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**United States Army**  
Fort Monmouth, New Jersey

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**Underground Storage Tank  
Closure and Site Investigation  
Report**

***Building 747  
Main Post-West Area***

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**NJDEP UST Registration No. 0081533-121**

**September 1998**

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

**BUILDING 747**

**MAIN POST-WEST AREA  
NJDEP UST REGISTRATION NO. 0081533-121**

**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**

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## EXECUTIVE SUMMARY

### UST Closure

On October 8, 1997, 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. 0081533-121 (Fort Monmouth ID No. 747), was located northeast of Building 747. UST No. 0081533-121 was a 550-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. Perched water was encountered at 6 feet bgs. No evidence of potentially contaminated soil or groundwater was observed surrounding the tank. Soil samples contained TPHC concentrations ranging from non-detect to 517.73 mg/kg.

### Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled with crushed stone, sand, and native backfill to grade 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. 0081533-121 at Building 747.

# 1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

## 1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081533-121, was closed at Building 747 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on October 8, 1997. 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 550-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081533-121 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. 0081533-121 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. 0081533-124 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 747 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-121 was located northeast of Building 747 and appurtenant copper piping ran approximately twelve (12) feet northwest from the excavation to Building 747. 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 747. 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 (Zapeczka, 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 Zapeczka, 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 747 located approximately 100 feet north of Husky Brook, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 747 is anticipated to be to the south.

### **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 225 gallons of liquid from the UST and its associated piping were transported by Lionetti Oil Recovery Co. Inc to the Lionetti Oil Recovery Co. Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Old Bridge, New Jersey. 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. Perched water was encountered at 6 feet bgs. 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: 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. Perched water was encountered at 6 feet bgs.

## 2.3 SOIL SAMPLING

On October 9, 1997, following the removal of the UST, post-excavation soil samples ES, A, B, C, D, E, F, G, H, and DUP D were collected from a total of nine (9) locations of the UST excavation. Sidewall samples A, B, C, D, and DUP D were collected at a depth of 5.5 feet bgs. Samples G and H were collected at the sidewall at a depth of 4.0 feet bgs and 7.0 feet bgs. Sample ES was collected from the excavated soil. Piping samples E and F were 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 October 9, 1997, from a total of nine (9) 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 October 9, 1997, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Samples contained levels of TPHC ranging in concentration from non-detect to 517.73 mg/kg.

### **3.2 CONCLUSIONS AND RECOMMENDATIONS**

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 747 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. 0081533-121 at Building 747.

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# TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES  
BUILDING 747, MAIN POST-WEST AREA  
FORT MONMOUTH, NEW JERSEY

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Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
ES	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
A	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
B	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
G	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
H	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP D	10/9/97	10/10/97	Soil	Post-Excavation	TPHC	

Note:

\* TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS  
 BUILDING 747, MAIN POST-WEST AREA  
 FORT MONMOUTH, NEW JERSEY

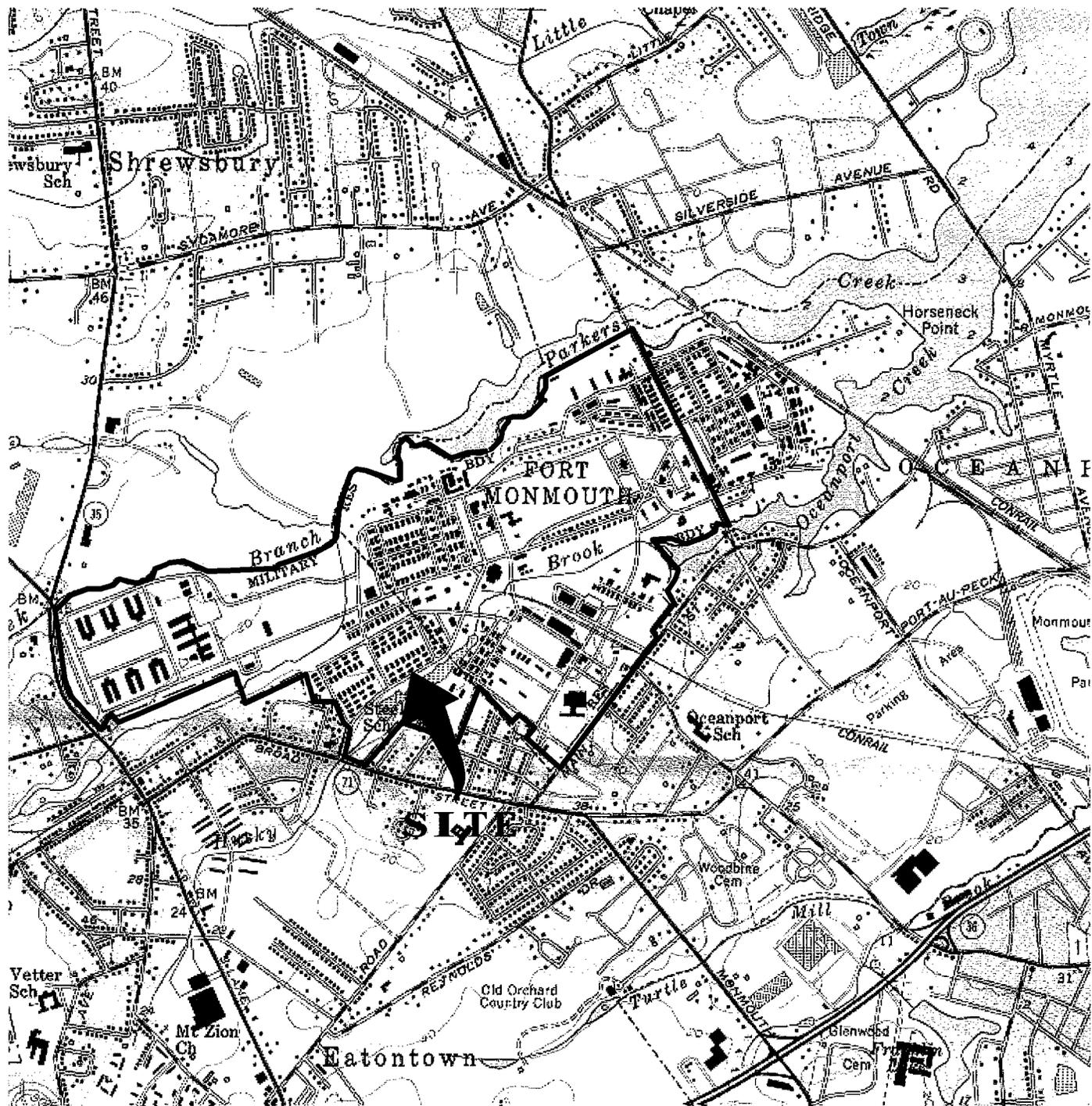
Page 1 of 1

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
ES=	3054.01	10/9/97	10/10/97	Total Solid	--	--	89.96	--	--
				TPHC	168	yes	217.20	10,000	No
A/5.5=	3054.02	10/9/97	10/10/97	Total Solid	--	--	75.46	--	--
				TPHC	197	yes	310.79	10,000	No
B/5.5=	3054.03	10/9/97	10/10/97	Total Solid	--	--	70.80	--	--
				TPHC	214	yes	216.87	10,000	No
C/5.5=	3054.04	10/9/97	10/10/97	Total Solid	--	--	75.70	--	--
				TPHC	194	yes	ND	10,000	No
D/5.5=	3054.05	10/9/97	10/10/97	Total Solid	--	--	75.00	--	--
				TPHC	204	yes	441.23	10,000	No
E/1.0=	3054.06	10/9/97	10/10/97	Total Solid	--	--	88.12	--	--
				TPHC	178	yes	236.33	10,000	No
F/1.0=	3054.07	10/9/97	10/10/97	Total Solid	--	--	81.28	--	--
				TPHC	182	yes	203.70	10,000	No
G/4.0=	3054.08	10/9/97	10/10/97	Total Solid	--	--	76.58	--	--
				TPHC	198	yes	ND	10,000	No
H/7.0=	3054.08	10/9/97	10/10/97	Total Solid	--	--	75.88	--	--
				TPHC	204	yes	ND	10,000	No
DUP D/5.5=	3054.09	10/9/97	10/10/97	Total Solid	--	--	75.89	--	--
				TPHC	201	yes	517.73	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



