United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 886
Main Post-West Area

NJDEP UST Registration No. 0081533-140

March 2002

Versar INC.

August 23, 2001

Mr. James Ott
U.S. Army Garrison Fort Monmouth
Directorate of Public Works
Fort Monmouth, NJ 07703-5108

RE: Indefinite Quantity Indefinite Delivery Contract No. DACA 51-00-D-0004, Delivery Order 27, Fort Monmouth, Update on UST site 886 at Fort Monmouth, New Jersey

Dear Mr. Ott:

This letter pertains to the preparation of Underground Storage Tank (UST) Closure and Site Investigation Reports at the UST site 886 at the Fort Monmouth Main Post area. On July 12, 2001, Versar discussed the remaining UST sites, including 886, with Ian Curtis of the NJDEP.

The excavation at 886 has remained open for several years. At the time of the UST removal two (2) soil samples were collected from the excavation and fourteen (14) samples were collected from the surrounding area. Nine of the soil samples exceeded guidance concentrations for TPH. At the time of the meeting, Versar and Ian Curtis agreed that we might close the site efficiently by simply collecting soil samples for VOC analysis from the open excavation. However, based on subsequent discussions with Mark Laura, regarding his observations at the site, we now believe that collecting additional samples would delay the inevitable need for further excavation around the former tank.

The new approach will be to excavate soil impacted by the UST. However, the complicating factor to this approach is that the UST at 886 was located immediately downgradient from a former AST that also contained No. 2 fuel oil. The goal in soil excavating will be to remove impacted soil from the UST excavation and to distinguish between the two potential sources by finding a zone of unimpacted soil between them. However, in the interest of gaining closure status at the UST, only impacted soil in the immediate vicinity of the excavation will be considered associated with the UST. Beyond the immediate vicinity, any impacted soil will be considered associated with the AST.

Versar appreciates the opportunity to provide services to the DPW at Fort Monmouth. Please let me know if you have any questions regarding this letter or anything pertaining to the UST program.

Very truly yours,

Douglas R. Ashline, Jr., PE
Project Manager

J:\FORTMON2\D.O.27_UST Closures FtMon Remainder

2558 PEARL BUCK ROAD • SUITE 1 • BRISTOL, PENNSYLVANIA 19007 • TELEPHONE (215) 788-7844 • FAX (215) 788-8680

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 886

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 0081533-140

MARCH 2002

PREPARED FOR:

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

PREPARED BY:

VERSAR, INC.
BRISTOL, PA

886.DOC

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EXECUTIVE SUMMARY

UST Closure

On April 21, 1998, a steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) underground storage tank procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-140 (Fort Monmouth ID No. 886), was located west of Building 886. UST No. 0081533-140 was a 1,000-gallon No. 2 fuel oil UST.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation.* Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes or punctures. Several holes were noted in the UST and evidence of potentially contaminated soils was observed surrounding the tank. Groundwater was encountered at approximately 5 feet below ground surface and a sheen was observed. Samples collected from the excavation July 6, 1994 contained TPH concentrations ranging from 1,014.17 to 8,855.74 mg/kg. Sample results were compared with the NJDEP Residential Direct Contact Soil Cleanup Criteria of 10,000 mg/kg for total organic contaminants. Although none of the samples exceeded the criteria, additional samples were collected in October of 2001 and March of 2002. The samples were analyzed for TPH and VOCs. There was no detectable TPH present in the samples. Chloroform was the only VOC detected in the samples. It was detected at concentrations ranging from 0.81 to 0.97 mg/kg, which is well below the cleanup criteria of 19 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 TPH 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. 0081533-140 at Building 886.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081533-140, was closed at Building 886 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on April 21, 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 steel 1,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 0081533-140 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. 0081533-140 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST).

There were several holes visible in the UST upon removal. Based on inspection the UST, field screening of subsurface soils and groundwater, and review analytical results of soil samples, the DPW concluded that a historical discharge was associated with the UST.

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 886 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-140 was located west of Building 886 and appurtenant copper piping ran approximately 5 feet east from the excavation to Building 886. A large-capacity AST was historically located directly west and upgradient of the UST at 886. 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 886. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

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

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

Local Geology

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

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

Hydrogeology

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

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

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

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

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

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

Building 886 located approximately 1400 feet southeast of Husky Brook, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 886 is anticipated to be to the northwest.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- X All underground obstructions (utilities, etc.) were identified by the contractor performing the closure prior to excavation activities.

- X All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.

- X All excavated soils were visually examined and screened with an OVA for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.

- X Surface materials (i.e., asphalt, concrete, etc.) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws.

- X A Sub-Surface Evaluator from the DPW was present during all site assessment activities.

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. Approximately 35 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.

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. Several 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. 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 5 feet bgs and a sheen was observed.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported to Mazza and Sons, Inc., Metal Recyclers. 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 TPH analysis results from the post-excavation soil samples, 18 cubic yards of soils exhibited signs of contamination and were therefore removed from the site.

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.

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 exhibited evidence of potential contamination. Groundwater was encountered at 6.0 feet bgs and a sheen was observed.

2.3 SOIL SAMPLING

Post-excavation soil samples were collected from three sides of the UST excavation on May 7, 1998. The fourth, eastern side of the excavation is bound by the foundation of building 886. The Samples were collected from two depth intervals at the north and west sidewalls and one depth at the south sidewall. Additional samples were collected toward the south and west, well beyond the excavation limits. These samples are not considered part of the UST investigation. Based on their results and the distribution of contaminants, they are assumed to be associated with the AST formerly located to the west. All samples were analyzed for total petroleum hydrocarbons (TPH) and total solids.

On October 12, 2001, samples were collected from the north, east, west and the center of the excavation. On March 15, 2002, one sample was collected from south of the excavation. The perimeter samples were collected just beyond the extent of the former excavation to ensure that any release from the former UST could be defined as separate from contamination from the former AST located to the west. Each of these samples was analyzed for TPH and VOCs.

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 May 7, 1998, October 12, 2001, and March 15, 2002. All samples were analyzed for TPH 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 post-excavation soil samples collected on may 7, 1998 contained TPH concentrations ranging from 223.64 to 8,448.05 mg/kg, which is below the NJDEP soil cleanup criteria. Samples collected on October 12, 2001 and March 15, 2002, contained non-detectable levels of TPH and contained one detectable, volatile compound, chloroform, at concentrations below the soil cleanup criteria of 19 mg/kg.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 886 were below the NJDEP soil cleanup criteria. The analytical results from soil samples collected from the immediate perimeter of the former UST illustrate that contaminated soil to the west and south of the former excavation is associated with the former AST and not the former UST. The former AST will be addressed in a separate investigation.

Based on the post-excavation sampling results, soils with TPH 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. 0081533-140 at Building 886.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 886, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
B1A	5/7/98	5/9/98	Soil	Post-Excavation	TPH	OQA-QAM-025
B1B	5/7/98	5/9/98	Soil	Post-Excavation	TPH	OQA-QAM-025
B2A	5/7/98	5/9/98	Soil	Post-Excavation	TPH	OQA-QAM-025
B2B	5/7/98	5/9/98	Soil	Post-Excavation	TPH	OQA-QAM-025
B3	5/7/98	5/9/98	Soil	Post-Excavation	TPH	OQA-QAM-025
PX1	10/12/01	10/15/01	Soil	Post-Excavation	TPH, VOC	OQA-QAM-025, 8260
PX2	10/12/01	10/15/01	Soil	Post-Excavation	TPH, VOC	OQA-QAM-025, 8260
PX3	10/12/01	10/15/01	Soil	Post-Excavation	TPH, VOC	OQA-QAM-025, 8260
PX5	10/12/01	10/15/01	Soil	Post-Excavation	TPH, VOC	OQA-QAM-025, 8260
PX6	3/15/02	3/18/02	Soil	Post-Excavation	TPH, VOC	OQA-QAM-025, 8260

Note:
* TPH Total Petroleum Hydrocarbons

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 886, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Method Detection Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
B1A/7.5'	3557.01	5/7/98	5/9/98	Total Solid	--	--	87.41	--	--
				TPH	171	Yes	223.64	10,000	No
B1B/10'	3557.02	5/7/98	5/9/98	Total Solid	--	--	88.14	--	--
				TPH	177	Yes	8448.05	10,000	No
B2A/7.5'	3557.03	5/7/98	5/9/98	Total Solid	--	--	91.21	--	--
				TPH	162	Yes	907.26	10,000	No
B2B/10'	3557.04	5/7/98	5/9/98	Total Solid	--	--	86.04	--	--
				TPH	176	Yes	1489.36	10,000	No
B3/7.5'	4240.01	5/7/98	5/9/98	Total Solid	--	--	92.47	--	--
				TPH	164	Yes	4475.20	10,000	No
PX1/11'	16506.01	10/12/01	10/15/01	Total Solid	--	--	84.48	--	--
				TPH	177	Yes	ND	10,000	No
PX2/9.5'	16506.02	10/12/01	10/15/01	Total Solid	--	--	89.33		
				TPH	160	Yes	ND		
PX3/10'	16506.03	10/12/01	10/15/01	Total Solid	--	--	97.49		
				TPH	153	Yes	ND		
PX5/9.5'	16506.05	10/12/01	10/15/01	Total Solid	--	--	87.47		
				TPH	171	Yes	ND		
PX6/10'	20157.01	3/15/02	3/18/02	Total Solid	--	--	173	--	--
				TPH	173	Yes	ND	10,000	No

Note:

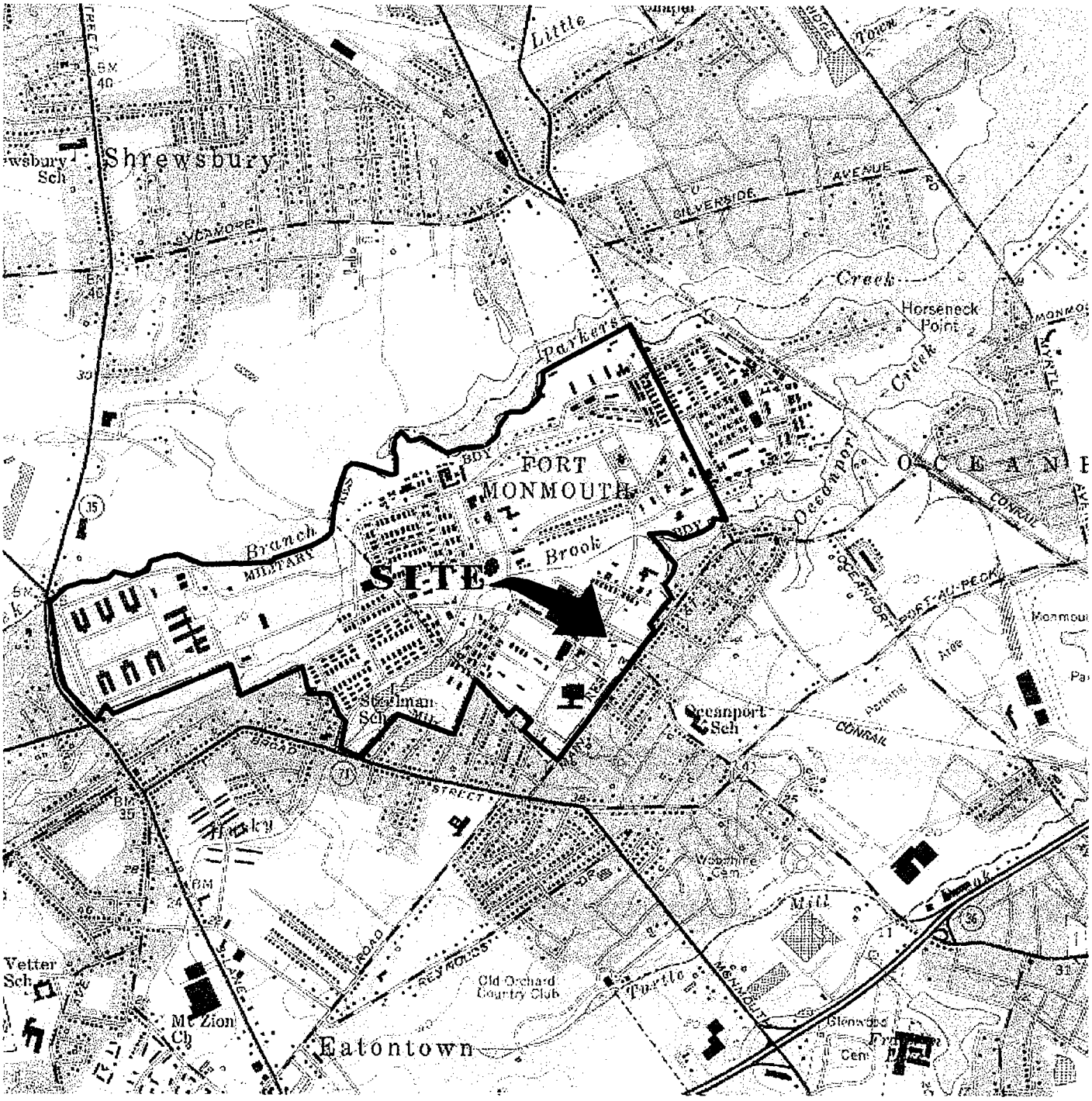
* Total Solid results are expressed as a percentage.

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

-- Not detected above stated sample quantitation limit

TPH Total Petroleum Hydrocarbons

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

LOCATION MAP
Building 886
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

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

Scale; 1" = 2000'	Date: Jan. 2002

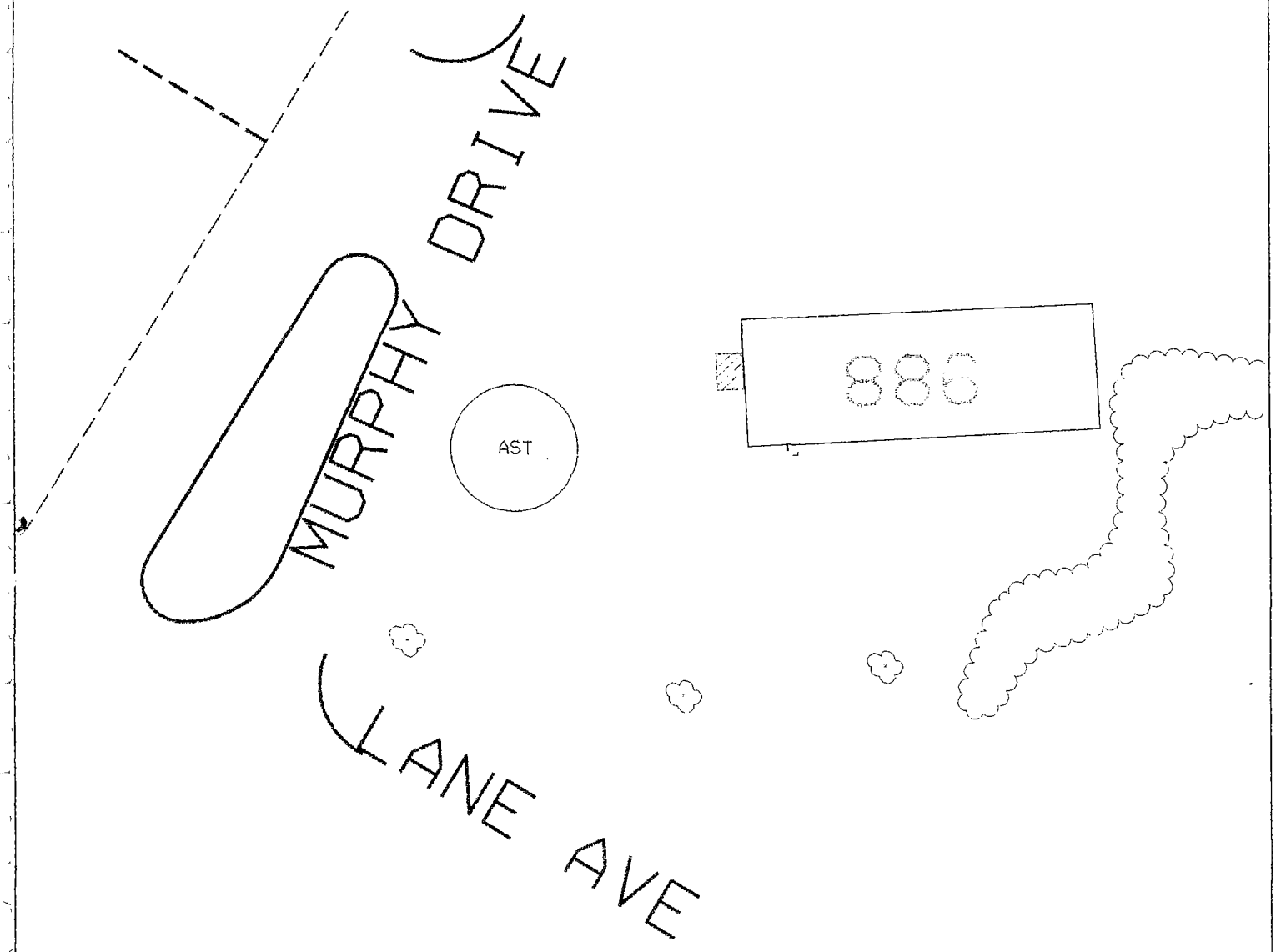
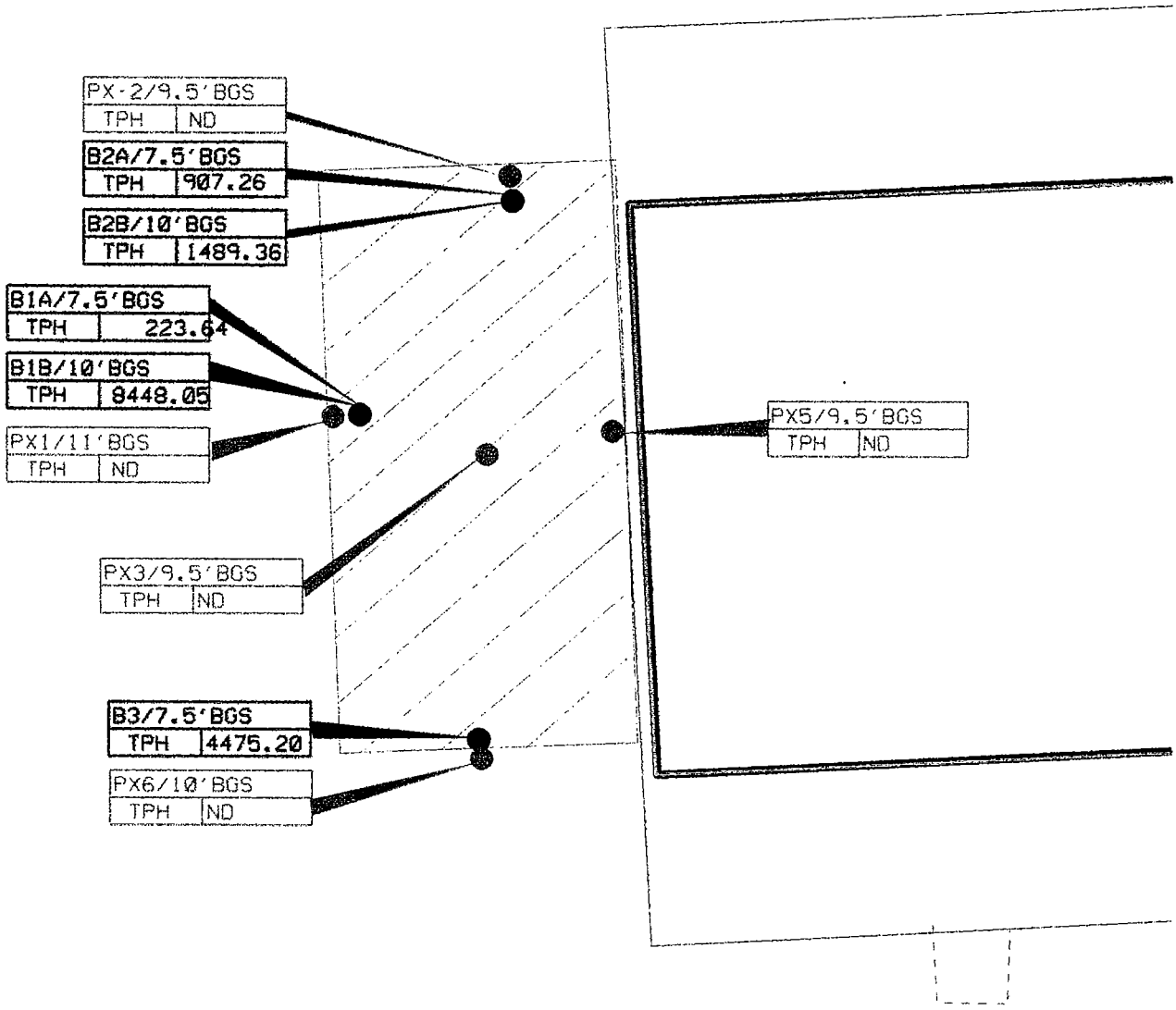


