

United States Army

Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

***Building 419
Main Post-East Area***

**NJDEP UST Registration No. 90010-35
Dicar No. 96-10-18-0855-14**

April 1998

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

BUILDING 419

**MAIN POST-EAST AREA
NJDEP UST REGISTRATION NO. 90010-35
DICAR NO. 96-10-18-0855-14**

APRIL 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. 2429-3080

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EXECUTIVE SUMMARY

UST Closure

On October 18, 1996, a steel underground storage tank (UST) was closed by removal in accordance with New Jersey Department of Environmental Protection (NJDEP) underground storage tank closure procedures at the Main Post-East area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 90010-35 (Fort Monmouth ID No. 419), was located north of Building 419. UST No. 90010-35 was a 1,080 gallon No. 2 fuel oil UST. The fill port was located directly above the tank.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation*. Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Stained soil was observed on the return line near the west end of the tank, adjacent to the fill port. The NJDEP hotline was notified and the case was assigned Dicar No. 96-10-18-0855-14. On October 16, 28, and 29, 1996, potentially contaminated soil was removed from the excavation area. In total, approximately 30 cubic yards of potentially contaminated soil were removed from the excavated area and stored at the Fort Monmouth petroleum contaminated soil staging area. Soil samples which were collected after the removal of the potentially contaminated soil, contained non-detectable levels of Total Petroleum Hydrocarbons (TPHC). Groundwater was encountered at 5.5 feet below ground surface and no sheen was observed.

Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with clean crushed stone 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. 90010-35 at Building 419.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 90010-35, was closed at Building 419 at the Main Post-East area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on October 18, 1996. Refer to the 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 steel 1,080-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 90010-35 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. 90010-35 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The NJDEP Standard Reporting Form and signed Site Assessment Summary form for UST No. 90010-35 are included in Appendices A and B, respectively.

After removal of the potentially contaminated soil, the site was assessed. Based on inspecting the UST, field screening of remaining subsurface soils, and reviewing analytical results of collected soil samples, the DPW has concluded that no significant historical discharges are associated with the UST or associated piping.

This UST Closure and Site Investigation Report has been prepared by SMC Environmental Services Group, to assist the U.S. Army DPW in complying with the NJDEP-BUST regulations. The applicable NJDEP-BUST regulations at the date of closure were the *Interim Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-1 et seq. October 1990 and revisions dated November 1, 1991).

This report was prepared using information collected at the time of closure. Section 1 of this UST Closure and Site Investigation Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in the final section of this report.

1.2 SITE DESCRIPTION

Building 419 is located in the Main Post-East area of the Fort Monmouth Army Base. UST No. 90010-35 was located north of Building 419. Appurtenant copper piping was approximately eight feet in length and ran south to Building 419. 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 419. 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. More than 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 419 located approximately 100 feet south of Parkers Creek, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 419 is anticipated to be to the north.

1.3 HEALTH AND SAFETY

Before, during, and after all decommissioning activities, hazards at the work site which may have posed a threat to the Health and Safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas, which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing an organic vapor analyzer (OVA). The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- 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

On October 16, 1996, prior to UST removal, surficial soil was removed to expose the UST and associated piping. Approximately five cubic yards of contaminated soil were removed from the excavation area. On October 17, 1996, all free product present in the piping was drained into the UST and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a hole was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 50 gallons of liquid from the UST and its associated piping were drummed and transported to the Fort Monmouth waste oil holding facility. Refer to Appendix C for a copy of the waste manifest.

After the UST was cleaned, the crew waited until October 18, 1996 to remove the UST from the excavated area. The UST was staged on polyethylene sheeting and examined for holes. No holes or punctures were observed during the inspection by the Sub-Surface Evaluator, but the fitting of the return line on the top of the tank exhibited signs of leakage. Soils near the west end of the tank adjacent to the fill port were stained. Potentially contaminated soils were observed. On October 28 and 29, 1996, approximately 10 and 15 cubic yards of potentially contaminated soil were removed, respectively from the excavated area. See Figure 3 for a cross-sectional view of the excavated area.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The steel tank was transported in compliance with all applicable regulations and laws to Mazza & Sons, Inc., Recycling Division. Refer to Appendix D for the UST disposal certificate and Appendix F for photographs of the UST.

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

- Site of origin
- Contact person
- NJDEP UST Facility ID number
- Former contents
- Destination site
- Date

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on visual observations, approximately 30 cubic yards of potentially contaminated soil were removed from the UST excavation. All potentially contaminated soils were stockpiled separately from other excavated material and were placed on and covered with polyethylene sheets. Potentially contaminated soils were transported to the soil staging area. Soils that did not exhibit signs of contamination were used as backfill following the removal of the UST. Groundwater encountered did not exhibit a sheen.

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: Charles Appleby
Employer: U.S. Army, Fort Monmouth
Phone Number: (908) 532-0989
NJDEP Certification No.: 2056
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
Contact Person: Daniel K. Wright
Phone Number: (908) 532-4359
NJDEP Company Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soil excavated from around the tank and appurtenant piping exhibited evidence of potential contamination. Soils were removed from the excavation until no evidence of contamination remained. Groundwater encountered did not exhibit a sheen.

2.3 SOIL SAMPLING

On October 29, 1996, following the removal of the UST and all potentially contaminated soils, post-excavation soil samples A, B, C, D, E, F, G, H, I, J, and DUP B were collected from a total of ten locations of the UST excavation. Sidewall samples A, B, C, D, E, F, and DUP B were collected at a depth of 5.5 feet bgs. Excavation floor samples G, H, and I were collected at a depth of 7.5 feet bgs. Pipe run sample J was collected along the former piping trench, which was approximately eight feet in length and which ran south to Building 419. Pipe sample J was collected at a depth of 1.0 feet bgs. Samples F and G exhibited OVA readings of 4 and 7 ppm, respectively. All other samples had non-detectable OVA readings. All samples were analyzed for TPHC and total solids.

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

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected on October 29, 1996 from a total of ten 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 29, 1996, from the UST excavation and from below piping associated with the UST contained concentrations of TPHC below the NJDEP soil cleanup criteria. Samples contained non-detectable levels of TPHC. Groundwater encountered did not exhibit a sheen.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 419 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. 90010-35 at Building 419.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 419, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
A	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
B	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
C	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
D	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
E	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
F	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
G	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
H	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
I	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
J	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025
DUP B	10/29/96	11/01/96	Soil	Post-Excavation	TPHC	OQA - QAM - 025

Note:

* TPHC Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 419, MAIN POST-EAST AREA
FORT MONMOUTH, NEW JERSEY

Page 1 of 1

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
A/5.5'	2193.1	10/29/96	11/01/96	Total Solid	--	--	83.5 %	--	--
				TPHC	200	yes	ND	10,000	No
B/5.5'	2193.2	10/29/96	11/01/96	Total Solid	--	--	67.0 %	--	--
				TPHC	200	yes	ND	10,000	No
C/5.5'	2193.3	10/29/96	11/01/96	Total Solid	--	--	82.0 %	--	--
				TPHC	200	yes	ND	10,000	No
D/5.5'	2193.4	10/29/96	11/01/96	Total Solid	--	--	81.5 %	--	--
				TPHC	200	yes	ND	10,000	No
E/5.5'	2193.5	10/29/96	11/01/96	Total Solid	--	--	88.9 %	--	--
				TPHC	200	yes	ND	10,000	No
F/5.5'	2193.6	10/29/96	11/01/96	Total Solid	--	--	86.9 %	--	--
				TPHC	200	yes	ND	10,000	No
G/7.5'	2193.7	10/29/96	11/01/96	Total Solid	--	--	78.7 %	--	--
				TPHC	200	yes	ND	10,000	No
H/7.5'	2193.8	10/29/96	11/01/96	Total Solid	--	--	83.8 %	--	--
				TPHC	200	yes	ND	10,000	No
I/7.5'	2193.9	10/29/96	11/01/96	Total Solid	--	--	77.7 %	--	--
				TPHC	200	yes	ND	10,000	No
J/1.0'	2193.10	10/29/96	11/01/96	Total Solid	--	--	80.4 %	--	--
				TPHC	200	yes	ND	10,000	No
DUP B/5.5'	2193.11	10/29/96	11/01/96	Total Solid	--	--	78.7 %	--	--
				TPHC	200	yes	ND	10,000	No

Note:

* Total Solid results are expressed as a percentage.

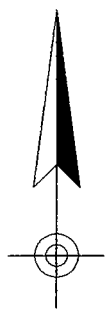
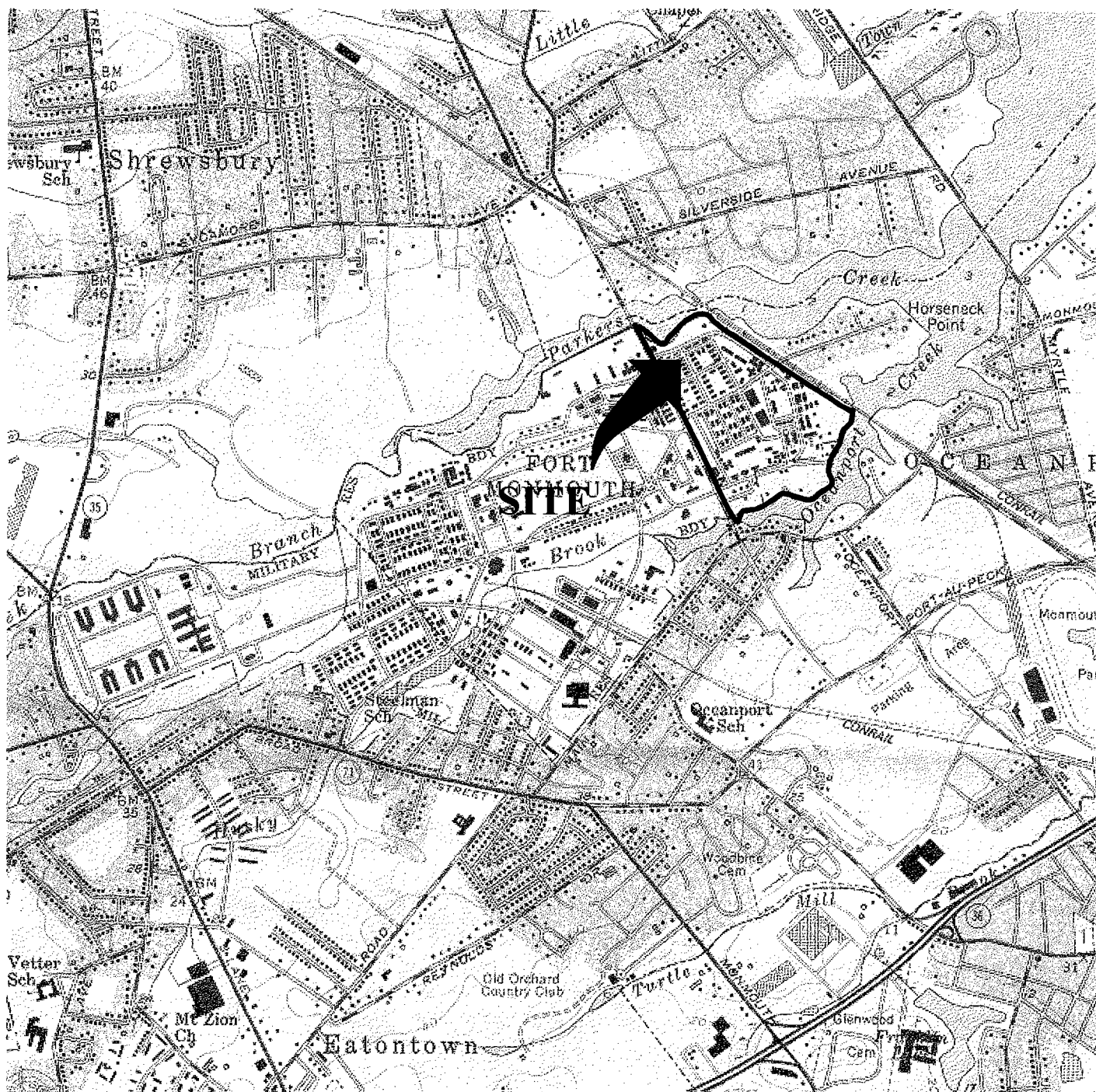
** NJDEP Residential Direct Contact soil cleanup criteria for total organics

ND Not detected above stated method detection limit

TPHC Total Petroleum Hydrocarbons

-- Not Applicable

FIGURES



LONG BRANCH, NJ

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE -SERIES V822

New Jersey



Quadrangle Location

FIGURE 1

SITE LOCATION MAP

Building 419

Main Post-East

Fort Monmouth Army Base

Monmouth County, NJ



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

Scale:

1"=2,000'

Date:

DEC 1997

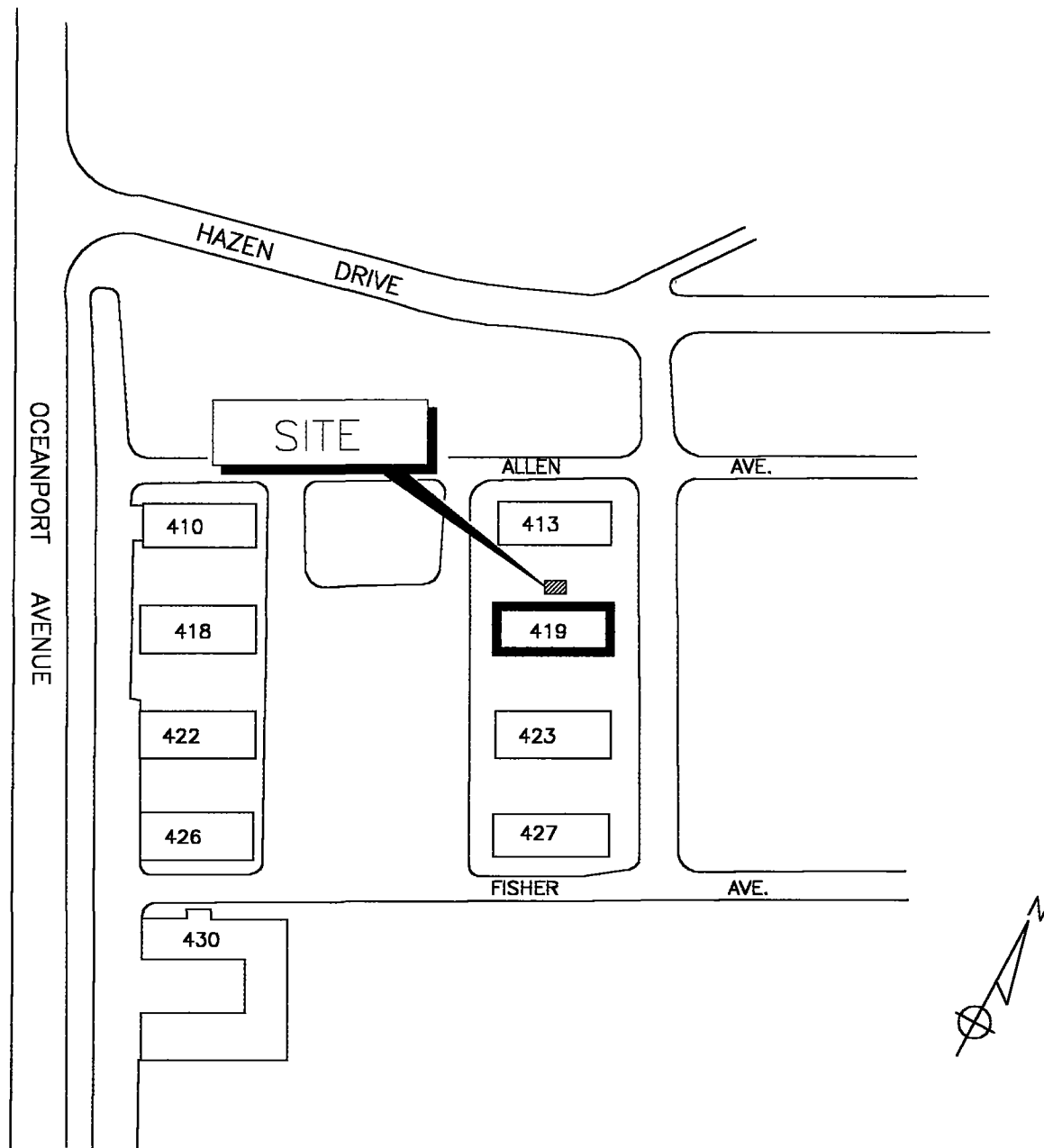


FIGURE 2
 SITE MAP
 BUILDING 419
 FORT MONMOUTH ARMY BASE
 MONMOUTH COUNTY, NJ



**SMC ENVIRONMENTAL
 SERVICES GROUP**

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

SCALE: 1"=100'

DATE: MARCH 1998

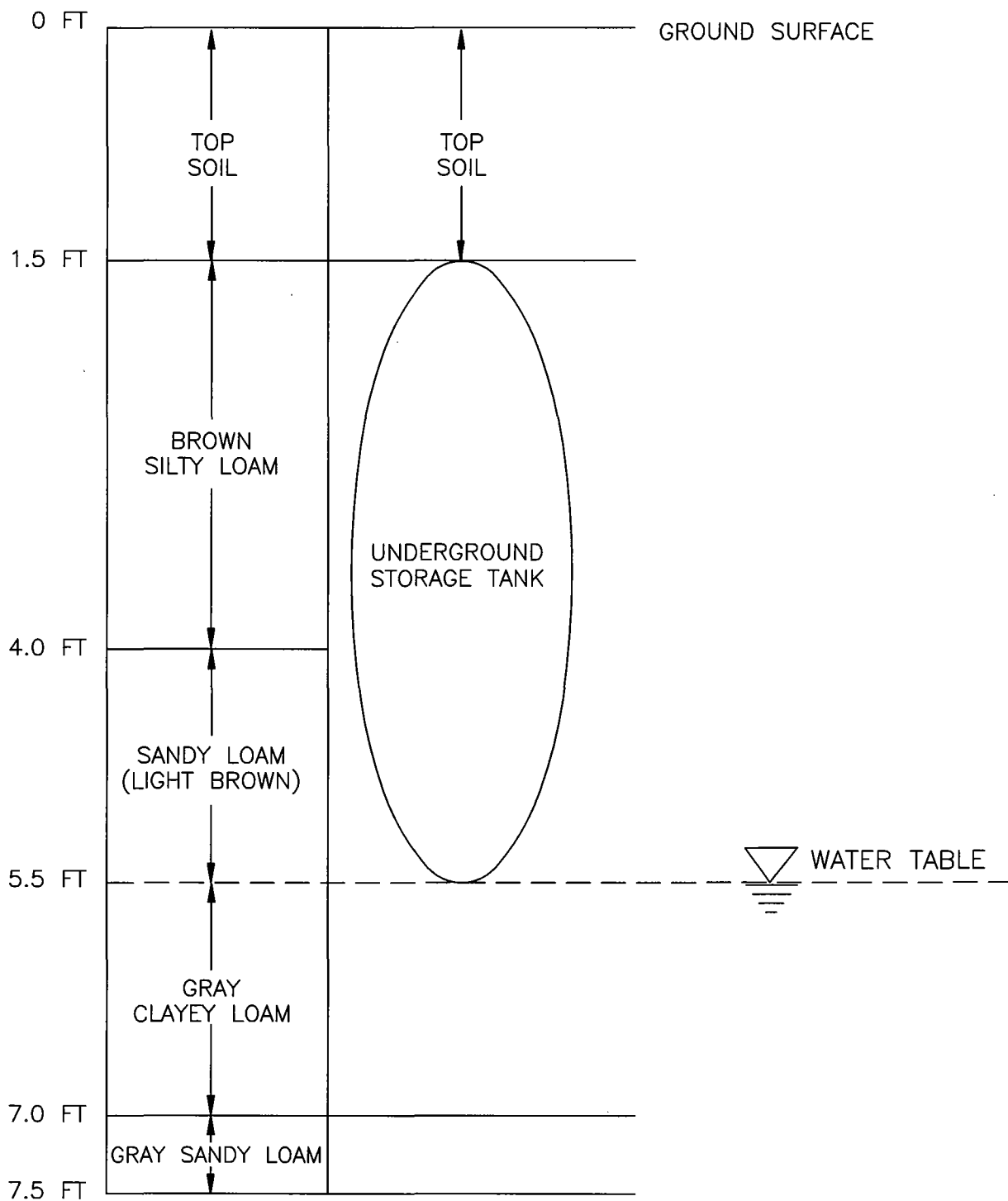


FIGURE 3
CROSS SECTIONAL VIEW
BUILDING 419
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

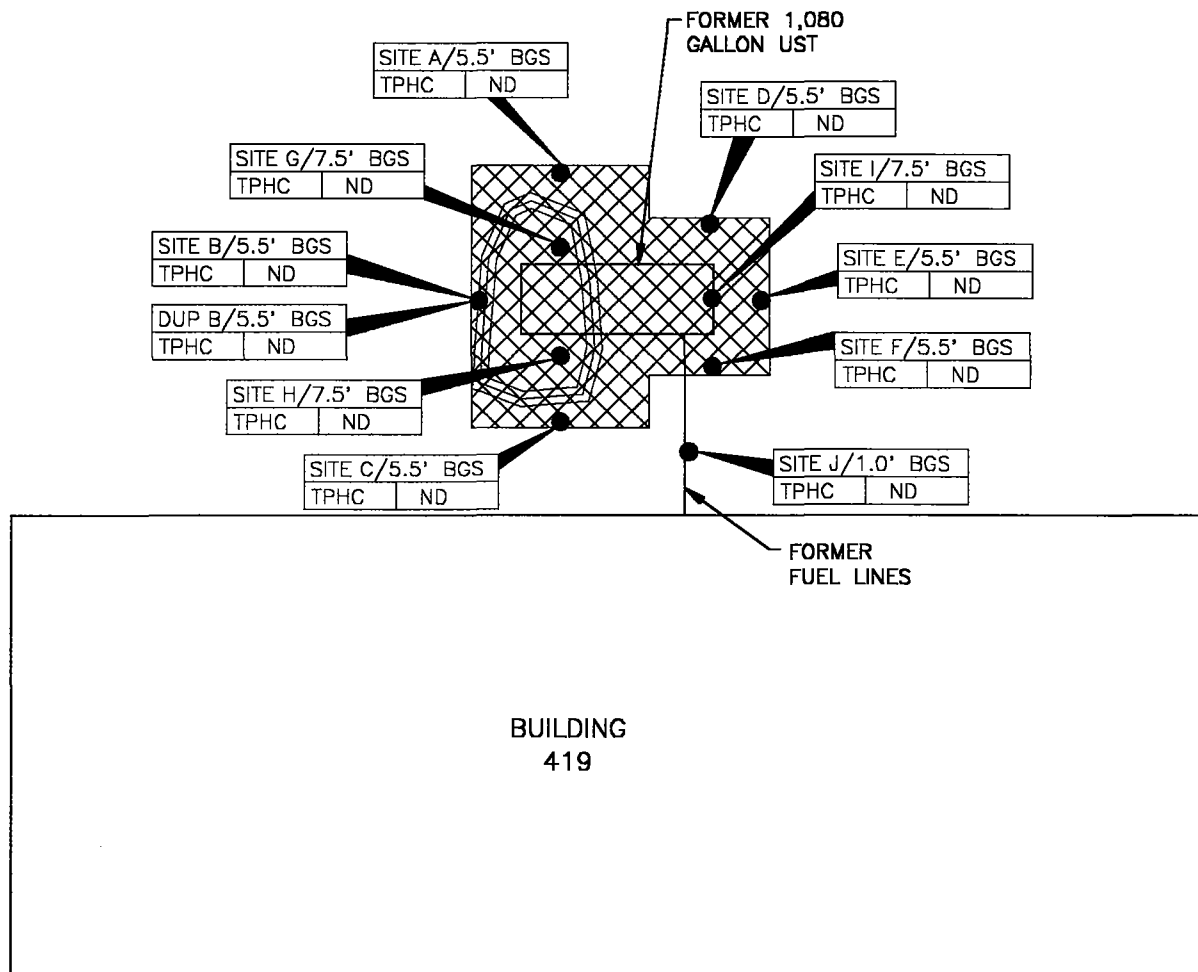


**SMC ENVIRONMENTAL
SERVICES GROUP**

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

SCALE: NTS

DATE: MARCH 1998



LEGEND

- SOIL SAMPLE LOCATION
(OCT. 29, 1996)
- ▨ LIMIT OF EXCAVATION
(OCT. 18, 1996)
- ◡ CONTAMINATED SOIL REMOVED
FROM AREA INDICATED

- 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 419
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ



**SMC ENVIRONMENTAL
SERVICES GROUP**

Engineers, Managers, Scientists & Planners
VALLEY FORGE, PA

SCALE: 1"=10'

DATE: MARCH 1998

APPENDIX A

NJDEP STANDARD REPORTING FORM



State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation

CN 028

Trenton, NJ 08625-0029

ATTN: UST Program
(609) 984-3156

For State Use Only

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

STANDARD REPORTING FORM
for reporting activities at an UST facility:

- | | |
|--|---|
| ☐ General Facility Information Changes | ☐ Sale or Transfer |
| ☒ Closure (Abandonment or Removal) | ☐ Substantial Modification |
| ☐ Temporary Closure | ☐ Financial Responsibility |
| ☐ Change in Service | ☐ Address Change Only |

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

(More than one tank can be listed per activity)

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

Answer questions 1 through 5 and others as applicable.