**FIGURE 1**  
**SITE LOCATION MAP**  
 Building 747  
 Main Post-West  
 Fort Monmouth Army Base  
 Monmouth County, NJ

 **SMC Environmental Services Group**  
*Engineers, Managers, Scientists & Planners*  
 Valley Forge, PA.

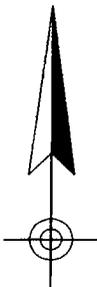
SCALE: 1"= 2000'      DATE: OCT 1997

LONG BRANCH, N. J.  
 40073-C8-TF-024

1954  
 PHOTOREVISED 1981  
 DMA 6164 I SE-SERIES V822



NEW JERSEY  
 QUADRANGLE LOCATION



747 2429 FIG2

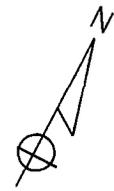
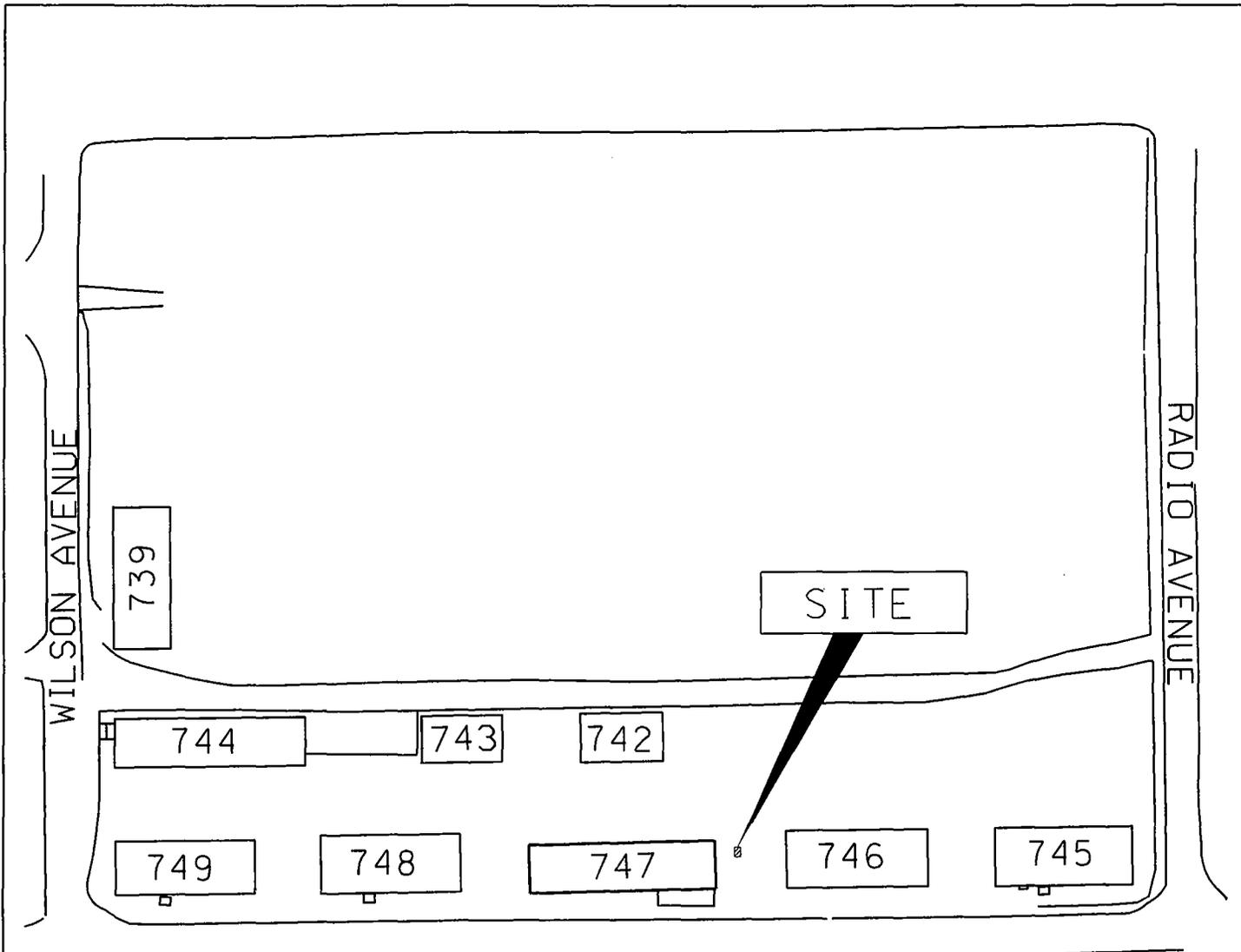
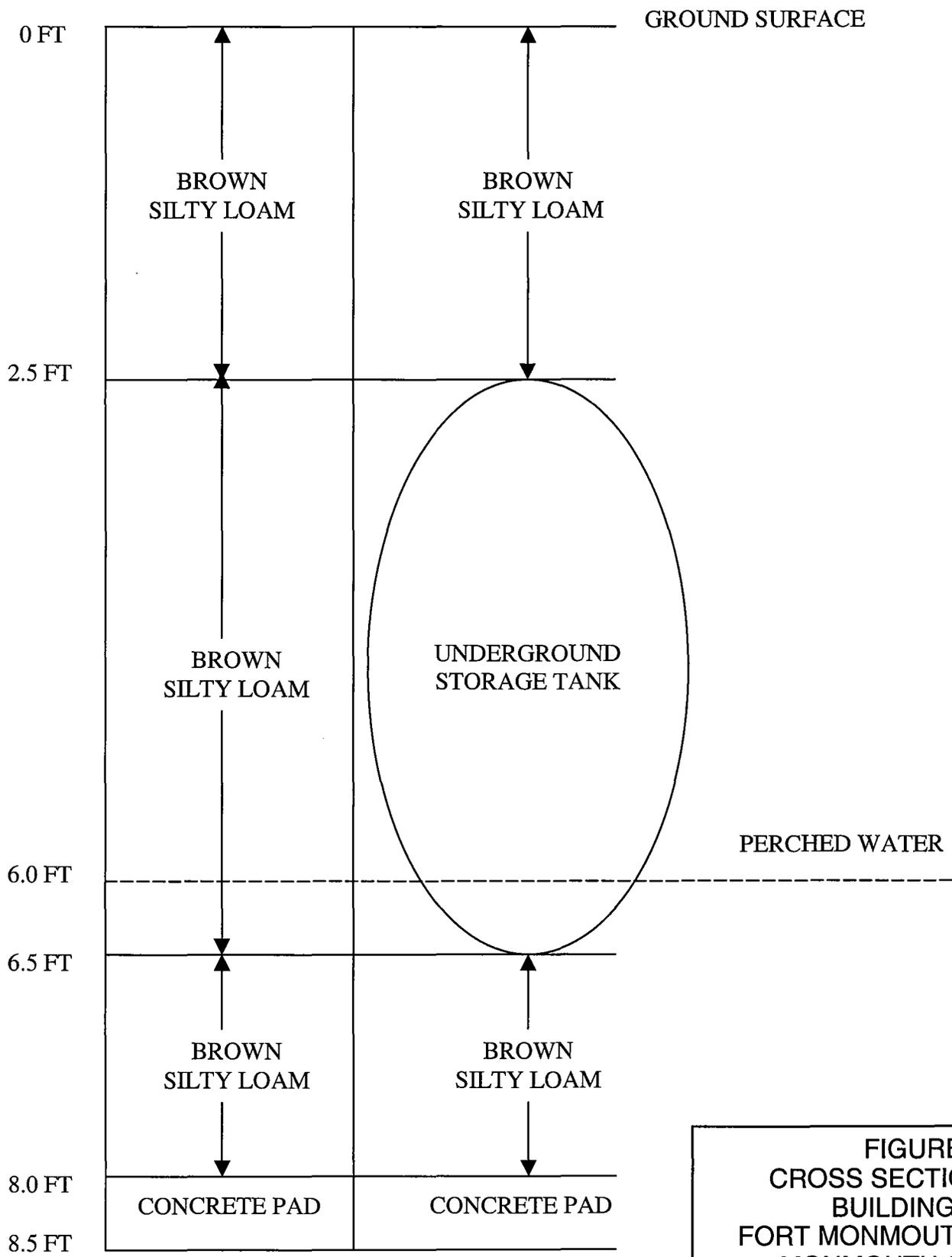


FIGURE 2 SITE MAP BUILDING 747 FORT MONMOUTH ARMY BASE MONMOUTH COUNTY, NJ	
 SMC ENVIRONMENTAL SERVICES GROUP Engineers, Managers, Scientists & Planners VALLEY FORGE, PA.	
SCALE: 1"=100'	DATE: OCT. 1997

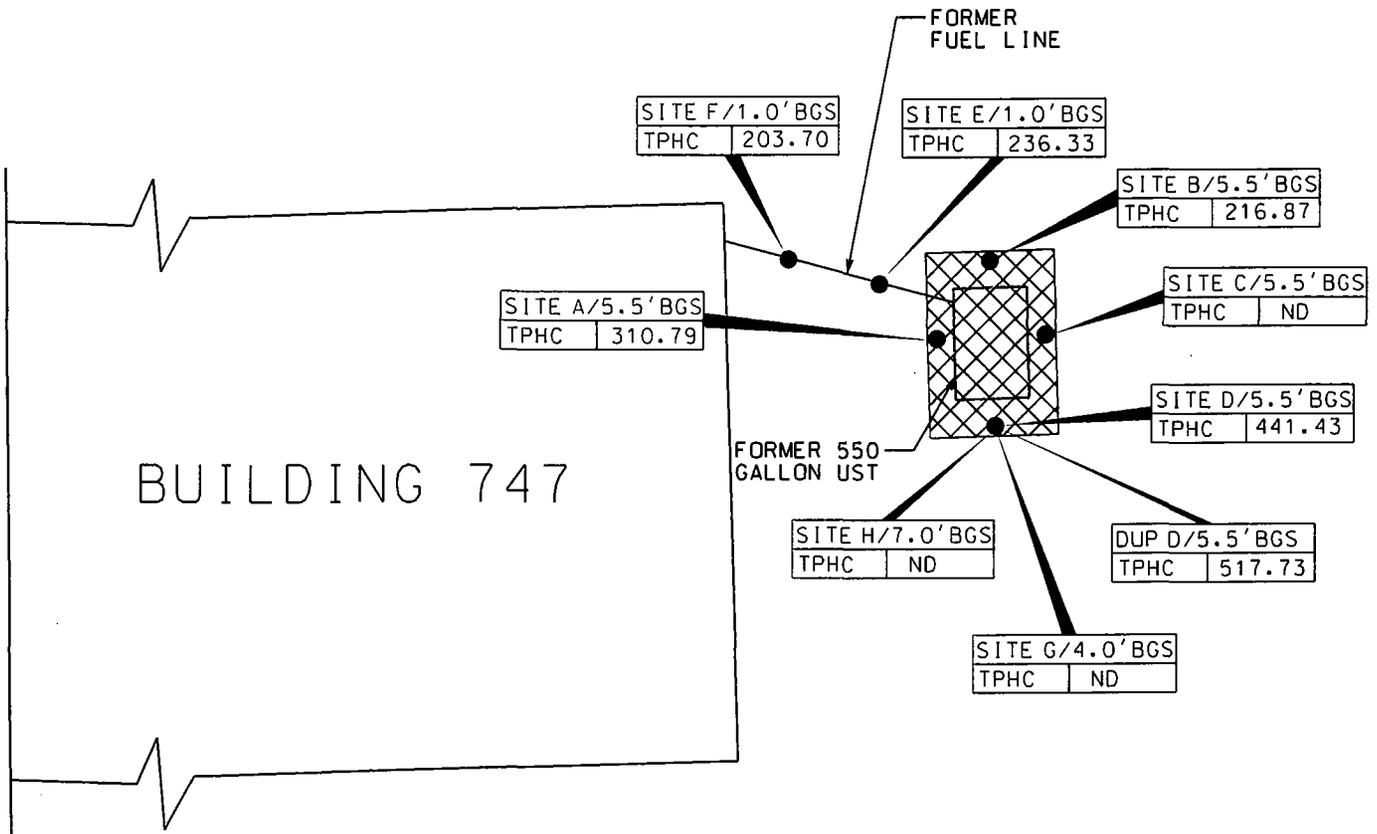


**FIGURE 3**  
**CROSS SECTIONAL VIEW**  
**BUILDING 747**  
**FORT MONMOUTH ARMY BASE**  
**MONMOUTH COUNTY, NJ**

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

SCALE: NTS

DATE: OCT 1997



**LEGEND**

- SOIL SAMPLE LOCATION (OCT. 8, 1997)
- ▨ LIMIT OF EXCAVATION (OCT. 9, 1997)

**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 747**  
**FORT MONMOUTH ARMY BASE**  
**MONMOUTH COUNTY, NJ**



**SMC ENVIRONMENTAL**  
**SERVICES GROUP**

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

SCALE: 1"=10'

DATE: OCT. 1997

**APPENDIX A**

**NJDEP-STANDARD REPORTING FORM**



State of New Jersey  
Department of Environmental Protection and Energy  
Division of Responsible Party Site Remediation  
CN 028  
Trenton, NJ 08625-0029

ATTN: UST Program  
(609) 984-3156

For State Use Only

Date Rec'd. \_\_\_\_\_  
Auth. \_\_\_\_\_  
Routing \_\_\_\_\_  
UST NO. \_\_\_\_\_

STANDARD REPORTING FORM  
for reporting activities at an UST facility:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> General Facility Information Changes | <input type="checkbox"/> Sale or Transfer         |
| <input type="checkbox"/> Closure (Abandonment or Removal)                | <input type="checkbox"/> Substantial Modification |
| <input type="checkbox"/> Temporary Closure                               | <input type="checkbox"/> Financial Responsibility |
| <input type="checkbox"/> Change in Service                               | <input type="checkbox"/> Address Change Only      |

Check ONLY One Type of Activity - Complete Form For That Activity

(More than one tank can be listed per activity)

\*\*\* NOTE \*\*\* ALL NEW tank installations at existing registered facilities must submit a Registration Questionnaire for the new tanks.

