United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 290B
Main Post-West Area

NJDEP UST Registration No. 81533-224 and 225
DICAR No. 93-11-30-1246-27

May 2001

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 290B

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 81533-224 AND 225

MAY 2001

PREPARED FOR:

UNITED STATES ARMY, FORT MONMOUTH, NEW JERSEY
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

Versar INC.
2558 PEARL BUCK ROAD
SUITE 1
BRISTOL, PA 19007

PROJECT NO. 4936-127

290B.DOC

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EXECUTIVE SUMMARY

UST Closure

On December 1, 1993, two steel underground storage tanks (USTs) were closed by removal in accordance with New Jersey Department of Environmental Protection (NJDEP) closure procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The USTs, NJDEP Registration Nos. 0081533-224 and 225 (Fort Monmouth ID No. 290B), were located southeast of Building 290. UST Nos. 0081533-224 and 225 were both 2,000-gallon tanks containing gasoline.

Site Assessment-Soil

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation.* Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, both USTs were inspected for corrosion holes. Numerous holes were noted in the USTs. Soils at the location of the holes were dark in color and appeared to be contaminated. Based on the inspection of the USTs, Directorate of Public Works (DPW) concluded that a discharge of petroleum products was associated with the USTs. The NJDEP hotline was notified and the case was assigned DICAR No. 93-11-30-1246-27. Groundwater was encountered at 5.0 feet below ground surface and sheen was observed on groundwater.

On December 9,1993, following the removal of 259 cubic yards of potentially petroleum contaminated soil from the excavated area, post-excavation soil samples A, B, C, D, E, F, G, H, and I (DUP F) were collected from eight (8) locations within the UST excavation. Sidewall samples A, B, C, D, E, F, G, H, and I (DUP F) were collected at a depth of 4.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC), total solids, lead, and Volatile Organic Compounds (VOCs).

Site Assessment-Findings

Analytical results of post-excavation soil samples collected on December 9, 1993, contained either non-detectable concentrations of contaminants or concentrations of contaminants below the NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC).

Site Assessment-Groundwater

Due to the proximity of a former UST (NJDEP Registration No. 0081533-64) excavation, which was located approximately ten- (10) feet northwest of UST Nos. 0081533-224 and 225 excavation, two monitoring wells were installed to monitor groundwater quality for both

UST sites.

On June 1, 2000, a *Site Investigation Report* dated May 2000, prepared by ATC for UST No. 0081533-64 was submitted to the NJDEP. On August 29, 2000, the NJDEP reviewed the *Site Investigation Report* and determined the site requires No Further Action. Therefore, no further action is warranted in regards to the groundwater conditions for UST Nos. 0081533-224 and 225. Please refer to Appendix A for the NJDEP UST Closure Approval Letter.

Conclusion and Recommendations

Based on the analytical results of the post-excavation soil samples collected on December 9, 1993, soil quality at the Building 290 UST closure site does not exceed the NJDEP RDCSCC. Therefore, no further action is warranted.

Based on the review by the NJDEP on August 29, 2000, groundwater quality at Building 290 was either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST Nos. 0081533-224 and 225 at Building 290.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

Two underground storage tanks (USTs), New Jersey Department of Environmental Protection (NJDEP) Registration Nos. 81533-224 and 225, were closed at Building 290 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on December 1, 1993. Refer to the site location map on Figure 1. This report presents the results of the Department of Public Works' (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP. The USTs were 2,000-gallon steel tanks containing gasoline.

Decommissioning activities for UST No. 81533-224 and 225 complied with all applicable Federal, State, and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. All permits including but not limited to the NJDEP approved Decommissioning/Closure Plan were posted onsite for inspection. The decommissioning activities were conducted by DPW personnel who are registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 81533-224 and 225 proceeded under the approval of the NJDEP Bureau of Federal Case Management (NJDEP-BFCM). The Standard Reporting Form and signed Site Assessment Summary form for UST No. 81533-224 and 225 are included in Appendices B and C, respectively.

After removal of the potentially contaminated soil, the site was assessed. Based on inspecting the UST, field screening of remaining subsurface soils, and reviewing analytical results of soil samples and groundwater samples, the DPW has concluded that no significant historical discharges are associated with the UST or associated piping.

This UST Closure and Site Investigation Report has been prepared by Versar, to assist the U.S. Army DPW in complying with the NJDEP regulations. The applicable NJDEP regulations at the date of closure were the *Interim Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-1 et seq. October 1990 and revisions dated November 1, 1991).

This report was prepared using information collected at the time of closure. Section 1 of this UST Closure and Site Investigation Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling and groundwater investigation, are presented in the final section of this report.

1.2 SITE DESCRIPTION

Building 290 is located in the Main Post-West area of the Fort Monmouth Army Base. USTs No. 0081533-224 and 225 were located southeast of Building 290. The fill ports

were located directly above the tanks. A site map is provided on Figure 2.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 290. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post, Charles Wood, and the Evans areas are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

The Tinton sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of

the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard).

Hydrogeology

The water table aquifer in the Main Post area is identified as part of the "composite confining units," or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation.

Based on records of wells drilled in the Main Post area, water is typically encountered at depths of 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Due to the proximity of the Atlantic Ocean to Fort Monmouth, shallow groundwater may be tidally influenced and may flow toward creeks and brooks as the tide goes out, and away from creeks and brooks as the tide comes in. However, an abundance of clay lenses and sand deposits were noted in borings installed throughout Fort Monmouth. Therefore, the direction of shallow groundwater should be determined on a case-by-case basis.

Shallow groundwater is locally influenced within the Main Post area by the following factors:

- tidal influence (based on proximity to the Atlantic Ocean, rivers, and tributaries)
- topography
- nature of the fill material within the Main Post area
- presence of clay and silt lenses in the natural overburden deposits
- local groundwater recharge areas (i.e., streams, lakes)

Due to the fluvial nature of the overburden deposits (i.e., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. This is consistent with lithologies observed in borings installed within the Main Post area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of gravel silt and/or clay.

Building 290B is located approximately 400 feet south of Parkers Creek, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 290 is anticipated to be to the north.

1.3 HEALTH AND SAFETY

Before, during, and after all decommissioning activities, hazards at the work site which may have posed a threat to the Health and Safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas,

which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing an organic vapor analyzer (OVA). The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- The contractor performing the closure prior to excavation activities identified all underground obstructions (utilities, etc.).
- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.
- All excavated soils were visually examined and screened with an OVA for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.
- Surface materials (i.e., asphalt, concrete, etc.) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws.
- A Sub-Surface Evaluator from the DPW was present during all site assessment activities.

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 2,500 gallons of liquid from the UST and its associated piping were transported by Casie Protank to Casie Ecology Oil Salvage, Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Vineland, New Jersey. Refer to Appendix D for the waste manifest.

The USTs were cleaned prior to removal from the excavation in accordance with the NJDEP regulations. After the USTs were removed from the excavation, they were staged on polyethylene sheeting and examined for holes. Numerous holes were observed during the inspection by the Sub-Surface Evaluator. Soils surrounding the USTs were screened visually and with an OVA for evidence of contamination. Soils were stained and appeared to be contaminated. Approximately 259 cubic yards of potentially contaminated soil were removed from the excavated area and transported to the Main Post petroleum contaminated soil holding area. Soil screening was also performed along the piping associated with the UST. No contamination was noted anywhere along the piping length. Groundwater was encountered at 5.0 feet below ground surface and sheen was observed on groundwater. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tanks were transported in compliance with all applicable regulations and laws to Mazza and Sons, Inc., Metal Recyclers. Please refer to Appendix E for the USTs Disposal.

The UST was labeled prior to transport with the following information:

- Site of origin
- Contact person
- NJDEP UST Facility ID number
- Former contents
- Destination site
- Date

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on visual observation, 259 cubic yards of contaminated soil were removed from the excavation area. All potentially contaminated soils were stockpiled separately from other excavated material and were placed on and covered with polyethylene sheets. Potentially contaminated soils were transported to the soil staging area at the Main Post Building. Soils that did not exhibit signs of contamination were used as backfill following the removal of the USTs. Groundwater was encountered at 5.0 feet below ground surface and sheen was observed on groundwater.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Site Investigation was managed and carried out by U.S. Army DPW personnel. All analyses were performed and reported by U.S. Army Fort Monmouth Environmental Laboratory, a NJDEP certified testing laboratory. All sampling was performed under the direct supervision of a NJDEP Certified Sub-Surface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual* (1992). Sampling frequency and parameters analyzed complied with the NJDEP document *Interim Closure Requirements for Underground Storage Tank Systems* (October 1990 and revisions dated November 1, 1991) which was the applicable regulation at the date of the closure. The Fort Monmouth DPW Environmental Office maintains all records of the Site Investigation activities.

The following Parties participated in Closure and Site Investigation Activities:

- Subsurface Evaluator: Charles Appleby
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (732) 532-0989
  NJDEP Certification No.: 002056

- Analytical Laboratory: U.S.Army Fort Monmouth Environmental laboratory
  Contact Person: Daniel K. Wright
  Phone Number: (732) 532-4359
  NJDEP Company Certification No.: 13461

- Hazardous Waste Hauler: Casie Protank Environmental Services
  Contact Person: James Gutisc
  Phone Number: (609) 696-4401
  NJDEP Company Certification No.: 16931

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soil excavated from around the tank exhibited evidence of potential contamination. Approximately 259 cubic yards of potentially petroleum contaminated soil were removed from the excavated area and transported to the Fort Monmouth petroleum contaminated soil holding area. Soils were removed from the excavation until no evidence of contamination remained. Groundwater was encountered at 5.0 feet below ground surface and sheen was observed groundwater.

2.3 SOIL SAMPLING

On December 9,1993, following the removal of 259 cubic yards of potentially petroleum contaminated soil from the excavated area, post-excavation soil samples A, B, C, D, E, F, G, H, and I (DUP F) were collected from a total of eight (8) locations within the UST excavation. Sidewall samples A, B, C, D, E, F, G, H, and I (DUP F) were collected at a depth of 4.0 feet bgs. Piping samples were not collected because the piping was located within the excavation. All samples were analyzed for TPHC, total solids, lead, and VOCs.

U.S. Army personnel in accordance with the NJDEP Technical Requirements and the NJDEP Field Sampling Procedures Manual performed the site assessment. A summary of sampling activities including parameters analyzed is provided in Table 1. The post-excavation soil samples were collected using NJDEP *Field Sampling Procedures Manual* (1992) standard sampling procedures. Following soil sampling activities, the samples were chilled and delivered to U.S. Army Fort Monmouth Environmental Laboratory located in Fort Monmouth, New Jersey, for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the USTs and associated soils, eight (8) post-excavation sample results were compared to NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC) (N.J.A.C. 7:26D and revisions dated May 12, 1999). Summaries of analytical results for soils are presented in Tables 1 to 4 and the associated soil sampling locations are shown on Figure 4. The analytical data package is provided in Appendix F.

Excavation of potentially contaminated soil from the area surrounding the USTs was performed between November 29, 1993, and December 9, 1993. Approximately 259 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area.

Analytical results of post-excavation soil samples collected on December 9, 1993, contained either non-detectable concentrations of contaminants or concentrations of contaminants below the NJDEP RDCSCC.

3.2 CONCLUSIONS AND RECOMMENDATIONS

Based on the analytical results of the post-excavation soil samples collected on December 9, 1993, soil quality at the Building 290 UST closure site does not exceed the NJDEP RDCSCC. Therefore, no further action is warranted.

Based on the review by the NJDEP on August 29, 2000, groundwater quality at Building 290 was either below the detection limit or in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST Nos. 0081533-224 and 225 at Building 290.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 290, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Sampling Method
A	12/09/93	12/13/93	Soil	Post-Excavation	TPHC,VO+15,Lead	Scoop
B	12/09/93	12/13/93	Soil	Post-Excavation	TPHC,VO+15,Lead	Scoop
C	12/09/93	12/13/93	Soil	Post-Excavation	TPHC,VO+15,Lead	Scoop
D	12/09/93	12/13/93	Soil	Post-Excavation	TPHC,VO+15,Lead	Scoop
E	12/09/93	12/13/93	Soil	Post-Excavation	TPHC,VO+15,Lead	Scoop
F	12/09/93	12/13/93	Soil	Post-Excavation	TPHC,VO+15,Lead	Scoop
G	12/09/93	12/13/93	Soil	Post-excavation	TPHC,VO+15,Lead	Scoop
H	12/09/93	12/13/93	Soil	Post-Excavation	TPHC,VO+15,Lead	Scoop
I	12/09/93	12/13/93	Soil	Post-excavation	TPHC,VO+15,Lead	Scoop

Note:
* TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 290, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/4.0'=	1356.1	12/09/93	12/13/93	Total Solid	--	--	91.00 %	--	--
				TPHC	3.3	yes	426.00	10,000	No
B/4.0'=	1356.2	12/09/93	12/13/93	Total Solid	--	--	90.00 %	--	--
				TPHC	46.0	Yes	2720.00	10,000	No
C/4.0'=	1356.3	12/09/93	12/13/93	Total Solid	--	--	87.00 %	--	--
				TPHC	3.3	Yes	85.90	10,000	No
D/4.0'=	1356.4	12/09/93	12/13/93	Total Solid	--	--	89.00 %	--	--
				TPHC	3.3	yes	7.01	10,000	No
E/4.0'=	1356.5	12/09/93	12/13/93	Total Solid	--	--	90.00 %	--	--
				TPHC	3.3	Yes	9.75	10,000	No
F/4.0'=	1356.6	12/09/93	12/13/93	Total Solid	--	--	92.00 %	--	--
				TPHC	3.3	Yes	ND	10,000	No
G/4.0'=	1356.7	12/09/93	12/13/93	Total Solid	--	--	93.00 %	--	--
				TPHC	3.3	yes	ND	10,000	No
H/4.0'=	1356.8	12/09/93	12/13/93	Total Solid	--	--	93.00 %	--	--
				TPHC	3.3	Yes	ND	10,000	No
I/4.0'=	1356.9	12/09/93	12/13/93	Total Solid	--	--	93.00 %	--	--
				TPHC	3.3	yes	ND	10,000	No

Note:
* Total Solid results are expressed as a percentage.
** NJDEP Residential Direct Contact soil cleanup criteria for total organics
ND Not detected above stated method detection limit
TPHC Total Petroleum Hydrocarbons

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL
BUILDING NO. 290
FORT MONMOUTH, NEW JERSEY

Sample I.D.	Laboratory I.D.	Sample Date	Acetone	2-Butanone	Ethylbenzene	Xylenes(Total)
UNITS:			mg/kg	mg/kg	mg/kg	mg/kg
NJDEP CRITERIA:	Residential		1000	1000	1000	410
	Non-Residential		1000	1000	1000	1000
A	1356.1	12/09/93	0.15 B	ND	ND	ND
B	1356.2	12/09/93	0.72 JB	ND	ND	ND
C	1356.3	12/09/93	0.39 B	ND	0.15	0.10
D	1356.4	12/09/93	0.15 B	ND	ND	ND
E	1356.5	12/09/93	0.15 B	0.02	ND	.005 J
F	1356.6	12/09/93	0.09 B	.008 J	ND	ND
G	1356.7	12/09/93	0.12 B	0.01	ND	ND
H	1356.8	12/09/93	0.22 B	ND	ND	ND
I (DUP F)	1356.9	12/09/93	.084 B	.007 J	ND	ND

Abbreviations:

mg/kg:	Milligrams per Kilogram.
ND:	Indicates compound not detected.
B:	Indicates also in field blank.
J:	Compound identified below detection limit.