FIGURE 2
SITE MAP
BUILDING 886
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
BRISTOL, PA

DATE: MARCH 2002



LEGEND

- SOIL SAMPLE LOCATION (5/7/98)
- SOIL SAMPLE LOCATION (10/12/01 AND 3/15/02)
- LIMIT OF EXCAVATION

N

NOTES:

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

FIGURE 3
SOIL SAMPLING LOCATION MAP
BUILDING 886
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10' | DATE: MARCH 2002

270 FIG4

APPENDIX A

NJDEP UST REPORT CERTIFICATION FORM

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

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

A. Facility Name : U.S. Army Fort Monmouth New Jersey
Facility Street Address : Directorate of Public Works Building 173
Municipality: Oceanport County: Monmouth

Block: _____ Lot(s): _____ Telephone Number : 732-532-6224

B. Owner (RP)'s Name: _____

Street Address: _____ City : _____

State: _____ Zip: _____ Telephone Number : _____

C. (Check as appropriate)

- ☐ Site Investigation Report (SIR) $500 Fee
- ☐ Remedial Investigation Report (RIR) $1000 Fee

D. (Complete all that apply)

- Assigned Case Manager: Ian Curtis, Federal Case Manager
- UST Registration Number : 0081533-140
- Incident Report Number : _____
- Tank Closure Number: _____

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N.J.A.C. 7:26E .....Yes No

Name: Dinker Desai Signature: _____ UST Cert. No.: _____

Firm: U.S. Army Fort Monmouth Firm's UST Cert. Number: N/A – U.S. Army

Firm Address: Directorate of Public Works Buildings 173 City: Fort Monmouth

State:NJ Zip:07703 Telephone Number : 732-532-6224

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

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

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

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

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

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

Signature: James Ott

Company Name: U.S. Army Fort Monmouth Date: 5/10/00

APPENDIX B

WASTE MANIFEST

CASIE / PROTANK
ENVIRONMENTAL SERVICES

886

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. N J 3 2 1 0 0 2 0 5 9 7 | Document No. 1 2 3 2 2

2. Page 1 of 1

3. Generator's Name and Mailing Address U.S. Army Com. Elec.Command
Main Post Bldg 173/Attn:
Fort Monmouth NJ 07703

A. Non-hazardous Manifest Document Number NHZ020 16448

B. State Generator's ID c/o ~~James Shirghio~~ Joe Fallon

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

5. Transporter 1 Company Name: Casie Ecology Oil Salvage, Inc.

6. US EPA ID Number: N J D 0 4 5 9 9 5 6 9 3

C. State Trans. ID 1 6 9 3 1

D. Transporter's Phone (609) 696-4401

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Trans. ID

9. Designated Facility Name and Site Address
Casie Ecology Oil Salvage, Inc. T/A
3209 N. Mill Rd / Casie Protank
Vineland NJ 08360

10. US EPA ID Number: N J D 0 4 5 9 9 5 6 9 3

F. Transporter's Phone ( )

G. State Facility's ID 0614D1HP05

H. Facility's Phone (609) 696-4401

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	L Waste No.
a.	Combustible liquid, n.o.s.(Fuel Oil) NA1993, PGIII	001	TT	~~00001~~ X3370	G	ID72
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
L,T %oil/sed. %wtr.

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
a.24 Hr. Emergency Response #609 696-4401 K. Ambrosia NAERG# 127

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.

GENERATOR

Printed/Typed Name	Signature	Month	Day	Year
Charles Appleby SEL Fm-PW-EV		04	01	98

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Bob Consiglio		04	01	98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

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

1–GENERATOR COPY

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

CASIE / PROTANK
ENVIRONMENTAL SERVICES

886

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

NON-HAZARDOUS MANIFEST (JF)

1. Generator's US EPA ID No. NJ 8 2 1 0 0 2 0 5 9 7 1 Document No. 1 3 0 7 2 — 2. Page 1 of 1

3. Generator's Name and Mailing Address: U.S. Army Com. Elec. Command
Main Post
ATTN: SELFM-AO-EV c/o Joe Fallon/Bldg
Fort Monmouth NJ 07703

A. Non-hazardous Manifest Document Number: NHZ020 17382

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

B. State Generator's ID: SAME

5. Transporter 1 Company Name: Casie Ecology Oil Salvage, Inc. — 6. US EPA ID Number: NJD045995693

C. State Trans. ID: 16931

7. Transporter 2 Company Name — 8. US EPA ID Number

D. Transporter's Phone: (609) 696-4401

E. State Trans. ID: X0597 16

9. Designated Facility Name and Site Address: Casie Ecology Oil Salvage, Inc. T/A
3209 N. Mill Rd / Casie Protank
Vineland NJ 08360 — 10. US EPA ID Number: NJD045995693

F. Transporter's Phone ( )

G. State Facility's ID: 0814D1HP05

H. Facility's Phone: (609) 696-4401

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	L Waste No.
a. Combustible liquid, n.o.s.(Fuel Oil) NA1993, PGIII	001	TT	1990 (JF)	G	ID72
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
a. L 90%oil/sed. 10%wtr.
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information
a.24 Hr. Emergency Response #609 696-4401 K. Ambrosia ERG# 128

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: Joseph M. Fallon — Signature: Joseph M Fallon — Month Day Year: 10 4 1998

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Don Scolero — Signature: Don Scolero — Month Day Year: 10 4 1998

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

FACILITY

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

1-GENERATOR COPY

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

APPENDIX C

UST DISPOSAL CERTIFICATE

MAZZA & SONS, INC.

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

NO. 2600

DATE. 2-23-98

B 886

Customer's Name Tecom Vinnelc

Address _____

	Weight	Price		Weight	Price
Cast Iron			Lt. Copper		
Steel	23980 LB		Brass		
Lt. Iron	23180 LB		Alum Clean		
Copper #1	800		Lead		
Copper #2			Stainless		
			Battery		
					$24.00
					TOTAL AMOUNT:

PAID
FEB 23 1998
Ck# 1806

Weigher _____ Customer _____

APPENDIX D

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. 886
Geoprobe Borings

Project # 3557
Date Rec. 05/07/98
Date Compl. 05/09/98
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

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

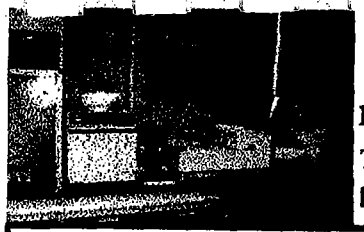
Additional Comments:_____

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

4



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: CHUCK APPLEBY-DPW | **Phone #:** 26224 | ( )DERA (X)OMA ( )Other:_____

Project No: 98-0001
Location: B.886 GEOPROBE BORINGS

Samplers Name / Company : GARY DIMARTINIS-TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	VOSOLIDS	Mansfield					H-NU	Remarks / Preservation Method
35571.01	886:B-1A	5-7-98	1352	SOIL	1	X	X	X					15	7.5' DEPTH *
02	B-1B		1407										20	10.5' DEPTH
03	B-2A		1439										20	7.5' DEPTH
04	B-2B		1446										30	10.5' DEPTH
05	DUP		—										—	FIELD DUPLICATE
06	ES		1012										40	EXC. SOIL

Comments: * = SAMPLES KEPT BELOW 4°C.

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	5/7/98 1550	[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
Turnaround time: (_)Standard 4 wks, (X)Rush 5 Days, (_)ASAP Verbal ___ Hrs.

Remarks:

print legibly

coc.XLS3/10/98

t

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

Client :	U.S. Army	**Lab. ID # :**	3557
	DPW. SELFM-PW-EV	**Date Rec'd:**	07-May-98
	Bldg. 173	**Analysis Start:**	09-May-98
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	09-May-98
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	D.DEINHARDT	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	B.886

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3557.01	B-1A	**1.00**	15.68	87.41	171	**223.64**
3557.02	B-1B	**1.00**	15.03	88.14	177	**8448.05**
3557.03	B-2A	**1.00**	15.93	91.21	162	**907.26**
3557.04	B-2B	**1.00**	15.53	86.04	176	**1489.36**
3557.05	DUP	**1.00**	15.44	88.66	172	**955.14**
3557.06	ES	**1.00**	15.47	84.32	180	**5667.96**
METHOD BLANK	TBLK 97	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

7

Response Factor Report FID/TCD

Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 12 15:20:37 1998

Calibration Files
100 =T05275.D 50 =T05277.D 20 =T05279.D
10 =T05281.D 5 =T05283.D

	Compound	100	50	20	10	5	Avg		%RSD
1) tC	C8	1.067	1.181	1.225	1.023	1.091	1.117	E4	7.45
2) tC	C10	1.240	1.300	1.340	1.117	1.281	1.256	E4	6.80
3) TC	C12	1.420	1.476	1.528	1.257	1.435	1.423	E4	7.16
4) tC	C14	1.515	1.585	1.659	1.363	1.558	1.536	E4	7.18
5) tC	C16	1.585	1.661	1.754	1.442	1.647	1.618	E4	7.13
6) tC	C18	1.886	1.922	2.019	1.680	1.891	1.880	E4	6.60
7) tC	C20	1.755	1.843	1.945	1.618	1.861	1.804	E4	6.88
8) tC	C22	1.761	1.845	1.955	1.596	1.856	1.803	E4	7.46
9) tC	C24	1.808	1.885	2.003	1.626	1.901	1.845	E4	7.61
10) tC	C26	1.818	1.898	2.027	1.639	1.910	1.858	E4	7.72
11) tC	C28	1.864	1.946	2.082	1.682	1.953	1.906	E4	7.72
12) tC	C30	1.961	2.060	2.194	1.768	2.079	2.013	E4	7.93
13) tC	C32	1.907	2.022	2.161	1.733	2.061	1.977	E4	8.29
14) tC	C34	1.678	1.841	1.990	1.628	2.018	1.831	E4	9.66
15) tC	C36	1.195	1.385	1.495	1.277	1.629	1.396	E4	12.36
16) tC	C38	0.810	0.992	1.071	0.930	1.235	1.008	E4	15.76
17) tC	C40	5.503	7.029	7.423	6.320	8.515	6.958	E3	16.34
18) tC	c42	3.887	5.042	4.673	3.987	5.364	4.591	E3	14.07
19) TC	Pristane	1.689	1.774	1.901	1.495	1.809	1.733	E4	8.84
20) TC	Phytane	1.762	1.858	1.978	1.643	1.902	1.829	E4	7.11
21) sC	o-terphenyl	2.028	2.134	2.271	1.866	2.147	2.089	E4	7.25
22) tC	TPHC - total	1.833	2.021	2.433	2.109	2.719	2.223	E4	15.84

(#) = Out of Range

6

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\980511\T05342.D Vial: 9
Acq On : 13 May 98 2:53 am Operator: DEINHARDT
Sample : 50 PPM STD Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 12 15:20:37 1998
Response via : Single Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	11.174	11.651 E3	-4.3	103	0.00
2	tC	C10	12.559	13.660 E3	-8.8	105	0.00
3	TC	C12	14.232	15.701 E3	-10.3	106	0.00
4	tC	C14	15.360	16.636 E3	-8.3	105	0.00
5	tC	C16	16.177	17.210 E3	-6.4	104	0.00
6	tC	C18	18.795	19.564 E3	-4.1	106	0.00
7	tC	C20	18.045	19.073 E3	-5.7	105	0.00
8	tC	C22	18.026	18.796 E3	-4.3	104	0.00
9	tC	C24	18.446	19.161 E3	-3.9	103	0.00
10	tC	C26	18.583	19.167 E3	-3.1	103	0.00
11	tC	C28	19.056	19.523 E3	-2.5	103	0.00
12	tC	C30	20.125	20.574 E3	-2.2	103	0.00
13	tC	C32	19.769	20.010 E3	-1.2	103	0.00
14	tC	C34	18.311	18.123 E3	1.0	104	0.00
15	tC	C36	13.961	13.478 E3	3.5	104	0.00
16	tC	C38	10.077	9.268 E3	8.0	106	0.00
17	tC	C40	6.958	6.432 E3	7.6	109	0.00
18	tC	c42	4.591	4.707 E3	-2.5	115	0.00
19	TC	Pristane	17.333	18.457 E3	-6.5	108	0.00
20	TC	Phytane	18.286	19.323 E3	-5.7	105	0.00
21	sC	o-terphenyl	20.892	22.022 E3	-5.4	104	0.00
22	tC	TPHC - total	22.230	19.258 E3	13.4	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

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

Surrogate Recovery Report

Lab. ID # : 3557

Location #: B. 886

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
3557.01		10.00	11.71	**117.09**
3557.02		10.00	12.58	**125.82**
3557.03		10.00	11.67	**116.65**
3557.04		10.00	11.57	**115.68**
3557.05		10.00	11.30	**112.98**
3557.06		10.00	11.30	**113.01**
METHOD BLANK	TBLK 97	10.00	12.28	**122.76**

Surrogate Added : **o-Terphenyl**

5/13/98

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

Matrix Spike Recovery Report

Lab. ID # : 3557

Location #: B. 886

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
3554.08MS	1000	0.00	1007.00	100.70	75-125
3554.08MSD	1000	0.00	951.50	95.15	75-125
			RPD	**5.67**	**20.00**

5/13/98

//

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

Blank Spike Recovery Report

Lab. ID # : 3557

Location #: B. 886

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	8-May-98	1000	1004.32	100.43	75-125

5/13/98

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980511\T05343.D Vial: 46
Acq On : 13 May 98 3:39 am Operator: DEINHARDT
Sample : 3557.01 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 13 12:55 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980511\T05295.D
DataAcq Meth : TPH35.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	13.94	287007	11.709 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 117.09%#	
Target Compounds			
4) tC C14	11.66	1538	0.083 mg/L
5) tC C16	12.48	1832	0.095 mg/L
6) tC C18	12.97	1783	0.081 mg/L
10) tC C26	15.57	1593	0.074 mg/L
19) TC Pristane	12.97	1783	0.088 mg/L
22) tC TPHC - total	13.93	1326542	61.304 mg/L m

