total solids.

Post-excavation soil samples were collected in accordance with standard sampling procedures specified in NJDEP's Field Sampling Procedures Manual dated 1992. Samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory in Fort Monmouth, New Jersey, for analysis. A summary of post-excavation sampling activities, including parameters analyzed for, is provided in Table 1.

3.0 SOIL SAMPLING RESULTS

To evaluate soil conditions after removal of the UST and associated piping, post-excavation soil samples were collected from seven locations on December 18, 1997. All samples were analyzed for TPHC and total solids. Post-excavation sampling results were compared to the NJDEP residential direct contact soil cleanup criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994) and the more stringent soil cleanup criterion of 1,000 mg/kg TPHC used by Fort Monmouth. A summary of the analytical results and comparison to the NJDEP soil cleanup criterion is provided in Table 2. Soil sampling locations are shown in Figure 2. The analytical data package is provided in Appendix C.

All of the post-excavation soil samples collected on December 18, 1997, from the UST excavation, from below piping associated with the UST, and from areas of suspected contamination contained non-detectable concentrations of TPHC.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results for all post-excavation soil samples for soil remaining in the UST excavation at Building 9079 were below the NJDEP soil cleanup criterion for required VOC analysis.

Based on post-excavation sampling results, soil containing TPHC concentrations exceeding the NJDEP soil cleanup criterion for organic contaminants of 10,000 mg/kg, or the more stringent Fort Monmouth soil cleanup criterion of 1,000 mg/kg TPHC, do not exist in the former location of the UST or associated piping; therefore, no further action is proposed with regard to the closure and site assessment of UST No. 90029-28 at Building 9079.

Legend of Sample Identifications
Camp Evans Area
Wall Township, New Jersey

B	Sample from the bottom of the excavation
W	Samples from the west sidewall of the excavation
E	Samples from the east sidewall of the excavation
N	Samples from the north sidewall of the excavation
S	Samples from the south sidewall of the excavation
RF	Sample from beneath the former location of the return/feed lines of the UST
VL	Sample from beneath the former location of the vent line to the UST
OBS	Sample from the overburden soil pile of a UST excavation to determine if the soil can be used as backfill or must be transported to the contaminated soil stockpile
N21	Sample collected from the north sidewall on the second day of sampling (from a particular UST excavation) first sample (from that particular sidewall or area of the excavation) (NOTE: The "21" designation can be used with any of the letter combinations listed above).
FPS	Soil located directly adjacent to the fill port of the tank ("Fill Port Soil").
BFP	Soil located beneath the fill port of the tank ("Beneath Fill Port")
9116CSP	Contaminated soil pile from the UST-9116 excavation
DS	Deep Sample
9196BE1A	Geoprobe boring performed on the east side of the UST-9196 excavation to investigate contamination from the leaking UST. Last number denotes the boring number and last letter indicates which sample in the sequence.
RFL/B6	Sample from remedial excavation of a leaking remote fill line/what area of the excavation the sample was collected.
RF(CT)	Samples was collected from return feed lines consisting of copper tubing.
RFL(2)	Samples collected from a second remote fill line for a particular UST excavation
RB1	Remedial excavation for a particular building. The second letter and number designate the particular area of the excavation where the sample was collected
CNFRM	Confirmatory sample to confirm that contamination has been removed
CNFM	Another designation for a confirmatory sample
R/F/VL	Return/feed/vent lines. Used at buildings where the return/feed lines and the vent lines were located close together and one sample could be collected for both lines
SCNT1	Sample collected at a location of suspected contamination
(W)E1	Sample collected from the eastern sidewall of the western half of the excavation (remedial excavation).
TP	Test pit/trench
HWAB	Hazardous waste area building (former location)
AST	Above ground storage tank
9105ASTB1	Sample collected at the former location of an AST at the specified building
DEL	Delineation sample to document the extent of contamination
SD	Sample collected from a storm drain
SW	Sample collected from a sidewall of a remedial excavation
CTR	Copper tubing run
CSP-1	Clean soil pile