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR LEAD
BUILDING 290
FORT MONMOUTH, NEW JERSEY

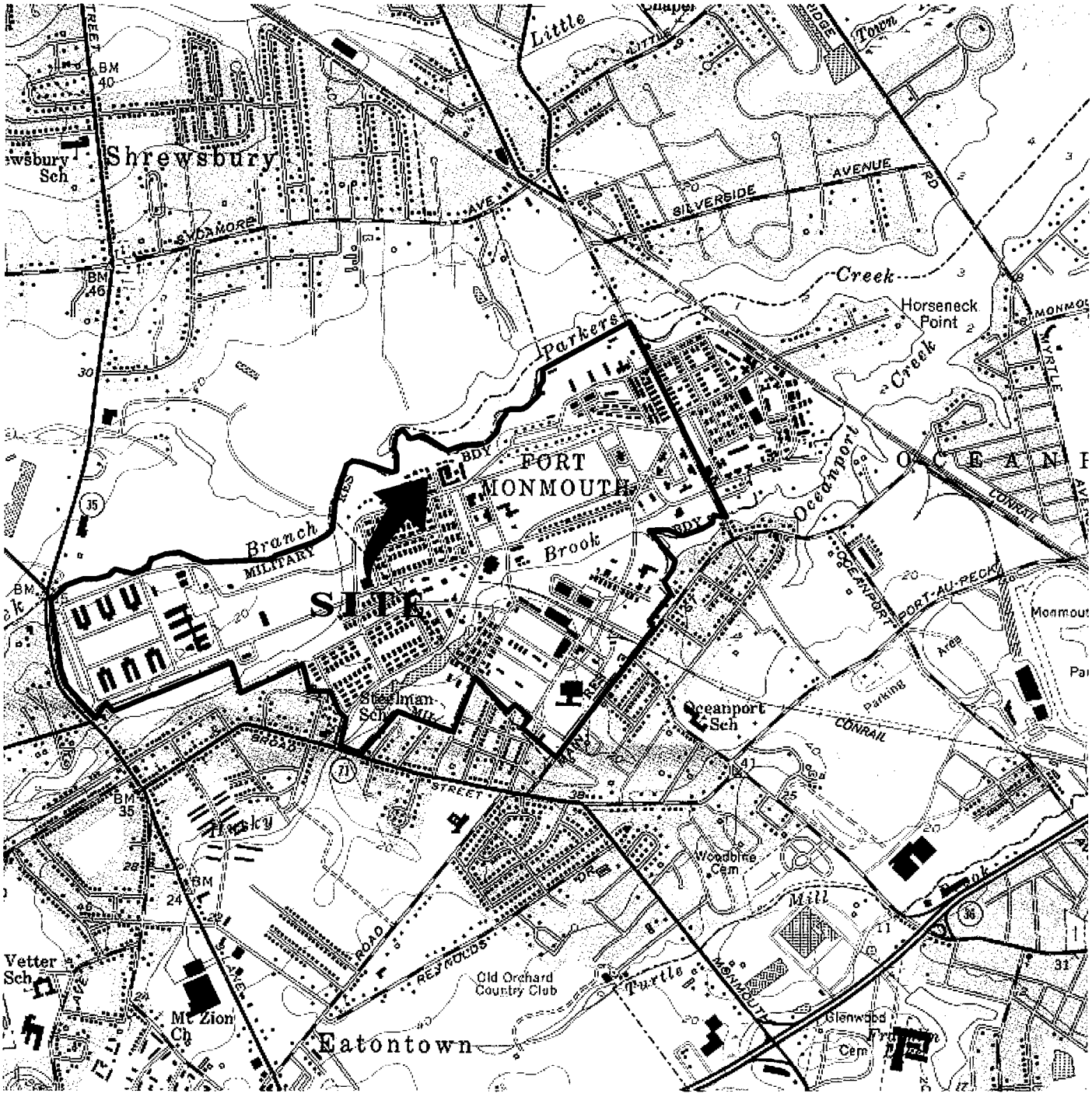
Site: B290
Lab ID #: 1356.1-.9
Matrix: Soils

Sample Received: 12/9/93
Analysis Start: 12/13/93
Analysis Completed: 12/13/93

LABORATORY I.D. #	SAMPLE LOCATION	RESULT (mg/Kg)	RDCSCC (mg/Kg)
1356.1	290-A	ND	400
1356.2	290-B	14.50	400
1356.3	290-C	ND	400
1356.4	290-D	ND	400
1356.5	290-E	ND	400
1356.6	290-F	ND	400
1356.7	290-G	ND	400
1356.8	290-H	ND	400
1356.9	290-I	ND	400

Note:
mg/kg: Milligrams per Kilogram.
ND: Not Detected.
RDCSCC refers to the New Jersey Residential Direct Contact Soil Cleanup Criteria

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

LOCATION MAP
Building 290
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

VERSAR
Engineers, Managers, Scientists, & Planners
Bristol, PA

Scale: 1" = 2000'

Date: Dec. 1993

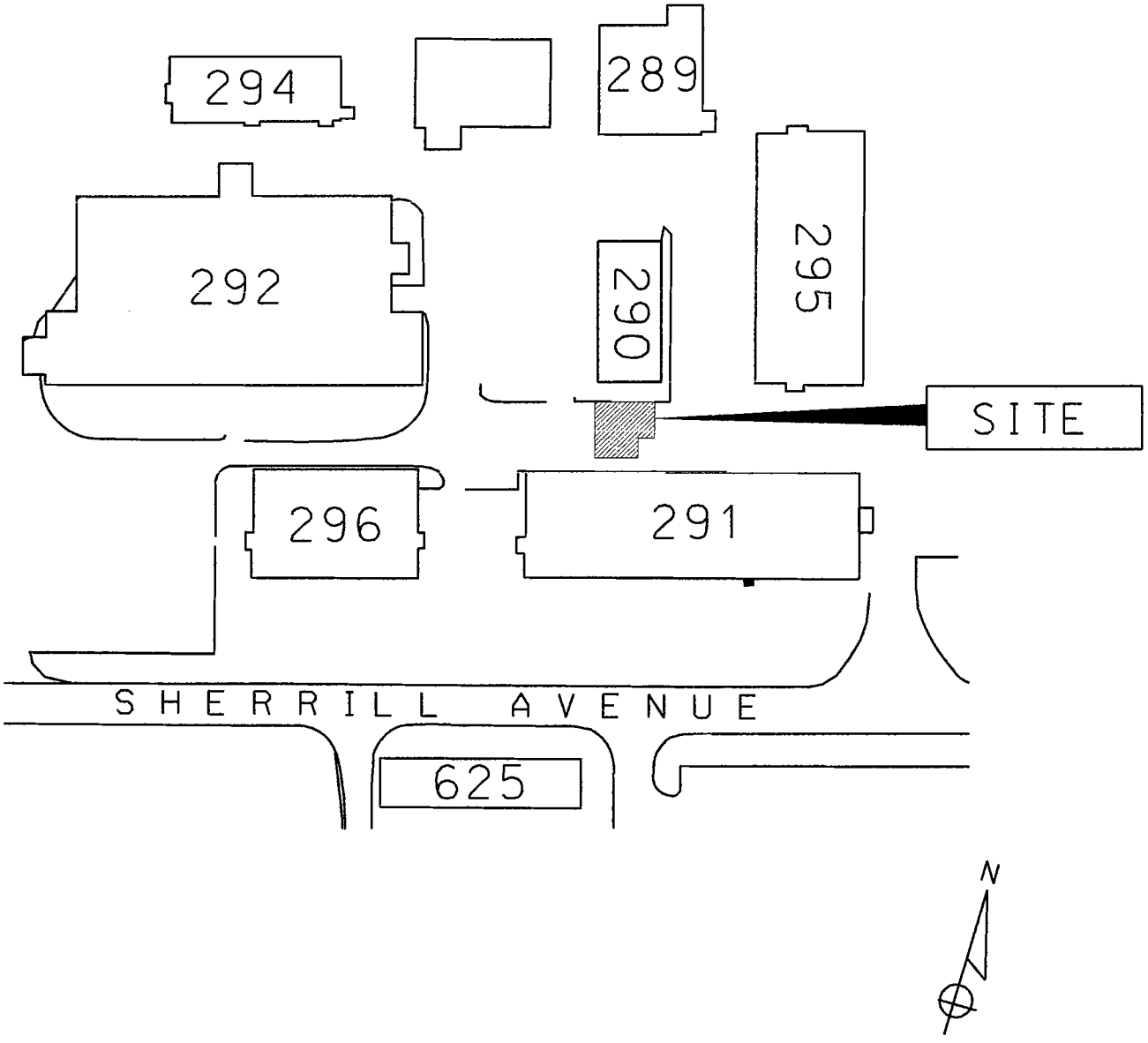


FIGURE 2
SITE MAP
BUILDING 290
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=100' | DATE: DECEMBER 1993

