

United States Army
Fort Monmouth, New Jersey

COPY

Underground Storage Tank Closure and Site Investigation Report

***Building 812
Main Post-West Area***

NJDEP UST Registration No. 0081533-133

September 1998

**UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT**

BUILDING 812

**MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 0081533-133**

SEPTEMBER 1998

PREPARED FOR:

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

PREPARED BY:

**SMC ENVIRONMENTAL SERVICES GROUP
501 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406**

PROJECT NO. 2491-308

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iv
1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES	1
1.1 OVERVIEW	1
1.2 SITE DESCRIPTION	2
1.2.1 Geological/Hydrogeological Setting	2
1.3 HEALTH AND SAFETY	4
1.4 REMOVAL OF UNDERGROUND STORAGE TANK	4
1.4.1 General Procedures	4
1.4.2 Underground Storage Tank Excavation and Cleaning	4
1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL	5
1.6 MANAGEMENT OF EXCAVATED SOILS	5
2.0 SITE INVESTIGATION ACTIVITIES	6
2.1 OVERVIEW	6
2.2 FIELD SCREENING/MONITORING	6
2.3 SOIL SAMPLING	7
3.0 CONCLUSIONS AND RECOMMENDATIONS	8
3.1 SOIL SAMPLING RESULTS	8
3.2 CONCLUSIONS AND RECOMMENDATIONS	8

TABLE OF CONTENTS (CONTINUED)

TABLES

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

FIGURES

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Cross Sectional View
Figure 4	Soil Sampling Location Map

APPENDICES

Appendix A	NJDEP Standard Reporting Form
Appendix B	Site Assessment Summary
Appendix C	Waste Manifest
Appendix D	UST Disposal Certificate
Appendix E	Soil Analytical Data Package
Appendix F	Photographs

EXECUTIVE SUMMARY

UST Closure

On April 27, 1998, a fiberglass underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) underground storage tank procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-133 (Fort Monmouth ID No. 812), was located east of Building 812. UST No. 0081533-133 was a 2,000-gallon No. 2 fuel oil UST.

Site Assessment

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, the UST was inspected for corrosion holes or punctures. No holes or punctures were noted in the UST and no evidence of potentially contaminated soils was observed surrounding the tank. Groundwater was not encountered. Samples contained TPHC concentrations ranging from non-detect to 240.49 mg/kg.

Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with crushed stone, sand, and native backfill and restored to its original condition.

Conclusions and Recommendations

Based on the post-excavation soil sampling results, soils with TPHC concentrations exceeding the NJDEP soil cleanup criteria for total organic contaminants of 10,000 mg/kg, do not exist in the former location of the UST or associated piping.

No further action is proposed in regard to the closure and site assessment of UST No. 0081533-133 at Building 812.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081533-133, was closed at Building 812 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on April 27, 1998. Refer to 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 UST was a fiberglass 2,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081533-133 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. 0081533-133 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The Standard Reporting Form and signed Site Assessment Summary form for UST No. 0081533-133 are included in Appendices A and B, respectively.

Based on inspecting the UST, field screening of subsurface soils and groundwater, and reviewing analytical results of collected soil 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 SMC Environmental Services Group, to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEP-BUST regulations. The applicable NJDEP-BUST 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 investigation, are presented in the final section of this report.

1.2 SITE DESCRIPTION

Building 812 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-133 was located east of Building 812 and appurtenant copper piping ran approximately six (6) feet southwest from the excavation to Building 812. 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 812. 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 (Zapcza, 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. Over 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 Zapcza, 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:

- X tidal influence (based on proximity to the Atlantic Ocean, rivers, and tributaries)
- X topography
- X nature of the fill material within the Main Post area
- X presence of clay and silt lenses in the natural overburden deposits
- X 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 812 located approximately 1000 feet south of Husky Brook, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 812 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

- X All underground obstructions (utilities, etc.) were identified by the contractor performing the closure prior to excavation activities.
- X All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.
- X 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.
- X 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.
- X 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 700 gallons of liquid from the UST and its associated piping were transported by Casie Protank and LORCO Petroleum Services. Refer to Appendix C for the waste manifest.

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP-BUST regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. No holes or punctures were observed during the inspection by the Sub-Surface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. No evidence of contamination was observed. Soil screening was also performed along the piping run associated with the UST closure. No contamination was noted anywhere along the piping length. Groundwater was not encountered. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported to Mazza and Sons, Inc., Metal Recyclers. See Appendix D for a copy of the UST disposal certificate and Appendix F for photographs of the UST. The transportation of the UST was in compliance with all applicable regulations and laws.

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

- X Site of origin
- X Contact person
- X NJDEP UST Facility ID number
- X Former contents

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and TPHC analysis results from the post-excavation soil samples, no soils exhibited signs of contamination. Therefore, the excavated soils were used as backfill following removal of the UST.

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-BUST 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. All records of the Site Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Site Investigation Activities:

- X Subsurface Evaluator: Charles Appleby
Employer: U.S. Army, Fort Monmouth
Phone Number: (732) 532-6224
NJDEP Certification No.: 2056
- X Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Phone Number: (908) 532-4359
NJDEP Company Certification No.: 13461
- X Hazardous Waste Hauler: Casie Protank Environmental Services
Contact Person: Bob Corsiglia
Phone Number: (609) 696-4401
NJDEP Hazardous Waste Hauler No.: 16931
- X Hazardous Waste Hauler: Lionetti Oil Recovery Co. Inc
Contact Person: Charles Clayton
Phone Number: (908) 721-0900
NJDEP Hazardous Waste Hauler No.: S6247

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 and appurtenant piping, as well as the UST excavation sidewalls and bottom, did not exhibit any evidence of potential contamination. Groundwater was not encountered.

2.3 SOIL SAMPLING

On April 28, 1998, following the removal of the UST, post-excavation soil samples A, B, C, D, E, F, and DUP C were collected from a total of six (6) locations of the UST excavation. Sidewall samples A, C and DUP C were collected at a depth of 7.0 feet bgs. Samples B, D, and E were collected along the centerline at a depth of 7.5 feet bgs. Sample F was collected along the former piping length of the excavation, which was approximately six (6) feet in length. The piping sample was collected at a depth of 1.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

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 UST, post-excavation soil samples were collected on April 28, 1998, from a total of six (6) locations. All samples were analyzed for TPHC and total solids. The post-excavation sampling results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling locations are shown on Figure 4. The analytical data package is provided in Appendix E.

All post-excavation soil samples collected on June 28, 1998, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Samples contained TPHC concentrations ranging from non-detect to 240.49 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 812 were below the NJDEP soil cleanup criteria for total organic contaminants.

Based on the post-excavation sampling results, soils with TPHC concentrations exceeding the NJDEP soil cleanup criteria for total organic contaminants of 10,000 mg/kg, do not exist in the former location of the UST or associated piping.

No further action is proposed in regard to the closure and site assessment of UST No. 0081533-133 at Building 812.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 812, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
A	4/28/98	4/29/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
B	4/28/98	4/29/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	4/28/98	4/29/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	4/28/98	4/29/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	4/28/98	4/29/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	4/28/98	4/29/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP C	4/28/98	4/29/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
 BUILDING 812, MAIN POST-WEST AREA
 FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/7.0=	3514.01	4/28/98	4/29/98	Total Solid	--	--	94.69	--	--
				TPHC	156	Yes	ND	10,000	No
B/7.5=	3514.02	4/28/98	4/29/98	Total Solid	--	--	89.31	--	--
				TPHC	165	Yes	ND	10,000	No
C/7.0=	3514.03	4/28/98	4/29/98	Total Solid	--	--	83.51	--	--
				TPHC	184	Yes	ND	10,000	No
D/7.5=	3514.04	4/28/98	4/29/98	Total Solid	--	--	85.44	--	--
				TPHC	180	Yes	240.49	10,000	No
E/7.5=	3514.05	4/28/98	4/29/98	Total Solid	--	--	84.44	--	--
				TPHC	185	Yes	ND	10,000	No
F/1.0=	3514.06	4/28/98	4/29/98	Total Solid	--	--	89.97	--	--
				TPHC	171	Yes	237.40	10,000	No
DUP C/7.0=	3514.07	4/28/98	4/29/98	Total Solid	--	--	82.04	--	--
				TPHC	181	Yes	ND	10,000	No

Note:

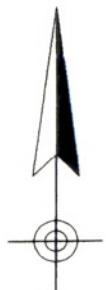
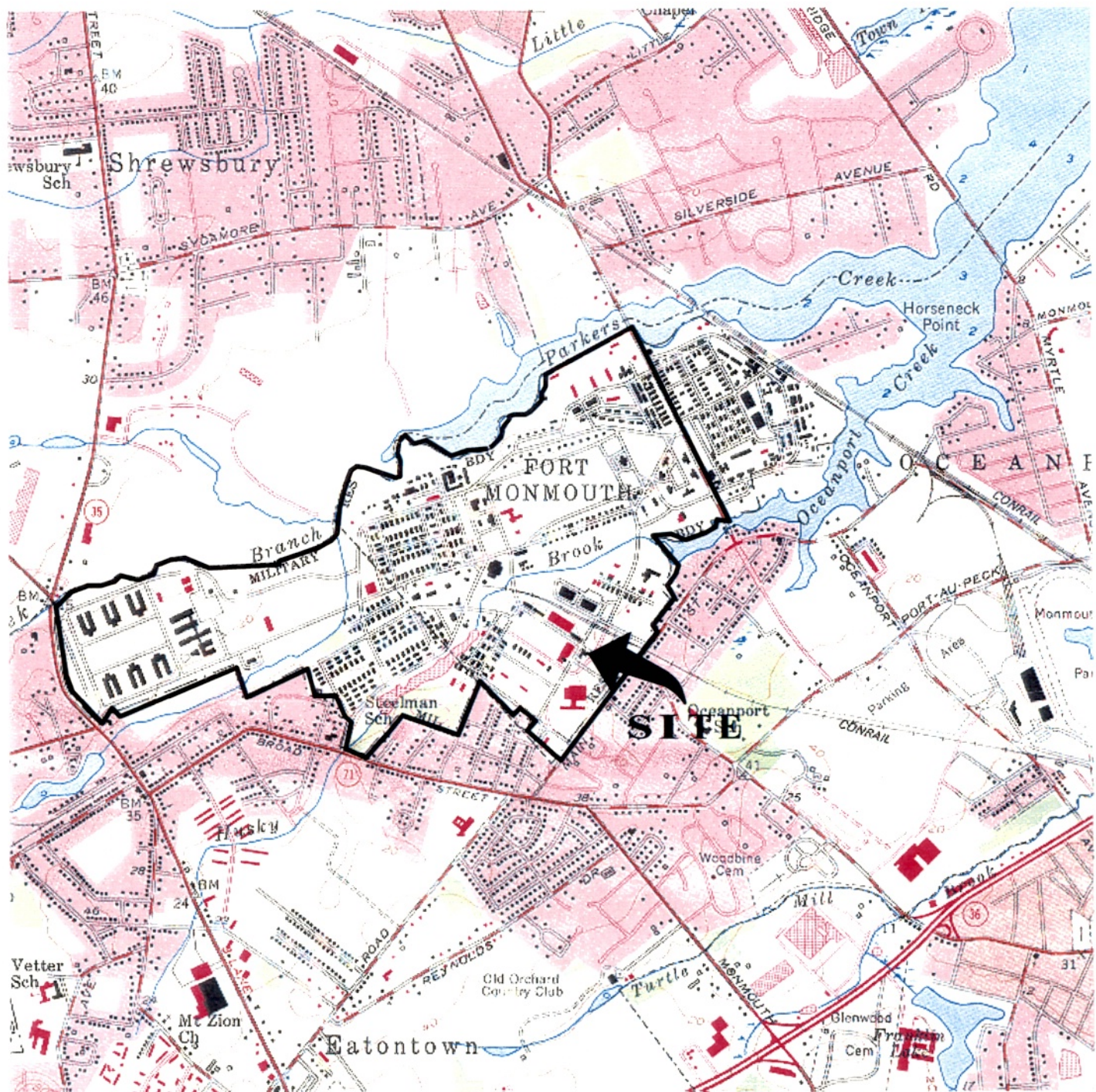
* Total Solid results are expressed as a percentage.