Table 1
 Summary of Post-Excavation Sampling Activities
 Building 9079, Camp Evans Area
 Wall Township, New Jersey

Sample ID	Date Collected	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
9079B1	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079B2	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079DS	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079E	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079W	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079N	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079SCNT1	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079S	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079SCNT2	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
9079R/FVL	12/18/97	12/22/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

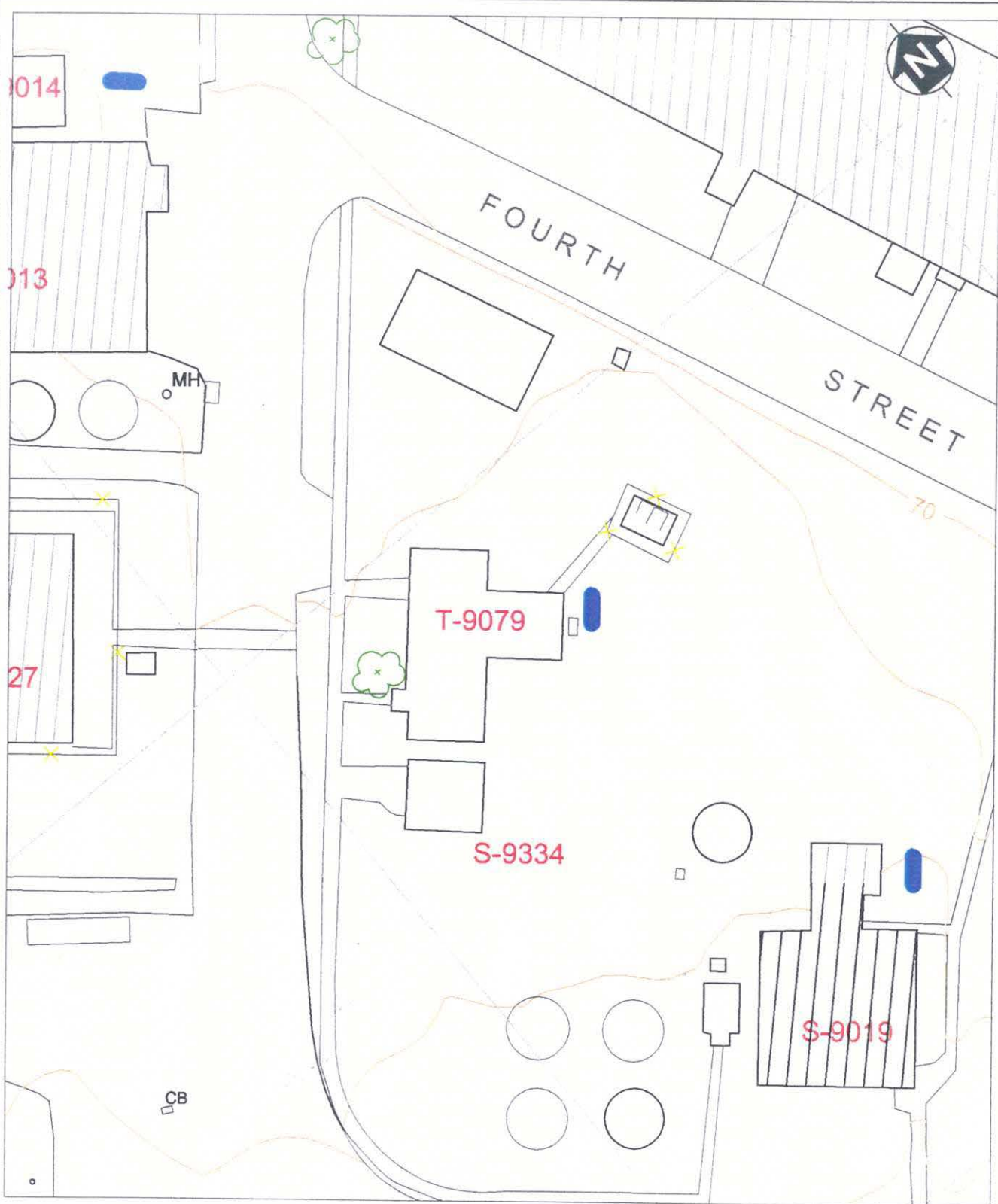
*TPHC Total petroleum hydrocarbons

Table 2
 Post-Excavation Soil Sampling Results
 Building 9079, Camp Evans Area
 Wall Township, New Jersey