290 FIG2

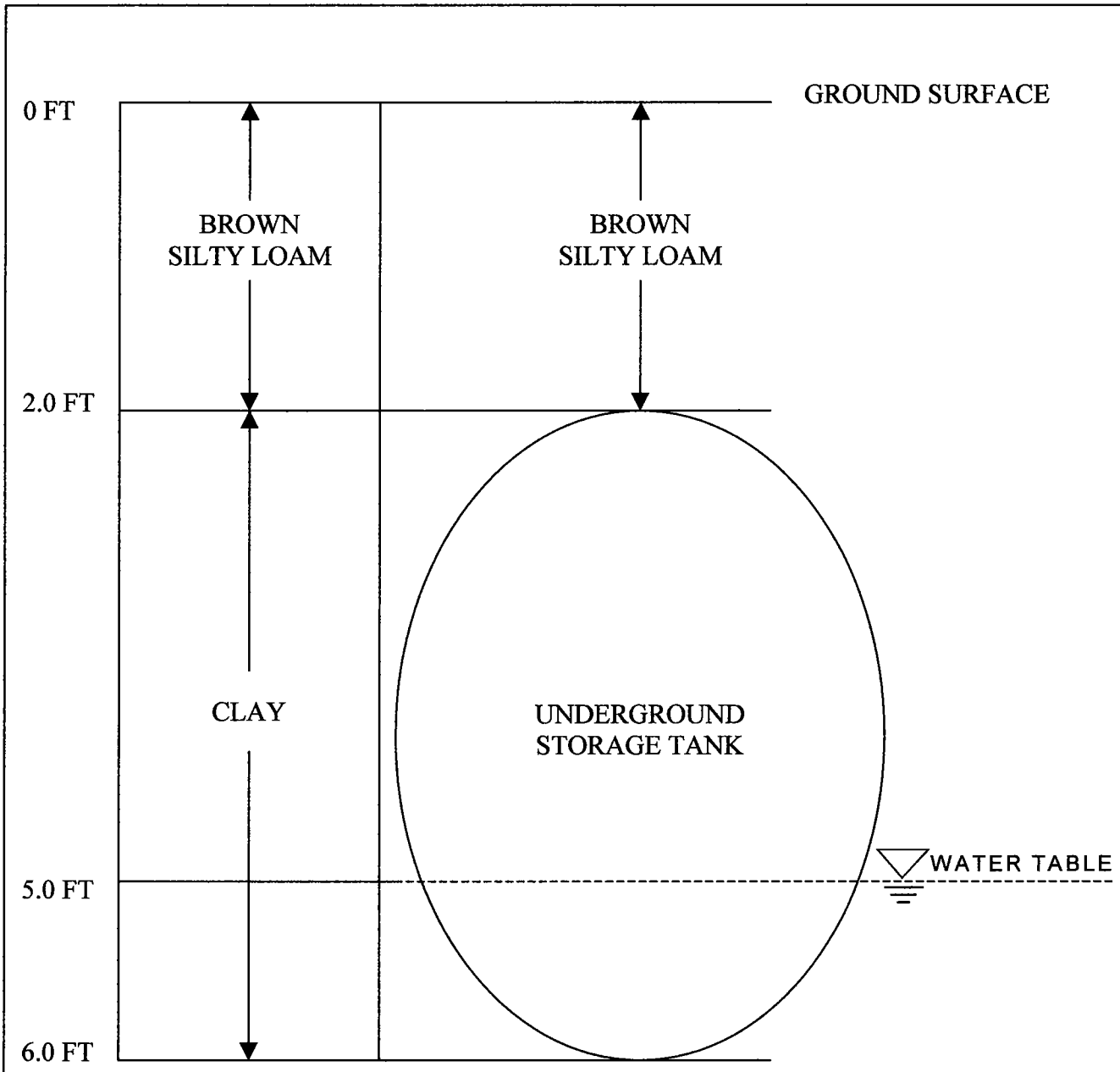
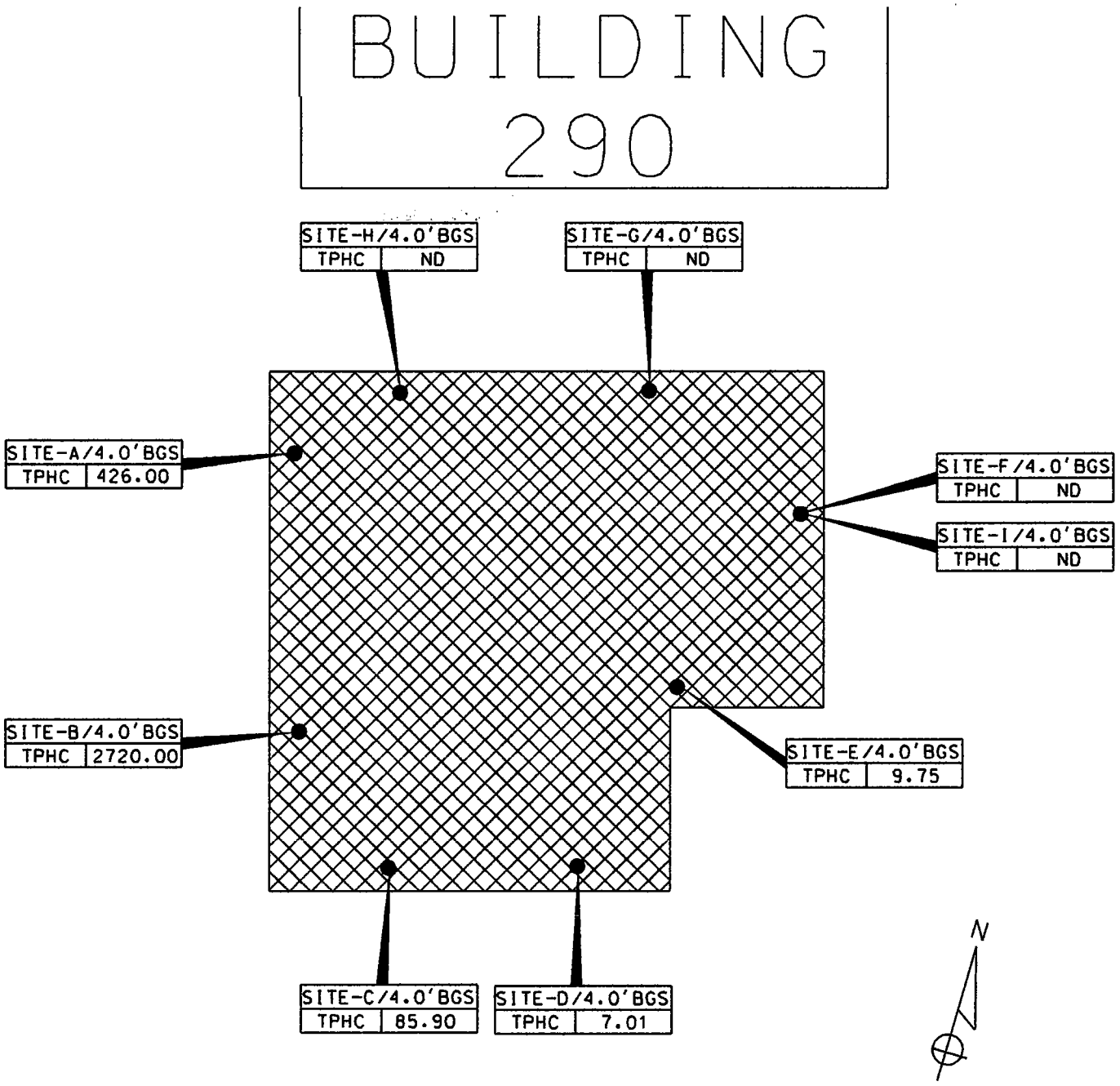


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 290B
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, Pennsylvania

SCALE: NTS	DATE: Dec. 1993



LEGEND

- SOIL SAMPLE LOCATION (DECEMBER 9, 1993)
- LIMIT OF EXCAVATION (DECEMBER 9, 1993)

NOTES:

1. ALL RESULTS IN MG/KG.
2. SEE TABLE 2 FOR NJDEP SOIL CLEANUP CRITERIA
3. BGS = BELOW GROUND SURFACE

FIGURE 4
SOIL SAMPLING LOCATION MAP
BUILDING 290
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=10' | DATE: DECEMBER 1993

290 FIG4

APPENDIX A

NJDEP UST CLOSURE APPROVAL LETTER

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. Dinkerrai Desai
DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY COMMUNICATIONS-ELECTRONIC COMMAND
FORT MONMOUTH, NJ 07703-5000

AUG 2 9 2000

Re: UST Closure Approval/NFA
Fort Monmouth Main Post
Monmouth County

Dear Mr. Desai:

The NJDEP is in receipt of seventeen (17) UST closure reports dated June 1, 2000. The Army has requested to receive No Further Action approval letters for each of these reports. This letter approves the NFA requests for the following 17 UST located on the Main Post of the Fort Monmouth site:

NJDEP Req. #	Bldg. #	NJDEP Req. #	Bldg. #
0090010—06	80	0081533—226	707
0090010—17	166	0081533—119	745
0081533—5	207A	0081533—160	1076
0081533—211	207B	0081533—161	1076
0081533—57	282	0081533—168	1108
0081533—64	290	00192486—1	2000
0081533—68	295	0081515—62	2700.4
0081533—108	689A	00192486—30	3050
0081533—109	689B		

The NJDEP has determined that the Army has performed the remedial actions in a manner consistent or in excess of the regulatory requirements, specifically the Technical Requirements For Site Remediation (N.J.A.C. 7:26E et seq.). Soils with contamination in excess of the NJDEP residential cleanup criteria have been excavated and the Army has taken great care to provide documentation which assures us that all sources of contamination have been remediated.

The NJDEP has one comment in that we request that future reports provide ground water flow direction indications on the well location maps.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

APPENDIX B

NJDEP-STANDARD REPORTING FORM

Let's protect our earth

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CN 028
Trenton, N.J. 08625-0028

FOR STATE USE ONLY		
UST # _____		
	YES	NO
CK. IN.	☐	☐
AMT.	☐	☐
AUTH.	☐	☐
SP. ROUTE	☐	☐
SITE PLN.	☐	☐
SIGN.	☐	☐
COMCODE		

UNDERGROUND STORAGE TANK REGISTRATION QUESTIONNAIRE

Bureau of Underground Storage Tanks
Registration and Billing Section
609-984-3156

Completion of this Registration Questionnaire will satisfy all initial registration requirements of the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21, and the Registration and Billing Regulations N.J.A.C. 7:14B-2.

(Check appropriate box(es))

A. ____ Is this a registration of a proposed or newly installed underground storage tank?

B. X Is this a registration of an existing underground storage tank?

General Facility Information

1. Facility Name: U.S. ARMY FORT MONMOUTH

2. Facility Location: MAIN POST WEST (NUMBER AND STREET)
FORT MONMOUTH (CITY OR MUNICIPALITY)
MONMOUTH (COUNTY) NJ (STATE) 07703 (ZIP CODE)
BLOCK ____ LOT ____

3. Owner's mailing address: U.S. ARMY DPW BLDG 1167 (NUMBER AND STREET)
FORT MONMOUTH (CITY OR MUNICIPALITY)
MONMOUTH (COUNTY) NJ (STATE) 07703 (ZIP CODE)

4. Owner's name: U.S. ARMY

5. Contact person (Facility Operator): CHARLES APPLEBY (PERSON OR TITLE)

6. Contact telephone number: 908 (AREA CODE) 532 (CHANGE) 6024 (NUMBER)

7. Total number of facility underground storage tanks: 0179 (Complete Questions 12 thru 32 for each tank)

8. Total facility underground storage tank capacity (gallons): 063990

9. Status of owner: (mark one) A. ☑ CURRENT B. ☒ FORMER

10. Type of owner (mark one) A. ☐ State B. ☐ Commercial C. ☐ Local D. ☒ Federal E. ☐ Charitable or Public School F. ☐ Residence G. ☐ Ownership Uncertain

11a. Two copies of a site plan are submitted with this registration A. ☐ YES B. ☒ NO ON File AT DEPE.

Submit two (2) copies of SITE PLAN showing facility or property boundary, buildings and the location of ALL underground storage tanks. EITHER, an existing engineering site plan, if available, OR a neat and legible hand-drawn sketch of the site may be submitted. In either case the site plan or sketch MUST show the location and distances that tanks, buildings, and dispensers are from the facility's property boundary. Include all tanks that are: E (existing/in use), P (empty), M (emergency), A (abandoned), C (other). Each underground tank on the site plan or sketch shall be numbered in accordance with the instructions for question 12. The number assigned to a tank on the site plan or sketch MUST match and be identical to the tank identification number assigned to that tank on this form.

INCLUDE FACILITY NAME, OWNER'S NAME, FACILITY ADDRESS AND TELEPHONE NUMBER ON ALL SITE PLANS.

11b. Do you have financial responsibility assurance? ☐ YES ☒ NO / NA

(Type) _____ (Company/Carrier) _____

(Policy Number) _____ (Expiration Date) _____

US ARMY FORT MONMOUTH
NJDEPE REGISTRATIONS

NJDEPE FACILITY REGISTRATION #	NJDEPE UST #	SIZE GAL.	CONTENTS	LOCATION
81533	162	1000	#2 FUEL OIL	1102
81533	164	1000	#2 FUEL OIL	1104
81533	165	1000	#2 FUEL OIL	1105
81533	166	1000	#2 FUEL OIL	1106
81533	167	1000	#2 FUEL OIL	1107
81533	168	1000	#2 FUEL OIL	1108
81533	169	1000	#2 FUEL OIL	1109
81533	170	1000	#2 FUEL OIL	1110
81533	171	1500	#2 FUEL OIL	1122
81533	172	1000	#2 FUEL OIL	1123
81533	173	2000	#2 FUEL OIL	1213
81533	174	550	#2 FUEL OIL	1213
81533	175	30000	#6 FUEL OIL	1220
81533	176	30000	#6 FUEL OIL	1220
81533	177	30000	#6 FUEL OIL	1220
81533	178	30000	#6 FUEL OIL	1220
81533	179	30000	#6 FUEL OIL	1220
81533	180	30000	#2 FUEL OIL	1220
81533	181	30000	#6 FUEL OIL	1220
81533	182	30000	#6 FUEL OIL	1220
81533	183	30000	#6 FUEL OIL	1220
81533	184	1000	#2 FUEL OIL	1220
81533	185	10000	GASOLINE	699
81533	186	10000	GASOLINE	699
81533	187	10000	GASOLINE	699
81533	188	10000	GASOLINE	699
81533	189	10000	GASOLINE	699
81533	190	10000	GASOLINE	699
81533	191	15000	DIESEL	750
81533	192	8000	GASOLINE	750
81533	200	275	DIESEL	257
81533	201	275	DIESEL	286
81533	202	275	DIESEL	752
81533	203	275	DIESEL	949
81533	204	500	DIESEL	977
81533	205	275	DIESEL	979
81533	206	275	DIESEL	1075
81533	207	275	DIESEL	1150
81533	208	275	DIESEL	1221
81533	209	20000	#2 OIL	1076
* Subsubtotal *		631990		
** Subtotal **		631990		

179

UST NO. 0081533

ALL underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND) must be included in this registration. All in-ground tanks shall be reported as underground tanks on this questionnaire regardless of their current status; Existing, E; Empty, P; Emergency, M; Abandoned, A; or Other, C.