Answer questions 1 through 5 and others as applicable.

1. Company name and address (as it appears on registration questionnaire):

U.S. ARMY - FORT MONMOUTH  
DPW - BUILDING 173  
FORT MONMOUTH NJ 07703

2. Facility name and location (if different from above):

MAIN Post West

3. Contact person for this activity:

Charles Appleby

Telephone Number: (732) 532-6224

4. The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire:

Bldg 747

5. Registration Number (if known):

UST - 0081533-121

6. For GENERAL FACILITY INFORMATION changes (address, telephone, contact person, etc. - supply NEW information only):

- a. Facility name: \_\_\_\_\_
- b. Facility location: \_\_\_\_\_
- c. Owner's mailing address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ NJ \_\_\_\_\_
- d. Block: \_\_\_\_\_ Lot: \_\_\_\_\_
- e. Contact person (facility operator): \_\_\_\_\_
- f. Contact telephone number: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_
- g. Other (Specify): \_\_\_\_\_

(OVER)

7. For CLOSURE (abandonment or removal - check all that apply):
- a.  Abandonment Date:     /    /     Case No:       
 Attach the necessary implementation schedule (3 copies) and all documentation needed for abandonment per N.J.A.C. 7:14B-9.1 (d).
  - b.  Removal Date: 10/5/97 Case No. NA  
 Attach the necessary implementation schedule (3 copies).

8. For CHANGES IN HAZARDOUS SUBSTANCES STORED (check all that apply):
- a.  Temporary Closure (12 month maximum time - see N.J.A.C. 7:14B-9.1(b)). Remove all hazardous substances; leave tank in place.
  - b.  Change in service from a regulated substance to a non-regulated substance. Tank must be cleaned and site assessment performed per N.J.A.C. 7:14B-9.1(e).
  - c.  Changes in service from one regulated hazardous substance to another regulated hazardous substance.
- |                      |                 |                 |
|----------------------|-----------------|-----------------|
| Tank No. <u>    </u> | Old <u>    </u> | New <u>    </u> |
| Tank No. <u>    </u> | Old <u>    </u> | New <u>    </u> |
| Tank No. <u>    </u> | Old <u>    </u> | New <u>    </u> |
- (Attach additional sheets if more space is needed)

9. For TRANSFER OF OWNERSHIP: Effective Date:     /    /
- a. New Owner (operator)
  - b. New Facility Name       
     NJ       
     County
  - c. Closing Attorney      Tele: (      )      -

10. For SUBSTANTIAL MODIFICATIONS (to include any retrofitted activity - e.g. the addition of spill/overfill protection, monitoring systems, cathodic protection, etc.):
- a. Type of Modification      Date:     /    /
  - b. \* NOTE \* Substantial modifications require a permit under N.J.A.C. 7:14B-10.

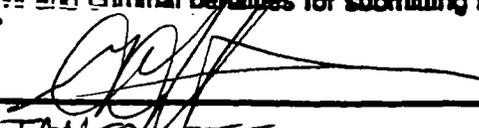
11. For changes in FINANCIAL RESPONSIBILITY to (check appropriate changes and attach copies of new information):
- a. Policy Type:
  - b. Policy Number:
  - c. Other:
  - d. Company/Carrier:
  - e. Expiration Date:
- (Specify)

**NOTE: ALL appropriate and applicable permits, licenses and certificates required by the above activity(ies) from any local, state and/or federal agencies must be obtained separately from this notification.**

**CERTIFICATION**

\*\*\*This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for the facility (N.J.A.C. 7:14B-2.3 (a) 1).\*\*\*

"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: 

Name (print or type): JAMES MOTT

Title: DIRECTOR - DEPT OF PUBLIC WORKS Date: 10/7/97

**APPENDIX B**

**SITE ASSESSMENT SUMMARY**

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: Eatontown 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 : 81533-121 (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.: 2056

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: 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.
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:

Company Name: U.S. Army Fort Monmouth

Date: 11/21/99

**APPENDIX C**  
**WASTE MANIFEST**



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

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No.

NJ.3.21.00.20597

Manifest Document No.

08113

2. Page 1

of 1

NHZ 008113

3. Generator's Name and Mailing Address  
U.S. ARMY COMMUNICATIONS ELECTRONICS COMMAND MAIN POST  
610 J. FALLON BLDG 173 ATTN: SELEM-P.C. EV  
FORT MONMOUTH, N.J. 07703

B. 747

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

5. Transporter 1 Company Name  
LIONETTI OIL RECOVERY CC INC

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

A. Transporter's Phone  
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address  
LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS  
RUNYON&CHEESEQUAKE RDS  
OLD BRIDGE, NJ 08857

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

C. Facility's Phone  
908 721-0900

11. Waste Shipping Name and Description

12. Containers No. Type 13. Total Quantity 14. Unit Wt/Vol

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

0 0 1 T 62450 G

b.

c.

d.

D. Additional Descriptions for Materials Listed Above  
T, L PETROLEUM OIL 42 %  
WATER 58 %

E. Handling Codes for Wastes Listed Above  
T04 FILTRATION

15. Special Handling Instructions and Additional Information  
24 HR EMERGENCY RESPONSE#(908) 721-0900  
DECAL #8704 ERG#128 DEXSIL TEST KIT RESULTS \_\_\_\_\_ 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  
PINKER, M. DESAI

Signature  
*[Signature]*

Month Day Year  
11 10 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name  
DAN MACKAY

Signature  
*[Signature]*

Month Day Year  
11 10 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name  
*[Signature]*

Signature  
*[Signature]*

Month Day Year  
11 10 97

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL - RETURN TO GENERATOR

## 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

01706023

BILL TO

MARPS08937  
MARPAL COMPANY  
PO BOX 188

LINCROFT

NJ 07738

HAULER

MARPS08937  
MARPAL COMPANY  
PO BOX 188

LINCROFT NJ 07738

Escrow Level: 2400.00

76852

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		( 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 - (MCR) MONMOUTH COUNTY EATONTOWN BOROUGH	Tons	88.15	331.44		
			100.00%				
I hereby certify that the information provided on this form is true to the best of my knowledge.					28628.66	*** DOCUMENT TOTAL	
DRIVER NAME PRINT: R. Jacques					SIGNATURE: <i>[Signature]</i>		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  
96-1262  
Bldg. 747

Project # 3054  
Date Rec. 10/09/97  
Date Comp. 10/11/97  
Released by:



Daniel K. Wright  
Laboratory Director

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## 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.

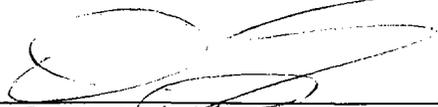
- The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

	<u>No</u>	<u>Yes</u>
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

# Fort Monmouth Environmental Testing Laboratory

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

Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

## Chain of Custody Record

Customer: <b>DPW-ENV</b>		Project No: <b>96-1262</b>		Analysis Parameters						Comments:			
Phone #:		Location: <b>B. 747</b>								*SAMPLES KEPT BELOW 4°C.			
( ) DERA (X) OMA ( ) Other:		Samplers Name / Company: <b>GARY D. MARTINIS-TUS</b>		Sample #							Remarks / Preservation Method		
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles	TPHC	TO SOLIDS	MUNSELL				OVA	
3054.01	747-ES	10-9-97	0929	Soil	1	X	X	X	15.53			ND	Exc. Soil *
.02	A		0954						15.81			ND	SIDEWALL @ 5.5'
.03	B		1041						15.91			ND	
.04	C		0951						16.02	MS 15.14	MSD 15.20	ND	
.05	D		0958						15.37			10	
.06	E		1057						15.00			ND	Piping Run @ 1.0'
.07	F		1104						15.91			ND	
.08	G		1048						15.48			ND	SIDEWALL @ 4.0'
.09	H		1053						15.18			ND	SIDEWALL @ 7.0'
.10	DUP		—						15.37			—	FIELD DUPLICATE
NOTE: OVA (#AS2114) CALIBRATED w/95 ppm CH4 + ZERO (0) AIR @ 0917 HRS. ON 10-9-97 by G. D. MARTINIS													
Relinquished by (signature):		Date/Time: 10-9-97/1455	Received by (signature):		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						Remarks: DEDICATED SAMPLING TOOLS USED.							
Turnaround time: ( ) Standard 4 wks, (X) Rush 3 Days, ( ) ASAP Verbal Hrs.													



Response Factor Report FID/TCD

Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997

Calibration Files

1 =T02563.D 2 =T02562.D 3 =T02561.D  
 4 =T02560.D 5 =T02559.D

Compound			1	2	3	4	5	Avg	%RSD
1) t	C8		1.239	1.233	1.136	1.165	1.149	1.184	E4 4.06
2) t	C10		1.261	1.273	1.178	1.200	1.187	1.220	E4 3.62
3) t	C12		1.329	1.346	1.248	1.268	1.259	1.290	E4 3.43
4) t	C14		1.358	1.369	1.269	1.289	1.283	1.314	E4 3.53
5) t	C16		1.374	1.394	1.290	1.310	1.304	1.334	E4 3.48
6) t	C18		1.608	1.612	1.492	1.475	1.545	1.546	E4 4.10
7) t	C20		1.484	1.499	1.382	1.409	1.393	1.433	E4 3.77
8) t	C22		1.462	1.489	1.385	1.416	1.410	1.432	E4 2.93
9) t	C24		1.479	1.469	1.363	1.400	1.393	1.421	E4 3.56
10) t	C26		1.352	1.295	1.330	1.367	1.378	1.344	E4 2.47
11) t	C28		1.232	1.272	1.214	1.253	1.350	1.264	E4 4.17
12) t	C30		1.176	1.209	1.155	1.214	1.356	1.222	E4 6.43
13) t	C32		1.077	1.131	1.072	1.187	1.230	1.139	E4 6.03
14) t	C34		1.033	1.069	0.948	1.179	1.089	1.064	E4 7.91
15) t	C36		8.305	8.680	6.669	9.566	8.289	8.302	E3 12.64
16) t	C38		5.760	5.941	3.889	6.293	5.501	5.477	E3 17.04
17) t	C40		3.163	3.285	1.884	3.423	2.984	2.948	E3 20.90
18) t	c42		1.608	1.557	0.832	1.656	1.400	1.411	E3 23.92
19) T	Pristane		1.484	1.490	1.364	1.403	1.349	1.418	E4 4.65
20) T	Phytane		1.502	1.513	1.389	1.413	1.393	1.442	E4 4.19
21) s	o-terphenyl		1.615	1.629	1.504	1.542	1.531	1.564	E4 3.52
22) t	TPHC - total		1.804	1.668	1.279	1.394	1.322	1.494	E4 15.43