** NJDEP Residential Direct Contact soil cleanup criteria for total organics

-- Not detected above stated sample quantitation limit

TPHC Total Petroleum Hydrocarbons

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822



QUADRANGLE LOCATION

FIGURE 1

SITE LOCATION MAP

Building 812

Main Post-West

Fort Monmouth Army Base

Monmouth County, NJ



SMC Environmental

Services Group

Engineers, Managers, Scientists & Planners
Valley Forge, PA.

SCALE: 1"= 2000'

DATE: APRIL 1998

Mapped, edited and published by the Geological Survey

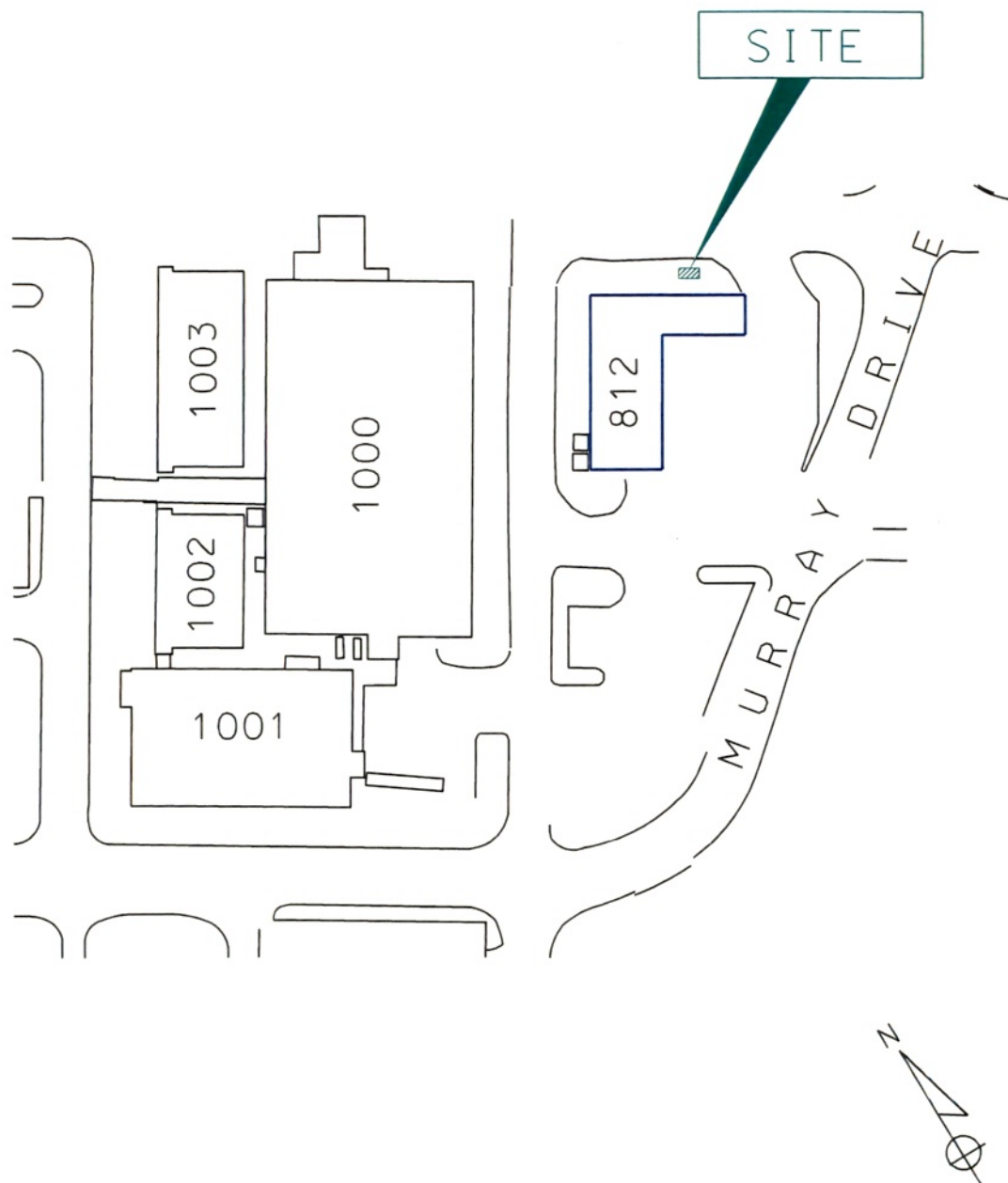


FIGURE 2
SITE MAP
BUILDING 812
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ



SMC ENVIRONMENTAL
SERVICES GROUP

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: 1"=100'