SPECIFIC TANK INFORMATION

Bldg. #	208B TANK NO.	207B TANK NO.	600 TANK NO.	296 TANK NO.	296 TANK NO.
12. Tank Identification number	C210	C211	C212	C213	C214
13. CAS number (hazardous substances only)					
14. Tank age (years)	6.0	6.0	4.0	4.0	4.0
15. Tank size (gallons)	004,000	004,000	001,000	002,000	002,000
16. Tank contents (MARK ONE X)					
A. Leaded gasoline	☐	☐	☐	☒	☒
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☒	☒	☒	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (please specify)					
N. Motor oil	☐	☐	☐	☐	☐
P. Lubricating Oil	☐	☐	☐	☐	☐
Q. Sewage	☐	☐	☐	☐	☐
R. Sewage sludge	☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)					
T. Industrial wastewater	☐	☐	☐	☐	☐
U. Mineral spirits	☐	☐	☐	☐	☐
V. Mixtures (please specify)					
W. Emergency spill tank (specify substance)					
X. Other petroleum products (please specify)					
Y. Other (please specify)					

17. Tank and piping construction (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Bare steel	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
B. Carbon steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Galvanized steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Coated steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Iron (cast or ductile)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Cathodically protected steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Fiberglass-coated steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Other metallic (please specify)										
J. Fiberglass-reinforced plastic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Other non-metallic (please specify)										
L. Other (please specify)										

18. Tank and piping structure (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Single wall	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
B. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Manway in tank	☐		☐		☐		☐		☐	

19. Internal tank and piping lining (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. YES (please specify type of material)										
B. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

UST NO. 0081533

Tank I D. No.	TANK NO. C210		TANK NO. C211		TA NO. C212		TANK NO. C213		TANK NO. C214	
20. Tank and piping lining installed (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. At purchase of tank	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Retrofitted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
21. Secondary containment (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Liner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Vault	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. Other (please specify)										
22. External type/application of cathodic protection (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Sacrificial anode	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Impressed current	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
D. Other (please specify)										
23. Monitoring/detection method (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Automatic sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Manual sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Ground water monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. System in secondary containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. System outside backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. System within piping (piping leak detector)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. System within backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
24. Type of monitoring/detection system (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Continuous	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Event activated	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Audio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Visual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. In-tank (automatic) monitoring gauge	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Pressure/vacuum loss sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Liquid filled annular space	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Liquid sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Vapor sniff wells	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Other (please specify)										
L. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
25. Tank/piping tested (any type) (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Yes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
C. Test positive (MARK IF LEAK WAS DISCOVERED)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
26. Leak/spill occurrence (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Within the past 1 year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Within the past 1 to 5 years	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. More than 5 years ago	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. No Records	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

UST NO. 0081533

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
Tank I D. No.	C210	C211	C212	C213	C214
27. Tank status (MARK ONE X)					
A. In-use	☐	☐	☐	☐	☐
† B. Empty less than 12 months	☐	☐	☐	☐	☐
† C. Empty 12 months or more	☐	☐	☐	☐	☐
† D. Emergency spill tank (sump)	☐	☐	☐	☐	☐
† E. Abandoned, in place, filled and sealed	☐	☐	☐	☐	☐
F. Other (please specify)	Removed 10/19/93	Removed 11/1/93	Removed 11/8/93	Removed 11/8/93	Removed 11/8/93
28. Spill recovery system on-site (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
29. Overfill protection (tank only) (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
30. Spill containment around fill pipe (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒

† If boxes 27 B, C, D, E above have been answered – answer questions 31 and 32 below.

31. Substance last used in tank (MARK ONE X)					
A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
N. Motor oil	☐	☐	☐	☐	☐
P. Lubricating Oil	☐	☐	☐	☐	☐
Q. Sewage	☐	☐	☐	☐	☐
R. Sewage sludge	☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)					
T. Industrial wastewater	☐	☐	☐	☐	☐
U. Mineral spirits	☐	☐	☐	☐	☐
V. Mixtures (please specify)					
W. Emergency spill tank (specify substance)					
X. Other petroleum products (please specify)					
Y. Other (please specify)					
32. Estimated date last used (month/year)	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.

OWNER OR OPERATOR CERTIFICATION

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

(SIGNATURE) 2/10/94 (DATE)

JAMES OTT (PRINT OR TYPE NAME)

Acting Director

Dir, Engineering and Housing

[redacted]

UST NO. 0081533

ALL underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND) must be included in this registration. All in-ground tanks shall be reported as underground tanks on this questionnaire regardless of their current status; Existing, E; Empty, P; Emergency, M; Abandoned, A; or Other, C.

SPECIFIC TANK INFORMATION

	Bldg. # 296 TANK NO. C215	296 TANK NO. C216	296 TANK NO. C217	296 TANK NO. C218	296 TANK NO. C219
12. Tank Identification number					
13. CAS number (hazardous substances only)					
14. Tank age (years)	40	40	40	40	40
15. Tank size (gallons)	10,000	10,000	10,000	10,000	10,000
16. Tank contents (MARK ONE X)					
A. Leaded gasoline	☒	☒	☒	☒	☒
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (please specify)					
N. Motor oil	☐	☐	☐	☐	☐
P. Lubricating Oil	☐	☐	☐	☐	☐
Q. Sewage	☐	☐	☐	☐	☐
R. Sewage sludge	☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)					
T. Industrial wastewater	☐	☐	☐	☐	☐
U. Mineral spirits	☐	☐	☐	☐	☐
V. Mixtures (please specify)					
W. Emergency spill tank (specify substance)					
X. Other petroleum products (please specify)					
Y. Other (please specify)					

17. Tank and piping construction (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Bare steel	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
B. Carbon steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Galvanized steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Coated steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Iron (cast or ductile)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Cathodically protected steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Fiberglass-coated steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Other metallic (please specify)										
J. Fiberglass-reinforced plastic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Other non-metallic (please specify)										
L. Other (please specify)										

18. Tank and piping structure (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Single wall	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
B. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Manway in tank	☐		☐		☐		☐		☐	

19. Internal tank and piping lining (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. YES (please specify type of material)										
B. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

UST NO. 0081533

Tank I D. No.	TANK NO. C215		TANK NO. C216		TANK NO. C217		TANK NO. C218		TANK NO. C219	
20. Tank and piping lining installed (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. At purchase of tank	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Retrofitted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
21. Secondary containment (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Liner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Vault	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. Other (please specify)										
22. External type/application of cathodic protection (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Sacrificial anode	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Impressed current	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
D. Other (please specify)										
23. Monitoring/detection method (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Automatic sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Manual sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Ground water monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. System in secondary containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. System outside backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. System within piping (piping leak detector)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. System within backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
24. Type of monitoring/detection system (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Continuous	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Event activated	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Audio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Visual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. In-tank (automatic) monitoring gauge	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Pressure/vacuum loss sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Liquid filled annular space	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Liquid sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Vapor sniff wells	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Other (please specify)										
L. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
25. Tank/piping tested (any type) (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Yes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
C. Test positive (MARK IF LEAK WAS DISCOVERED)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
26. Leak/spill occurrence (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Within the past 1 year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Within the past 1 to 5 years	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. More than 5 years ago	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. No Records	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

UST NO. 0081533

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
Tank I D. No.	C215	C216	C217	C218	C219
27. Tank status (MARK ONE X)					
A. In-use	☐	☐	☐	☐	☐
† B. Empty less than 12 months	☐	☐	☐	☐	☐
† C. Empty 12 months or more	☐	☐	☐	☐	☐
† D. Emergency spill tank (sump)	☐	☐	☐	☐	☐
† E. Abandoned, in place, filled and sealed	☐	☐	☐	☐	☐
F. Other (please specify)	Removed 11/8/93	Removed 11/8/93	Removed 11/8/93	Removed 11/8/93	Removed 11/8/93
28. Spill recovery system on-site (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
29. Overfill protection (tank only) (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
30. Spill containment around fill pipe (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒

† If boxes 27 B, C, D, E above have been answered – answer questions 31 and 32 below.

31. Substance last used in tank (MARK ONE X)					
A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
N. Motor oil	☐	☐	☐	☐	☐
P. Lubricating Oil	☐	☐	☐	☐	☐
Q. Sewage	☐	☐	☐	☐	☐
R. Sewage sludge	☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)					
T. Industrial wastewater	☐	☐	☐	☐	☐
U. Mineral spirits	☐	☐	☐	☐	☐
V. Mixtures (please specify)					
W. Emergency spill tank (specify substance)					
X. Other petroleum products (please specify)					
Y. Other (please specify)					
32. Estimated date last used (month/year)	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.

OWNER OR OPERATOR CERTIFICATION

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

JAMES ORT (SIGNATURE) 2/10/94 (DATE)

Acting Director
Dir, Engineering and Housing
(TITLE)

[redacted]

RO-1/90

UST NO. 0081533

ALL underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND) must be included in this registration. All in-ground tanks shall be reported as underground tanks on this questionnaire regardless of their current status; Existing, E; Empty, P; Emergency, M; Abandoned, A; or Other, C.

SPECIFIC TANK INFORMATION

	Bldg. #	296 TANK NO.	296 TANK NO.	296 TANK NO.	296 TANK NO.	290 TANK NO.
12. Tank Identification number		C220	C221	C222	C223	C224
13. CAS number (hazardous substances only)						
14. Tank age (years)		4,0	4,0	4,0	4,0	4,0
15. Tank size (gallons)		0,0,1,0,0,0	0,0,1,0,0,0	0,0,1,0,0,0	0,0,1,0,0,0	0,0,2,0,0,0
16. Tank contents (MARK ONE X)						
A. Leaded gasoline		☒	☒	☒	☒	☒
B. Unleaded gasoline		☐	☐	☐	☐	☐
C. Alcohol enriched gasoline		☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)		☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)		☐	☐	☐	☐	☐
F. Waste oil		☐	☐	☐	☐	☐
G. Kerosene (No. 1)		☐	☐	☐	☐	☐
H. Home heating oil (No. 2)		☐	☐	☐	☐	☐
J. Heating oil (No. 4)		☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)		☐	☐	☐	☐	☐
L. Aviation fuel		☐	☐	☐	☐	☐
M. Hazardous substances (please specify)						
N. Motor oil		☐	☐	☐	☐	☐
P. Lubricating Oil		☐	☐	☐	☐	☐
Q. Sewage		☐	☐	☐	☐	☐
R. Sewage sludge		☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)						
T. Industrial wastewater		☐	☐	☐	☐	☐
U. Mineral spirits		☐	☐	☐	☐	☐
V. Mixtures (please specify)						
W. Emergency spill tank (specify substance)						
X. Other petroleum products (please specify)						
Y. Other (please specify)						
17. Tank and piping construction (MARK ALL THAT APPLY X)		Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. Bare steel		☒ / ☒	☒ / ☒	☒ / ☒	☒ / ☒	☒ / ☒
B. Carbon steel		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
C. Galvanized steel		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
D. Coated steel		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
E. Iron (cast or ductile)		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
F. Cathodically protected steel		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
G. Fiberglass-coated steel		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
H. Other metallic (please specify)						
J. Fiberglass-reinforced plastic		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
K. Other non-metallic (please specify)						
L. Other (please specify)						
18. Tank and piping structure (MARK ALL THAT APPLY X)		Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. Single wall		☒ / ☒	☒ / ☒	☒ / ☒	☒ / ☒	☒ / ☒
B. Double wall		☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐
C. Manway in tank		☐	☐	☐	☐	☐
19. Internal tank and piping lining (MARK ONE X)		Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. YES (please specify type of material)						
B. None		☒ / ☒	☒ / ☒	☒ / ☒	☒ / ☒	☒ / ☒

UST NO. 0081533

	TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.	
Tank I D. No.	C220		C221		C222		C223		C224	
20. Tank and piping lining installed (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. At purchase of tank	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Retrofitted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
21. Secondary containment (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Liner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Vault	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. Other (please specify)										
22. External type/application of cathodic protection (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Sacrificial anode	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Impressed current	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
D. Other (please specify)										
23. Monitoring/detection method (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Automatic sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Manual sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Ground water monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. System in secondary containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. System outside backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. System within piping (piping leak detector)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. System within backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
24. Type of monitoring/detection system (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Continuous	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Event activated	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Audio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Visual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. In-tank (automatic) monitoring gauge	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Pressure/vacuum loss sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Liquid filled annular space	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Liquid sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Vapor sniff wells	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Other (please specify)										
L. None	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
25. Tank/piping tested (any type) (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Yes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
C. Test positive (MARK IF LEAK WAS DISCOVERED)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
26. Leak/spill occurrence (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Within the past 1 year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Within the past 1 to 5 years	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. More than 5 years ago	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. No Records	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
E. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

UST NO. 0081533

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
Tank I D. No.	C220	C221	C222	C223	C224
27. Tank status (MARK ONE X)					
A. In-use	☐	☐	☐	☐	☐
† B. Empty less than 12 months	☐	☐	☐	☐	☐
† C. Empty 12 months or more	☐	☐	☐	☐	☐
† D. Emergency spill tank (sump)	☐	☐	☐	☐	☐
† E. Abandoned, in place, filled and sealed	☐	☐	☐	☐	☐
F. Other (please specify)	Removed 11/8/93	Removed 11/8/93	Removed 11/8/93	Removed 11/8/93	Removed 12/1/93
28. Spill recovery system on-site (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
29. Overfill protection (tank only) (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒
30. Spill containment around fill pipe (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☒	☒	☒	☒

† If boxes 27 B, C, D, E above have been answered – answer questions 31 and 32 below.

31. Substance last used in tank (MARK ONE X)					
A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
N. Motor oil	☐	☐	☐	☐	☐
P. Lubricating Oil	☐	☐	☐	☐	☐
Q. Sewage	☐	☐	☐	☐	☐
R. Sewage sludge	☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)					
T. Industrial wastewater	☐	☐	☐	☐	☐
U. Mineral spirits	☐	☐	☐	☐	☐
V. Mixtures (please specify)					
W. Emergency spill tank (specify substance)					
X. Other petroleum products (please specify)					
Y. Other (please specify)					
32. Estimated date last used (month/year)	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.

OWNER OR OPERATOR CERTIFICATION

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

JAMES OTT (SIGNATURE) 2/10/94 (DATE)

Acting Director (PRINT OR TYPE NAME)

Dir, Engineering and Housing (TITLE)

[redacted]

UST NO. 0081533

ALL underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND) must be included in this registration. All in-ground tanks shall be reported as underground tanks on this questionnaire regardless of their current status; Existing, E; Empty, P; Emergency, M; Abandoned, A; or Other, C.