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\971010\T02648.D  
 Acq On : 10 Oct 97 3:38 pm  
 Sample : 50 ppm std  
 Misc :  
 IntFile : TPHCINT.E

Vial: 2  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 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 t C8	11.844	9.999 E3	15.6	84	-0.03
2 t C10	12.199	10.929 E3	10.4	88	0.00
3 t C12	12.899	11.529 E3	10.6	88	0.00
4 t C14	13.135	11.676 E3	11.1	87	0.00
5 t C16	13.343	11.857 E3	11.1	87	0.00
6 t C18	15.464	13.666 E3	11.6	87	0.00
7 t C20	14.334	12.761 E3	11.0	88	0.00
8 t C22	14.324	12.808 E3	10.6	88	0.00
9 t C24	14.208	12.673 E3	10.8	89	0.00
10 t C26	13.442	12.147 E3	9.6	90	0.00
11 t C28	12.641	11.832 E3	6.4	98	0.00
12 t C30	12.219	11.627 E3	4.8	104	0.00
13 t C32	11.393	10.448 E3	8.3	104	0.00
14 t C34	10.635	8.781 E3	17.4	100	0.00
15 t C36	8.302	6.116 E3	26.3#	97	-0.01
16 t C38	5.477	3.618 E3	33.9#	95	-0.01
17 t C40	2.948	1.777 E3	39.7#	94	-0.02
18 t c42	1.411	0.804 E3	43.0#	93	-0.03
19 T Pristane	14.180	12.552 E3	11.5	88	0.00
20 T Phytane	14.419	12.845 E3	10.9	89	0.00
21 s o-terphenyl	15.642	13.946 E3	10.8	91	0.00
22 t TPHC - total	14.936	11.915 E3	20.2	88	0.92#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\971010\T02659.D  
 Acq On : 11 Oct 97 1:40 am  
 Sample : 50 ppm std  
 Misc :  
 IntFile : TPHCINT.E

Vial: 2  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 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 t C8	11.844	10.453 E3	11.7	88	0.00
2 t C10	12.199	11.513 E3	5.6	93	0.00
3 t C12	12.899	12.227 E3	5.2	93	0.00
4 t C14	13.135	12.409 E3	5.5	93	0.00
5 t C16	13.343	12.578 E3	5.7	93	0.00
6 t C18	15.464	14.522 E3	6.1	92	0.00
7 t C20	14.334	13.514 E3	5.7	94	0.00
8 t C22	14.324	13.477 E3	5.9	93	0.00
9 t C24	14.208	13.369 E3	5.9	93	0.00
10 t C26	13.442	13.081 E3	2.7	97	0.00
11 t C28	12.641	12.497 E3	1.1	104	-0.01
12 t C30	12.219	12.250 E3	-0.3	110	-0.01
13 t C32	11.393	10.979 E3	3.6	110	-0.01
14 t C34	10.635	9.186 E3	13.6	105	-0.01
15 t C36	8.302	6.333 E3	23.7	101	-0.02
16 t C38	5.477	3.683 E3	32.8#	97	-0.02
17 t C40	2.948	1.771 E3	39.9#	93	-0.03
18 t c42	1.411	0.773 E3	45.2#	90	-0.04
19 T Pristane	14.180	13.352 E3	5.8	93	0.00
20 T Phytane	14.419	13.621 E3	5.5	94	0.00
21 s o-terphenyl	15.642	14.741 E3	5.8	97	0.00
22 t TPHC - total	14.936	12.784 E3	14.4	94	0.92#



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

**Matrix Spike Recovery Report**

Lab. ID #: 3054

Location #: B.747

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
3054.04MS	1000	0.00	1046.08	104.61	75-125
3054.04MSD	1000	0.00	1053.73	105.37	75-125

RPD	0.73	20.00
-----	------	-------

10/15/97

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

**Blank Spike Recovery Report**

Lab. ID #: 3054

Location #: B.747

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	10-Oct-97	1000	1021.37	102.14	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\971010\T02657.D  
 Acq On : 11 Oct 97 12:03 am  
 Sample : 3054.01  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 15 8:29 1997

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

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.M

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

Compound	R.T.	Response	Conc	Units
<b>System Monitoring Compounds</b>				
21) s o-terphenyl	13.65	189521	12.117	mg/L
Spiked Amount 10.000		Recovery =	121.17%	
<b>Target Compounds</b>				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	0.00	0	N.D.	mg/L
8) t C22	13.86	1636	0.114	mg/L
9) t C24	14.71	3971	0.279	mg/L
10) t C26	15.31	1091	0.081	mg/L
11) t C28	15.93	1779	0.141	mg/L
12) t C30	16.62	1822	0.149	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	0.00	0	N.D.	mg/L
22) t TPHC - total	13.65	906450	60.689	mg/L m

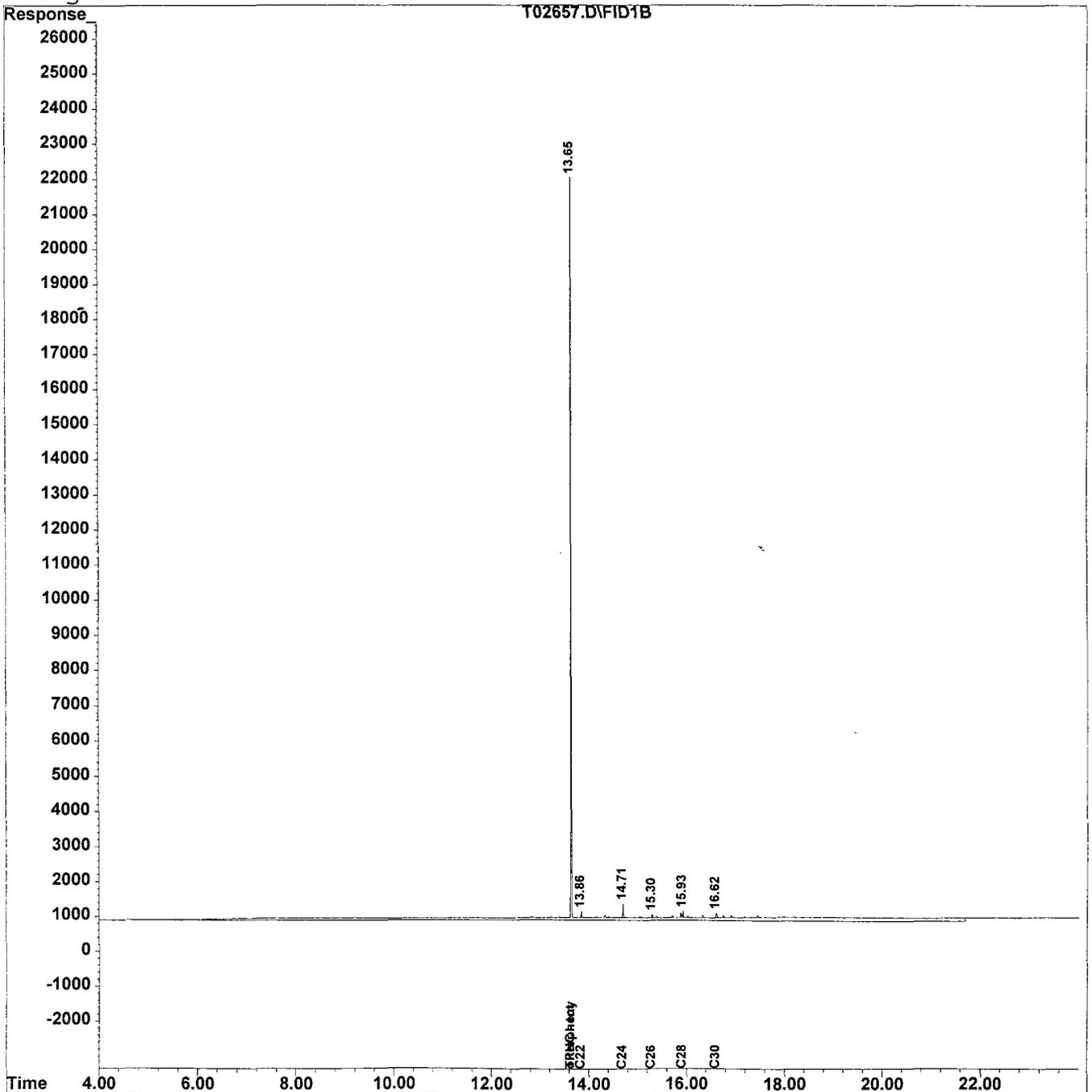
Quantitation Report

Data File : C:\HPCHEM\1\DATA\971010\T02657.D  
Acq On : 11 Oct 97 12:03 am  
Sample : 3054.01  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 15 8:29 1997 Quant Results File: TPH15.RES

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

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02658.D  
 Acq On : 11 Oct 97 12:51 am  
 Sample : 3054.02  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 15 8:30 1997

Vial: 12  
 Operator: DEINHARDT  
 Inst : FID/TCID  
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.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) s o-terphenyl	13.65	199570	12.759	mg/L
Spiked Amount 10.000		Recovery =	127.59%	
Target Compounds				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	13.39	1553	0.108	mg/L
8) t C22	0.00	0	N.D.	mg/L
9) t C24	14.71	6753	0.475	mg/L
10) t C26	15.39	6132	0.456	mg/L
11) t C28	16.03	6365	0.503	mg/L
12) t C30	16.63	3653	0.299	mg/L
13) t C32	17.39	1018	0.089	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	13.39	1553	0.108	mg/L
22) t TPHC - total	13.64	1107567	74.155	mg/L m