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

U.S. ARMY - FORT MONMOUTH
DPW - BUILDING 173
FORT MONMOUTH NJ 07703
ATTN: EUGENE W. LESINSKI

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

3. Contact person for this activity:

GENE LESINSKI
Telephone Number: (908) 532-0989

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

BLDG 419

35

5. Registration Number (if known):

UST - 0090010

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

- a. Facility name: _____
b. Facility location: _____
c. Owner's mailing address: _____

NJ _____
d. Block: _____ Lot: _____
e. Contact person (facility operator): _____
f. Contact telephone number: (_____) _____ - _____
g. Other (Specify): _____

(OVER)

APPENDIX B

SITE ASSESSMENT SUMMARY

UST-014
2/91

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

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

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

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

UNDERGROUND STORAGE TANK
SITE ASSESSMENT SUMMARY

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

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

INSTRUCTIONS:

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

Date of Submission: _____

Building No. 419 UST No. 0090010-35

0192477-1

Facility Registration #

1. FACILITY NAME AND ADDRESS:

U.S. Army Fort Monmouth New Jersey
Directorate of Engineering and Housing Building 167
Fort Monmouth, New Jersey 07703 County Monmouth
Telephone No. 732-532-6224

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

Telephone No. _____

II. DISCHARGE REPORTING REQUIREMENTS

- A. Was contamination found? ☒ Yes ☐ No If Yes, Case No. 96-10-18-0855-14
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)
- B. The substance(s) discharged was (were) No. 2 Fuel Oil
- C. Have any vapor hazards been mitigated? ☐ Yes ☐ No ☒ N/A

III. DECOMMISSIONING OF TANK SYSTEMS Closure approval No. U.S. Army "Blanket Closure"

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

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

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

B. Scaled Site Diagrams

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

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

C. Soil samples and borings (check appropriate answer)

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

D. Ground Water Monitoring

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

V. SOIL CONTAMINATION

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

VI. GROUND WATER CONTAMINATION

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

C. Result (s) of well search

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

D. Proximity of wells and contaminant plume

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

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

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

G. Delineation of contamination

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

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

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

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

NAME (Print or Type) Charles Appleby

SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE _____
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEP

CERTIFYING NUMBER 2056

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

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

NAME (Print or Type) SAME AS SITE ASSESSMENT SIGNATURE _____

COMPANY NAME _____ DATE _____
(Performer of Tank Decommissioning)

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

- A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility [N.J.A.C. 7:14B-2.3(c)1].

"I certify under penalty of law that the information provided in this document is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) James Ott SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE _____

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

1. For a corporation, by a principal executive officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency by either the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) _____ SIGNATURE _____

COMPANY NAME _____ DATE _____

APPENDIX C
WASTE MANIFEST

APPENDIX D
UST DISPOSAL CERTIFICATE

MAZZA & SONS, INC.

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

NO. 295

DATE 25 Oct 96

Customer's Name

Tecom Vinnell

Address

B. 419

Make of
Autos

Tires

Tank

Price:

14820 LB

12820 LB

2,000

Weight

Price

Cast Iron

Steel

Lt. Iron

Copper #1

Copper #2

Lt. Copper

Brass

Alum Clean

Lead

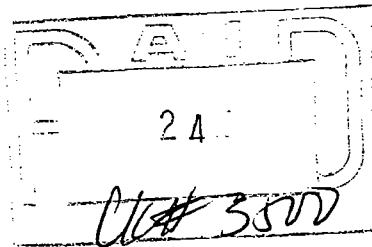
Stainless

Radiators

Battery

TOTAL AMOUNT:

60.00



Weigher

Customer

[Signature]

MAZZA & SONS, INC.

RECYCLING DIVISION
DEBTOR IN POSSESSION
3230 SHAFTO RD.
TINTON FALLS, NJ 07753

3500

DATE

10/25/96

55-33-34
212

PAY
TO THE
ORDER OF

Tecom Vinnell

\$ 280.80

Two Hundred Eighty & 80/100

DOLLARS

Security Features
Indicated
Details on back

NatWest Bank

NatWest Bank N.A.
Jumping Brook Office
3636 Highway 33, Neptune, NJ 07753

[Signature]

⑈003500⑈ ⑆021200339⑆ 34 11 40981⑈

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

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

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

Lab. ID #: 2193.1-11
Sample Rec'd: 10/29/96
Analysis Start: 11/01/96
Analysis Comp: 11/04/96

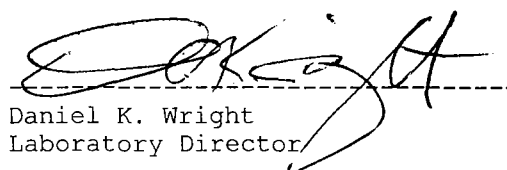
Analysis: OQA-QAM-025
Matrix: Soil
Analyst: S. Wegeman
Ext. Meth: Shake

NJDEP UST Reg. #:
Closure #:
DICAR #:
Location #: Bldg. 419

Lab ID	Description	OVA	%Solid	MDL (mg/Kg)	Surrogates % Recovery	Result (mg/Kg)
2193.1	419-A (SIDEWALL @ 5.5')	ND	83.5	200	90.4 / 103.1	ND
2193.2	419-B (SIDEWALL @ 5.5')	ND	67.0	200	88.2 / 97.2	ND
2193.3	419-C (SIDEWALL @ 5.5')	ND	82.0	200	99.1 / 112.7	ND
2193.4	419-D (SIDEWALL @ 5.5')	ND	81.5	200	96.4 / 108.0	ND
2193.5	419-E (SIDEWALL @ 5.5')	ND	88.9	200	99.7 / 111.3	ND
2193.6	419-F (SIDEWALL @ 5.5')	4	86.9	200	98.0 / 109.7	ND
2193.7	419-G (EXC. FLOOR @ 7.5')	7	78.7	200	90.7 / 101.2	ND
2193.8	419-H (EXC. FLOOR @ 7.5')	ND	83.8	200	94.4 / 105.4	ND
2193.9	419-I (EXC. FLOOR @ 7.5')	ND	77.7	200	91.8 / 102.2	ND
2193.10	419-J (EXC. FLOOR @ 7.5')	ND	80.4	200	97.5 / 108.3	ND
2193.11	419 DUP (FIELD DUPLICATE)	NA	78.7	200	94.0 / 105.6	ND
	Method Blank	NA	100	200	92.4/101.6	ND

QC: 2193.11MS=112.1%, 2193.11MSD=99.6%, RPD=17.1%
QC Limits: Surrogate: 50% - 165%
MS/MSD: not established RPD: not established

Notes: ND = Not Detected, MDL = Method Detection Limit
NA = Not Applicable
* = Matrix Interference


Daniel K. Wright
Laboratory Director

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

CHAIN-OF-CUSTODY

P.O. #: PWS-07

Project #: GENE, LEISINSKI		Sampler: GARY DiMartinis - TVS		Date / Time: 10-29-96 0900		Analysis Parameters		Start:	
Customer: SELF M - PW - EV		Site Name: BUILDING #419						Finish:	
Phone: (908) 532-0989		(PAGE #1 OF 2)						Preservation Method	

Lab Sample ID Number	Date/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	TPHC	6% SOLIDS	MUNSEL	QUA	Remarks	Preservation Method
2193	10/29/96 1137	419-A (SIDE WALL @ 5.5')	SOIL	1	X	X	X	ND		*
1	1144	419-B						ND	* = SAMPLES	
3	1307	419-C						ND	KEPT BELOW	
4	1141	419-D						ND	4°C	
5	1300	419-E						ND		
16	1303	419-F						4		
17	1152	419-G (EXC. FLOOR @ 7.5')						7		
18	1156	419-H						ND		
4	1159	419-I						ND		
** CONTINUED ON NEXT PAGE **										

NOTE: PUA CALIBRATED TO 95 PPM/METER READING W/ 95 PPM CH + ZERO (0) AIR BY G. DiMartinis @ 0935

Relinquished By (signature): <i>[Signature]</i>	Date / Time: 10/29/96 1500	Received By (signature): <i>[Signature]</i>	Shipped By: HAND	ON 10-27-96 (SERIAL #A52114)
Relinquished By (signature):	Date / Time:	Received for Lab by (signature):	Date / Time:	

Note: A drawing depicting sample location should be attached or drawn on the reverse side of this chain of custody. DEDICATED SAMPLING TOOLS USED. SEE PROJECT FILE FOR SAMPLING LOCATIONS

CHAIN-OF-CUSTODY

[illegible]

Environmental Laboratory

Methodology Summary

<u>Aqueous Methodologies:</u>	<u>Ref 1</u>	<u>Ref 2</u>	<u>Ref 3</u>	<u>Ref 5</u>
BNA, Pesticides/PCB's Extraction		3510/3520		
AA/ICP Sample Preparation	200.7			
Furnace Sample Preparation	200.0			
Mercury Sample Preparation	245.1			
Haxavalent Chromium Sample Preparation	218.5			
Clean-up		3610/3620/3630 3640/3660		
Organochlorine Pesticide and PCB by GC			608	505
Herbicides by GC			362	515.1
Purgeable Organics by GC/MS			624	524.2
Base/Neutral, Acids by GC/MS			625	525
2,3,7,8-TCDD by GC/MS			613/625	
BTEX			602	502.2
EDB/DBCP by Microextraction				504.1

Non-Aqueous Methodologies:

BNA, Pesticides/PCB's Extraction	3550
AA/ICP Sample Preparation	3050
Furnace Sample Preparation	3020/3030/3050
Mercury Sample Preparation	7471
Clean-up	3610/3620/3630 3640/3660
GC, GC/MS:	
Purgeable Organics	8240/8021
Base/Neutral and Acid Extractables	8270
Organophosphorus Pesticides	8140
Organochlorine Pesticide and PCB by GC	8080
BTEX	8020
Halogenated Purgeable Organics	8010
Total Petroleum Hydrocarbon **	

Ref 1. USEPA-600/4-79-020, Methods for Chemical Analysis of Water and Waste

Ref 2. USEPA SW846, Test Methods for Evaluating Solid Waste, Third Edition

Ref 3. Federal Register 40 CFR Part 136, Vol. 49, No. 209: Test Parameters for the Analysis of Pollutants.

Ref 4. Federal Register Vol. 51, No. 216, Friday, 11/7/86, pp. 40643-40652

Ref 5. Method for the Determination of Organic Compounds in Drinking Water, EPA 500/4-88/039, Dec. 1988.

Ref 6. Standard Methods for the Examination of Water and Wastewater, 18th Ed.

** NJDEP OQA-QAM-025-10/91: Quantitation of Semi-Volatile Petroleum Products in Water, Soil, Sediment and Sludge

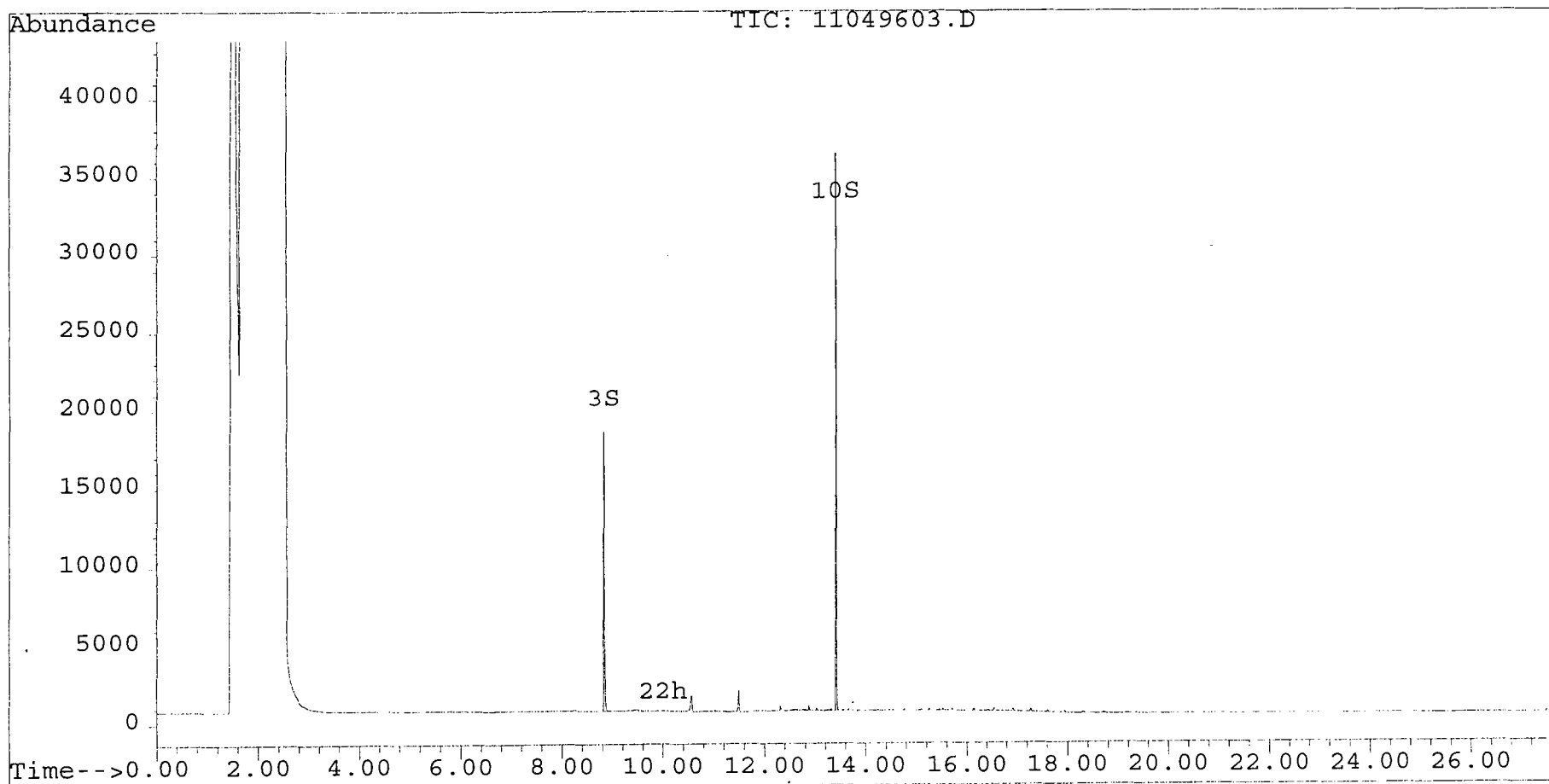
Quantitation Report

Data File : C:\HPCHEM\5\DATA\11049603.D
Acq On : 04 Nov 96 03:38 PM
Sample : EXTRACTION BLANK 11-1
Misc :
Quant Time: Nov 4 16:07 1996

