

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

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

***Building 2507  
Charles Wood Area***

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**COPY**

**NJDEP UST Registration No. 0081515-18**

**December 1997**

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

**BUILDING 2507**

**CHARLES WOOD AREA  
NJDEP UST REGISTRATION NO. 0081515-18**

**DECEMBER 1997**

**PREPARED FOR:**

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

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**PROJECT NO. 2429-3080**

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## EXECUTIVE SUMMARY

### UST Closure

On June 5, 1997, a tar-coated steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) closure procedures at the Charles Wood area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081515-18 (Fort Monmouth ID No. 2507), was located south of Building 2507 in the Charles Wood area of U.S. Army, Fort Monmouth. UST No. 0081515-18 was an 1,080-gallon No. 2 fuel oil UST. The UST fill port was located directly above the tank.

### 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. No holes were noted in the UST and no evidence of potentially contaminated soils was observed surrounding the tank. Samples contained levels of TPHC ranging in concentration from non-detected to 368.85 mg/kg.

### Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with native topsoil 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. 0081515-18 at Building 2507.

# 1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

## 1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081515-18, was closed at Building 2507 at the Charles Wood area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on June 5, 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 tar-coated steel 1,080-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081515-18 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. 0081515-18 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The NJDEP-BUST Standard Reporting Form and signed Site Assessment Summary form for UST No. 0081515-18 are included in Appendices A and B, respectively.

Based on inspecting the UST, field screening of subsurface soils, 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 U.S. Army 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 2507 is located in the Charles Wood area of the Fort Monmouth Army Base. UST No. 0081515-18 was located south of Building 2507 and appurtenant piping ran approximately thirty (30) feet northwest from the excavation to Building 2507. The fill port area was located directly above the tank. 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 2507. 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 Charles Wood 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 Charles Wood 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 ironoxide encrusted (Minard).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Charles Wood area range from 20 feet above mean seal level (MSL) to 71 feet above MSL.

### Hydrogeology

The water table aquifer in the Charles Wood 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.

Six well records for monitor wells installed at locations within the Charles Wood area in February 1981 were used for reference. The wells were completed to total depths ranging from 20 to 25 feet below ground surface (bgs). Water was encountered at depths ranging from 5 to 12 feet bgs.

The lithologic descriptions for these borings described deposits that were primarily fine to coarse, glauconitic sands, with traces of gravel, silt, and clay. These sediments are part of the Hornerstown Marl, from the Tertiary Period (Paleocene Series, approximately 58 to 66 Ma). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Shallow groundwater is locally influenced within the Charles Wood area by the following factors:

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

Due to the fluvial nature of the overburden deposits (i.e., sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. Building 2507 is located, approximately 100 feet north of Wampum Brook, the nearest water body. Based on the Charles Wood area topography, the groundwater flow in the area of Building 2507 is anticipated to be to the southeast.



### **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**

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

#### **1.4.2 Underground Storage Tank Excavation and Cleaning**

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a hole 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 60 gallons of liquid from the UST and its associated piping were transported to the Fort Monmouth waste oil holding facility. Please refer to Appendix C for a copy of 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 associated with the UST. No contamination was noted anywhere along the piping length. See Figure 3 for a cross-sectional view of the excavated area.

## **1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL**

The tar-coated steel tank was transported to Mazza & Sons, Inc. for disposal in compliance with all applicable regulations and laws. See Appendix D for a copy of the UST disposal certificate and Appendix F for photographs of the UST.

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

- Site of origin
- Contact person
- NJDEP UST Facility ID number
- 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:

- Subsurface Evaluator: Eugene W. Lesinski  
Employer: U.S. Army, Fort Monmouth  
Phone Number: (908) 532-0989  
NJDEP Certification No.: 0014537
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory  
Contact Person: Daniel K. Wright  
Phone Number: (908) 532-4359  
NJDEP Company Certification No.: 13461

### 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.

### 2.3 SOIL SAMPLING

On June 5 and 6, 1997, following the removal of the UST, post-excavation soil samples A, B, C, D, E, F, G, H, and DUP D were collected from a total of eight (8) locations of the UST excavation. Samples A, B, and C were collected along the centerline of the excavation floor at a depth of 6.0 feet bgs. Sidewall samples, D, E, and DUP D were collected along the sidewalls at a depth of 5.5 feet bgs. Samples F, G, and H were collected along the former piping length of the excavation, which was approximately thirty (30) feet in length. The piping samples 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 and associated piping, post-excavation soil samples were collected from a total of eight (8) locations on June 5 and 6, 1997. 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 5 and 6, 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-detected to 368.85 mg/kg.

### **3.2 CONCLUSIONS AND RECOMMENDATIONS**

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 2507 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. 0081515-18 at Building 2507.

# TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES  
 BUILDING 2507, CHARLES WOOD AREA  
 FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
A	6/05/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
B	6/05/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	6/05/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	6/05/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	6/05/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	6/06/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
G	6/06/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
H	6/06/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP D	6/05/97	6/12/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

\* TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS  
 BUILDING 2507, CHARLES WOOD AREA  
 FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameter	Sample Quantitation Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/6.0'	2650.01	6/05/97	6/12/97	Total Solid	--	--	82.33 %	--	--
				TPHC	182	yes	ND	10,000	No
B/6.0'	2650.02	6/05/97	6/12/97	Total Solid	--	--	80.18 %	--	--
				TPHC	194	yes	ND	10,000	No
C/6.0'	2650.03	6/05/97	6/12/97	Total Solid	--	--	80.49 %	--	--
				TPHC	188	yes	ND	10,000	No
D/5.5'	2650.04	6/05/97	6/12/97	Total Solid	--	--	80.68 %	--	--
				TPHC	194	yes	ND	10,000	No
E/5.5'	2650.05	6/05/97	6/12/97	Total Solid	--	--	85.52 %	--	--
				TPHC	175	yes	368.85	10,000	No
F/1.0'	2650.06	6/06/97	6/12/97	Total Solid	--	--	79.34 %	--	--
				TPHC	186	yes	ND	10,000	No
G/1.0'	2650.07	6/06/97	6/12/97	Total Solid	--	--	90.88 %	--	--
				TPHC	172	yes	ND	10,000	No
H/1.0'	2650.08	6/06/97	6/12/97	Total Solid	--	--	90.10 %	--	--
				TPHC	169	yes	ND	10,000	No
DUP D/ 5.5'	2650.09	6/05/97	6/12/97	Total Solid	--	--	79.25 %	--	--
				TPHC	197	yes	ND	10,000	No

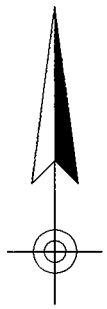
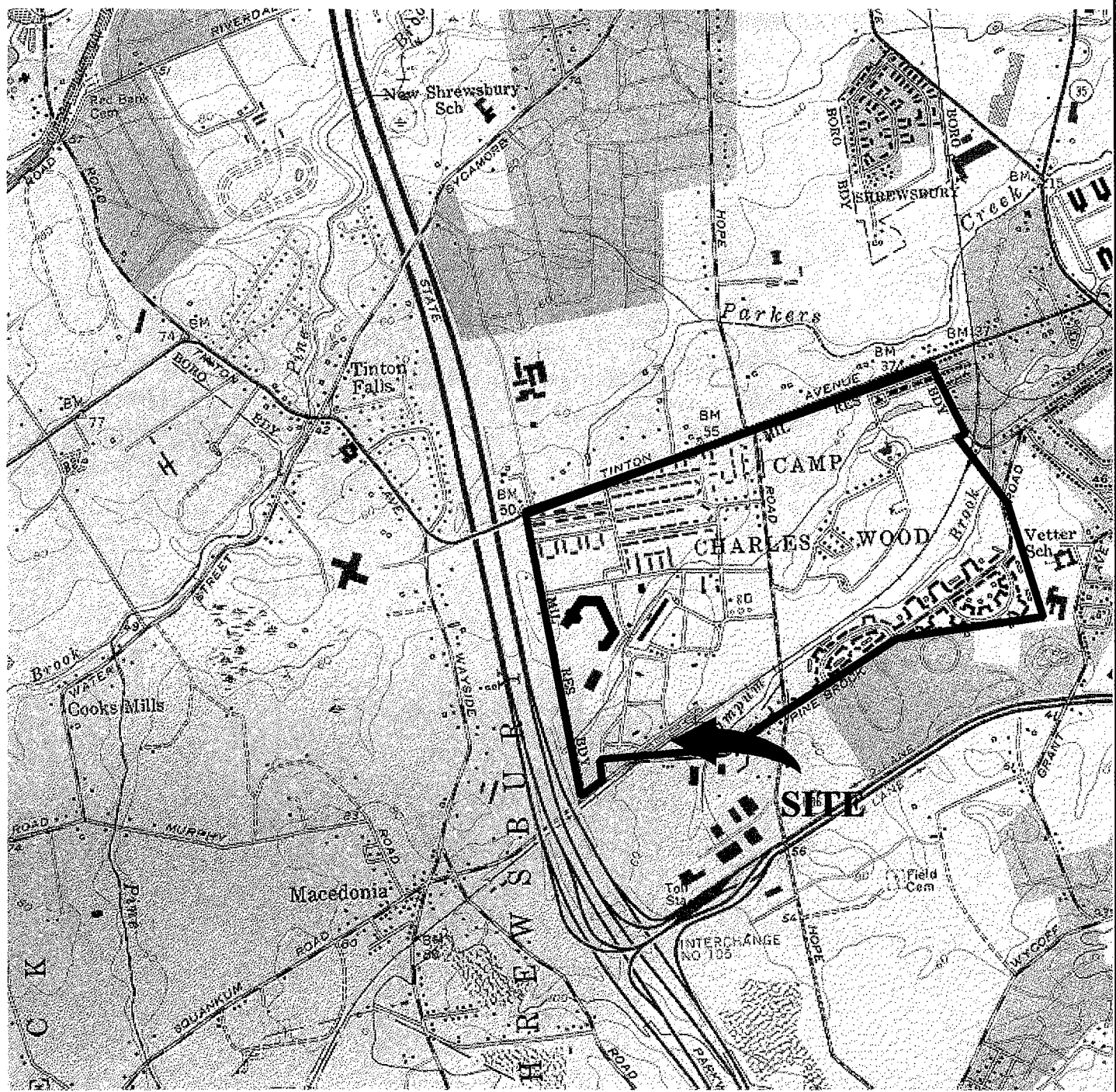
## Note:

- \* Total solid results are expressed as a percentage.
- \*\* NJDEP Residential Direct Contact soil cleanup criteria for total organics
- ND Not Detected above stated sample quantitation limit
- Not applicable
- TPHC Total Petroleum Hydrocarbons



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## FIGURES



**LONG BRANCH, NJ**

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE -SERIES V822



New Jersey

Quadrangle Location

**FIGURE 1**

**SITE LOCATION MAP**

Building 2507

Charles Wood Area

Fort Monmouth Army Base

Monmouth County, NJ



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

Mapped, edited and published by the Geological Survey

Scale: 1"=2,000'

Date: DEC 1997

2505

2508

SQUANKUM ROAD

2504B

2506

2507

RAIL ROAD

SITE



FIGURE 2  
 SITE MAP  
 BUILDING 2507  
 FORT MONMOUTH ARMY BASE  
 MONMOUTH COUNTY, NJ



**SMC ENVIRONMENTAL  
 SERVICES GROUP**

Engineers, Managers, Scientists & Planners  
 VALLEY FORGE, PA

SCALE: 1"=100'

DATE: DEC. 1997

2507 2429 FIG2

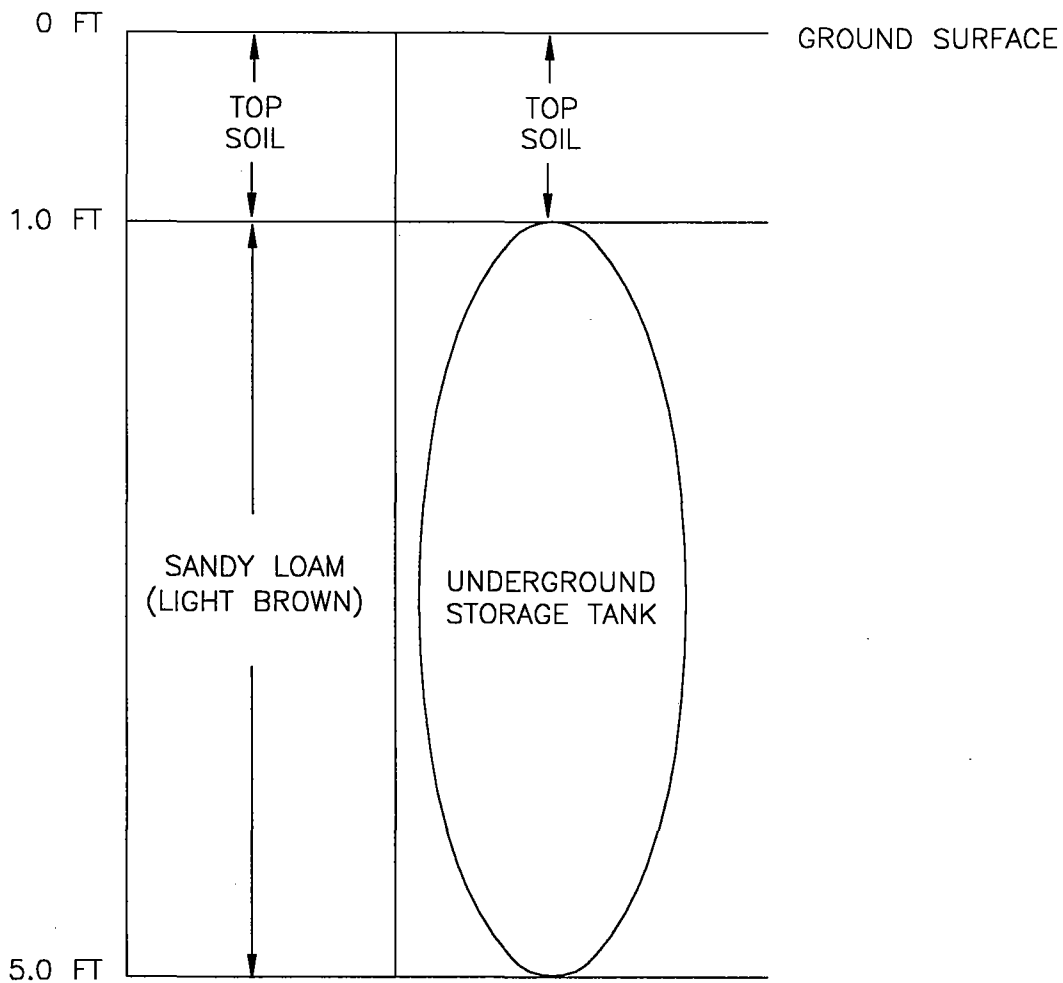


FIGURE 3  
 CROSS SECTIONAL VIEW  
 BUILDING 2507  
 FORT MONMOUTH ARMY BASE  
 MONMOUTH COUNTY, NJ



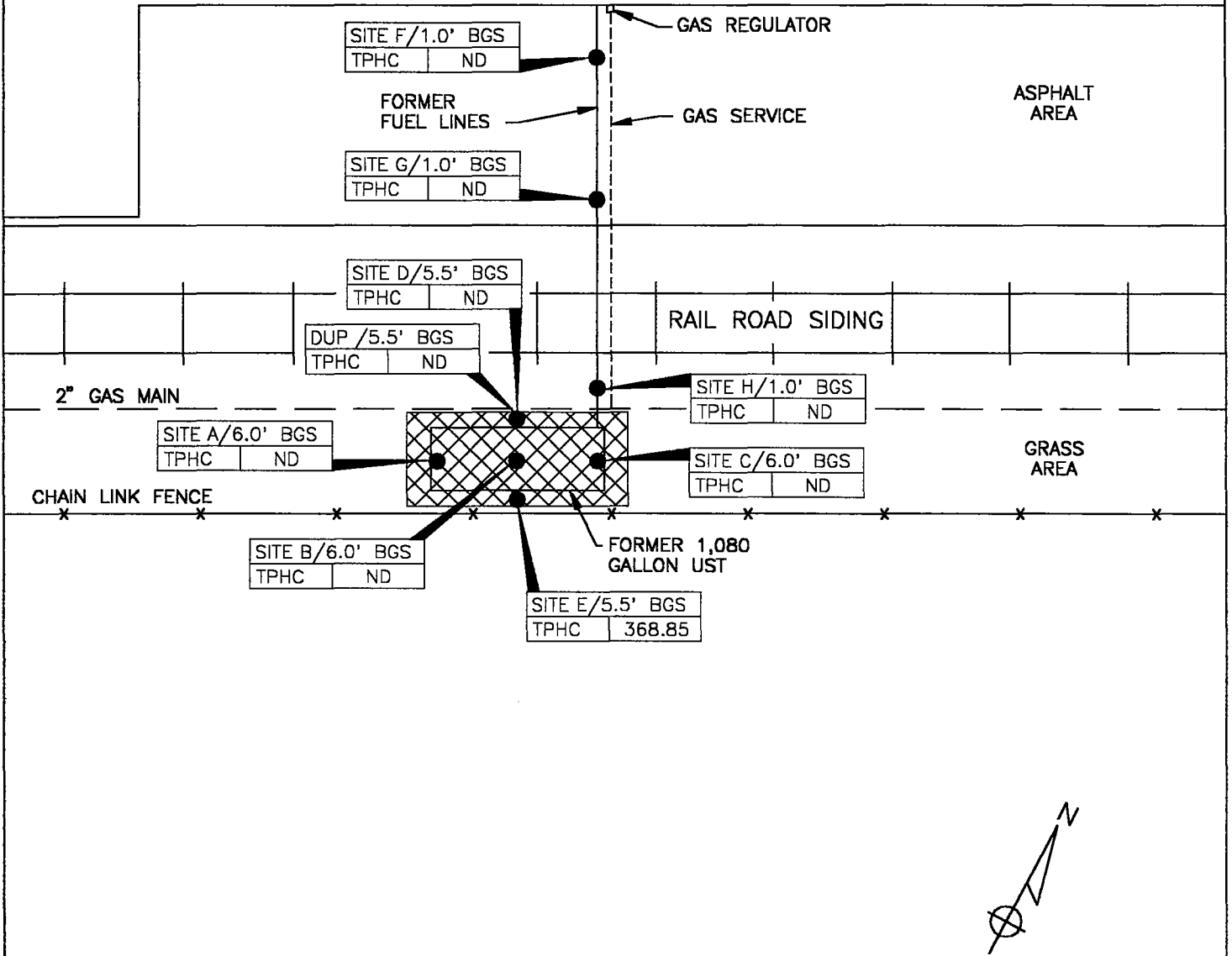
**SMC ENVIRONMENTAL  
 SERVICES GROUP**

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

SCALE: NTS

DATE: OCT. 1997

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**LEGEND**

● SOIL SAMPLE LOCATION (JUNE 5, 1997)

▨ LIMIT OF EXCAVATION (JUNE 5, 1997)

**FIGURE 4**  
**SOIL SAMPLING LOCATION MAP**  
**BUILDING 2507**  
**FORT MONMOUTH ARMY BASE**  
**MONMOUTH COUNTY, NJ**



**SMC ENVIRONMENTAL SERVICES GROUP**

Engineers, Managers, Scientists & Planners  
VALLEY FORGE, PA

SCALE: 1"=10'

DATE: DEC. 1997

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

2507 2429 FIG4

**APPENDIX A**

**NJDEP STANDARD REPORTING FORM**



Department of Environmental Protection and Energy  
Division of Responsible Party Site Remediation

CN 028  
Trenton, NJ 08625-0029

ATTN: UST Program  
(609) 984-3156

Date Rec'd.	_____
Auth.	_____
Routing	_____
UST NO.	_____

**STANDARD REPORTING FORM**  
for reporting activities at an UST facility:

<input type="checkbox"/> General Facility Information Changes	<input type="checkbox"/> Sale or Transfer
<input checked="" 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.