Quantitation Report

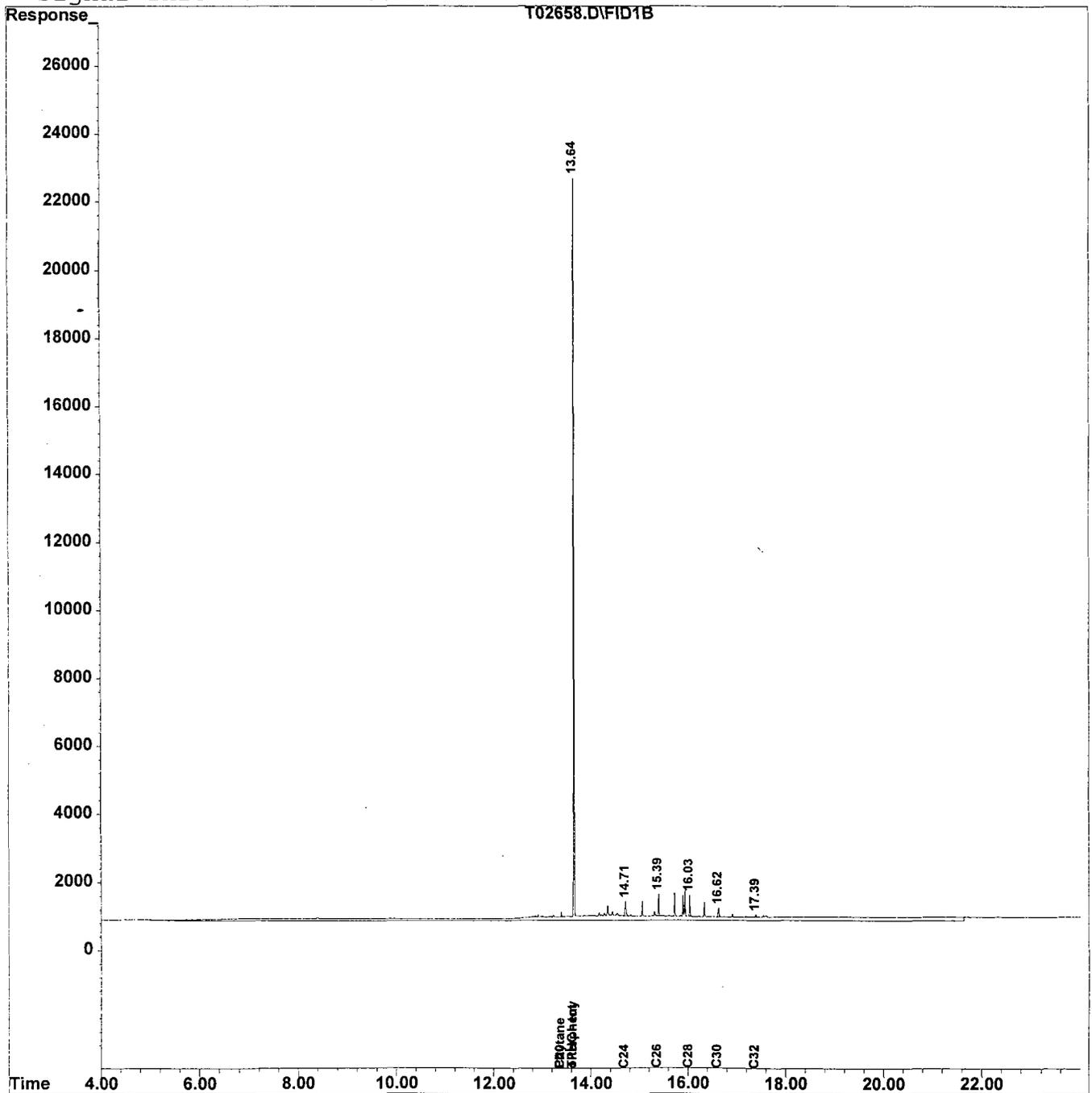
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Acq On : 11 Oct 97 12:51 am  
Sample : 3054.02  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 15 8:30 1997

Vial: 12  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02660.D  
 Acq On : 11 Oct 97 2:28 am  
 Sample : 3054.03  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 15 8:30 1997

Vial: 14  
 Operator: DEINHARDT  
 Inst : FID/TCID  
 Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.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) s o-terphenyl	13.65	192976	12.337	mg/L
Spiked Amount 10.000		Recovery =	123.37%	
Target Compounds				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	0.00	0	N.D.	mg/L
8) t C22	13.86	1047	0.073	mg/L
9) t C24	14.71	3340	0.235	mg/L
10) t C26	15.31	1178	0.088	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.62	1791	0.147	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	0.00	0	N.D.	mg/L
22) t TPHC - total	13.64	711381	47.629	mg/L m

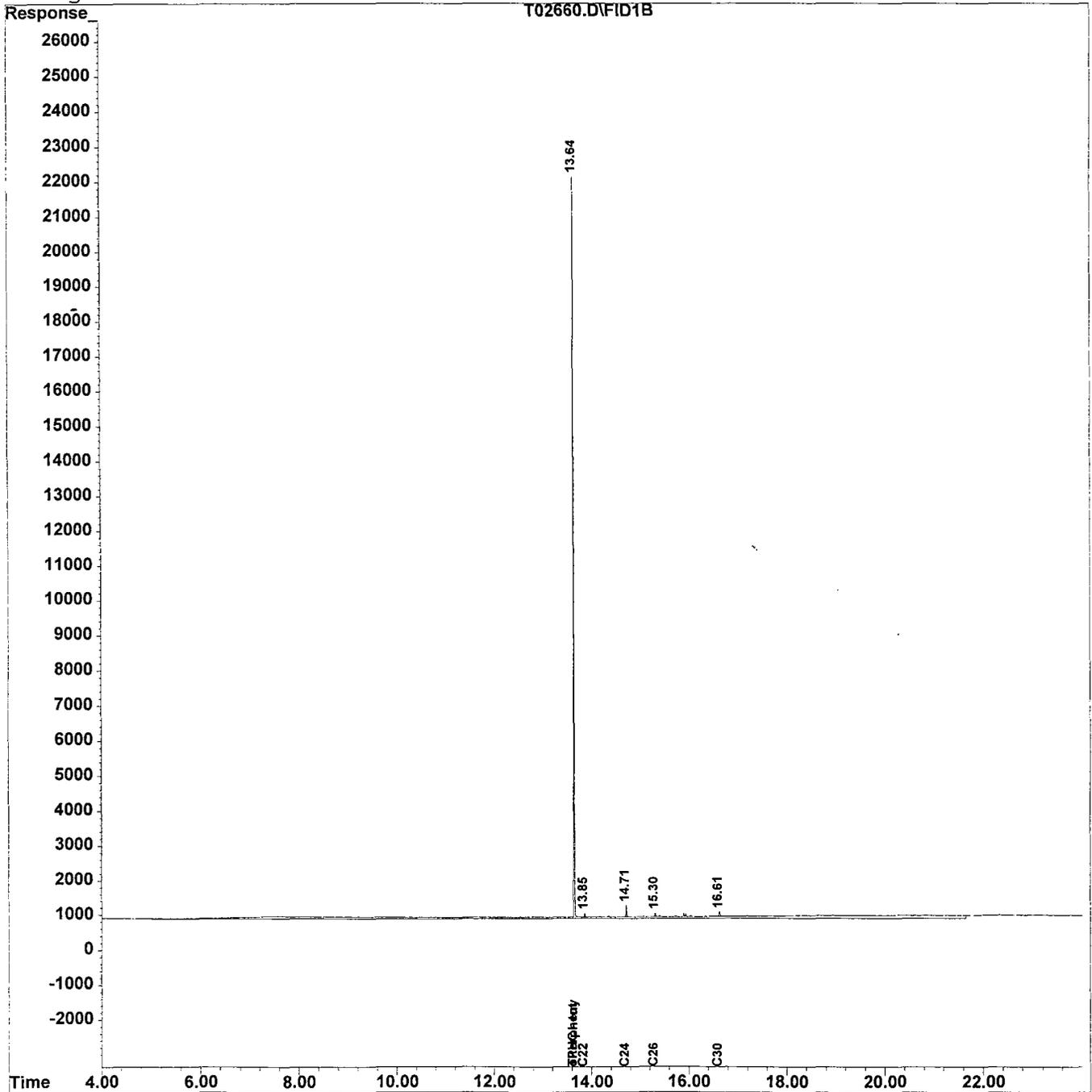
Quantitation Report

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Acq On : 11 Oct 97 2:28 am  
Sample : 3054.03  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 15 8:30 1997

Vial: 14  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02661.D  
 Acq On : 11 Oct 97 3:15 am  
 Sample : 3054.04  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 11 3:43 1997

Vial: 15  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.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) s o-terphenyl	13.65	197136	12.603	mg/L
Spiked Amount 10.000		Recovery =	126.03%	
Target Compounds				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t -C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	0.00	0	N.D.	mg/L
8) t C22	0.00	0	N.D.	mg/L
9) t C24	14.71	3122	0.220	mg/L
10) t C26	0.00	0	N.D.	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.62	1008	0.082	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	0.00	0	N.D.	mg/L
22) t TPHC - total	0.00	0	N.D.	mg/L

Quantitation Report

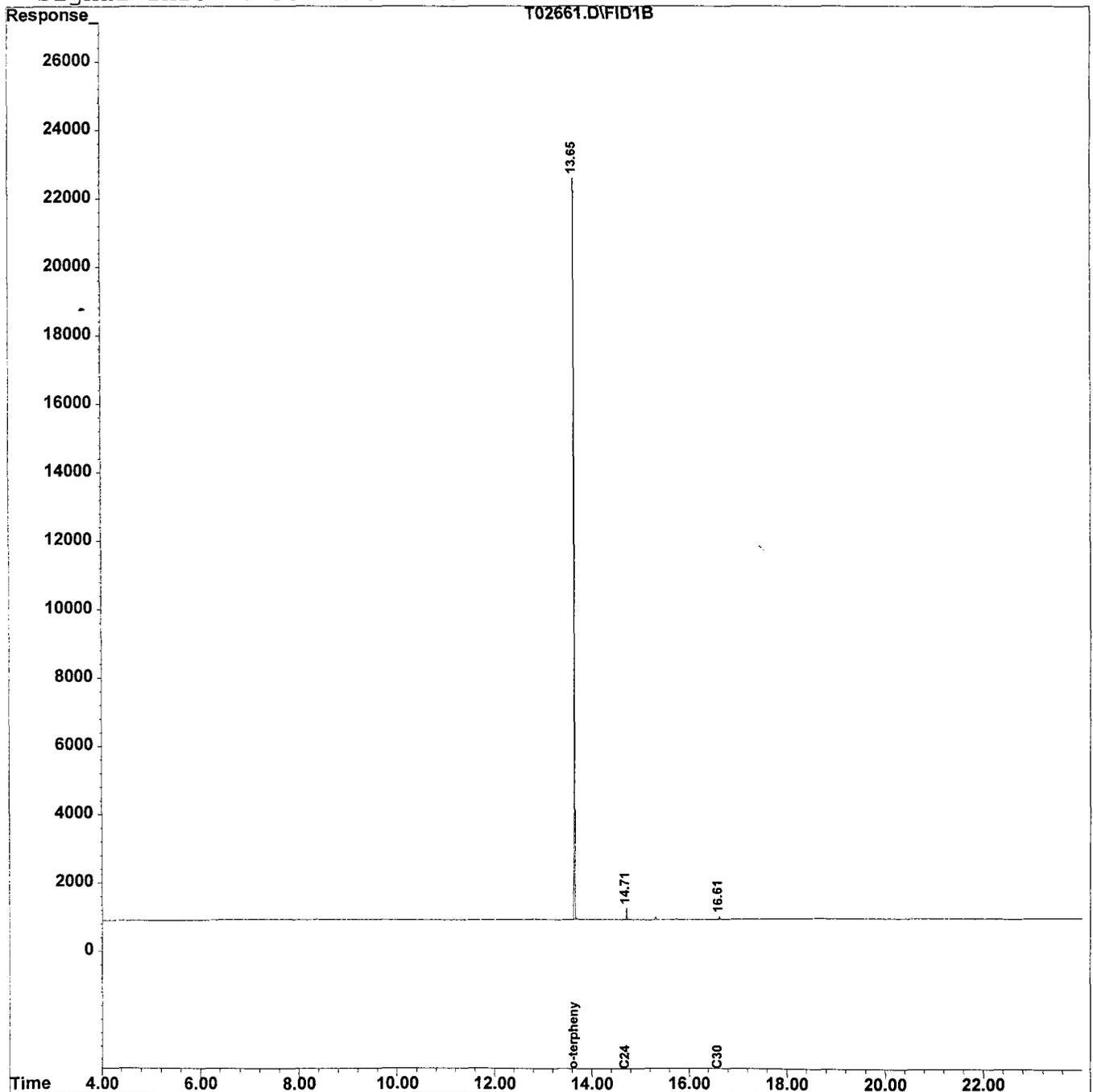
Data File : C:\HPCHEM\1\DATA\971010\T02661.D  
Acq On : 11 Oct 97 3:15 am  
Sample : 3054.04  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 11 3:43 1997