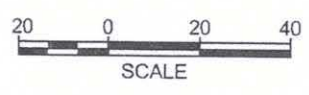
Sample ID	Sample Laboratory ID	Sample Date	Analysis Date(s)	Analytical Method Used	Method Detection Limit (mg/kg)	Result (mg/kg)	NJDEP Soil Cleanup Criteria* (mg/kg)	Exceeds Cleanup Criteria
9079B1	3248.01	12/18/97	12/22 - 23/97	TPHC	166	ND	10,000	No
9079B2	3248.02	12/18/97	12/22 - 23/97	TPHC	166	ND	10,000	No
9079DS	3248.03	12/18/97	12/22 - 23/97	TPHC	158	ND	10,000	No
9079E	3248.04	12/18/97	12/22 - 23/97	TPHC	171	ND	10,000	No
9079W	3248.05	12/18/97	12/22 - 23/97	TPHC	161	ND	10,000	No
9079N	3248.05	12/18/97	12/22 - 23/97	TPHC	188	ND	10,000	No
9079SCNT1	3248.06	12/18/97	12/22 - 23/97	TPHC	173	ND	10,000	No
9079S	3248.07	12/18/97	12/22 - 23/97	TPHC	172	ND	10,000	No
9079SCNT2	3248.09	12/18/97	12/22 - 23/97	TPHC	174	ND	10,000	No
9079R/F/VL	3248.10	12/18/97	12/22 - 23/97	TPHC	157	ND	10,000	No


Note:

- * Tetra Tech EM Inc. used the NJDEP limit of 1,000 ppm of TPHC before sampling for volatiles is required as a soil cleanup criteria.
- ND Not detected
- TPHC Total petroleum hydrocarbons