- Company name and address (as it appears on registration questionnaire):  
U.S. ARMY - FORT MONMOUTH  
DPW - BUILDING 173  
FORT MONMOUTH N.J. 07703  
ATTN: EUGENE W. LESINSKI
- Facility name and location (if different from above):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Contact person for this activity:  
GENE LESINSKI  
Telephone Number: (908) 532-0989
- The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire:  
BLDG 2507 18
- Registration Number (if known):  
UST - 0081515
- For GENERAL FACILITY INFORMATION changes (address, telephone, contact person, etc. - supply NEW information only)
  - Facility name: \_\_\_\_\_
  - Facility location: \_\_\_\_\_
  - Owner's mailing address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ NJ \_\_\_\_\_
  - Block: \_\_\_\_\_ Lot: \_\_\_\_\_
  - Contact person (facility operator): \_\_\_\_\_
  - Contact telephone number: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_
  - Other (Specify): \_\_\_\_\_

(OVER)

a.  Abandonment Date:       /      /        
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: 6/15/97 Case No.                       
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. _____	Old _____	New _____
Tank No. _____	Old _____	New _____
Tank No. _____	Old _____	New _____

(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: <input type="checkbox"/>   | d. Company/Carrier: <input type="checkbox"/> |
| b. Policy Number: <input type="checkbox"/> | e. Expiration Date: <input type="checkbox"/> |
| c. Other: <input type="checkbox"/>         |  |

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(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 that facility (N.J.A.C. 7:14B-23 (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: James Ott

Name (print or type): JAMES OTT

Title: DIRECTOR - DEPT OF PUBLIC WORKS Date: 6-17-97



**APPENDIX B**

**SITE ASSESSMENT SUMMARY**

UST-014  
2/91

FOR STATE USE ONLY
UST#
Date Rec'd
TMS #
Staff

**STATE OF NEW JERSEY**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
 Division of Responsible Party Site Remediation  
 CN 029

TRENTON, N.J. 08625-0028  
 Tel. # 609-984-3156  
 Fax.# 609-292-5604

Scott A. Weiner  
 Commissioner

Karl J. Delaney  
 Director

**UNDERGROUND STORAGE TANK**  
**SITE ASSESSMENT SUMMARY**

*Under the provisions of the Underground Storage  
 of Hazardous Substances Act  
 in accordance with N.J.A.C. 7:14B*

This Summary form shall be used by all owners and operators of Underground Storage Tank Systems (USTS) who have either reported a release and are subject to the site assessment requirements of N.J.A.C. 7:14B-8.2 or who have closed USTS pursuant to N.J.A.C. 7:14B-9.1 et seq. and are subject to the site assessment requirements of N.J.A.C. 7:14B-9.2 and 9.3.

**INSTRUCTIONS:**

- ◆ Please print legibly or type.
- ◆ Fill in all applicable blanks. This form will require various attachments in order to complete the Summary. The technical guidance document, Interim Closure Requirements for UST's, explains the regulatory (and technical) requirements for closure and the Scope of Work, Investigation and Corrective Action Requirements for Discharges from Underground Storage Tanks and Piping Systems explains the regulatory (and technical) requirements for corrective action.
- ◆ Return one original of the form and all required attachments to the above address.
- ◆ Attach a scaled site diagram of the subject facility which shows the information specified in Item IV B of this form.
- ◆ Explain any "No" or "N/A" response on a separate sheet.

Date of Submission: \_\_\_\_\_

Building No. 2507 UST No. 81515-18

0192477-1  
 Facility Registration #

**1. FACILITY NAME AND ADDRESS:**

U.S. Army Fort Monmouth New Jersey  
Directorate of Engineering and Housing Building 167  
Fort Monmouth New Jersey 07703 County Monmouth  
 Telephone No. 908-532-6224

OWNER'S NAME AND ADDRESS, if different from above.

\_\_\_\_\_  
 Telephone No. \_\_\_\_\_

II. DISCHARGE REPORTING REQUIREMENTS

- A. Was contamination found?  Yes  No If Yes, Case No. \_\_\_\_\_  
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)
- B. The substance(s) discharged was (were) N/A
- C. Have any vapor hazards been mitigated?  Yes  No  N/A

III. DECOMMISSIONING OF TANK SYSTEMS Closure approval No. NJDEP "Blanket Closure"

The site assessment requirements associated with tank decommissioning are explained in the Technical Guidance Document, Interim Closure Requirements for UST's, Section V. A.-D. Attach complete documentation of the methods used and the results obtained for each of the steps of tank decommissioning used. Please include a site map which shows the locations of all samples and borings, the location of all tanks and piping runs at the facility at the beginning of the tank closure operation and annotated to differentiate the status of all tanks and piping (e.g., removed, abandoned, temporarily closed, etc.). The same site map can be used to document other parts of the site assessment requirements, if it is properly and legibly annotated.

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

Any evidence of contamination in excavated soil will require that the soil be classified as either Hazardous Waste or Non-Hazardous Waste. Please include all required documentation of compliance with the requirements for handling contaminated excavated soil (if any was present) as explained in the technical guidance documents for closure and corrective action. Describe amount of soil removed, its classification and disposal location.

B. Scaled Site Diagrams

1. Scaled site diagrams must be attached which include the following information:

- a. North arrow and scale
- b. The locations of the ground water monitoring wells
- c. Location and depth of each soil sample and boring
- d. All major surface and subsurface structures and utilities
- e. Approximate property boundaries
- f. All existing or closed underground storage tank systems, including appurtenant piping
- g. A cross-sectional view indicating depth of tank, stratigraphy and location of water table
- h. Locations of surface water bodies

C. Soil samples and borings (check appropriate answer)

1. Were soil samples taken from the excavation as prescribed?  Yes  No  N/A
2. Were soil borings taken at the tank system closure site as prescribed?  Yes  No  N/A
3. Attach the analytical results in tabular form and include the following information about each sample
  - a. Customer sample number (keyed to the site map)
  - b. The depth of the soil sample
  - c. Soil boring logs
  - d. Method detection limit of the method used
  - e. QA/QC information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0
2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:
  - a. Site diagram number for each well installed
  - b. Depth of ground water surface
  - c. Depth of screened interval
  - d. Method detection limit of the method used
  - e. Well logs
  - f. Well permit numbers
  - g. QA/QC Information as required

V. SOIL CONTAMINATION

- A. Was soil contamination found? Yes  No   
If "Yes", please answer Question B-E  
If "No", please answer Question B
- B. The highest soil contamination still remaining in the ground has been determined to be:
  1. N/A ppb total BTEX, N/A ppb total non-targeted VOC
  2. N/A ppb total B/N, N/A ppb total non-targeted B/N
  3. 368.85 ppm TPHC
  4. N/A ppb N/A (for non-petroleum substance)
- C. Remediation of free product contaminated soils
  1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface. Yes  No
  2. Free product contaminated soils are suspected to exist below the water table. Yes  No
  3. Free product contaminated soils are suspected to exist off the property boundaries. Yes  No
- D. Was the vertical and horizontal extent of contamination determined? Yes  No  N/A
- E. Does soil contamination intersect ground water? Yes  No  N/A

VI. GROUND WATER CONTAMINATION

- A. Was ground water contamination found? Yes   No   
If "Yes", please answer Questions B-G.  
If "No", please answer only Question B.
- B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be: N/A
  1.                      ppb total BTEX,                      ppb total non-targeted VOC
  2.                      ppb total B/N,                      ppb total non-targeted B/N
  3.                      ppb total MTBE,                      ppb total TBA
  4.                      ppb                      (for non-petroleum substance)
  5. greatest thickness of separate phase product found
  6. separate phase product has been delineated Yes  No  N/A

C. Results (s) of well search

1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work.  Yes  No  N/A
2. The number of these wells identified is \_\_\_\_\_.

D. Proximity of wells and contaminant plume

1. The shallowest depth of any well noted in the well search which may be in the horizontal or vertical potential path(s) of the contaminant plume(s) is \_\_\_\_\_ feet below grade (consideration has been given for the effects of pumping, subsurface structures, etc. on the direction(s) of contaminant migration). This well is \_\_\_\_\_ feet from the source and its screening begins at a depth of \_\_\_\_\_ feet.
2. The shallowest depth to the top of the well screen for any well in the potential path of the plume(s) (as described in D1 above above) is \_\_\_\_\_ feet below grade. This well is located \_\_\_\_\_ feet from the source.
3. The closest horizontal distance of a private, commercial, or municipal well in the potential path of the plume (as determined in D1) is \_\_\_\_\_ feet from the source. This well is \_\_\_\_\_ feet deep and screening begins at a depth of \_\_\_\_\_ feet.

E. A plan for separate phase product recovery has been included.  Yes  No  N/A

F. A ground water contour map has been submitted which includes the ground water elevations for each well.  Yes  No  N/A

G. Delineation of contamination

1. The ground water contaminants have been delineated to MCLs or lower values at the property boundaries.  Yes  No
2. The plume is suspected to continue off the property at concentrations greater than MCLs.  Yes  No
3. Off property access (circle one): is being sought  has been approved  has been denied

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-8.3(b) & 9.5(a)3]

The person signing this certification as the "Qualified Ground Water Consultant" (as defined in N.J.A.C.7:14B-1.6) responsible for the design and implementation of the site assessment plan as specified in N.J.A.C. 7:14B-8.3(a) & 9.2(b)2, must supply the name of the certifying organization and certification number.