DATE: APRIL 1998

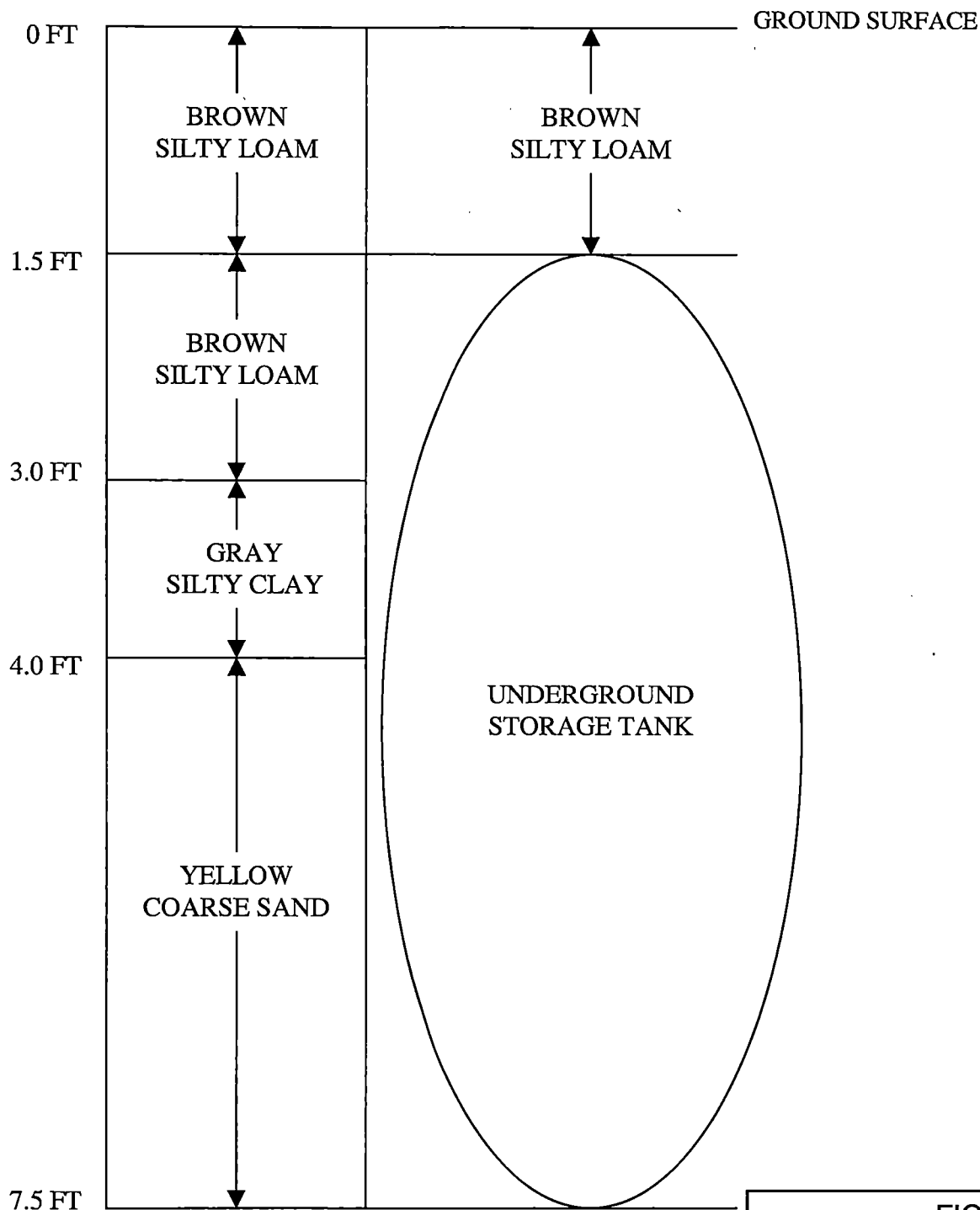


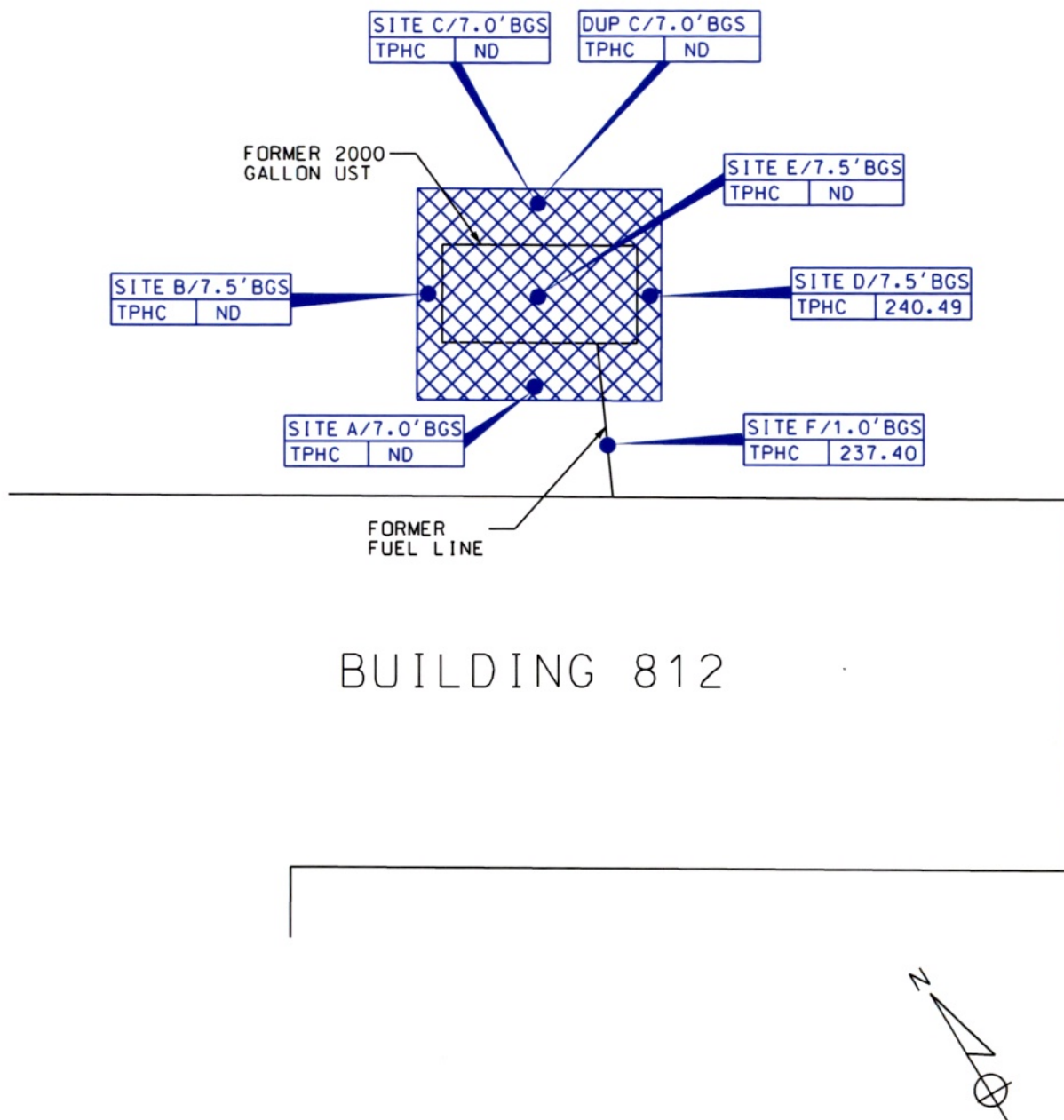
FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 812
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ



**SMC ENVIRONMENTAL
SERVICES GROUP**
Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: NTS

DATE: APRIL 1998



LEGEND

- SOIL SAMPLE LOCATION (APRIL 28, 1998)
- LIMIT OF EXCAVATION (APRIL 28, 1998)

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 812
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ



SMC ENVIRONMENTAL
SERVICES GROUP

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.

SCALE: 1"=10'

DATE: APRIL 1998

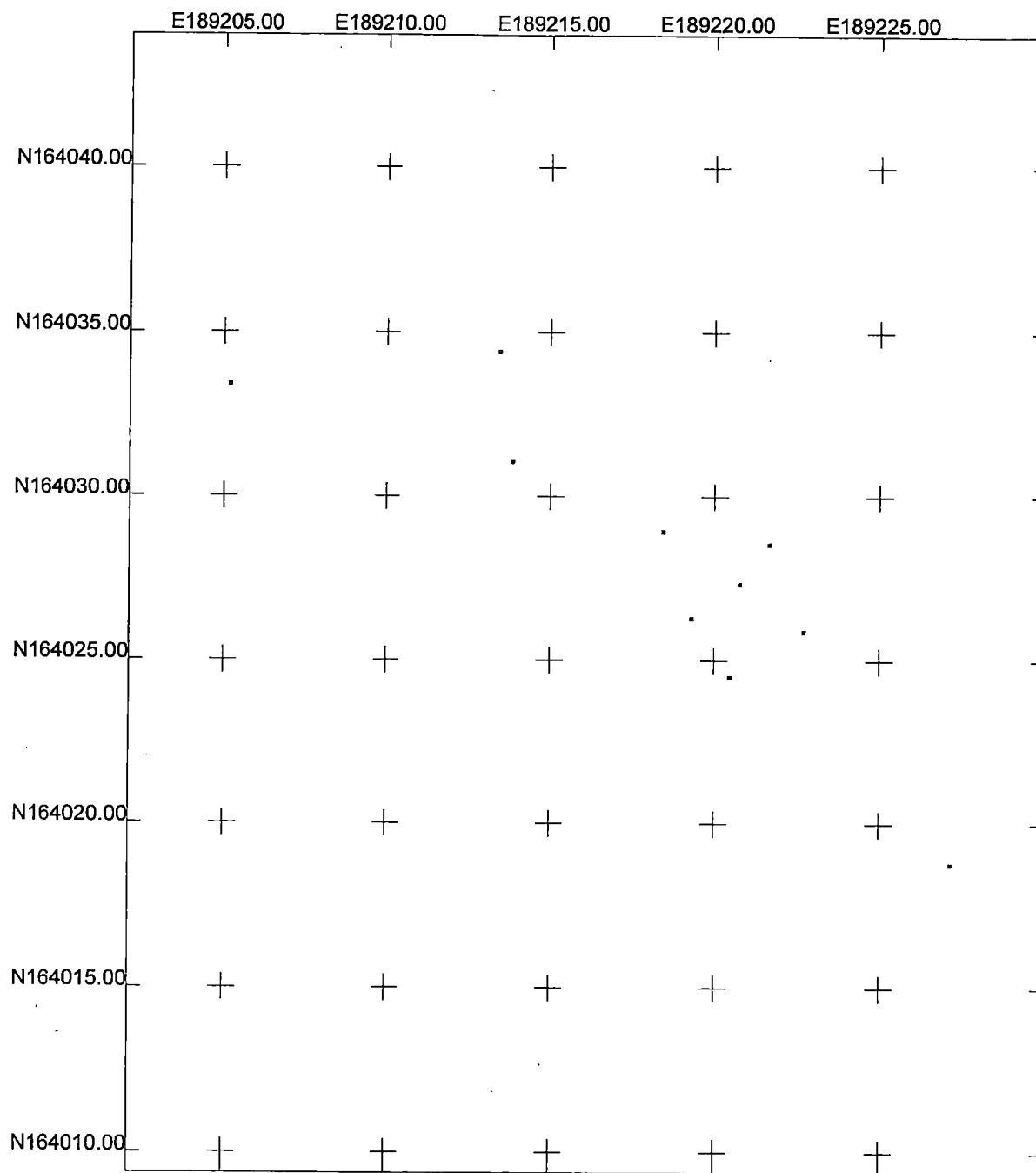


Figure 4 GPS Sampling Locations Map

US State Plane 1983
New Jersey (NY East) 2900
NAD 1983 (Conus)



Scale 1:200
0 6.000
Meters

r102719a.cor
12/7/1998
Pathfinder Office
 **Trimble**

Figure 4 GPS Sampling Location Point Data

US State Plane 1983 NJ (NY East) 2900 Nad 1983 (Conus)

Reference Points

<u>Loactions</u>	<u>Y Coord. (Northing)</u>	<u>X Coord. (Easting)</u>
812 BLDG E CORNER	164018.792	189227.099
812 BLDG N CORNER	164033.43	189205.161
AC UNIT	164031.068	189213.822
UTILITY POLE	164034.43	189213.416

Sample Points

<u>Loactions</u>	<u>Y Coord. (Northing)</u>	<u>X Coord. (Easting)</u>
812 A	164026.3	189219.295
812 B	164028.945	189218.438
812 C	164028.568	189221.623
812 D	164025.927	189222.681
812 E	164027.355	189220.733
812 F	164024.527	189220.446

APPENDIX A

NJDEP-STANDARD REPORTING FORM

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF APPLICABILITY AND COMPLIANCE
Registration and Billing Unit
CN 028, Trenton, N.J. 08625-0028
1-609-984-3156

FOR STATE USE ONLY

Check In ☐ Yes ☐ No

STATUS COMCODE
Active Inactive

☐ ☐ ☐ ☐

UNDERGROUND STORAGE TANK
FACILITY QUESTIONNAIRE

FACILITY UST # 81533

Bldg 810 Pho 810

COPY

Completion of this Registration Questionnaire will satisfy the 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? (This form must be filed at least 30 days prior to operation)
- B. ☐ Is this a registration of an existing underground storage tank not presently registered?
- C. ☒ Is this a correction or amendment to an existing facility registration? UST # 81533
- D. ☐ There have been no changes to the facility registration since last submittal. UST # _____ (Go to certification page for signatures)

If "C" is checked above, please check the appropriate type of change(s) below

- | | | |
|--|---|--|
| ☐ Facility Name and/or Address Change | ☐ Type of Product(s) Stored | ☐ Financial Responsibility Change |
| ☐ Owner Name and/or Address Change | ☐ Spills, Leaks, Releases | ☐ Substantial Modification(s) |
| ☐ Facility Operator and/or Address Change | ☐ Tank(s) and/or Piping Changes | ☐ Sale or Transfer (Complete Questions 4,5,6 & 13D) |
| ☐ Owner Contact Person Change | ☒ Closure (Complete Question #13) | ☐ Other (please specify) |

SECTION A - GENERAL FACILITY INFORMATION

1. Facility Name Fr. Marqueth
2. Facility Location Main Post West
- NUMBER AND STREET
- CITY OR MUNICIPALITY
- COUNTY N.J. STATE N.J. ZIP CODE 08625 BLOCK 01 LOT 01
3. Facility Operator _____ PERSON OR TITLE
- Contact Tele. No. _____ (Area Code) _____ (Extension)
- Operator Address (if different than #2)
- NUMBER AND STREET
- CITY OR MUNICIPALITY
- STATE N.J. ZIP CODE 08625
4. Tank Owner _____
5. Tank Owner Address
- NUMBER AND STREET
- CITY OR MUNICIPALITY
- STATE N.J. ZIP CODE 08625
- Contact Person (Tank Owner) _____
- Contact Tele. No. (Area Code) _____ (Extension)
7. EPA ID # ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
8. Total number of regulated underground storage tanks at facility ☐ ☐ ☐ (Complete Section B for each tank)

9. Total regulated underground storage tank capacity at facility (gallons) _____

10. Facility Type: A ☐ State ☐

10. Facility Type: A ☐ State C ☐ County/Municipal E ☐ Charitable / Public School
B ☐ Commercial/ D ☐ Federal F ☐ Residence
Industrial

G ☐ Other
H ☐ Farm (as defined in N.J.S.
54:4-23.1 et seq.)