 UNDERGROUND STORAGE TANK

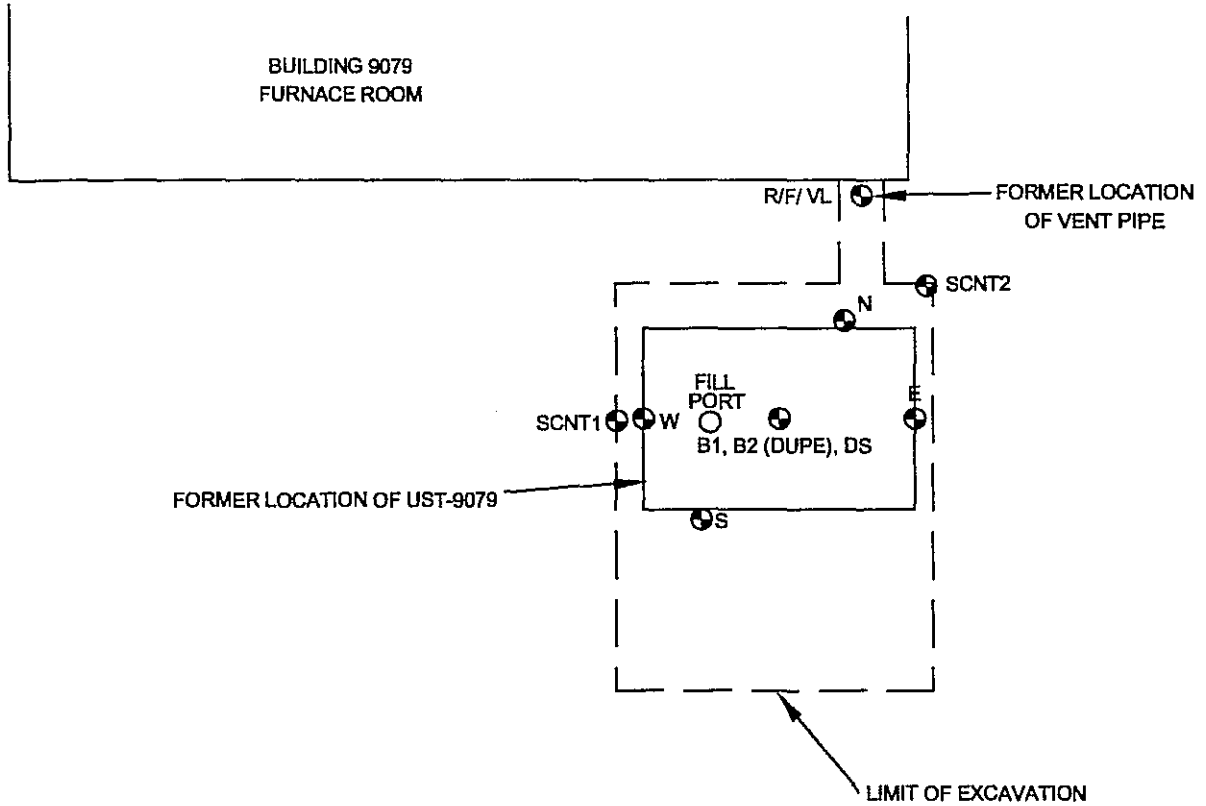


EVANS AREA FORT MONMOUTH, NEW JERSEY
FIGURE 1 BUILDING 9079 - UST REMOVAL LOCATION MAP
 TETRA TECH EM INC.

9079.DWG.ASC 01/19/99



SITE NORTH (TOWARD
MONMOUTH BOULEVARD)



NOTES:

- 1) UST-9079 WAS 6' LONG AND 4' IN DIAMETER
- 2) ALL SAMPLE DESIGNATIONS ARE PRECEDED BY "9079-".
- 3) SAMPLE DEPTHS :
 - A) B1, B2 : 8.0' TO 8.5'
 - B) DS : 10.5' TO 11.0'
 - C) E, W, N, S : 7.5' TO 8.0'
 - D) SCNT1: 7.0' TO 7.5'
 - E) SCNT2 : 3.5' TO 4.0'
- 4) SAMPLE IDS WERE ASSIGNED BASED ON SITE NORTH TOWARDS MONMOUTH BOULEVARD



EVANS AREA
FORT MONMOUTH, NEW JERSEY

FIGURE 2
BUILDING 9079
UST REMOVAL AND SOIL SAMPLE LOCATIONS



9079.DWG -ASC- 07/12/99

APPENDIX A

SIGNED SITE ASSESSMENT SUMMARY FORM

UST NO. 90029-28

(12/97) New Jersey Department of Environmental Protection Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name: US Army, Fort Monmouth, Evans Area

Facility Street Address: Building 1207, DCSOPS-BID

Municipality: Wall Township County : Monmouth

Block: 240, 241 and 242 Lot(s): 240 (55.01, 55.02, 55.03 & 55.04), 241 (1), 242 (1.01 & 1.02

Telephone Number : (732) 239-2427

B. Owner (RP)'s Name: US Army, CECOM

Street Address: DCSOPS-BID, Bldg. 1207 City : Fort Monmouth

State: NJ Zip: 07703 Telephone Number : (732) 532-5052

C. (Check as appropriate)

- Site Investigation Report (SIR) \$500 Fee
- Remedial Investigation Report (RIR) \$1000 Fee

D. (Complete all that apply)

- Assigned Case Manager : Mr. Ian Curtis
- UST Registration Number : (7 digits): 90029 - 28
- Incident Report Number (10 or 12 digits): _____
- Tank Closure Number C(N)9 (7 characters): Approved by Case Manager