*"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with N.J.A.C. 7:14B-8 and 9. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) Eugene Lesinski  
SIGNATURE SEE ATTACHED SUB-SURFACE EVALUATOR LOG  
COMPANY NAME U.S. Army Fort Monmouth DATE \_\_\_\_\_  
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEP

CERTIFYING NUMBER 0014537

VIII. TANK DECOMMISSIONING CERTIFICATION [person performing tank decommissioning portion of closure plan - N.J.A.C. 7:14B-9.5(a)4]

*"I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) SAME AS SITE ASSESSMENT SIGNATURE \_\_\_\_\_

COMPANY NAME \_\_\_\_\_ DATE \_\_\_\_\_  
(Performer of Tank Decommissioning)

IX. CERTIFICATIONS BY THE RESPONSIBLE PARTY(IES) OF THE FACILITIES

A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility [N.J.A.C. 7:14B-2.3(c)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 penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) James Ott SIGNATURE 

COMPANY NAME U.S. Army Fort Monmouth DATE 3/25/98

B. The following certification shall be signed as follows [according to the requirements of N.J.A.C. 7:14B-2.3(C)2]:

1. For a corporation, by a principal executive officer of at least the level of vice president.
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 the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

*"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 immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) \_\_\_\_\_ SIGNATURE \_\_\_\_\_

COMPANY NAME \_\_\_\_\_ DATE \_\_\_\_\_

**U ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG.#: 2507 REG.#: 0081515-18 CLOSURE#: N/A  
 DATE: 6-5-97 TOA: \*1000 TOD: 1500 - ENTER  
 GOV. SSE: LESINSKI NJDEP CERT.#: 0014537 HITTING  
 REMOVAL CONTRACTOR: SAI Inc. VVS  
 CLOSURE SUPERVISOR: De Martinis NJDEP CERT.#: -  
 WEATHER: SUNNY-65°F

ACTIVITY	YES / NO
THE SUPERVISOR (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	N/A
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED TO THE NJDEP (609-292-7172), CASE# <u>N/A</u>	N
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT _____ FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	N
IF OVA/Hnu WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	Y
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	Y
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	Y
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	N/A
THE SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER)	Y
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS <sup>3</sup> ), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	Y

CHECK ALL BOXES. LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

SIGNATURE: \_\_\_\_\_ DATE: 6-5-97

**APPENDIX C**

**WASTE MANIFEST**



2507



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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

NJ221002097804856

Manifest Document No.

2. Page 1 of 1

NHZ 004856

3. Generator's Name and Mailing Address  
U.S. Army Communications Electronics Command  
CHARLES Wood Area c/o Joseph Falvo, Bldg. 173  
ATTN: SELFM-pw-EV Fort Monmouth, N.J. 07703

4. Generator's Phone (908) 532-0989

5. Transporter 1 Company Name  
LIONETTI OIL RECOVERY CO INC

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

A. Transporter's Phone  
908 721-0900

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

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

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

C. Facility's Phone  
908 721-0900

11. Waste Shipping Name and Description

12. Containers 13. Total Quantity 14. Unit Wt/Vol

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

.001 T Txx-535 G

Table with 4 rows (b, c, d) and 4 columns (Containers, Total Quantity, Unit Wt/Vol). Rows b, c, and d are empty.

D. Additional Descriptions for Materials Listed Above  
T, L PETROLEUM OIL 99%  
WATER 1%

E. Handling Codes for Wastes Listed Above  
T04 FILTRATION

15. Special Handling Instructions and Additional Information  
24 HR EMERGENCY RESPONSE#(908) 721-0900 <1,000  
DECAL#7362 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: EUGENE W LESINSKI Signature: Eugene W Lesinski Month Day Year: 10/6/25/97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Richard Dirienzo Signature: Richard Dirienzo Month Day Year: 10/6/25/97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: EUGENE W LESINSKI Signature: Eugene W Lesinski Month Day Year: 10/6/25/97

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: Richard LaBelle Signature: Richard LaBelle Month Day Year: 10/6/25/97

ORIGINAL - RETURN TO GENERATOR

GENERATOR  
TRANSPORTER  
FACILITY

**APPENDIX D**

**UST DISPOSAL CERTIFICATE**

# MAZZA & SONS, INC.

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

NO. 2681

DATE. 3 SEP 97

Customer's Name TFCM - VINNELL SERVICE

Address \_\_\_\_\_

Weight	Price
Cast Iron	
✓ Steel	
<u>2840</u>	<u>9940</u>
Lt. Iron	
Copper #1	
Copper #2	

20360  
17580  

---

2840

B. 2507  
B. 2535

Weight	Price
Lt. Copper	
Brass	
Alum Clean	
Lead	
Stainless	
Battery	

TOTAL AMOUNT:  
99.40

Weigher AG Customer [Signature]

**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  
B.2507

**Project #** 2650  
**Date Rec.** 06/06/97  
**Date Compl.** 06/12/97  
**Released by:**



**Daniel K. Wright  
Laboratory Director**

## Table of Contents

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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.	—	<input checked="" type="checkbox"/>
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank. _____ _____	<input checked="" type="checkbox"/>	—
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range). <u>2665.06 176%</u> _____ _____	<input checked="" type="checkbox"/>	—
4. Duplicate Results Summary Meet Criteria. _____ (If not met, list the sample and corresponding recovery which falls outside the acceptable range). _____ _____		<input checked="" type="checkbox"/>
5. IR Spectra submitted for standards, blanks, & samples	—	<u>NA</u>
6. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	—	<input checked="" type="checkbox"/>
7. Analysis holding time met.  (If not met, list number of days exceeded for each sample) _____ _____	—	<input checked="" type="checkbox"/>
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>GENE LESINSKI-DPW</b>		Project No: <b>96-1262</b>			Analysis Parameters					Comments:		
Phone #: <b>20989</b>		Location: <b>B.2507</b>			TPHC	CO2/SUBS	MUNSELL				OVA	* = SAMPLES KEPT BELOW 4°C
( )DERA (X)OMA ( )Other:		Samplers Name / Company: <b>GARY DiMARTINIS - TUS</b>										
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles							
2650 .01	2507-A	6-5-97	1107	SOIL	1	X	X	X			ND	CENTER LINE @ 6.0' *
.02	2507-B		1111								ND	↓
.03	2507-C		1116								ND	↓
.04	2507-D		1120								ND	SIDEWALL @ 5.5'
.05	2507-E		1127								ND	↓
.06	2507-F	6-6-97	1035								ND	Piping Run @ 1.0'
.07	2507-G		1101								ND	↓
.08	2507-H		1108								ND	↓
.09	2507-DUP											FIELD Duplicate ↓
<p>NOTE: OVA (#152114) CALIBRATED W/PS AM CH<sub>4</sub> &amp; ZERO (O) AIR @ 1045 HRS. ON 6-5-97 by G. DiMARTINIS.          OVA CALIBRATION CHECKED @ 1000 HRS. ON 6-6-97.</p>												
Relinquished by (signature): <i>[Signature]</i>		Date/Time: 6-6-97/1330		Received by (signature): <i>[Signature]</i>		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: <b>DEDICATED SAMPLING TOOLS USED.</b>						
Turnaround time: (X) Standard 4 wks, ( ) Rush ___ Days, ( ) ASAP Verbal ___ Hrs.												

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

<b>Client :</b>	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	<b>Lab. ID # :</b> <b>Date Rec'd:</b> <b>Analysis Start:</b> <b>Analysis Complete:</b>	2650 6-Jun-97 12-Jun-97 12-Jun-97
<b>Analysis:</b>	OQA-QAM-025	<b>UST Reg. #:</b>	
<b>Matrix:</b>	Soil	<b>Closure #:</b>	
<b>Analyst:</b>	P. Skelton	<b>DICAR #:</b>	
<b>Ext. Meth:</b>	Shake	<b>Location #:</b>	B2507

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2650.01	2507-A	1.00	15.72	82.33	182	ND
2650.02	2507-B	1.00	15.07	80.18	194	ND
2650.03	2507-C	1.00	15.55	80.49	188	ND
2650.04	2507-D	1.00	15.05	80.68	194	ND
2650.05	2507-E	1.00	15.72	85.52	175	368.85
2650.06	2507-F	1.00	15.96	79.34	186	ND
2650.07	2507-gG	1.00	15.00	90.88	172	ND
2650.08	2507-H	1.00	15.41	90.10	169	ND
2650.09	2507-DUP	1.00	15.08	79.25	197	ND
<b>METHOD BLANK</b>	11-Jun-97	1.00	15.00	100.00	157	ND

ND = Not Detected  
 MDL = Method Detection Limit

  
 Daniel K. Wright  
 Laboratory Director

Response Factor Report FL/TCD

Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997

Calibration Files

1 =T01476.D 2 =T01475.D 3 =T01474.D  
 4 =T01473.D 5 =T01472.D

Compound	1	2	3	4	5	Avg	%RSD
1) t C8	1.474	1.450	1.396	1.394	1.354	1.414 E4	3.40
2) t C10	1.524	1.488	1.439	1.438	1.402	1.458 E4	3.30
3) t C12	1.623	1.588	1.542	1.535	1.499	1.557 E4	3.09
4) t C14	1.667	1.643	1.592	1.582	1.543	1.605 E4	3.09
5) t C16	1.733	1.692	1.641	1.631	1.587	1.657 E4	3.42
6) t C18	1.966	1.953	1.897	1.892	1.862	1.914 E4	2.30
7) t C20	1.917	1.871	1.814	1.805	1.757	1.833 E4	3.39
8) t C22	1.901	1.855	1.799	1.792	1.741	1.818 E4	3.40
9) t C24	1.942	1.905	1.846	1.840	1.785	1.864 E4	3.28
10) t C26	1.950	1.900	1.844	1.841	1.783	1.863 E4	3.42
11) t C28	1.928	1.898	1.844	1.845	1.776	1.858 E4	3.14
12) t C30	1.979	1.917	1.862	1.861	1.768	1.877 E4	4.15
13) t C32	1.960	1.827	1.764	1.756	1.623	1.786 E4	6.86
14) t C34	1.776	1.703	1.628	1.606	1.451	1.633 E4	7.43
15) t C36	1.506	1.407	1.319	1.306	1.146	1.337 E4	9.98
16) t C38	0.980	1.033	0.949	0.942	0.780	0.937 E4	10.12
17) t C40	5.522	6.078	5.632	5.585	4.193	5.402 E3	13.16
18) t c42	2.495	2.579	2.667	2.744	1.850	2.467 E3	14.48
19) T Pristane	1.835	1.781	1.723	1.712	1.643	1.739 E4	4.19
20) T Phytane	1.935	1.879	1.824	1.813	1.760	1.842 E4	3.63
21) s o-terphenyl	2.166	2.100	2.027	2.018	1.957	2.053 E4	3.94
22) t TPHC - total	3.056	2.530	1.916	1.884	1.790	2.235 E4	24.34

Evaluation Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\970612\T01625.D Vial: 1  
 Acq On : 13 Jun 97 2:00 am Operator: Skelton  
 Sample : 50 ppm std Inst : FID/TCD  
 Misc : Multiplr: 1.00  
 IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 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	14.139	12.462 E3	11.9	89	0.01
2 t C10	14.582	13.616 E3	6.6	95	0.00
3 t C12	15.575	14.704 E3	5.6	95	0.00
4 t C14	16.054	15.219 E3	5.2	96	0.00
5 t C16	16.566	15.652 E3	5.5	95	0.00
6 t C18	19.140	18.083 E3	5.5	95	0.00
7 t C20	18.328	17.238 E3	5.9	95	0.00
8 t C22	18.176	17.131 E3	5.7	95	0.00
9 t C24	18.637	17.401 E3	6.6	94	0.00
10 t C26	18.634	17.170 E3	7.9	93	0.00
11 t C28	18.583	16.986 E3	8.6	92	0.00
12 t C30	18.774	16.860 E3	10.2	91	0.00
13 t C32	17.862	15.559 E3	12.9	88	0.00
14 t C34	16.327	13.647 E3	16.4	84	0.00
15 t C36	13.368	10.240 E3	23.4	78	-0.01
16 t C38	9.365	6.657 E3	28.9#	70	-0.01
17 t C40	5.402	3.508 E3	35.1#	62	-0.02
18 t c42	2.467	1.610 E3	34.7#	60	-0.02
19 T Pristane	17.389	16.359 E3	5.9	95	0.00
20 T Phytane	18.421	17.314 E3	6.0	95	0.00
21 s o-terphenyl	20.532	19.153 E3	6.7	95	0.00
22 t TPHC - total	22.352	19.791 E3	11.5	103	0.00

Evalua' Continuing Calibration Re ort

Data File : C:\HPCHEM\1\DATA\970612\T01615.D  
 Acq On : 12 Jun 97 6:19 pm  
 Sample : 50 ppm std  
 Misc :  
 IntFile : TPHCINT.E

Vial: 1  
 Operator: Skelton  
 Inst : FID/TCD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 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	14.139	12.117 E3	14.3	87	0.01
2 t C10	14.582	13.181 E3	9.6	92	0.00
3 t C12	15.575	14.216 E3	8.7	92	0.00
4 t C14	16.054	14.680 E3	8.6	92	0.00
5 t C16	16.566	15.056 E3	9.1	92	0.00
6 t C18	19.140	17.267 E3	9.8	91	0.00
7 t C20	18.328	16.544 E3	9.7	91	0.00
8 t C22	18.176	16.414 E3	9.7	91	0.00
9 t C24	18.637	16.646 E3	10.7	90	0.00
10 t C26	18.634	16.411 E3	11.9	89	0.00
11 t C28	18.583	16.234 E3	12.6	88	0.00
12 t C30	18.774	16.116 E3	14.2	87	0.00
13 t C32	17.862	14.887 E3	16.7	84	0.00
14 t C34	16.327	13.081 E3	19.9	80	0.00
15 t C36	13.368	9.848 E3	26.3#	75	0.00
16 t C38	9.365	6.442 E3	31.2#	68	0.00
17 t C40	5.402	3.411 E3	36.9#	61	-0.01
18 t c42	2.467	1.555 E3	37.0#	58	-0.02
19 T Pristane	17.389	15.632 E3	10.1	91	0.00
20 T Phytane	18.421	16.612 E3	9.8	91	0.00
21 s o-terphenyl	20.532	18.375 E3	10.5	91	0.00
22 t TPHC - total	22.352	20.272 E3	9.3	106	0.00

Evalua' Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\970612\T01603.D  
 Acq On : 12 Jun 97 9:01 am  
 Sample : 50 ppm std  
 Misc :  
 IntFile : TPHCINT.E

Vial: 1  
 Operator: Skelton  
 Inst : FID/TCD  
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 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	14.139	12.134 E3	14.2	87	0.00
2 t C10	14.582	13.063 E3	10.4	91	0.00
3 t C12	15.575	14.064 E3	9.7	91	0.00
4 t C14	16.054	14.513 E3	9.6	91	0.00
5 t C16	16.566	14.888 E3	10.1	91	0.00
6 t C18	19.140	16.982 E3	11.3	90	0.00
7 t C20	18.328	16.377 E3	10.6	90	0.00
8 t C22	18.176	16.264 E3	10.5	90	0.00
9 t C24	18.637	16.534 E3	11.3	90	0.00
10 t C26	18.634	16.324 E3	12.4	89	0.00
11 t C28	18.583	16.177 E3	12.9	88	0.00
12 t C30	18.774	16.106 E3	14.2	86	0.00
13 t C32	17.862	14.924 E3	16.4	85	0.00
14 t C34	16.327	13.176 E3	19.3	81	0.00
15 t C36	13.368	10.011 E3	25.1#	76	0.00
16 t C38	9.365	6.624 E3	29.3#	70	-0.01
17 t C40	5.402	3.569 E3	33.9#	63	-0.02
18 t c42	2.467	1.666 E3	32.5#	62	-0.02
19 T Pristane	17.389	15.616 E3	10.2	91	0.00
20 T Phytane	18.421	16.451 E3	10.7	90	0.00
21 s o-terphenyl	20.532	18.215 E3	11.3	90	0.00
22 t TPHC - total	22.352	16.789 E3	24.9	88	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

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

**Surrogate Recovery Report**

Lab. ID #: 2650

Location #: B2507

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
2650.01		10.00	14.69	146.85
2650.02		10.00	13.26	132.63
2650.03		10.00	13.44	134.44
2650.04		10.00	14.06	140.60
2650.05		10.00	13.60	135.99
2650.06		10.00	13.37	133.66
2650.07		10.00	13.81	138.07
2650.08		10.00	15.28	152.78
2650.09		10.00	12.63	126.31
METHOD BLANK	11-Jun-97	10.00	12.52	125.20

Surrogate Added : o-Terphenyl

6/13/97

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

**Matrix Spike Recovery Report**

Lab. ID #: 2650

Location #: B2507

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
2665.06MS	630	0.00	1111.00	176.35	75-125
2665.06MSD	630	0.00	1070.83	169.97	75-125

RPD	3.68	20.00
-----	------	-------

6/13/97



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

**Blank Spike Recovery Report**

Lab. ID #: 2650  
Location #: B2507

<b>Sample</b>	<b>Date Extracted</b>	<b>Spike Amount Added (ppm)</b>	<b>Matrix Spike Amount (ppm)</b>	<b>Percent Recovery</b>	<b>QC Limits %</b>
<b>Blank Spike</b>	12-Jun-97	630	936.76	148.69	75-125

6/13/97

Data File : C:\HPCHEM\1\DATA\970612\T01606.D  
 Acq On : 12 Jun 97 11:16 am  
 Sample : 2650.01  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Jun 13 7:42 1997

Vial: 4  
 Operator: Skelton  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH8.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	13.68	301712	14.695	mg/L
Spiked Amount 10.000		Recovery =	146.95%	
<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 d
7) t C20	0.00	0	N.D.	mg/L d
8) t C22	0.00	0	N.D.	mg/L d
9) t C24	0.00	0	N.D.	mg/L d
10) t C26	0.00	0	N.D.	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	0.00	0	N.D.	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 d
17) t C40	0.00	0	N.D.	mg/L d
18) t c42	0.00	0	N.D.	mg/L d
19) T Pristane	0.00	0	N.D.	mg/L d
20) T Phytane	0.00	0	N.D.	mg/L d
22) t TPHC - total	0.00	0	N.D.	mg/L d

Quantitation Report

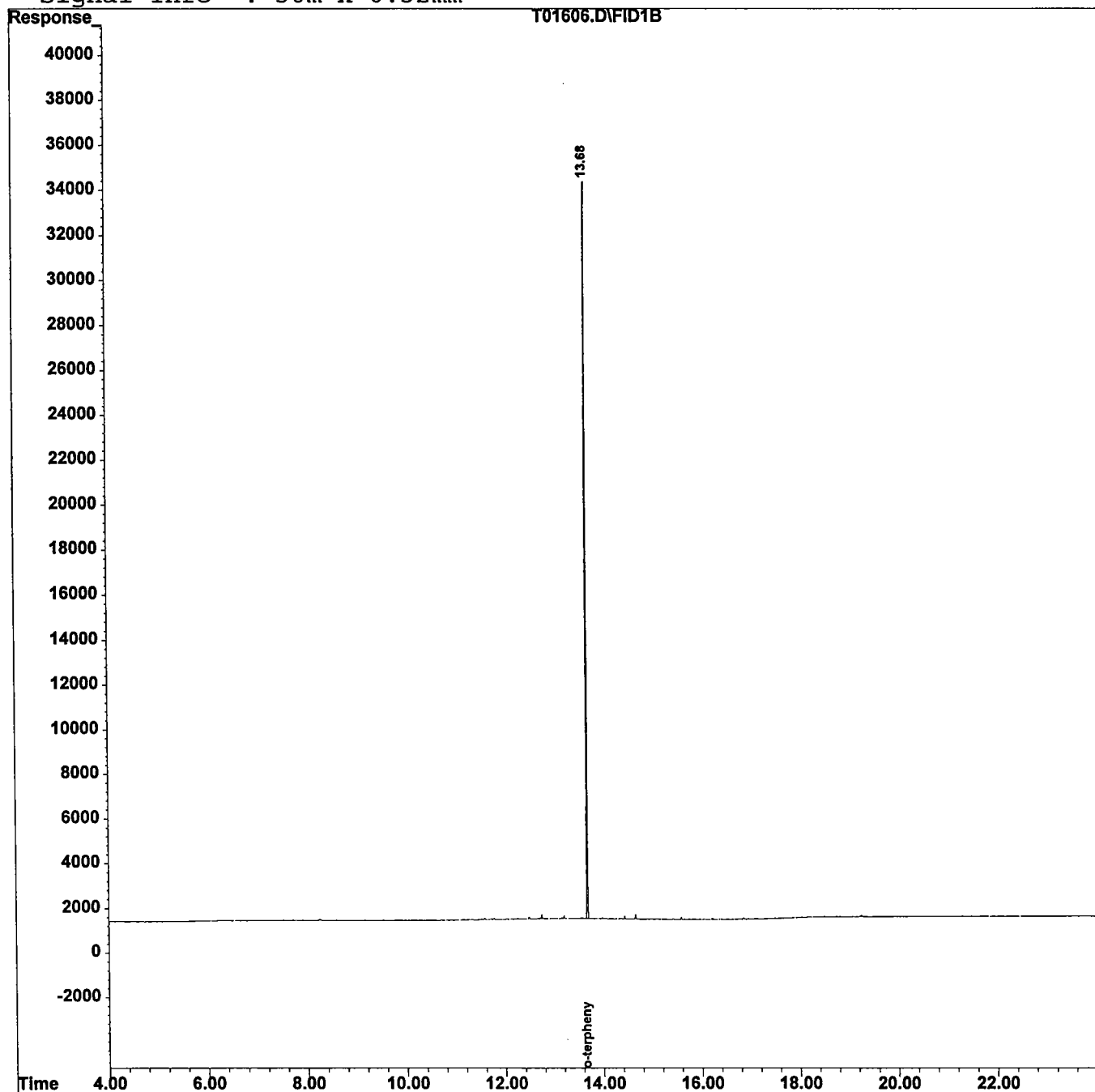
Data File : C:\HPCHEM\1\DATA\970612\T01606.D  
Acq On : 12 Jun 97 11:16 am  
Sample : 2650.01  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Jun 13 7:42 1997

Vial: 4  
Operator: Skelton  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Thu Jun 05 14:02:46 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH8.M

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



Data File : C:\HPCHEM\1\DATA\970612\T01607.D  
 Acq On : 12 Jun 97 12:01 pm  
 Sample : 2650.02  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Jun 13 7:46 1997 Quant Results File: TPH8.RES

Vial: 5  
 Operator: Skelton  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH8.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	13.68	272307	13.263	mg/L
Spiked Amount 10.000		Recovery =	132.63%	
<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 d
6) t C18	0.00	0	N.D.	mg/L d
7) t C20	0.00	0	N.D.	mg/L d
8) t C22	0.00	0	N.D.	mg/L d
9) t C24	0.00	0	N.D.	mg/L d
10) t C26	15.34	4524	0.243	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.65	17161	0.914	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 d
20) T Phytane	0.00	0	N.D.	mg/L d
22) t TPHC - total	0.00	0	N.D.	mg/L d

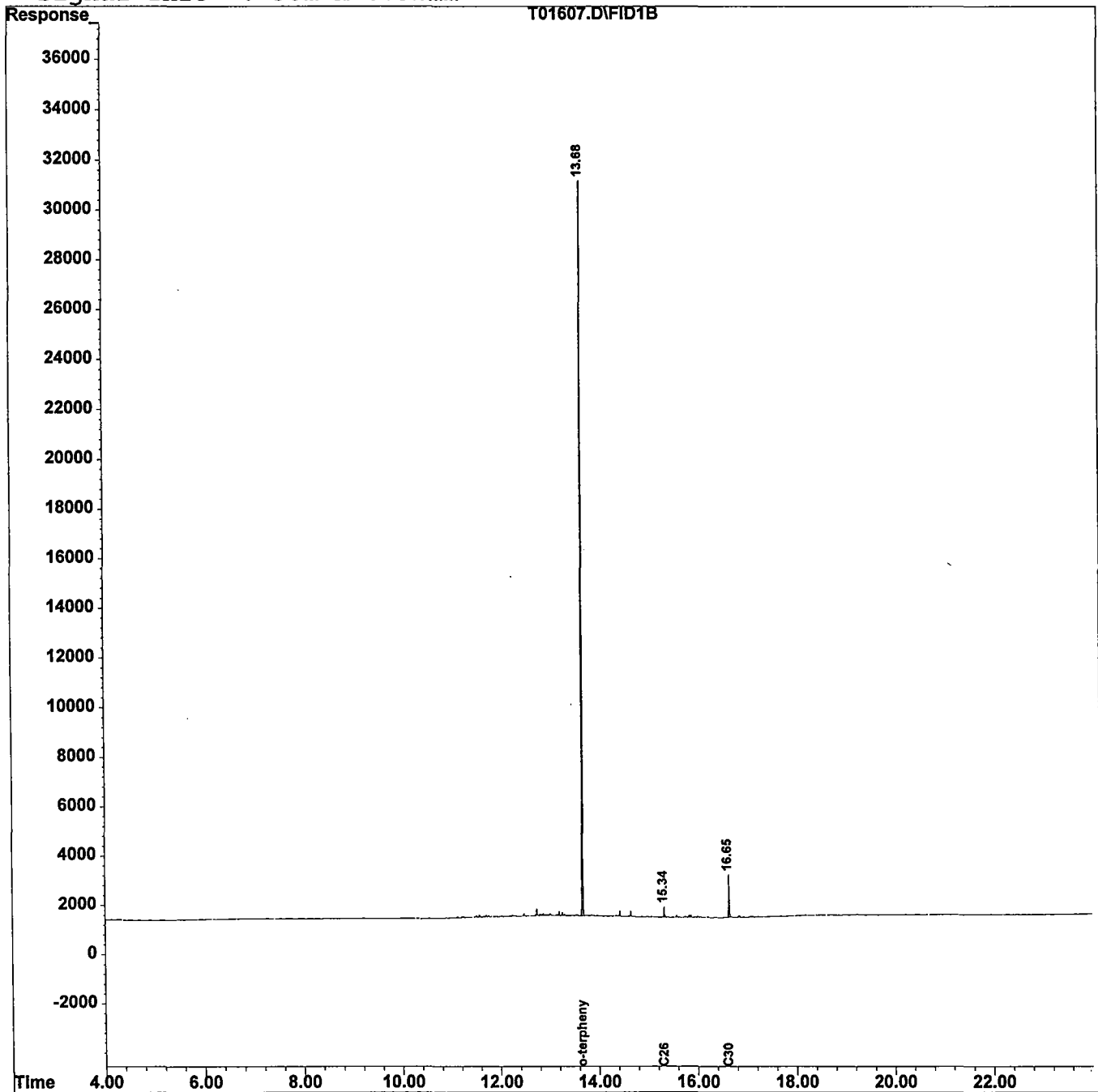
Quantitation Report

Data File : C:\HPCHEM\1\DATA\970612\T01607.D  
Acq On : 12 Jun 97 12:01 pm  
Sample : 2650.02  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Jun 13 7:46 1997 Quant Results File: TPH8.RES

Vial: 5  
Operator: Skelton  
Inst : FID/TCD  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Thu Jun 05 14:02:46 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH8.M

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



Data File : C:\HPCHEM\1\DATA\970612\T01608.D Vial: 6  
 Acq On : 12 Jun 97 12:46 pm Operator: Skelton  
 Sample : 2650.03 Inst : FID/TCD  
 Misc : Multiplr: 1.00  
 IntFile : TPHCINT.E  
 Quant Time: Jun 13 7:46 1997 Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH8.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	13.68	276029	13.444	mg/L
Spiked Amount 10.000		Recovery =	134.44%	
<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	0.00	0	N.D.	mg/L
10) t C26	15.34	5033	0.270	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.65	19275	1.027	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 d
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 d

Quantitation Report

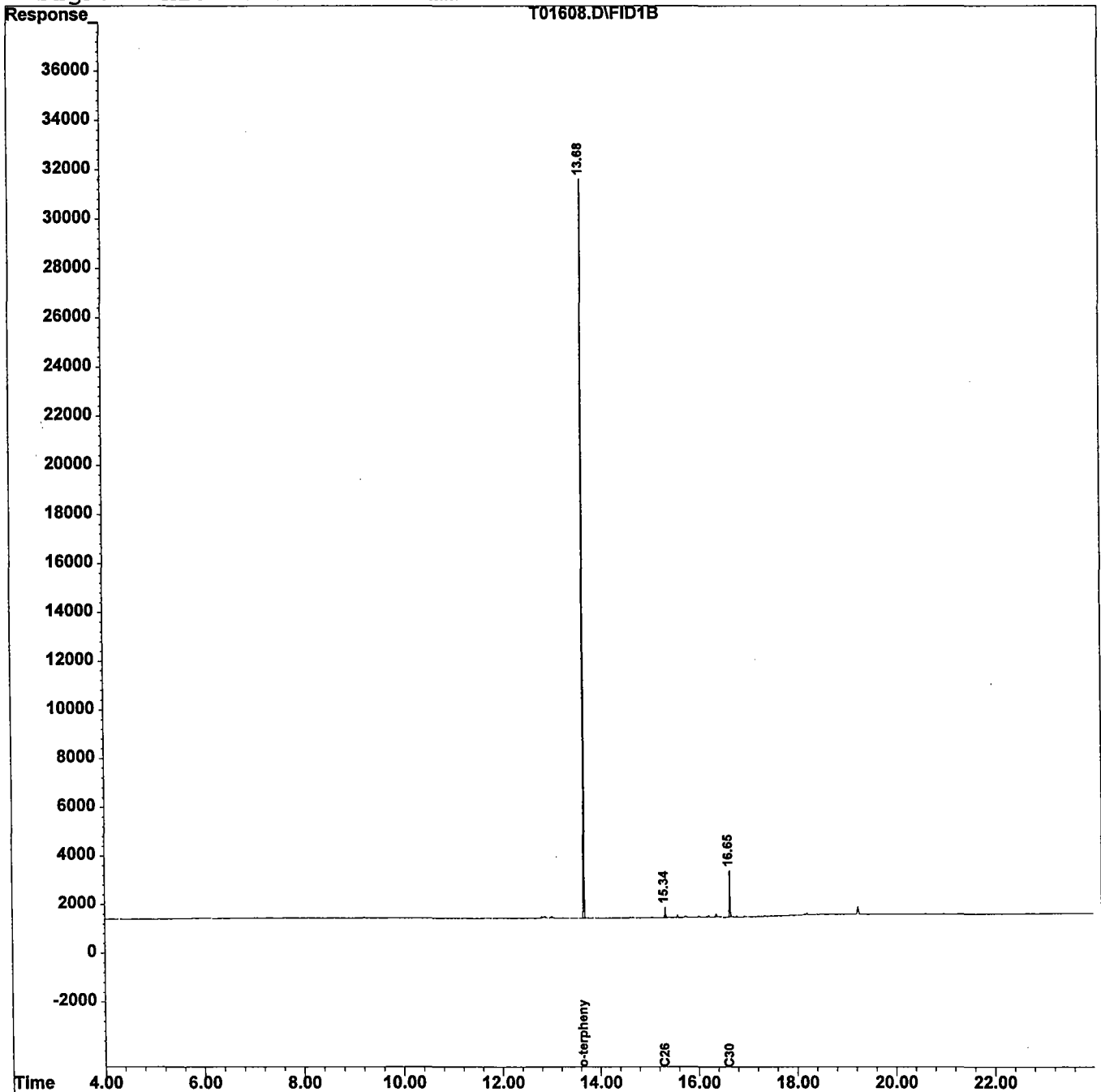
Data File : C:\HPCHEM\1\DATA\970612\T01608.D  
Acq On : 12 Jun 97 12:46 pm  
Sample : 2650.03  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Jun 13 7:46 1997

Vial: 6  
Operator: Skelton  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Thu Jun 05 14:02:46 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH8.M

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



Data File : C:\HPCHEM\1\DATA\970612\T01609.D  
 Acq On : 12 Jun 97 1:32 pm  
 Sample : 2650.04  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Jun 13 7:47 1997

Vial: 7  
 Operator: Skelton  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH8.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	13.68	288672	14.060	mg/L
Spiked Amount 10.000		Recovery =	140.60%	
<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	0.00	0	N.D.	mg/L
10) t C26	15.34	8231	0.442	mg/L
11) t C28	0.00	0	N.D.	mg/L d
12) t C30	16.65	31844	1.696	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 d



Quantitation Report

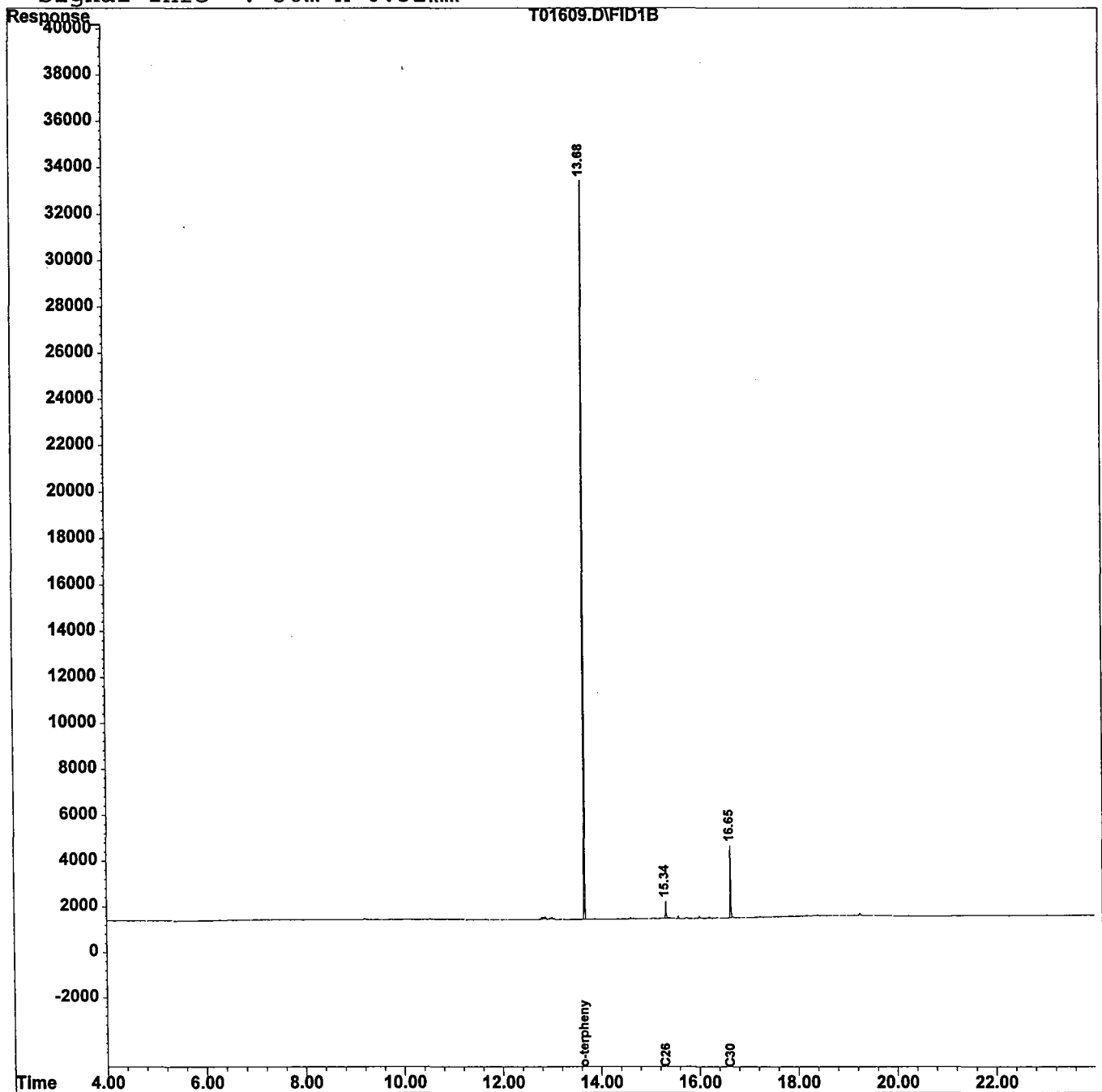
Data File : C:\HPCHEM\1\DATA\970612\T01609.D  
Acq On : 12 Jun 97 1:32 pm  
Sample : 2650.04  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Jun 13 7:47 1997

Vial: 7  
Operator: Skelton  
Inst : FID/TCD  
Multiplr: 1.00

Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Thu Jun 05 14:02:46 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH8.M

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



Data File : C:\HPCHEM\1\DATA\970612\T01610.D  
 Acq On : 12 Jun 97 2:19 pm  
 Sample : 2650.05  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Jun 13 7:48 1997

Vial: 8  
 Operator: Skelton  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH8.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	13.68	279206	13.599	mg/L
Spiked Amount 10.000		Recovery =	135.99%	
<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 d
5) t C16	0.00	0	N.D.	mg/L d
6) t C18	0.00	0	N.D.	mg/L d
7) t C20	0.00	0	N.D.	mg/L d
8) t C22	0.00	0	N.D.	mg/L
9) t C24	0.00	0	N.D.	mg/L
10) t C26	15.34	8013	0.430	mg/L
11) t C28	0.00	0	N.D.	mg/L d
12) t C30	16.65	30937	1.648	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 d
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 d
20) T Phytane	0.00	0	N.D.	mg/L d
22) t TPHC - total	13.68	2216773	99.175	mg/L m

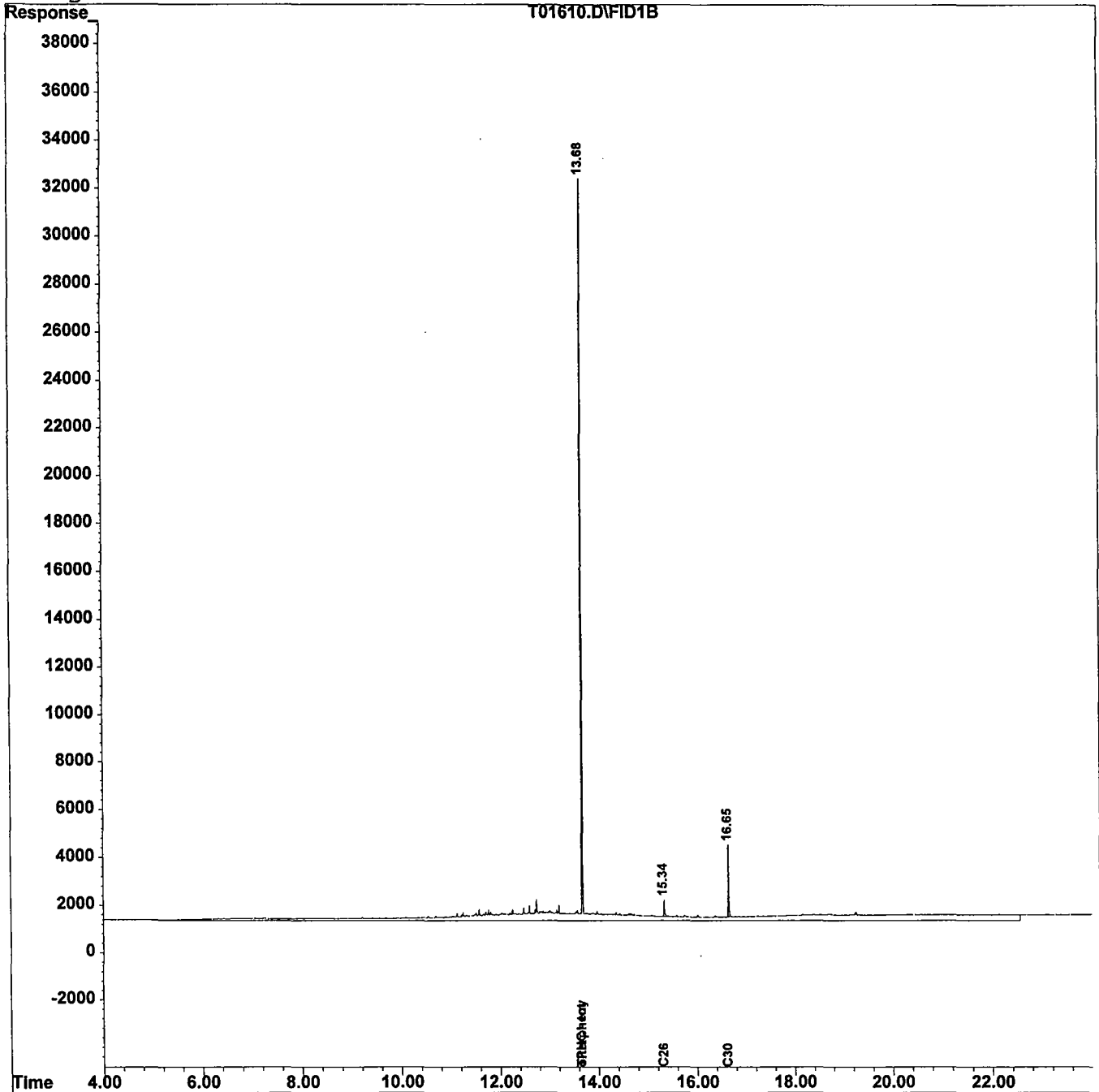
Quantitation Report

Data File : C:\HPCHEM\1\DATA\970612\T01610.D  
Acq On : 12 Jun 97 2:19 pm  
Sample : 2650.05  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Jun 13 7:48 1997 Quant Results File: TPH8.RES