11. Is a copy of the facility site plan submitted with this registration pursuant to N.J.A.C. 7:14B-2? ☐ YES ☐ NO

SECTION B - SPECIFIC TANK INFORMATION

ALL underground tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND PRIOR TO 9/3/86) must be registered. Report all tank/piping status changes unless previously submitted.

1. Tank Identification Number	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
2. CAS Number (hazardous substances only)					
3. Date Tank Installed (Month/Day/Year)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
4. Tank Size (gallons)					
5. Tank Contents (Mark one "X" for each tank)					
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. Motor oil					
N. Lubricating oil					
P. Sewage					
Q. Sewage sludge					
R. Other hazardous substances (specify)					
S. Hazardous waste (specify ID number)					
T. Mixtures (please specify)					
U. Emergency spill tank (specify substance)					
V. Other petroleum products (please specify)					
W. Other (please specify)					
6. Tank & Piping Construction (Mark one each for both tank & piping)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. Bare Steel					
B. Cathodically protected steel					
C. Fiberglass-coated steel					
D. Fiberglass-reinforced plastic					
E. Internally lined					
F. Other (please specify)					
7. Tank & Piping Structure (Mark one each for both tank & piping)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. Single wall					
B. Double wall					
C. Other (please specify)					
8. Type of Monitoring/Detection System (Mark all that apply for both tank & piping)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. Statistical Inventory Reconciliation					
B. Manual Tank Gauging					
C. Inventory Control					
D. Interstitial					
E. Precision Test					
F. Ground water observation wells					
G. Vapor observation wells					
H. In-tank (automatic) monitoring gauge					
J. Periodic Tank Test					

Tank Identification Number	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]
8. Type of Monitoring/Detection System	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
K. None	[][]	[][]	[][]	[][]	[][]
L. Other (please specify)					
9. Overfill Protection (tank only)					
(Mark one X for each tank)					
A. Yes	[][]	[][]	[][]	[][]	[][]
B. No					
10. Spill Containment Around Fill Pipe					
(Mark one X for each tank)					
A. Yes	[][]	[][]	[][]	[][]	[][]
B. No					
11. Tank Status (Mark one X for each tank)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. In-use	[][]	[][]	[][]	[][]	[][]
B. Empty less than 12 months					
C. Empty 12 months or more					
D. Emergency spill tank (sump)					
E. Emergency backup generator tank					
F. Abandoned in Place					
G. Removed					
H. Other (please specify)					
12. If box 11B, C, or D above has been marked, indicate the estimated date last used (month/day/year)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
	[][][][]	[][][][]	[][][][]	[][][][]	[][][][]
13. Closure Information - Tank ID No.	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]
	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
A. Date abandoned in place	[][][][]	[][][][]	[][][][]	[][][][]	[][][][]
B. Date taken temporarily out of service	[][][][]	[][][][]	[][][][]	[][][][]	[][][][]
C. Date removed	04/21/1998	04/27/1998			
D. Date of Sale or Transfer	[][][][]	[][][][]	[][][][]	[][][][]	[][][][]
E. TMS # (if applicable)					
F. ISRA # (if applicable)					

IMPORTANT INFORMATION

FEE:

Please make checks payable to: "Treasurer, State of New Jersey". Use of the enclosed return envelope will expedite processing. Registration and Billing Schedule can be found in N.J.A.C. 7:14B.

PENALTY:

All Initial Registration fees are \$100 per facility.
Failure by owner or operator of a regulated underground storage tank to comply with any requirement of the State U Act or regulations may result in the penalties set forth in N.J.S.A. 58:10A-10.

EMERGENCY:

If a discharge or spill occurs, the NJDEP Hotline at (609) 292-7172 must be called IMMEDIATELY - 24 hours a day.

UPGRADE EXEMPTION:

Residential heating oil underground storage tanks are exempt from all upgrade requirements.

DATES TO KNOW (critical deadlines)

- December 22, 1988 — All new federally regulated tank systems must have cathodic protection and spill/overfill protection.
September 4, 1990 — All new State-only regulated tank systems must have cathodic protection and spill/overfill protection.
December 22, 1990 — All federally regulated piping must have begun leak detection.
February 19, 1993 — All federally regulated tank systems must maintain financial responsibility assurance.
December 22, 1993 — All federally regulated tank systems must have begun leak detection.
December 22, 1998 — All regulated tanks shall install cathodic protection and spill/overfill protection.

CERTIFICATIONS

NOTE: IF THE PERSON SIGNING CERTIFICATION NO. 2 IS THE SAME AS THE PERSON SIGNING CERTIFICATION NO. 1, THEN CERTIFICATION NO. 2 NEED NOT BE SIGNED. (If different persons are required to sign No. 1 and No. 2, then they must do so.)

CERTIFICATION NO. 1:

Must be signed by the highest ranking individual at the facility with overall responsibility

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal 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."

MR. JAMES OTT
(Typed / Printed Name)

Dir. Public Works
(Title)

[Signature]
(Signature)

4/23/98
(Date)

CERTIFICATION NO. 2:

Must be signed as follows:

- For a corporation, by a principal executive officer of at least the level of vice president
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively
- For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official
- For persons other than indicated above, by the person with legal responsibility for the site

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal 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."

(Typed / Printed Name)

(Title)

(Signature)

(Date)

CERTIFICATION NO. 3:

If applicable, must be signed by the individual who is certified to perform services.

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal 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."

Charles Appleby
(Typed / Printed Name)

Env. Prot. Spec.
(Title)

U.S. Army
(Name of Firm, if applicable)

[Signature]
(Signature)

2056

4/22/98
(Date)

APPENDIX B

SITE ASSESSMENT SUMMARY

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name : U.S. Army Fort Monmouth New JerseyFacility Street Address : Directorate of Public Works Building 173Municipality: Oceanport County : MonmouthBlock: _____ 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

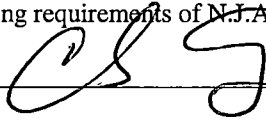
Report (RIR) \$1000 Fee

☒ NA – Federal Agreement**D.** (Complete all that apply)• Assigned Case Manager : Ian Curtis, Federal Case Manager• UST Registration Number : 81533-133 (7 digits)

• Incident Report Number _____ (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:  UST Cert. No.: 2056Firm: U.S. Army Fort Monmouth Firm's UST Cert. Number: NA - U.S. ArmyFirm Address: Directorate of Public Works Building 173 City: Fort MonmouthState: New Jersey Zip: 07703 Telephone Number : 732-532-6224

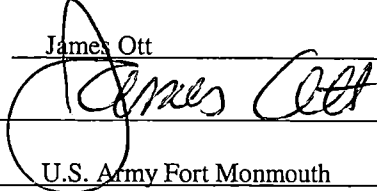
(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

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 WorksSignature: Company Name: U.S. Army Fort MonmouthDate: 11/2/99

APPENDIX C
WASTE MANIFEST



TUS - UST Closure

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

**NON-HAZARDOUS
WASTE MANIFEST**

1. Generator's US EPA ID No.

US32.100203 ~~597~~ 10391

Manifest
Document No.

2. Page 1
of 1

NHZ 010391

3. Generator's Name and Mailing Address

US Army COMMUNICATIONS ELECTRONICS COMMAND MAIN Bldg
40 JOSEPH FALLON Bldg 173 ATTN: SELFM-AW-EV
FORT MONMOUTH NJ, 07703

4. Generator's Phone (

732) 532-6223

5. Transporter 1 Company Name

TONETTI OIL RECOVERY CO INC

6.

US EPA ID Number

NJ D 0 8 4 0 4 4 0 6 4

A. Transporter's Phone

908 721-0900

7. Transporter 2 Company Name

8.

US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

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

10.

US EPA ID Number

NJ D 0 8 4 0 4 4 0 6 4

C. Facility's Phone

908 721-0900

11. Waste Shipping Name and Description

12. Containers

No.

Type

13.
Total
Quantity

14.
Unit
Wt/Vol

a. PETROLEUM OIL (PETROLEUM OIL)

COMBUSTIBLE LIQUID UN1279 PGIII

001 T XX650 G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

1. PETROLEUM OIL - 50%
WATER 50%

E. Handling Codes for Wastes Listed Above

T04 FILTRATION

15. Special Handling Instructions and Additional Information

24 HR EMERGENCY RESPONSE# (908) 721-0900
DECAL# 87093 ERG#128 DEXSIL TEST KIT RESULTS <1000 PPM
MANIFEST USED FOR TRACKING PURPOSES ONLY

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

Printed/Typed Name

Joseph M. Fallon

Signature

Joseph M Fallon 4/22/98

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Carly Lobell

Signature

Carly Lobell

Month Day Year
4/22/98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name

Signature

Month Day Year

GENERATOR'S COPY

#1 CASIE PROTANK ENVIRONMENTAL SERVICES

B. 812
Drum - 50 GAL.

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

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No. NJ3210020594113637		2. Page 1 of	
3. Generator's Name and Mailing Address US ARMY Communications Electronics Command Main Post, C/O J. A. Allen, Bldg 173, SELF-MANAGED		A. Non-hazardous Manifest Document Number NHZ020 18100		B. State Generator's ID SAME	
4. Generator's Phone (609) 696-4401 Fort Monmouth NJ 07703		6. US EPA ID Number		C. State Trans. ID 1605982	
5. Transporter 1 Company Name Casie Ecology Oil Salvage, Inc.		7. Transporter 2 Company Name		D. Transporter's Phone (609) 696-4401	
9. Designated Facility Name and Site Address Casie Ecology Oil Salvage, Inc. T/A 3209 N. Mill Rd / Casie Protank Vineland NJ 08360		10. US EPA ID Number NJ D 0 4 5 9 9 5 6 9 3		E. State Trans. ID	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) Combustible liquid, n.o.s. (Lube Oil) NA1993, III		12. Containers No. Type 0 0 1 T		13. Total Quantity xx957 S.L.	
14. Unit Wt/Vol SL		15. L Waste No. I D 7 2			
J. Additional Descriptions for Materials Listed Above (L, 85% oil / 15% wtr)		K. Handling Codes for Wastes Listed Above			
a.		a.			
b.		b.			
c.		c.			
d.		d.			
15. Special Handling Instructions and Additional Information BPA Contract Bldg # 300 - 800-875-447-812 4 UST Closure					
a. ERG# 128					
b. 24 hr emergency response # 609-696-4401 K. Ambrosia					
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. I hereby certify that the above-named material is not hazardous waste as defined by 40 CFR Part 261, 264 and 279 or any applicable state law.					
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name: Charles Apple, SELF-MANAGED Signature: <i>[Signature]</i> Month Day Year: 05/18					
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name: <i>[Signature]</i> Signature: <i>[Signature]</i> Month Day Year: 05/18					
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name: Signature: Month Day Year:					

APPENDIX D
UST DISPOSAL CERTIFICATE


**MONMOUTH COUNTY
RECLAMATION CENTER**

TINTON FALLS, NJ

 MAILING ADDRESS: 6000 ASBURY AVE.
NEPTUNE, NJ 07753

CUSTOMER COPY

FACILITY I.D. NO. 1336F1SP01

RECEIPT DOCUMENT NUMBER

BILL TO

 MARPS08937
MARPAL COMPANY
PO BOX 188

LINCROFT

NJ 07738

HAULER

 MARPS08937
MARPAL COMPANY
PO BOX 188

01706023

LINCROFT 76852 NJ 07738

Escrow Level: 2400.00

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
07/10/98	08:08	VJF	08:31	PMN	(44800 LB)	(37280 LB)	(7520 LB)
00856356	Scale 02		Scale 04		Scale 02	Scale 04	
					(22.40 T)	(18.64 T)	(3.76 T)

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
2065AU	Rolloff Open 30	XX89HD	TVS (166) Normal

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
3.7600	136	Bulky Waste - (MCRC) MONMOUTH COUNTY EATONTOWN BOROUGH	Tons 00.00%	88.15	331.44

I hereby certify that the information provided on this form is true to the best of my knowledge.