SPECIFIC TANK INFORMATION

Bldg. #

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
12. Tank Identification number	C225				
13. CAS number (hazardous substances only)					
14. Tank age (years)	40				
15. Tank size (gallons)	10,000				
16. Tank contents (MARK ONE X)					
A. Leaded gasoline	☒	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (please specify)					
N. Motor oil	☐	☐	☐	☐	☐
P. Lubricating Oil	☐	☐	☐	☐	☐
Q. Sewage	☐	☐	☐	☐	☐
R. Sewage sludge	☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)					
T. Industrial wastewater	☐	☐	☐	☐	☐
U. Mineral spirits	☐	☐	☐	☐	☐
V. Mixtures (please specify)					
W. Emergency spill tank (specify substance)					
X. Other petroleum products (please specify)					
Y. Other (please specify)					

17. Tank and piping construction (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Bare steel	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
B. Carbon steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Galvanized steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Coated steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. Iron (cast or ductile)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Cathodically protected steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Fiberglass-coated steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Other metallic (please specify)										
J. Fiberglass-reinforced plastic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Other non-metallic (please specify)										
L. Other (please specify)										

18. Tank and piping structure (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Single wall	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
B. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Manway in tank	☐		☐		☐		☐		☐	

19. Internal tank and piping lining (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. YES (please specify type of material)										
B. None	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐

UST NO. 0081533

	TANK NO.		TANK NO.		TANK NO.		TANK NO.		TANK NO.	
Tank I D. No.	C25									
20. Tank and piping lining installed (MARK ONE X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. At purchase of tank	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Retrofitted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
21. Secondary containment (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Liner	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Vault	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Double wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. None	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
E. Other (please specify)										
22. External type/application of cathodic protection (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Sacrificial anode	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Impressed current	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. None	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
D. Other (please specify)										
23. Monitoring/detection method (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Automatic sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Manual sampling	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Ground water monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. System in secondary containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. System outside backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. System within piping (piping leak detector)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. System within backfill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. None	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
24. Type of monitoring/detection system (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Continuous	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Event activated	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. Audio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. Visual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
E. In-tank (automatic) monitoring gauge	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
F. Pressure/vacuum loss sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G. Liquid filled annular space	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
H. Liquid sensor	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
J. Vapor sniff wells	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
K. Other (please specify)										
L. None	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
25. Tank/piping tested (any type) (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Yes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. No	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
C. Test positive (MARK IF LEAK WAS DISCOVERED)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
26. Leak/spill occurrence (MARK ALL THAT APPLY X)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
A. Within the past 1 year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
B. Within the past 1 to 5 years	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C. More than 5 years ago	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
D. No Records	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐
E. None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

UST NO. 0081533

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
Tank I D. No.	C225				
27. Tank status (MARK ONE X)					
A. In-use	☐	☐	☐	☐	☐
† B. Empty less than 12 months	☐	☐	☐	☐	☐
† C. Empty 12 months or more	☐	☐	☐	☐	☐
† D. Emergency spill tank (sump)	☐	☐	☐	☐	☐
† E. Abandoned, in place, filled and sealed	☐	☐	☐	☐	☐
F. Other (please specify)	Removed 12/1/93				
28. Spill recovery system on-site (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☐	☐	☐	☐
29. Overfill protection (tank only) (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☐	☐	☐	☐
30. Spill containment around fill pipe (MARK ONE X)					
A. Yes	☐	☐	☐	☐	☐
B. No	☒	☐	☐	☐	☐

† If boxes 27 B, C, D, E above have been answered – answer questions 31 and 32 below.

31. Substance last used in tank (MARK ONE X)					
A. Leaded gasoline	☐	☐	☐	☐	☐
B. Unleaded gasoline	☐	☐	☐	☐	☐
C. Alcohol enriched gasoline	☐	☐	☐	☐	☐
D. Light diesel fuel (No. 1-D)	☐	☐	☐	☐	☐
E. Medium diesel fuel (No. 2-D)	☐	☐	☐	☐	☐
F. Waste oil	☐	☐	☐	☐	☐
G. Kerosene (No. 1)	☐	☐	☐	☐	☐
H. Home heating oil (No. 2)	☐	☐	☐	☐	☐
J. Heating oil (No. 4)	☐	☐	☐	☐	☐
K. Heavy heating oil (No. 6)	☐	☐	☐	☐	☐
L. Aviation fuel	☐	☐	☐	☐	☐
M. Hazardous substances (per Fact Sheet)	☐	☐	☐	☐	☐
N. Motor oil	☐	☐	☐	☐	☐
P. Lubricating Oil	☐	☐	☐	☐	☐
Q. Sewage	☐	☐	☐	☐	☐
R. Sewage sludge	☐	☐	☐	☐	☐
S. Hazardous waste (specify ID number)					
T. Industrial wastewater	☐	☐	☐	☐	☐
U. Mineral spirits	☐	☐	☐	☐	☐
V. Mixtures (please specify)					
W. Emergency spill tank (specify substance)					
X. Other petroleum products (please specify)					
Y. Other (please specify)					
32. Estimated date last used (month/year)	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.	Mo. Yr.

OWNER OR OPERATOR CERTIFICATION

"I certify under penalty of law that the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment."

JAMES OTT (SIGNATURE) 2/10/94 (DATE)

Acting Director (PRINT OR TYPE NAME)

Div. Engineering and Housing (TITLE)

APPENDIX C

SITE ASSESSMENT SUMMARY

(12/97) **New Jersey Department of Environmental Protection**

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name : U.S. Army Fort Monmouth New Jersey

Facility Street Address : Directorate of Public Works Building 173

Municipality: Oceanport County : Monmouth

Block: Lot(s): Telephone Number : 732-532-6224

B. Owner (RP)'s Name:

Street Address: City :

State: Zip: Telephone Number :

C. (Check as appropriate)

___ Site Investigation Report (SIR) $500 Fee

___ Remedial Investigation Report (RIR) $1000 Fee

_X_ NA – Federal Agreement

D. (Complete all that apply)

- Assigned Case Manager : Ian Curtis, Federal Case Manager
- UST Registration Number : 81533-224 and 225 (7 digits)
- Incident Report Number 93 – 11 – 30 – 1246 – 27 (10 or 12 digits)

___ – ___ – ___ – _____ – ___

- Tank Closure Number : Federal 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 No

Name: Charles Appleby Signature: See signed subsurface removal log UST Cert. No.: 002056

Firm: U.S. Army Fort Monmouth Firm's UST Cert. Number: NA-U.S. Army

Firm Address: Directorate of Public Works Building 173 City: Fort Monmouth

State: NJ Zip: 07703 Telephone Number : 732-532-6224

(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): James Ott Title: Directorate of Public Works

Signature: James Ott

Company Name: U.S. Army Fort Monmouth Date: 12/19/01

S. Army
H Bldg. 167
ELFM-EH
rt Monmouth, NJ 07703

Date: 11/29/93
Building #: 290, 296
NJDEPE UST Reg. #: 51533-
CLOSURE APPROVAL #:

UST #	UST WASTE REMOVED OIL/H2O GAL.	SLUDGE DRUMS	SOIL(ID27) CUYDS	HAZ.SOILS DRUMS
0	0	0	0	0
TOTALS:				

2. WHO AUTHORIZED THE BACKFILL OF THE EXCAVATION? NA

3. AMOUNTS OF BACKFILL USED: CLEAN FILL 0 CUYDS.
WASHED STONE 0 TONS

3. LOOSE WASTE SOILS WERE TRANSPORTED TO: NA on-site

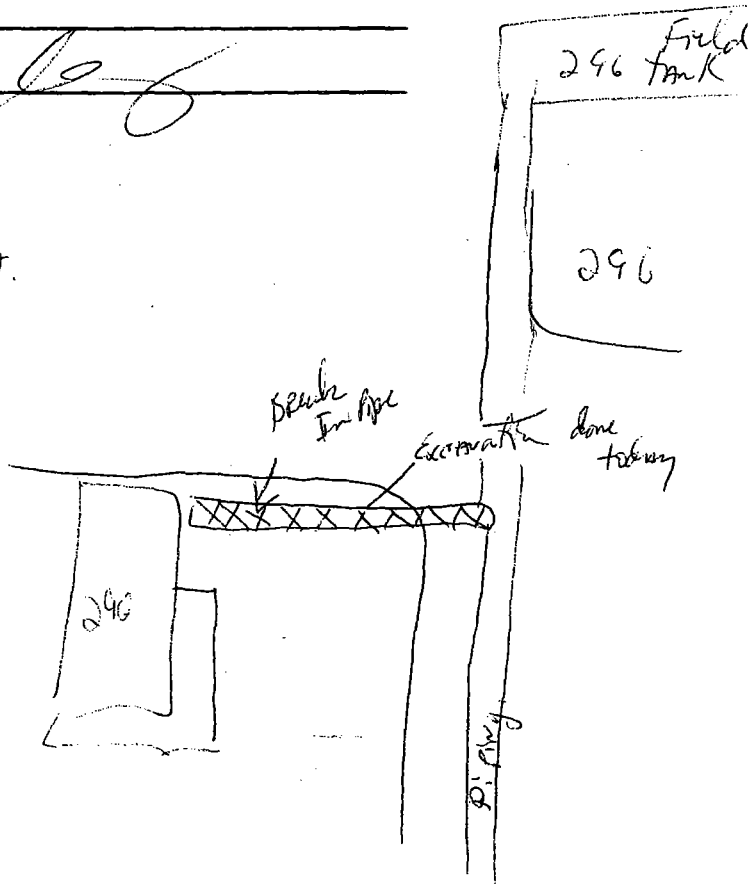
. DRUMS OF WASTE WERE TRANSPORTED TO: NA -

10. REMOVAL COMPLETED: TIME: 2:10 DATE: 11/29/93

11. SIGNATURE OF CONTRACTOR SUPERVISOR:

12. SIGNATURE OF SUBSURFACE EVALUATOR:

- obj. Remove,
Excavate Pipe from 296 and 290 UST.
Pipe Excavated to - Bldg. 290



APPENDIX D

WASTE MANIFEST

TANK B X

Cntr

Billing for 225

B.22 Main Contract

State of New Jersey
Department of Environmental Protection and Energy
Hazardous Waste Regulation Program
Manifest Section
CN 028, Trenton, NJ 08625-0028

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

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: NJ3 2 1 0 0 1 2 0 5 9 7 | Manifest Document No.: 0 3 2 4 8

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND, C/O JAMES SHIRGHIO, Bldg 2504 ATTN: SELFM-DL-EM-MS FORT MONMOUTH NJ 07703

4. Generator's Phone (908) 532-6223 Main Post

A. State Manifest Document Number: NJA 160324 8

B. State Generator's ID: Main Post Bldg 280B 93-11-30-1246-27

5. Transporter 1 Company Name: FREEHOLD CARTAGE INC

6. US EPA ID Number: NJD 0 5 4 1 2 6 1 6 4

C. State Trans. ID: NJDEPS 22665

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone (908) 462-1001

E. State Trans. ID

9. Designated Facility Name and Site Address: Cycle Chem Inc. 217 South 1st Street Elizabeth N.J. 07206

10. US EPA ID Number: NJD 0 1 0 1 2 2 0 1 0 4 6

F. Transporter's Phone ( )

G. State Facility's ID

H. Facility's Phone (908) 355-5800

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
X RQ WASTE FLAMMABLE LIQUID NOS CLASS 3, PG II, UN 1993					D 0 0 1
a.					
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

a. L, I, A D018, D008. 95% WATER - 5% GASOLINE

b.

c.

d.

K. Handling Codes for Wastes Listed Above

a.

b.

c.

d.

15. Special Handling Instructions and Additional Information

~~NOT EPA REGULATED~~ DA.

UST # - 81533 - 224 - GAS - 1400 Gal.

81533 - 225 - GAS - 1530 GAL.

24 HOUR EMERGENCY RESPONSE 201-427-2881

11A 348038 OW.

NJ DECAL # 55429 ERG # 27

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name: Charles M. Appleby DRW-EV Envio Spec.

Signature

Month Day Year: 12 03 93

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: David S. Smith

Signature

Month Day Year: 12 03 93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name

Signature

Month Day Year

In case of an emergency involving this shipment, call

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

NJA 100740

APPENDIX E

UST DISPOSAL CERTIFICATE

MAZZA & SONS, INC.

Metal Recyclers
Auto and Truck
3230 Shafto Rd.
Tinton Falls, NJ
(908) 922-9292

NO. _____

DATE 7 Dec 93

Tanks 290A + B

350·00 +
96·24 −
49·76 −
77·38 −
207·60 +

005

333·92 =

Name Cutz Inc

Address _____

Make of Autos

Tires
Tank
Price:

49540 LB G

39160 LB G

10380

	Weight	Price
Cast Iron		
Steel	207.60	
Lt. Iron		
Copper #1		
Copper #2		
Lt. Copper		
Brass		
Alum Clean		
Lead		
Stainless		
Radiators		
Battery		
TOTAL AMOUNT:		

A I
DEC - 7

Applied to Recy Acct - # R03300

Sandra Valentine

Weigher _____ Customer _____

APPENDIX F

SOIL ANALYTICAL DATA PACKAGE

SERV-AIR, INC.
An E-SYSTEMS Company

P.O. #: 21st Century / PW5007

Chain of Custody

Project #: 290 B	Sampler: Cote Inc. Cliff	Date / Time 12/9/93 1500	Start:
Customer: C.Appleby DPW	Site Name: Bldg. 290B UST #. 81533-224+225		Finish:
Phone: x26223			

Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	% Solid	Mursel	VOA+15	Pb	HNu Reading	Remarks
13560.1	12/9/93 15:10	Site A 3.5-4.0'	Soil	2	X	X	X	X	X	5.0 ppm	
.2	15:15	Site B 3.5'-4.0'			X	X	X	X	X	0	
.3	15:20	Site C 3.5'-4.0'			X	X	X	X	X	250.0 ppm	
.4	15:30	Site D 3.5'-4.0'			X	X	X	X	X	0	Samples kept @ 4°C
.5	15:35	Site E 3.5'-4.0'			X	X	X	X	X	0	
.6	15:37	Site F 3.5'-4.0'			X	X	X	X	X	0	
.7	15:42	Site G 3.5'-4.0'			X	X	X	X	X	0 ppm	
.8	15:47	Site H 3.5'-4.0'			X	X	X	X	X	0	HNu Calibrated 12/9/93
.9	15:57	Site I 3.5'-4.0'			X	X	X	X	X	0	To 58 ppm methane @
Comm Ck.	~~15:59~~	~~Site J 3.5-4.0'~~			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~0~~	Span = 3.8
.10	12/9/93 AM	TRIP BLANK		2				X		NA	

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
			Hand

Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time
	12/9/93 1650	Cathy Castle	12.10.93 11:50

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.