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E : Yes

Name: Kevin J. Phelan Signature: Kevin J. Phelan UST Cert. No.: 0018436

Firm: Tetra Tech EM, Inc. Firm's UST Cert. Number: US00457

Firm Address: 1 Bank Street, Suite 103 City: Rockaway

State: NJ Zip: 07866 Telephone Number : (973) 9830507, Ext. 230

State: NJ

Zip: 07866

Telephone Number : (973) 9830507, Ext. 230

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)]as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

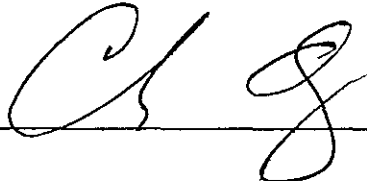
"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate, or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Name (Print or Type): Mr. Charles Appleby

Title: BRAC Environmental Coordinator, Evans Area

NJDEP Subsurface Evaluator # 2056

Signature: _____



Company Name: US Army, CECOM, DCSOPS-BID, Fort Monmouth NJ, 07703

Date: November 30, 2000

APPENDIX B

PHOTOGRAPHS OF UST CLOSURE

UST NO. 90029-28



PHOTO 1: View of the sampling locations in the UST-9079 excavation (looking east).



PHOTO 2: View of the sampling locations in the UST-9079 excavation (looking west).



PHOTO 3: View of UST-9079 on the west side of Building 9061 awaiting disposal and labeled with all required information.

APPENDIX C

SOIL SAMPLE ANALYTICAL DATA PACKAGE

UST NO. 90029-28

APPENDIX D

UST DISPOSAL CERTIFICATE

UST NO. 90029-28



Order From:
The Drawing Board
P.O. Box 2044 • Hartford, CT 06104-2044
Call Toll Free: 1-800-527-0030

REORDER ITEM # BLN74

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper No. 026

SMC ENVIRONMENTAL SERVICES GROUP
(Name of Carrier)

Carrier No. _____

Date _____

To: <u>Mazza + Sons, inc</u>	From: <u>U.S. Army Camp Evans</u>
Box: <u>3230 Shatto Road</u>	Street: <u>Building 9079</u>
Postcode: <u>Tinton Falls, NJ 07753</u>	City: <u>Wall NJ 07719</u>
Route _____	
Invoice Number _____	

No. of Packages	Weight (Gross by Convention)	RATE	CHARGES
①	1 - 550 Gallon U.S.F. Skel		
	Building # 9079		
	TANK # 90029-28		

PAYMENT C.O.D. TO: ADDRESS: _____ 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 covered by _____ This is to certify that the above named material is the property of _____, described, packed, marked and labeled as if in proper condition for transportation according to the applicable regulations of the Department of Transportation. Shipped in Section 7 of the package. This material is to be delivered to the consignee without recourse on the part of the carrier and the carrier shall not be liable for loss or damage of the shipment without payment of freight and other lawful charges. Signature: _____ (Signature of Consignor)	COD Amt: \$ _____ C.O.D. FEE: PREPAID <input type="checkbox"/> \$ _____ COLLECT <input type="checkbox"/> \$ _____ TOTAL CHARGES: \$ _____ SPECIAL INSTRUCTIONS: SPECIAL INSTRUCTIONS: _____ SPECIAL INSTRUCTIONS: _____
---	---

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packaged contents, received, accepted, and delivered as indicated above which said carrier has used carrier 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 route, 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 bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER <u>U.S. Army Camp Evans</u>	CARRIER <u>SMC ENVIRONMENTAL SERVICES GROUP</u>
PER <u>David H. Daniels (Agent)</u>	PER <u>Tim Rapp</u>
DATE <u>4/19/92</u>	

*Mark with "X" to designate Hazardous Material as defined in Title 49 of the Code of Federal Regulations.