*** Prepayment Balance Remaining: 28628.86

 DRIVER NAME
PRINT

R. Jacques

SIGNATURE

DOCUMENT
TOTAL

331.44

APPENDIX E
SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
98-0001
Bldg. 812

Project # 3514
Date Rec. 04/28/98
Date Compl. 04/30/98
Released by:



Daniel K. Wright
Laboratory Director

Table of Contents

<u>Section</u>	<u>Pages</u>
Cover Sheet	1
Table of Contents	2
Method Summary	3
Conformance/Non-Conformance	4
Chain of Custody	5-6
Results Summary	7
Initial Calibration Summary	8
Continuing Calibration Summary	9
Surrogate Results Summary	10
MS/MSD Results Summary	11
Quality Control Spike Summary	12
Raw Sample Data	13-26
Laboratory Deliverable Checklist	27

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

	No	Yes
1. Method Detection Limits provided.	☐	☒
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	☒	☐
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	☐	☒
4. Duplicate Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	☐	☒
5. IR Spectra submitted for standards, blanks, & samples	☐	NA ☐
6. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	☐	☒
7. Analysis holding time met.	☐	☒
(If not met, list number of days exceeded for each sample)		
Additional 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.



Daniel K. Wright
Laboratory Manager



Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: <u>C. Appleby - DPW ENV.</u>		Project No: <u>98-0001</u>		Analysis Parameters										Comments:			
Phone #: <u>026224</u>		Location: <u>B. 812</u>												* = SAMPLES KEPT BELOW 4°C.			
() DERA (X) OMA () Other: _____																	
Samplers Name / Company: <u>GARY DIMARTINIS - TUS</u>				Sample	#											Remarks / Preservation Method	
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles	TPHC	0.50605	MUNSELL									
3514. 01	812-A	4-28-98	0844	SOIL	1	X	X	X							ND	SIDEWALL @ 7.0' *	
02	B		0903												ND	CENTER LINE @ 7.5'	
03	C		0840												ND	SIDEWALL @ 7.0'	
04	D		0848												ND	CENTER LINE @ 7.5'	
05	E		0857												ND	CENTER LINE @ 7.5'	
06	F		0907												ND	Piping Run @ 1.0'	
07	DUP		—												—	FIELD DUPLICATE	
NOTE: OVA (#A52114) CALIBRATED W/ 15 ppm CHL + ZERO (0) AIR @ 0830 HRS. ON 4/28/98 by G. DIMARTINIS																	
Relinquished by (signature): <u>[Signature]</u>		Date/Time: <u>4/28/98 1130</u>		Received by (signature): <u>[Signature]</u>		Relinquished by (signature):		Date/Time:		Received by (signature):							
Relinquished by (signature):		Date/Time:		Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):							
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified Turnaround time: (X) Standard 4 wks, () Rush _____ Days, () ASAP Verbal _____ Hrs.																	
Remarks: <u>DEDICATED SAMPLING TOOLS USED.</u>																	

Response Factor Report FID/TCD

Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Tue Apr 28 07:45:15 1998

Calibration Files

200 =T05057.D 100 =T05060.D 50 =T05059.D
 10 =T05058.D 5 =T05056.D

Compound			200	100	50	10	5	Avg	%RSD
1)	tC	C8	1.866	1.957	1.842	1.623	1.995	1.856 E4	7.81
2)	tC	C10	1.915	2.014	1.881	1.636	2.009	1.891 E4	8.15
3)	TC	C12	2.056	2.166	2.011	1.738	2.122	2.019 E4	8.32
4)	tC	C14	2.098	2.228	2.076	1.799	2.208	2.082 E4	8.24
5)	tC	C16	2.133	2.269	2.128	1.853	2.271	2.131 E4	8.00
6)	tC	C18	2.475	2.547	2.515	2.155	2.570	2.452 E4	6.94
7)	tC	C20	2.299	2.434	2.330	2.028	2.479	2.314 E4	7.61
8)	tC	C22	2.300	2.380	2.309	2.009	2.461	2.292 E4	7.46
9)	tC	C24	2.331	2.412	2.347	2.036	2.495	2.324 E4	7.47
10)	tC	C26	2.297	2.377	2.316	1.994	2.446	2.286 E4	7.59
11)	tC	C28	2.240	2.326	2.270	1.944	2.361	2.228 E4	7.43
12)	tC	C30	2.132	2.241	2.203	1.869	2.242	2.138 E4	7.32
13)	tC	C32	1.842	1.963	1.958	1.638	1.927	1.866 E4	7.30
14)	tC	C34	1.530	1.624	1.644	1.355	1.522	1.535 E4	7.47
15)	tC	C36	1.110	1.174	1.203	0.957	0.982	1.085 E4	10.24
16)	tC	C38	6.925	7.409	7.725	5.623	4.964	6.529 E3	18.17
17)	tC	C40	3.372	3.743	4.020	2.893	2.832	3.372 E3	15.40
18)	tC	c42	1.418	1.616	1.795	1.322	1.339	1.498 E3	13.54
19)	TC	Pristane	2.188	2.330	2.212	1.943	2.397	2.214 E4	7.86
20)	TC	Phytane	2.300	2.449	2.348	2.041	2.508	2.330 E4	7.75
21)	sC	o-terphenyl	2.549	2.641	2.552	2.236	2.611	2.518 E4	6.44
22)	tC	TPHC - total	1.993	2.174	2.124	2.326	3.042	2.332 E4	17.79

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\980428\T05139.D
 Acq On : 30 Apr 98 8:12 am
 Sample : 50 PPM STANDARD
 Misc :
 IntFile : TPHCINT.E

Vial: 11
 Operator: DEINHARDT
 Inst : FID/TCD
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Tue Apr 28 07:45:15 1998
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 tC	C8	18.565	15.838 E3	14.7	86	0.00
2 tC	C10	18.910	16.891 E3	10.7	90	0.00
3 TC	C12	20.187	18.170 E3	10.0	90	0.00
4 tC	C14	20.818	18.769 E3	9.8	90	0.00
5 tC	C16	21.307	19.176 E3	10.0	90	0.00
6 tC	C18	24.525	22.020 E3	10.2	88	0.00
7 tC	C20	23.139	20.984 E3	9.3	90	0.00
8 tC	C22	22.916	20.628 E3	10.0	89	0.00
9 tC	C24	23.239	20.933 E3	9.9	89	0.00
10 tC	C26	22.861	20.649 E3	9.7	89	0.00
11 tC	C28	22.283	20.265 E3	9.1	89	0.00
12 tC	C30	21.377	19.683 E3	7.9	89	0.00
13 tC	C32	18.657	17.504 E3	6.2	89	0.00
14 tC	C34	15.350	14.656 E3	4.5	89	0.00
15 tC	C36	10.851	10.609 E3	2.2	88	0.00
16 tC	C38	6.529	6.761 E3	-3.6	88	0.00
17 tC	C40	3.372	3.439 E3	-2.0	86	0.00
18 tC	c42	1.498	1.517 E3	-1.3	85	0.00
19 TC	Pristane	22.139	20.559 E3	7.1	93	0.00
20 TC	Phytane	23.295	21.256 E3	8.8	91	0.00
21 sC	o-terphenyl	25.178	29.116 E3	-15.6	114	0.00
22 tC	TPHC - total	23.317	19.783 E3	15.2	93	1.95#

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

Surrogate Recovery Report

Lab. ID #: 3514

Location #: B. 812

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
3514.01		10.00	12.57	125.71
3514.02		10.00	12.35	123.48
3514.03		10.00	12.24	122.43
3514.04		10.00	11.36	113.58
3514.05		10.00	11.28	112.76
3514.06		10.00	11.53	115.30
3514.07		10.00	11.51	115.05
METHOD BLANK	TBLK 91	10.00	11.05	110.46

Surrogate Added : o-Terphenyl

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

Matrix Spike Recovery Report

Lab. ID #: 3514

Location #: B. 812

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
3517.15MS	1000	403.80	1223.67	81.99	75-125
3517.15MSD	1000	403.80	1281.38	87.76	75-125

RPD	6.80	20.00
-----	------	-------

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

Blank Spike Recovery Report

Lab. ID #:

3514

Location #:

B. 812

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	29-Apr-98	1000	1080.96	108.10	75-125

5/4/98

Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980428\T05142.D
Acq On : 30 Apr 98 10:43 am
Sample : 3514.01
Misc :
IntFile : TPHCINT.E
Quant Time: May 4 9:02 1998 Quant Results File: TPH33.RES

Vial: 79
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Initial Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.94	316521	12.571 mg/L
Spiked Amount	10.000	Range 8 - 13	Recovery = 125.71%#