Vial: 3
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



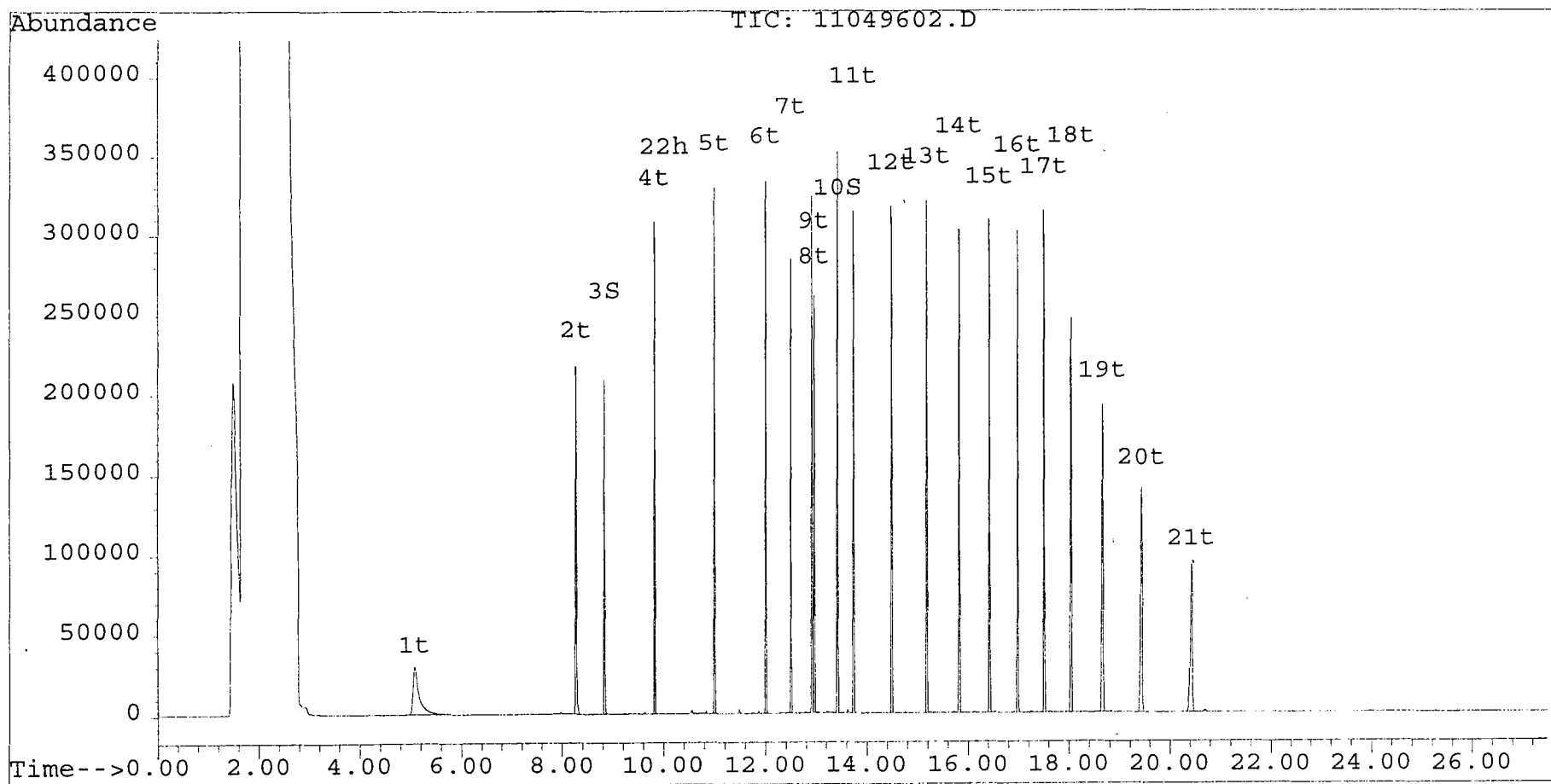
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Vial: 2
 Operator:
 Inst : FID/ECD
 Multiplr: 1.00

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 Last Update : Tue Oct 22 11:19:57 1996
 Response via : Multiple Level Calibration

Volume Inj. :
 Signal Phase :
 Signal Info :



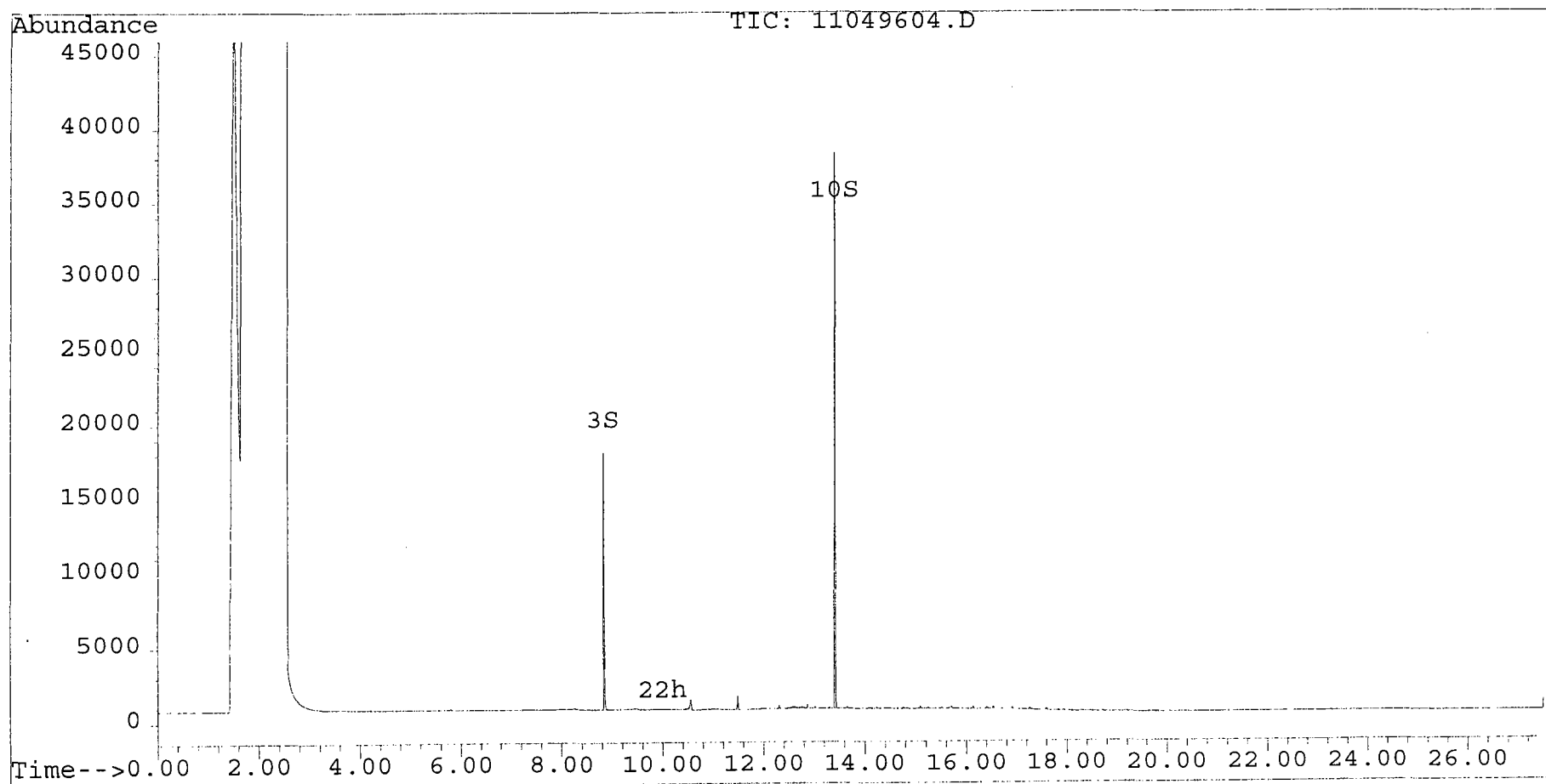
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Sample : 2193.1
Misc :
Quant Time: Nov 4 16:46 1996

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Operator:
Inst : FID/ECD
Multiplr: 1.00

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Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



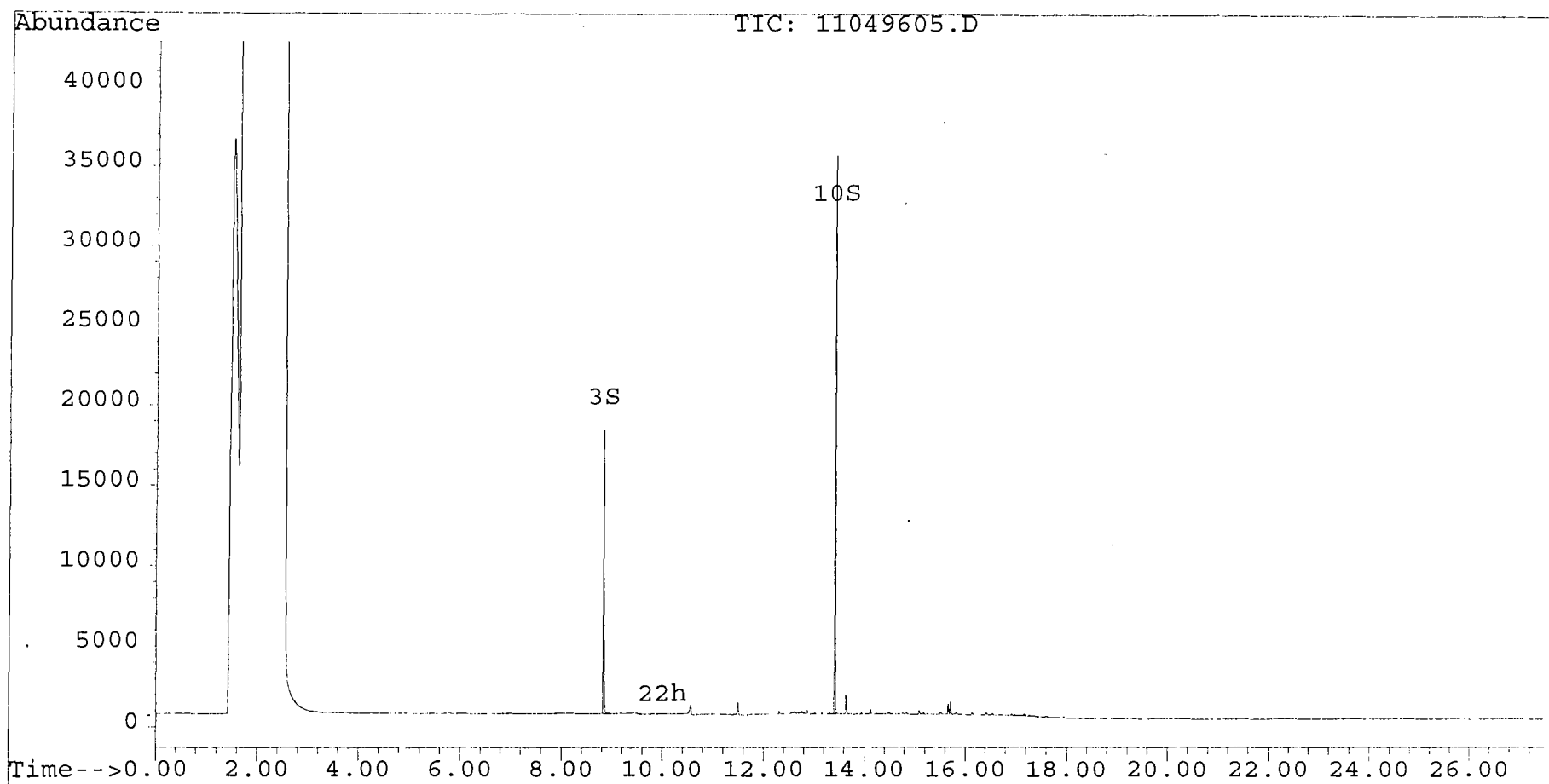
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Sample : 2193.2
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Quant Time: Nov 4 17:26 1996