FT. MONMOUTH OFFICE

SERV-AIR, INC.
An E-SYSTEMS Company

P.O. #: 21st Cmty/PWS 007

Chain of Custody

Project #: 290 B	Sampler: Cute Inc.	Date / Time 12/9/93 1500	Analysis Parameters	Start:
Customer: C. Appleby DPW	Site Name: Bldg. 290 B UST # 81533-224-225			Finish:
Phone: x 26284				Preservatio Metho

Lab Sample ID Number	Date/Time		Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	% Solid	Mercury	VOA +15	Pb	Flow Reading	Remarks
1356.11	12/9/93	15:45 ~~Am~~	~~Site~~ Field Blank	~~Soil~~ BQ	2				X	X	NA	

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
			Hand

Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time
[signature]	12/9/93 1650	[signature] Cathy Castle	12.10.93 11:50

Notes: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.

FT. MONMOUTH OFFICE

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

Client: U.S. Army
DEH, SELFM-EH-EV
Bldg. 167
Ft. Monmouth, NJ 07703

Lab. ID #: 1356.1-.9
Sample Rec'd: 12/09/93
Analysis Start: 12/13/93
Analysis Comp: 12/13/93

Analysis: 418.1 (TPH)
Matrix: Soil
Analyst: S. Hubbard
Ext. Meth: Sonc.

NJDEPE UST Reg.#: **81533-224-225**
TMS #:
NJDEPE Case #:
Location #: **290**

Lab ID.	Description		%Solid	Result (mg/Kg)	MDL
1356.1	Site A 3.5-4'	hNu= 5.0	91	426.	3.3
1356.2	Site B 3.5-4'	hNu=ND	90	2720.	46.
1356.3	Site C 3.5-4'	hNu= 250.	87	85.9	3.3
1356.4	Site D 3.5-4'	hNu=ND	89	7.01	3.3
1356.5	Site E 3.5-4'	hNu=ND	90	9.75	3.3
1356.6	Site F 3.5-4'	hNu=ND	92	ND	3.3
1356.7	Site G 3.5-4'	hNu=ND	93	ND	3.3
1356.8	Site H 3.5-4'	hNu=ND	93	ND	3.3
1356.9	Site I 3.5-4'	hNu=ND	93	ND	3.3
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
* = Silica Gel Added

1356.4 Dup.= 80% 1356.4 Spike=100%, 1356.4 Spike Dup.=103%, RPD=3%

Brian K. McKee
Laboratory Director

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

Client: U.S. Army
DEH, SELFM-EH-EV
Bldg. 167
Ft. Monmouth, NJ 07703

Lab. ID #: 1356.1-.9
Sample Rec'd: 12/09/93
Analysis Start: 12/13/93
Analysis Comp: 12/13/93

Analysis: Munsel

Lab ID#	Soil Color
1356.1	2.5Y 3/1 Very Dark Gray
1356.2	2.5Y 3/1 Very Dark Gray
1356.3	2.5Y 4/1 Dark Gray
1356.4	5Y 5/2 Olive Gray
1356.5	5Y 4/2 Olive Gray
1356.6	5Y 4/2 Olive Gray
1356.7	5Y 5/2 Black
1356.8	5Y 3/1 Very Dark Gray
1356.9	5Y 4/2 Olive Gray

Brian K. McKee
Laboratory Director

12/13/93 12:26 PM

PHC Conformance/Non-conformance Summary Report

	No	Yes
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	✓	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		✓
3. IR Spectra submitted for standards, blanks, & samples		✓
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	N/A	
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		✓
6. Analysis holding time met. (If not met,list number of days exceeded for each sample)		✓

Comments: _____

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analysis. I have personally examined the information contained in this report, and to the best of my knowledge, I believe that the submitted information is true, accurate, complete, and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Brian K. McKee
Laboratory Manager

December 13, 1993 1104 Sarah J. Hubbard

Blank (MV)

0 (MV)

40.75 105 MV

80.5 214 MV

163 428 MV

1356.1 305 MV

1356.2 (dil 7) 137 MV

1356.3 58 MV

1356.4 4 MV

1356.4 Dup 3 MV

1356.4 Spk 69 MV

1356.4 Dup Spk 71 MV

1356.5 6 MV

1356.6 1 MV

1356.7 ND

1356.8 ND

1356.9 ND

618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489 • 609-467-9521

E-SYSTEMS, INC.

PROJECT: U.S. ARMY-FORT MONMOUTH, NJ BLDG 290B

ANALYSIS NO:	CLIENT ID:
A 5586	SITE A 3.5 - 4.0
A 5587	SITE B 3.5 - 4.0
A 5588	SITE C 3.5 - 4.0
A 5589	SITE D 3.5 - 4.0
A 5590	SITE E 3.5 - 4.0
A 5591	SITE F 3.5 - 4.0
A 5592	SITE G 3.5 - 4.0
A 5593	SITE H 3.5 - 4.0
A 5594	SITE I 3.5 - 4.0
A 5595	TRIP BLANK
A 5596	FIELD BLANK

DATE RECEIVED: DECEMBER 10, 1993

TWENTY FIRST CENTURY
ENVIRONMENTAL, INC.

Richard W Lynch

RICHARD W. LYNCH
LABORATORY MANAGER

TABLE OF CONTENTS

NARRATIVE

There were no problems encountered during the analysis of this batch of samples (A5586 to A5596). All extractions and analysis were completed within proper hold times.

SERV-AIR, INC.
An E-SYSTEMS Company

C5602

P.O. #: 21st Century / PW5007

Chain of Custody

Project #: 290 B	Sampler: Cute Inc. Cliff	Date / Time 12/9/93 1500	Analysis Parameters
Customer: C.Appleby DPW	Site Name: Bldg. 290B UST #. 81533- 224 + 225		Start:
Phone: x26223			Finish:

Lab Sample ID Number	Date/Time		Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	% Solid	mercury	VOA+15	Pb	HNu Reading	Remarks
13560.1	12/9/93	15:10	Site A 3.5-4.0'	Soil	2	X	X	X	X	X	5.0 ppm	
.2		15:15	Site B 3.5-4.0'			X	X	X	X	X	0	
.3		15:20	Site C 3.5'-4.0'			X	X	X	X	X	250.0 ppm	
.4		15:30	Site D 3.5'-4.0'			X	X	X	X	X	0	Samples Kept @ 4°C
.5		15:35	Site E 3.5'-4.0'			X	X	X	X	X	0	
.6		15:37	Site F 3.5'-4.0'			X	X	X	X	X	0	
.7		15:42	Site G 3.5'-4.0'			X	X	X	X	X	0 ppm	
.8		15:47	Site H 3.5'-4.0'			X	X	X	X	X	0	HNu Calibrated 12/3/93
.9		15:57	Site I 3.5'-4.0'			X	X	X	X	X	0	To 58 ppm methane @
Cancel Ca.		~~15:59~~	~~Site J 3.5-4.0'~~			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~0~~	Span = 3.8
.10	12/9/93	AM	TRIP BLANK		2				X		NA	

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
			Hand

Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time
	12/13/93 1650	Cathy Castle	12-10-93 11:50

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.

FT. MONMOUTH OFFICE
E-SYSTEMS INC. • P. O. BOX 369 BUILDING 1209 • FT. MONMOUTH, NEW JERSEY 07703-5000 • (201) 544-0995

SERV-AIR, INC.
An E-SYSTEMS Company

P.O. #: 21st Cmty/PWS 007

Chain of Custody

C 003

Project #: 290 B	Sampler: Cute Inc.	Date / Time 12/9/93 1500	Start:
Customer: C. Appleby DPW	Site Name: Bldg. 290 B UST # 81533 · 224 · 225		Finish:
Phone: x 26224			

Analysis Parameters: TPHC; % Solid; mercury; VOA +15; Pb; How Reading

Lab Sample ID Number	Date/Time		Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	% Solid	mercury	VOA +15	Pb	How Reading	Remarks
1356.11	12/9/93	15:45 ~~Am~~	~~Surf~~ Field Blank	~~Soil~~ AQ	2			X	X		NA	

Relinquished By (signature)	Date / Time	Received By (signature)	Shipped By:
			Hand

Relinquished By (signature)	Date / Time	Received for Lab by (signature):	Date / Time
	12/9/93 1650	Cathy Castle	12.10.93 11:50

Notes: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody.

FT. MONMOUTH OFFICE
E-SYSTEMS, INC. • P O BOX 369, BUILDING 1209 • FT MONMOUTH NEW JERSEY 07703-5000 • (201) 544-0995

Purgeables

U.S.E.P.A. Method 624 - This is a purge and trap Gas Chromatograph/ Mass Spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

An HP5996 GC/MS was used with a capillary column.

Method detection limits are as stated.

Soil samples are prepared for analysis as prescribed in Method 8240/8260 from SW-846.

Metals

Soil samples for metal analysis were run in accordance with the methods prescribed in SW-846. This includes a nitric acid digestion follwoed by either Furnace, Flame Atomic Absorption, Flameless Atomic Absorption, or Inductively Coupled Plasma analysis.

Aqueous samples for metals analysis were run in accordance with the methods prescribed in Methods for Chemical Analysis of Water and Wastes, EPA-600-4-79-020 March 1983.

Aqueous/Soil samples for mercury analysis were run in accordance with SW-846 methods 7470/7471. These are cold-vapor atomic absorption methods.

LABORATORY CHRONICLE

RECEIPT/REFRIGERATION 12/10/93

ORGANICS
EXTRACTION

1. Acids NA
2. Base/Neutrals NA
3. Pesticides/PCB's/Herbicides NA
4. Petroleum Hydrocarbons/Oil & Grease NA

ANALYSIS

1. Volatiles 12/11/93-12/13/93
2. Acids NA
3. Base/Neutrals NA
4. Pesticides/PCB's/Herbicides NA
5. Petroleum Hydrocarbons/Oil & Grease NA
6. Total Organic Carbon NA

Section Supervisor
Review & Approval Jeffrey L Martin

INORGANICS

1. Metals 12/14/93
2. Cyanides NA
3. Phenols NA

OTHER ANALYTES

Section Supervisor
Review & Approval Matthew R. Gray

Quality Control Supervisor
Review & Approval

Laboratory Director
Review & Approval Richard W Lynch

If fractions are re-extracted and re-analyzed because initial endeavors did not meet quality control acceptance criteria, include dates for both.

RESULT SUMMARY

CERTIFICATE OF ANALYSIS

U.S. ARMY-FORT MONMOUTH, NJ BLDG 290B

LEAD

ANALYSIS NO:	CLIENT ID:	MDL (mg/Kg)	RESULT (mg/Kg)
A 5586	SITE A 3.5 - 4.0	10.0	N.D.
A 5587	SITE B 3.5 - 4.0	10.0	14.5
A 5588	SITE C 3.5 - 4.0	10.0	N.D.
A 5589	SITE D 3.5 - 4.0	10.0	N.D.
A 5590	SITE E 3.5 - 4.0	10.0	N.D.
A 5591	SITE F 3.5 - 4.0	10.0	N.D.
A 5592	SITE G 3.5 - 4.0	10.0	N.D.
A 5593	SITE H 3.5 - 4.0	10.0	N.D.
A 5594	SITE I 3.5 - 4.0	10.0	N.D.

BATCH 230

CERTIFICATE OF ANALYSIS

U.S. ARMY-FORT MONMOUTH, NJ BLDG 290B

LEAD

ANALYSIS NO:	CLIENT ID:	MDL (mg/L)	RESULT (mg/L)
A 5596	FIELD BLANK	0.10	N.D.