Target Compounds

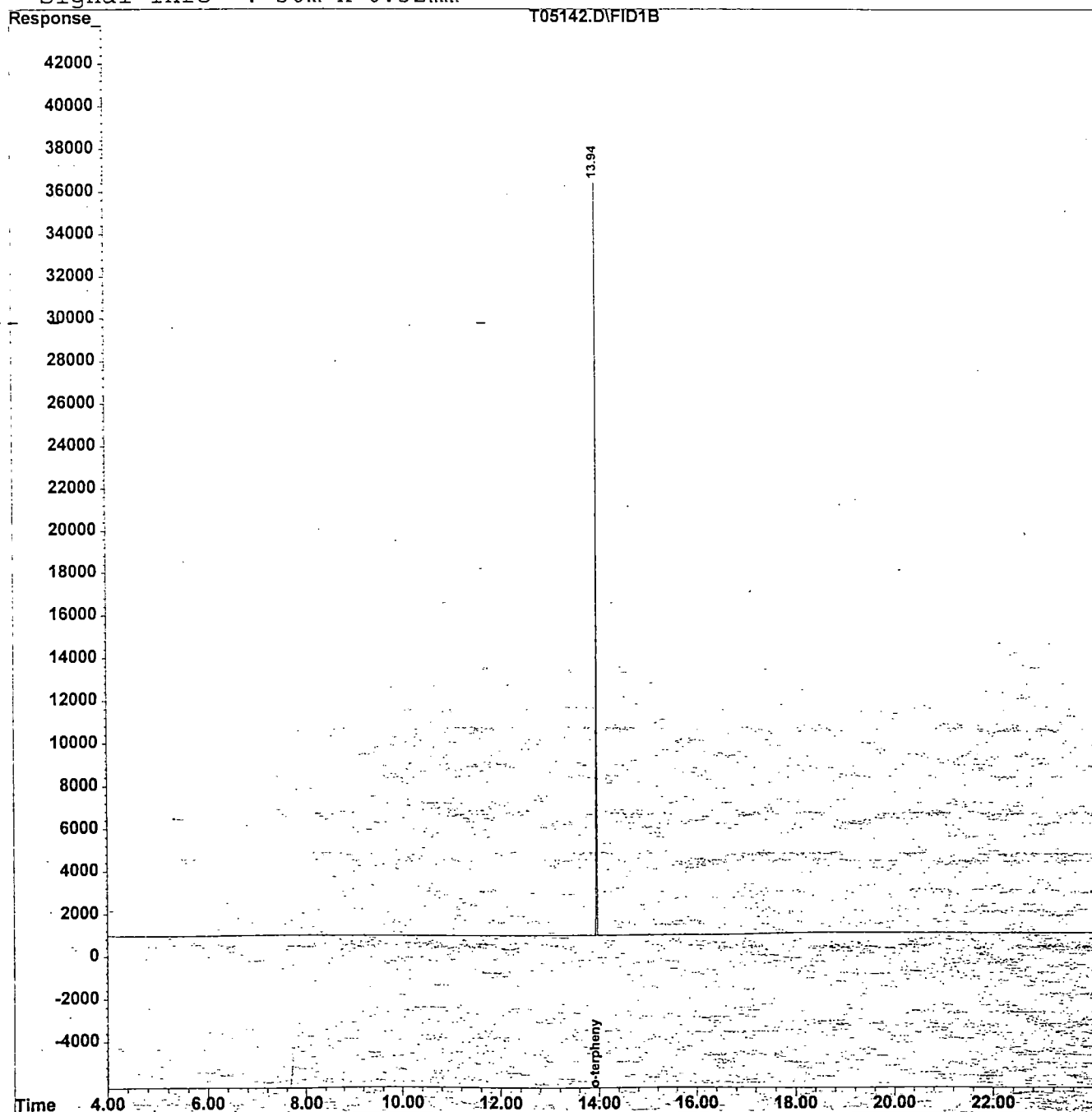
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980428\T05142.D
Acq On : 30 Apr 98 10:43 am
Sample : 3514.01
Misc :
IntFile : TPHCINT.E
Quant Time: May 4 9:02 1998 Quant Results File: TPH33.RES

Vial: 79
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980428\T05143.D

Vial: 80

Acq On : 30 Apr 98 11:36 am

Operator: DEINHARDT

Sample : 3514.02

Inst : FID/TCD

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: May 4 9:03 1998 Quant Results File: TPH33.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Tue Apr 28 07:45:15 1998

Response via : Initial Calibration

DataAcq Meth : TPH33.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units
----------	------	----------	------------

System Monitoring Compounds

21) sC o-terphenyl	13.94	310893	12.348 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery	= 123.48%#

Target Compounds

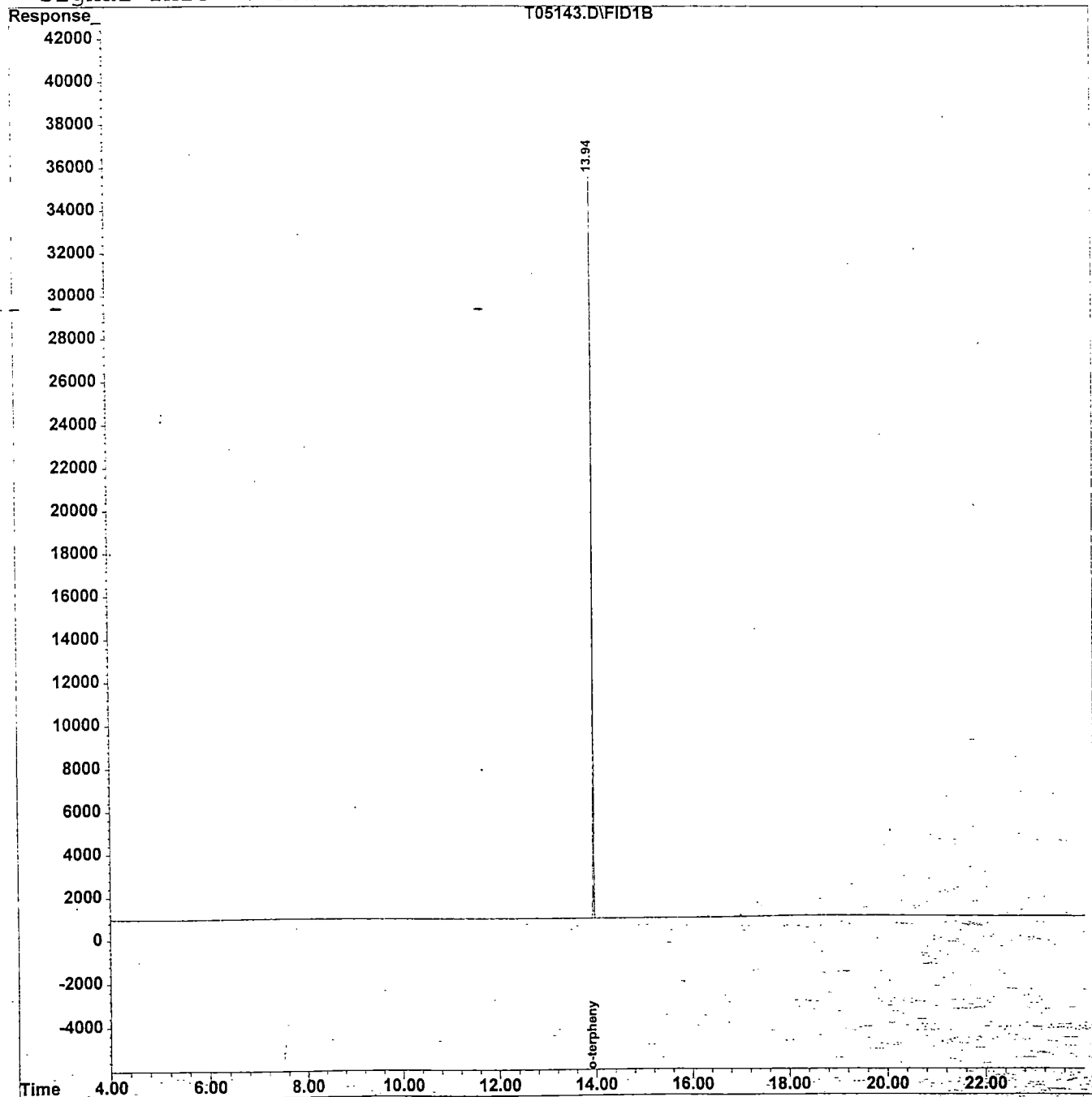
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980428\T05143.D
Acq On : 30 Apr 98 11:36 am
Sample : 3514.02
Misc :
IntFile : TPHCINT.E
Quant Time: May 4 9:03 1998 Quant Results File: TPH33.RES

Vial: 80
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



Quantitation Report

(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980428\T05144.D
Acq On : 30 Apr 98 12:30 pm
Sample : 3514.03
Misc :
IntFile : TPHCINT.E

Vial: 81
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Time: Apr 30 12:57 1998 Quant Results File: TPH33.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation.Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Initial Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.94	308257	12.243 mg/L
Spiked Amount	10.000	Range 8 - 13	Recovery = 122.43%#

Target Compounds

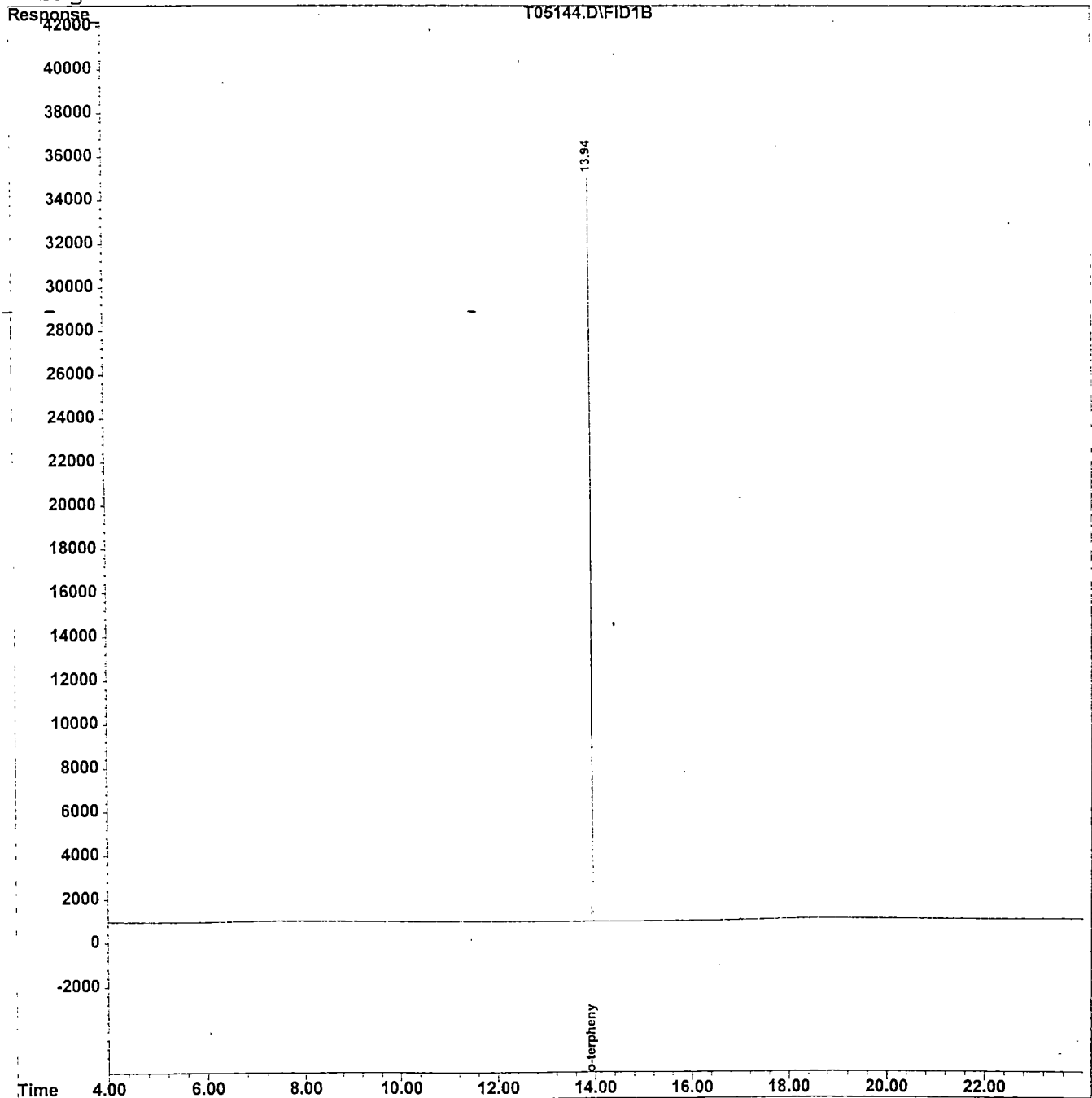
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980428\T05144.D
Acq On : 30 Apr 98 12:30 pm
Sample : 3514.03
Misc :
IntFile : TPHCINT.E
Quant Time: Apr 30 12:57 1998 Quant Results File: TPH33.RES