Vial: 5
Operator:
Inst : FID/ECD
Multiplr: 1.00

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Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



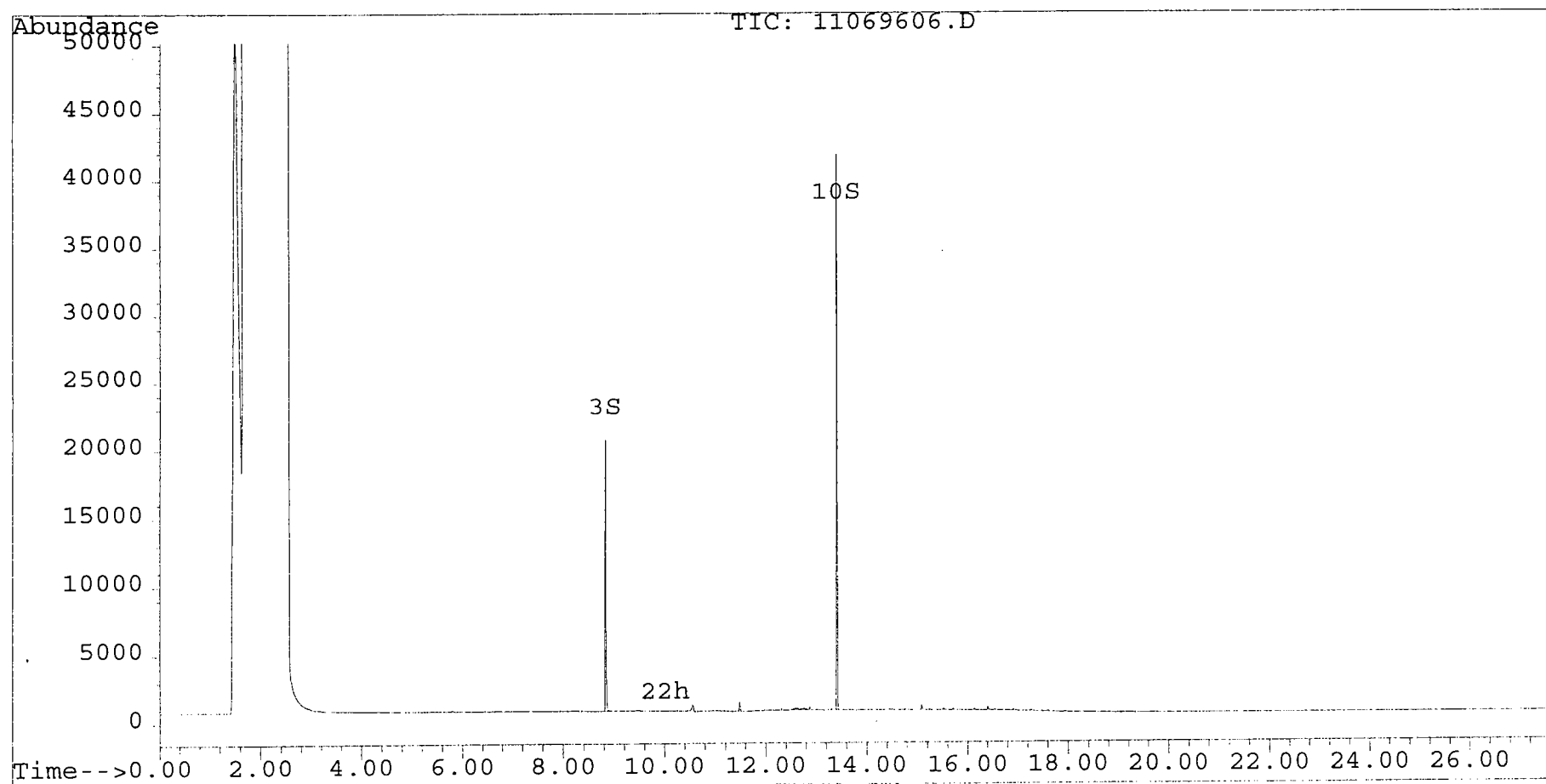
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 Acq On : 04 Nov 96 05:37 PM
 Sample : 2193.3
 Misc :
 Quant Time: Nov 4 18:06 1996

Vial: 6
 Operator:
 Inst : FID/ECD
 Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
 Title : TPH
 Last Update : Tue Oct 22 11:19:57 1996
 Response via : Multiple Level Calibration

Volume Inj. :
 Signal Phase :
 Signal Info :



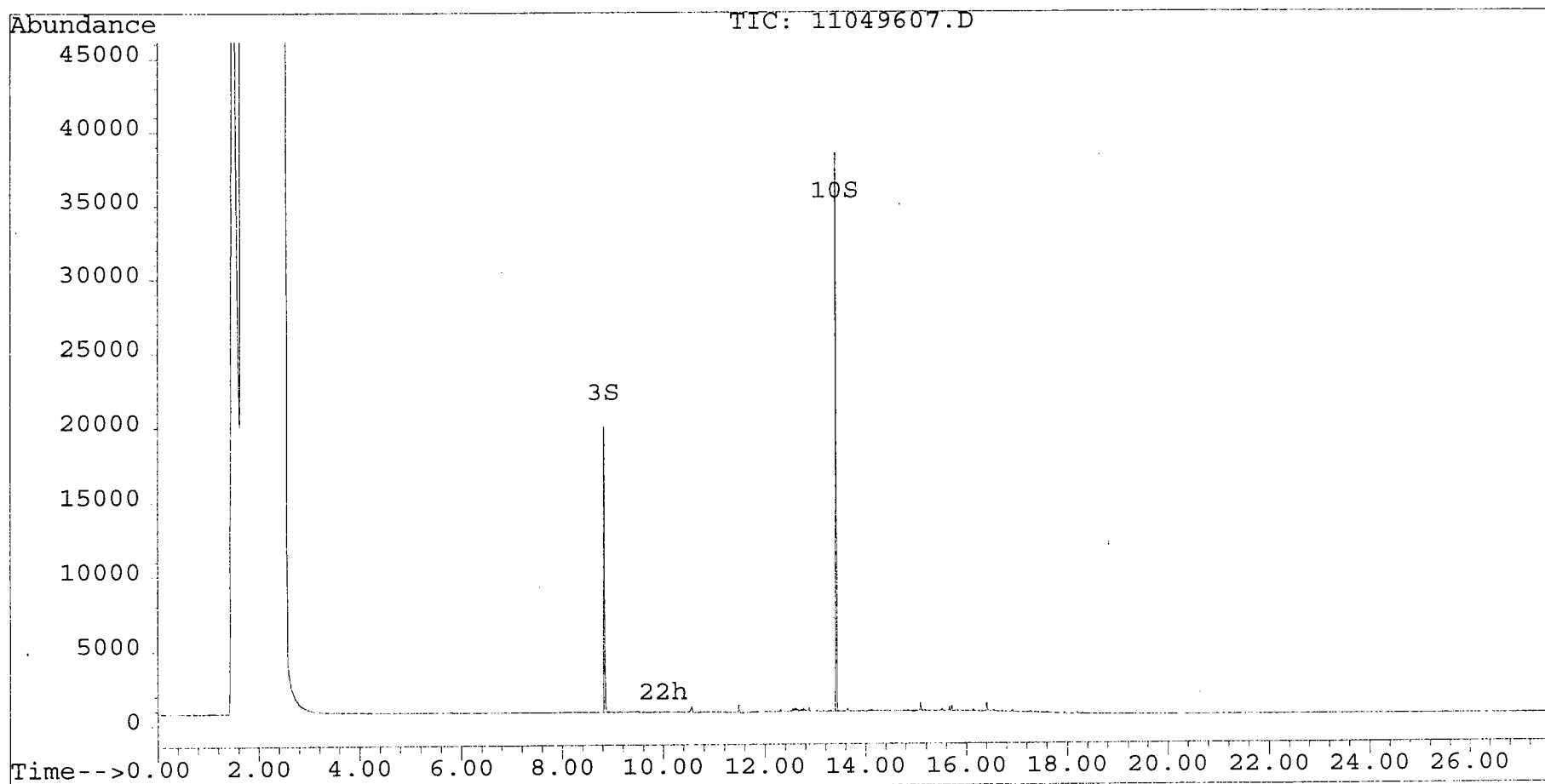
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Sample : 2193.4
Misc :
Quant Time: Nov 4 18:45 1996

Vial: 7
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



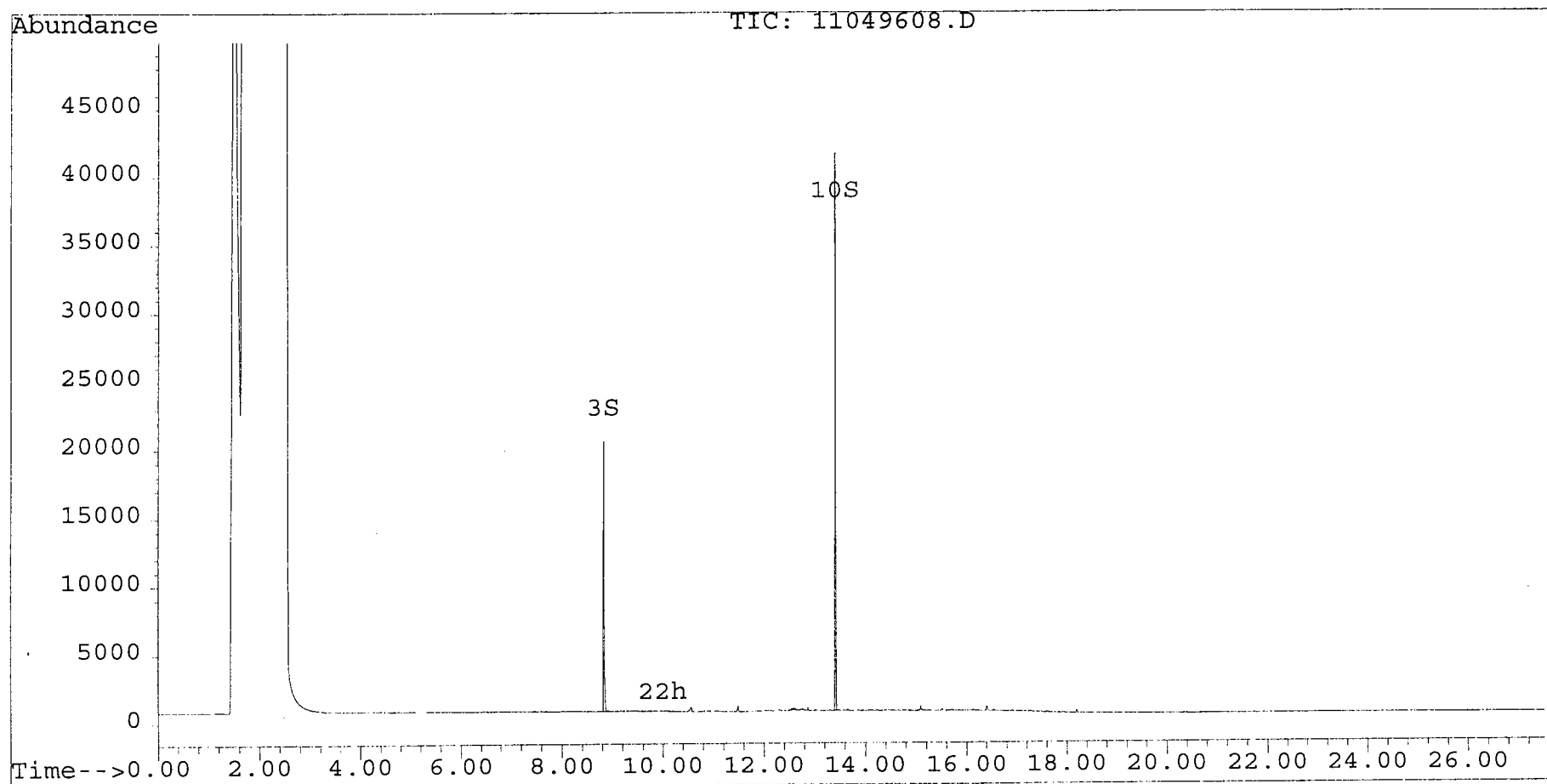
Quantitation Report

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Sample : 2193.5
Misc :
Quant Time: Nov 4 19:25 1996