Reorder Item 06L174 The Drawing Board, P.O. Box 2044, Hartford, CT 06104-2044
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1995 8:52PM FROM JMT ENVIRON. TECH. 618 789 6149

SMC Environmental Services Group
A Subsidiary of Science Management Corporation
P.O. Box 859
Valley Forge, Pennsylvania 19482
Telephone (610) 265-2700

CERTIFICATE OF NON-HAZARDOUS VESSEL

FACILITY: Camp Evans (U.S. Army)
Wall, NJ
Building # 9079
VESSEL: 550 - Gallon Steel UST
(Formerly # 2 Fuel Oil)

This letter is to confirm that the vessel/vessels at the above referenced location has been physically entered (if necessary), degreased, washed/cleaned, and the material contained within has been completely removed and properly disposed. As of 3:00 A.M./P.M. on 12/18/97, the above said vessel is certified gas free and has been cleaned following recommended procedures in API PUBLICATION 2015. Due to conditions that SMC Environmental Services Group has no control over, this certification is valid only until the vessel is received by the designated steel recycling facility. SMC Environmental Services Group will not be held liable for any damages which may occur after certification.

SMC ENVIRONMENTAL SERVICES GROUP
SIGNATURE OF CERTIFICATION

David H. Daniels
Signature

David H. Daniels / site manager
Print or Type Name Here

APPENDIX E

**WASTE MANIFEST FOR
OFF-SITE TRANSPORT OF UST CONTENTS**

UST NO. 90029-28



Old Bridge, N.J. 08857
 (908) 721-0900
 Fax (908) 721-0231

STANDARD
 COLLECTION
 ORDER FORM

181260

GENERATOR/LOCATION CAMP QUINS AREA SALES ORDER #

BILL TO (IF DIFFERENT FROM LOCATION)

INFORMATION ATTENTION LINE
 ACCOUNT APPROVAL CODE
 DELIVERY ADDRESS
 WALL NJ STATE ZIP
 CITY
 PHONE NUMBER
 PURCHASE ORDER NUMBER
 USA EPA ID NO. (IF APPLICABLE)
 STATE ID NO. NA

NAME S.M.C. Environmental Services
 INFORMATION ATTENTION LINE
 ACCOUNT APPROVAL CODE
 DELIVERY ADDRESS
 501 Allendale Road
 CITY King of Prussia PA 19406
 PHONE NUMBER (610) 265-2700 PURCHASE ORDER NUMBER 16898
 MANIFEST NUMBER 9779

SHIPPING INFORMATION

This is to certify that the below 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.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	SALES REPRESENTATIVE
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SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT PRICE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL		600				
40300	ANTI-FREEZE REMOVAL						
40600	USED OIL FILTER REMOVAL						
40501	OILY WATER DISPOSAL						
40502	SLUDGE DISPOSAL						
41001	GASOLINE/WATER						
41501	DRUM DISPOSAL						
504	TANK ENTRY						
500	PARTS WASHER SERVICE						
500	TRUCK & OPERATOR		TAM - 1030 AM				
41511	NEW 55 GAL DRUM /17H						
41503	QAQC ANALYTICAL TESTING						
42001	DEXSIL TEST KIT	TAX					
41509	TRANSPORTATION						

600 gallons

3.5 hours

Pumped out Drums & TAM

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT SECTION.

INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.

Generator warrants and represents that the materials provided LORCO hereunder have not been mixed, combined, or otherwise blended in any quantity with materials containing polychlorinated biphenyls (PCB) or any other material defined as hazardous waste under applicable laws, including but not limited to 40 CFR Part 261. Generator agrees to indemnify and hold LORCO harmless for any damages, costs, attorney's fees, etc. arising out of or in any way related to a breach of the above warranty by the generator.

Generator certifies that the waste is _____
 In accordance with the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.

DINKER M. DESAI Title
 Signature Date
 GENERATOR/CUSTOMER

SMALL QUANTITY TOTAL GENERATOR CERTIFICATION

I certify that this generator generates less than 100 kilograms of hazardous waste per month, as defined at 40 C.F.R. 261, and does not accumulate more than 1,000 kilograms of such waste during the month.