Vial: 81
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980428\T05145.D
 Acq On : 30 Apr 98 1:24 pm
 Sample : 3514.04
 Misc :
 IntFile : TPHCINT.E
 Quant Time: May 4 9:04 1998 Quant Results File: TPH33.RES

Vial: 82
 Operator: DEINHARDT
 Inst : FID/TCD
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Tue Apr 28 07:45:15 1998
 Response via : Initial Calibration
 DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
 Signal Phase : HP-5
 Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.94	285976	11.358 mg/L
Spiked Amount 10.000 Range	8 - 13	Recovery =	113.58%#
Target Compounds			
22) tC TPHC - total	13.94	1463182	62.753 mg/L m

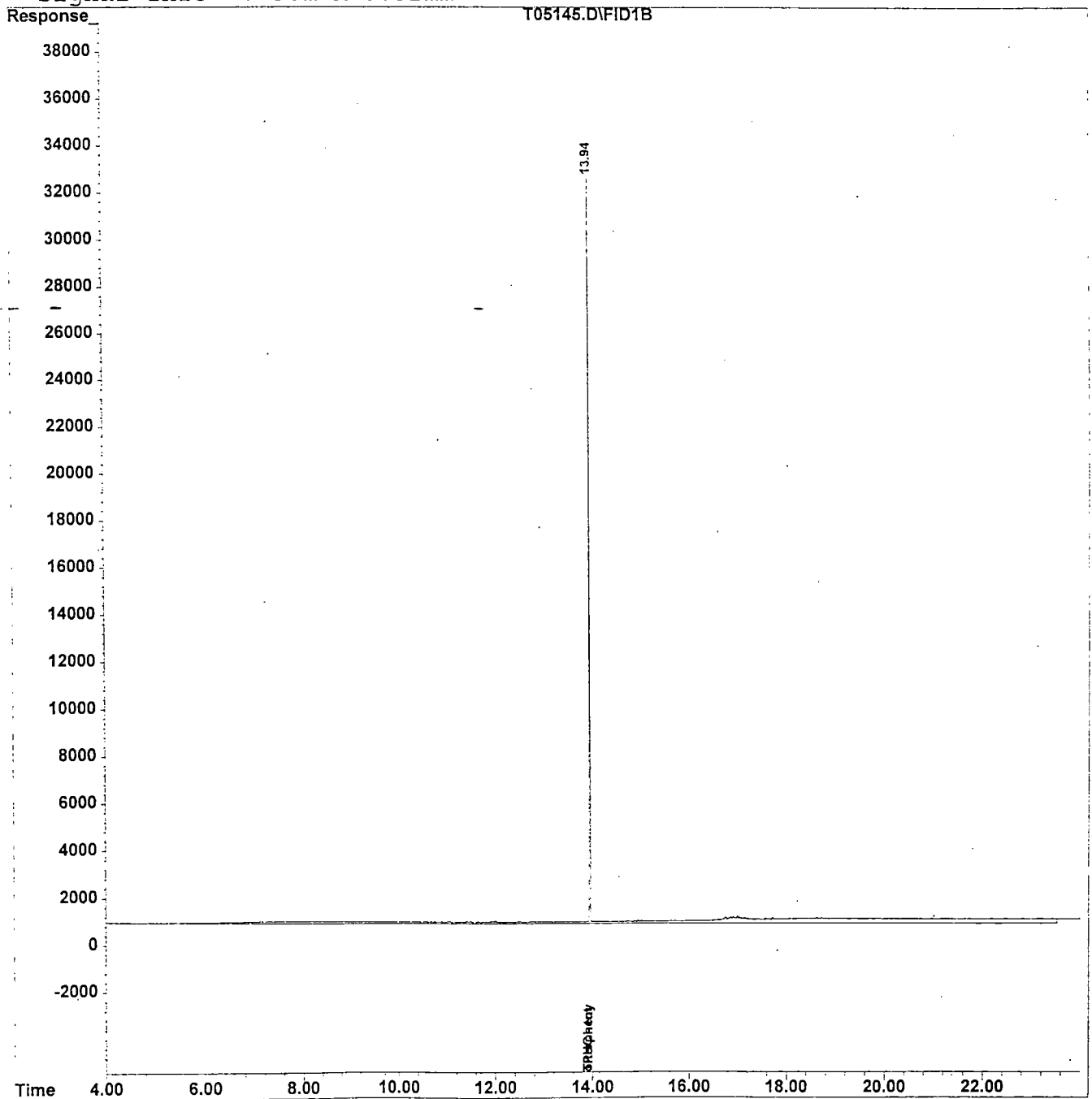
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980428\T05145.D
Acq On : 30 Apr 98 1:24 pm
Sample : 3514.04
Misc :
IntFile : TPHCINT.E
Quant Time: May 4 9:04 1998 Quant Results File: TPH33.RES

Vial: 82
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



Quantitation Report

(Not Reviewed)

Data File : C:\HPCHEM\1\DATA\980428\T05146.D
Acq On : 30 Apr 98 2:19 pm
Sample : 3514.05
Misc :
IntFile : TPHCINT.E
Quant Time: May 12 13:08 1998

Vial: 83
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Results File: TPH33.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980428\T05139.D
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.94	328303	11.276 mg/L
Spiked Amount	10.000	Range 8 - 13	Recovery = 112.76%#

Target Compounds

Quantitation Report

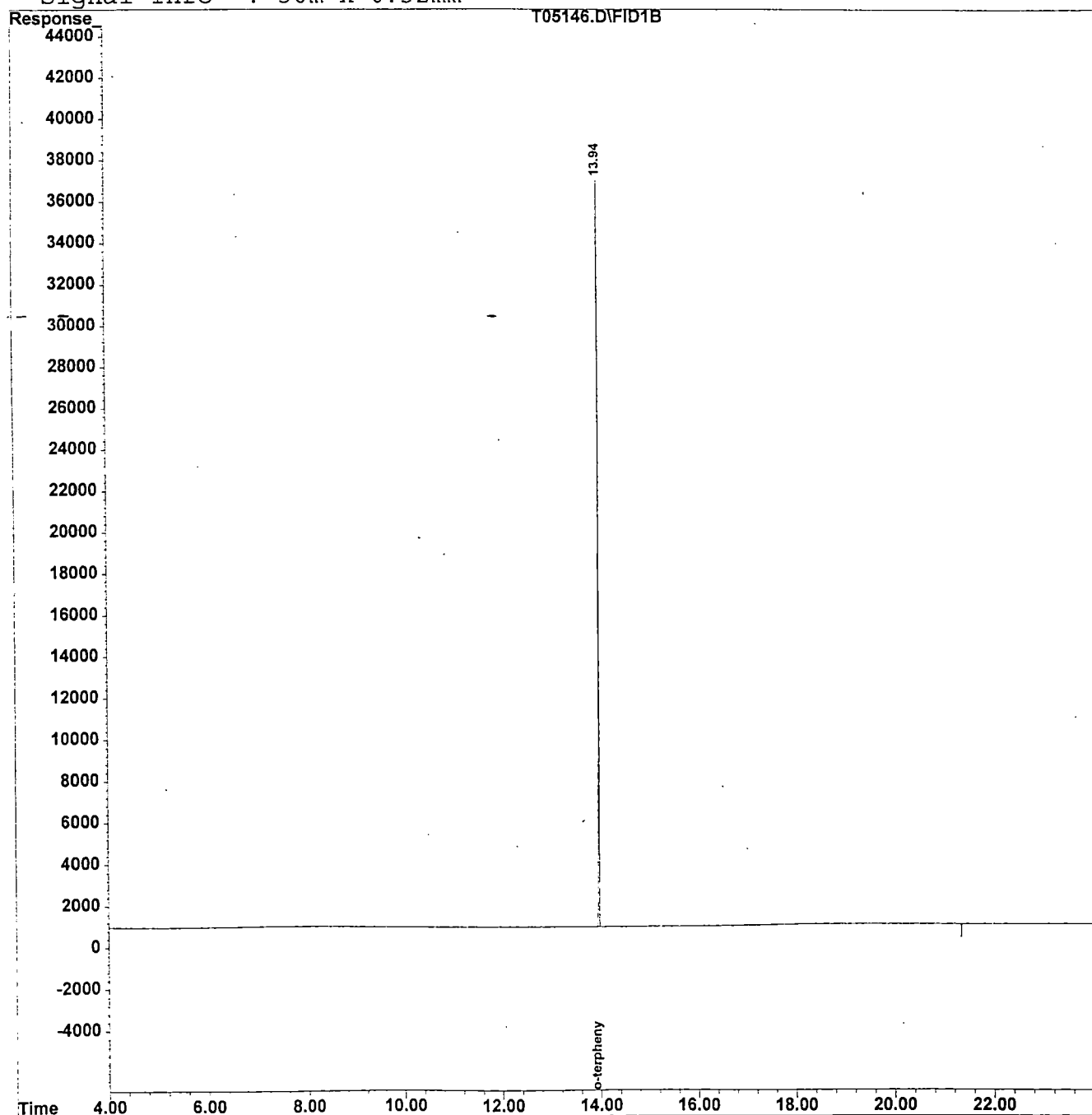
Data File : C:\HPCHEM\1\DATA\980428\T05146.D
Acq On : 30 Apr 98 2:19 pm
Sample : 3514.05
Misc :
IntFile : TPHCINT.E