Vial: 8  
Operator: Skelton  
Inst : FID/TCD  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Thu Jun 05 14:02:46 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH8.M

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



Data File : C:\HPCHEM\1\DATA\970612\T01611.D  
 Acq On : 12 Jun 97 3:07 pm  
 Sample : 2650.06  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Jun 13 7:48 1997 Quant Results File: TPH8.RES

Vial: 9  
 Operator: Skelton  
 Inst : FID/TCD  
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH8.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	13.68	274421	13.366	mg/L
Spiked Amount 10.000		Recovery =	133.66%	
<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	0.00	0	N.D.	mg/L
10) t C26	15.34	5829	0.313	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.65	24584	1.309	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 d

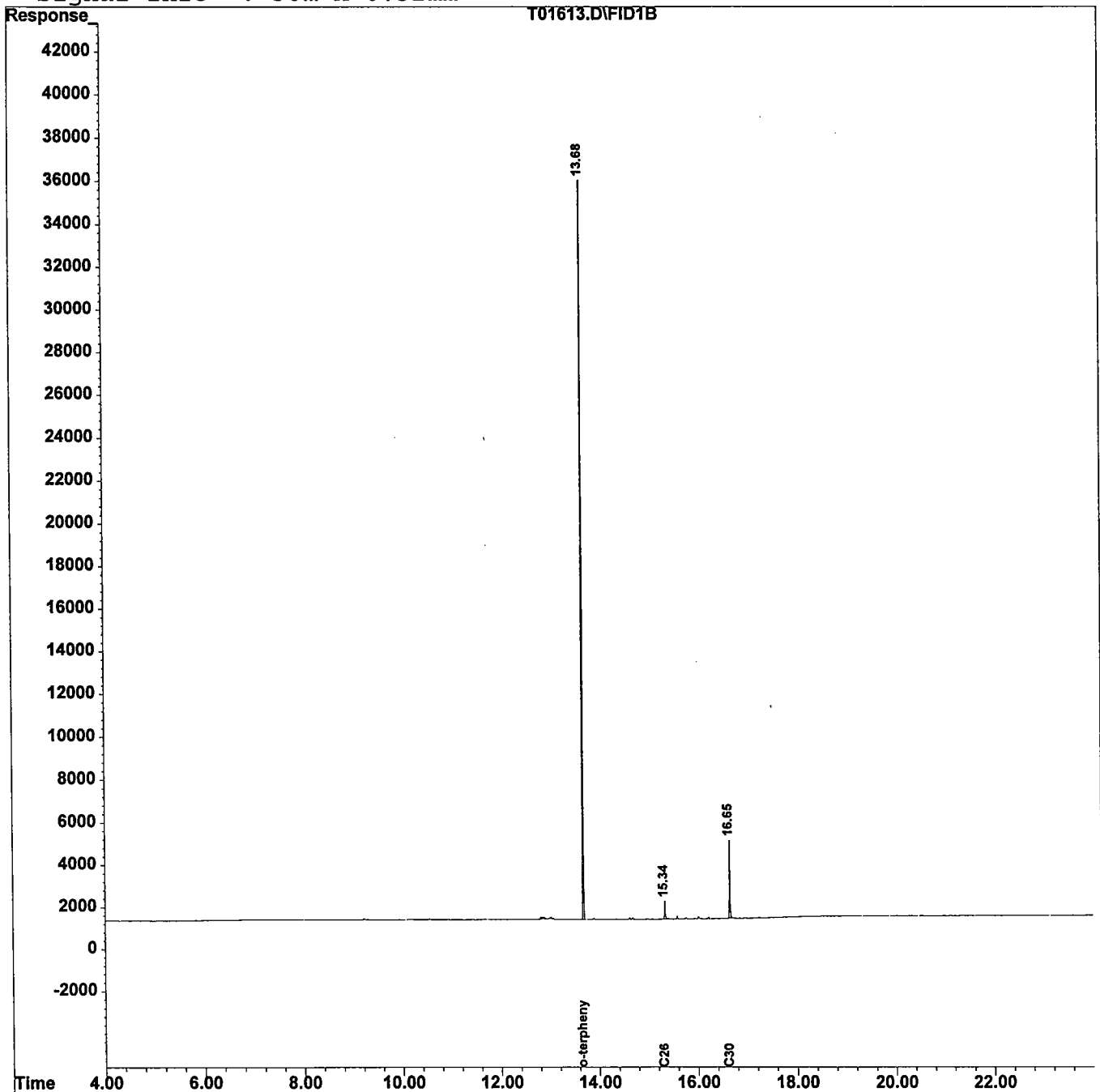
Quantitation Report

Data File : C:\HPCHEM\1\DATA\970612\T01613.D  
Acq On : 12 Jun 97 4:43 pm  
Sample : 2650.08  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Jun 13 7:49 1997 Quant Results File: TPH8.RES

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

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Thu Jun 05 14:02:46 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH8.M

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



Data File : C:\HPCHEM\1\DATA\970612\T01614.D  
 Acq On : 12 Jun 97 5:31 pm  
 Sample : 2650.09  
 Misc :  
 IntFile : TPHCINT.E  
 Quant Time: Jun 13 7:49 1997

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

Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
 Title : TPHC Calibration 06/05/97 21 peaks  
 Last Update : Thu Jun 05 14:02:46 1997  
 Response via : Initial Calibration  
 DataAcq Meth : TPH8.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	13.68	259344	12.631	mg/L
Spiked Amount 10.000		Recovery =	126.31%	
<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	0.00	0	N.D.	mg/L
10) t C26	15.34	7392	0.397	mg/L
11) t C28	0.00	0	N.D.	mg/L
12) t C30	16.65	28486	1.517	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 d
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 d

Quantitation Report

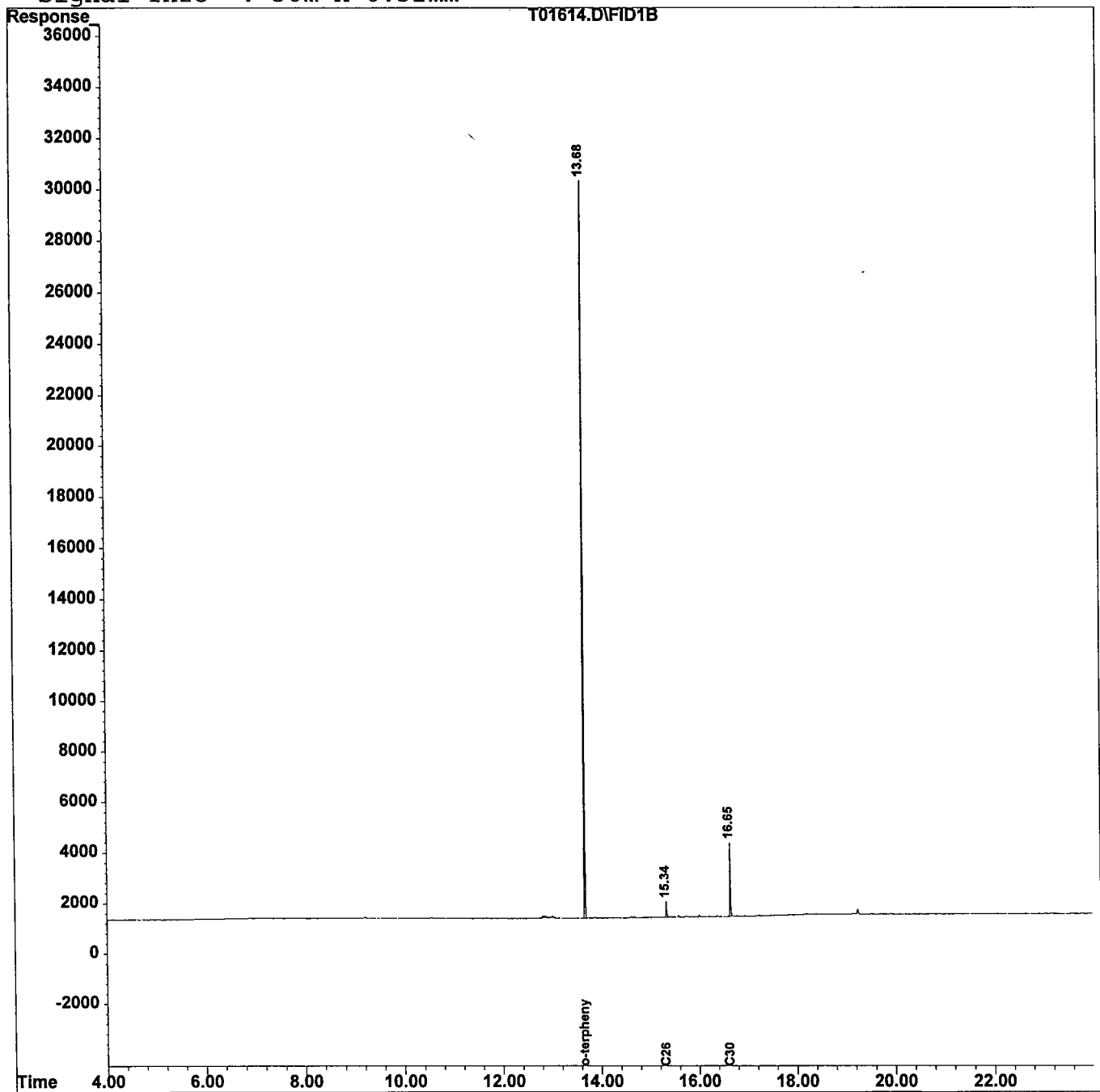
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Acq On : 12 Jun 97 5:31 pm  
Sample : 2650.09  
Misc :  
IntFile : TPHCINT.E  
Quant Time: Jun 13 7:49 1997

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

Quant Results File: TPH8.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH8.M (Chemstation Integrator)  
Title : TPHC Calibration 06/05/97 21 peaks  
Last Update : Thu Jun 05 14:02:46 1997  
Response via : Multiple Level Calibration  
DataAcq Meth : TPH8.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 11/16/97

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**



December 1997

## PHOTOGRAPHIC LOG

**UST No. 81515-18**

**Building 2507**

**Charles Wood Area**

**Fort Monmouth**



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