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5586	DILUTION FACTOR	5.00
CLIENT ID	SITE A 3.5'-4.0' BLDG 2908	COMMENTS	HNU 5.0
DATA FILE	>A4635	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	320	Bromodichloromethane	ND	32
Acrylonitrile	ND	320	2-Chloroethylvinylether	ND	64
Chloromethane	ND	64	2-Hexanone	ND	64
Bromomethane	ND	64	trans-1,3-Dichloropropene	ND	32
Vinyl Chloride	ND	64	Toluene	ND	32
Chloroethane	ND	64	cis-1,3-Dichloropropene	ND	32
Acetone	150 B	64	1,1,2,2-Tetrachloroethane	ND	32
1,1-Dichloroethene	ND	32	1,1,2-Trichloroethane	ND	32
Carbon Disulfide	ND	64	4-Methyl-2-pentanone	ND	64
Methylene Chloride	ND	32	Tetrachloroethene	ND	32
1,2-Dichloroethene(trans)	ND	32	Dibromochloromethane	ND	32
1,1-Dichloroethane	ND	32	Chlorobenzene	ND	32
Vinyl Acetate	ND	32	Ethylbenzene	ND	32
2-Butanone	ND	64	m&p-Xylenes	ND	32
Chloroform	ND	32	o-Xylene	ND	32
1,1,1-Trichloroethane	ND	32	Styrene	ND	32
Carbon Tetrachloride	ND	32	Bromoform	ND	32
1,2-Dichloroethane	ND	32	m-Dichlorobenzene	ND	32
Benzene	ND	32	p-Dichlorobenzene	ND	32
Trichloroethene	ND	32	o-Dichlorobenzene	ND	32
1,2-Dichloropropane	ND	32			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	99.6	70 - 121	OK
Toluene-d8	95.4	81 - 117	OK
Bromofluorobenzene	91.7	74 - 121	OK

Percent Solid of 78.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE A 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) SOIL

Lab Sample ID: A5586

Sample wt/vol: 1 (g/mL) g

Lab File ID: >A4635

Level: LOW

Date Received: 12/10/93

% Moisture: 22

Date Analyzed 12/13/93

Column: CAP

Dilution Factor: 5

Number TICs Found 19

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	16883480	Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.	13.06	56
2	15890401	Cyclopentane, 1,2,3-trimethyl-, (1.alpha.,2.	13.30	64
3	590669	Cyclohexane, 1,1-dimethyl- (8CI9CI)	14.57	47
4	6876239	Cyclohexane, 1,2-dimethyl-, trans- (8CI9CI)	14.89	140
5	2207036	Cyclohexane, 1,3-dimethyl-, trans- (8CI9CI)	15.08	65
6	3073663	Cyclohexane, 1,1,3-trimethyl- (8CI9CI)	15.99	270
7	13427435	1-Hexene, 3,3,5-trimethyl- (9CI)	16.20	58
8	1795262	Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.a	16.38	120
9	6086222	1H-1,2,4-Triazole, 1-butyl- (8CI9CI)	17.19	44
10	6236880	Cyclohexane, 1-ethyl-4-methyl-, trans- (8CI9	17.31	210
11	53941198	2-Hexene, 3,4,4-trimethyl- (9CI)	17.88	230
12	2051301	Octane, 2,6-dimethyl- (8CI9CI)	18.16	53
13	3868642	Pentalene, octahydro-2-methyl- (8CI9CI)	18.33	65
14	74511516	1-Octene, 3,3-dimethyl- (9CI)	19.28	140
15	16580248	Cyclohexane, 1-methyl-3-(1-methylethyl)- (9C	19.51	60
16	489203	Cyclopentane, 1,2-dimethyl-3-(1-methylethyl)	19.67	83
17	91178	Naphthalene, decahydro- (8CI9CI)	21.80	120
18	767588	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	22.66	50
19	54564317	Tricyclo[3.3.1.13,7]decane, 2-nitro- (9CI)	23.00	82

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5587	DILUTION FACTOR	125.00
CLIENT ID	SITE B 3.5'-4.0' BLDG 2908	COMMENTS	HNU ND
DATA FILE	>A4636	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	8200	Bromodichloromethane	ND	820
Acrylonitrile	ND	8200	2-Chloroethylvinylether	ND	1600
Chloromethane	ND	1600	2-Hexanone	ND	1600
Bromomethane	ND	1600	trans-1,3-Dichloropropene	ND	820
Vinyl Chloride	ND	1600	Toluene	ND	820
Chloroethane	ND	1600	cis-1,3-Dichloropropene	ND	820
Acetone	720 JB	1600	1,1,2,2-Tetrachloroethane	ND	820
1,1-Dichloroethene	ND	820	1,1,2-Trichloroethane	ND	820
Carbon Disulfide	ND	1600	4-Methyl-2-pentanone	ND	1600
Methylene Chloride	ND	820	Tetrachloroethene	ND	820
1,2-Dichloroethene(trans)	ND	820	Dibromochloromethane	ND	820
1,1-Dichloroethane	ND	820	Chlorobenzene	ND	820
Vinyl Acetate	ND	820	Ethylbenzene	ND	820
2-Butanone	ND	1600	m&p-Xylenes	ND	820
Chloroform	ND	820	o-Xylene	ND	820
1,1,1-Trichloroethane	ND	820	Styrene	ND	820
Carbon Tetrachloride	ND	820	Bromoform	ND	820
1,2-Dichloroethane	ND	820	m-Dichlorobenzene	ND	820
Benzene	ND	820	p-Dichlorobenzene	ND	820
Trichloroethene	ND	820	o-Dichlorobenzene	ND	820
1,2-Dichloropropane	ND	820			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	97.7	70 - 121	OK
Toluene-d8	102	81 - 117	OK
Bromofluorobenzene	99.0	74 - 121	OK

Percent Solid of 76.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

EPA SAMPLE NUMBER

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SITE B 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) SOIL

Lab Sample ID: A5587

Sample wt/vol: .04 (g/mL) g

Lab File ID: >A4636

Level: MED

Date Received: 12/10/93

% Moisture: 24

Date Analyzed 12/13/93

Column: CAP

Dilution Factor: 125

Number TICs Found 19

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CON
1	13630610	2,5-Cyclohexadien-1-ol, 4-methyl-4-(trichlor	12.65	3000
2	16883480	Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.	13.06	1600
3	464062	Butane, 2,2,3-trimethyl- (8CI9CI)	13.88	1800
4	6876239	Cyclohexane, 1,2-dimethyl-, trans- (8CI9CI)	14.89	2900
5	624293	Cyclohexane, 1,4-dimethyl-, cis- (8CI9CI)	15.09	1800
6	1072055	Heptane, 2,6-dimethyl- (8CI9CI)	15.40	1700
7	3073663	Cyclohexane, 1,1,3-trimethyl- (8CI9CI)	15.98	4600
8	922281	Heptane, 3,4-dimethyl- (8CI9CI)	16.21	1400
9	1795262	Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.a	16.37	3400
10	2216333	Octane, 3-methyl- (8CI9CI)	16.57	1700
11	124118	1-Nonene (8CI9CI)	17.19	2000
12	6236880	Cyclohexane, 1-ethyl-4-methyl-, trans- (8CI9	17.31	1700
13	34379549	Furan, 2,3-dihydro-4-(1-methylpropyl)-, (S)-	17.88	4100
14	15869940	Octane, 3,6-dimethyl- (8CI9CI)	18.15	1700
15	32669866	Cyclohexane, cyclopropyl- (8CI)	18.32	2100
16	1678928	Cyclohexane, propyl- (8CI9CI)	18.42	4600
17	4057425	2-Octene, 2,6-dimethyl- (8CI9CI)	19.27	2400
18	29053041	Cyclopentane, 1-methyl-3-(2-methylpropyl)- (	19.66	2100
19	91178	Naphthalene, decahydro- (8CI9CI)	21.80	1600

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5588	DILUTION FACTOR	5.00
CLIENT ID	SITE C 3.5'-4.0' BLDG 2908	COMMENTS	HNU 250
DATA FILE	>A4637	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	340	Bromodichloromethane	ND	34
Acrylonitrile	ND	340	2-Chloroethylvinylether	ND	68
Chloromethane	ND	68	2-Hexanone	ND	68
Bromomethane	ND	68	trans-1,3-Dichloropropene	ND	34
Vinyl Chloride	ND	68	Toluene	ND	34
Chloroethane	ND	68	cis-1,3-Dichloropropene	ND	34
Acetone	390 B	68	1,1,2,2-Tetrachloroethane	ND	34
1,1-Dichloroethene	ND	34	1,1,2-Trichloroethane	ND	34
Carbon Disulfide	ND	68	4-Methyl-2-pentanone	ND	68
Methylene Chloride	ND	34	Tetrachloroethene	ND	34
1,2-Dichloroethene(trans)	ND	34	Dibromochloromethane	ND	34
1,1-Dichloroethane	ND	34	Chlorobenzene	ND	34
Vinyl Acetate	ND	34	Ethylbenzene	150	34
2-Butanone	ND	68	m&p-Xylenes	100	34
Chloroform	ND	34	o-Xylene	ND	34
1,1,1-Trichloroethane	ND	34	Styrene	ND	34
Carbon Tetrachloride	ND	34	Bromoform	ND	34
1,2-Dichloroethane	ND	34	m-Dichlorobenzene	ND	34
Benzene	ND	34	p-Dichlorobenzene	ND	34
Trichloroethene	ND	34	o-Dichlorobenzene	ND	34
1,2-Dichloropropane	ND	34			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	99.2	70 - 121	OK
Toluene-d8	111	81 - 117	OK
Bromofluorobenzene	121	74 - 121	OK

Percent Solid of 73.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE C 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) SOIL

Lab Sample ID: A5588

Sample wt/vol: 1 (g/mL) g

Lab File ID: >A4637

Level: LOW

Date Received: 12/10/93

% Moisture: 27

Date Analyzed 12/13/93

Column: CAP

Dilution Factor: 5

Number TICs Found 20

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	592278	Heptane, 2-methyl- (8CI9CI)	13.64	1400
2	111659	Octane (DOT)(8CI9CI)	14.61	1300
3	4840760	Cyclohexanecarboxylic acid, ethenyl ester (9	15.89	750
4	921471	Hexane, 2,3,4-trimethyl- (8CI9CI)	16.37	1500
5	17302339	Undecane, 6-methyl- (8CI9CI)	16.57	1100
6	53941198	2-Hexene, 3,4,4-trimethyl- (9CI)	17.89	1300
7	3868642	Pentalene, octahydro-2-methyl- (8CI9CI)	18.32	850
8	1678928	Cyclohexane, propyl- (8CI9CI)	18.42	1800
9	108678	Benzene, 1,3,5-trimethyl- (9CI)	19.70	3200
10	622968	Benzene, 1-ethyl-4-methyl- (9CI)	20.41	2500
11	535773	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	20.88	1100
12	135988	Benzene, (1-methylpropyl)- (9CI)	21.59	2300
13	933982	Benzene, 1-ethyl-2,3-dimethyl- (9CI)	21.71	3000
14	527844	Benzene, 1-methyl-2-(1-methylethyl)- (9CI)	22.29	1800
15	2870044	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	22.43	1200
16	767588	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	22.68	2200
17	874419	Benzene, 1-ethyl-2,4-dimethyl- (9CI)	23.02	820
18	488233	Benzene, 1,2,3,4-tetramethyl- (8CI9CI)	23.28	1000
19	2050240	Benzene, 1,3-diethyl-5-methyl- (9CI)	23.45	970
20	768003	Benzene, (1-methyl-1-propenyl)-, (E)- (9CI)	23.82	880

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5589	DILUTION FACTOR	1.00
CLIENT ID	SITE O 3.5'-4.0' BLDG 2908	COMMENTS	HNU ND
DATA FILE	>A4638	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	70	Bromodichloromethane	ND	7
Acrylonitrile	ND	70	2-Chloroethylvinylether	ND	14
Chloromethane	ND	14	2-Hexanone	ND	14
Bromomethane	ND	14	trans-1,3-Dichloropropene	ND	7
Vinyl Chloride	ND	14	Toluene	ND	7
Chloroethane	ND	14	cis-1,3-Dichloropropene	ND	7
Acetone	150 B	14	1,1,2,2-Tetrachloroethane	ND	7
1,1-Dichloroethene	ND	7	1,1,2-Trichloroethane	ND	7
Carbon Disulfide	ND	14	4-Methyl-2-pentanone	ND	14
Methylene Chloride	ND	7	Tetrachloroethene	ND	7
1,2-Dichloroethene(trans)	ND	7	Dibromochloromethane	ND	7
1,1-Dichloroethane	ND	7	Chlorobenzene	ND	7
Vinyl Acetate	ND	7	Ethylbenzene	ND	7
2-Butanone	ND	14	m&p-Xylenes	ND	7
Chloroform	ND	7	o-Xylene	ND	7
1,1,1-Trichloroethane	ND	7	Styrene	ND	7
Carbon Tetrachloride	ND	7	Bromoform	ND	7
1,2-Dichloroethane	ND	7	m-Dichlorobenzene	ND	7
Benzene	ND	7	p-Dichlorobenzene	ND	7
Trichloroethene	ND	7	o-Dichlorobenzene	ND	7
1,2-Dichloropropane	ND	7			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	89.7	70 - 121	OK
Toluene-d8	97.0	81 - 117	OK
Bromofluorobenzene	93.1	74 - 121	OK

Percent Solid of 71.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE D 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) SOIL

Lab Sample ID: A5589

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A4638

Level: LOW

Date Received: 12/10/93

% Moisture: 29

Date Analyzed 12/13/93

Column: CAP

Dilution Factor: 1

Number TICs Found 19

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	589537	Heptane, 4-methyl- (8CI9CI)	13.83	7
2	2207036	Cyclohexane, 1,3-dimethyl-, trans- (8CI9CI)	15.02	14
3	624293	Cyclohexane, 1,4-dimethyl-, cis- (8CI9CI)	15.22	7
4	1072055	Heptane, 2,6-dimethyl- (8CI9CI)	15.53	10
5	7667609	Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,2.b	16.11	23
6	26445818	Thiophene, tetrahydrodimethyl-, 1,1-dioxide	16.33	7
7	1795273	Cyclohexane, 1,3,5-trimethyl-, (1.alpha.,3.a	16.50	17
8	14339232	2-Pyrazoline, 5-ethyl-1,4-dimethyl- (8CI)	18.01	20
9	15869940	Octane, 3,6-dimethyl- (8CI9CI)	18.27	15
10	3868642	Pentalene, octahydro-2-methyl- (8CI9CI)	18.43	14
11	14676290	Heptane, 3-ethyl-2-methyl- (8CI9CI)	18.54	24
12	15869928	Octane, 3,4-dimethyl- (8CI9CI)	18.84	14
13	2471832	1H-Indene, 1-ethylidene- (9CI)	19.75	170
14	90120	Naphthalene, 1-methyl- (8CI9CI)	20.87	82
15	91178	Naphthalene, decahydro- (8CI9CI)	21.91	13
16	25155151	Benzene, methyl(1-methylethyl)- (9CI)	22.53	8
17	767588	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	22.78	15
18	74685566	Cyclopropane, (2-methylenebutyl)- (9CI)	23.12	20
19	20379991	2H-Inden-2-one, octahydro-3a-methyl-, trans-	23.52	11