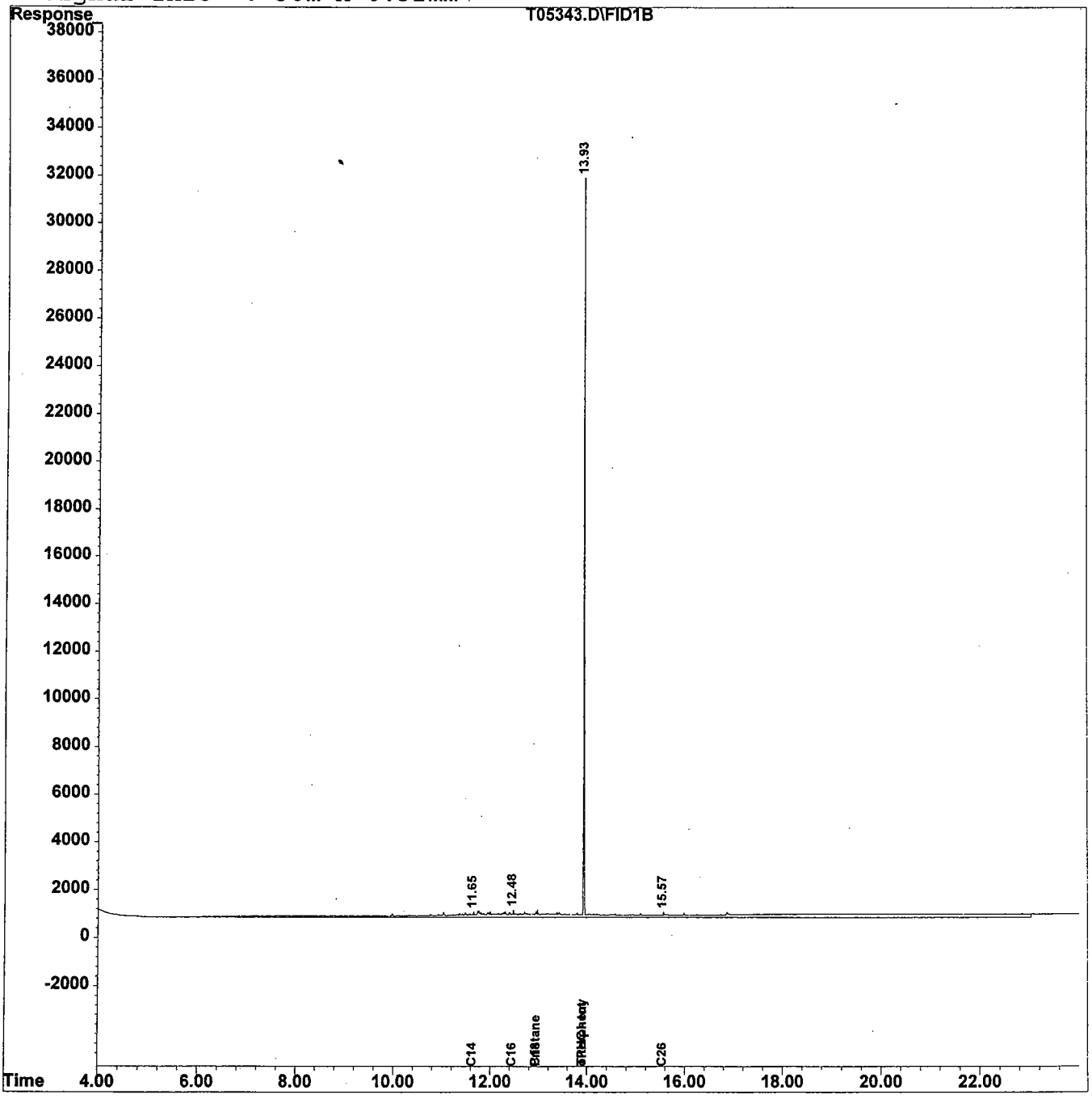
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980511\T05343.D Vial: 46
Acq On : 13 May 98 3:39 am Operator: DEINHARDT
Sample : 3557.01 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 13 12:55 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Single Level Calibration
DataAcq Meth : TPH35.M

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



14

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980511\T05344.D Vial: 47
Acq On : 13 May 98 4:25 am Operator: DEINHARDT
Sample : 3557.02 Inst : FID/TCD
Misc : Multiplr: 2.00
IntFile : TPHCINT.E
Quant Time: May 13 12:56 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980511\T05295.D
DataAcq Meth : TPH35.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	13.93	154196	12.582 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 125.82%#		
Target Compounds			
2) tC C10	8.80	8948	1.152 mg/L
3) TC C12	10.33	1894	0.215 mg/L
4) tC C14	11.50	50334	5.422 mg/L
5) tC C16	12.50	12437	1.293 mg/L
6) tC C18	12.93	2394	0.217 mg/L
7) tC C20	13.40	1202	0.113 mg/L
8) tC C22	14.18	5159	0.487 mg/L
9) tC C24	14.98	5925	0.547 mg/L
10) tC C26	15.56	2014	0.186 mg/L
15) tC C36	18.99	1130	0.151 mg/L
19) TC Pristane	12.97	230829	22.811 mg/L
20) TC Phytane	13.42	93627	8.717 mg/L
22) tC TPHC - total	11.74	24216861	2238.301 mg/L m

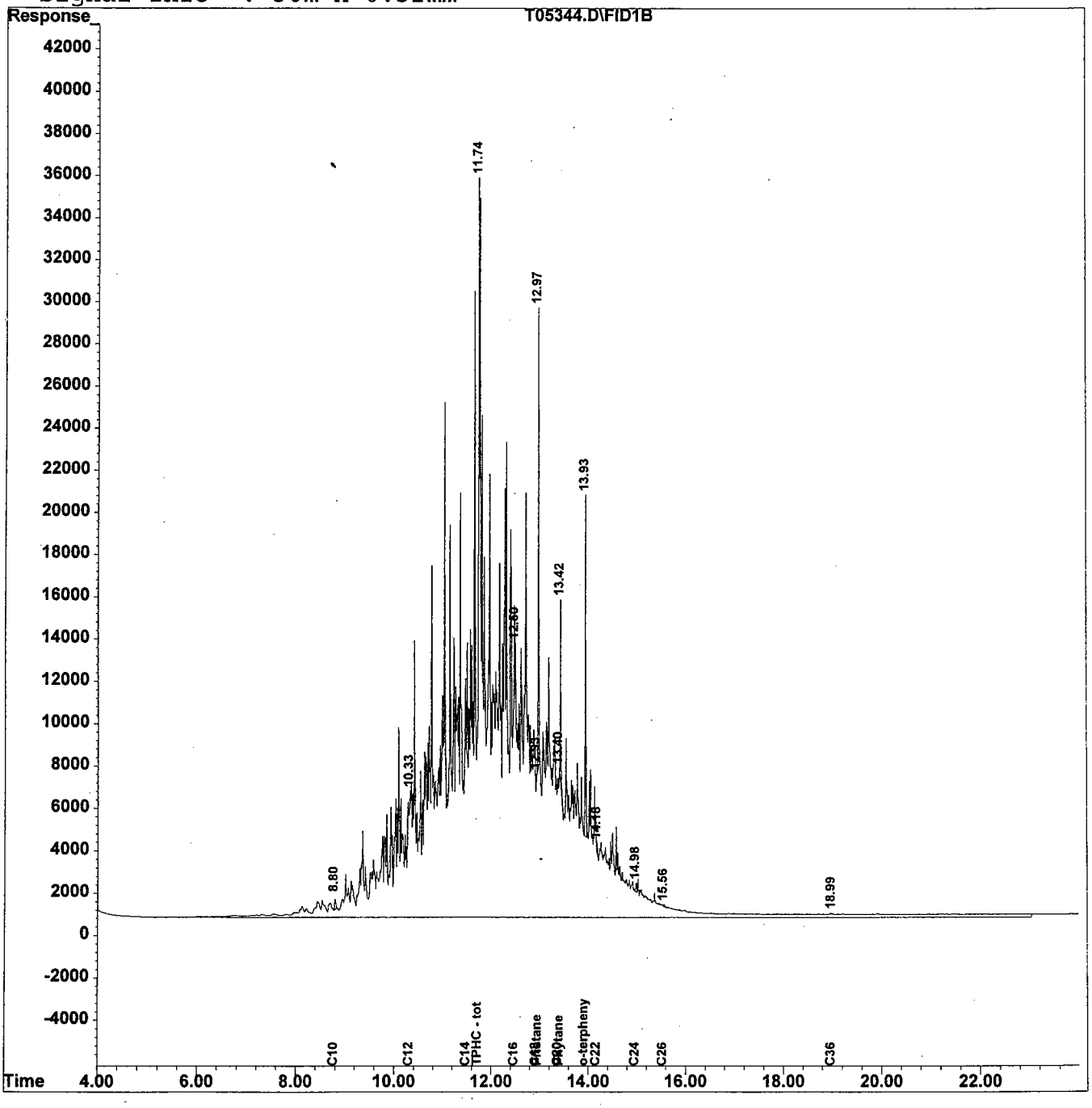
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980511\T05344.D Vial: 47
Acq On : 13 May 98 4:25 am Operator: DEINHARDT
Sample : 3557.02 Inst : FID/TCD
Misc : Multiplr: 2.00
IntFile : TPHCINT.E
Quant Time: May 13 12:56 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Single Level Calibration
DataAcq Meth : TPH35.M

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



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980511\T05345.D Vial: 48
Acq On : 13 May 98 5:10 am Operator: DEINHARDT
Sample : 3557.03 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 13 12:57 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980511\T05295.D
DataAcq Meth : TPH35.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	13.94	285920	11.665 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 116.65%#	
Target Compounds			
2) tC C10	9.02	1471	0.095 mg/L
3) TC C12	10.33	9744	0.553 mg/L
4) tC C14	11.48	26518	1.428 mg/L
5) tC C16	12.48	35628	1.852 mg/L
6) tC C18	12.94	15199	0.690 mg/L
7) tC C20	13.38	14300	0.673 mg/L
8) tC C22	14.19	7281	0.344 mg/L
9) tC C24	14.94	1628	0.075 mg/L
10) tC C26	15.57	1342	0.062 mg/L
12) tC C30	16.87	2011	0.087 mg/L
19) TC Pristane	12.97	40650	2.009 mg/L
20) TC Phytane	13.42	15655	0.729 mg/L
22) tC TPHC - total	13.93	5704882	263.644 mg/L m

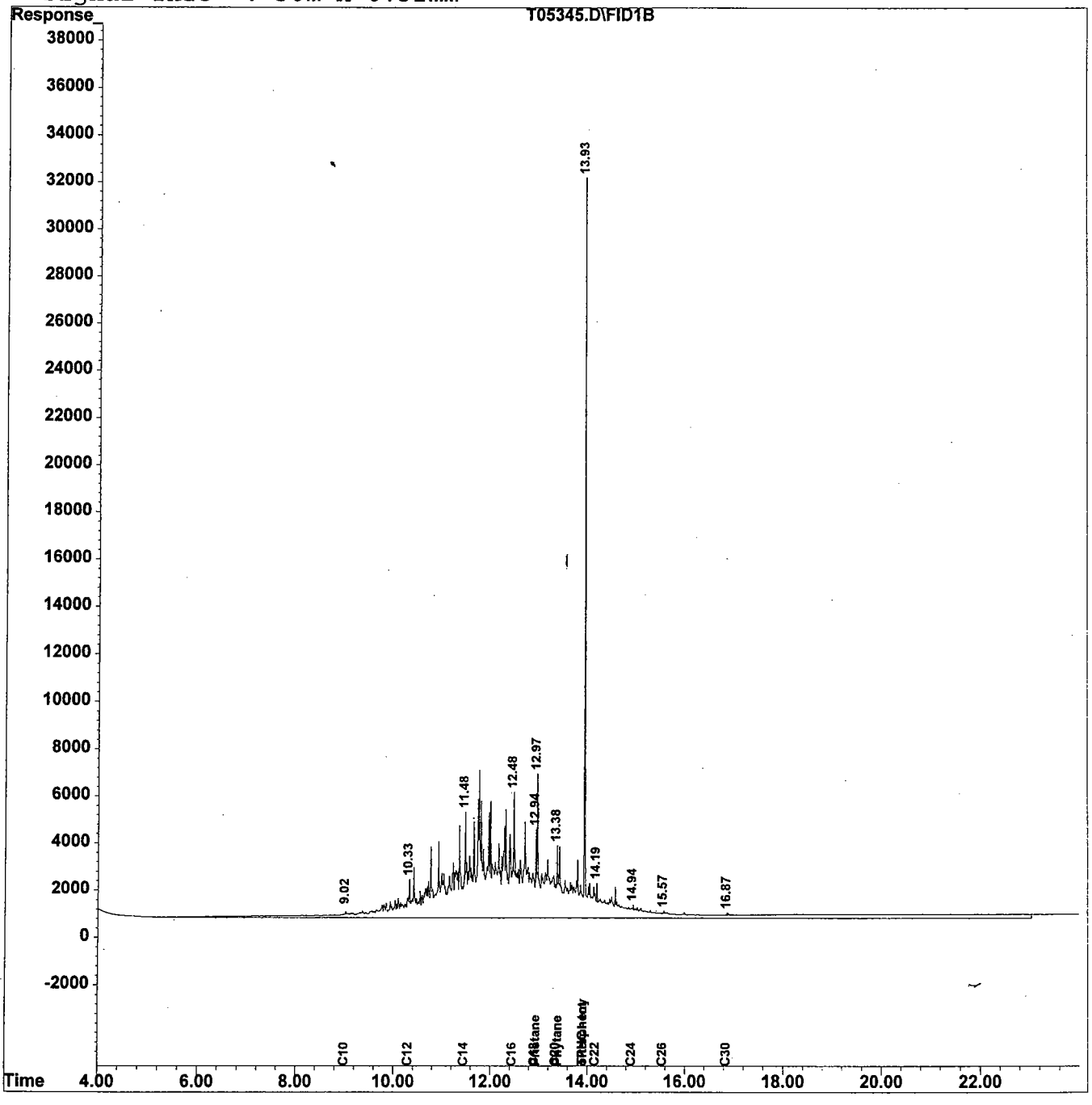
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980511\T05345.D Vial: 48
Acq On : 13 May 98 5:10 am Operator: DEINHARDT
Sample : 3557.03 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 13 12:57 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Single Level Calibration
DataAcq Meth : TPH35.M

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



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980511\T05346.D Vial: 49
Acq On : 13 May 98 5:56 am Operator: DEINHARDT
Sample : 3557.04 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 13 12:58 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980511\T05295.D
DataAcq Meth : TPH35.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	13.94	283536	11.568 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 115.68%#	
Target Compounds			
2) tC C10	9.02	3128	0.201 mg/L
3) TC C12	10.33	23406	1.328 mg/L
4) tC C14	11.48	65316	3.518 mg/L
5) tC C16	12.48	76151	3.959 mg/L
6) tC C18	12.94	41172	1.870 mg/L
7) tC C20	13.38	40887	1.923 mg/L
8) tC C22	14.19	18576	0.877 mg/L
9) tC C24	14.94	4269	0.197 mg/L
10) tC C26	15.63	1333	0.062 mg/L
19) TC Pristane	12.97	63492	3.137 mg/L
20) TC Phytane	13.42	30427	1.416 mg/L
22) tC TPHC - total	13.93	8612514	398.016 mg/L m

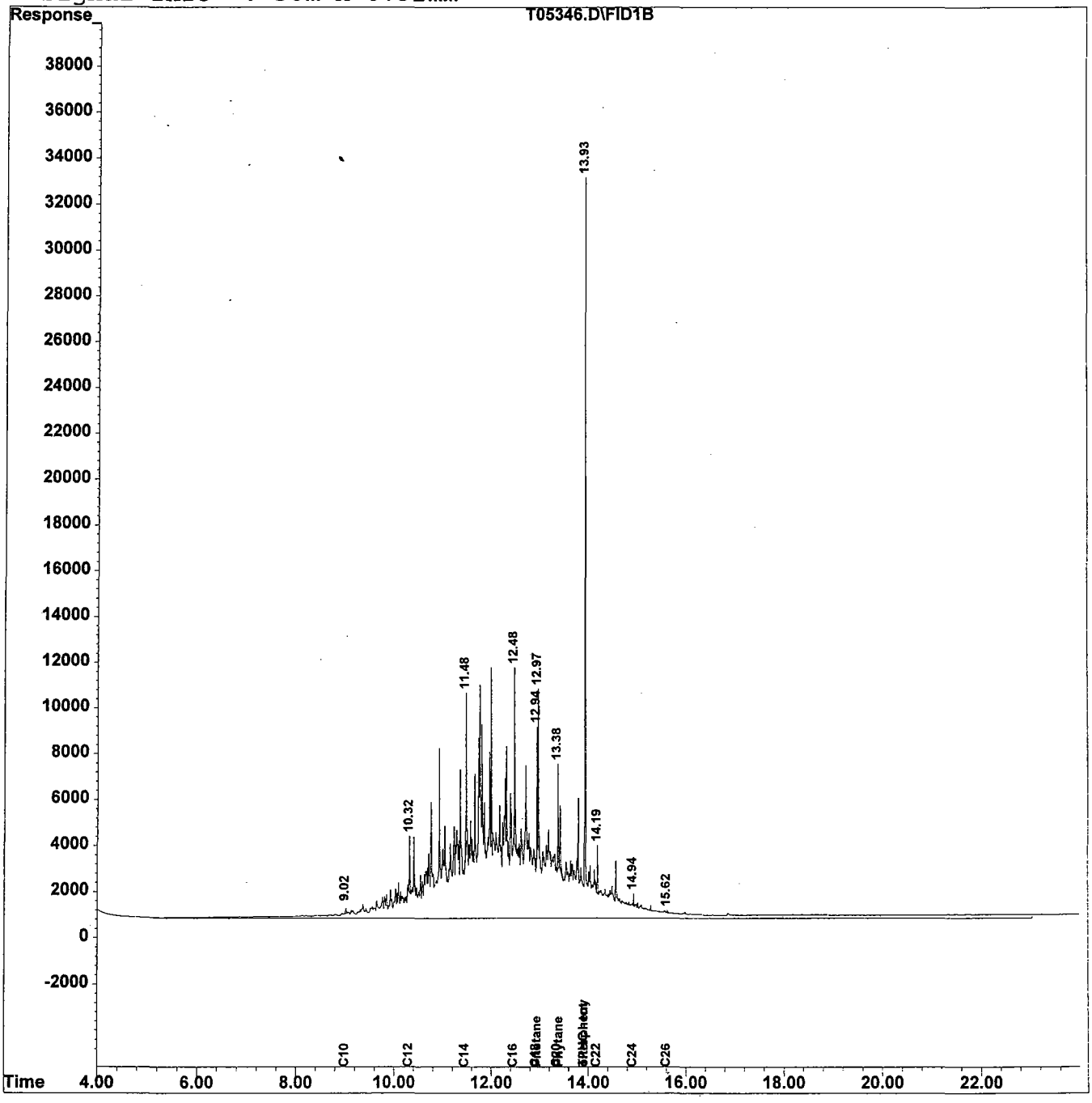
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980511\T05346.D Vial: 49
Acq On : 13 May 98 5:56 am Operator: DEINHARDT
Sample : 3557.04 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 13 12:58 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Single Level Calibration
DataAcq Meth : TPH35.M

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



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980511\T05347.D Vial: 50
Acq On : 13 May 98 6:41 am Operator: DEINHARDT
Sample : 3557.05 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: May 13 12:59 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980511\T05295.D
DataAcq Meth : TPH35.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	13.94	276930	11.298 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 112.98%#	
Target Compounds			
2) tC C10	9.02	1821	0.117 mg/L
3) TC C12	10.33	9712	0.551 mg/L
4) tC C14	11.48	34628	1.865 mg/L
5) tC C16	12.48	43417	2.257 mg/L
6) tC C18	12.94	22445	1.020 mg/L
7) tC C20	13.38	22320	1.050 mg/L
8) tC C22	14.19	10322	0.488 mg/L
9) tC C24	14.94	2347	0.108 mg/L
10) tC C26	15.57	2042	0.094 mg/L
19) TC Pristane	12.97	38088	1.882 mg/L
20) TC Phytane	13.42	14957	0.696 mg/L
22) tC TPHC - total	13.93	5658514	261.501 mg/L m

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

2

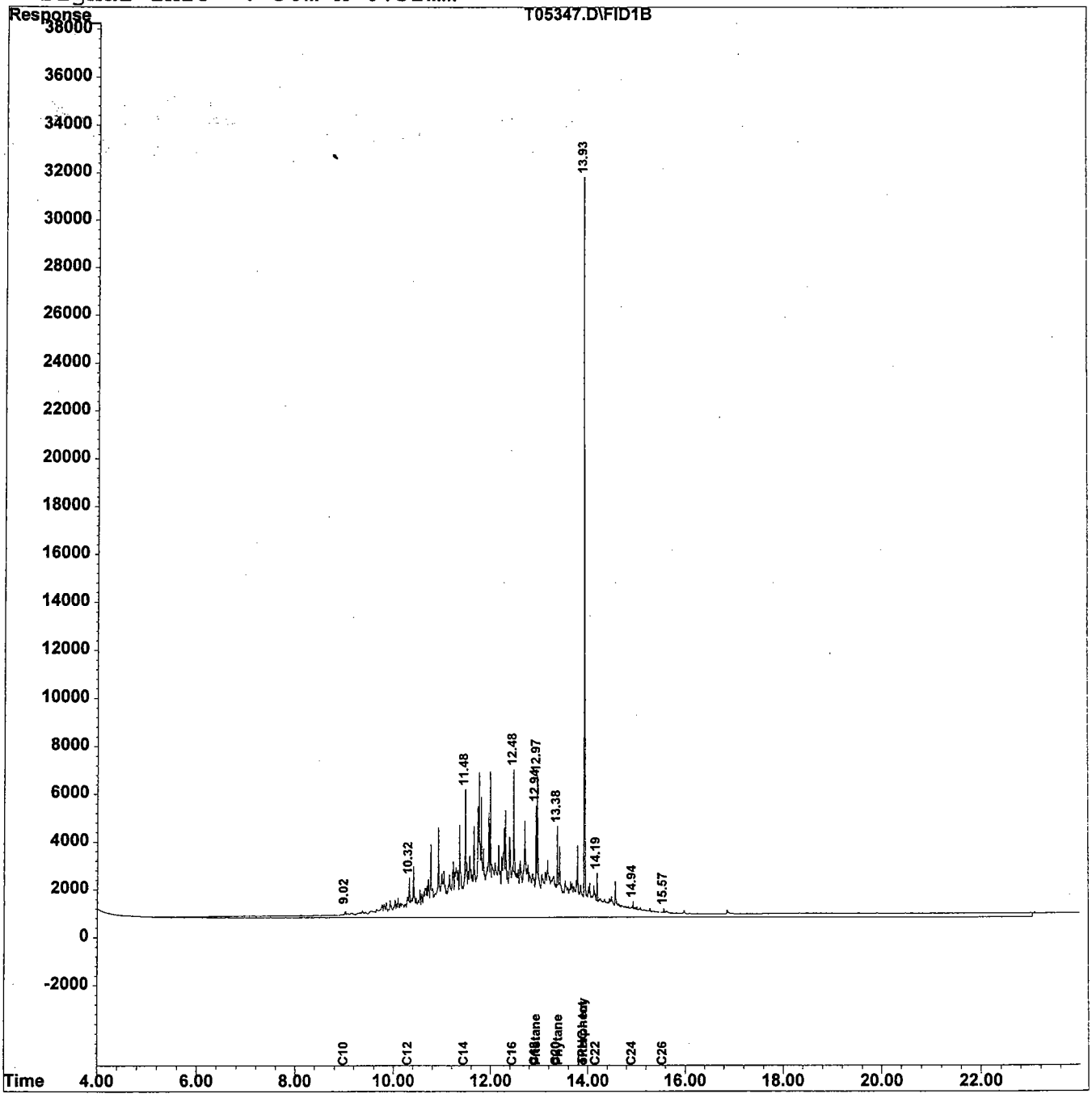
Quantitation Report

Data File : C:\HPCHEM\1\DATA\980511\T05347.D
Acq On : 13 May 98 6:41 am
Sample : 3557.05
Misc :
IntFile : TPHCINT.E
Quant Time: May 13 12:59 1998 Quant Results File: TPH35.RES

Vial: 50
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Single Level Calibration
DataAcq Meth : TPH35.M

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



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980511\T05348.D Vial: 51
Acq On : 13 May 98 7:27 am Operator: DEINHARDT
Sample : 3557.06 Inst : FID/TCD
Misc : Multiplr: 2.00
IntFile : TPHCINT.E
Quant Time: May 13 13:00 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Continuing Cal File: C:\HPCHEM\1\DATA\980511\T05295.D
DataAcq Meth : TPH35.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	13.93	138496	11.301 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 113.01%#		
Target Compounds			
2) tC C10	8.81	2091	0.269 mg/L
3) TC C12	10.33	55134	6.257 mg/L
4) tC C14	11.48	43693	4.706 mg/L
5) tC C16	12.48	27271	2.835 mg/L
6) tC C18	12.94	4765	0.433 mg/L
7) tC C20	13.40	1269	0.119 mg/L
8) tC C22	14.18	3354	0.317 mg/L
9) tC C24	14.98	4031	0.372 mg/L
19) TC Pristane	12.97	137905	13.628 mg/L
20) TC Phytane	13.42	57368	5.341 mg/L
22) tC TPHC - total	11.76	15998428	1478.693 mg/L m

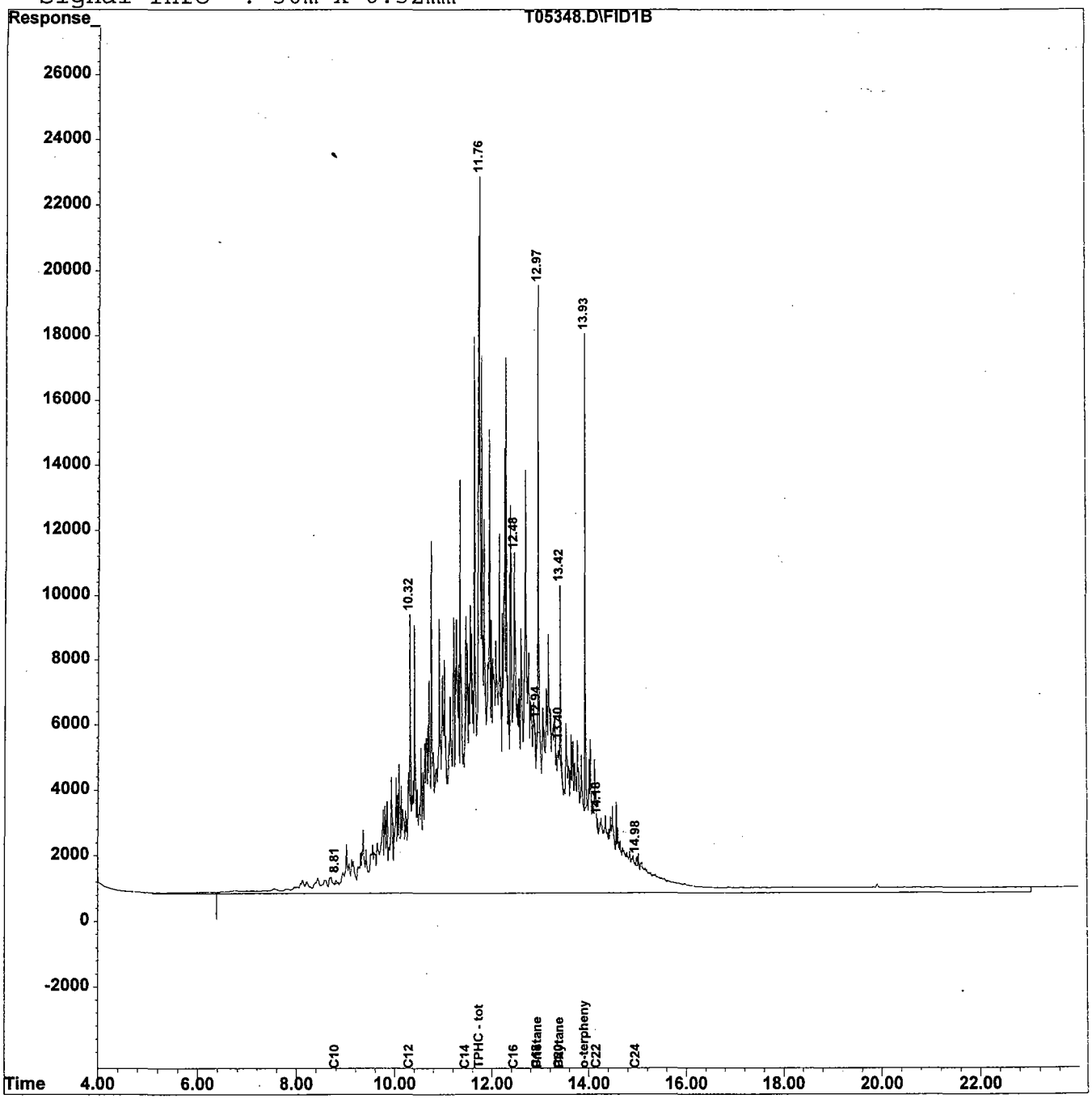
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980511\T05348.D Vial: 51
Acq On : 13 May 98 7:27 am Operator: DEINHARDT
Sample : 3557.06 Inst : FID/TCD
Misc : Multiplr: 2.00
IntFile : TPHCINT.E
Quant Time: May 13 13:00 1998 Quant Results File: TPH35.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH35.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon May 11 13:33:42 1998
Response via : Single Level Calibration
DataAcq Meth : TPH35.M

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



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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 <u>and</u> 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 5/15/96

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance

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

Client :	U.S. Army	**Lab. ID # :**	4240
	DPW. SELFM-PW-EV	**Date Rec'd:**	03-Feb-99
	Bldg. 173	**Analysis Start:**	04-Feb-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	08-Feb-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	D.DEINHARDT	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 um
Ext. Meth:	Shake	**Location #:**	Bldg. 886

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4240.01	886-B-3 90"	**1.00**	15.52	92.47	164	**4475.20**
4240.02	886-B-5 126"	**1.00**	15.21	89.17	173	**1046.79**
4240.03	886-B-6 98"	**1.00**	15.56	90.66	167	**3147.09**
METHOD BLANK	TBLK 214	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. 886

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
886-PX6/South Wall	2015701	Soil	15-Mar-02 11:30	03/15/02

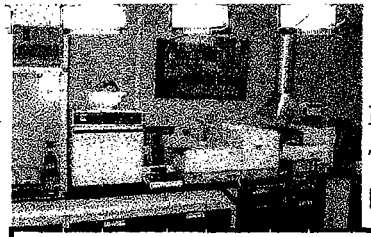
ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

3-27-02
Daniel Wright/Date
Laboratory Director

Table of Contents

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DINKER DESAI		Project No: 02-18091		Analysis Parameters								**Comments:**			
Phone #: X21475		Location: BLDG. 886 UST													
( )DERA (X)OMA ( )Other:_____		UST# 81533-140													
Samplers Name / Company: FRANK ACCORSI / TVS				Sample	#	TPH	VOAs	% solids							
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles									Remarks / Preservation Method	
20154 01	886-PX6- SOUTH WALL	3-15-02	1130	SOIL	2	✓	✓	✓						ICE	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	3-15-02 1900				
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, ( )EDD

Turnaround time: ( )Standard 3 wks, (X)Rush 3 Days, ( )ASAP Verbal ____ Hrs.

Remarks:

200000

print legibly

Coc.xls1/23/02

METHOD SUMMARY

Method Summary

NJDEP Method 8260
Gas Chromatographic Determination of Volatiles in Soil

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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 orbital 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.

CONFORMANCE-
NON-
CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	Indicate Yes, No, N/A
1. Chromatograms labeled/Compounds identified (Field samples and method blanks)	Yes
2. Retention times for chromatograms provided	Yes
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	Yes
b. DFTPP Meet Criteria	NA
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	Yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	Yes
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	Yes
b. System Performance Check Compounds Meet Criteria	Yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	No
a. VOA Fraction	
b. B/N Fraction NA	
c. Acid Fraction NA	
8. Surrogate Recoveries Meet Criteria	Yes
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction	
b. B/N Fraction NA	
c. Acid Fraction NA	
If not met, were the calculations checked and the results qualified as "estimated"?	
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	Yes
a. VOA Fraction	
b. B/N Fraction NA	
c. Acid Fraction NA	

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction _____
b. B/N Fraction NA
c. Acid Fraction NA

11. Extraction Holding Time Met — NA

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: _____ Date: 3-27-02

TPHC CONFORMANCE/NON – CONFORMANCE SUMMARY REPORT

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

Additional comments: _____

Laboratory Manager: _____ Date: 3-27-02

Laboratory Chronicle

Lab ID: 20157

Site: Bldg. 886

	Date	Hold Time
Date Sampled	03/15/02	NA
Receipt/Refrigeration	03/15/02	NA
Extraction Date		
1. TPHC	03/18/02	14 days
Analyses		
1. Volatile Organics	03/19/02	14 days
2. TPHC	03/19/02	40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL	:	Method Detection Limit
J	:	Compound identified below detection limit
B	:	Compound found in blank
D	:	Results are from a dilution of the sample
U	:	Compound searched for but not detected
E	:	Compound exceeds calibration limit
PQL	:	Practical Quantitation Limit
NLE	:	No limit established
RT	:	Retention time

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 19Mar02

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 19Mar02

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB011044.D

Level: (low/med) MED Date Received: 3/15/02

% Moisture: not dec. 0 Date Analyzed: 3/19/02

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
156-59-2	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 19Mar02

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 19Mar02

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB011044.D

Level: (low/med) MED Date Received: 3/15/02

% Moisture: not dec. 0 Date Analyzed: 3/19/02

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 19Mar02**

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 19Mar02

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB011044.D

Level: (low/med) MED Date Received: 3/15/02

% Moisture: not dec. 0 Date Analyzed: 3/19/02

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

886-PX6

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 2015701

Sample wt/vol: 11.2 (g/ml) G Lab File ID: VB011051.D

Level: (low/med) MED Date Received: 3/15/02

% Moisture: not dec. 13.47 Date Analyzed: 3/19/02

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	310	U
95-47-6	o-Xylene	210	U
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	210	U
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **886-PX6**

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2015701

Sample wt/vol: 11.2 (g/ml) G Lab File ID: VB011051.D

Level: (low/med) MED Date Received: 3/15/02

% Moisture: not dec. 13.47 Date Analyzed: 3/19/02

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Lab File ID: VB010761.D BFB Injection Date: 2/13/02

Instrument ID: GCMS#2 BFB Injection Time: 15:44

GC Column: RTX502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.3
75	30.0 - 66.0% of mass 95	47.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	79.2
175	4.0 - 9.0% of mass 174	6.1 (7.7)1
176	93.0 - 101.0% of mass 174	78.2 (98.8)1
177	5.0 - 9.0% of mass 176	5.3 (6.7)2

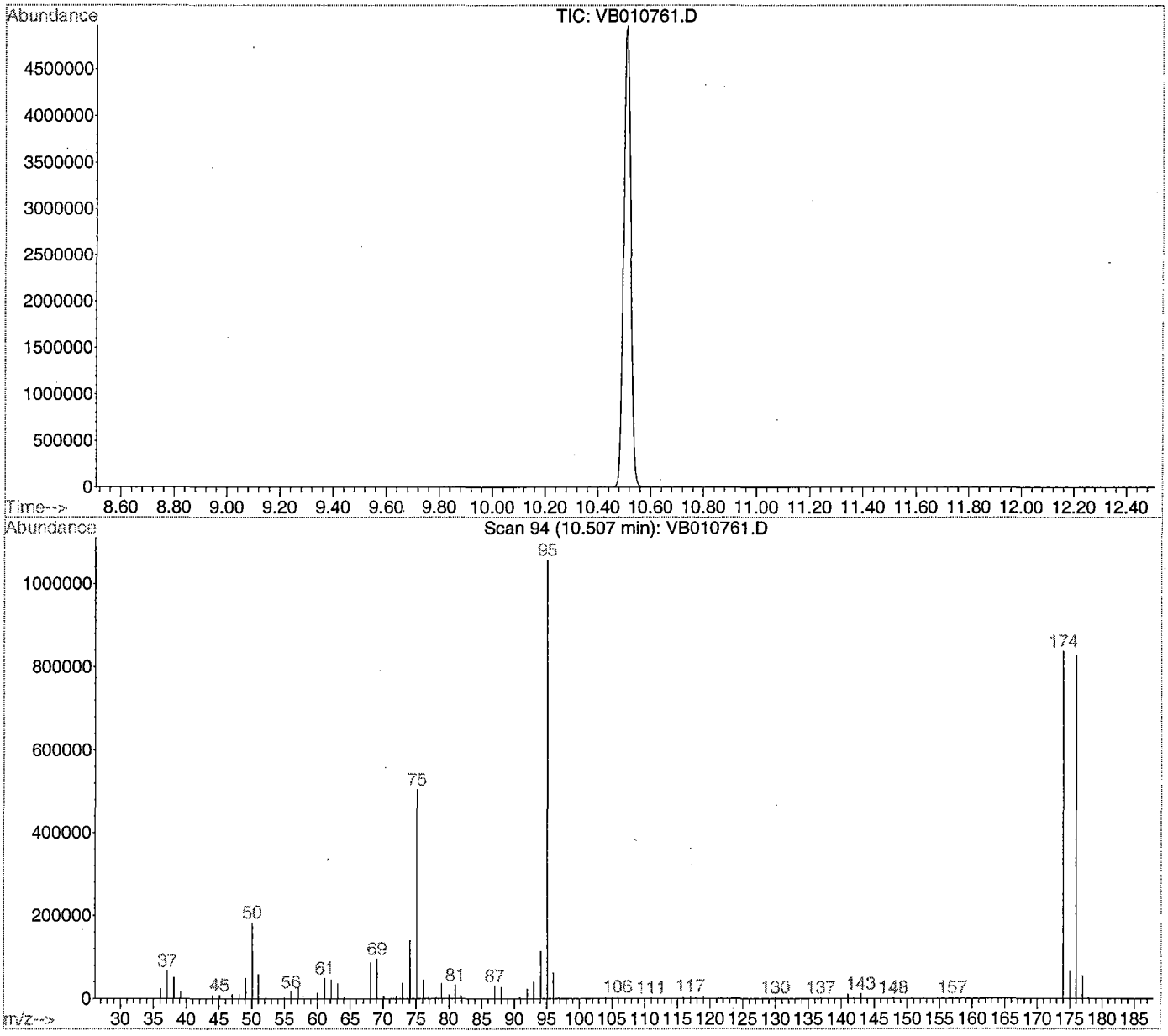
1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD100	VSTD100	VB010762.D	2/13/02	16:15
02	VSTD050	VSTD050	VB010763.D	2/13/02	16:56
03	VSTD020	VSTD020	VB010764.D	2/13/02	17:37
04	VSTD010	VSTD010	VB010765.D	2/13/02	18:18
05	VSTD005	VSTD005	VB010766.D	2/13/02	19:00

BFB

Data File : C:\HPCHEM\1\DATA\020213\VB010761.D Vial: 1
Acq On : 13 Feb 2002 3:44 pm Operator: Skelton
Sample : BFB Tune Inst : GC VOA 2
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: TBA.P
Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 94

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.3	183040	PASS
75	95	30	60	47.7	504960	PASS
95	95	100	100	100.0	1058304	PASS
96	95	5	9	6.0	62992	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	79.2	837824	PASS
175	174	5	9	7.7	64752	PASS
176	174	95	101	98.8	827840	PASS
177	176	5	9	6.7	55736	PASS

VB010761.D M262478.M Thu Mar 21 10:01:33 2002

Response Factor Report GC VOA 2

Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed Mar 20 12:23:43 2002
Response via : Initial Calibration

Calibration Files
100 =VB010762.D 50 =VB010763.D 20 =VB010764.D
10 =VB010765.D 5 =VB010766.D

		Compound	100	50	20	10	5	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.305	0.272	0.241	0.225	0.245	0.257	12.18
3)	t	Acrylonitrile	0.822	0.796	0.764	0.702	0.772	0.771	5.77
4)	t	tert-Butyl alcohol	0.144	0.140	0.136	0.113	0.123	0.131	9.71
5)	t	Methyl-tert-Butyl eth	5.664	5.486	4.949	4.608	4.774	5.096	8.98
6)	t	Di-isopropyl ether	1.568	1.500	1.349	1.265	1.201	1.377	11.25
7)	T	Dichlorodifluorometha	1.188	1.231	1.256	1.165	1.211	1.210	2.93
8)	TP	Chloromethane	1.905	1.920	1.883	1.978	2.095	1.956	4.36
9)	TC	Vinyl Chloride	2.065	2.123	2.075	1.974	2.130	2.073	3.01
10)	T	Bromomethane	1.327	1.216	1.145	1.143	1.268	1.220	6.53
11)	T	Chloroethane	1.304	1.236	1.170	1.204	1.268	1.236	4.26
12)	T	Trichlorofluoromethan	3.827	3.794	3.853	3.840	4.061	3.875	2.74
13)	MC	1,1-Dichloroethene	3.369	3.280	3.012	2.851	3.059	3.114	6.72
14)	T	Acetone	0.589	0.602	0.631	0.655	0.827	0.661	14.64
15)	T	Carbon Disulfide	5.709	5.665	5.369	5.048	5.350	5.428	4.95
16)	T	Methylene Chloride	2.030	1.982	1.911	1.931	2.031	1.977	2.78
17)	T	trans-1,2-Dichloroeth	3.009	3.036	2.831	2.760	2.826	2.892	4.23
18)	TP	1,1-Dichloroethane	3.632	3.523	3.349	3.429	3.493	3.485	3.03
19)	T	Vinyl Acetate	4.495	4.367	3.864	3.369	3.369	3.893	13.70
20)	T	2-Butanone	0.798	0.754	0.731	0.657	0.729	0.734	6.95
21)	T	cis-1,2-Dichloroethen	3.029	2.989	2.825	2.642	2.779	2.853	5.55
22)	TC	Chloroform	3.700	3.690	3.546	3.600	3.842	3.676	3.07
23)	T	1,1,1-Trichloroethane	3.356	3.311	3.041	2.887	2.973	3.114	6.71
24)	T	Carbon Tetrachloride	3.056	2.922	2.668	2.560	2.547	2.751	8.28
25)	S	1,2-Dichloroethane-d4	2.620	2.650	2.701	2.770	2.786	2.706	2.67
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.168	1.157	1.100	1.062	1.128	1.123	3.85
28)	T	1,2-Dichloroethane	0.487	0.477	0.465	0.454	0.481	0.473	2.82
29)	TM	Trichloroethene	0.342	0.321	0.310	0.292	0.298	0.313	6.34
30)	TC	1,2-Dichloropropane	0.300	0.287	0.273	0.254	0.267	0.276	6.44
31)	T	Bromodichloromethane	0.407	0.383	0.355	0.334	0.343	0.364	8.33
32)	T	2-Chloroethyl vinyl e	0.122	0.122	0.117	0.111	0.121	0.118	4.12
33)	T	cis-1,3-Dichloroprope	0.481	0.451	0.390	0.347	0.340	0.402	15.57
34)	T	4-Methyl-2-Pentanone	0.098	0.090	0.082	0.068	0.069	0.081	15.93
35)	S	Toluene-d8	1.193	1.175	1.164	1.181	1.174	1.177	0.93
36)	TCM	Toluene	1.252	1.298	1.238	1.183	1.275	1.249	3.47
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.666	1.559	1.358	1.203	1.136	1.384	16.35
39)	T	1,1,2-Trichloroethane	0.972	0.936	0.921	0.881	0.888	0.920	4.02
40)	T	Tetrachloroethene	1.322	1.274	1.228	1.164	1.163	1.230	5.64
41)	T	2-Hexanone	0.662	0.595	0.537	0.446	0.449	0.538	17.41
42)	T	Dibromochloromethane	1.014	0.964	0.843	0.771	0.736	0.866	13.89
43)	TMP	Chlorobenzene	3.046	2.959	2.880	2.840	2.893	2.923	2.76
44)	TC	Ethylbenzene	4.822	5.209	5.081	4.786	4.877	4.955	3.68
45)	T	m+p-Xylenes	1.809	1.794	1.722	1.629	1.659	1.723	4.62
46)	T	o-Xylene	3.879	3.926	3.671	3.314	3.255	3.609	8.65
47)	T	Styrene	3.327	3.256	2.999	2.747	2.725	3.011	9.26
48)	TP	Bromoform	0.654	0.633	0.519	0.452	0.435	0.539	18.71
49)	S	Bromofluorobenzene	1.786	1.723	1.719	1.695	1.709	1.727	2.03
50)	TP	1,1,2,2-Tetrachloroet	1.297	1.212	1.174	1.103	1.159	1.189	6.07
51)	T	1,3-Dichlorobenzene	2.604	2.526	2.388	2.212	2.250	2.396	7.10
52)	T	1,4-Dichlorobenzene	2.747	2.721	2.560	2.424	2.441	2.579	5.87
53)	T	1,2-Dichlorobenzene	2.574	2.494	2.391	2.222	2.269	2.390	6.19

(#) = Out of Range

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Lab File ID: VB011042.D BFB Injection Date: 3/19/02

Instrument ID: GCMS#2 BFB Injection Time: 8:54

GC Column: RTX502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.2
75	30.0 - 66.0% of mass 95	53.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	89.2
175	4.0 - 9.0% of mass 174	6.8 (7.6)1
176	93.0 - 101.0% of mass 174	87.0 (97.5)1
177	5.0 - 9.0% of mass 176	6.1 (7.0)2

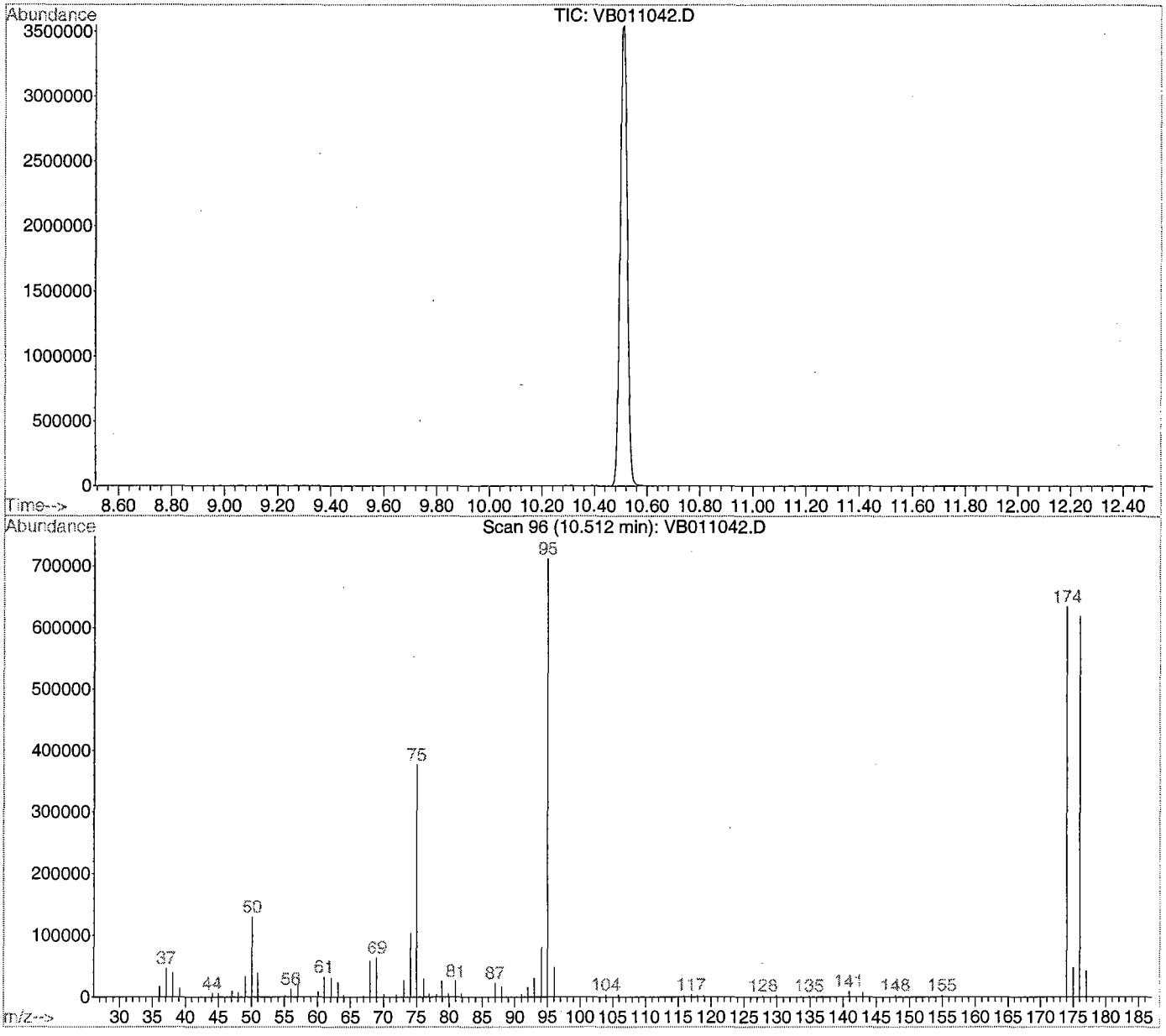
1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD020	VB011043.D	3/19/02	9:25
02	MB 19MAR02	MB 19MAR02	VB011044.D	3/19/02	10:14
03	886-PX6	2015701	VB011051.D	3/19/02	15:10
04	2015701 MS	2015701 MS	VB011052.D	3/19/02	15:51
05	2015701 MSD	2015701 MSD	VB011053.D	3/19/02	16:32

BFB

Data File : C:\HPCHEM\1\DATA\020319\VB011042.D Vial: 1
Acq On : 19 Mar 2002 8:54 am Operator: Skelton
Sample : BFB Tune Inst : GC VOA 2
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: TBA.P
Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 96

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	129752	PASS
75	95	30	60	53.0	377344	PASS
95	95	100	100	100.0	711872	PASS
96	95	5	9	6.8	48440	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	89.2	634816	PASS
175	174	5	9	7.6	48440	PASS
176	174	95	101	97.5	619072	PASS
177	176	5	9	7.0	43256	PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020319\VB011043.D Vial: 1
Acq On : 19 Mar 2002 9:25 am Operator: Skelton
Sample : Vstd020 Inst : GC VOA 2
Misc : Vstd020 Multiplr: 1.00
MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed Mar 20 12:23:43 2002
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 25% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	76	0.00
2	t	Acrolein	0.257	0.289	-12.5	91	-0.02
3	t	Acrylonitrile	0.771	0.808	-4.8	81	-0.01
4	t	tert-Butyl alcohol	0.131	0.124	5.3	69	-0.14
5	t	Methyl-tert-Butyl ether	5.096	5.119	-0.5	79	-0.02
6	t	Di-isopropyl ether	1.377	1.400	-1.7	79	0.00
7	T	Dichlorodifluoromethane	1.210	1.096	9.4	66	0.00
8	TP	Chloromethane	1.956	1.895	3.1	77	-0.01
9	TC	Vinyl Chloride	2.073	2.092	-0.9	77	-0.01
10	T	Bromomethane	1.220	1.087	10.9	72	-0.01
11	T	Chloroethane	1.236	1.351	-9.3	88	0.00
12	T	Trichlorofluoromethane	3.875	4.458	-15.0	88	0.00
13	MC	1,1-Dichloroethene	3.114	3.159	-1.4	80	-0.01
14	T	Acetone	0.661	0.919	-39.0#	111	-0.05
15	T	Carbon Disulfide	5.428	5.547	-2.2	79	0.00
16	T	Methylene Chloride	1.977	2.028	-2.6	81	0.00
17	T	trans-1,2-Dichloroethene	2.892	2.931	-1.3	79	-0.02
18	TP	1,1-Dichloroethane	3.485	3.691	-5.9	84	-0.02
19	T	Vinyl Acetate	3.893	3.893	0.0	77	0.00
20	T	2-Butanone	0.734	0.781	-6.4	81	-0.02
21	T	cis-1,2-Dichloroethene	2.853	2.834	0.7	76	-0.01
22	TC	Chloroform	3.676	3.855	-4.9	83	-0.01
23	T	1,1,1-Trichloroethane	3.114	3.116	-0.1	78	-0.01
24	T	Carbon Tetrachloride	2.751	2.650	3.7	76	0.00
25	S	1,2-Dichloroethane-d4	2.706	2.708	-0.1	76	-0.01
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	71	0.00
27	TM	Benzene	1.123	1.248	-11.1	81	0.00
28	T	1,2-Dichloroethane	0.473	0.515	-8.9	79	0.00
29	TM	Trichloroethene	0.313	0.341	-8.9	78	0.00
30	TC	1,2-Dichloropropane	0.276	0.294	-6.5	77	0.00
31	T	Bromodichloromethane	0.364	0.390	-7.1	78	0.00
32	T	2-Chloroethyl vinyl ether	0.118	0.130	-10.2	80	0.02
33	T	cis-1,3-Dichloropropene	0.402	0.385	4.2	70	-0.01
34	T	4-Methyl-2-Pentanone	0.081	0.088	-8.6	77	0.00
35	S	Toluene-d8	1.177	1.208	-2.6	74	0.00
36	TCM	Toluene	1.249	1.421	-13.8	82	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	70	-0.01
38	T	trans-1,3-Dichloropropene	1.384	1.342	3.0	69	0.00
39	T	1,1,2-Trichloroethane	0.920	1.066	-15.9	81	0.00
40	T	Tetrachloroethene	1.230	1.425	-15.9	81	0.00
41	T	2-Hexanone	0.538	0.617	-14.7	80	0.00
42	T	Dibromochloromethane	0.866	0.919	-6.1	76	0.00
43	TMP	Chlorobenzene	2.923	3.385	-15.8	82	0.00
44	TC	Ethylbenzene	4.955	5.868	-18.4	80	0.00
45	T	m+p-Xylenes	1.723	2.024	-17.5	82	0.00
46	T	o-Xylene	3.609	4.287	-18.8	81	-0.01
47	T	Styrene	3.011	3.394	-12.7	79	-0.01
48	TP	Bromoform	0.539	0.558	-3.5	75	0.00
49	S	Bromofluorobenzene	1.727	1.705	1.3	69	0.00
50	TP	1,1,2,2-Tetrachloroethane	1.189	1.350	-13.5	80	0.00
51	T	1,3-Dichlorobenzene	2.396	2.593	-8.2	76	0.00
52	T	1,4-Dichlorobenzene	2.579	2.815	-9.2	77	0.00
53	T	1,2-Dichlorobenzene	2.390	2.629	-10.0	77	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

4A

FIELD ID:

MB 19Mar02

VOLATILE METHOD BLANK SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Lab File ID: VB011044.D Lab Sample ID: MB 19Mar02

Date Analyzed: 3/19/02 Time Analyzed: 10:14

GC Column: RTX502. ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: GCMS#2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	886-PX6	2015701	VB011051.D	15:10
02	2015701 MS	2015701 MS	VB011052.D	15:51
03	2015701 MSD	2015701 MSD	VB011053.D	16:32

COMMENTS:

2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL **Project** 02-18091

NJDEP # 13461 **Location** Bldg 886

	EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB	TOT OUT
01	MB	101.9%	102.2%	95.5%	0
02	886-PX6	129.6%	108.0%	113.8%	0

SMC1	1,2-DCE-d4	=	1,2-Dichloroethane-d4
SMC2	Tol-d8	=	Toluene-d8
SMC3	BFB	=	Bromofluorobenzene

D System Monitoring Compounds diluted out

Spike Recovery and RPD Summary Report - Soil

Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed Mar 20 12:23:43 2002
Response via : Initial Calibration

Non-Spiked Sample: VB011051.D

	Spike Sample	Spike Duplicate Sample
File ID :	VB011052.D	VB011053.D
Sample :	2015701 MS	2015701 MSD
Acq Time:	19 Mar 2002 3:51 pm	19 Mar 2002 4:32 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	20	27	23	136	115	17	22	59-172
Benzene	0.0	20	26	22	131	112	15	21	66-142
Trichloroethene	0.0	20	25	22	127	110	14	24	62-137
Toluene	0.0	20	27	23	136	115	17	21	59-139
Chlorobenzene	0.0	20	27	23	134#	116	14	21	60-133