Vial: 83
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Time: May 12 13:08 1998 Quant Results File: TPH33.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Single Level Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



Quantitation Report

(Not Reviewed)

Data File : C:\HPCHEM\1\DATA\980428\T05147.D

Vial: 84

Acq On : 30 Apr 98 3:16 pm

Operator: DEINHARDT

Sample : 3514.06

Inst : FID/TCD

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: May 12 13:09 1998 Quant Results File: TPH33.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Tue Apr 28 07:45:15 1998

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980428\T05139.D

DataAcq Meth : TPH33.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.94	335717	11.530 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery	= 115.30%#
Target Compounds			
7) tC C20	13.55	1077	0.051 mg/L
9) tC C24	14.94	2465	0.118 mg/L
11) -tC C28	16.12	1077	0.053 mg/L
12) tC C30	16.72	1830	0.093 mg/L
20) TC Phytane	13.55	1077	0.051 mg/L
22) tC TPHC - total	13.94	1288748	65.144 mg/L m

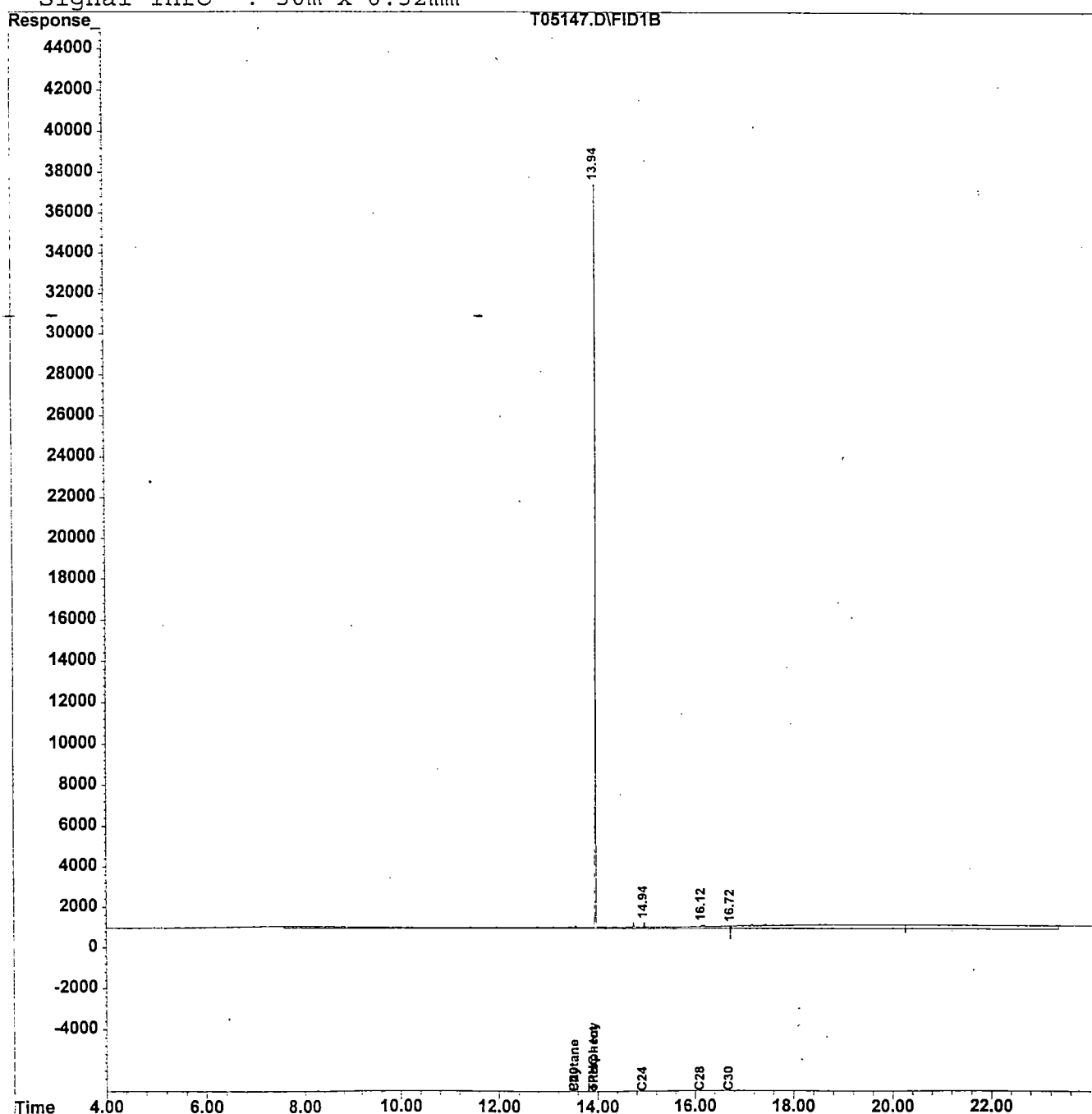
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980428\T05147.D
Acq On : 30 Apr 98 3:16 pm
Sample : 3514.06
Misc :
IntFile : TPHCINT.E
Quant Time: May 12 13:09 1998 Quant Results File: TPH33.RES

Vial: 84
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Single Level Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



Quantitation Report

(Not Reviewed)

Data File : C:\HPCHEM\1\DATA\980428\T05148.D

Vial: 85

Acq On : 30 Apr 98 4:13 pm

Operator: DEINHARDT

Sample : 3514.07

Inst : FID/TCD

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: May 12 13:09 1998 Quant Results File: TPH33.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Tue Apr 28 07:45:15 1998

Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980428\T05139.D

DataAcq Meth : TPH33.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.94	334965	11.505 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery	= 115.05%#

Target Compounds

Quantitation Report

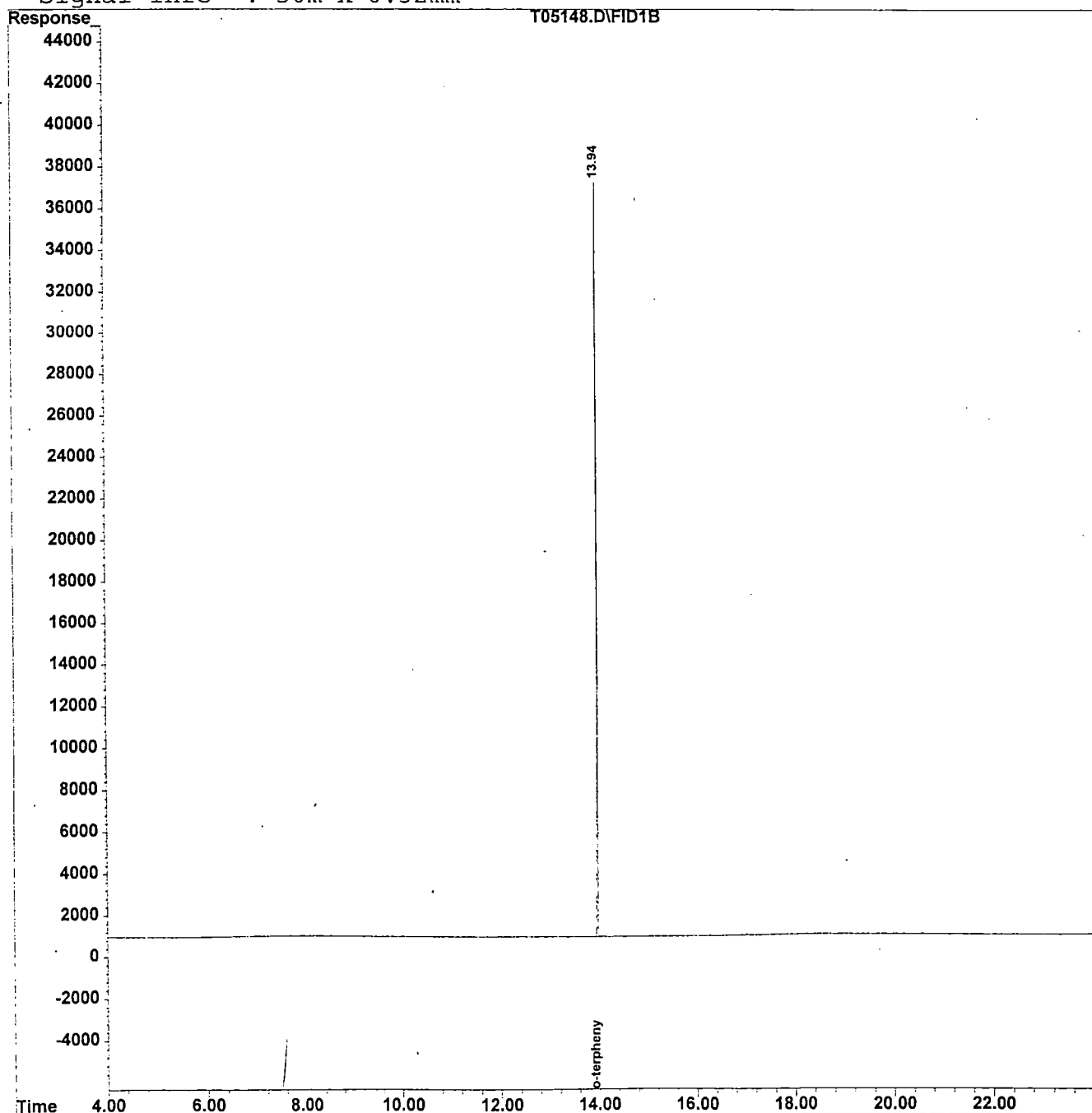
Data File : C:\HPCHEM\1\DATA\980428\T05148.D
Acq On : 30 Apr 98 4:13 pm
Sample : 3514.07
Misc :
IntFile : TPHCINT.E

Vial: 85
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Time: May 12 13:09 1998 Quant Results File: TPH33.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH33.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Apr 28 07:45:15 1998
Response via : Single Level Calibration
DataAcq Meth : TPH33.M

Volume Inj. : 1 ul
Signal Phase : HP-5
Signal Info : 30m x 0.32mm



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT
AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2. Table of Contents submitted
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4. Document paginated and legible
5. Chain of Custody submitted
6. Samples submitted to lab within 48 hours of sample collection
7. Methodology Summary submitted
8. Laboratory Chronicle and Holding Time Check submitted
9. Results submitted on a dry weight basis
10. Method Detection Limits submitted
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP

Laboratory Manager or Environmental Consultant's Signature _____

Date 2/1/94

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP
Methods for further guidance

APPENDIX F
PHOTOGRAPHS



April 27, 1998

PHOTOGRAPHIC LOG

UST NO. 81533-133

**Building 812
Main Post-West
Fort Monmouth**



**SMC ENVIRONMENTAL
SERVICES GROUP**
Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA.