

United States Army
Fort Monmouth, New Jersey

COPY

Underground Storage Tank Closure and Site Investigation Report

***Building 695
Main Post-West Area***

NJDEP UST Registration No. 0081533-111

December 1998

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

BUILDING 695

**MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 0081533-111**

DECEMBER 1998

PREPARED FOR:

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

PREPARED BY:

**VERSAR
1900 FROST ROAD
SUITE 110
BRISTOL, PA 19007**

PROJECT NO. 2491-308

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EXECUTIVE SUMMARY

UST Closure

On July 15, 1998, a fiberglass underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) underground storage tank procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-111 (Fort Monmouth ID No. 695), was located southwest of Building 695. UST No. 0081533-111 was a 2,000-gallon No. 2 fuel oil UST.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation*. Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes or punctures. No holes or punctures were noted in the UST. Groundwater was encountered at a depth of 6.0 feet bgs. No evidence of potentially contaminated soil or groundwater was observed surrounding the tank. Soil samples contained TPHC concentrations ranging from non-detect to 226.17 mg/kg.

Site Restoration

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

Conclusions and Recommendations

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

No further action is proposed in regard to the closure and site assessment of UST No. 0081533-111 at Building 695.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081533-111, was closed at Building 695 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on July 15, 1998. Refer to site location map on Figure 1. This report presents the results of the Department of Public Works= (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP. The UST was a fiberglass 2,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081533-111 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. 0081533-111 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. 0081533-111 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 Versar, 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 695 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-111 was located southwest of Building 695 and appurtenant copper piping ran approximately thirty six (36) feet northeast from the excavation to Building 695. 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 695. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

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

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

Local Geology

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

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

Hydrogeology

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

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

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

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

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

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

Building 695 is 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 695 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 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 50 gallons of liquid from the UST and its associated piping were transported by Casie Protank to Casie Ecology Oil Salvage, Inc. facility, a NJDEP-approved petroleum recycling and disposal company located in Vineland, New Jersey. Refer to Appendix 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 encountered at a depth of 6.0 feet bgs and no sheen was observed. 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 Marpal Disposal Company, Inc. 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:

- 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: Dinker DeSai
Employer: U.S. Army, Fort Monmouth
Phone Number: (732) 532-6224
NJDEP Certification No.: 0010173
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Phone Number: (908) 532-4359
NJDEP Company Certification No.: 13461
- Hazardous Waste Hauler: Casie Protank Environmental Services
Contact Person: Bob Corsiglia
Phone Number: (609) 696-4401
NJDEP Company Certification No.: 16931

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soil excavated from around the tank and appurtenant piping, as well as the UST excavation sidewalls and bottom, did not exhibit any evidence of potential contamination. Groundwater was encountered at a depth of 6.0 feet bgs and no sheen was observed.

2.3 SOIL SAMPLING

On July 16, 1998, following the removal of the UST, post-excavation soil samples A, B, C, D, E, F, G, H and DUP B were collected from a total of eight (8) locations of the UST excavation. Sample A was collected along the excavation floor at a depth of 9.5 feet bgs. Sidewall samples B, C, D, E and DUP B were collected at a depth of 5.5 feet bgs. Piping samples F, G, and H were collected at depths of 2.0 feet bgs, 1.5 feet bgs, and 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 July 16, 1998, from a total of eight (8) 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 July 16, 1998, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Samples contained levels of TPHC ranging in concentration from non-detect to 226.17 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 695 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. 0081533-111 at Building 695.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 695, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
A	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
B	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
C	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
D	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
E	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
F	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
G	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
H	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025
DUP B	7/16/98	7/17/98	Soil	Post-Excavation	TPHC	OQA-QAM-025

Note:

* TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 695, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/9.0=	3732.01	7/16/98	7/17/98	Total Solid	--	--	80.65	--	--
				TPHC	191	Yes	ND	10,000	No
B/4.0=	3732.02	7/16/98	7/17/98	Total Solid	--	--	90.42	--	--
				TPHC	164	Yes	ND	10,000	No
C/4.0=	3732.03	7/16/98	7/17/98	Total Solid	--	--	83.98	--	--
				TPHC	178	Yes	ND	10,000	No
D/4.0=	3732.04	7/16/98	7/17/98	Total Solid	--	--	78.55	--	--
				TPHC	197	Yes	ND	10,000	No
E/4.0=	3732.05	7/16/98	7/17/98	Total Solid	--	--	86.42	--	--
				TPHC	176	Yes	ND	10,000	No
F/2.0=	3732.06	7/16/98	7/17/98	Total Solid	--	--	89.32	--	--
				TPHC	171	Yes	ND	10,000	No
G/4.0=	3732.07	7/16/98	7/17/98	Total Solid	--	--	93.76	--	--
				TPHC	164	Yes	ND	10,000	No
H/2.0=	3732.08	7/16/98	7/17/98	Total Solid	--	--	78.74	--	--
				TPHC	187	Yes	226.17	10,000	No
DUP B /4.0=	3732.09	7/16/98	7/17/98	Total Solid	--	--	85.09	--	--
				TPHC	178	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

Figure 1: A series of 15 small, vertically stacked images showing a sequence of events or a process. The images are labeled with numbers 1 through 15, and each image contains a small, dark, rectangular object, possibly a component or a part of a machine, against a light background. The sequence appears to show the assembly or disassembly of a component.

FIGURES

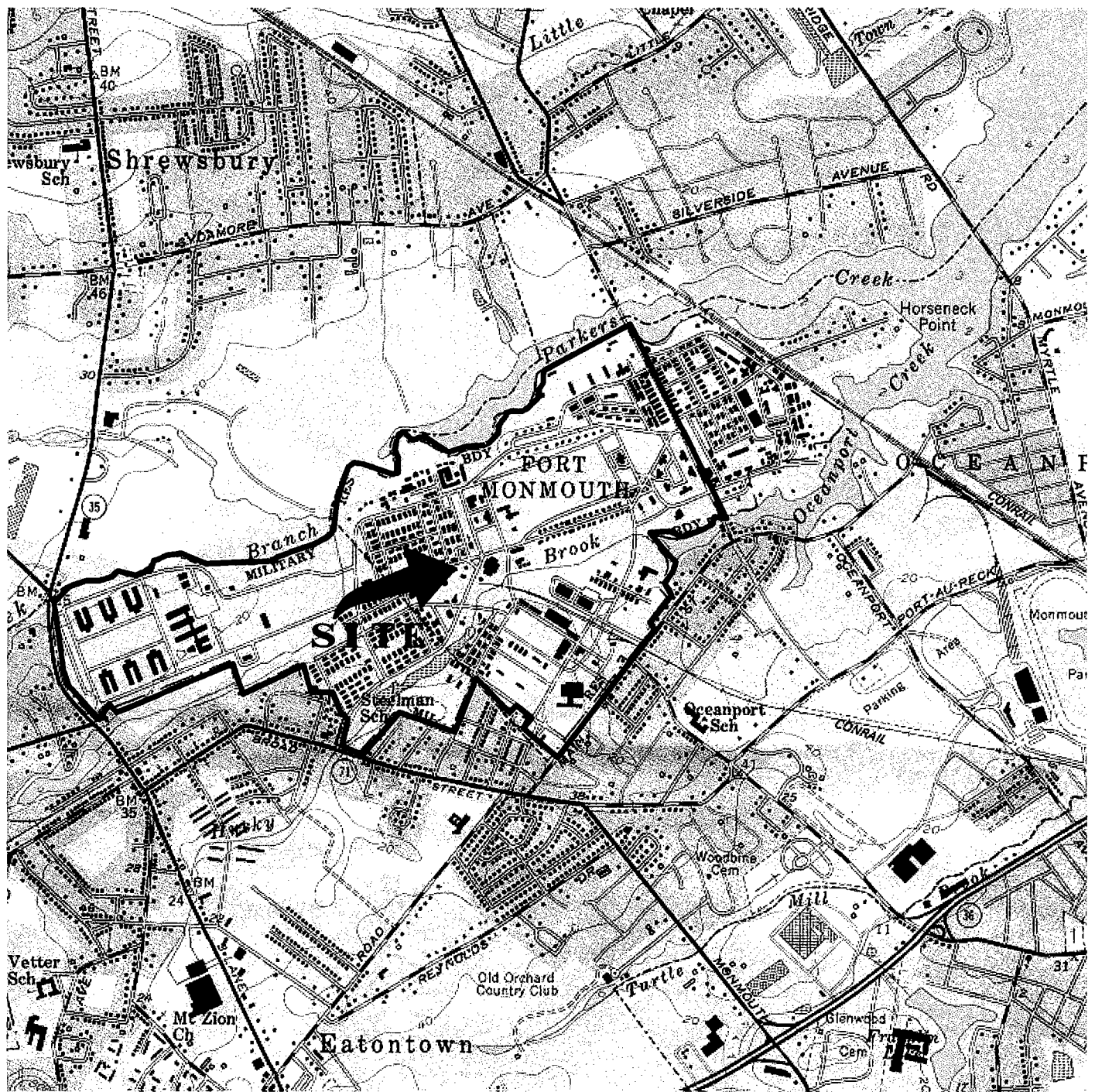


FIGURE 1

LOCATION MAP
 Building 695
 Main-Post West
 Fort Monmouth Army Base
 Monmouth County, NJ

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

Scale; 1" = 2000'

Date: JULY 1998

LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

NEW
JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

620

616

689

SALTZMAN AVENUE

695

699

565

PARKING

SITE



FIGURE 2
SITE MAP
BUILDING 695
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=100'

DATE: JULY 1998

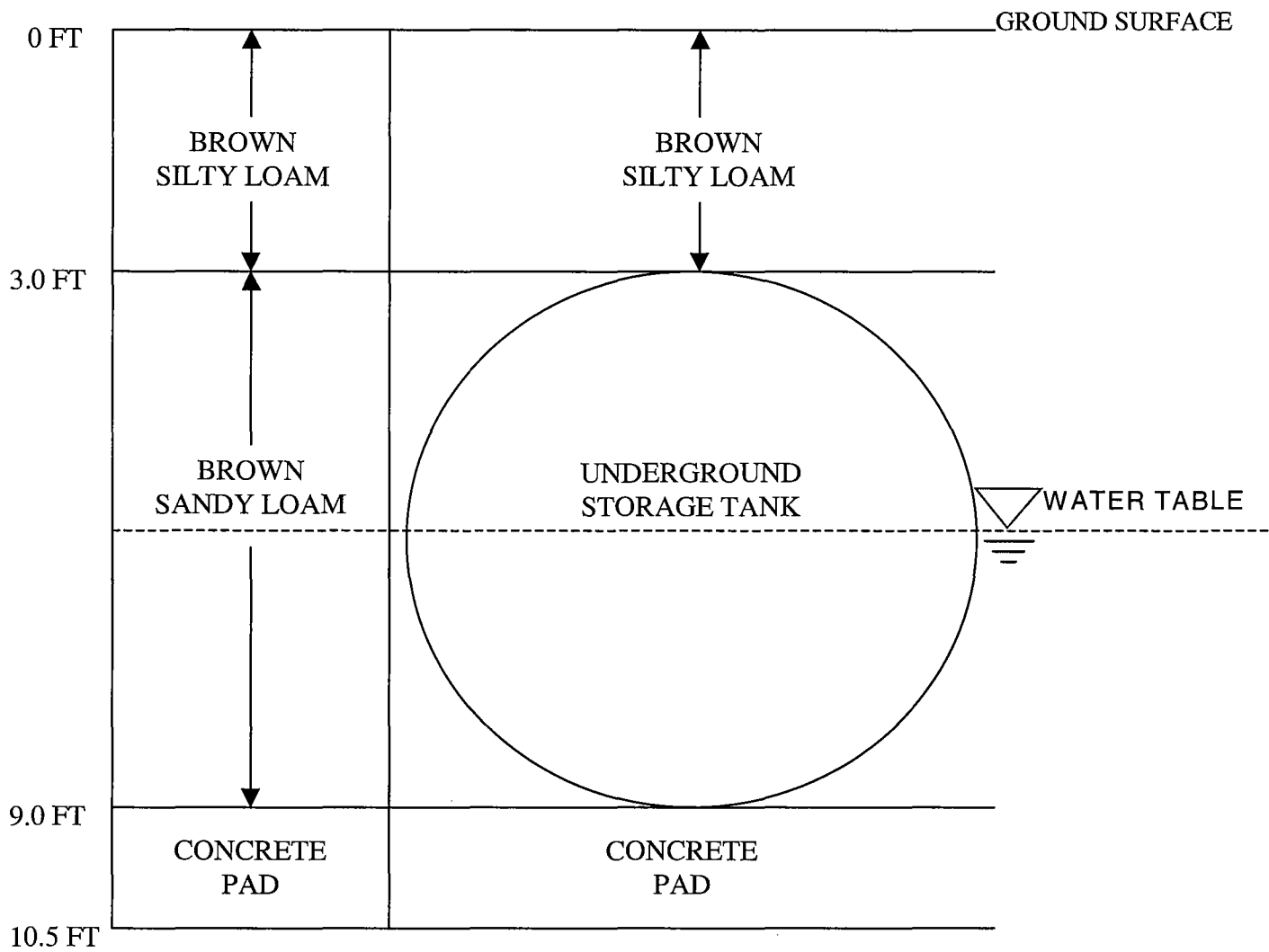


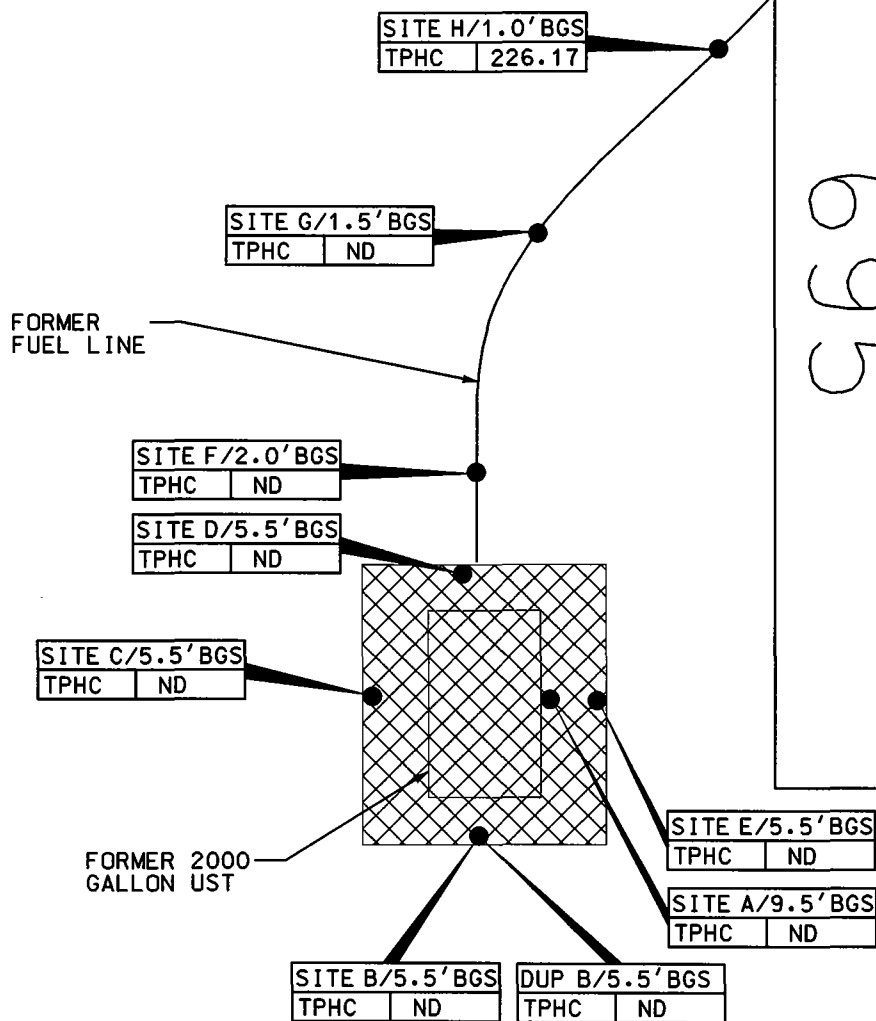
FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 695
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: NTS

DATE: JULY 1998

BUILDING 695



LEGEND

- SOIL SAMPLE LOCATION
(JULY 16, 1998)
- ▨ LIMIT OF EXCAVATION
(JULY 16, 1998)

NOTES:

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

FIGURE 4
SOIL SAMPLING LOCATION MAP
BUILDING 695
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10'

DATE: JULY 1998

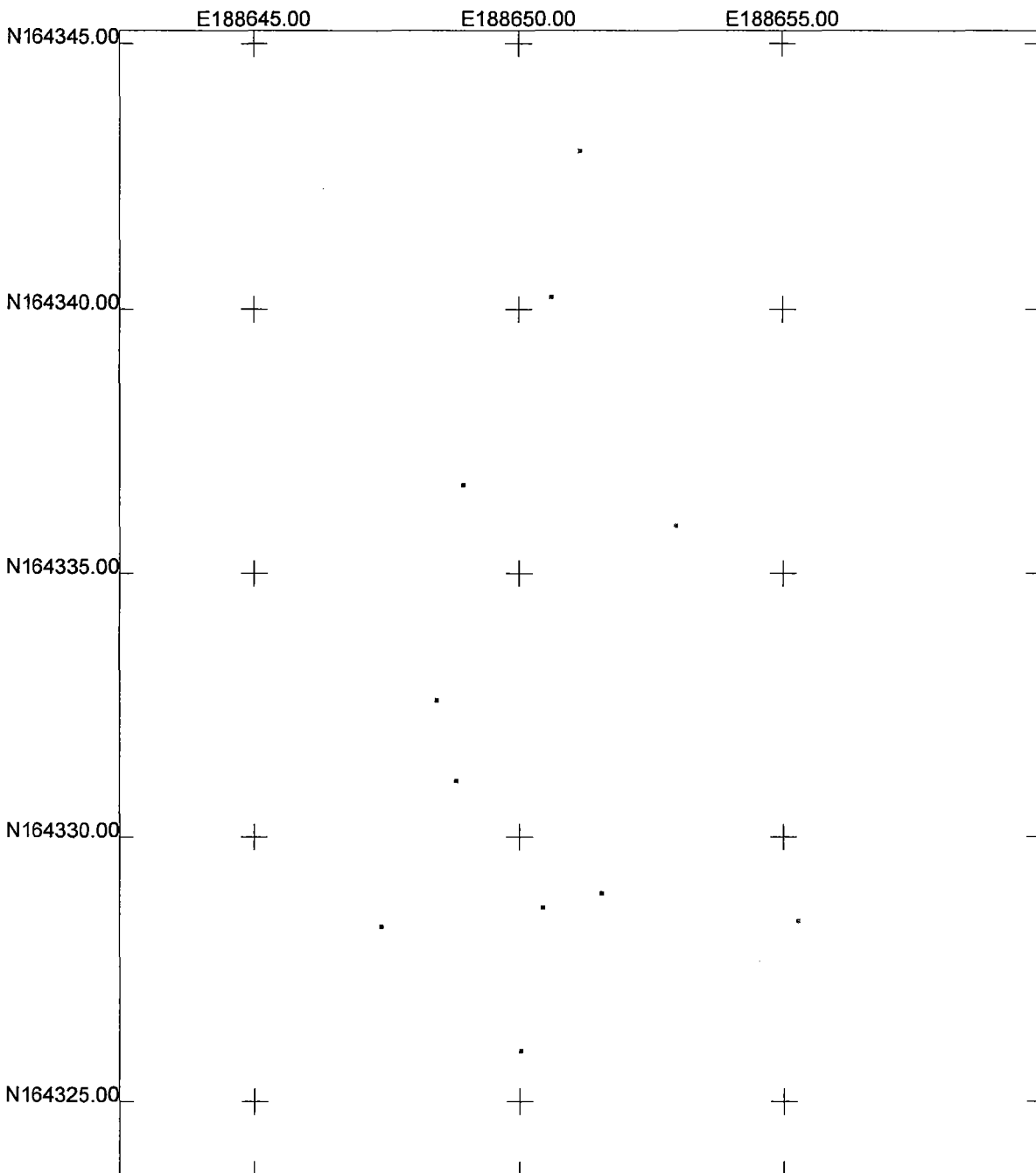


Figure 4 GPS Sampling Locations Maps

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



Scale 1:125
0 4.000
Meters

r102616a.cor
12/11/1998
Pathfinder Office
 **Trimble**

Figure 4 GPS Sampling Location Point Data

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

Reference Points

<u>Locations</u>	<u>Y Coord. (Northing)</u>	<u>X Coord. (Easting)</u>
NW BLDG CORNER	164342.996	188651.134
SW BLDG CORNER	164328.417	188655.258
FRONT ENTRANCE	164335.93	188652.965

Sample Points

<u>Locations</u>	<u>Y Coord. (Northing)</u>	<u>X Coord. (Easting)</u>
695 A	164328.672	188650.421
695 B	164325.969	188650.01
695 C	164328.321	188647.392
695 D	164331.078	188648.803
695 E	164328.945	188651.54
695 F	164332.61	188648.434
695 G	164336.691	188648.94
695 H	164340.243	188650.585

APPENDIX A

NJDEP-STANDARD REPORTING FORM

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

FOR STATE USE ONLY

Check In ☐ Yes ☐ No

STATUS COMCODE
Active Inactive

☐ ☐ ☐ ☐ ☐

UNDERGROUND STORAGE TANK
FACILITY QUESTIONNAIRE

FACILITY UST # 0081533

Bldg. 695

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 # 0081533
D. ☐ There have been no changes to the facility registration since last submittal. UST # _____ (Go to certification page for signatures)

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

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

SECTION A - GENERAL FACILITY INFORMATION

1. Facility Name WALTON POST, WEST

2. Facility Location FORT MONMOUTH

NUMBER AND STREET

CITY OR MUNICIPALITY

COUNTY

STATE NJ

ZIP CODE

BLOCK

LOT

3. Facility Operator _____ Contact
PERSON OR TITLE 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 CHARLES APPELBY Contact 7325326224
(Tank Owner) Tele. No. (Area Code) (Extension)

7. EPA ID # ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

8. Total number of regulated underground storage tanks at facility ☐ ☐ ☐ (Complete Section B for each tank)

9. Total regulated underground storage tank capacity at facility (gallons) B.675
10. Facility Type: A ☐ State C ☐ County/Municipal E ☐ Charitable / Public School G ☐ Other
 B ☐ Commercial/Industrial D ☐ Federal F ☐ Residence 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.

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

Tank Identification Number	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]
8. Type of Monitoring/Detection System	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
K. None	[][]	[][]	[][]	[][]	[][]
L. Other (please specify)					
9. Overfill Protection (tank only) (Mark one X for each tank)					
A. Yes	[][]	[][]	[][]	[][]	[][]
B. No					
10. Spill Containment Around Fill Pipe (Mark one X for each tank)					
A. Yes	[][]	[][]	[][]	[][]	[][]
B. No					
11. Tank Status (Mark one X for each tank)	Tank Piping	Tank Piping	Tank Piping	Tank Piping	Tank Piping
A. In-use	[][]	[][]	[][]	[][]	[][]
B. Empty less than 12 months					
C. Empty 12 months or more					
D. Emergency spill tank (sump)					
E. Emergency backup generator tank					
F. Abandoned in Place					
G. Removed					
H. Other (please specify)					
12. If box 11B, C, or D above has been marked, indicate the estimated date last used (month/day/year)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
	[][][][]	[][][][]	[][][][]	[][][][]	[][][][]
13. Closure Information - Tank ID No. <i>BLDG. 615</i>	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]	TANK NO. [][][][]
	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
A. Date abandoned in place	[][][][]	[][][][]	[][][][]	[][][][]	[][][][]
B. Date taken temporarily out of service	[][][][]	[][][][]	[][][][]	[][][][]	[][][][]
C. Date removed	<i>07/15/1998</i>	[][][][]	[][][][]	[][][][]	[][][][]
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.

- Does this facility have cathodic protection systems for all steel tanks and piping?
If "Yes", are the systems properly operated and maintained pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
- 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
- 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
- Is the proper Release Response Plan kept on-site pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
- Does the facility have spill and over fill protection systems pursuant to N.J.A.C. 7:14B-4? ☐ YES ☐ NO
- Have all Fill Ports been permanently marked as per API #1637 pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO

IMPORTANT INFORMATION

04. 695

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

JAMES OTT

(Typed / Printed Name)

DIRECTOR, PUBLIC WORKS

(Title)

[Signature]

(Signature)

7/22/98

(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 ENV. PROTECTION SPECIALIST

(Typed / Printed Name)

(Title)

U.S. ARMY

(Name of Firm, if applicable)

[Signature]

(Signature)

2056

(N.J. Certification Number)

7/24/98

(Date)

APPENDIX B

SITE ASSESSMENT SUMMARY

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name : U.S. Army Fort Monmouth New JerseyFacility Street Address : Directorate of Public Works Building 173Municipality: Oceanport County : MonmouthBlock: _____ Lot(s): _____ Telephone Number : 732-532-6224**B. Owner (RP)'s Name:** _____

Street Address: _____ City : _____

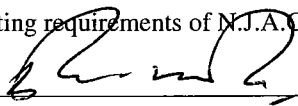
State: _____ Zip: _____ Telephone Number : _____

C. (Check as appropriate)☐ Site Investigation

Report (SIR) \$500 Fee

☐ Remedial Investigation

Report (RIR) \$1000 Fee

☒ NA – Federal Agreement**D. (Complete all that apply)**• Assigned Case Manager : Ian Curtis, Federal Case Manager• UST Registration Number : 81533-111 (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 ☐ NoName: Dinker DeSai Signature:  UST Cert. No.: 10173Firm: U.S. Army Fort Monmouth Firm's UST Cert. Number: NA - U.S. ArmyFirm Address: Directorate of Public Works Building 173 City: Fort MonmouthState: New Jersey Zip: 07703 Telephone Number : 732-532-6224

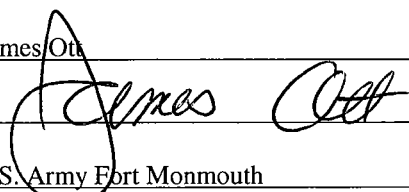
(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N.J.A.C. 7:14B-1.7(b)] as follows:

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document. A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification; or
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, federal or other public agency by either a principal executive officer or ranking elected Official.

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

Name (Print or Type): James Ott Title: Directorate of Public WorksSignature: Company Name: U.S. Army Fort MonmouthDate: 11/7/99

APPENDIX C

WASTE MANIFEST

CASIE / PROTANK

ENVIRONMENTAL SERVICES

695

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

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No. <u>N J 0 2 1 0 0 2 0 5 9 7 1 3 0 7 3 8</u>		2. Page 1 of <u>1</u>		
3. Generator's Name and Mailing Address <u>Main Post</u> <u>AHn: SELFM-RV-EV</u> <u>U.S. Army Com. Elec. Command</u> <u>c/o Joe Fallon/Bldg</u> <u>Fort Monmouth NJ 07703</u>		A. Non-hazardous Manifest Document Number NHZ020 17382				
4. Generator's Phone (<u>732</u>) <u>532-6223</u>		B. State Generator's ID SAME				
5. Transporter 1 Company Name <u>Casie Ecology Oil Salvage, Inc.</u>		6. US EPA ID Number <u>N J 0 4 5 9 9 5 6 9 3</u>		C. State Trans. ID <u>1 6 9 3 1</u>		
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone ((609)) <u>696-4401</u>		
9. Designated Facility Name and Site Address <u>Casie Ecology Oil Salvage, Inc. T/A</u> <u>3209 N. Mill Rd / Casie Protank</u> <u>Vineland NJ 08360</u>		10. US EPA ID Number <u>N J 0 4 5 9 9 5 6 9 3</u>		E. State Trans. ID <u>X015976</u>		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers		13. Total Quantity	14. Unit Wt/Vol	
		No.	Type			
		a. <u>Combustible liquid, n.o.s. (Fuel Oil)</u> <u>NA1993, PGIII</u>		<u>0 0 1</u>	<u>T T</u>	<u>6 1 9 9 0</u>
J. Additional Descriptions for Materials Listed Above <u>L 90% oil/sed. 10% wtr.</u>		K. Handling Codes for Wastes Listed Above				
a.		a.		c.		
b.		b.		d.		
15. Special Handling Instructions and Additional Information <u>a. 24 Hr. Emergency Response #609 696-4401 K. Ambrosia ERG# 128</u>						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. I hereby certify that the above-named material is not hazardous waste as defined by 40 CFR Part 261, 264 and 279 or any applicable state law.						
Printed/Typed Name <u>Joseph M. Fallon</u>		Signature <u>Joseph M. Fallon</u>		Month Day Year <u>10/13/98</u>		
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name <u>Don Scolery</u>		Signature <u>Don Scolery</u>		
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name		Signature		Month Day Year		

APPENDIX D

UST DISPOSAL CERTIFICATE



MON. JTH COUNTY
RECLAMATION CENTER
TINTON FALLS, NJ

MAILING 6000 ASBURY AVE.
ADDRESS: NEPTUNE, NJ 07753

CUSTOMER COPY

FACILITY I.D. NO. 1336F1SP01

RECEIPT DOCUMENT NUMBER

B
I
L
L
T
O

MARP508937
MARPAL COMPANY
PO BOX 188

LINCROFT

NJ 07738

A
U
L
E
R

MARP508937
MARPAL COMPANY
PO BOX 188

LINCROFT

NJ 07738

01713605

Escrow Level: 2400.00

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER.	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
08/17/98	11:42	KRW	11:52	EEB	(43920 LB) Scale 02	(36140 LB) Scale 03	(7780 LB) 3.89 T
00864004	Scale 02		Scale 03		(21.96 T)	(18.07 T)	
VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE				
2065ZZ	Rolloff Open	XX77PH					
QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	Normal AMOUNT		
3.8900	13	Bulky Waste - (MRF) MONMOUTH COUNTY EATONTOWN BOROUGH	Tons 100.00%	88.15	342.90		
					TVS Bld 166 773 79		
I hereby certify that the information provided on this form is true to the best of my knowledge.							
*** Prepayment Balance Remaining: 177625.16					DOCUMENT TOTAL		
DRIVER NAME PRINT _____ SIGNATURE _____					342.90		

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
98-0001
Bldg. 695

Project # 3732
Date Rec. 07/16/98
Date Compl. 07/19/98
Released by:

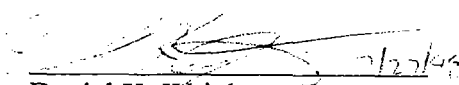

Daniel K. Wright Date: 7/22/98
Laboratory Director

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

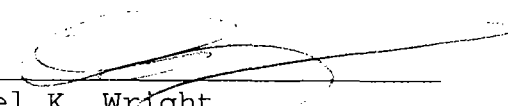
PHC Conformance/Non-conformance Summary Report

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

Additional Comments: _____

Laboratory Authentication Statement

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



Daniel K. Wright
Laboratory Manager



Fort Monmouth Environmental Testing Laboratory

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

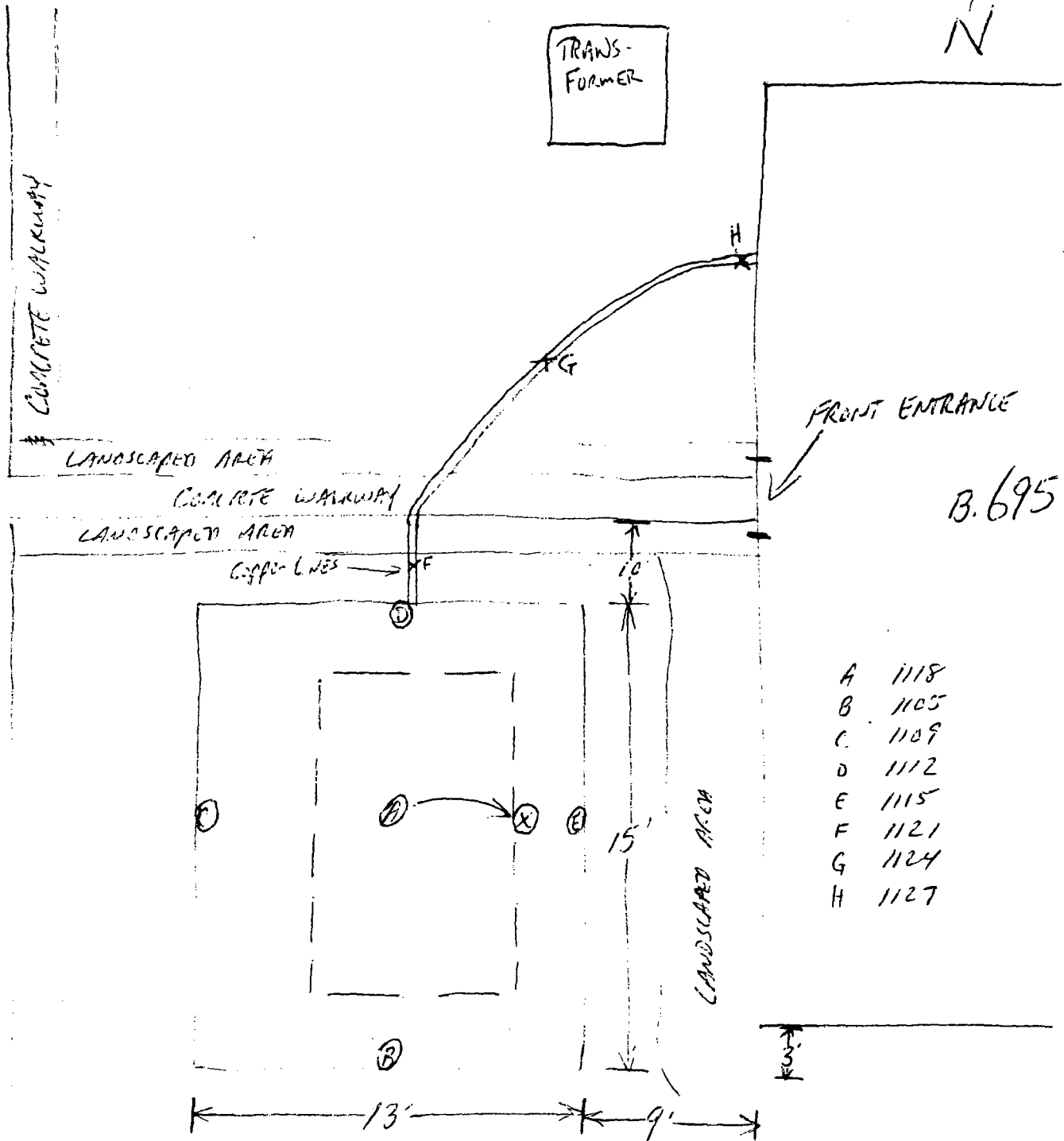
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@doim6.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby		Project No: 98-0001		Analysis Parameters					Comments:		
Phone #: X26224		Location: B. 695		TPHC	% SOLIDS	VOA+15	VOA ID Number	VOA	* = Samples Kept <4 Celsius		
() DERA (X) OMA UST Assessment		UST# 81533-111									
Samplers Name / Company : Gary DiMartinis TVS				Sample #							
Lab Sample I.D.	Sample Location	Date	Time	Type	bottles					Remarks / Preservation Method	
5732 .01	695-A	7-16-98	1118	SOIL	1	X	X		ND	Exc. FLOOR @ 9.5' *	
02	B		1105						ND	SIDEWALL @ 5.5'	
03	C		1109						ND		
04	D		1112						ND		
05	E		1115						ND		
06	F		1121						ND	Piping Run @ 2.0'	
07	G		1124						ND	Piping Run @ 1.5'	
08	H DUF		1127						ND	Piping Run @ 1.0'	
09	DUF									FIELD DUPLICATE	
Note: OVA (#A51903) Calibrated With 95 ppm Methane & Zero Air @ 0930 on 7-16-98 by Gary DiMartinis											
Relinquished by (signature):		Date/Time: 7-16-98/1330		Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):	
Relinquished by (signature):		Date/Time:		Received by (signature):		Relinquished by (signature):		Date/Time:		Received by (signature):	
Report Type: () Full, (X) Reduced, () Standard, () Screen / non-certified						Remarks: Dedicated Sampling Tools Used					

SALTZMAN AVE. (AVE. OF MEMORIES)



A	1118
B	1105
C	1109
D	1112
E	1115
F	1121
G	1124
H	1127

B. 695: 7/16/98 SAMPLING EVENT
 NOTE: GW @ 6.0' BELOW GRADE

236' TOTAL Piping LENGTH

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

Client : U.S. Army Lab. ID # : 3732
DPW. SELFM-PW-EV Date Rec'd: 16-Jul-98
Bldg. 173 Analysis Start: 17-Jul-98
Ft. Monmouth, NJ 07703 Analysis Complete: 19-Jul-98

Analysis: OQA-QAM-025 UST Reg. #:
Matrix: Soil Closure #:
Analyst: D.DEINHARDT DICAR #:
Ext. Meth: Shake Location #: B. 695

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3732.01	695-A	1.00	15.23	80.65	191	ND
3732.02	695-B	1.00	15.87	90.42	164	ND
3732.03	695-C	1.00	15.69	83.98	178	ND
3732.04	695-D	1.00	15.20	78.55	197	ND
3732.05	695-E	1.00	15.44	86.42	176	ND
3732.06	695-F	1.00	15.40	89.32	171	ND
3732.07	695-G	1.00	15.24	93.76	164	ND
3732.08	695-H	1.00	15.98	78.74	187	226.17
3732.09	695-DUP	1.00	15.55	85.09	178	ND
METHOD BLANK	TBLK 135	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit


Daniel K. Wright
Laboratory Director

Calrpt

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Thu Jun 11 14:59:41 1998

Calibration Files

100 =T05959.D 50 =T05960.D 20 =T05961.D
 10 =T05962.D 5 =T05963.D

	Compound	100	50	20	10	5	Avg	%RSD
1)	tC C8	2.277	2.425	2.559	2.711	2.206	2.436 E4	8.43
2)	tC C10	2.499	2.664	2.791	2.930	2.534	2.684 E4	6.68
3)	TC C12	2.776	2.935	3.075	3.239	2.766	2.958 E4	6.83
4)	tC C14	2.896	3.070	3.238	3.430	2.928	3.112 E4	7.18
5)	tC C16	2.966	3.159	3.344	3.568	3.053	3.218 E4	7.49
6)	tC C18	3.349	3.613	3.893	4.085	3.562	3.701 E4	7.82
7)	tC C20	3.258	3.475	3.672	3.915	3.342	3.533 E4	7.50
8)	tC C22	3.199	3.420	3.607	3.844	3.278	3.469 E4	7.51
9)	tC C24	3.264	3.487	3.671	3.904	3.333	3.532 E4	7.37
10)	tC C26	3.255	3.476	3.650	3.866	3.319	3.513 E4	7.10
11)	tC C28	3.293	3.512	3.674	3.893	3.318	3.538 E4	7.11
12)	tC C30	3.401	3.623	3.790	3.976	3.375	3.633 E4	7.05
13)	tC C32	3.431	3.658	3.825	4.024	3.434	3.674 E4	6.97
14)	tC C34	3.521	3.812	4.027	4.220	3.564	3.829 E4	7.80
15)	tC C36	3.385	3.858	4.127	4.279	3.664	3.863 E4	9.25
16)	tC C38	3.166	3.924	4.329	4.459	3.853	3.946 E4	12.84
17)	tC C40	2.828	3.816	4.405	4.438	3.846	3.867 E4	16.86
18)	tC c42	2.580	3.759	4.424	4.447	3.820	3.806 E4	19.91
19)	TC Pristane	3.105	3.345	3.551	3.726	3.255	3.397 E4	7.21
20)	TC Phytane	3.270	3.492	3.694	3.945	3.369	3.554 E4	7.59
21)	sC o-terphenyl	3.907	4.169	4.410	4.703	4.034	4.245 E4	7.46
22)	tC TPHC - total	3.313	3.705	4.003	4.287	3.910	3.844 E4	9.44

(#) = Out of Range

MEAN AVERAGE RSD%

= 8.79

TPH43.M

Tue Jul 07 08:38:13 1998

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\980716\T06164.D
 Acq On : 17 Jul 98 5:01 pm
 Sample : 50 PPM STANDARD
 Misc :
 IntFile : TPHCINT.E

Vial: 2
 Operator: Deinhardt
 Inst : GC/MS Ins
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Thu Jul 09 13:23:26 1998
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 200%

Compound			AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	24.358	22.535 E3	7.5	102	0.00
2	tC	C10	26.836	27.082 E3	-0.9	113	0.00
3	TC	C12	29.584	30.150 E3	-1.9	114	0.00
4	tC	C14	31.125	31.182 E3	-0.2	113	0.00
5	tC	C16	32.180	31.812 E3	1.1	112	0.00
6	tC	C18	37.007	36.560 E3	1.2	110	0.00
7	tC	C20	35.326	34.918 E3	1.2	111	0.00
8	tC	C22	34.694	34.384 E3	0.9	111	0.00
9	tC	C24	35.318	35.106 E3	0.6	111	0.01
10	tC	C26	35.130	35.034 E3	0.3	112	0.01
11	tC	C28	35.380	35.424 E3	-0.1	115	0.01
12	tC	C30	36.331	36.465 E3	-0.4	118	0.00
13	tC	C32	36.742	36.802 E3	-0.2	119	0.00
14	tC	C34	38.289	38.221 E3	0.2	120	0.00
15	tC	C36	38.627	36.540 E3	5.4	114	0.00
16	tC	C38	39.462	32.139 E3	18.6	101	0.01
17	tC	C40	38.666	26.585 E3	31.2#	88	0.01
18	tC	c42	38.058	22.950 E3	39.7#	81	0.01
19	TC	Pristane	33.965	34.750 E3	-2.3	115	0.00
20	TC	Phytane	35.539	35.188 E3	1.0	111	0.00
21	sC	o-terphenyl	42.449	41.974 E3	1.1	111	0.00
22	tC	TPHC - total	38.436	35.718 E3	7.1	108	0.00

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\980716\T06175.D
 Acq On : 18 Jul 98 2:05 am
 Sample : 50 PPM STANDARD
 Misc :
 IntFile : TPHCINT.E

Vial: 46
 Operator: Deinhardt
 Inst : GC/MS Ins
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Thu Jul 09 13:23:26 1998
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 200%

Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC C8	24.358	26.053 E3	-7.0	118	0.00
2	tC C10	26.836	29.909 E3	-11.5	125	0.00
3	TC C12	29.584	33.248 E3	-12.4	126	0.00
4	tC C14	31.125	34.322 E3	-10.3	124	0.00
5	tC C16	32.180	34.894 E3	-8.4	122	0.00
6	tC C18	37.007	40.338 E3	-9.0	122	0.00
7	tC C20	35.326	38.305 E3	-8.4	122	0.00
8	tC C22	34.694	37.532 E3	-8.2	121	0.00
9	tC C24	35.318	38.255 E3	-8.3	121	0.00
10	tC C26	35.130	38.119 E3	-8.5	122	0.00
11	tC C28	35.380	38.407 E3	-8.6	125	0.01
12	tC C30	36.331	39.701 E3	-9.3	129	0.00
13	tC C32	36.742	39.930 E3	-8.7	130	0.00
14	tC C34	38.289	42.379 E3	-10.7	133	0.00
15	tC C36	38.627	44.994 E3	-16.5	141	0.00
16	tC C38	39.462	47.949 E3	-21.5	151	0.01
17	tC C40	38.666	46.386 E3	-20.0	154	0.02
18	tC c42	38.058	43.010 E3	-13.0	152	0.03
19	TC Pristane	33.965	36.795 E3	-8.3	122	0.00
20	TC Phytane	35.539	38.492 E3	-8.3	122	0.00
21	sC o-terphenyl	42.449	45.891 E3	-8.1	122	0.00
22	tC TPHC - total	38.436	41.587 E3	-8.2	125	0.00

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\980716\T06186.D
 Acq On : 18 Jul 98 10:23 am
 Sample : 50 PPM STANDARD
 Misc :
 IntFile : TPHCINT.E

Vial: 57
 Operator: Deinhardt
 Inst : GC/MS Ins
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Thu Jul 09 13:23:26 1998
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 15% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev (min)
1 tC C8	24.358	26.504 E3	-8.8	120	0.00
2 tC C10	26.836	30.707 E3	-14.4	128	0.00
3 TC C12	29.584	34.296 E3	-15.9	130	0.00
4 tC C14	31.125	35.390 E3	-13.7	128	0.00
5 tC C16	32.180	35.981 E3	-11.8	126	0.00
6 tC C18	37.007	40.585 E3	-9.7	123	0.00
7 tC C20	35.326	39.479 E3	-11.8	126	0.00
8 tC C22	34.694	38.732 E3	-11.6	125	0.00
9 tC C24	35.318	39.514 E3	-11.9	125	0.00
10 tC C26	35.130	39.403 E3	-12.2	126	0.00
11 tC C28	35.380	39.823 E3	-12.6	130	0.00
12 tC C30	36.331	41.191 E3	-13.4	134	0.00
13 tC C32	36.742	41.562 E3	-13.1	135	0.00
14 tC C34	38.289	44.221 E3	-15.5	138	0.00
15 tC C36	38.627	47.217 E3	-22.2	148	0.00
16 tC C38	39.462	50.461 E3	-27.9#	159	0.01
17 tC C40	38.666	48.663 E3	-25.9#	161	0.02
18 tC c42	38.058	45.406 E3	-19.3	160	0.02
19 TC Pristane	33.965	38.049 E3	-12.0	126	0.00
20 TC Phytane	35.539	39.688 E3	-11.7	125	0.00
21 sC o-terphenyl	42.449	47.290 E3	-11.4	125	0.00
22 tC TPHC - total	38.436	43.133 E3	-12.2	130	0.00

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

Surrogate Recovery Report

Lab. ID #: 3732

Location #: B. 695

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
3732.01		10.00	8.95	89.51
3732.02		10.00	9.70	96.97
3732.03		10.00	9.82	98.20
3732.04		10.00	9.19	91.90
3732.05		10.00	8.75	87.45
3732.06		10.00	9.09	90.89
3732.07		10.00	9.12	91.23
3732.08		10.00	9.44	94.35
3732.09		10.00	8.97	89.73
METHOD BLANK	TBLK 135	10.00	9.90	99.02

Surrogate Added : o-Terphenyl

7/21/98

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

Matrix Spike Recovery Report

Lab. ID #: 3732

Location #: B. 695

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
3732.01MS	1000	0.00	936.64	93.66	75-125
3732.01MSD	1000	0.00	977.07	97.71	75-125

RPD	4.23	20.00
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Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Blank Spike Recovery Report

Lab. ID # : 3732

Location #: B. 695

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	17-Jul-98	1000	1054.47	105.45	75-125

7/21/98

Data File : C:\HPCHEM\1\DATA\980716\T06183.D

Vial: 54

Acq On : 18 Jul 98 8:08 am

Operator: Deinhardt

Sample : 3732.01

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:46 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	379965	8.951 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	89.51%#

Target Compounds

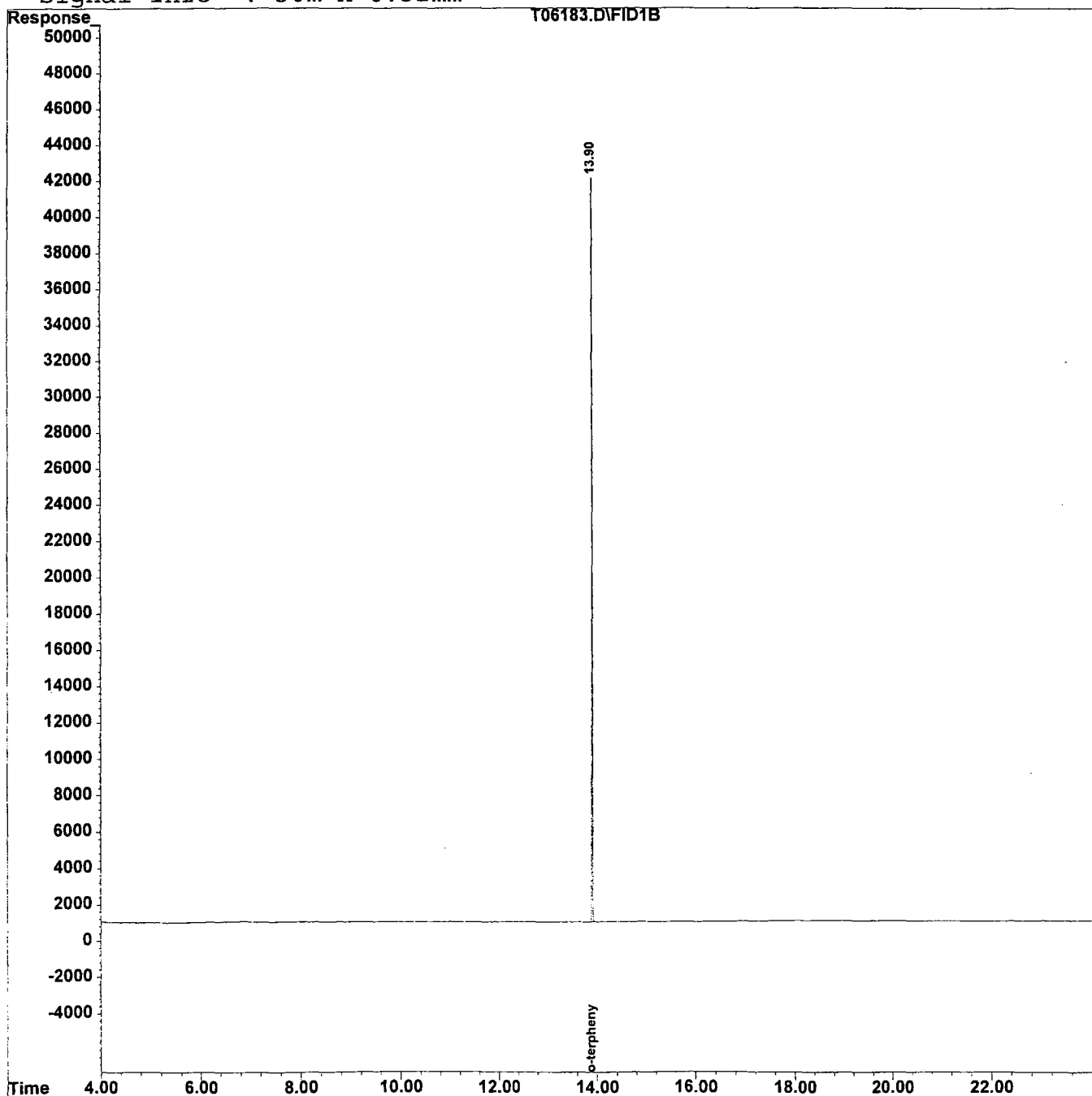
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06183.D
 Acq On : 18 Jul 98 8:08 am
 Sample : 3732.01
 Misc :
 IntFile : TPHCINT.E
 Quant Time: Jul 20 8:46 1998 Quant Results File: TPH43.RES

Vial: 54
 Operator: Deinhardt
 Inst : GC/MS Ins
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Thu Jul 09 13:23:26 1998
 Response via : Multiple Level Calibration
 DataAcq Meth : TPH43.M

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



Data File : C:\HPCHEM\1\DATA\980716\T06187.D

Vial: 58

Acq On : 18 Jul 98 11:09 am

Operator: Deinhardt

Sample : 3732.02

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:48 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	411636	9.697 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	96.97%#

Target Compounds

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06187.D

Vial: 58

Acq On : 18 Jul 98 11:09 am

Operator: Deinhardt

Sample : 3732.02

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:48 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

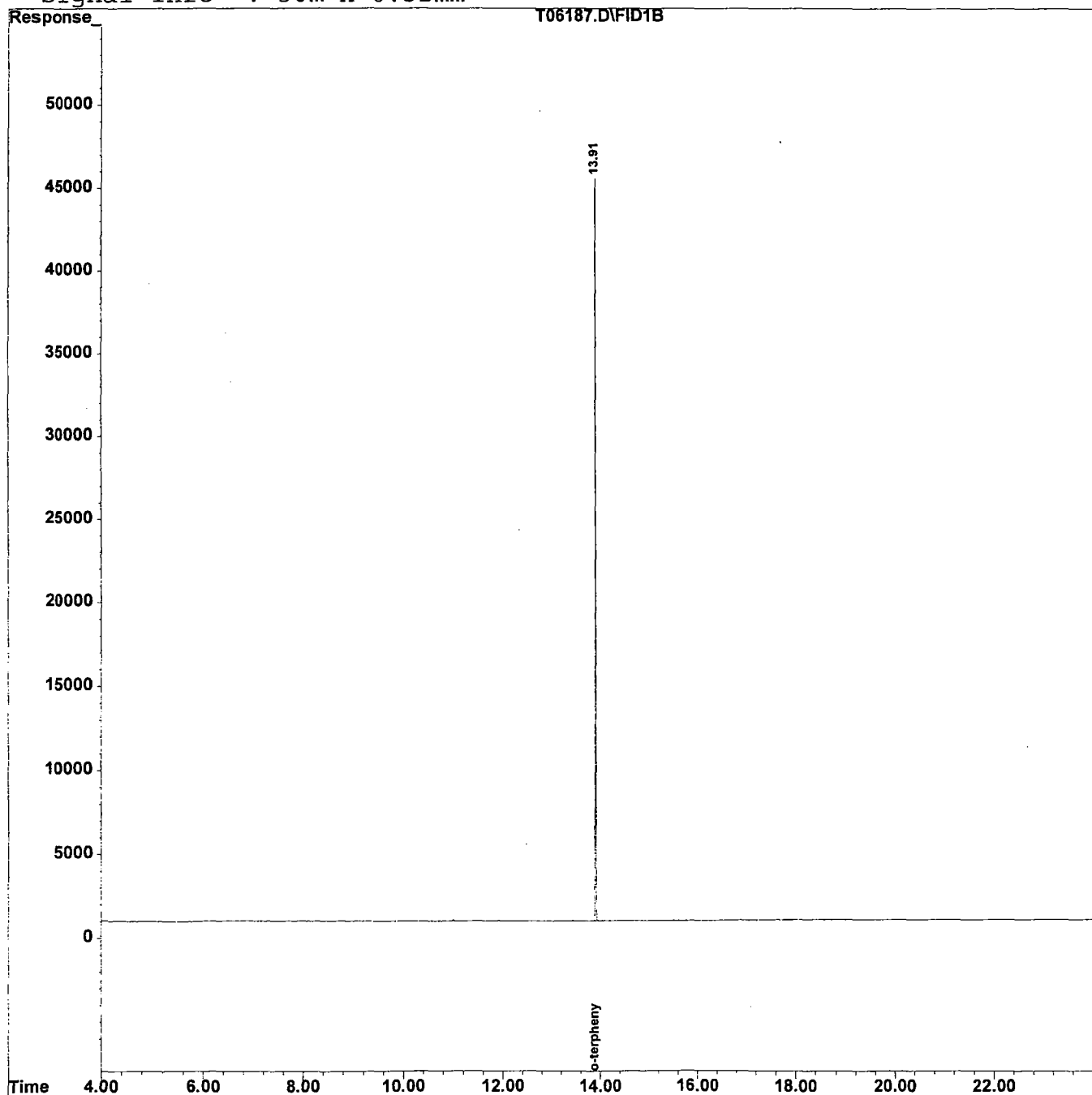
Response via : Multiple Level Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm



Data File : C:\HPCHEM\1\DATA\980716\T06188.D

Vial: 59

Acq On : 18 Jul 98 11:56 am

Operator: Deinhardt

Sample : 3732.03

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:48 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	416829	9.820 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery =	98.20%#
Target Compounds			
7) tC C20	13.51	1393	0.039 mg/L
9) tC C24	14.90	3648	0.103 mg/L
11) tC C28	16.12	1263	0.036 mg/L
12) tC C30	16.96	1235	0.034 mg/L
13) tC C32	17.38	1534	0.042 mg/L
16) tC C38	19.63	3098	0.079 mg/L
20) TC Phytane	13.51	1393	0.039 mg/L
22) tC TPHC - total	13.91	1046334	27.223 mg/L m

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06188.D

Vial: 59

Acq On : 18 Jul 98 11:56 am

Operator: Deinhardt

Sample : 3732.03

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:48 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

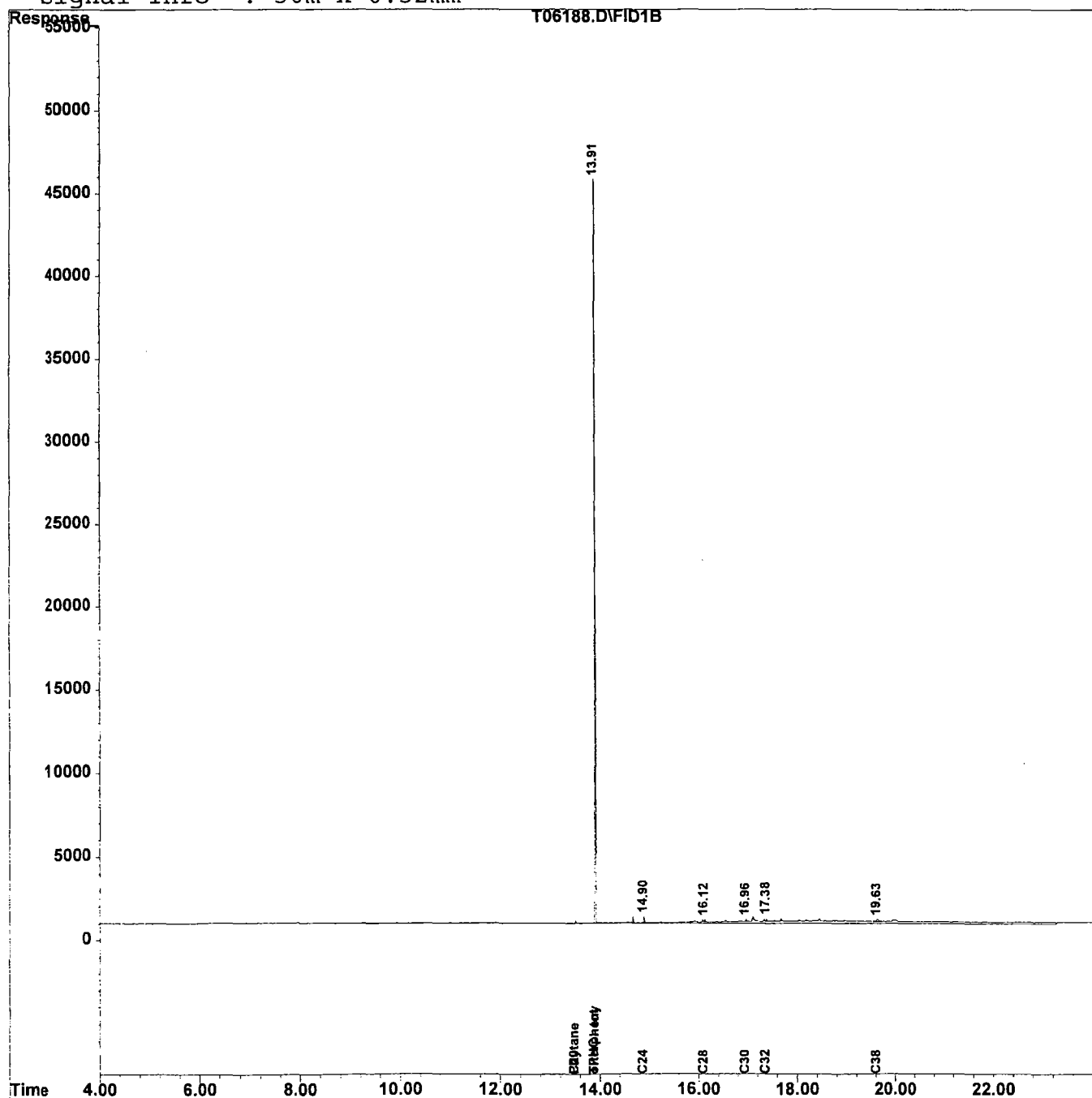
Response via : Multiple Level Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm



Data File : C:\HPCHEM\1\DATA\980716\T06189.D

Vial: 60

Acq On : 18 Jul 98 12:45 pm

Operator: Deinhardt

Sample : 3732.04

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:49 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	390114	9.190 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	91.90%#
Target Compounds			
12) tC C30	16.96	1576	0.043 mg/L
13) tC C32	17.54	1005	0.027 mg/L
14) tC C34	18.18	1285	0.034 mg/L
22) tC TPHC - total	13.91	1148491	29.881 mg/L m

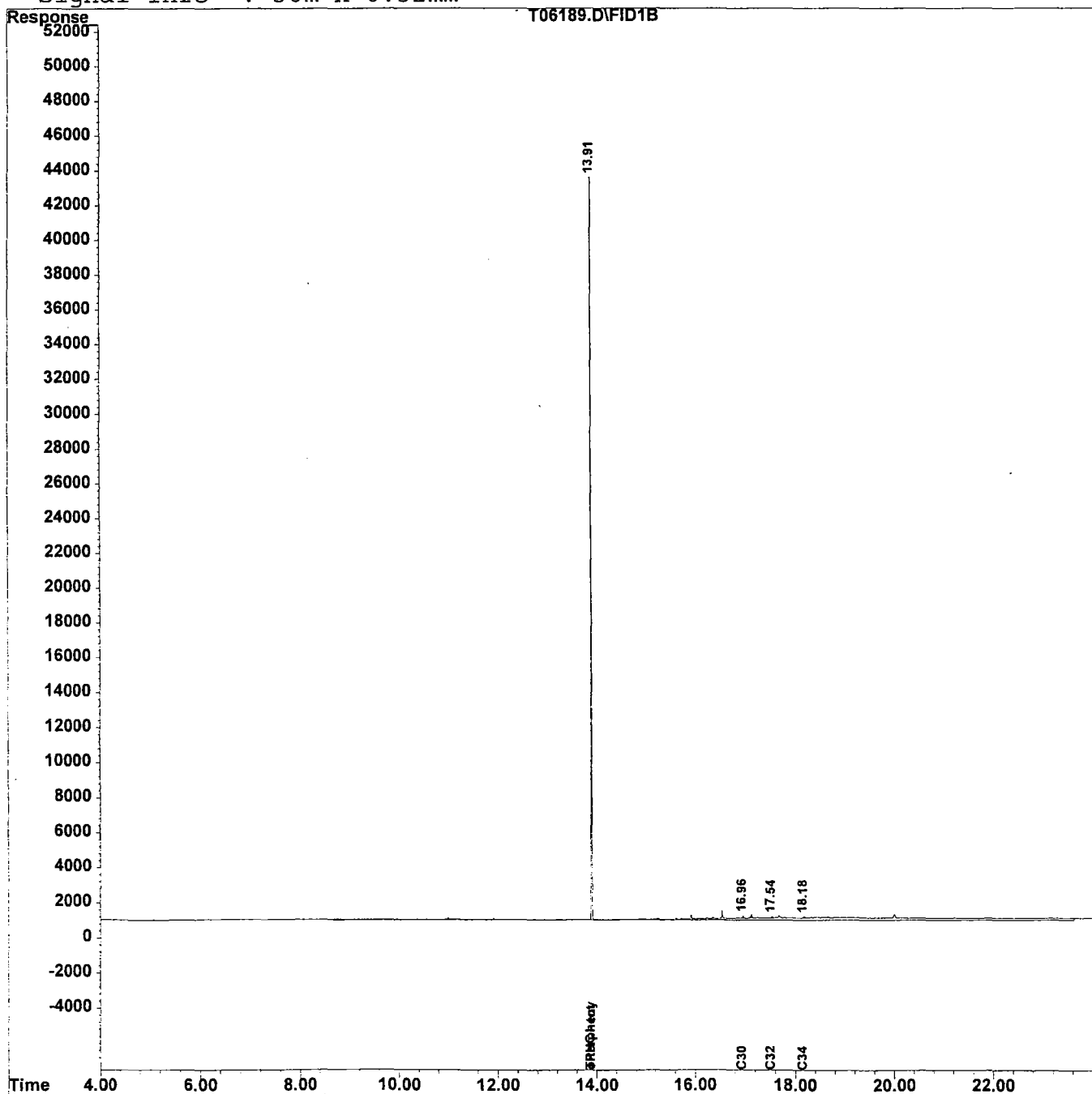
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06189.D
Acq On : 18 Jul 98 12:45 pm
Sample : 3732.04
Misc :
IntFile : TPHCINT.E
Quant Time: Jul 20 8:49 1998 Quant Results File: TPH43.RES

Vial: 60
Operator: Deinhardt
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Thu Jul 09 13:23:26 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH43.M

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



Data File : C:\HPCHEM\1\DATA\980716\T06190.D

Vial: 61

Acq On : 18 Jul 98 1:34 pm

Operator: Deinhardt

Sample : 3732.05

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:49 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	371222	8.745 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	87.45%#

Target Compounds

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06190.D

Vial: 61

Acq On : 18 Jul 98 1:34 pm

Operator: Deinhardt

Sample : 3732.05

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:49 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

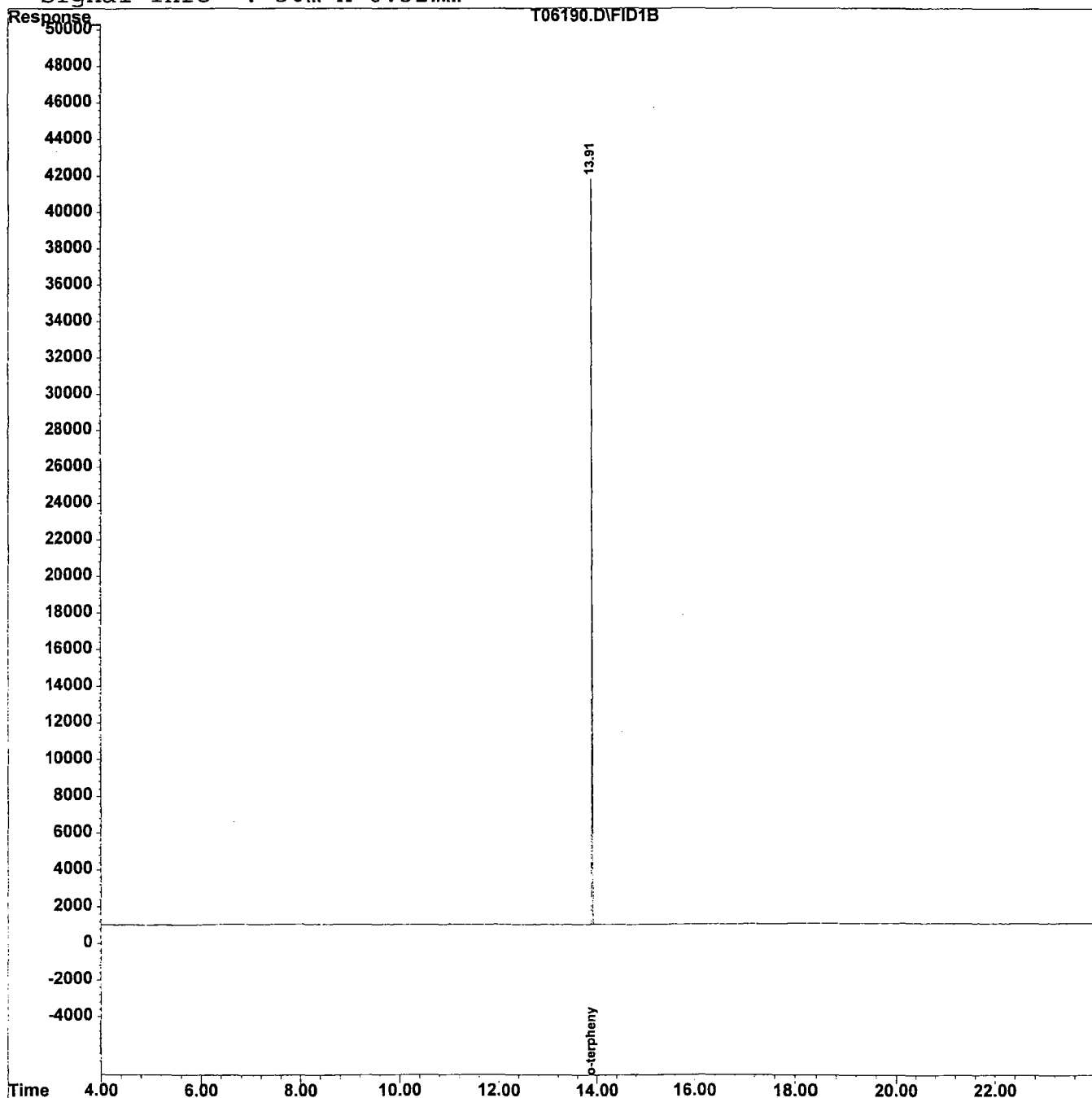
Response via : Multiple Level Calibration

DataAcq Meth : TPH43.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\980716\T06191.D
Acq On : 18 Jul 98 2:24 pm
Sample : 3732.06
Misc :
IntFile : TPHCINT.E
Quant Time: Jul 20 8:50 1998 Quant Results File: TPH43.RES

Vial: 62
Operator: Deinhardt
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Thu Jul 09 13:23:26 1998
Response via : Initial Calibration
DataAcq Meth : TPH43.M

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

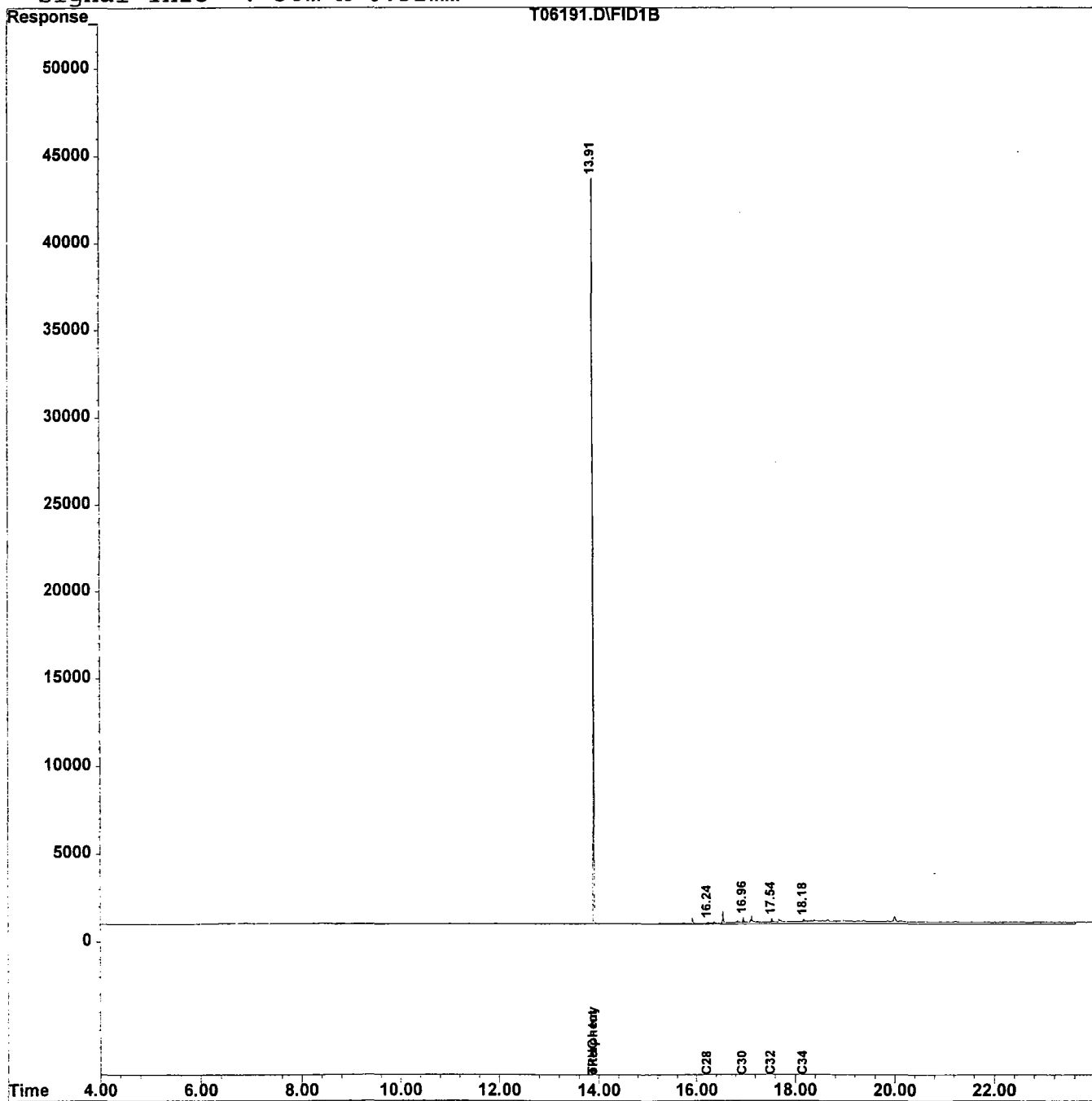
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	385832	9.089 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	90.89%#
Target Compounds			
11) tC C28	16.24	1089	0.031 mg/L
12) tC C30	16.97	2800	0.077 mg/L
13) tC C32	17.54	2560	0.070 mg/L
14) tC C34	18.18	2363	0.062 mg/L
22) tC TPHC - total	13.91	1019538	26.526 mg/L m

Quantitation Report

Multiplr: 1.00

Signal Info : 30m x 0.32mm



Data File : C:\HPCHEM\1\DATA\980716\T06192.D

Vial: 63

Acq On : 18 Jul 98 3:15 pm

Operator: Deinhardt

Sample : 3732.07

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:51 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	387253	9.123 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery =	91.23%#
Target Compounds			
11) tC C28	16.24	1056	0.030 mg/L
12) tC C30	16.85	1004	0.028 mg/L
13) tC C32	17.54	1895	0.052 mg/L
14) tC C34	17.99	1345	0.035 mg/L
16) tC C38	19.38	1026	0.026 mg/L
22) tC TPHC - total	13.91	1101126	28.649 mg/L m

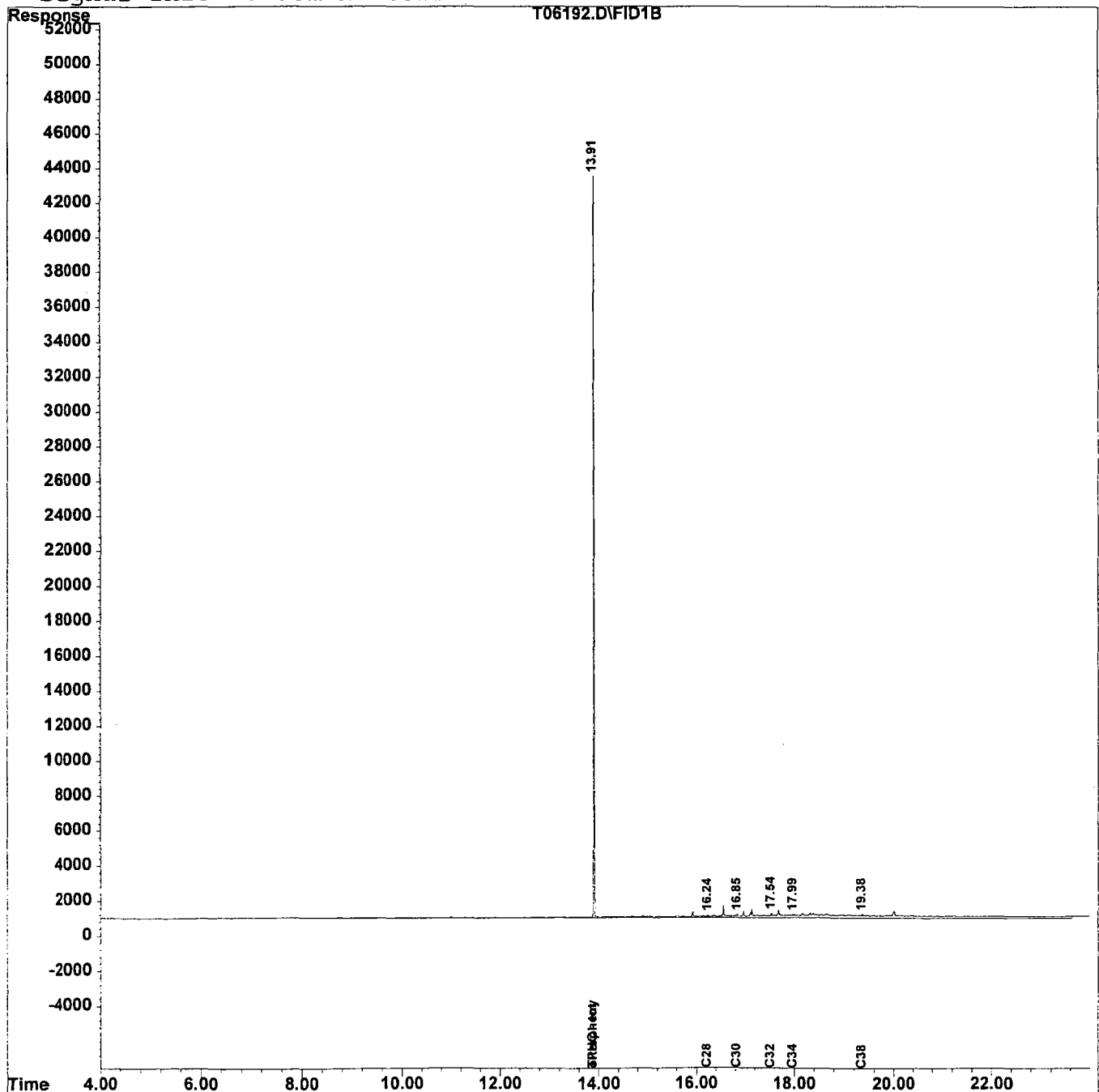
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06192.D
Acq On : 18 Jul 98 3:15 pm
Sample : 3732.07
Misc :
IntFile : TPHCINT.E
Quant Time: Jul 20 8:51 1998 Quant Results File: TPH43.RES

Vial: 63
Operator: Deinhardt
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Thu Jul 09 13:23:26 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH43.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\980716\T06193.D

Vial: 64

Acq On : 18 Jul 98 4:06 pm

Operator: Deinhardt

Sample : 3732.08

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:52 1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	400504	9.435 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	94.35%#
Target Compounds			
7) tC C20	13.51	1921	0.054 mg/L
8) tC C22	14.10	1959	0.056 mg/L
9) tC C24	14.91	3795	0.107 mg/L
10) tC C26	15.67	1873	0.053 mg/L
11) tC C28	16.24	1128	0.032 mg/L
12) tC C30	16.97	2546	0.070 mg/L
13) tC C32	17.39	1912	0.052 mg/L
15) tC C36	18.67	3123	0.081 mg/L
20) TC Phytane	13.51	1921	0.054 mg/L
22) tC TPHC - total	13.91	2187640	56.917 mg/L m

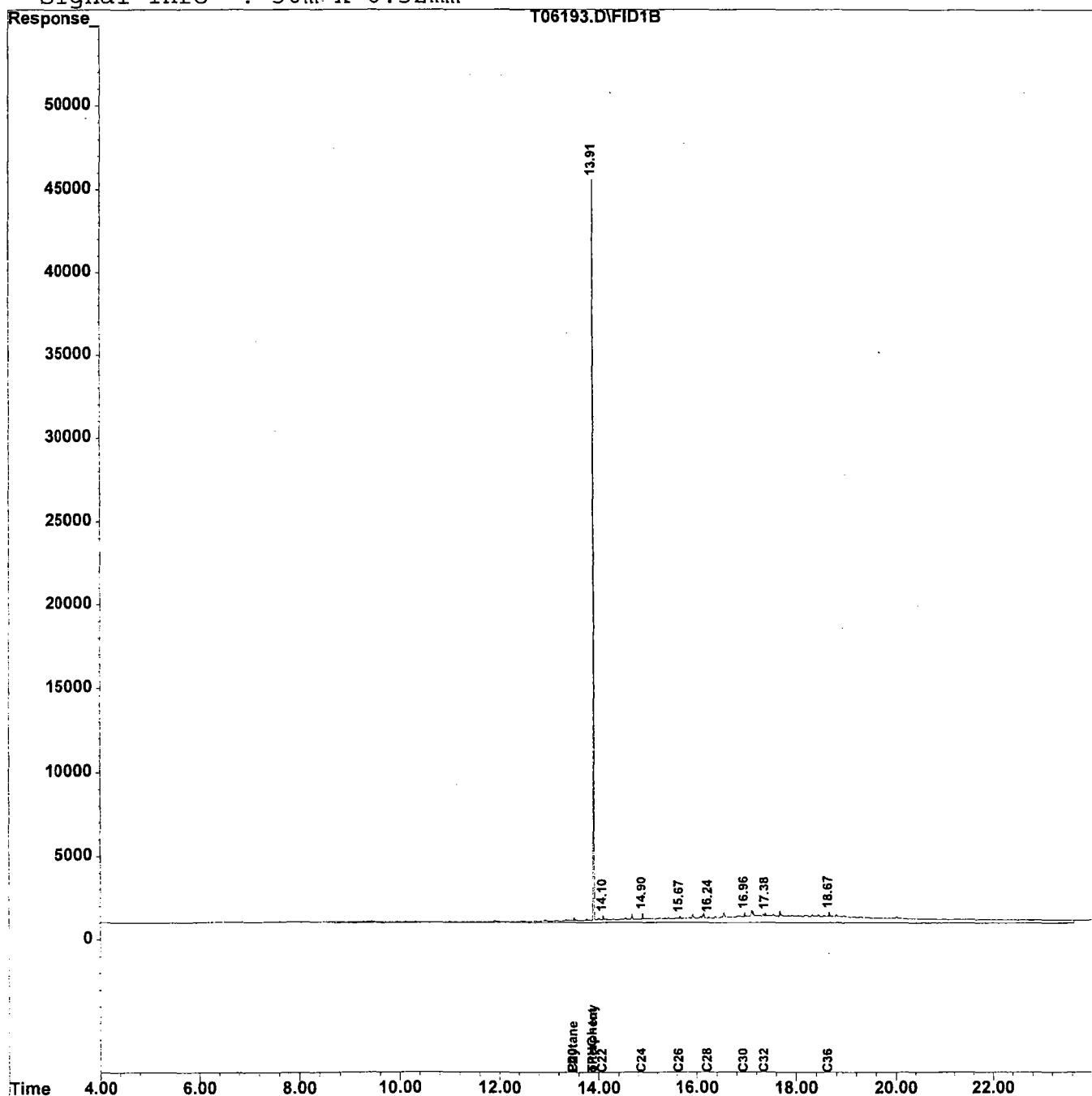
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06193.D
 Acq On : 18 Jul 98 4:06 pm
 Sample : 3732.08
 Misc :
 IntFile : TPHCINT.E
 Quant Time: Jul 20 8:52 1998 Quant Results File: TPH43.RES

Vial: 64
 Operator: Deinhardt
 Inst : GC/MS Ins
 Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
 Title : TPHC Calibration 06/05/97 21 peaks
 Last Update : Thu Jul 09 13:23:26 1998
 Response via : Multiple Level Calibration
 DataAcq Meth : TPH43.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\980716\T06194.D

Vial: 65

Acq On : 18 Jul 98 4:57 pm

Operator: Deinhardt

Sample : 3732.09

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jul 20 8:52.1998 Quant Results File: TPH43.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Thu Jul 09 13:23:26 1998

Response via : Initial Calibration

DataAcq Meth : TPH43.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
21) sC o-terphenyl	13.91	380902	8.973 mg/L
Spiked Amount	10.000	Range 8 - 13	Recovery = 89.73%#

Target Compounds

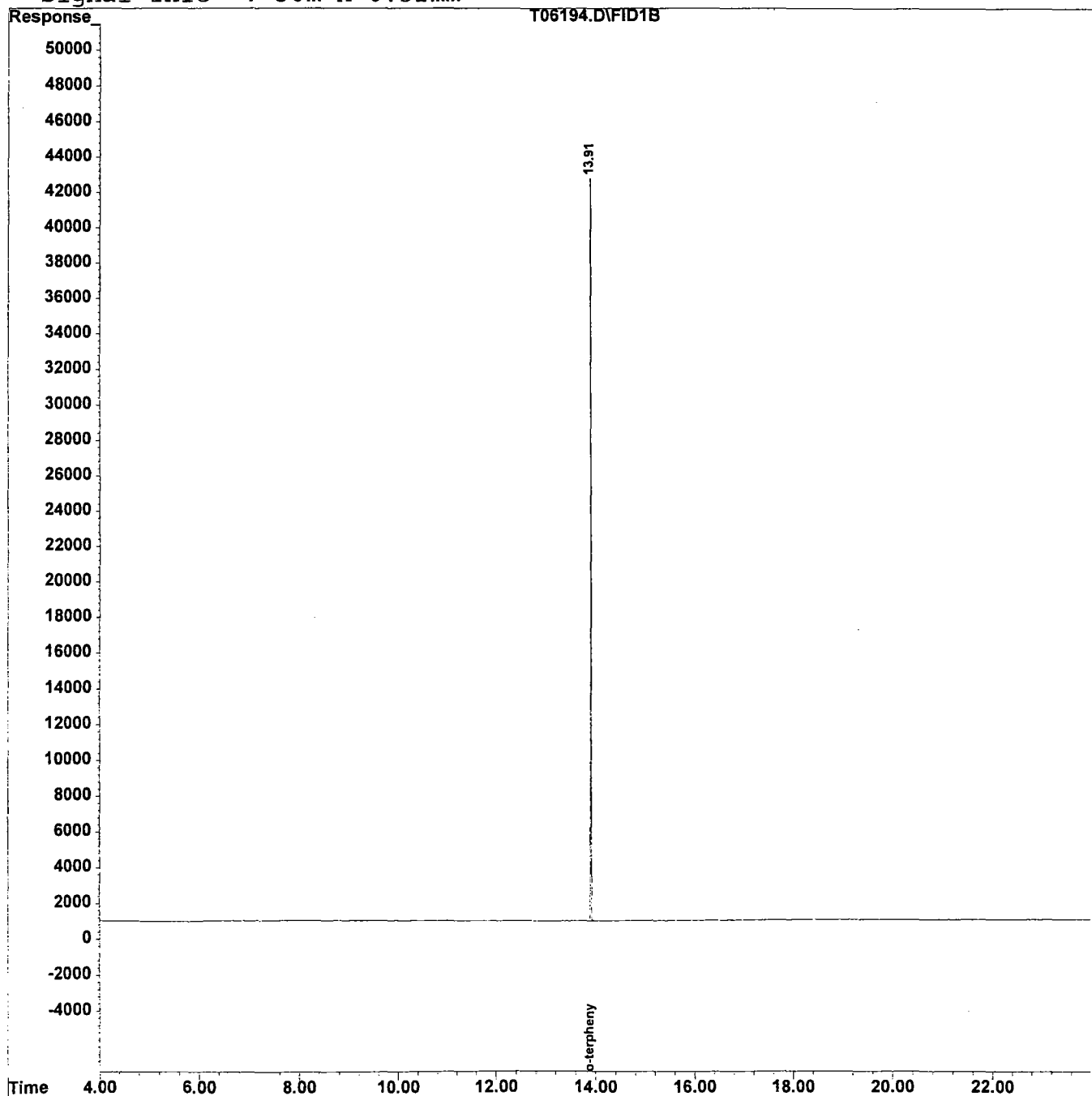
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980716\T06194.D
Acq On : 18 Jul 98 4:57 pm
Sample : 3732.09
Misc :
IntFile : TPHCINT.E
Quant Time: Jul 20 8:52 1998 Quant Results File: TPH43.RES

Vial: 65
Operator: Deinhardt
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH43.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Thu Jul 09 13:23:26 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH43.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

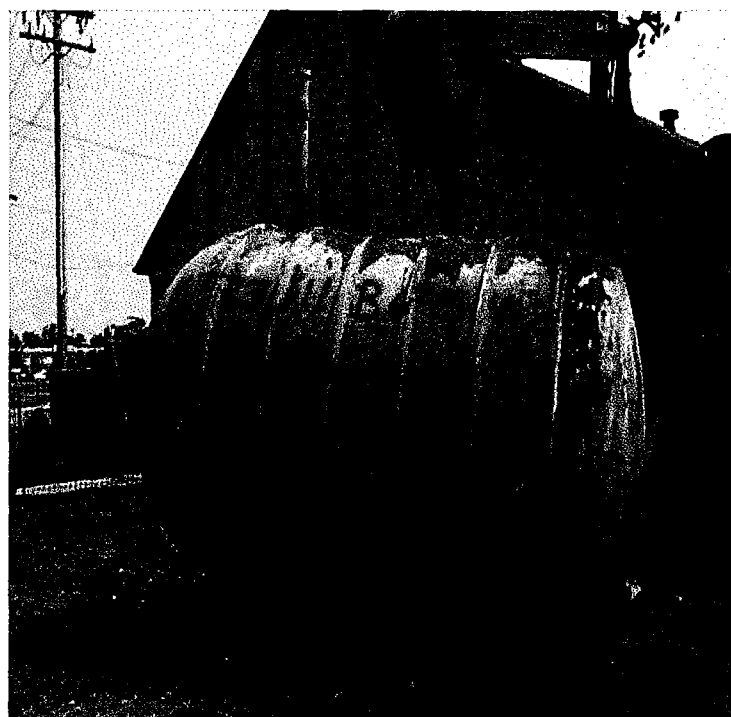
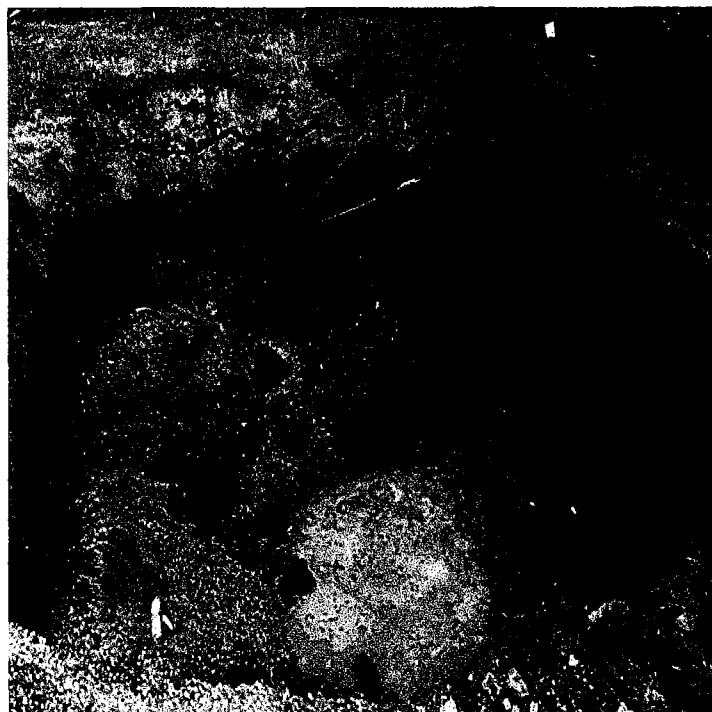
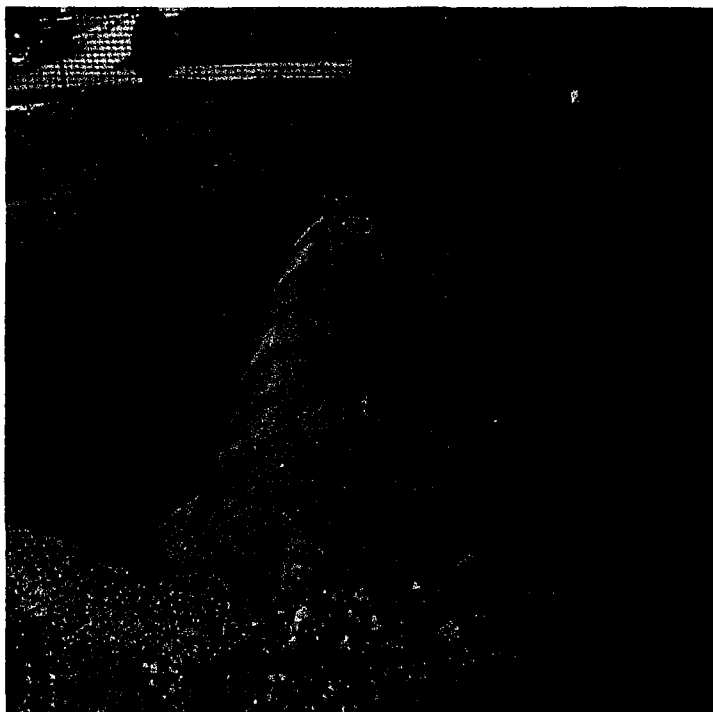
Date 10/27/95

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



JULY 15, 1998
PHOTOGRAPHIC LOG
UST NO. 81533-111

Building 695
Main Post-West
Fort Monmouth

VERSAR
Engineers, Managers, Scientists & Planners
Bristol, PA