Vial: 8
Operator:
Insc : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



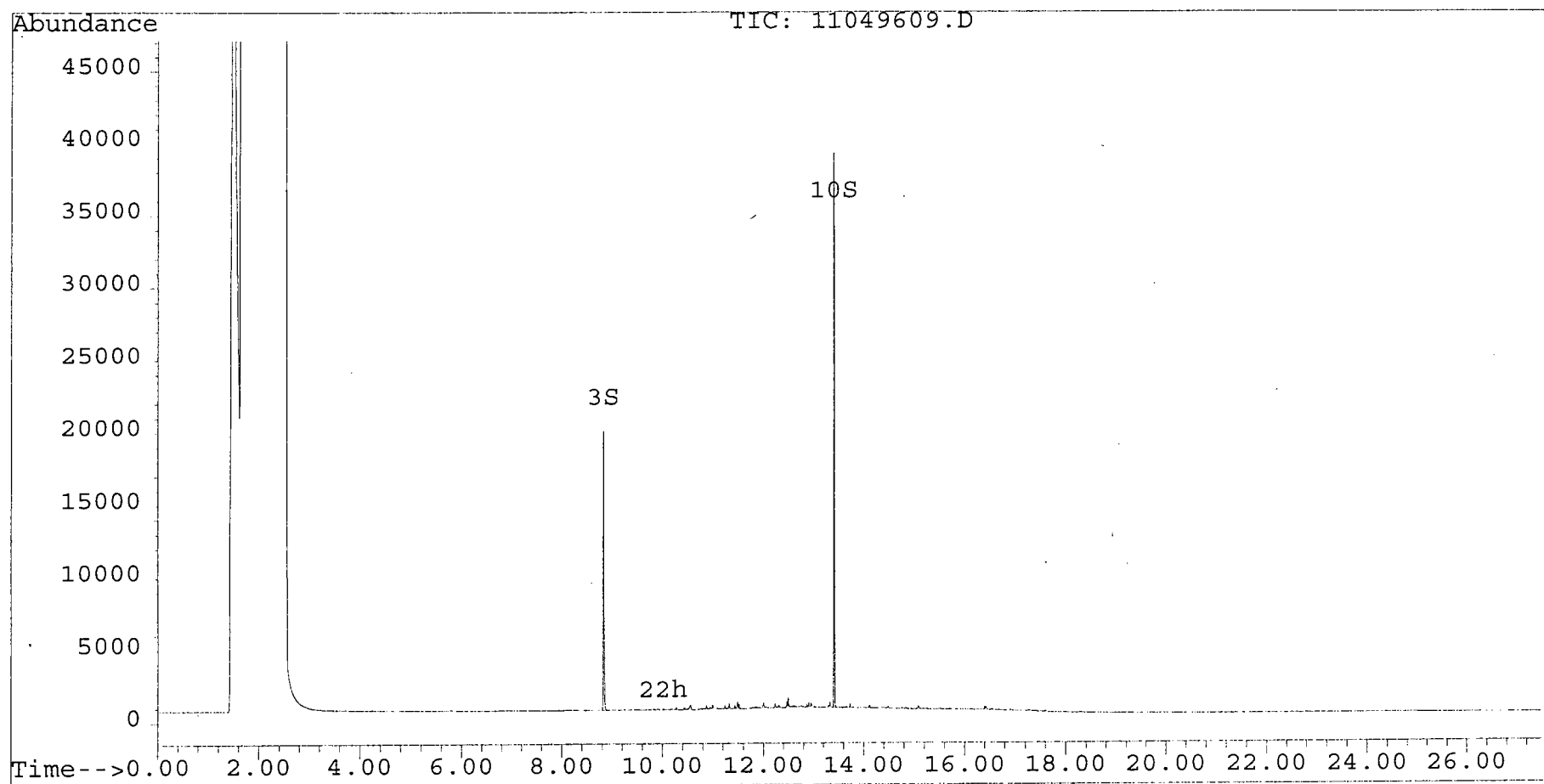
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Sample : 2193.6
Misc :
Quant Time: Nov 4 20:04 1996

Vial: 9
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



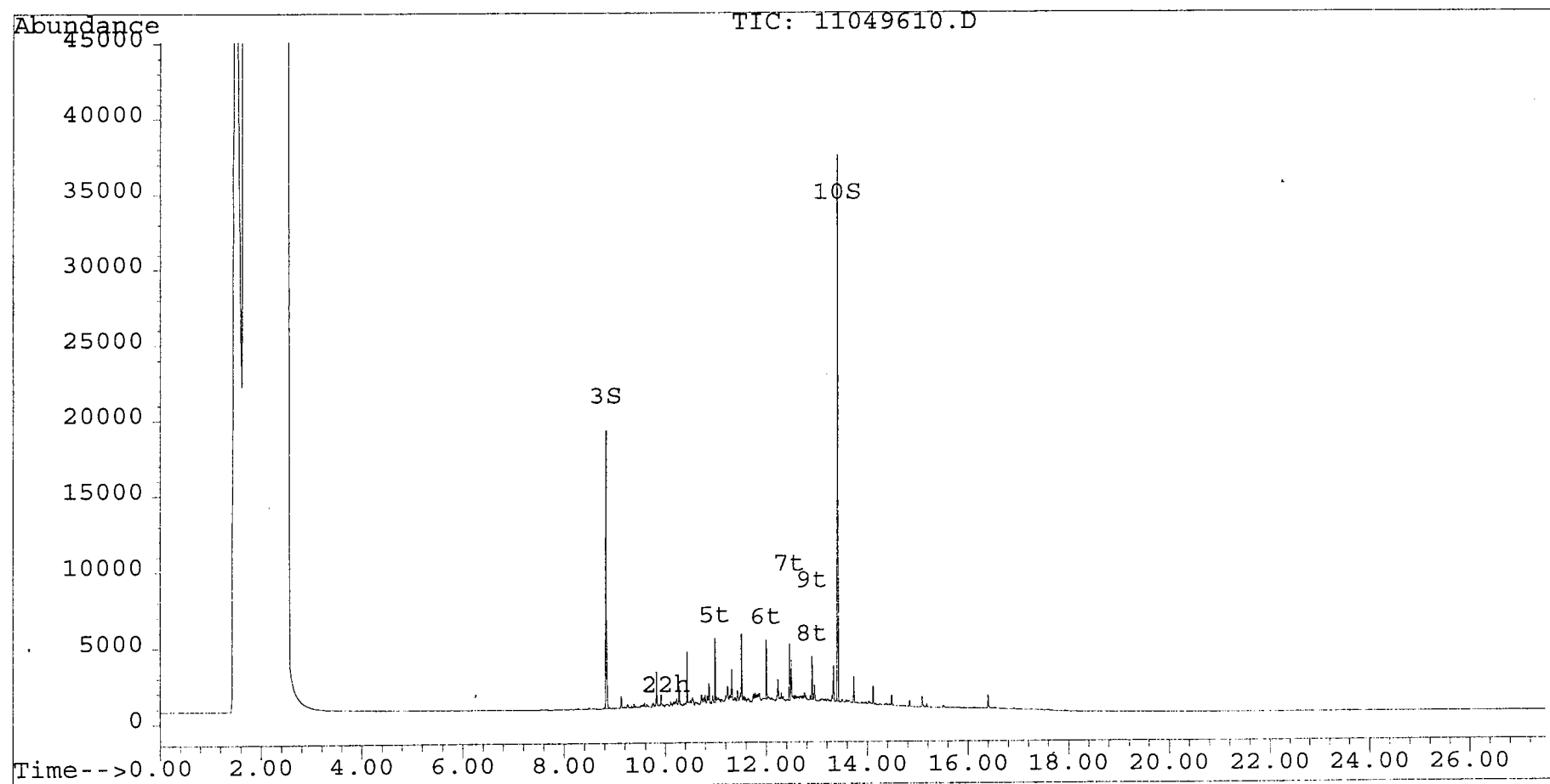
Quantitation Report

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 Sample : 2193.7
 Misc :
 Quant Time: Nov 4 20:43 1996

Vial: 10
 Operator:
 Inst : FID/ECD
 Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
 Title : TPH
 Last Update : Tue Oct 22 11:19:57 1996
 Response via : Multiple Level Calibration

Volume Inj. :
 Signal Phase :
 Signal Info :



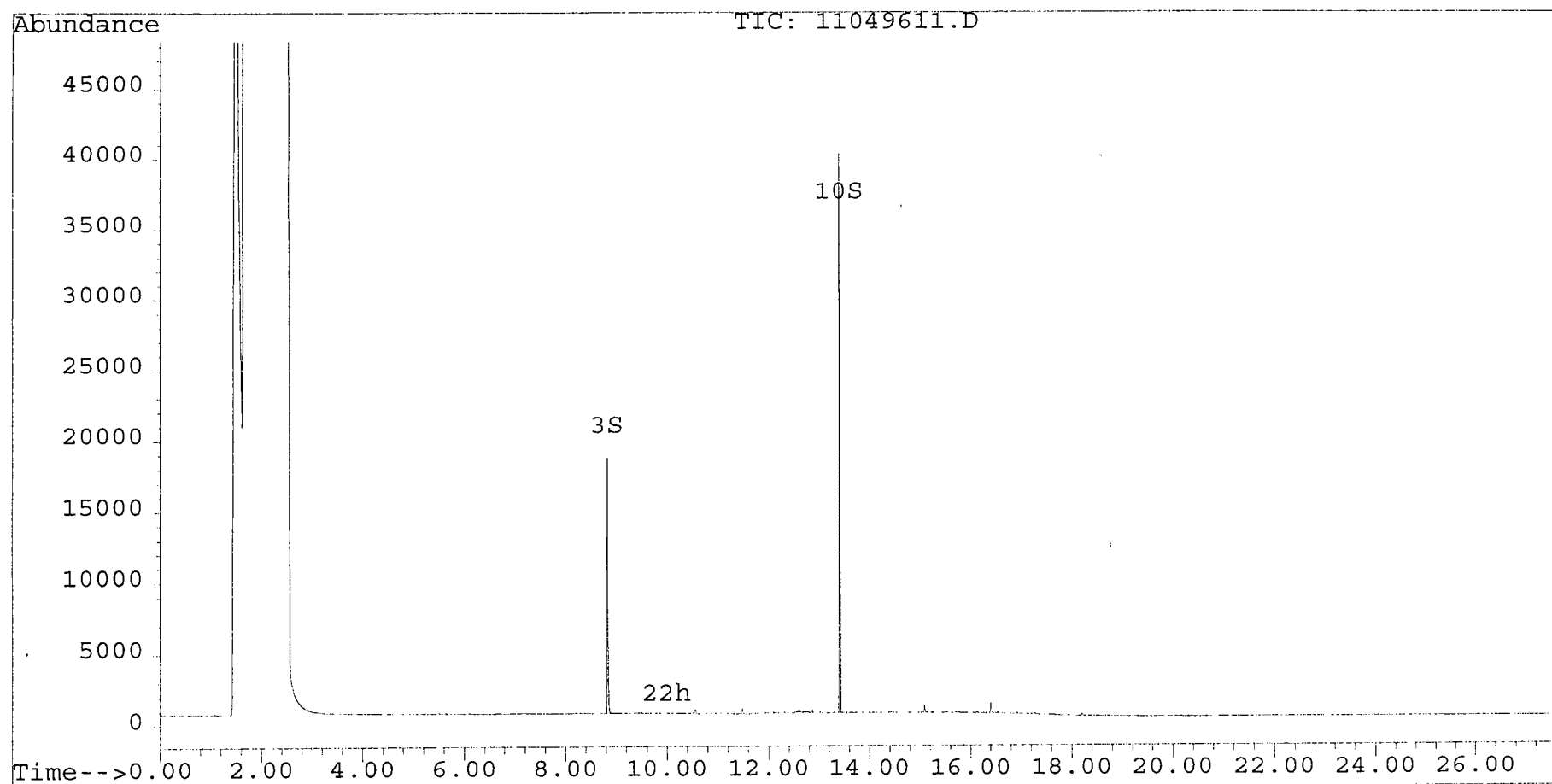
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Misc :
Quant Time: Nov 4 21:22 1996