GENERATOR'S SIGNATURE

LARGE QUANTITY GENERATOR CERTIFICATION

DEXSIL CDT TEST RESULTS
 1000 PPM

PAYMENT RECEIVED SECTION

CASH <input type="checkbox"/>	TOTAL RECEIVED
CHECK NUMBER	

CUSTOMER SERVICED EVERY 30 DAYS

In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.

JOHN SALVATO Print Name
 Signature Date
 LORCO REPRESENTATIVE

ORIGINAL



RD. 1, BOX 5A - OLD BRIDGE, NJ 08857

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. *N/A*

Manifest document No. *09779*

2. Page 1 of *1*

NHZ 009779

Generator's Name and Mailing Address *US Army Communications Electronics Command*

CAMP EVANS AREA C/O J. FALLON BLDG 173

ATTN: SEIFM-PW-EV FT Monmouth, NJ 07703

4. Generator's Phone (*732*) *427-4371*

5. Transporter 1 Company Name
LIONETTI OIL RECOVERY CC INC

6. US EPA ID Number
N J D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
LIONETTI OIL RECOVERY CC INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE, NJ 08857

10. US EPA ID Number
N J D 0 8 4 0 4 4 0 6 4

C. Facility's Phone
908 721-0900

11. Waste Shipping Name and Description

12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
<i>0</i>	<i>1</i>	<i>T</i>	<i>X</i>
<i>6</i>	<i>0</i>	<i>0</i>	<i>0</i>

a. **PETROLEUM OIL (PETROLEUM OIL)**
COMBUSTIBLE LIQUID UN1270 PGIII

b.

c.

d.

D. Additional Descriptions for Materials Listed Above
T, L PETROLEUM OIL 90%
WATER 10%

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information
24 HR EMERGENCY RESPONSE#(908) 721-0900
DECAL#808 ERG#128 DEXSIL TEST KIT RESULTS D100 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name
X *DIWIKER M. DESAI*

Signature
[Signature]

Month Day Year
12 | 31 | 97

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name
JOHN SAIVATOIE

Signature
[Signature]

Month Day Year
12 | 31 | 97

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR

TRANSPORTER

FACILITY



GENERATOR CERTIFICATION

I hereby certify to the best of my knowledge that the waste described on Hazardous Waste Manifest No.

9779 dated 12 31 97,

is generated by one or more of the following processes and does not contain more than 2 ppm polychlorinated biphenyls (P.C.B.'s) and does not display any characteristic or contain any hazardous constituents other than for which waste oils are listed in New Jersey.

- X721: Waste automotive crankcase and lubricating oils from automotive service and gasoline stations, truck terminals, and garages.
- X722: Waste oil and bottom sludge generated from tank cleanouts from residential/commercial fuel oil tanks.
- X723: Waste oil and bottom sludge generated by gasoline stations when gasoline and oil tanks are tested, cleaned or replaced.
- X724: Waste petroleum oil generated when tank trucks or other vehicles or mobile vessels are cleaned, including, but not limited to, oil ballast water from product transport units of boats, barges, ships or other vessels.
- X725: Oil spill cleanup residue which: A. is contaminated beyond saturation; or B. the generator fails to demonstrate that the spill material was not one of the listed hazardous waste oils.
- X726: The following used and unused waste oils: metal working oils; turbine lubricating oils, diesel lubricating oils, and quenching oils.
- X728. Bottom sludge generated from the processing, blending, and treatment of waste oil in waste oil processing facilities.

*This used oil product was tested on site, before pumping with a dexsil C.D.T. test kit. Results: _____ PPM halogens.

I am duly authorized to sign said certification.

Generator US Army COMMUNICATIONS ELECTRONICS COMMAND CAMP GUINS AFB TX

Generator's EPA ID No. NJ3210020324

Address 90 Joseph Paine Bldg 112
Fort Monmouth NJ 07703

Print Name DINKEL M. DESAI Signature R. L. R

Title ENVIRONMENTAL ENGINEER

Date 11, 6, 97