- Fails Limit Check

M262478.M Thu Mar 21 10:00:14 2002

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: 02-18091 Case No.: 20157 Location: Bldg88 SDG No.:

Lab File ID (Standard): VB011043.D Date Analyzed: 3/19/02

Instrument ID: GCMS#2 Time Analyzed: 9:25

GC Column: RTX502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	528304	16.75	3494919	19.49	942101	27.32
	UPPER LIMIT	1056608	17.25	6989838	19.99	1884202	27.82
	LOWER LIMIT	264152	16.25	1747460	18.99	471051	26.82
	FIELD ID:						
01	MB 19MAR02	504594	16.75	3305603	19.49	879434	27.32
02	886-PX6	537419	16.76	4050369	19.49	1073308	27.33
03	2015701 MS	554077	16.76	4028558	19.49	1097704	27.32
04	2015701 MSD	564010	16.76	4061898	19.49	1083790	27.33

IS1 BCM = Bromochloromethane
IS2 DFB = 1,4-Difluorobenzene
IS3 CBZ = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020319\VB011044.D Vial: 1
Acq On : 19 Mar 2002 10:14 am Operator: Skelton
Sample : MB 19Mar02 Inst : GC VOA 2
Misc : MB 19Mar02 Multiplr: 1.00
MS Integration Params: TBA.P
Quant Time: Mar 19 10:50 2002 Quant Results File: M262478.RES

Quant Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Mar 19 10:02:48 2002
Response via : Initial Calibration
DataAcq Meth : M262478

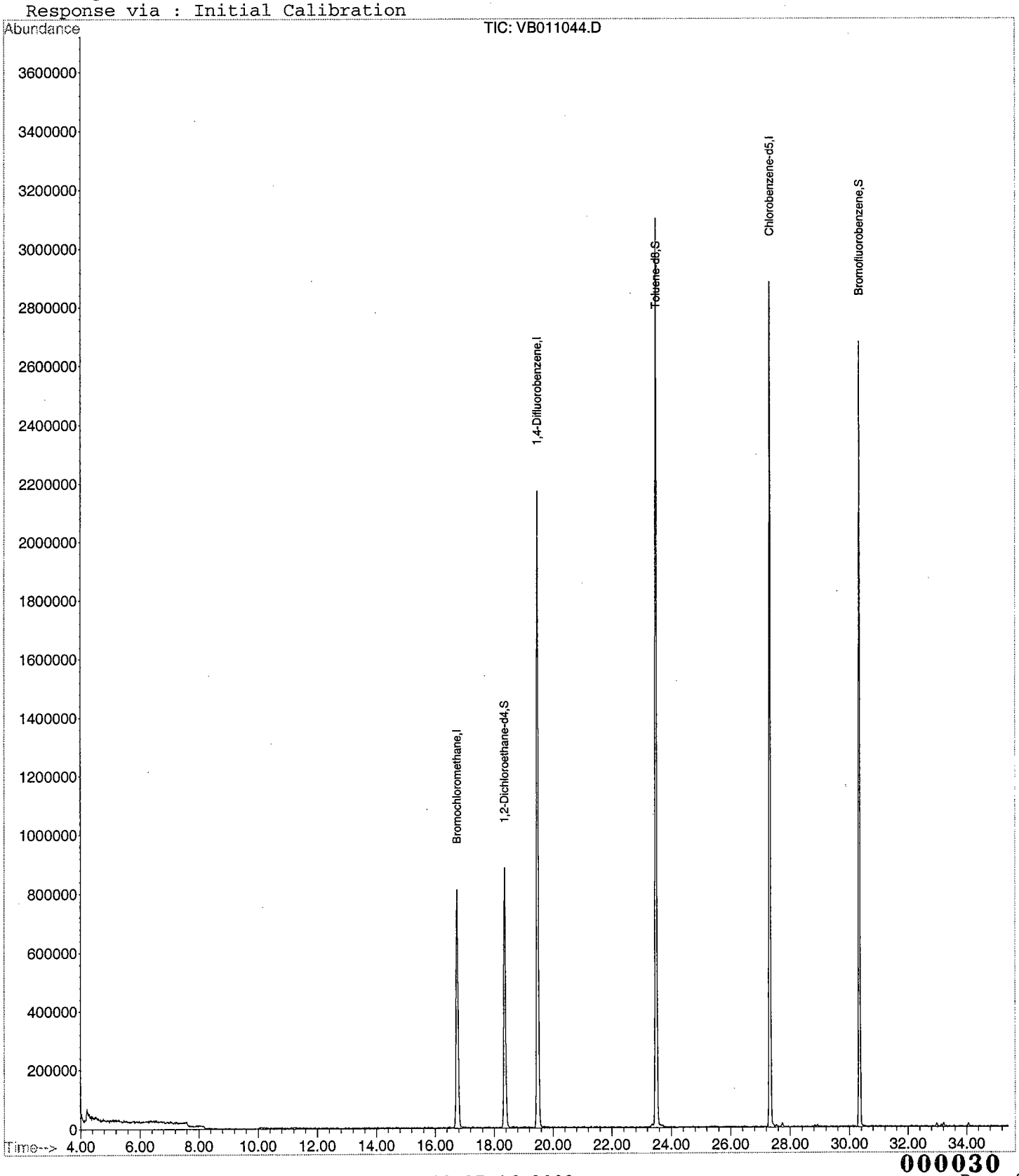
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.75	128	504594	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.49	114	3305603	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.32	119	879434	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.36	65	1391598	30.58	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 101.93%			
35) Toluene-d8	23.50	98	3978594	30.67	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 102.23%			
49) Bromofluorobenzene	30.34	95	1449589	28.64	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 95.47%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020319\VB011044.D Vial: 1
Acq On : 19 Mar 2002 10:14 am Operator: Skelton
Sample : MB 19Mar02 Inst : GC VOA 2
Misc : MB 19Mar02 Multiplr: 1.00
MS Integration Params: TBA.P
Quant Time: Mar 19 10:50 2002 Quant Results File: M262478.RES

Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed Mar 20 12:23:43 2002
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020319\VB011051.D Vial: 7
Acq On : 19 Mar 2002 3:10 pm Operator: Skelton
Sample : 2015701 Inst : GC VOA 2
Misc : 886-PX6 Multiplr: 1.00
MS Integration Params: TBA.P
Quant Time: Mar 21 8:34 2002 Quant Results File: M262478.RES

Quant Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Mar 19 10:02:48 2002
Response via : Initial Calibration
DataAcq Meth : M262478

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.76	128	537419	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.49	114	4050369	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.33	119	1073308	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.37	65	5808204	119.84	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 399.47%#			
35) Toluene-d8	23.50	98	15878635	99.89	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 332.97%#			
49) Bromofluorobenzene	30.34	95	6503543	105.28	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 350.93%#			

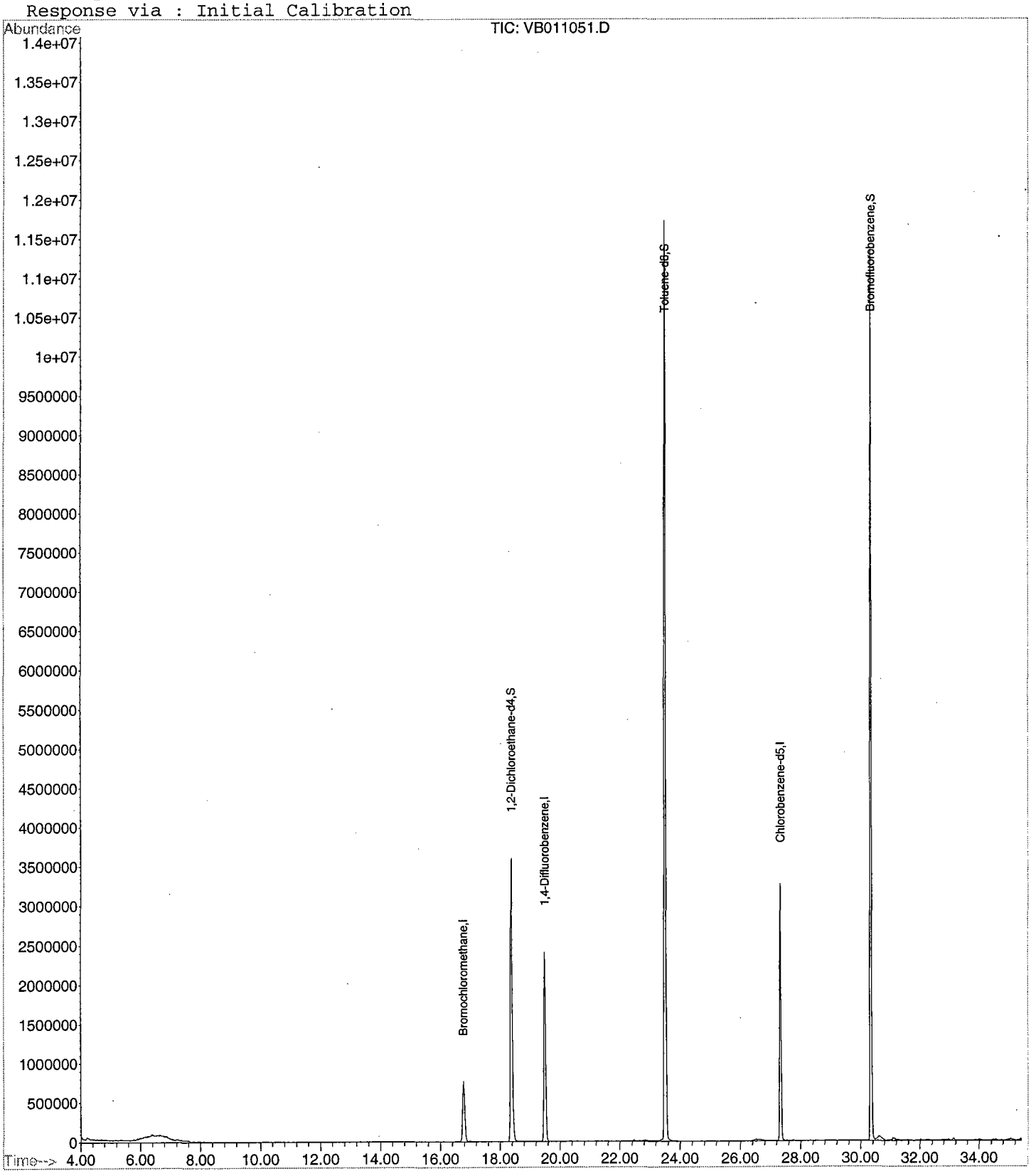
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020319\VB011051.D Vial: 7
Acq On : 19 Mar 2002 3:10 pm Operator: Skelton
Sample : 2015701 Inst : GC VOA 2
Misc : 886-PX6 Multiplr: 1.00
MS Integration Params: TBA.P
Quant Time: Mar 21 8:34 2002 Quant Results File: M262478.RES

Method : C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed Mar 20 12:23:43 2002
Response via : Initial Calibration



TPHC

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	**Project # :** **Location :** **UST Reg. # :**	20157 Bldg.886 UST 81533-140
Analysis :	OQA-QAM-025	**Date Received :**	15-Mar-02
Matrix :	Soil	**Date Extracted :**	18-Mar-02
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Mar-02
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
2015701	886-PX6	1.00	15.15	86.53	173	ND
METHOD BLANK	MB-031802	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002

Calibration Files
5 =T014006.D 100 =T014007.D 50 =T014008.D
20 =T014010.D 10 =T014009.D

	Compound	5	100	50	20	10	Avg		%RSD
1) tC	C8	1.808	2.607	2.359	2.113	2.205	2.218	E4	13.35
2) tC	C10	2.208	2.906	2.466	2.276	2.457	2.462	E4	11.05
3) TC	C12	2.212	2.903	2.610	2.381	2.605	2.542	E4	10.28
4) tC	C14	2.432	2.982	2.686	2.459	2.642	2.640	E4	8.36
5) tC	C16	2.456	3.045	2.732	2.528	2.731	2.698	E4	8.49
6) tC	C18	2.281	2.990	2.839	2.583	2.658	2.670	E4	10.09
7) tC	C20	2.494	3.130	2.789	2.563	2.763	2.748	E4	9.04
8) tC	C22	2.663	3.213	2.879	2.664	2.907	2.865	E4	7.89
9) tC	C24	2.693	3.250	2.911	2.698	2.944	2.899	E4	7.87
10) tC	C26	2.717	3.278	2.931	2.723	2.978	2.926	E4	7.86
11) tC	C28	2.641	3.232	2.884	2.669	2.911	2.867	E4	8.28
12) tC	C30	2.612	3.327	2.960	2.732	2.968	2.920	E4	9.39
13) tC	C32	2.643	3.301	2.937	2.705	2.935	2.904	E4	8.91
14) tC	C34	2.639	3.300	2.915	2.677	2.921	2.890	E4	9.12
15) tC	C36	2.691	3.443	3.027	2.759	3.005	2.985	E4	9.90
16) tC	C38	2.562	3.310	2.901	2.637	2.873	2.857	E4	10.24
17) tC	C40	2.434	3.183	2.768	2.517	2.743	2.729	E4	10.68
18) tC	c42	2.326	3.132	2.731	2.459	2.678	2.665	E4	11.57
19) TC	Pristane	2.631	2.913	2.655	2.558	2.793	2.710	E4	5.25
20) TC	Phytane	2.780	3.148	2.822	2.661	2.948	2.872	E4	6.45
21) sC	o-terphenyl	2.678	3.213	2.878	2.665	2.922	2.871	E4	7.77
22) tC	TPHC - total	3.691	3.396	3.115	3.005	3.613	3.364	E4	8.93

#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020318\T014221.D Vial: 1
Acq On : 18 Mar 2002 2:22 pm Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
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	22.184	22.791 E3	-2.7	97	0.00
2	tC	C10	24.624	25.358 E3	-3.0	103	0.00
3	TC	C12	25.424	25.696 E3	-1.1	98	0.00
4	tC	C14	26.404	26.401 E3	0.0	98	0.00
5	tC	C16	26.982	26.886 E3	0.4	98	0.00
6	tC	C18	26.702	27.543 E3	-3.1	97	0.00
7	tC	C20	27.479	27.467 E3	0.0	98	0.00
8	tC	C22	28.652	28.213 E3	1.5	98	0.00
9	tC	C24	28.991	28.325 E3	2.3	97	0.00
10	tC	C26	29.257	28.528 E3	2.5	97	0.00
11	tC	C28	28.674	27.976 E3	2.4	97	0.00
12	tC	C30	29.197	28.528 E3	2.3	96	0.00
13	tC	C32	29.042	28.100 E3	3.2	96	0.00
14	tC	C34	28.903	27.513 E3	4.8	94	0.00
15	tC	C36	29.849	27.754 E3	7.0	92	-0.01
16	tC	C38	28.567	24.984 E3	12.5	86	-0.02
17	tC	C40	27.289	21.244 E3	22.2	77	-0.04
18	tC	c42	26.652	16.932 E3	36.5#	62	-0.06
19	TC	Pristane	27.100	26.698 E3	1.5	101	0.00
20	TC	Phytane	28.717	27.973 E3	2.6	99	0.00
21	sC	o-terphenyl	28.712	28.402 E3	1.1	99	0.00
22	tC	TPHC - total	33.639	30.723 E3	8.7	99	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020318\T014232.D Vial: 12
Acq On : 18 Mar 2002 8:30 pm Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
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	22.184	25.377 E3	-14.4	108	0.00
2	tC	C10	24.624	27.066 E3	-9.9	110	0.00
3	TC	C12	25.424	28.536 E3	-12.2	109	0.00
4	tC	C14	26.404	29.407 E3	-11.4	109	0.00
5	tC	C16	26.982	29.862 E3	-10.7	109	0.00
6	tC	C18	26.702	30.530 E3	-14.3	108	0.00
7	tC	C20	27.479	30.632 E3	-11.5	110	0.00
8	tC	C22	28.652	31.526 E3	-10.0	110	0.00
9	tC	C24	28.991	31.821 E3	-9.8	109	0.00
10	tC	C26	29.257	32.096 E3	-9.7	109	0.00
11	tC	C28	28.674	31.475 E3	-9.8	109	0.00
12	tC	C30	29.197	32.093 E3	-9.9	108	0.00
13	tC	C32	29.042	31.631 E3	-8.9	108	0.00
14	tC	C34	28.903	31.071 E3	-7.5	107	0.00
15	tC	C36	29.849	31.581 E3	-5.8	104	-0.01
16	tC	C38	28.567	29.047 E3	-1.7	100	-0.02
17	tC	C40	27.289	25.771 E3	5.6	93	-0.03
18	tC	c42	26.652	21.675 E3	18.7	79	-0.05
19	TC	Pristane	27.100	28.018 E3	-3.4	106	0.00
20	TC	Phytane	28.717	31.209 E3	-8.7	111	0.00
21	sC	o-terphenyl	28.712	31.725 E3	-10.5	110	0.00
22	tC	TPHC - total	33.639	32.315 E3	3.9	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020318\T014243.D Vial: 23
Acq On : 19 Mar 2002 2:35 am Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
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	22.184	23.684 E3	-6.8	100	0.00
2	tC	C10	24.624	25.800 E3	-4.8	105	0.00
3	TC	C12	25.424	27.320 E3	-7.5	105	0.00
4	tC	C14	26.404	27.991 E3	-6.0	104	0.00
5	tC	C16	26.982	28.455 E3	-5.5	104	0.00
6	tC	C18	26.702	29.460 E3	-10.3	104	0.00
7	tC	C20	27.479	29.198 E3	-6.3	105	0.00
8	tC	C22	28.652	30.031 E3	-4.8	104	0.00
9	tC	C24	28.991	30.220 E3	-4.2	104	0.00
10	tC	C26	29.257	30.415 E3	-4.0	104	0.00
11	tC	C28	28.674	29.806 E3	-3.9	103	0.00
12	tC	C30	29.197	30.388 E3	-4.1	103	0.00
13	tC	C32	29.042	29.910 E3	-3.0	102	0.00
14	tC	C34	28.903	29.444 E3	-1.9	101	0.00
15	tC	C36	29.849	30.019 E3	-0.6	99	-0.01
16	tC	C38	28.567	27.923 E3	2.3	96	-0.02
17	tC	C40	27.289	25.480 E3	6.6	92	-0.03
18	tC	c42	26.652	22.532 E3	15.5	82	-0.04
19	TC	Pristane	27.100	28.221 E3	-4.1	106	0.00
20	TC	Phytane	28.717	29.600 E3	-3.1	105	0.00
21	sC	o-terphenyl	28.712	30.175 E3	-5.1	105	0.00
22	tC	TPHC - total	33.639	30.931 E3	8.1	99	-0.95#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020318\T014254.D Vial: 34
Acq On : 19 Mar 2002 10:21 am Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
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	22.184	23.249 E3	-4.8	99	0.00
2	tC	C10	24.624	24.701 E3	-0.3	100	0.00
3	TC	C12	25.424	26.379 E3	-3.8	101	0.00
4	tC	C14	26.404	27.124 E3	-2.7	101	0.00
5	tC	C16	26.982	27.615 E3	-2.3	101	0.00
6	tC	C18	26.702	27.945 E3	-4.7	98	0.00
7	tC	C20	27.479	28.308 E3	-3.0	102	0.00
8	tC	C22	28.652	29.098 E3	-1.6	101	0.00
9	tC	C24	28.991	29.358 E3	-1.3	101	0.00
10	tC	C26	29.257	29.594 E3	-1.2	101	0.00
11	tC	C28	28.674	29.002 E3	-1.1	101	0.00
12	tC	C30	29.197	29.549 E3	-1.2	100	0.00
13	tC	C32	29.042	29.128 E3	-0.3	99	0.00
14	tC	C34	28.903	28.626 E3	1.0	98	0.00
15	tC	C36	29.849	29.263 E3	2.0	97	-0.01
16	tC	C38	28.567	27.473 E3	3.8	95	-0.02
17	tC	C40	27.289	25.300 E3	7.3	91	-0.03
18	tC	c42	26.652	22.805 E3	14.4	83	-0.04
19	TC	Pristane	27.100	27.035 E3	0.2	102	0.00
20	TC	Phytane	28.717	28.756 E3	-0.1	102	0.00
21	sC	o-terphenyl	28.712	29.204 E3	-1.7	101	0.00
22	tC	TPHC - total	33.639	30.613 E3	9.0	98	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020318\T014256.D Vial: 36
Acq On : 19 Mar 2002 11:28 am Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
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	22.184	22.532 E3	-1.6	96	0.00
2	tC	C10	24.624	24.185 E3	1.8	98	0.00
3	TC	C12	25.424	25.758 E3	-1.3	99	0.00
4	tC	C14	26.404	26.536 E3	-0.5	99	0.00
5	tC	C16	26.982	26.909 E3	0.3	99	0.00
6	tC	C18	26.702	26.432 E3	1.0	93	0.00
7	tC	C20	27.479	27.532 E3	-0.2	99	0.00
8	tC	C22	28.652	28.346 E3	1.1	98	0.00
9	tC	C24	28.991	28.591 E3	1.4	98	0.00
10	tC	C26	29.257	28.786 E3	1.6	98	0.00
11	tC	C28	28.674	28.207 E3	1.6	98	0.00
12	tC	C30	29.197	28.737 E3	1.6	97	0.00
13	tC	C32	29.042	28.334 E3	2.4	96	0.00
14	tC	C34	28.903	27.853 E3	3.6	96	0.00
15	tC	C36	29.849	28.434 E3	4.7	94	-0.02
16	tC	C38	28.567	26.616 E3	6.8	92	-0.02
17	tC	C40	27.289	24.475 E3	10.3	88	-0.03
18	tC	c42	26.652	22.053 E3	17.3	81	-0.05
19	TC	Pristane	27.100	26.287 E3	3.0	99	0.00
20	TC	Phytane	28.717	28.157 E3	2.0	100	0.00
21	sC	o-terphenyl	28.712	28.460 E3	0.9	99	0.00
22	tC	TPHC - total	33.639	30.289 E3	10.0	97	0.00

Surrogate Recovery Report
U.S.Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Project # :**	20157
	DPW. SELFM-PW-EV	**Location :**	Bldg.886 UST
	Bldg. 173	**UST Reg. # :**	81533-140
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	15-Mar-02
Matrix:	Soil	**Date Extracted :**	18-Mar-02
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Mar-02
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
2015701			10.00	11.12	**111.20**
METHOD BLANK	MB-031802		10.00	9.55	**95.51**

Surrogate Added : **o-Terphenyl**

Matrix Spike/ Duplicate Recovery Report
U.S.Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Project # :**	20157
	DPW. SELFM-PW-EV	**Location :**	Bldg.886 UST
	Bldg. 173	**UST Reg. # :**	81533-140
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	15-Mar-02
Matrix:	Soil	**Date Extracted :**	18-Mar-02
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Mar-02
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
2015357MS	1000	0.00	808.54	80.85	75-125
2015357MSD	1000	0.00	794.48	79.45	75-125

RPD	**1.75**	**20.00**

Quality Control Check Standard Summary
U.S.Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Project # :**	20157
	DPW. SELFM-PW-EV	**Location :**	Bldg.886 UST
	Bldg. 173	**UST Reg. # :**	81533-140
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	15-Mar-02
Matrix:	Soil	**Date Extracted :**	18-Mar-02
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	19-Mar-02
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-031802	18-Mar-02	1000	776.40	77.64	75-126

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020318\T014230.D Vial: 10
Acq On : 18 Mar 2002 7:23 pm Operator: B.Patel
Sample : MB-031802 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Mar 19 10:29 2002 Quant Results File: TPH96.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
Response via : Initial Calibration
DataAcq Meth : TPH96.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	12.44	274222	9.551 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	95.51%#
Target Compounds			

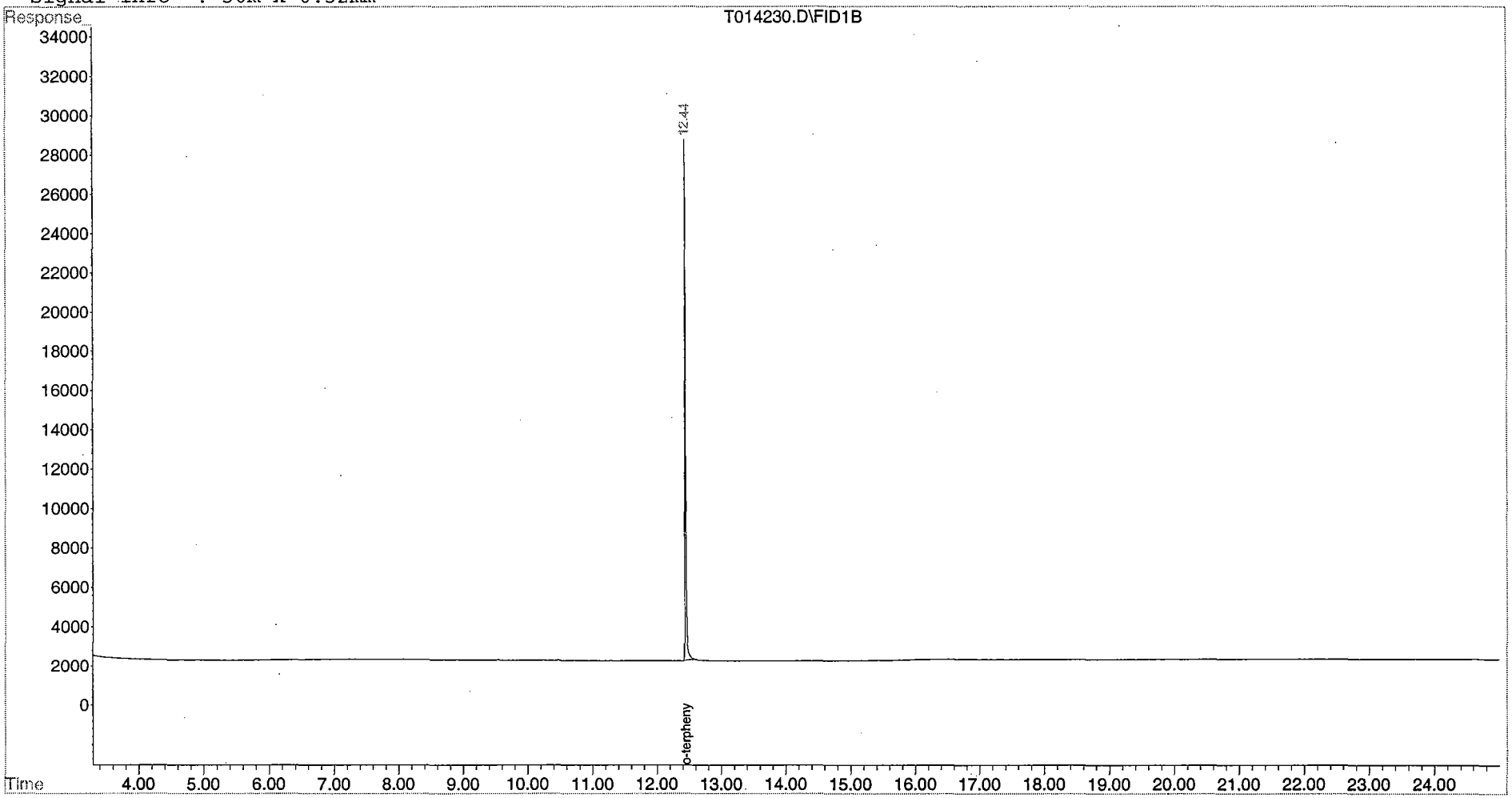
000044

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

Data File : C:\HPCHEM\1\DATA\020318\T014230.D Vial: 10
Acq On : 18 Mar 2002 7:23 pm Operator: B.Patel
Sample : MB-031802 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Mar 19 10:29 2002 Quant Results File: TPH96.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH96.M

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



000045

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020318\T014255.D Vial: 35
Acq On : 19 Mar 2002 10:55 am Operator: B.Patel
Sample : 2015701s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Mar 19 11:26 2002 Quant Results File: TPH96.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
Response via : Initial Calibration
DataAcq Meth : TPH96.M

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

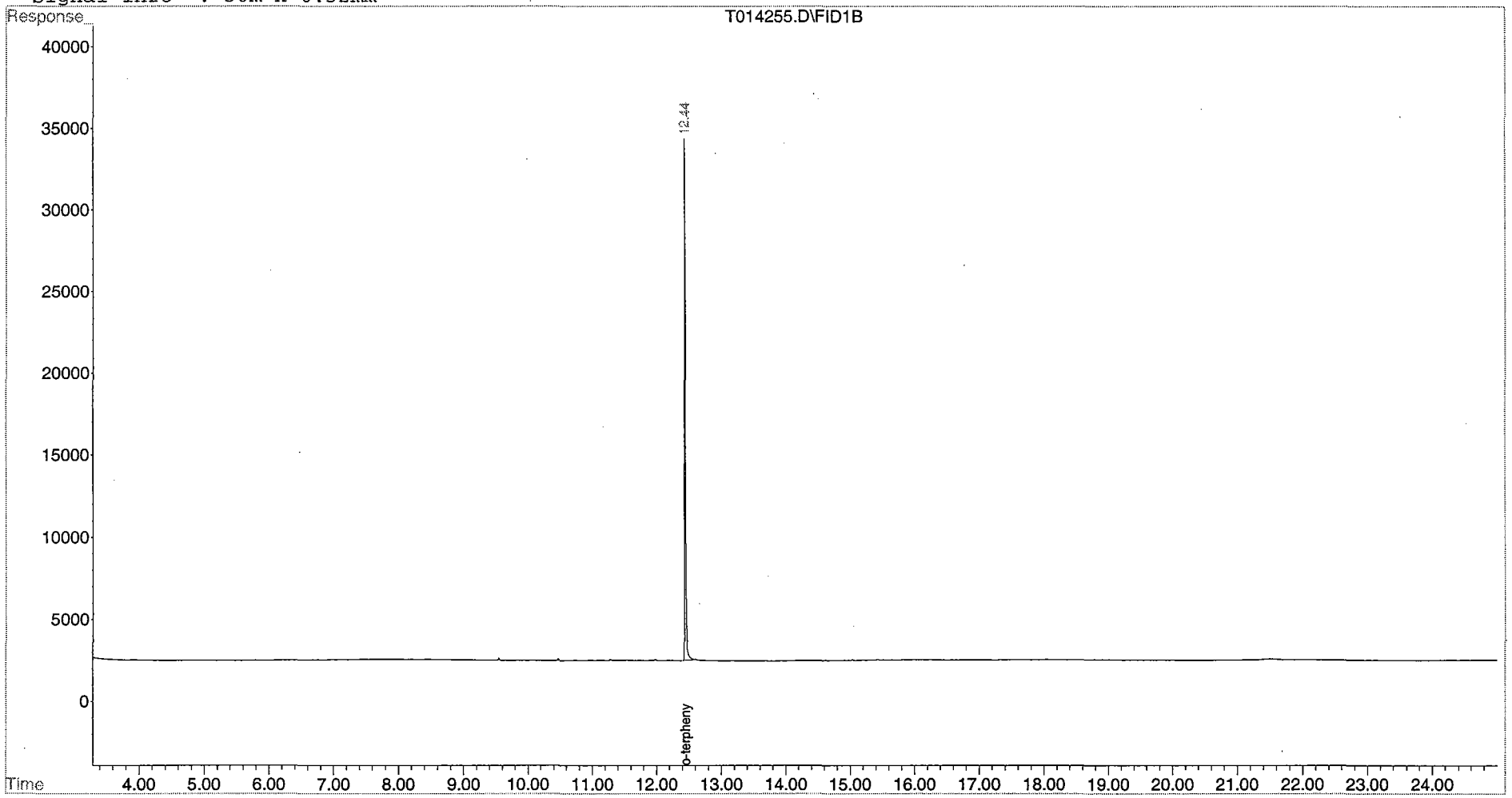
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.44	319322	11.122 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 111.22%#	
Target Compounds			

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

Data File : C:\HPCHEM\1\DATA\020318\T014255.D Vial: 35
Acq On : 19 Mar 2002 10:55 am Operator: B.Patel
Sample : 2015701s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Mar 19 11:26 2002 Quant Results File: TPH96.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH96.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Feb 26 14:59:00 2002
Response via : Multiple Level Calibration
DataAcq Meth : TPH96.M

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



000047

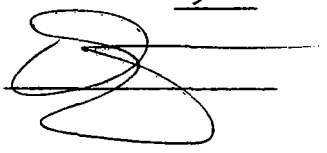
LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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 3/27/02

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

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

DIRECTORATE OF PUBLIC WORKS
PHONE: (732) 532-6224 FAX: (732) 532-6263
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
CERTIFICATIONS: NJDEP #13461, NYSDOH #11699

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. 886

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
886-PX1/West Wall 10.5-11'	1650601	Soil	12-Oct-01 14:10	10/12/01
886-PX2/North Wall 9-9.5'	1650602	Soil	12-Oct-01 14:30	10/12/01
886-PX3/Bottom 9.5-10'	1650603	Soil	12-Oct-01 15:00	10/12/01
886-PX4/Duplicate 10.5-11'	1650604	Soil	12-Oct-01 14:10	10/12/01
886-PX5/East Wall 9-9.5'	1650605	Soil	12-Oct-01 15:20	10/12/01
Trip Blank	1650606	Methanol	12-Oct-01	10/12/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

10+2-01
Daniel Wright/Date
Laboratory Director

Table of Contents

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai
Phone #: X21475
( )DERA (X)OMA UST Assessment

Project No: 01-0001
Location: BLDG. 886
UST# 81533-140

Samplers Name / Company : Frank Accorsi/TVS

Analysis Parameters

Lab Sample I.D.	Sample Location	Depth	Date	Time	Sample Type	# Bottles	TPHC	% SOLIDS	VOA+10 *	VOA ID #	PID Reading	Remarks / Preservation Method
105000 01	886-PX1, WEST WALL	10.5-11	10-12-01	1410	SOIL	2	X	X	X	2873	1.0	ICE 11.69
02	886-PX2, NORTH WALL	9-9.5		1430		2	X	X	X	~~2874~~ 2872	0.5	10.58
03	886-PX3, BOTTOM	9.5-10		1500		2	X	X	X	~~28752~~ 874	0.8	10.06
04	886-PX4, DUPLICATE	10.5-11		1410		2	X	X	X	~~2876~~ 2875	1.5	11.55
05	886-PX5, ~~WEST~~ EAST WALL	9-9.5		1520		2	X	X	X	2876	1.0	10.73
06	TRIP BLANK	—		—	AQ	1		X	X	2877	—	—

OVM sn#580U-64455.343 was calibrated with zero air & w/ ~~245~~ 245 ppm Isobutylene read 245 ppm. 10-1201 1030 FA (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	10/2-01 1350	
Relinquished by (signature):	Date/Time:	Received by (signature):

Comments: * VOA ANALYSIS ON ALL SAMPLES.

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 2 wks, (X)Rush 3 Days, ( )ASAP Verbal ___ Hrs.

Remarks: Dedicated Sampling Tools Used
All sample points have been GPS? ( )YES ( )NO ( )NA

200000

print legibly

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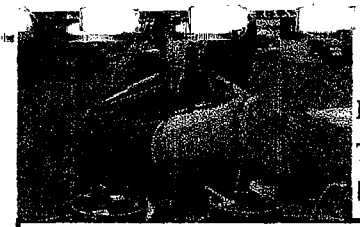

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: Dinker Desai
Phone #: X21475
( )DERA (X)OMA UST Assessment

Project No: 01-0001
Location: BLDG. 886
UST# 81533-140

Samplers Name / Company : Frank Accorsi/TVS

Analysis Parameters: TPHC; % SOLIDS; VOA+10; VOA ID #; PID Reading

* = Samples Kept <4°C

Lab Sample I.D.	Sample Location	Depth	Date	Time	Sample Type	# Bottles	TPHC	% SOLIDS	VOA+10	VOA ID #	PID Reading	Remarks / Preservation Method
105006 01	886-PX1, WEST WALL	10.5-11	10-12-01	1410	SOIL	2	X	X	X	2873	1.0	ICE 11.69
02	886-PX2, NORTH WALL	9-9.5		1430		2	X	X	X	~~2874~~ 2872	0.5	10.58
03	886-PX3, BOTTOM	9.5-10		1500		2	X	X	X	~~2875~~ 2874	0.8	10.06
04	886-PX4, DUPLICATE	10.5-11		1410		2	X	X	X	~~2876~~ 2875	1.5	11.55
05	886-PX5, ~~WEST~~ EAST WALL	9-9.5		1520		2	X	X	X	2876	1.0	10.73
06	TRIP BLANK	—		—	AQ	1			X	2877	—	—

OVM sn#580U-64455.343 was calibrated with zero air & w/ ~~245~~ ppm Isobutylene read 245 ppm. 10-12-01 1070 FA (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	10-12-01 1350	
Relinquished by (signature):	Date/Time:	Received by (signature):

Comments: VOA ANALYSIS ON ALL SAMPLES.