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5590	DILUTION FACTOR	1.00
CLIENT ID	SITE E 3.5'-4.0' BLDG 2908	COMMENTS	HNU ND
DATA FILE	>A4639	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	64	Bromodichloromethane	ND	6
Acrylonitrile	ND	64	2-Chloroethylvinylether	ND	13
Chloromethane	ND	13	2-Hexanone	ND	13
Bromomethane	ND	13	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND	13	Toluene	ND	6
Chloroethane	ND	13	cis-1,3-Dichloropropene	ND	6
Acetone	150 B	13	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	13	4-Methyl-2-pentanone	ND	13
Methylene Chloride	ND	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	ND	6
2-Butanone	20	13	m&p-Xylenes	5.1 J	6
Chloroform	ND	6	o-Xylene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	93.7	70 - 121	OK
Toluene-d8	97.6	81 - 117	OK
Bromofluorobenzene	101	74 - 121	OK

Percent Solid of 78.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

EPA SAMPLE NUMBER

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SITE E 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ Client ID: BLDG 2908

Matrix: (soil/water) SOIL Lab Sample ID: A5590

Sample wt/vol: 5 (g/mL) g Lab File ID: >A4639

Level: LOW Date Received: 12/10/93

% Moisture: 22 Date Analyzed 12/13/93

Column: CAP Dilution Factor: 1

Number TICs Found 19 CONCENTRATION UNITS (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	15869939	Octane, 3,5-dimethyl- (8CI9CI)	17.88	40
2	2051301	Octane, 2,6-dimethyl- (8CI9CI)	18.13	37
3	3868642	Pentalene, octahydro-2-methyl- (8CI9CI)	18.31	21
4	52896874	Heptane, 4-(1-methylethyl)- (9CI)	18.40	55
5	15869928	Octane, 3,4-dimethyl- (8CI9CI)	18.71	24
6	16491159	Cyclopentene, 1,5-dimethyl- (8CI9CI)	19.52	21
7	4291796	Cyclohexane, 1-methyl-2-propyl- (8CI9CI)	19.67	36
8	2847725	Decane, 4-methyl- (8CI9CI)	20.24	42
9	622968	Benzene, 1-ethyl-4-methyl- (9CI)	20.40	53
10	32064781	5-Octen-4-one, 7-methyl- (8CI9CI)	20.69	41
11	300572	Benzene, 2-propenyl- (9CI)	21.59	40
12	141935	Benzene, 1,3-diethyl- (9CI)	21.71	29
13	91178	Naphthalene, decahydro- (8CI9CI)	21.80	47
14	535773	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	22.30	32
15	2870044	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	22.43	45
16	767588	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	22.69	88
17	2958761	Naphthalene, decahydro-2-methyl- (8CI9CI)	23.02	74
18	527537	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	23.29	31
19	20440215	Bicyclo[4.3.1]decan-10-one (8CI9CI)	23.42	62

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5591	DILUTION FACTOR	1.00
CLIENT ID	SITE F 3.5'-4.0' BLDG 290B	COMMENTS	HNU ND
DATA FILE	>A4640	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	59	Bromodichloromethane	ND	6
Acrylonitrile	ND	59	2-Chloroethylvinylether	ND	12
Chloromethane	ND	12	2-Hexanone	ND	12
Bromomethane	ND	12	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND	12	Toluene	ND	6
Chloroethane	ND	12	cis-1,3-Dichloropropene	ND	6
Acetone	92 B	12	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	12	4-Methyl-2-pentanone	ND	12
Methylene Chloride	ND	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	ND	6
2-Butanone	8.1 J	12	m&p-Xylenes	ND	6
Chloroform	ND	6	o-Xylene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	96.9	70 - 121	OK
Toluene-d8	98.6	81 - 117	OK
Bromofluorobenzene	101	74 - 121	OK

Percent Solid of 85.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

EPA SAMPLE NUMBER

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SITE F 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 290B

Matrix: (soil/water) SOIL

Lab Sample ID: A5591

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A4640

Level: LOW

Date Received: 12/10/93

% Moisture: 15

Date Analyzed 12/13/93

Column: CAP

Dilution Factor: 1

Number TICs Found 2

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	124185	Decane (8CI9CI)	19.67	14
2	74630527	3-Undecene, 6-methyl-, (E)- (9CI)	21.92	4

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5592	DILUTION FACTOR	1.00
CLIENT ID	SITE G 3.5'-4.0' BLDG 2908	COMMENTS	HNU ND
DATA FILE	>A4641	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	61	Bromodichloromethane	ND	6
Acrylonitrile	ND	61	2-Chloroethylvinylether	ND	12
Chloromethane	ND	12	2-Hexanone	ND	12
Bromomethane	ND	12	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND	12	Toluene	ND	6
Chloroethane	ND	12	cis-1,3-Dichloropropene	ND	6
Acetone	120 B	12	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	12	4-Methyl-2-pentanone	ND	12
Methylene Chloride	ND	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	ND	6
2-Butanone	12 J	12	m&p-Xylenes	ND	6
Chloroform	ND	6	o-Xylene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	97.9	70 - 121	OK
Toluene-d8	98.0	81 - 117	OK
Bromofluorobenzene	95.9	74 - 121	OK

Percent Solid of 82.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE G 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) SOIL

Lab Sample ID: A5592

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A4641

Level: LOW

Date Received: 12/10/93

% Moisture: 18

Date Analyzed 12/13/93

Column: CAP

Dilution Factor: 1

Number TICs Found 16

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	6876239	Cyclohexane, 1,2-dimethyl-, trans- (8CI9CI)	14.87	6
2	1072055	Heptane, 2,6-dimethyl- (8CI9CI)	15.38	6
3	926829	Heptane, 3,5-dimethyl- (8CI9CI)	15.59	5
4	3073663	Cyclohexane, 1,1,3-trimethyl- (8CI9CI)	15.96	15
5	7667609	Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,2.b	16.35	7
6	53941198	2-Hexene, 3,4,4-trimethyl- (9CI)	17.27	6
7	4926903	Cyclohexane, 1-ethyl-1-methyl- (8CI9CI)	17.86	21
8	17312559	Decane, 3,8-dimethyl- (8CI9CI)	18.11	13
9	3868642	Pentalene, octahydro-2-methyl- (8CI9CI)	18.30	9
10	1678928	Cyclohexane, propyl- (8CI9CI)	18.39	21
11	464062	Butane, 2,2,3-trimethyl- (8CI9CI)	18.69	7
12	16580248	Cyclohexane, 1-methyl-3-(1-methylethyl)- (9C	19.46	7
13	4291809	Cyclohexane, 1-methyl-3-propyl- (8CI9CI)	19.63	11
14	91178	Naphthalene, decahydro- (8CI9CI)	21.78	11
15	66929906	Tricyclo[3.2.1.02,4]oct-6-ene, 8-methylene-,	22.64	7
16	98544	Phenol, 4-(1,1-dimethylethyl)- (9CI)	22.97	5

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5593	DILUTION FACTOR	1.00
CLIENT ID	SITE H 3.5'-4.0' BLDG 290B	COMMENTS	HNU ND
DATA FILE	>A4642	DATE ANALYZED	12/13/93

COMPOUND	UG/KG		MDL	COMPOUND	UG/KG	MDL
Acrolein	ND		64	Bromodichloromethane	ND	6
Acrylonitrile	ND		64	2-Chloroethylvinylether	ND	13
Chloromethane	ND		13	2-Hexanone	ND	13
Bromomethane	ND		13	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND		13	Toluene	ND	6
Chloroethane	ND		13	cis-1,3-Dichloropropene	ND	6
Acetone	220	B	13	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND		6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND		13	4-Methyl-2-pentanone	ND	13
Methylene Chloride	ND		6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND		6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND		6	Chlorobenzene	ND	6
Vinyl Acetate	ND		6	Ethylbenzene	ND	6
2-Butanone	ND		13	m&p-Xylenes	ND	6
Chloroform	ND		6	o-Xylene	ND	6
1,1,1-Trichloroethane	ND		6	Styrene	ND	6
Carbon Tetrachloride	ND		6	Bromoform	ND	6
1,2-Dichloroethane	ND		6	m-Dichlorobenzene	ND	6
Benzene	ND		6	p-Dichlorobenzene	ND	6
Trichloroethene	ND		6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND		6			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	96.9	70 - 121	OK
Toluene-d8	98.1	81 - 117	OK
Bromofluorobenzene	91.0	74 - 121	OK

Percent Solid of 78.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE H 3.5'-4'

Client Name: US ARMY FT. MONMOUTH, NJ Client ID: BLDG 2908

Matrix: (soil/water) SOIL Lab Sample ID: A5593

Sample wt/vol: 5 (g/mL) g Lab File ID: >A4642

Level: LOW Date Received: 12/10/93

% Moisture: 22 Date Analyzed 12/13/93

Column: CAP Dilution Factor: 1

Number TICs Found 19 CONCENTRATION UNITS (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	4516692	Cyclopentane, 1,1,3-trimethyl- (8CI9CI)	12.62	17
2	16883480	Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.	13.07	14
3	1632162	Heptane, 3-methylene- (9CI)	13.31	15
4	583482	Hexane, 3,4-dimethyl- (8CI9CI)	13.88	13
5	590669	Cyclohexane, 1,1-dimethyl- (8CI9CI)	14.58	13
6	6876239	Cyclohexane, 1,2-dimethyl-, trans- (8CI9CI)	14.89	28
7	2207036	Cyclohexane, 1,3-dimethyl-, trans- (8CI9CI)	15.09	15
8	1072055	Heptane, 2,6-dimethyl- (8CI9CI)	15.38	13
9	2216300	Heptane, 2,5-dimethyl- (8CI9CI)	15.60	14
10	69687850	2-Cyclopenten-1-one, 3-amino-2-methyl- (9CI)	15.97	46
11	110894	Piperidine (8CI9CI)	16.20	13
12	7667609	Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,2.b	16.36	27
13	4926787	Cyclohexane, 1-ethyl-4-methyl-, cis- (8CI9CI	17.30	14
14	26964498	1H-Pyrazole, 4,5-dihydro-3-methyl-1-propyl-	17.87	46
15	4579311	Cyclobutanone, 2-(1,1-dimethylethyl)- (9CI)	18.41	24
16	16580248	Cyclohexane, 1-methyl-3-(1-methylethyl)- (9C	19.49	13
17	54063091	Diisoamylene (9CI)	19.78	13
18	91178	Naphthalene, decahydro- (8CI9CI)	21.80	22
19	54564317	Tricyclo[3.3.1.13,7]decane, 2-nitro- (9CI)	23.02	17

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Soil
SAMPLE NUMBER	A5594	DILUTION FACTOR	1.00
CLIENT ID	SITE I 3.5'-4.0' BLDG 290B	COMMENTS	HNU ND
DATA FILE	>A4643	DATE ANALYZED	12/13/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	60	Bromodichloromethane	ND	6
Acrylonitrile	ND	60	2-Chloroethylvinylether	ND	12
Chloromethane	ND	12	2-Hexanone	ND	12
Bromomethane	ND	12	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND	12	Toluene	ND	6
Chloroethane	ND	12	cis-1,3-Dichloropropene	ND	6
Acetone	84 B	12	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	12	4-Methyl-2-pentanone	ND	12
Methylene Chloride	ND	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	ND	6
2-Butanone	7.4 J	12	m&p-Xylenes	ND	6
Chloroform	ND	6	o-Xylene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	99.1	70 - 121	OK
Toluene-d8	99.3	81 - 117	OK
Bromofluorobenzene	99.5	74 - 121	OK

Percent Solid of 83.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SITE I 3.5'-4'

Lab Name:21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) WATER

Lab Sample ID: A5594

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A4643

Level: (low/med) LOW

Date Received: 12/10/93

% Moisture: 17

Date Analyzed: 12/13/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

FORM I VOA-TIC 1/87 Re

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A5595	DILUTION FACTOR	1.00
CLIENT ID	BLDG 2908 TRIP BLANK	COMMENTS	HNU NA
DATA FILE	>A4612	DATE ANALYZED	12/11/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Chloromethane	ND	10	2-Chloroethylvinylether	ND	10
Bromomethane	ND	10	2-Hexanone	ND	10
Vinyl Chloride	ND	10	trans-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	Toluene	ND	5
Acrolein	ND	50	cis-1,3-Dichloropropene	ND	5
Acetone	5.1 JB	10	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	10	4-Methyl-2-pentanone	ND	10
Acrylonitrile	ND	50	Tetrachloroethene	ND	5
Methylene Chloride	3.0 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Bromodichloromethane	ND	5
1,2 Dichloropropane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	90.3	76 - 114	OK
Toluene-d8	107	88 - 110	OK
Bromofluorobenzene	101	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected
(D) Indicates calculated from dilution

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TRIP BLANK

Lab Name:21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) WATER

Lab Sample ID: A5595

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A4612

Level: (low/med) LOW

Date Received: 12/10/93

% Moisture: NA

Date Analyzed: 12/11/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

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21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A5596	DILUTION FACTOR	1.00
CLIENT ID	BLDG 2908 FIELD BLANK	COMMENTS	HNU NA
DATA FILE	>A4613	DATE ANALYZED	12/11/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Chloromethane	ND	10	2-Chloroethylvinylether	ND	10
Bromomethane	ND	10	2-Hexanone	ND	10
Vinyl Chloride	ND	10	trans-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	Toluene	ND	5
Acrolein	ND	50	cis-1,3-Dichloropropene	ND	5
Acetone	7.2 JB	10	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	10	4-Methyl-2-pentanone	ND	10
Acrylonitrile	ND	50	Tetrachloroethene	ND	5
Methylene Chloride	4.3 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Bromodichloromethane	ND	5
1,2 Dichloropropane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	96.7	76 - 114	OK
Toluene-d8	101	88 - 110	OK
Bromofluorobenzene	99.0	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected
(D) Indicates calculated from dilution

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD BLANK

Lab Name:21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2908

Matrix: (soil/water) WATER

Lab Sample ID: A5596

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A4613

Level: (low/med) LOW

Date Received: 12/10/93

% Moisture: NA

Date Analyzed: 12/11/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

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