Vial: 15  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02664.D  
 Acq On : 11 Oct 97 5:36 am  
 Sample : 3054.05  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 15 8:33 1997

Vial: 18  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.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) s o-terphenyl	13.65	199496	12.754	mg/L
Spiked Amount 10.000		Recovery =	127.54%	
Target Compounds				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	10.06	2408	0.187	mg/L
4) t C14	11.22	1428	0.109	mg/L
5) t C16	12.23	2067	0.155	mg/L
6) t C18	12.69	2208	0.143	mg/L
7) t C20	13.13	2538	0.177	mg/L
8) t C22	13.95	1161	0.081	mg/L
9) t C24	14.71	4260	0.300	mg/L
10) t C26	15.30	1140	0.085	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.61	1162	0.095	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	12.72	5796	0.409	mg/L
20) T Phytane	13.17	4096	0.284	mg/L
22) t TPHC - total	13.64	1519354	101.725	mg/L m

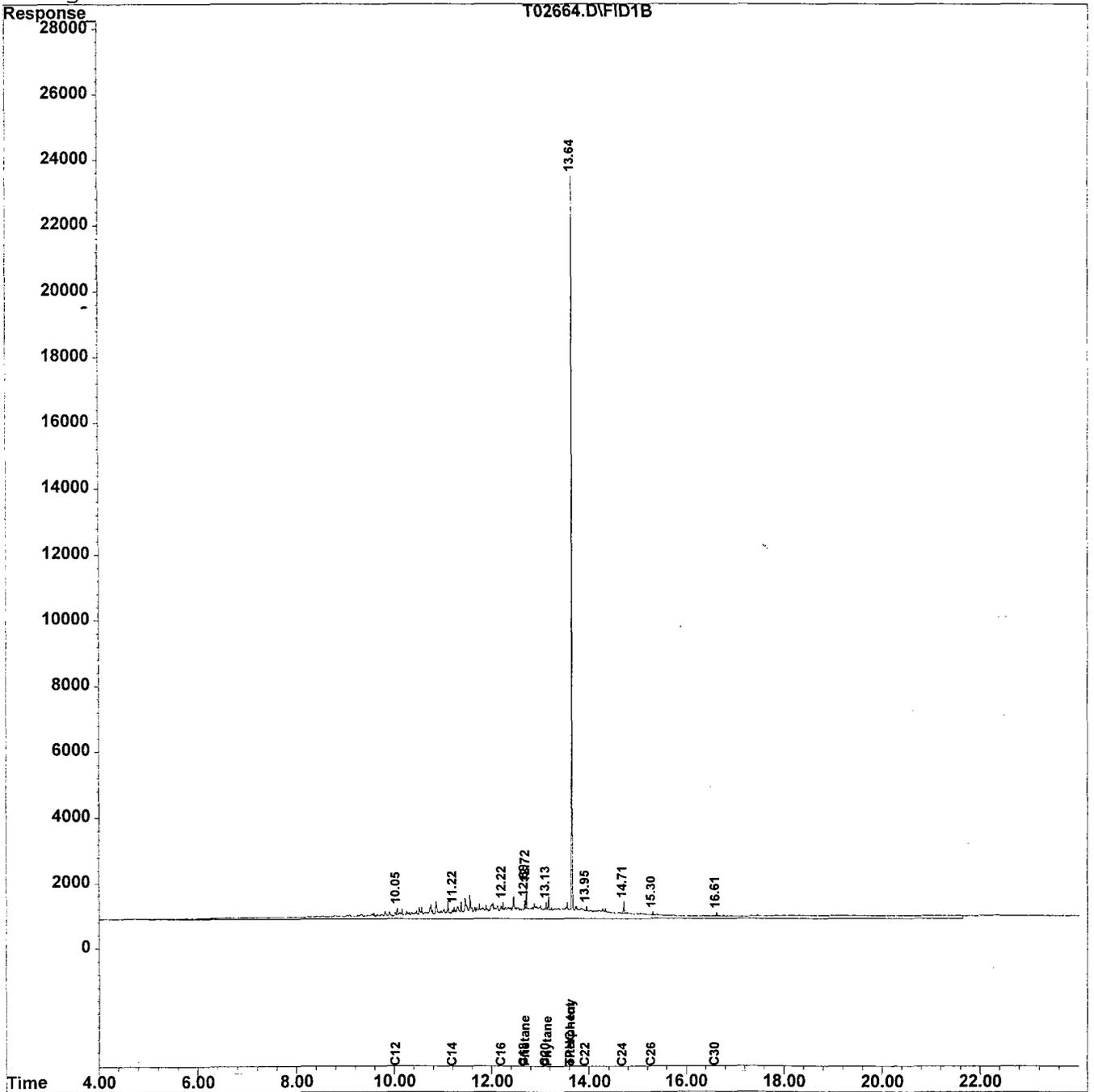
Quantitation Report

Data File : C:\HPCHEM\1\DATA\971010\T02664.D  
Acq On : 11 Oct 97 5:36 am  
Sample : 3054.05  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 15 8:33 1997 Quant Results File: TPH15.RES

Vial: 18  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02665.D  
 Acq On : 11 Oct 97 6:22 am  
 Sample : 3054.06  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 15 8:33 1997 Quant Results File: TPH15.RES

Vial: 19  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.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) s o-terphenyl	13.65	200497	12.818	mg/L
Spiked Amount 10.000		Recovery =	128.18%	
Target Compounds				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	0.00	0	N.D.	mg/L
8) t C22	0.00	0	N.D.	mg/L
9) t C24	14.71	3914	0.275	mg/L
10) t C26	15.39	1349	0.100	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.62	1451	0.119	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	0.00	0	N.D.	mg/L
22) t TPHC - total	13.64	933143	62.476	mg/L m

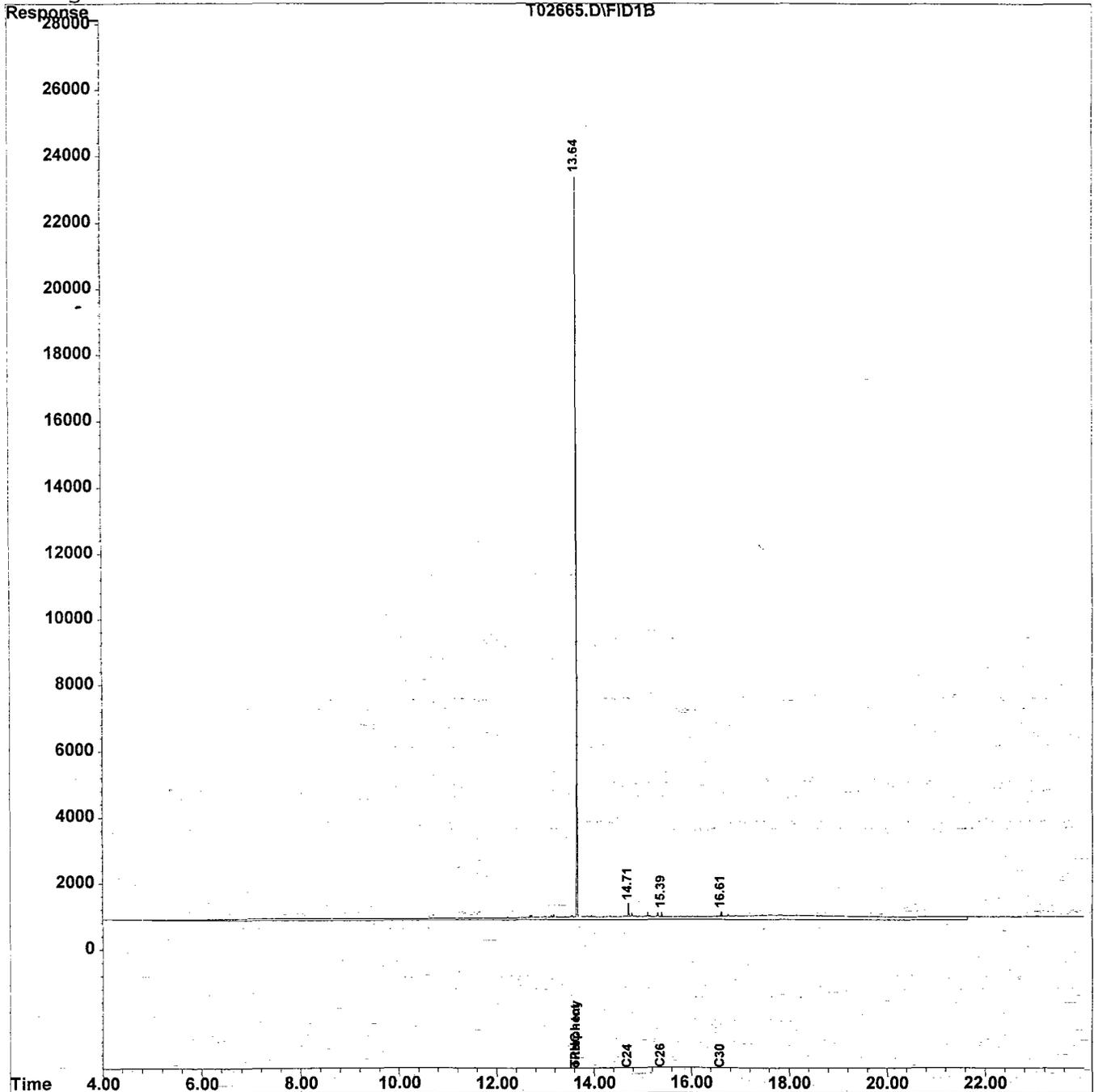
Quantitation Report

Data File : C:\HPCHEM\1\DATA\971010\T02665.D  
Acq On : 11 Oct 97 6:22 am  
Sample : 3054.06  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 15 8:33 1997 Quant Results File: TPH15.RES

