COPY

United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 788
Main Post-West Area

NJDEP UST Registration No. 0081533-125

September 1998

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 788

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 0081533-125

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

788.DOC

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EXECUTIVE SUMMARY

UST Closure

On October 16, 1997, a tar-coated steel 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. 0081533-125 (Fort Monmouth ID No. 788), was located southwest of Building 788. UST No. 0081533-125 was a 1,000-gallon No. 2 fuel oil UST.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation*. Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes or punctures. No holes or punctures were noted in the UST. Groundwater was not encountered. No evidence of potentially contaminated soil or groundwater was observed surrounding the tank. Soil samples contained TPHC concentrations ranging from non-detect to 179.72 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. 0081533-125 at Building 788.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081533-125, was closed at Building 788 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on October 16, 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 1,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081533-125 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. 0081533-125 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. 0081533-125 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 788 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-125 was located southwest of Building 788 and appurtenant copper piping ran approximately eight (8) feet northeast from the excavation to Building 788. 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 788. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

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

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. 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 Zapecza, 1990).

Local Geology

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

The Tinton sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard).

Hydrogeology

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

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

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

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

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 788 located approximately 400 feet northwest of Husky Brook, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 788 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

- 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 100 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. Groundwater was not encountered. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

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

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

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

1.6 MANAGEMENT OF EXCAVATED SOILS

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

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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

The following Parties participated in Closure and Site Investigation Activities:

X Subsurface Evaluator: Charles Appleby
Employer: U.S. Army, Fort Monmouth
Phone Number: (730) 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. Groundwater was not encountered.

2.3 SOIL SAMPLING

On October 16, 1997, following the removal of the UST, post-excavation soil samples ES, A, B, C, D, E, F, and DUP B were collected from a total of seven (7) locations of the UST excavation. Samples A, B,C and DUP B were collected along the centerline at a depth of 6.0 feet bgs. Sidewall samples D and E were collected at a depth of 5.5 feet bgs. Sample ES was collected from the excavated soil. Piping sample F was collected at a depth of 1.0 feet bgs. All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids.

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

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST, post-excavation soil samples were collected on October 16, 1997, from a total of seven (7) 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 16, 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 179.72 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 788 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. 0081533-125 at Building 788.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 788, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
ES	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
A	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
B	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP B	10/16/97	10/20/97	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:
* TPHC Total Petroleum Hydrocarbons

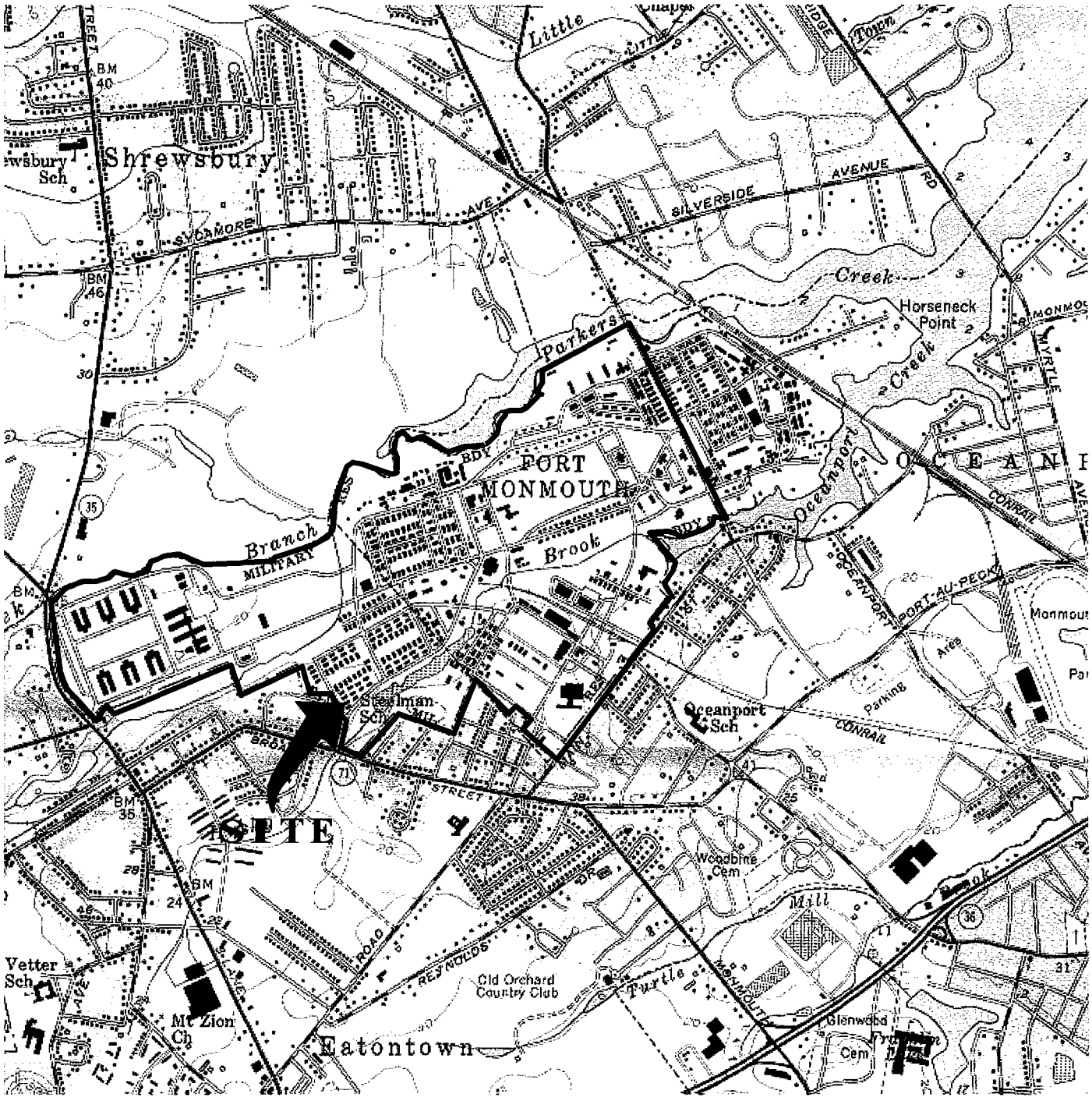
TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 788, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

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=	3074.01	10/16/97	10/17/97	Total Solid	--	--	91.06	--	--
				TPHC	170	yes	ND	10,000	No
A/6.0=	3074.02	10/16/97	10/17/97	Total Solid	--	--	91.74	--	--
				TPHC	169	yes	179.72	10,000	No
B/6.0=	3074.03	10/16/97	10/17/97	Total Solid	--	--	94.55	--	--
				TPHC	166	yes	ND	10,000	No
C/6.0=	3074.04	10/16/97	10/17/97	Total Solid	--	--	91.86	--	--
				TPHC	165	yes	ND	10,000	No
D/5.5=	3074.05	10/16/97	10/17/97	Total Solid	--	--	95.70	--	--
				TPHC	157	yes	ND	10,000	No
E/5.5=	3074.06	10/16/97	10/17/97	Total Solid	--	--	95.83	--	--
				TPHC	155	yes	ND	10,000	No
F/11.0=	3074.07	10/16/97	10/17/97	Total Solid	--	--	96.36	--	--
				TPHC	153	yes	ND	10,000	No
DUP B/6.0=	3074.08	10/16/97	10/17/97	Total Solid	--	--	93.65	--	--
				TPHC	162	yes	ND	10,000	No

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

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

SITE LOCATION MAP
Building 788
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

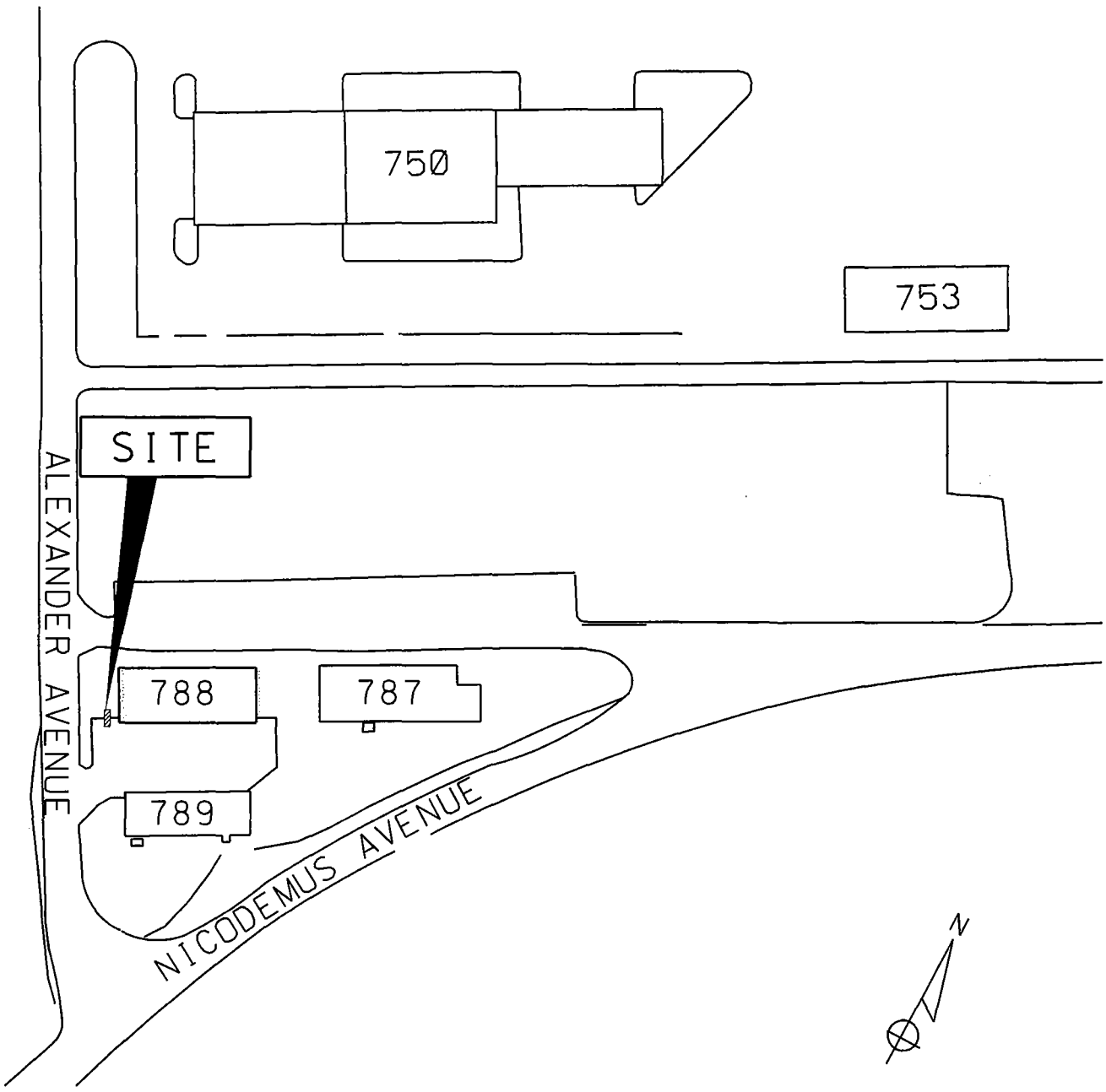


FIGURE 2
SITE MAP
BUILDING 788
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=100'

DATE: OCT. 1997

788 2429 FIG2

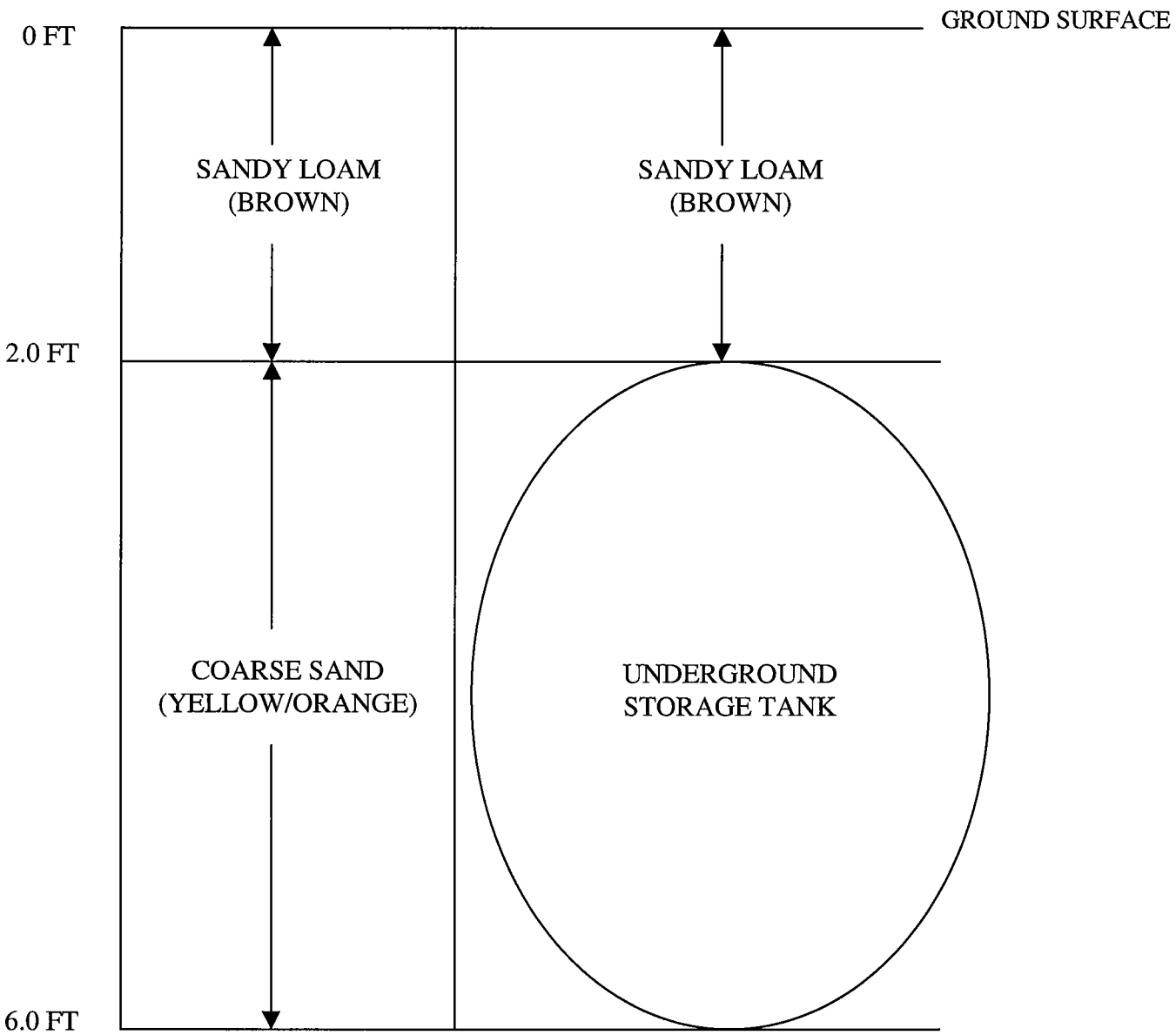
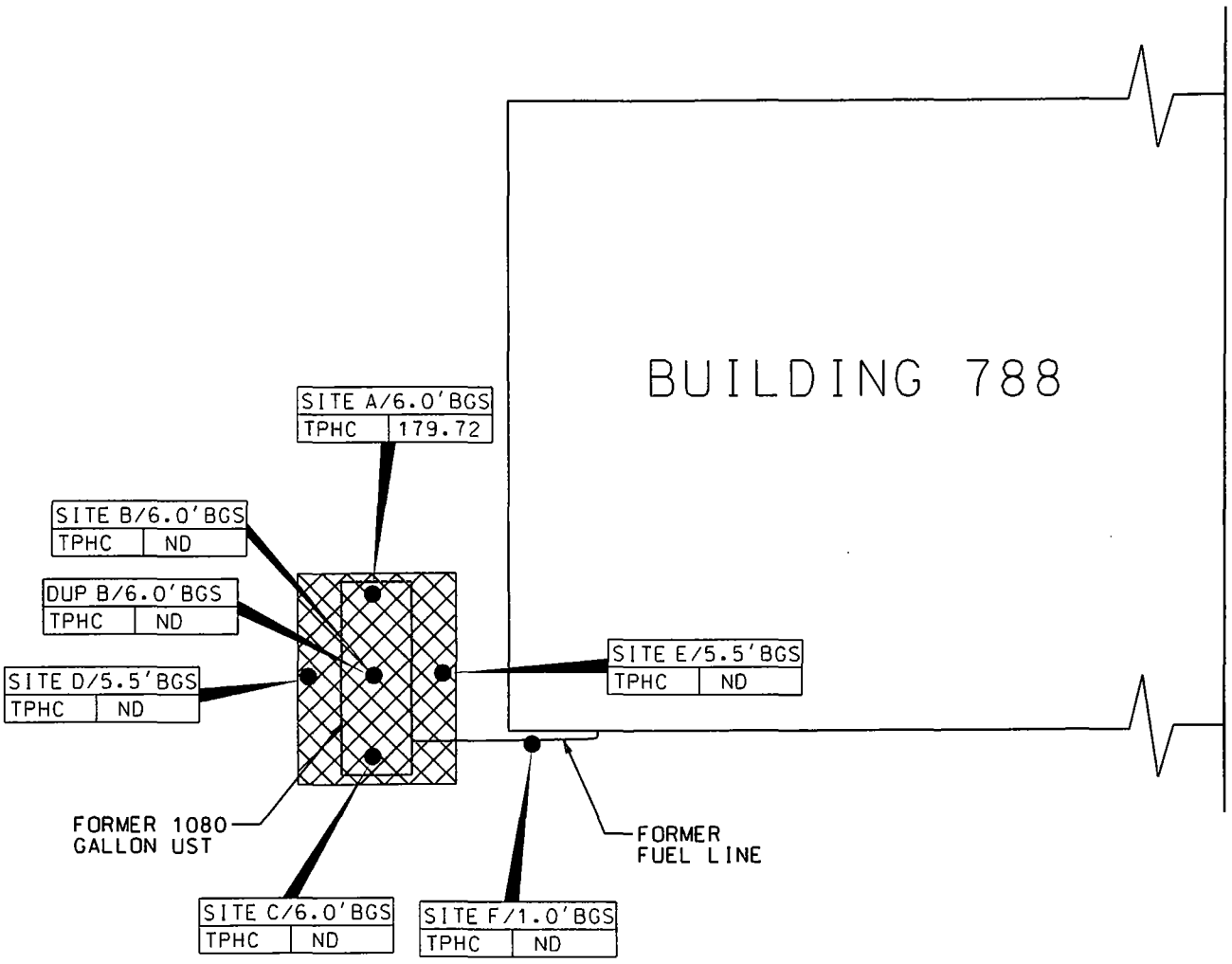


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 788
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: NTS | DATE: OCT 1997



LEGEND

- SOIL SAMPLE LOCATION (OCTOBER 17, 1997)
- LIMIT OF EXCAVATION (OCTOBER 16, 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 788
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10'

DATE: OCT. 1997

788 2429 FIG4

APPENDIX A

NJDEP-STANDARD REPORTING FORM

Bldg 788 Ft Mon

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

FOR STATE USE ONLY
Check In ☐ Yes ☐ No
STATUS Active ☐ Inactive ☐ COMCODE ☐☐☐☐

UNDERGROUND STORAGE TANK FACILITY QUESTIONNAIRE

FACILITY UST # 81533 Bldg. 788

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

[Check appropriate box(es)]

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

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

☐ Facility Name and/or Address Change	☐ Type of Product(s) Stored	☐ Financial Responsibility Change
☐ Owner Name and/or Address Change	☐ Spills, Leaks, Releases	☐ Substantial Modification(s)
☐ Facility Operator and/or Address Change	☐ Tank(s) and/or Piping Changes	☐ Sale or Transfer (Complete Questions 4,5,6 & 13D)
☐ Owner Contact Person Change	☒ Closure (Complete Question #13) Bldg 788	☒ Other *(please specify)* Correct Prior SRF Error which de closed 81533-118 (Bldg 749 118 Is Empty > 12 months

SECTION A - GENERAL FACILITY INFORMATION

1. Facility Name MAIN POST WEST
2. Facility Location Ft Monmouth (NUMBER AND STREET)
   (CITY OR MUNICIPALITY)
   (COUNTY) (STATE NJ) (ZIP CODE) (BLOCK) (LOT)
3. Facility Operator (PERSON OR TITLE) Contact Tele. No. (Area Code) (Extension)
   Operator Address (if different than #2) (NUMBER AND STREET)
   (CITY OR MUNICIPALITY)
   (STATE) (ZIP CODE)
4. Tank Owner
5. Tank Owner Address (NUMBER AND STREET)
   (CITY OR MUNICIPALITY)
   (STATE) (ZIP CODE)
   Contact Person (Tank Owner) Charles Applebay Contact Tele. No. (Area Code) 732 532 6224 (Extension)
7. EPA ID # ☐☐☐☐☐☐☐☐☐☐☐☐
8. Total number of regulated underground storage tanks at facility ☐☐☐☐ (Complete Section B for each)

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

10. Facility Type: A ☐ State B ☐ Commercial/ Industrial C ☐ County/Municipal D ☐ Federal E ☐ Charitable / Public School F ☐ Residence G ☐ Other H ☐ Farm (as defined in N.J.S.A. 54:4-23.1 et seq.)

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

SECTION B - SPECIFIC TANK INFORMATION

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

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

Tank Identification Number	TANK NO. 118	TANK NO.	TANK NO.	TANK NO.	TANK NO.
8. Type of Monitoring/Detection System K. None	Tank ☐ Piping ☐	Tank ☐ Piping ☐	Tank ☐ Piping ☐	Tank ☐ Piping ☐	Tank ☐ Piping ☐
L. Other (please specify)					
9. Overfill Protection (tank only) (Mark one X for each tank)					
A. Yes	☐	☐	☐	☐	☐
B. No	☐	☐	☐	☐	☐
10. Spill Containment Around Fill Pipe (Mark one X for each tank)					
A. Yes	☐	☐	☐	☐	☐
B. No	☐	☐	☐	☐	☐
11. Tank Status (Mark one X for each tank)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. In-use	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
B. Empty less than 12 months	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
C. Empty 12 months or more	X X	☐ ☐	☐ ☐	☐ ☐	☐ ☐
D. Emergency spill tank (sump)	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
E. Emergency backup generator tank	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
F. Abandoned in Place	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
G. Removed	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
H. Other (please specify)					
12. If box 11B, C, or D above has been marked, indicate the estimated date last used (month/day/year)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
13. Closure Information - Tank ID No.	TANK NO. 125	TANK NO.	TANK NO.	TANK NO.	TANK NO.
	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
A. Date abandoned in place					
B. Date taken temporarily out of service					
C. Date removed Bldg 788	10/6/1997				
D. Date of Sale or Transfer					
E. TMS # (if applicable)					
F. ISRA # (if applicable)					

SECTION C - FINANCIAL RESPONSIBILITY

Does this facility have a Financial Responsibility Assurance Mechanism as required in 40 CFR 280? ☐ YES ☐ NO
Please list the appropriate financial information below:

Type _____ Carrier / Issuing Agency _____

___/___/___ Effective Date ___/___/___ Expiration Date _____ Policy Number $_____ Amount

SECTION D - MONITORING SYSTEMS

Does this facility have a release detection monitoring system which is in compliance with N.J.A.C. 7:14B-6? ☐ YES ☐ NO
If "No", please be aware that the facility must meet the appropriate deadline. (See "Dates to Know" on Page 4)

SECTION E - RECORDKEEPING/COMPLIANCE

Please answer all the questions in this section on a facility basis. Any one tank not in compliance requires a "NO" answer for the entire facility.

1. Does this facility have cathodic protection systems for all steel tanks and piping? ☐ YES ☐ NO
   If "Yes", are the systems properly operated and maintained pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
2. Are the performance claims and documentation of monitoring systems maintained by the owner or operator pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
3. Are the proper monitoring, testing, sampling, repair and inventory records kept on-site pursuant to N.J.A.C. 7:14B-5 and 6? ☐ YES ☐ NO
4. Is the proper Release Response Plan kept on-site pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
5. Does the facility have spill and over fill protection systems pursuant to N.J.A.C. 7:14B-4? ☐ YES ☐ NO
6. Have all Fill Ports been permanently marked as per API #1637 pursuant to N.J.A.C. 7:14B-5?

IMPORTANT INFORMATION

FEE:	Please make checks payble to: **"Treasurer, State of New Jersey"**. Use of the enclosed return envelope will expedite processing. Registration and Billing Schedule can be found in N.J.A.C. 7:14B. All Initial Registration fees are $100 per facility.
PENALTY:	Failure by owner or operator of a regulated underground storage tank to comply with any requirement of the State U[illegible] Act or regulations may result in the penalties set forth in N.J..S.A. 58:10A-10.
EMERGENCY:	If a discharge or spill occurs, the NJDEP Hotline at (609) 292-7172 must be called IMMEDIATELY - 24 hours a day.
UPGRADE EXEMPTION:	Residential heating oil underground storage tanks are exempt from all upgrade requirements.

DATES TO KNOW (critical deadlines)

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

CERTIFICATIONS

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

CERTIFICATION NO. 1:

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

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Mr. James Ott — (Typed / Printed Name)

James Ott — (Signature)

Director of Public Works — (Title)

6/17/98 — (Date)

CERTIFICATION NO. 2:

Must be signed as follows:

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

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

N/A — (Typed / Printed Name)

(Signature)

(Title)

(Date)

CERTIFICATION NO. 3:

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

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Charles Appleby — (Typed / Printed Name)

Env. Pro. Spec. — (Title)

(Signature) 2056

6/17/98 — (Date)

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

APPENDIX B

SITE ASSESSMENT SUMMARY

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

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

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

Facility Street Address : Directorate of Public Works Building 173

Municipality: 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 : 81533-125 (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. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

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

Name (Print or Type): James Ott Title: Directorate of Public Works

Signature: James Ott

Company Name: U.S. Army Fort Monmouth Date: 1/7/99

APPENDIX C

WASTE MANIFEST

LORCO PETROLEUM SERVICES

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

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: NJ321002059 7 — 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
C/O J. FALLON BLDG 173 ATTN: SELEM-PW-EV
FORT MONMOUTH, N.J. 07703

B. 788

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

5. Transporter 1 Company Name: LIONETTI OIL RECOVERY CC INC — 6. US EPA ID Number: NJD084044064 — A. Transporter's Phone: 908 721-0900

7. Transporter 2 Company Name — 8. US EPA ID Number — B. Transporter's Phone

9. Designated Facility Name and Site Address: LIONETTI OIL RECOVERY CO INC DBA LORCO PETROLEUM SVCS
RUNYON&CHEESEQUAKE RDS
OLD BRIDGE,NJ 08857 — 10. US EPA ID Number: NJD084044064 — C. Facility's Phone: 908 721-0900

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. PETROLEUM OIL(PETROLEUM OIL) COMBUSTIBLEL LIQUID UN1270 PGIII	001	T	02450	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#87044 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: DINKER M. DESAI — Signature — Month 11 Day 05 Year 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: DAN MacKAY — Signature — Month 11 Day 05 Year 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: Richard LaBelle — Signature — Month 11 Day 10 Year 97

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL - RETURN TO GENERATOR

APPENDIX D

UST DISPOSAL CERTIFICATE

THIS CHECK IS DELIVERED FOR PAYMENT ON THE FOLLOWING ACCOUNTS

DATE		AMOUNT
TOTAL OF INVOICES		
LESS ____ % DISCOUNT		
LESS FREIGHT		
LESS		
TOTAL DEDUCTIONS		
AMOUNT OF CHECK		

MAZZA & SONS, INC.
RECYCLING DIVISION
3230 SHAFPO RD.
TINTON FALLS, NJ 07753

1483

55-7233/2212

DATE 11/14/97

PAY TO THE ORDER OF Tecom Vinnell $ 193.20

One Hundred Ninety Three + 20/100 DOLLARS

Sovereign Bank

James L. Mazza

⑈001483⑈ ⑆221272332⑆000 109109286⑈

MAZZA & SONS, INC.

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

NO. 295

DATE. 14 Nov 97

Customer's Name Tecom Vinnell

Address

	Weight	Price
Cast Iron		
Steel THN	60.20	
Lt. Iron		
Copper #1		
Copper #2		

B.788

15180 LB

13460 LB

1720

NOV 14 1997

Ck#1483

	Weight	Price
Lt. Copper		
Brass		
Alum Clean		
Lead		
Stainless		
Battery		
TOTAL AMOUNT:	60.20	

Weigher

Customer

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. 788

Project # 3074
Date Rec. 10/17/97
Date Comp. 10/21/97
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

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

Additional Comments: _____

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

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: DPW-ENV
Phone #:
( )DERA (X)OMA ( )Other:
Project No: 96-1262
Location: B. 788
Samplers Name / Company : GARY DIMARTINIS - TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% Solids	Munsell	Analysis Parameters	OVA	Remarks / Preservation Method
3074-01	788-ES	10-16-97	1407	SOIL	1	X	X	X	1519	ND	EXC. SOIL *
02	A		1415						15.18	ND	CENTER LINE @ 6.0'
03	B		1417						14.96	ND	↓
04	C		1420						15.47	ND	↓
05	D		1425						15.68	ND	SIDEWALL @ 5.5'
06	E		1427						15.78	ND	↓
07	F		1437						15.94	ND	Piping Run @ 1.0'
08	DUP	↓	—	↓	↓	↓	↓	↓	15.49	—	FIELD DUPLICATE

NOTE: OVA (#A52114) CALIBRATED W/95 PPM CH4 & ZERO(0) AIR @1405 HRS. ON 10/16/97 by GJ DiMARTINIS.

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	10-17-97 0805	[signature] 10/17/97 0805			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: (X)Standard 4 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks:
DEDICATED SAMPLING TOOLS USED.

print legibly 1BS 1TR - 2BS - 2EB

Custody.xls7/10/97

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

Client :	U.S. Army	**Lab. ID # :**	3074
	DPW. SELFM-PW-EV	**Date Rec'd:**	17-Oct-97
	Bldg. 173	**Analysis Start:**	20-Oct-97
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Oct-97
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	D.DEINHARDT	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	B. 788

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3074.01	788-ES	1.00	15.19	91.06	170	ND
3074.02	788-A	1.00	15.18	91.74	169	179.72
3074.03	788-B	1.00	14.96	94.55	166	ND
3074.04	788-C	1.00	15.47	91.86	165	ND
3074.05	788-D	1.00	15.68	95.70	157	ND
3074.06	788-E	1.00	15.78	95.83	155	ND
3074.07	788-F	1.00	15.94	96.36	153	ND
3074.08	788-DUP	1.00	15.49	93.65	162	ND
METHOD BLANK	20-Oct-97	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

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

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\971020\T02781.D Vial: 2
Acq On : 20 Oct 97 1:33 pm Operator: DEINHARDT
Sample : 50 PPM STANDARD Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

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	8.591 E3	27.5#	72	-0.02
2	t	C10	12.199	10.005 E3	18.0	81	-0.01
3	t	C12	12.899	10.762 E3	16.6	82	-0.01
4	t	C14	13.135	10.967 E3	16.5	82	-0.01
5	t	C16	13.343	11.126 E3	16.6	82	-0.01
6	t	C18	15.464	12.614 E3	18.4	80	-0.01
7	t	C20	14.334	11.910 E3	16.9	82	-0.01
8	t	C22	14.324	11.880 E3	17.1	82	-0.01
9	t	C24	14.208	12.330 E3	13.2	86	-0.01
10	t	C26	13.442	11.273 E3	16.1	84	-0.01
11	t	C28	12.641	11.120 E3	12.0	92	-0.01
12	t	C30	12.219	10.814 E3	11.5	97	-0.01
13	t	C32	11.393	9.720 E3	14.7	97	-0.02
14	t	C34	10.635	8.157 E3	23.3	93	-0.02
15	t	C36	8.302	5.767 E3	30.5#	92	-0.02
16	t	C38	5.477	3.423 E3	37.5#	90	-0.02
17	t	C40	2.948	1.660 E3	43.7#	87	-0.03
18	t	c42	1.411	0.771 E3	45.4#	89	-0.04
19	T	Pristane	14.180	11.930 E3	15.9	83	-0.01
20	T	Phytane	14.419	12.047 E3	16.5	83	-0.01
21	s	o-terphenyl	15.642	12.977 E3	17.0	85	-0.01
22	t	TPHC - total	14.936	12.413 E3	16.9	92	-0.04

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

Surrogate Recovery Report

Lab. ID # : 3074

Location #: B. 788

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
3074.01		10.00	12.72	127.23
3074.02		10.00	12.84	128.35
3074.03		10.00	12.51	125.08
3074.04		10.00	13.04	130.37
3074.05		10.00	12.48	124.77
3074.06		10.00	12.59	125.85
3074.07		10.00	12.90	129.00
3074.08		10.00	12.71	127.13
METHOD BLANK	20-Oct-97	10.00	12.05	120.54

Surrogate Added : **o-Terphenyl**

10/22/97

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

Matrix Spike Recovery Report

Lab. ID # : 3074

Location #: B. 788

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
3081.02MS	1000	0.00	1045.34	104.53	75-125
3081.02MSD	1000	0.00	1060.51	106.05	75-125

RPD	**1.44**	**20.00**

10/22/97

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

Blank Spike Recovery Report

Lab. ID # : 3074

Location #: B. 788

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	20-Oct-97	1000	962.07	96.21	75-125

10/22/97

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\971020\T02784.D Vial: 5
Acq On : 20 Oct 97 5:19 pm Operator: DEINHARDT
Sample : 3074.01 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 17:47 1997 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	199013	12.723	mg/L
Spiked Amount	10.000	Recovery	=	127.23%	
	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	1651	0.116	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	16.61	1347	0.110	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

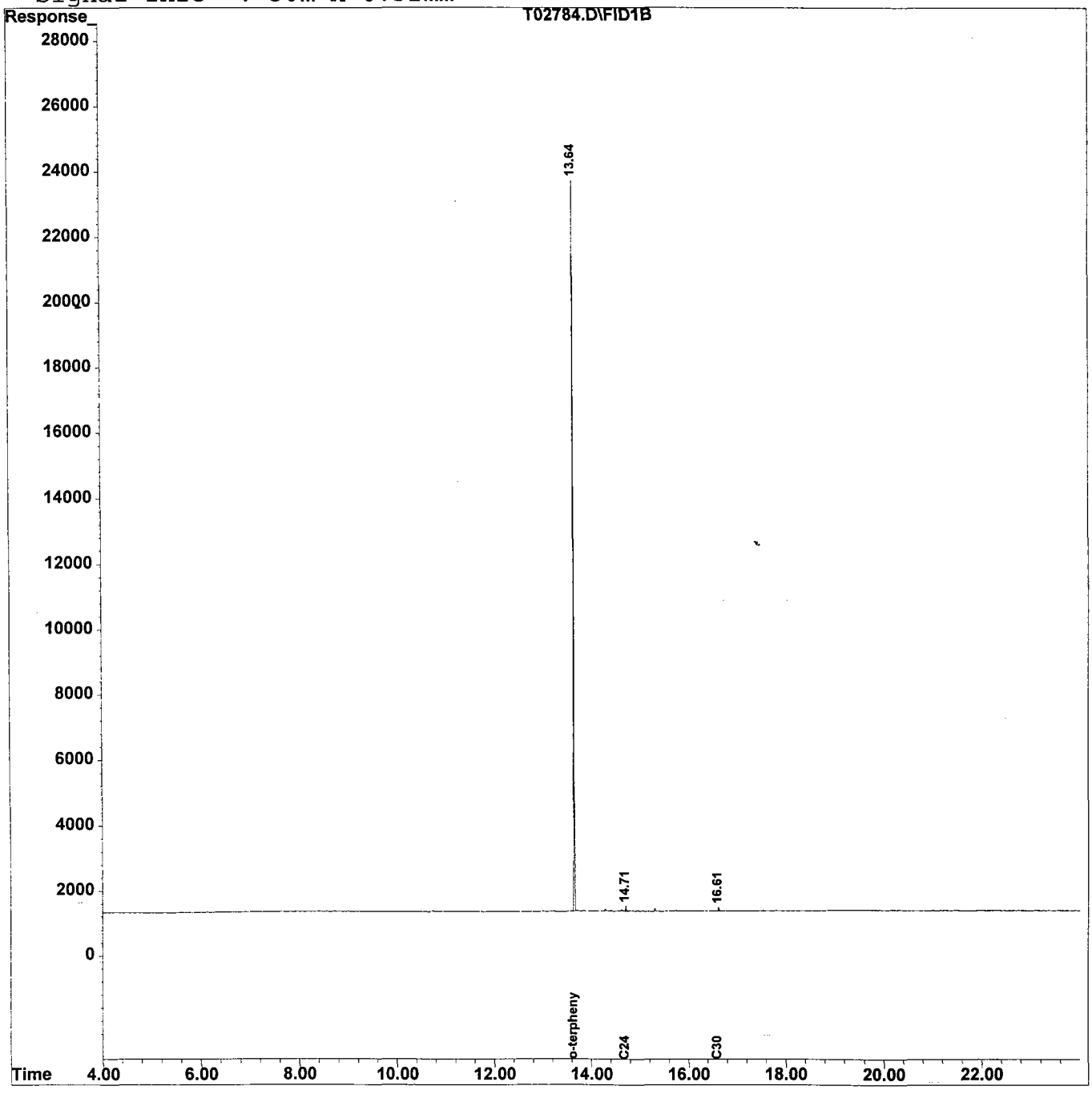
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02784.D Vial: 5
Acq On : 20 Oct 97 5:19 pm Operator: DEINHARDT
Sample : 3074.01 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 17:47 1997 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\971020\T02785.D Vial: 6
Acq On : 20 Oct 97 6:04 pm Operator: DEINHARDT
Sample : 3074.02 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 22 14:32 1997 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	200762	12.835	mg/L	
Spiked Amount	10.000	Recovery	=	128.35%		
	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	13.23	1218	0.085	mg/L	
8) t	C22	0.00	0	N.D.	mg/L	
9) t	C24	14.71	1400	0.099	mg/L	
10) t	C26	15.30	1032	0.077	mg/L	
11) t	C28	0.00	0	N.D.	mg/L	
12) t	C30	16.61	1279	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	13.23	1218	0.084	mg/L	
22) t	TPHC - total	13.64	747624	50.055	mg/L	m

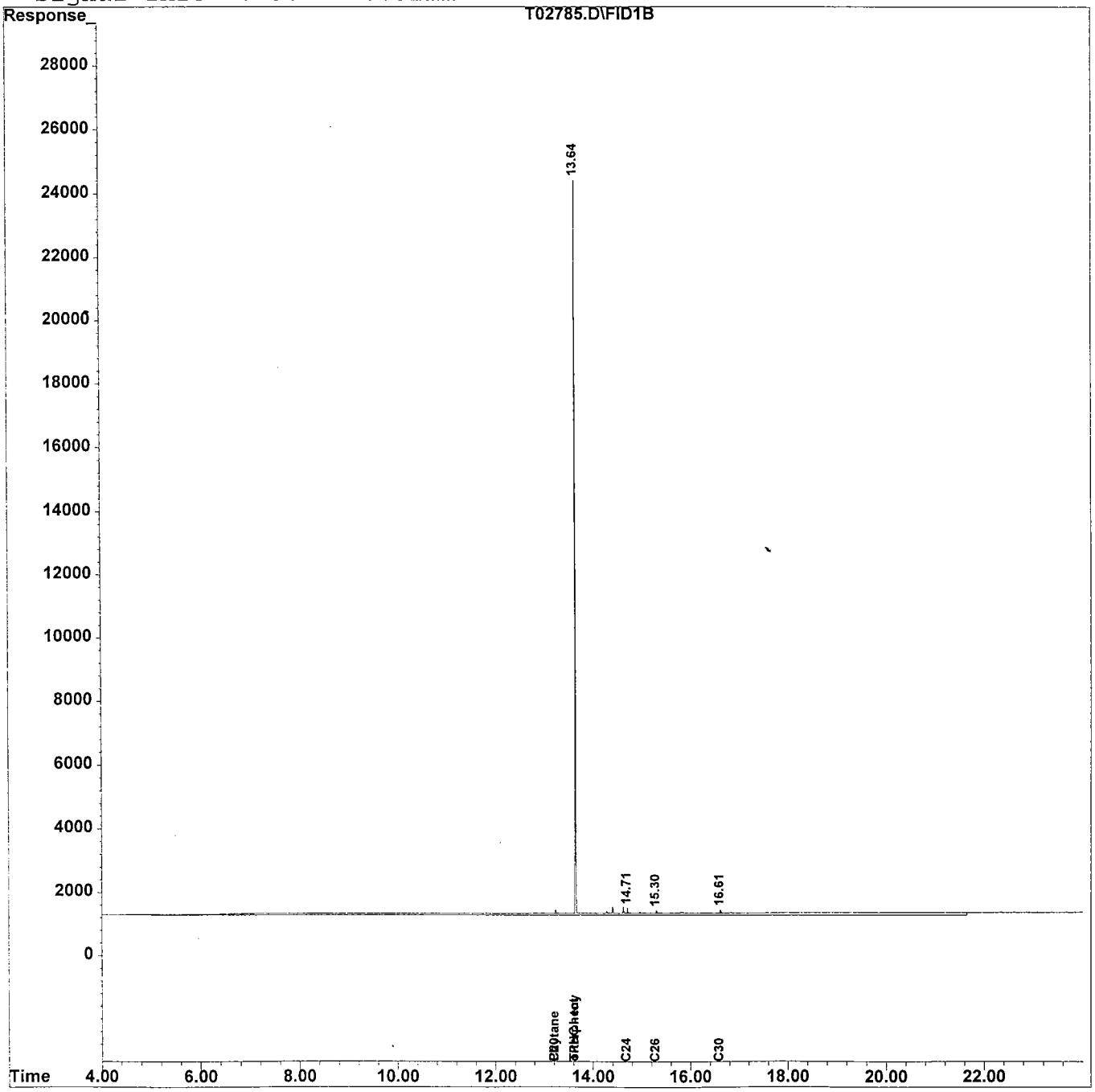
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02785.D Vial: 6
Acq On : 20 Oct 97 6:04 pm Operator: DEINHARDT
Sample : 3074.02 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 22 14:32 1997 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\971020\T02786.D Vial: 7
Acq On : 20 Oct 97 6:47 pm Operator: DEINHARDT
Sample : 3074.03 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 19:15 1997 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	195645	12.508	mg/L
Spiked Amount	10.000	Recovery	=	125.08%	
	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	1542	0.109	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	16.61	1206	0.099	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

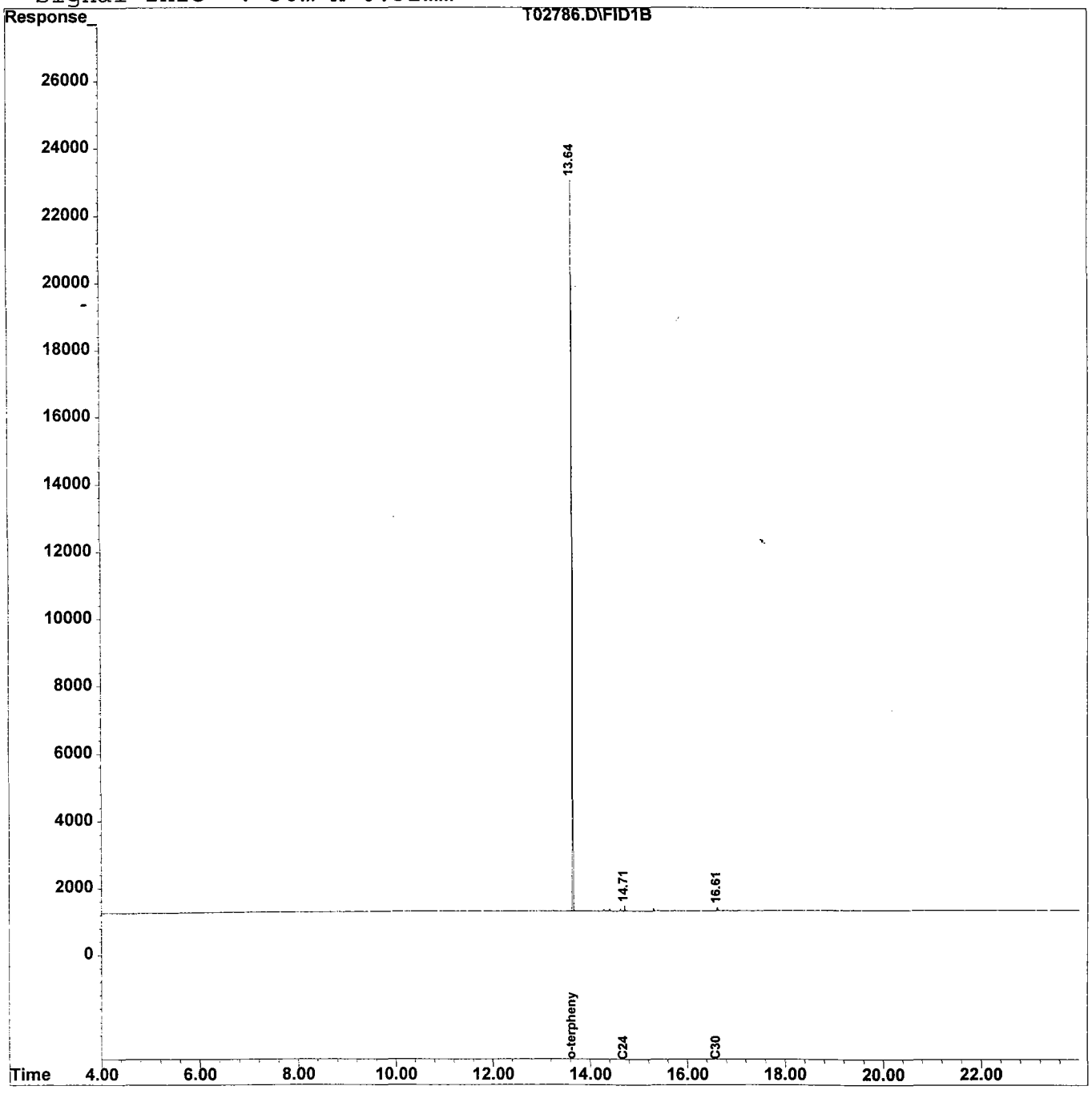
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02786.D Vial: 7
Acq On : 20 Oct 97 6:47 pm Operator: DEINHARDT
Sample : 3074.03 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 19:15 1997 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\971020\T02787.D Vial: 8
Acq On : 20 Oct 97 7:30 pm Operator: DEINHARDT
Sample : 3074.04 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 19:58 1997 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	203925	13.037	mg/L
Spiked Amount	10.000	Recovery	=	130.37%	
	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	0.00	0	N.D.	mg/L
9) t	C24	14.71	1532	0.108	mg/L
10) t	C26	15.30	1038	0.077	mg/L
11) t	C28	0.00	0	N.D.	mg/L
12) t	C30	16.61	1183	0.097	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

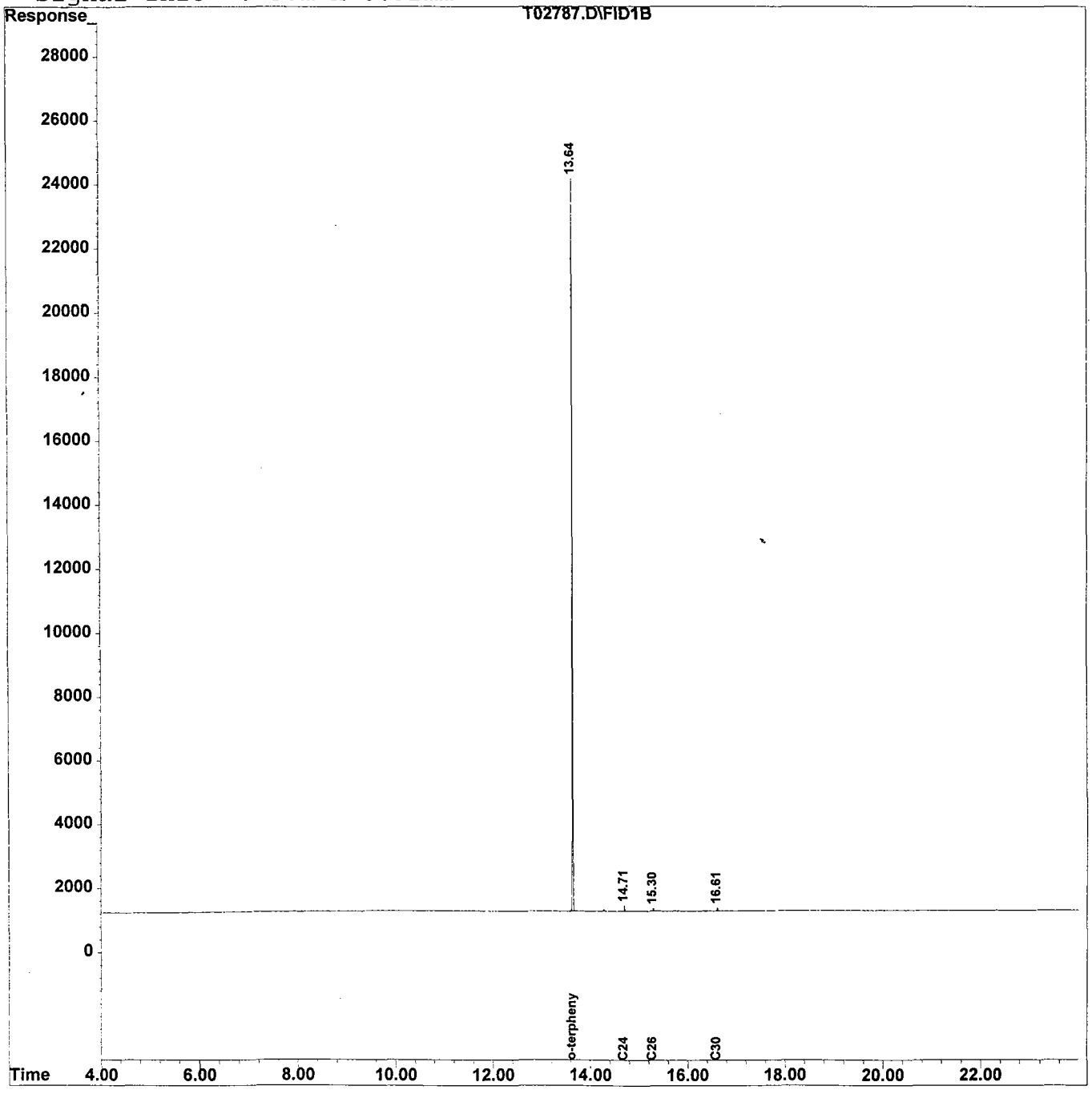
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02787.D Vial: 8
Acq On : 20 Oct 97 7:30 pm Operator: DEINHARDT
Sample : 3074.04 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 19:58 1997 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\971020\T02788.D Vial: 9
Acq On : 20 Oct 97 8:14 pm Operator: DEINHARDT
Sample : 3074.05 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 20:41 1997 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	195165	12.477	mg/L
Spiked Amount	10.000	Recovery	=	124.77%	
	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	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	1516	0.107	mg/L
10) t	C26	15.30	1116	0.083	mg/L
11) t	C28	0.00	0	N.D.	mg/L
12) t	C30	16.61	1036	0.085	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

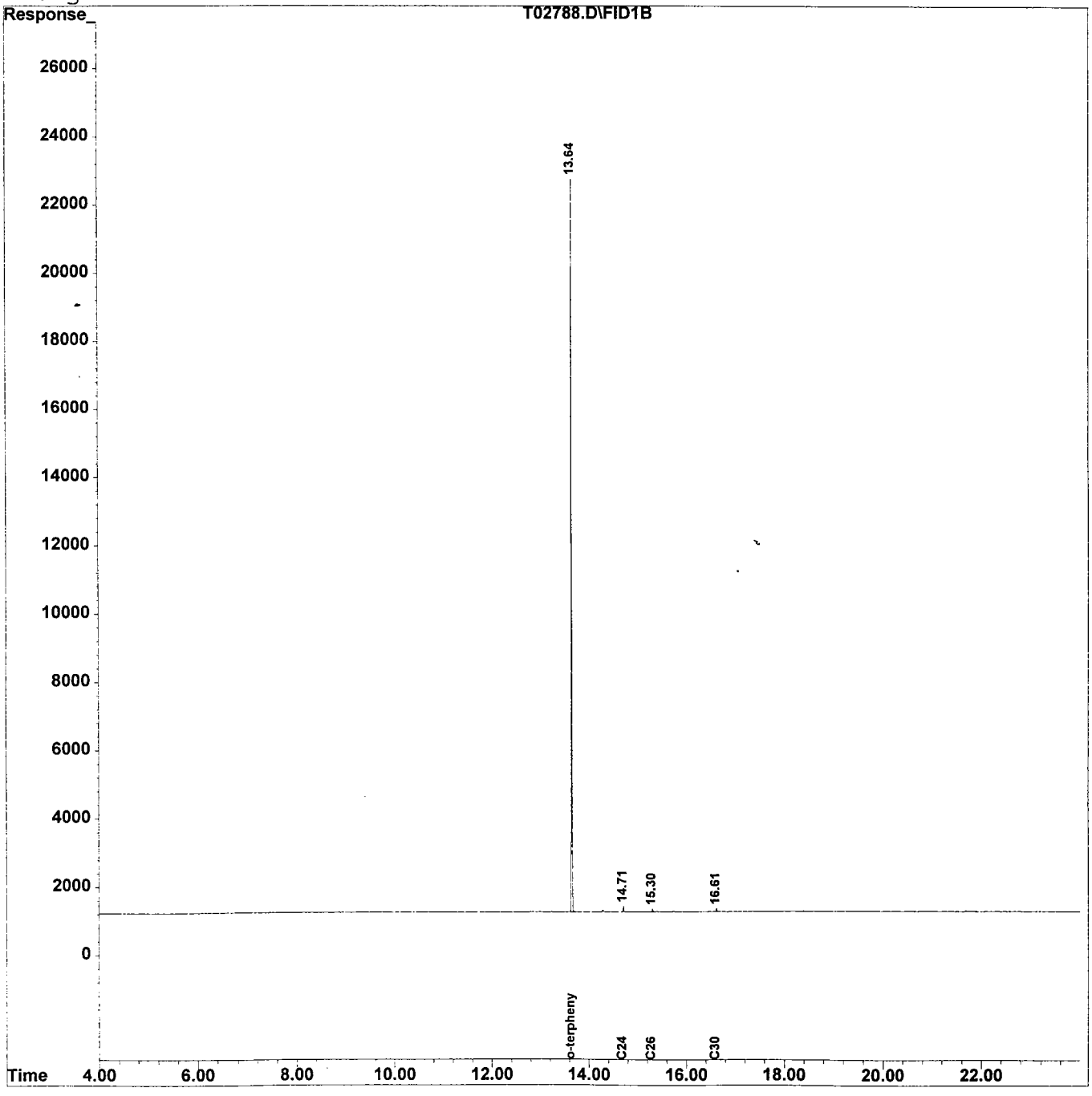
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02788.D Vial: 9
Acq On : 20 Oct 97 8:14 pm Operator: DEINHARDT
Sample : 3074.05 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 20:41 1997 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\971020\T02789.D Vial: 10
Acq On : 20 Oct 97 8:57 pm Operator: DEINHARDT
Sample : 3074.06 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 21:25 1997 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	196853	12.585	mg/L
Spiked Amount	10.000	Recovery	=	125.85%	
	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	1611	0.113	mg/L
10) t	C26	15.30	1213	0.090	mg/L
11) t	C28	0.00	0	N.D.	mg/L
12) t	C30	16.61	1070	0.088	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

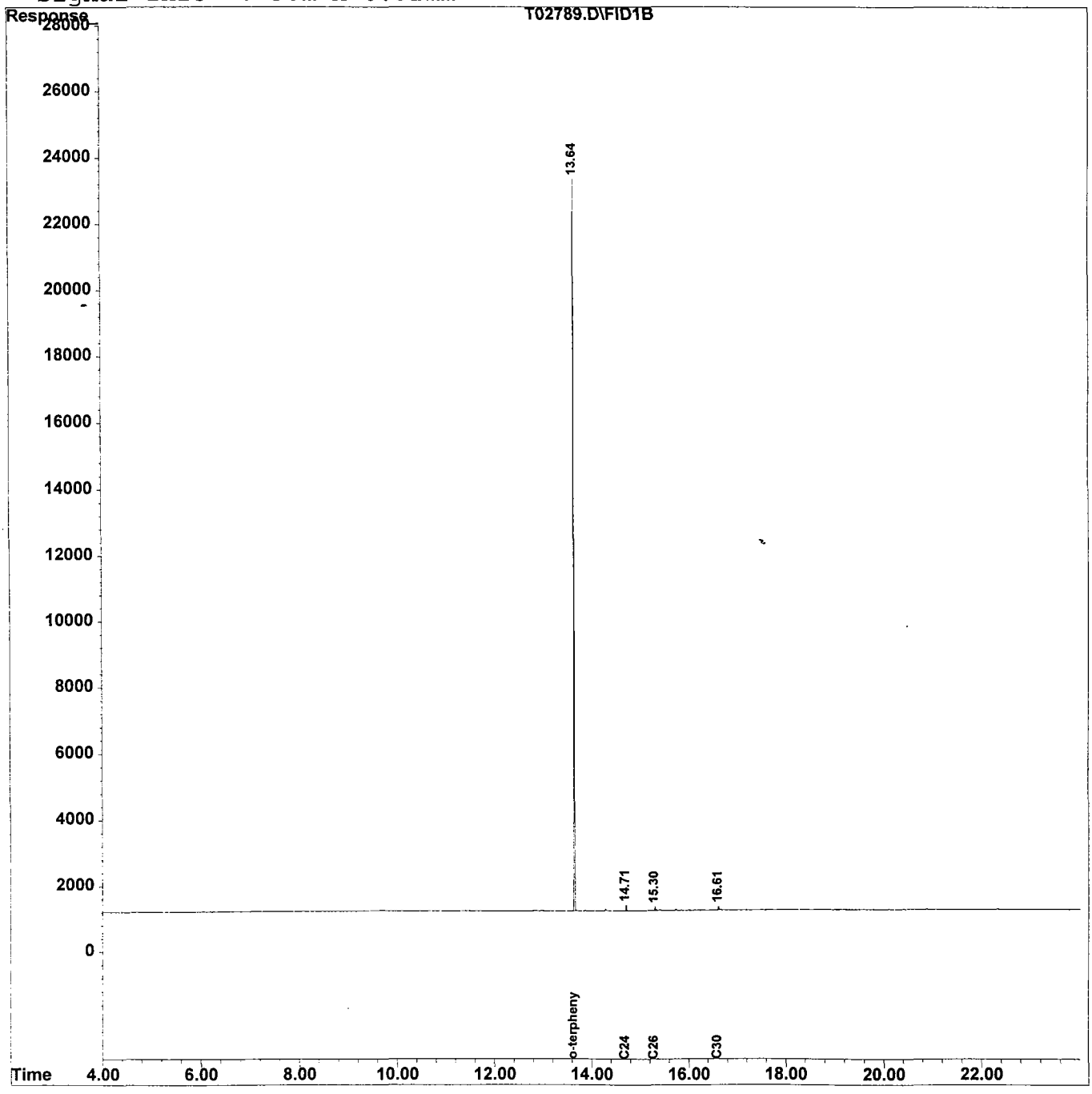
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02789.D Vial: 10
Acq On : 20 Oct 97 8:57 pm Operator: DEINHARDT
Sample : 3074.06 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 21:25 1997 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\971020\T02790.D Vial: 11
Acq On : 20 Oct 97 9:40 pm Operator: DEINHARDT
Sample : 3074.07 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 22:07 1997 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	201773	12.900	mg/L
Spiked Amount	10.000	Recovery	=	129.00%	
	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	1714	0.121	mg/L
10) t	C26	15.30	1139	0.085	mg/L
11) t	C28	0.00	0	N.D.	mg/L
12) t	C30	16.61	1255	0.103	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

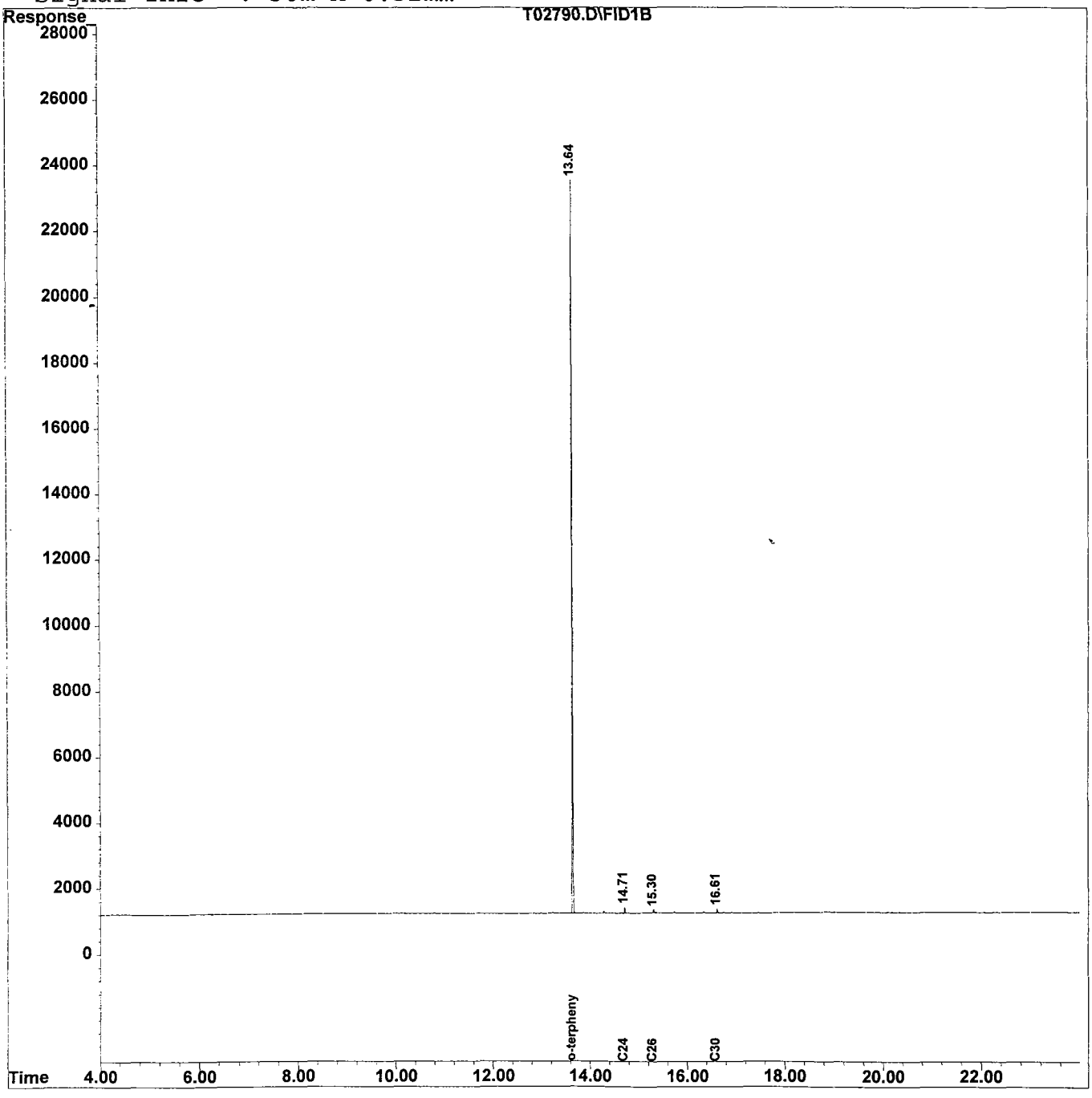
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02790.D Vial: 11
Acq On : 20 Oct 97 9:40 pm Operator: DEINHARDT
Sample : 3074.07 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 22:07 1997 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\971020\T02791.D Vial: 12
Acq On : 20 Oct 97 10:22 pm Operator: DEINHARDT
Sample : 3074.08 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 22:50 1997 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	198843	12.713	mg/L
Spiked Amount	10.000	Recovery	=	127.13%	
	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	1654	0.116	mg/L
10) t	C26	15.30	1060	0.079	mg/L
11) t	C28	0.00	0	N.D.	mg/L
12) t	C30	16.61	1217	0.100	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

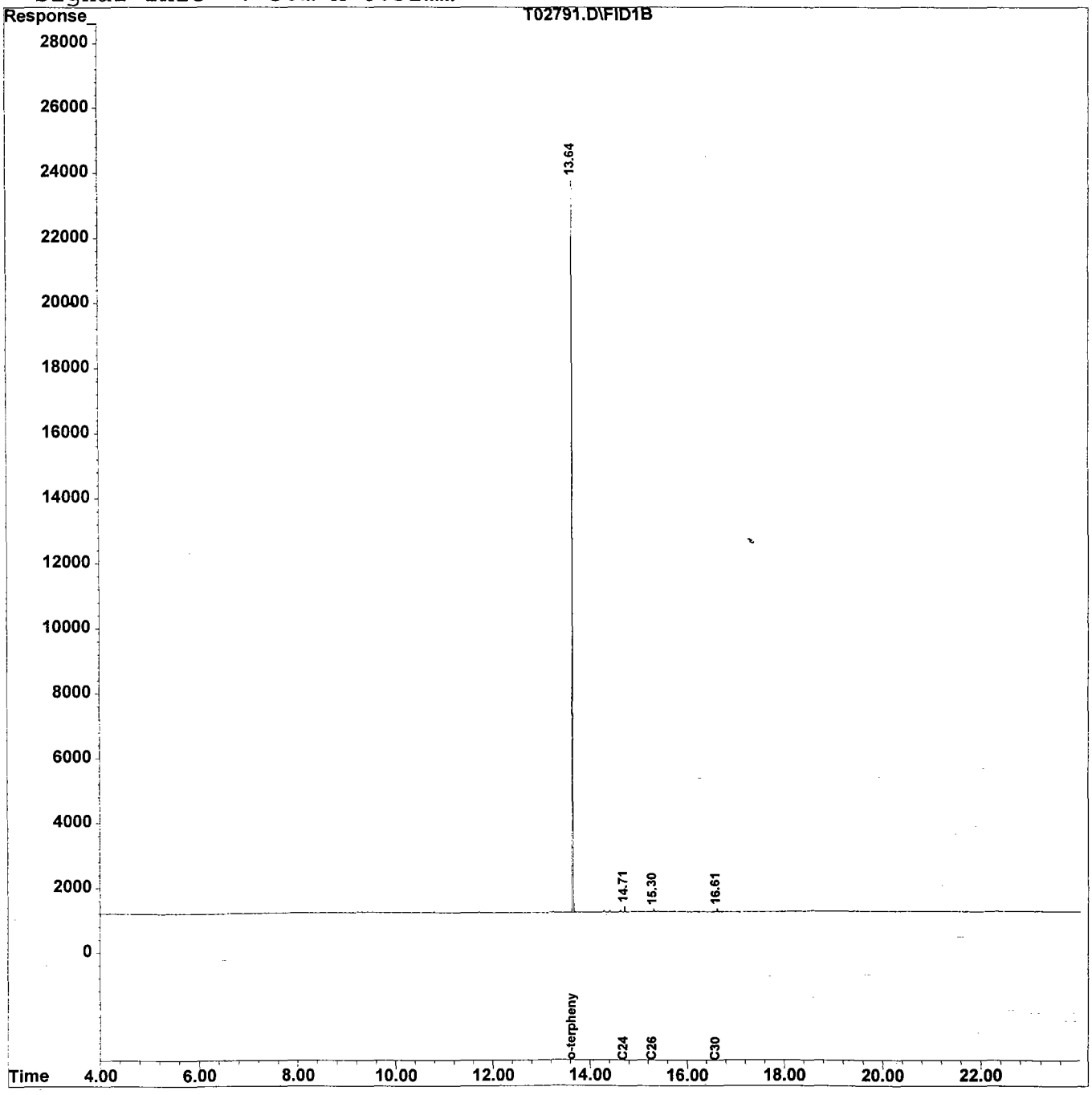
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971020\T02791.D Vial: 12
Acq On : 20 Oct 97 10:22 pm Operator: DEINHARDT
Sample : 3074.08 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 20 22:50 1997 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 _____

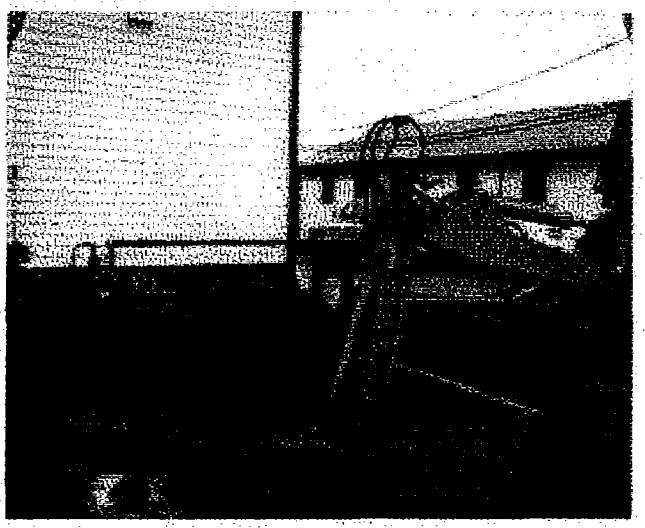
Date 12/3/97

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



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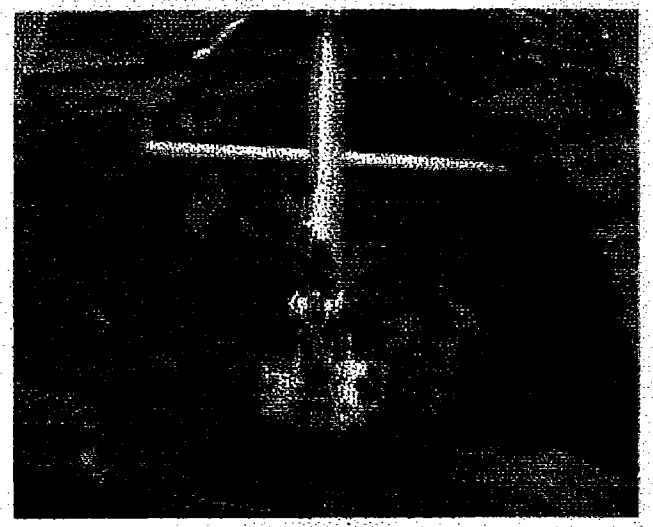

B. 788 10-16-97

B. 788 10-16-97

OCTOBER 16, 1997

PHOTOGRAPHIC LOG

UST NO. 81533-125

Building 788
Main Post-West
Fort Monmouth

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