Vial: 11
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



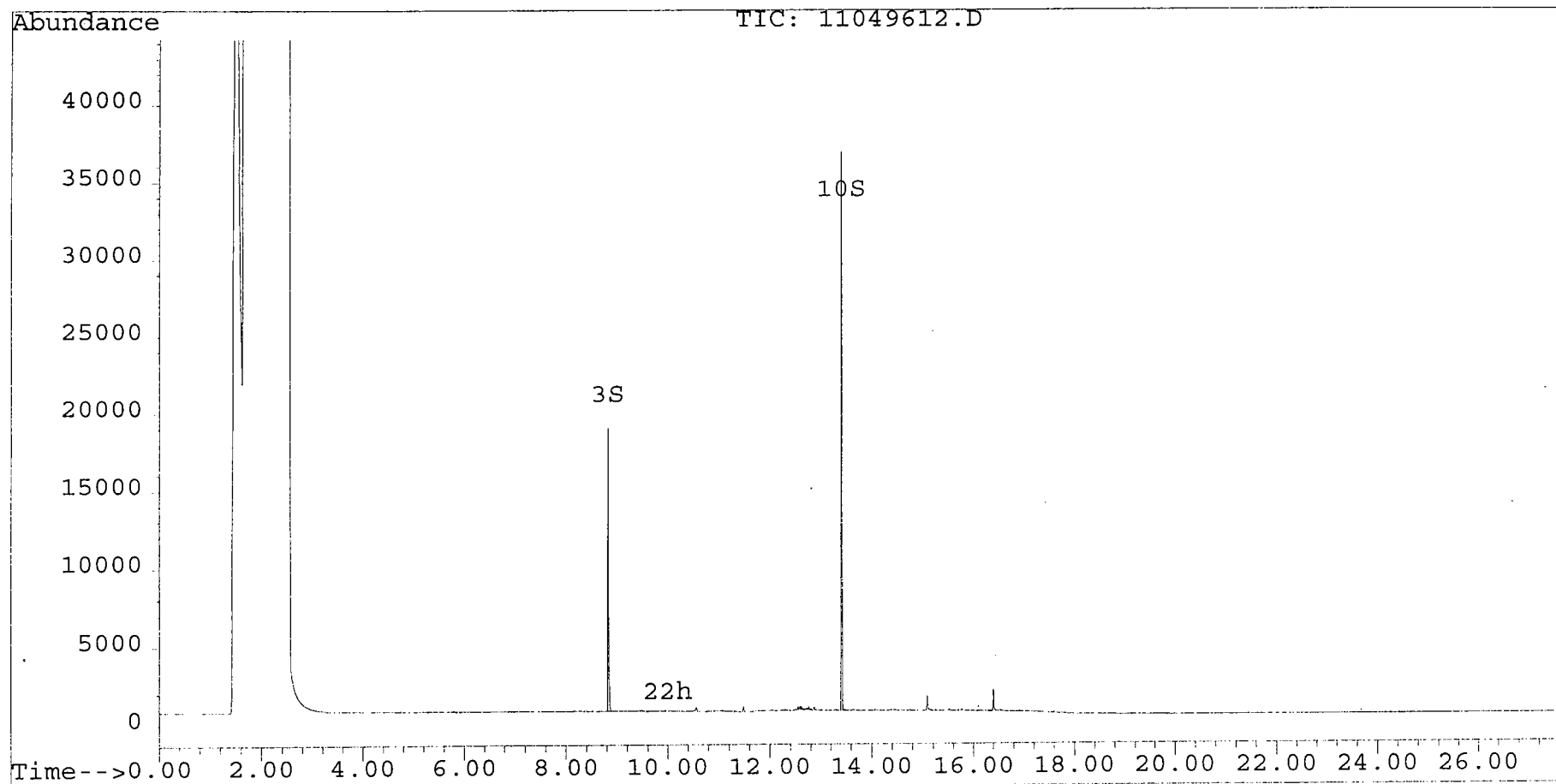
Quantitation Report

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Acq On : 04 Nov 96 09:32 PM
Sample : 2193.9
Misc :
Quant Time: Nov 4 22:00 1996

Vial: 12
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



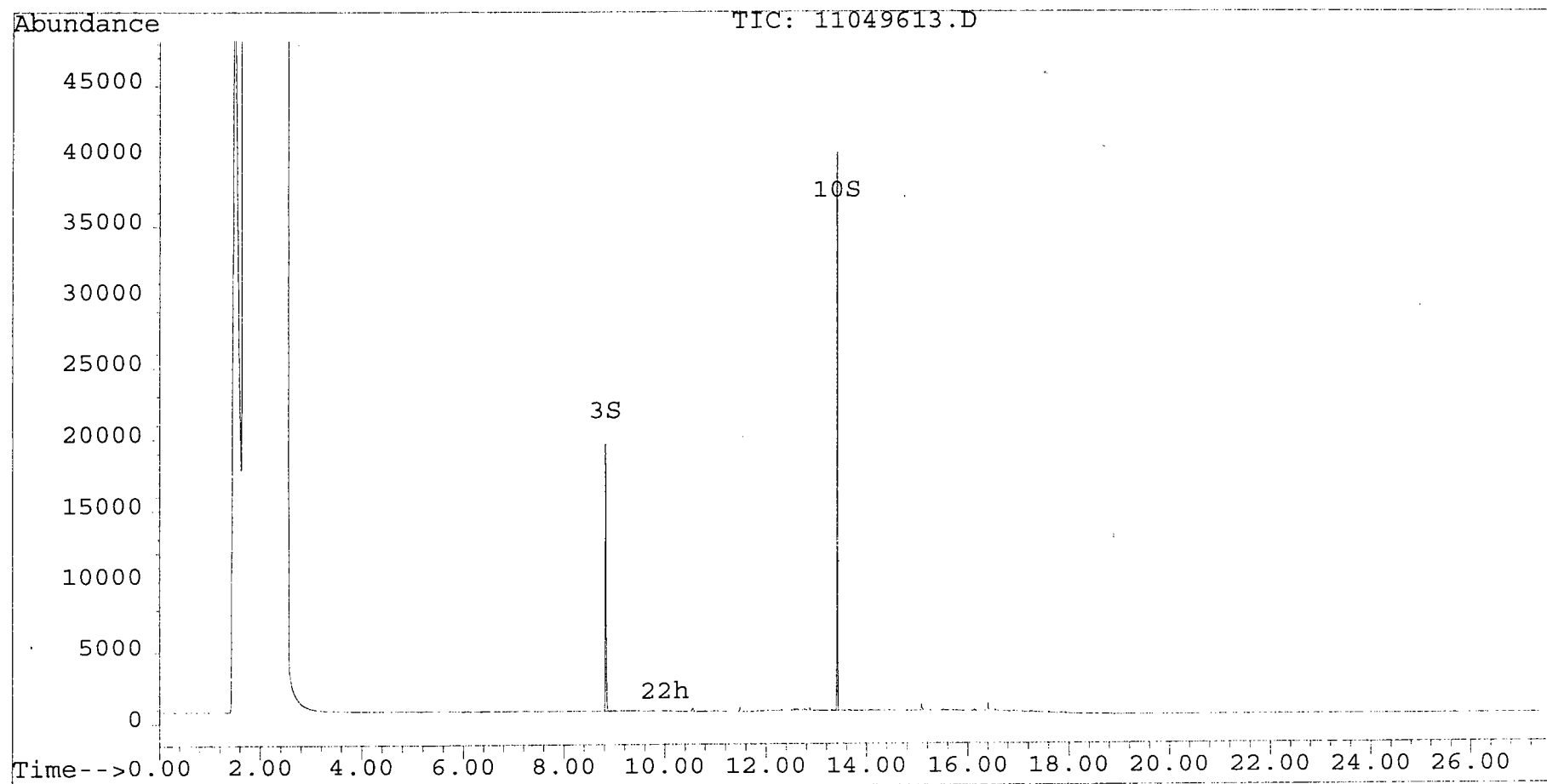
Quantitation Report

Data File : C:\HPCHEM\5\DATA\11049613.D
Acq On : 04 Nov 96 10:10 PM
Sample : 2193.10
Misc :
Quant Time: Nov 4 22:39 1996

Vial: 13
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



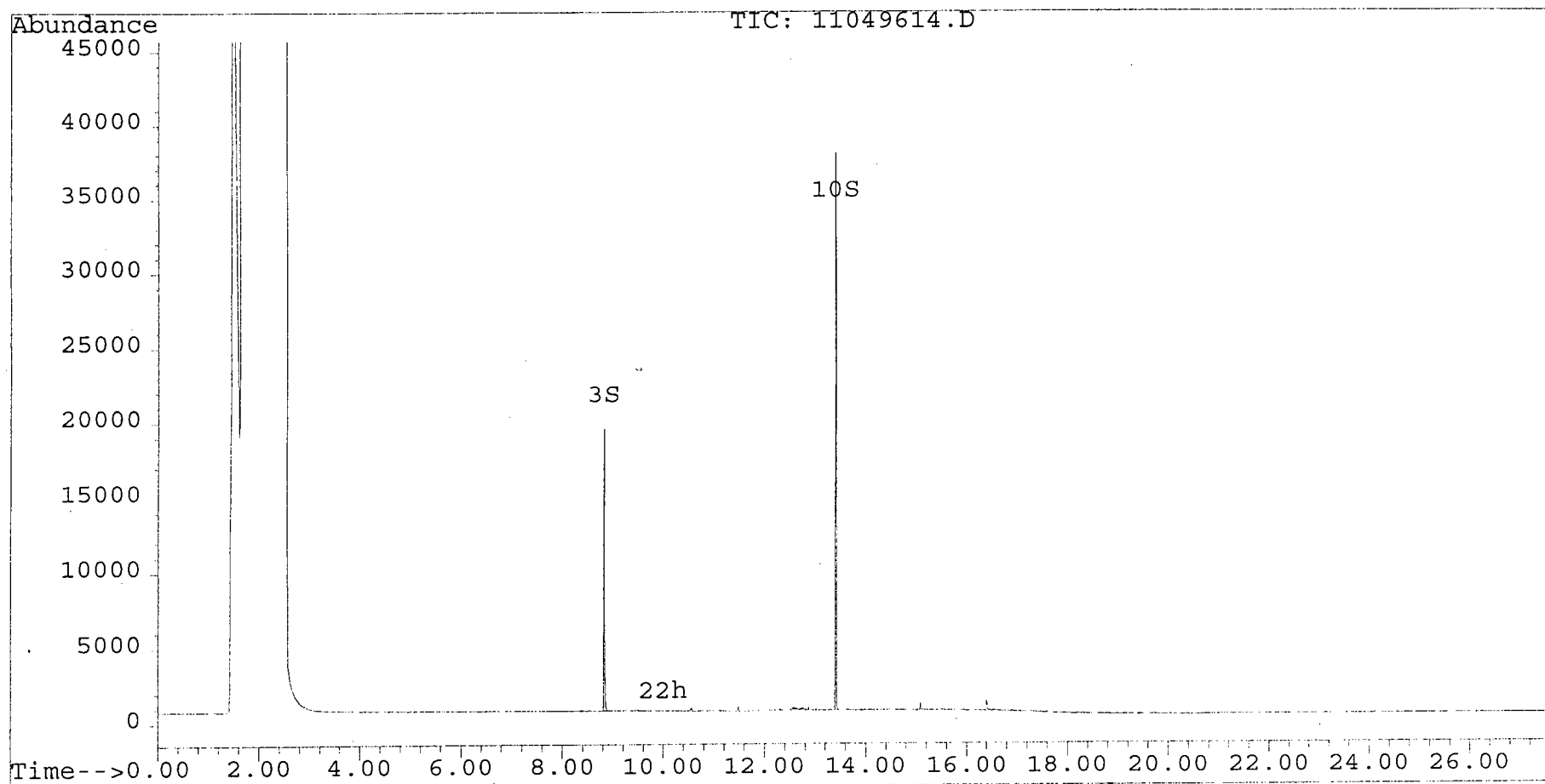
Quantitation Report

Data File : C:\HPCHEM\5\DATA\11049614.D
Acq On : 04 Nov 96 10:48 PM
Sample : 2193.11
Misc :
Quant Time: Nov 4 23:17 1996

Vial: 14
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



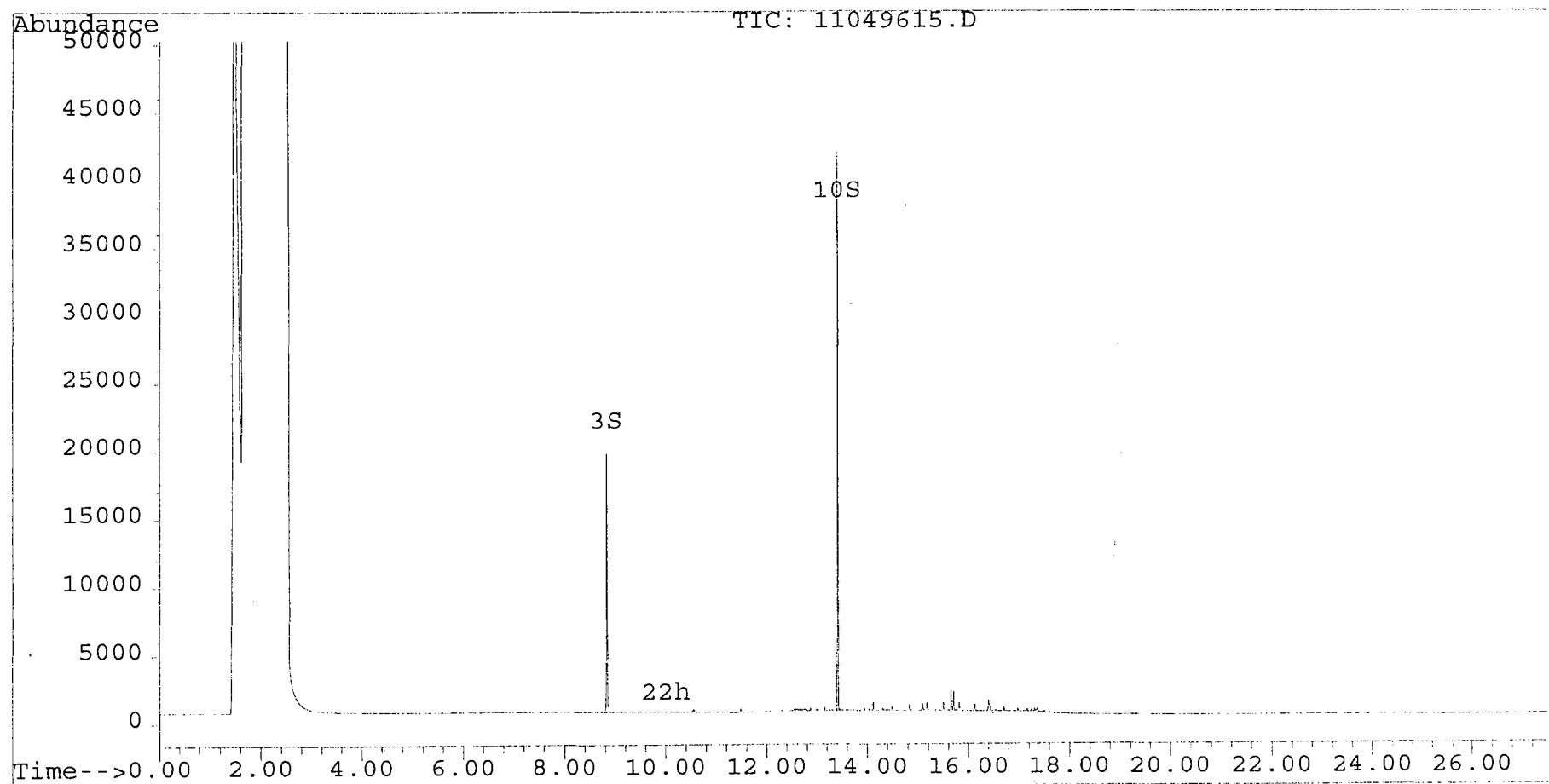
Quantitation Report

Data File : C:\HPCHEM\5\DATA\11049615.D
Acq On : 04 Nov 96 11:26 PM
Sample : 2193.11 DUP
Misc :
Quant Time: Nov 4 23:55 1996