Vial: 19  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02666.D  
 Acq On : 11 Oct 97 7:09 am  
 Sample : 3054.07  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 15 8:34 1997

Vial: 20  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.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) s o-terphenyl	13.65	201660	12.893	mg/L
Spiked Amount 10.000		Recovery =	128.93%	

Target Compounds

1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	0.00	0	N.D.	mg/L
8) t C22	0.00	0	N.D.	mg/L
9) t C24	14.71	3538	0.249	mg/L
10) t C26	15.39	1007	0.075	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.61	1288	0.105	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	0.00	0	N.D.	mg/L
22) t TPHC - total	13.64	786866	52.683	mg/L m

Quantitation Report

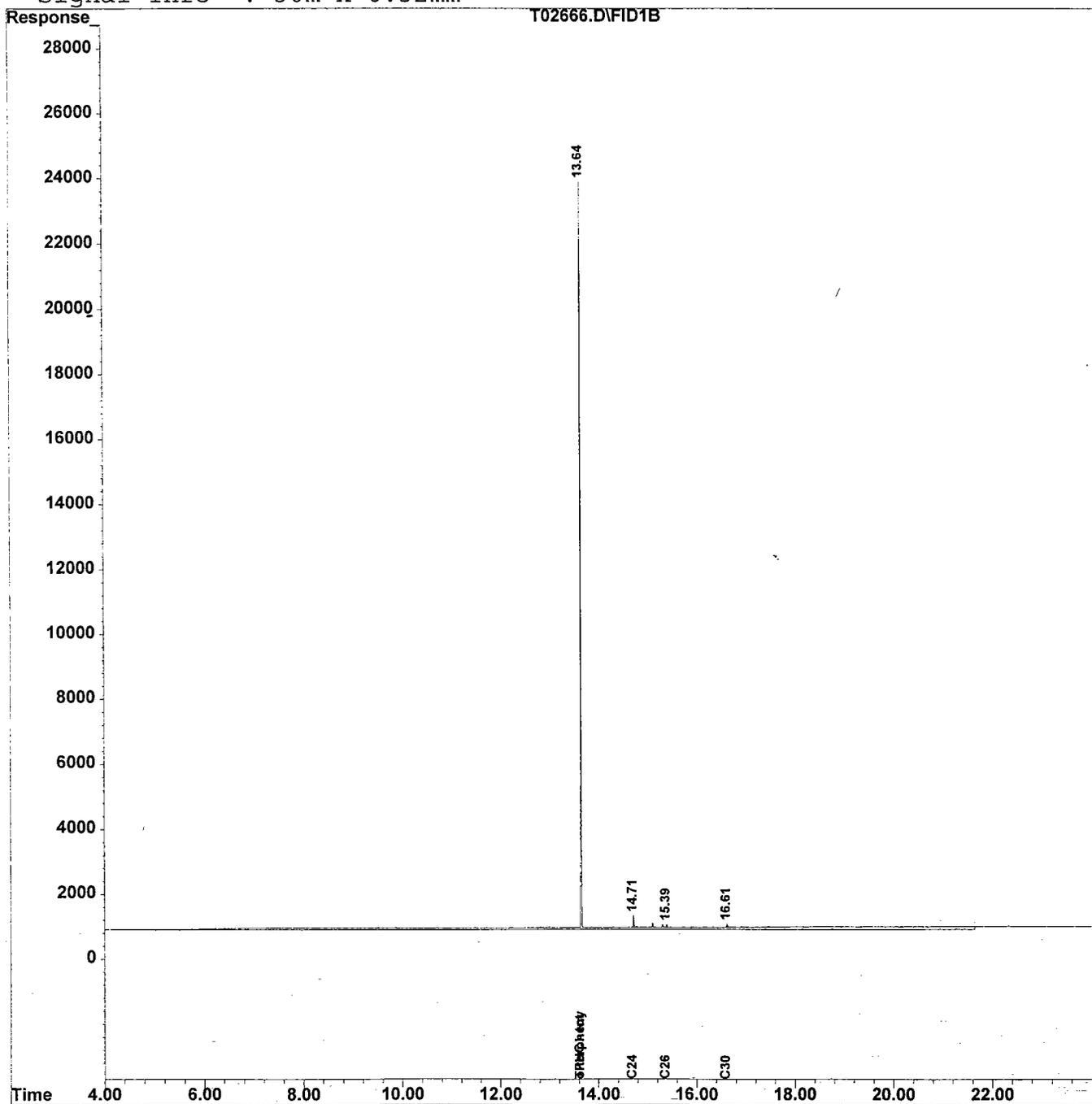
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Acq On : 11 Oct 97 7:09 am  
Sample : 3054.07  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 15 8:34 1997

Vial: 20  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02667.D  
 Acq On : 11 Oct 97 7:57 am  
 Sample : 3054.08  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 11 8:24 1997

Vial: 21  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.M

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

Compound	R.T.	Response	Conc	Units
<b>System Monitoring Compounds</b>				
21) s o-terphenyl	13.65	200182	12.798	mg/L
Spiked Amount 10.000		Recovery =	127.98%	
<b>Target Compounds</b>				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	0.00	0	N.D.	mg/L
8) t C22	0.00	0	N.D.	mg/L
9) t C24	14.71	3364	0.237	mg/L
10) t C26	15.31	1118	0.083	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.61	1312	0.107	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	0.00	0	N.D.	mg/L
22) t TPHC - total	0.00	0	N.D.	mg/L

Quantitation Report

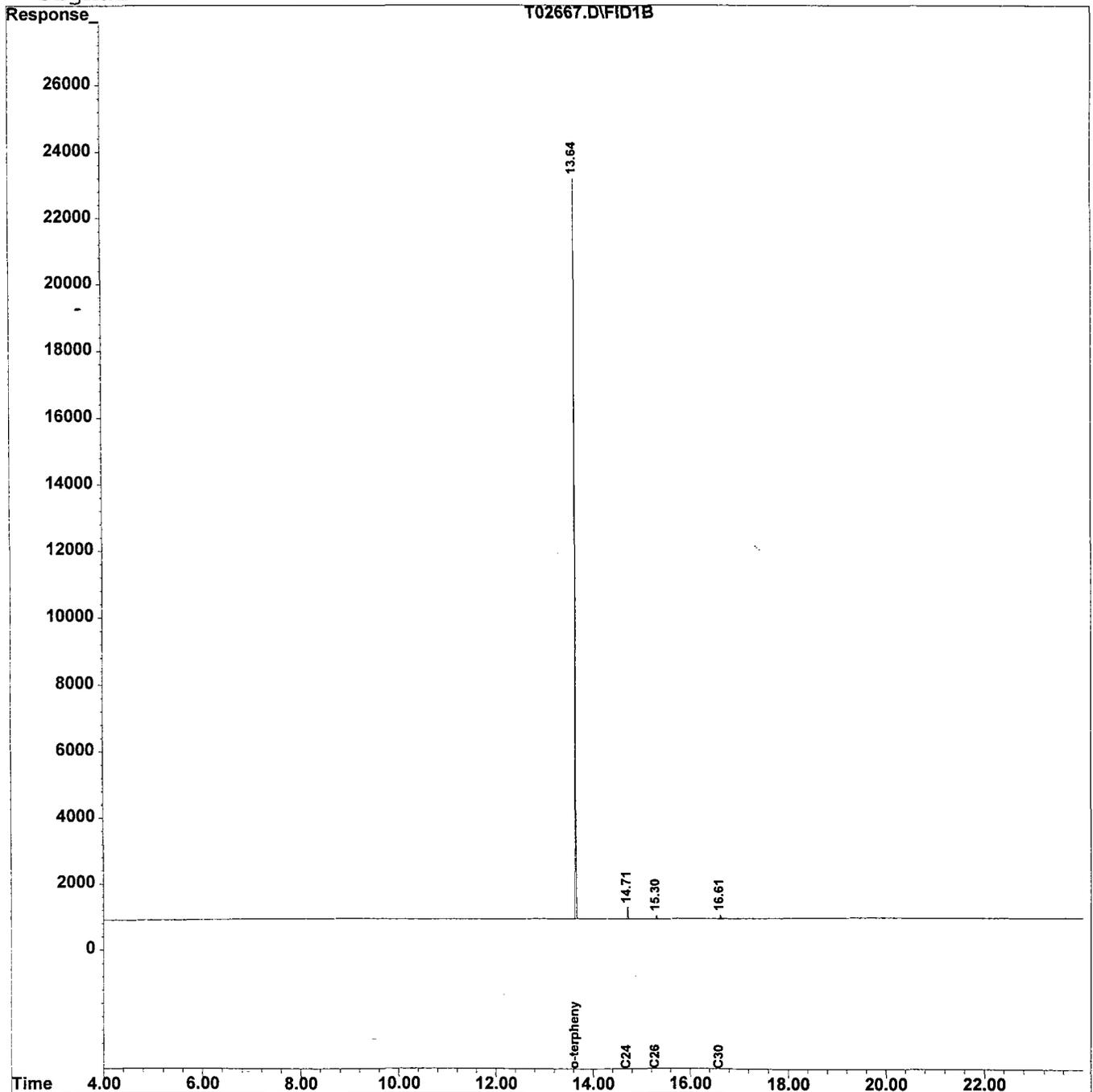
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Acq On : 11 Oct 97 7:57 am  
Sample : 3054.08  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 11 8:24 1997

Vial: 21  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02668.D  
 Acq On : 11 Oct 97 8:43 am  
 Sample : 3054.09  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 11 9:11 1997

Vial: 22  
 Operator: DEINHARDT  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.M

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

Compound	R.T.	Response	Conc	Units
<b>System Monitoring Compounds</b>				
21) s o-terphenyl	13.65	205138	13.115	mg/L
Spiked Amount 10.000	Recovery	=	131.15%	
<b>Target Compounds</b>				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	0.00	0	N.D.	mg/L
6) t C18	0.00	0	N.D.	mg/L
7) t C20	0.00	0	N.D.	mg/L
8) t C22	0.00	0	N.D.	mg/L
9) t C24	14.71	3414	0.240	mg/L
10) t C26	15.30	1243	0.092	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.61	1356	0.111	mg/L
13) t C32	0.00	0	N.D.	mg/L
14) t C34	0.00	0	N.D.	mg/L
15) t C36	0.00	0	N.D.	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	0.00	0	N.D.	mg/L
20) T Phytane	0.00	0	N.D.	mg/L
22) t TPHC - total	0.00	0	N.D.	mg/L

Quantitation Report

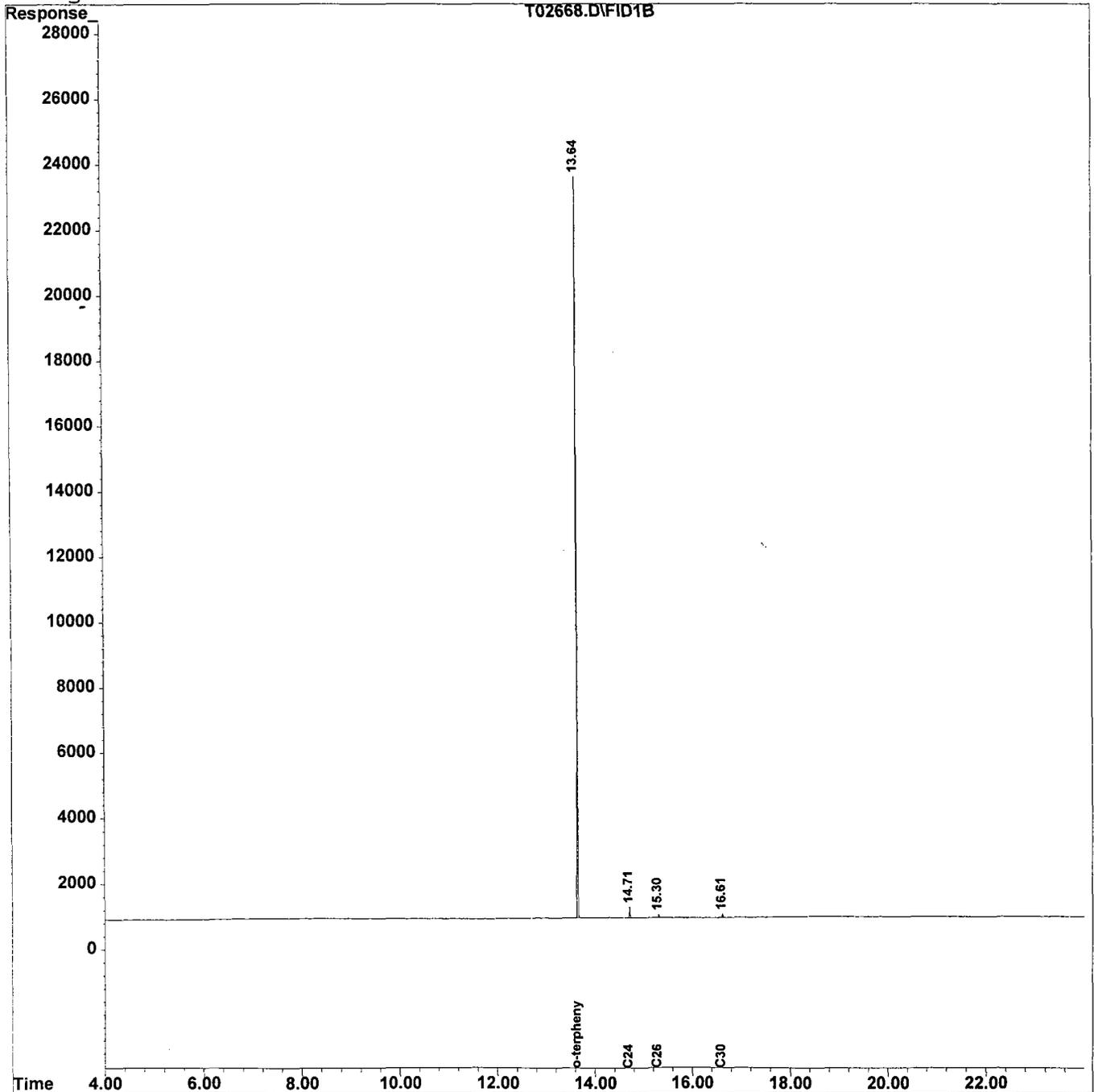
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Acq On : 11 Oct 97 8:43 am  
Sample : 3054.09  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 11 9:11 1997

Vial: 22  
Operator: DEINHARDT  
Inst : FID/TCID  
Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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\971010\T02669.D  
 Acq On : 11 Oct 97 9:32 am  
 Sample : 3054.10  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Oct 15 8:35 1997

Vial: 23  
 Operator: DEINHARDT  
 Inst : FID/TC  
 Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Fri Aug 22 07:39:41 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH15.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) s o-terphenyl	13.64	196719	12.577 mg/L
Spiked Amount 10.000	Recovery	=	125.77%
Target Compounds			
1) t C8	0.00	0	N.D. mg/L
2) t C10	0.00	0	N.D. mg/L
3) t C12	10.06	1955	0.152 mg/L
4) t C14	11.22	1761	0.134 mg/L
5) t C16	12.23	2386	0.179 mg/L
6) t C18	12.69	2185	0.141 mg/L
7) t C20	13.13	2767	0.193 mg/L
8) t C22	13.95	1230	0.086 mg/L
9) t C24	14.71	4454	0.314 mg/L
10) t C26	15.30	1110	0.083 mg/L
11) t C28	0.00	0	N.D. mg/L
12) t C30	16.61	1304	0.107 mg/L
13) t C32	0.00	0	N.D. mg/L
14) t C34	0.00	0	N.D. mg/L
15) t C36	0.00	0	N.D. mg/L
16) t C38	0.00	0	N.D. mg/L
17) t C40	0.00	0	N.D. mg/L
18) t c42	0.00	0	N.D. mg/L
19) T Pristane	12.72	5353	0.377 mg/L
20) T Phytane	13.17	3730	0.259 mg/L
22) t TPHC - total	13.64	1803967	120.780 mg/L m

Quantitation Report

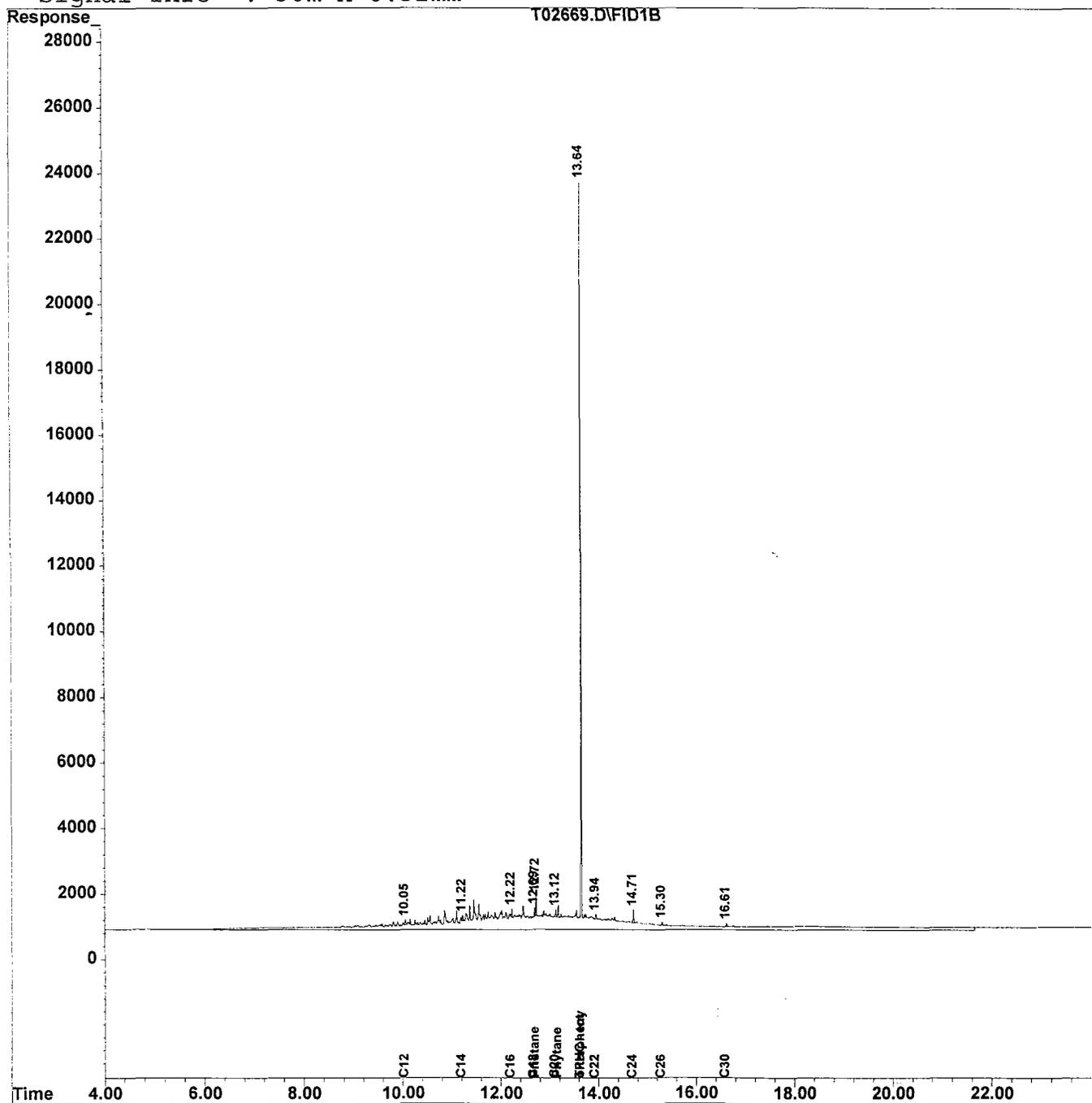
Data File : C:\HPCHEM\1\DATA\971010\T02669.D  
Acq On : 11 Oct 97 9:32 am  
Sample : 3054.10  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Oct 15 8:35 1997

Vial: 23  
Operator: DEINHARDT  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH15.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH15.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Fri Aug 22 07:39:41 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH15.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

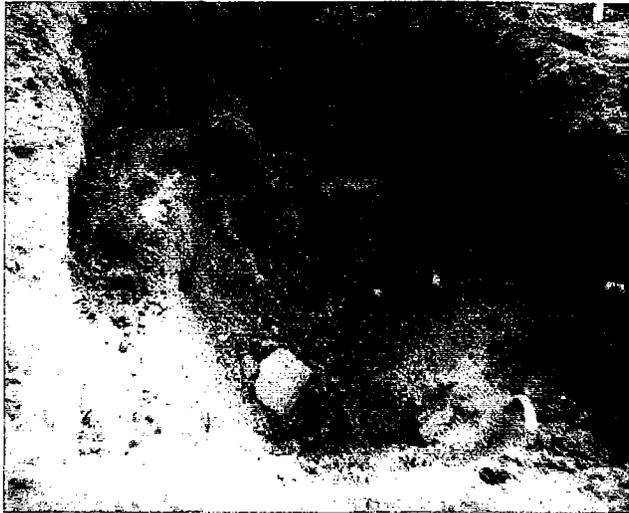
Laboratory Manager or Environmental Consultant's Signature \_\_\_\_\_

Date 2/3/97

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**



B. 747

10-8-97



B. 747

10-8-97



B. 747

10-8-97

**October 8, 1997**  
**PHOTOGRAPHIC LOG**  
**UST NO. 81533-121**  
**Building 747**  
**Main Post-West**  
**Fort Monmouth**



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