Vial: 15
Operator:
Inst : FID/ECD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
Title : TPH
Last Update : Tue Oct 22 11:19:57 1996
Response via : Multiple Level Calibration

Volume Inj. :
Signal Phase :
Signal Info :



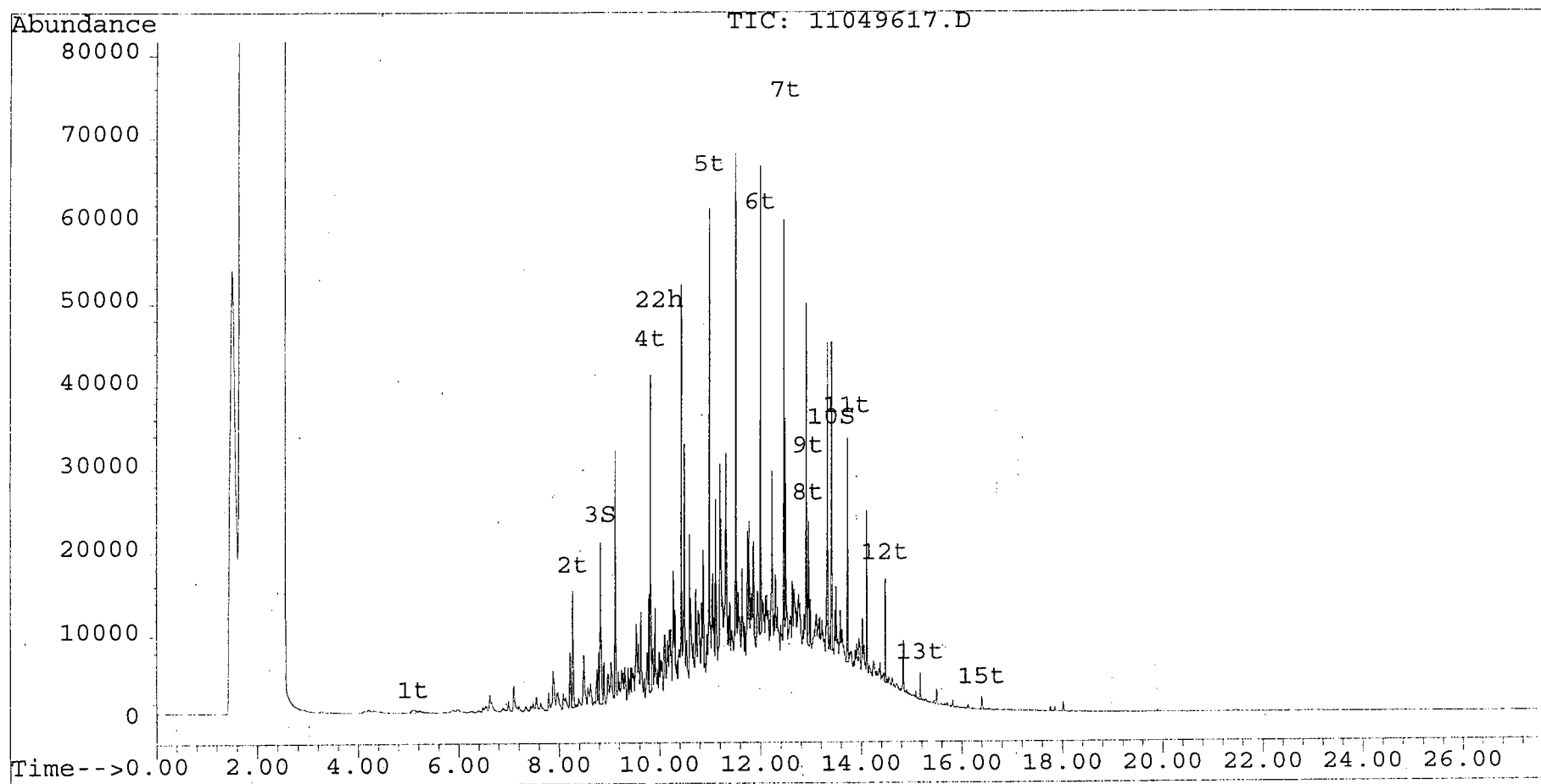
Quantitation Report

Data File : C:\HPCHEM\5\DATA\11049617.D
 Acq On : 05 Nov 96 00:43 AM
 Sample : 2193.11 MSD
 Misc :
 Quant Time: Nov 5 1:11 1996

Vial: 17
 Operator:
 Inst : FID/ECD
 Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
 Title : TPH
 Last Update : Tue Oct 22 11:19:57 1996
 Response via : Multiple Level Calibration

Volume Inj. :
 Signal Phase :
 Signal Info :



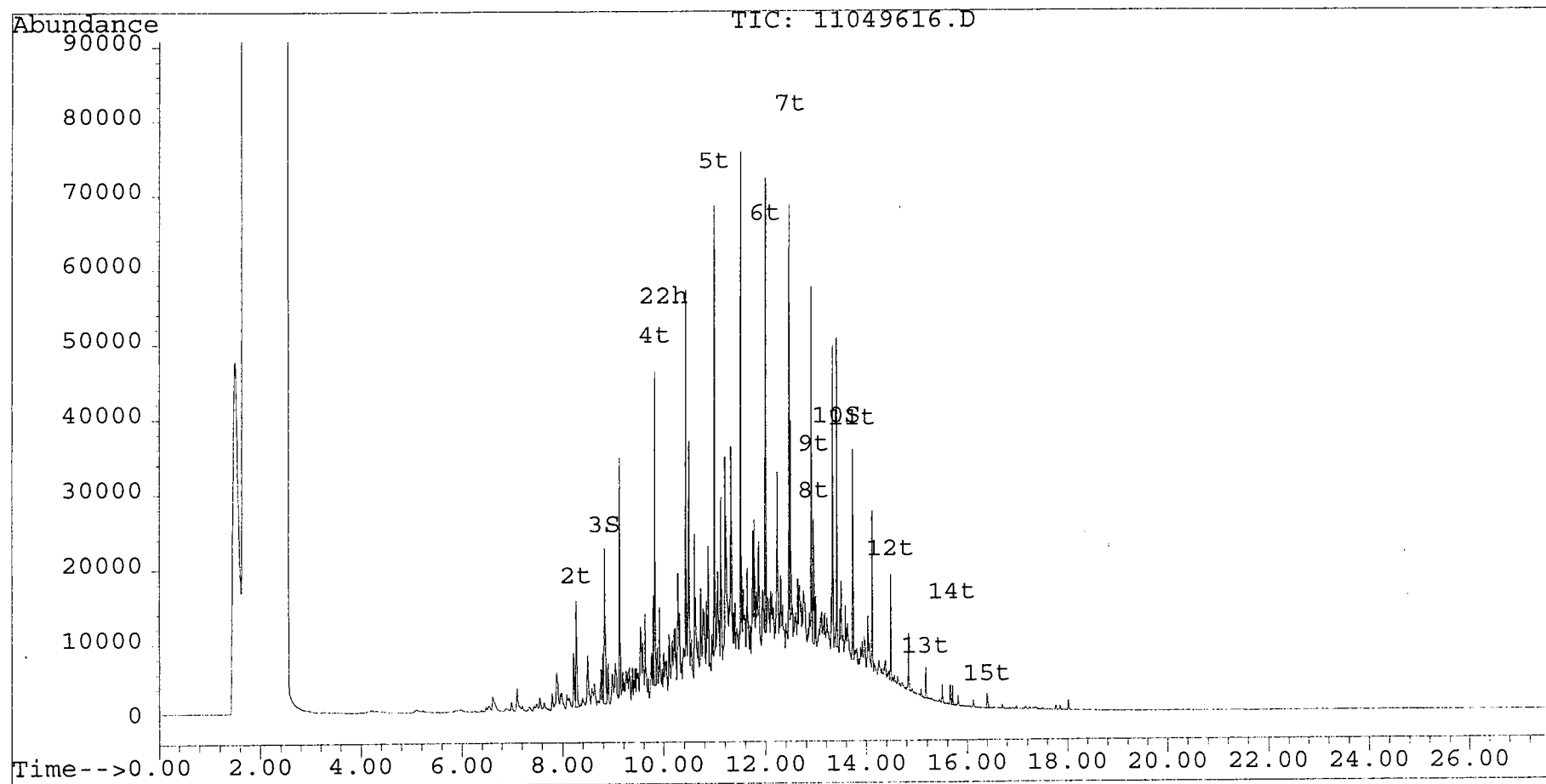
Quantitation Report

Data File : C:\HPCHEM\5\DATA\11049616.D
 Acq On : 05 Nov 96 00:05 AM
 Sample : 2193.11 MS
 Misc :
 Quant Time: Nov 5 0:33 1996

Vial: 16
 Operator:
 Inst : FID/ECD
 Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\TPH3.M
 Title : TPH
 Last Update : Tue Oct 22 11:19:57 1996
 Response via : Multiple Level Calibration

Volume Inj. :
 Signal Phase :
 Signal Info :

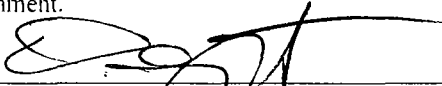


PHC Conformance/Non-conformance Summary Report

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

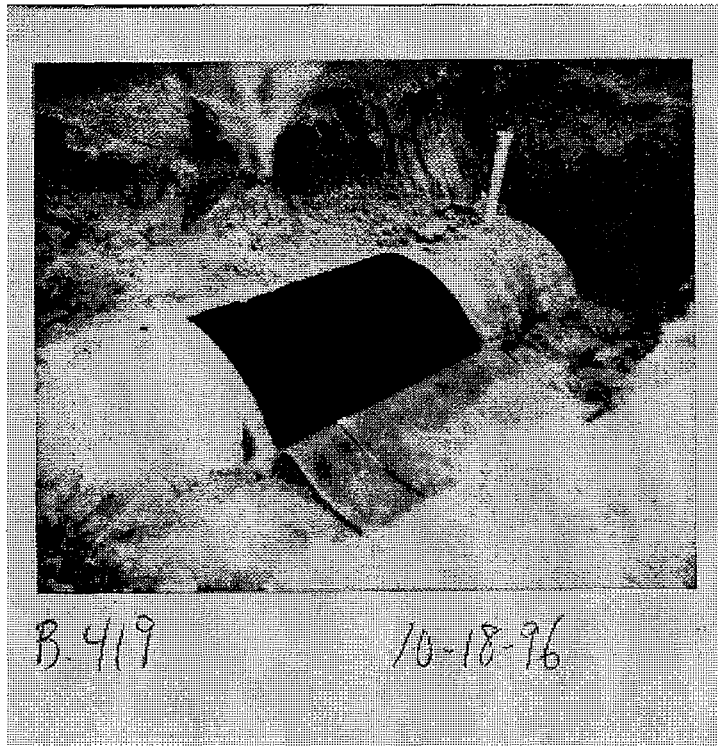
Laboratory Authentication Statement

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

APPENDIX F
PHOTOGRAPHS



April 1998

PHOTOGRAPHIC LOG

UST No. 90010-35

Building 419
Main Post-East
Fort Monmouth



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