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 2 wks, (X)Rush 3 Days, ( )ASAP Verbal ___ Hrs.

Remarks: Dedicated Sampling Tools Used
All sample points have been GPS? ( )YES ( )NO ( )NA

000002

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METHOD SUMMARY

Method Summary

NJDEP Method 8260
Gas Chromatographic Determination of Volatiles in Soil

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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 orbital 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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16506

Site: Bldg. 886

	Date	Hold Time
Date Sampled	10/12/01	NA
Receipt/Refrigeration	10/12/01	NA
Extractions		
1. TPHC	10/15/01	14 days
Analyses		
1. Volatile Organics	10/14/01	14 days
2. TPHC	10/16/01	40 days

CONFORMANCE-
NON-
CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	Indicate Yes, No, N/A
1. Chromatograms labeled/Compounds identified (Field samples and method blanks)	yes
2. Retention times for chromatograms provided	yes
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	yes
b. DFTPP Meet Criteria	NA
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	yes
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	yes
b. System Performance Check Compounds Meet Criteria	yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	no
a. VOA Fraction	
b. B/N Fraction NA	
c. Acid Fraction NA	
8. Surrogate Recoveries Meet Criteria	yes
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction	
b. B/N Fraction NA	
c. Acid Fraction NA	
If not met, were the calculations checked and the results qualified as "estimated"?	
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	yes
a. VOA Fraction	
b. B/N Fraction NA	
c. Acid Fraction NA	

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — yes
(If not met, list those compounds, which fall outside the acceptable range)

    a. VOA Fraction _____
    b. B/N Fraction NA
    c. Acid Fraction NA

11. Extraction Holding Time Met — NA

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met — yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: _____ Date: 10-18-01

TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

Laboratory Manager

10-18-01
Date

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL	:	Method Detection Limit
J	:	Compound identified below detection limit
B	:	Compound found in blank
D	:	Results are from a dilution of the sample
U	:	Compound searched for but not detected
E	:	Compound exceeds calibration limit
PQL	:	Practical Quantitation Limit
NLE	:	No limit established
RT	:	Retention time

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007242.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 0 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007242.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 0 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

MB

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007242.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 0 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX1

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650601

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VC007249.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 15.52 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	710	U
107131	Acrylonitrile	710	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	310	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	410	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	310	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	310	U
78-93-3	2-Butanone	310	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	860	
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX1

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650601

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VC007249.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 15.52 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	310	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	49	J
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

PX1

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650601

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VC007249.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 15.52 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX2

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650602

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VC007250.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 10.67 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	740	U
107131	Acrylonitrile	740	U
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	320	U
108203	Di-isopropyl ether	210	U
75718	Dichlorodifluoromethane	420	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	320	U
74-83-9	Bromomethane	210	U
75-00-3	Chloroethane	320	U
75-69-4	Trichlorofluoromethane	210	U
75-35-4	1,1-Dichloroethene	110	U
67-64-1	Acetone	210	U
75-15-0	Carbon Disulfide	110	U
75-09-2	Methylene Chloride	210	U
156-60-5	trans-1,2-Dichloroethene	210	U
75-35-3	1,1-Dichloroethane	110	U
108-05-4	Vinyl Acetate	320	U
78-93-3	2-Butanone	320	U
	cis-1,2-Dichloroethene	110	U
67-66-3	Chloroform	880	
75-55-6	1,1,1-Trichloroethane	110	U
56-23-5	Carbon Tetrachloride	210	U
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	210	U
79-01-6	Trichloroethene	110	U
78-87-5	1,2-Dichloropropane	110	U
75-27-4	Bromodichloromethane	110	U
110-75-8	2-Chloroethyl vinyl ether	210	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-Pentanone	210	U
108-88-3	Toluene	110	U
10061-02-6	trans-1,3-Dichloropropene	210	U
79-00-5	1,1,2-Trichloroethane	210	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	210	U
126-48-1	Dibromochloromethane	210	U
108-90-7	Chlorobenzene	110	U
100-41-4	Ethylbenzene	210	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX2

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650602

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VC007250.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 10.67 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	320	U
1330-20-7	o-Xylene	210	U
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	210	U
541-73-1	1,3-Dichlorobenzene	320	U
106-46-7	1,4-Dichlorobenzene	320	U
95-50-1	1,2-Dichlorobenzene	320	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

PX2

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650602

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VC007250.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 10.67 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX3

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650603

Sample wt/vol: 10.1 (g/ml) G Lab File ID: VC007251.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 2.51 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	720	U
107131	Acrylonitrile	720	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	310	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	410	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	310	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	310	U
78-93-3	2-Butanone	310	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	810	
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX3

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650603

Sample wt/vol: 10.1 (g/ml) G Lab File ID: VC007251.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 2.51 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	310	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

PX3

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650603

Sample wt/vol: 10.1 (g/ml) G Lab File ID: VC007251.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 2.51 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX4

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650604

Sample wt/vol: 11.6 (g/ml) G Lab File ID: VC007252.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 12.8 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	770	
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX4

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650604

Sample wt/vol: 11.6 (g/ml) G Lab File ID: VC007252.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 12.8 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

PX4

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650604

Sample wt/vol: 11.6 (g/ml) G Lab File ID: VC007252.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 12.8 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX5

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650605

Sample wt/vol: 10.7 (g/ml) G Lab File ID: VC007253.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 12.53 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	750	U
107131	Acrylonitrile	750	U
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	320	U
108203	Di-isopropyl ether	210	U
75718	Dichlorodifluoromethane	430	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	320	U
74-83-9	Bromomethane	210	U
75-00-3	Chloroethane	320	U
75-69-4	Trichlorofluoromethane	210	U
75-35-4	1,1-Dichloroethene	110	U
67-64-1	Acetone	210	U
75-15-0	Carbon Disulfide	110	U
75-09-2	Methylene Chloride	210	U
156-60-5	trans-1,2-Dichloroethene	210	U
75-35-3	1,1-Dichloroethane	110	U
108-05-4	Vinyl Acetate	320	U
78-93-3	2-Butanone	320	U
	cis-1,2-Dichloroethene	110	U
67-66-3	Chloroform	970	
75-55-6	1,1,1-Trichloroethane	110	U
56-23-5	Carbon Tetrachloride	210	U
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	210	U
79-01-6	Trichloroethene	110	U
78-87-5	1,2-Dichloropropane	110	U
75-27-4	Bromodichloromethane	110	U
110-75-8	2-Chloroethyl vinyl ether	210	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-Pentanone	210	U
108-88-3	Toluene	110	U
10061-02-6	trans-1,3-Dichloropropene	210	U
79-00-5	1,1,2-Trichloroethane	210	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	210	U
126-48-1	Dibromochloromethane	210	U
108-90-7	Chlorobenzene	110	U
100-41-4	Ethylbenzene	210	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PX5

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650605

Sample wt/vol: 10.7 (g/ml) G Lab File ID: VC007253.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 12.53 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	320	U
1330-20-7	o-Xylene	210	U
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	210	U
541-73-1	1,3-Dichlorobenzene	320	U
106-46-7	1,4-Dichlorobenzene	320	U
95-50-1	1,2-Dichlorobenzene	320	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

PX5

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650605

Sample wt/vol: 10.7 (g/ml) G Lab File ID: VC007253.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 12.53 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TRIP BLANK

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650606

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007254.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 0 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TRIP BLANK

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650606

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007254.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 0 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

TRIP BLANK

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1650606

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007254.D

Level: (low/med) MED Date Received: 10/12/01

% Moisture: not dec. 0 Date Analyzed: 10/15/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Lab File ID: VC006893.D BFB Injection Date: 8/31/01

Instrument ID: GCMSVoa BFB Injection Time: 10:29

GC Column: Rtx502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	15.9
75	30.0 - 66.0% of mass 95	48.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.6
175	4.0 - 9.0% of mass 174	5.7 (8.0)1
176	93.0 - 101.0% of mass 174	67.8 (95.9)1
177	5.0 - 9.0% of mass 176	4.5 (6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	FIELD ID.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD100	VSTD100	VC006894.D	8/31/01	11:15
02	VSTD050	VSTD050	VC006895.D	8/31/01	11:55
03	VSTD020	VSTD020	VC006896.D	8/31/01	12:36
04	VSTD010	VSTD010	VC006897.D	8/31/01	13:16
05	VSTD005	VSTD005	VC006898.D	8/31/01	13:57

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16506 Location: 886 SDG No.:

Lab File ID (Standard): VC007241.D Date Analyzed: 10/15/01

Instrument ID: GCMSVoa Time Analyzed: 12:18

GC Column: Rtx502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	373903	16.70	2648022	19.42	729062	27.24
	UPPER LIMIT	747806	17.20	5296044	19.92	1458124	27.74
	LOWER LIMIT	186952	16.20	1324011	18.92	364531	26.74
	FIELD ID.						
01	MB	352777	16.70	2495060	19.42	680029	27.25
02	MS	358475	16.69	2591576	19.42	735206	27.25
03	MSD	365658	16.70	2634430	19.42	742481	27.25
04	PX1	357075	16.69	2566284	19.42	726976	27.25
05	PX2	352390	16.69	2550700	19.42	717446	27.25
06	PX3	352670	16.69	2558289	19.42	721408	27.25
07	PX4	352878	16.69	2566887	19.42	715925	27.24
08	PX5	348559	16.69	2517534	19.42	702010	27.24
09	TRIP BLANK	350510	16.69	2551609	19.42	715793	27.25

IS1 BCM = Bromochloromethane

IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk.

* Values outside of contract required QC limits

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007242.D Vial: 1
Acq On : 15 Oct 2001 3:03 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 15:39 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

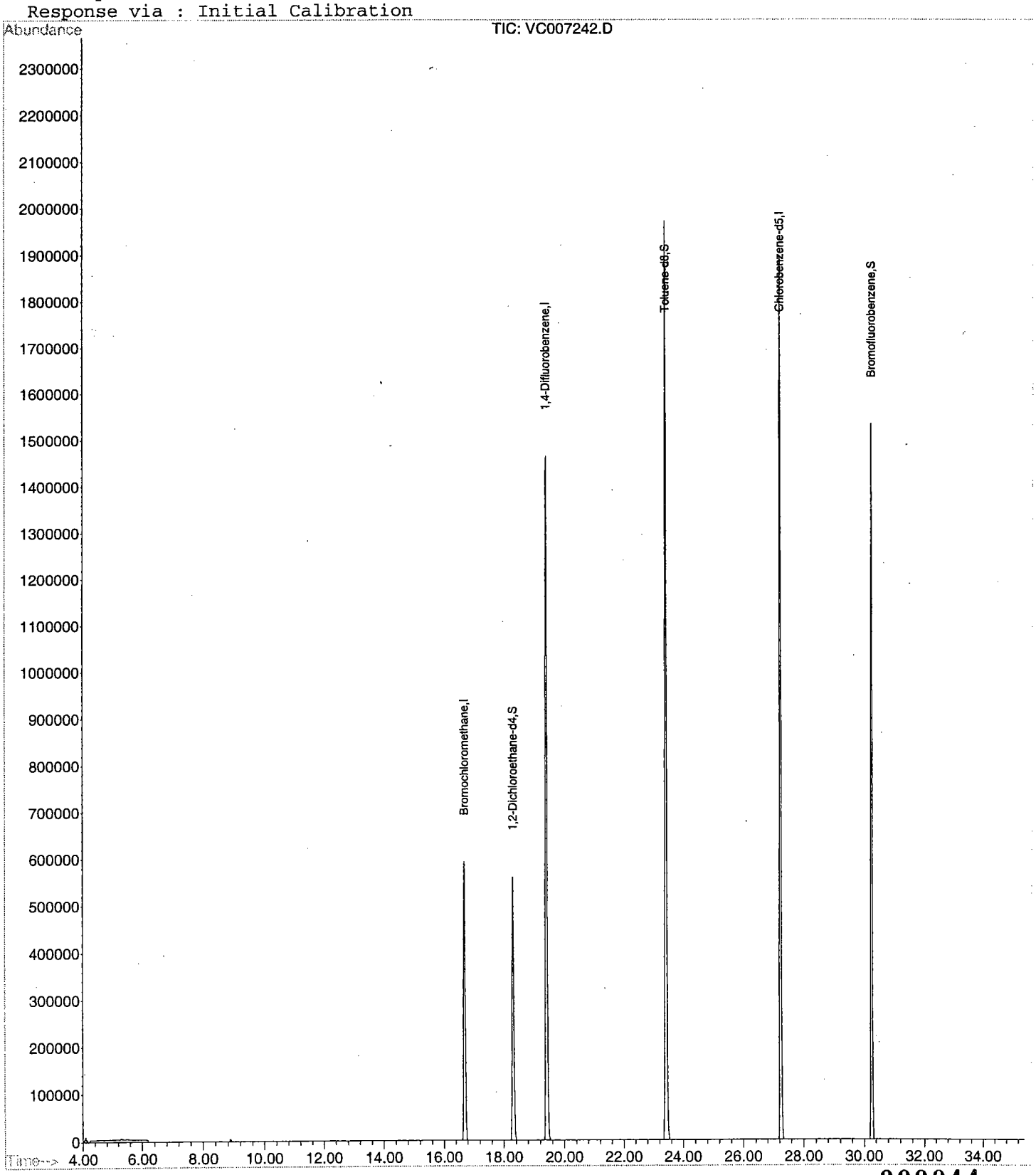
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	352777	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2495060	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	680029	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	794526	28.94	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 96.47%			
35) Toluene-d8	23.42	98	2760873	27.98	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 93.27%			
49) Bromofluorobenzene	30.25	95	1062798	28.07	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 93.57%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\011015\VC007242.D Vial: 1
Acq On : 15 Oct 2001 3:03 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 15:39 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007249.D Vial: 7
Acq On : 15 Oct 2001 8:03 pm Operator: Skelton
Sample : 1650601 Inst : GC/MS Ins
Misc : 886-PX1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 10:58 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

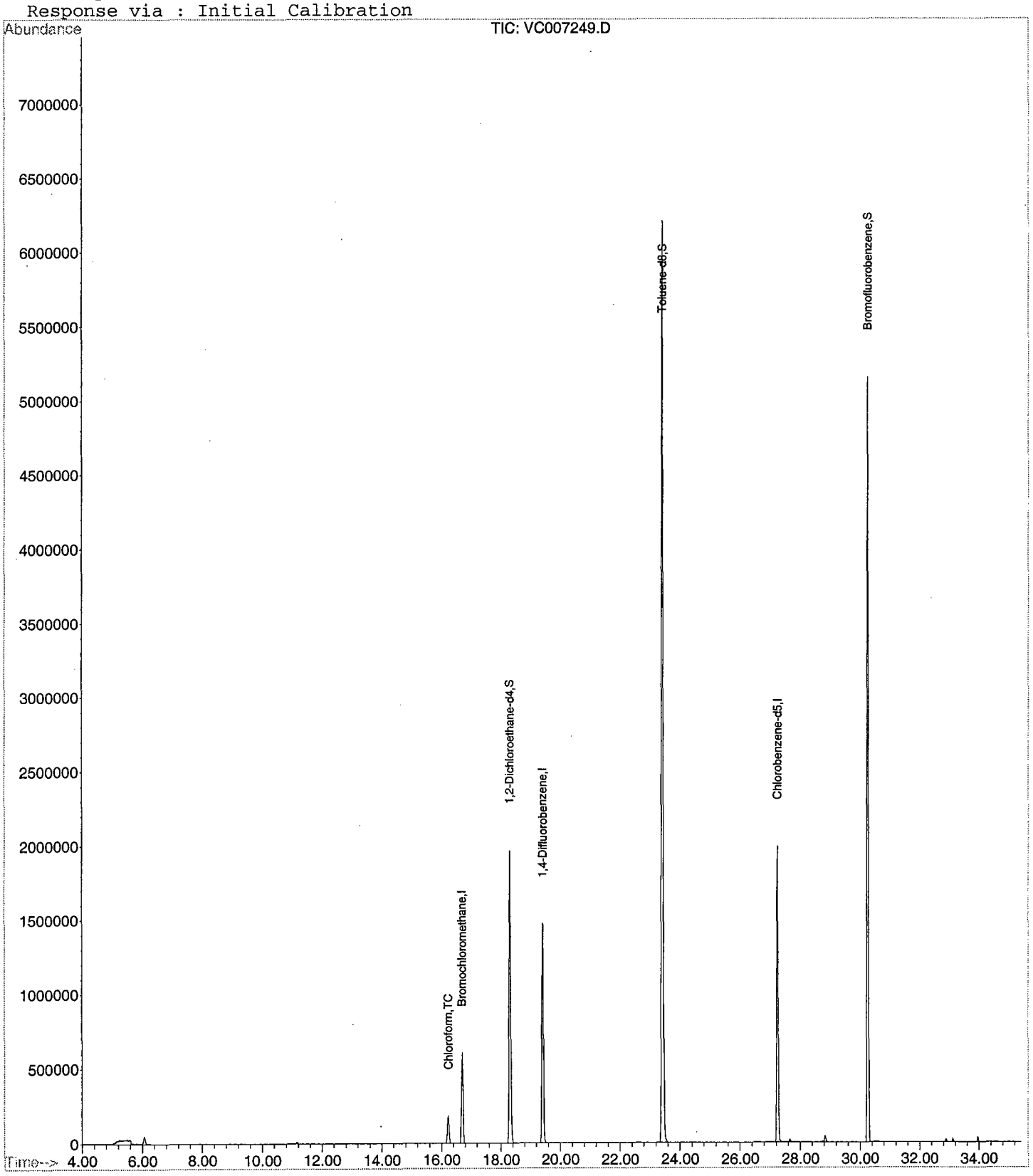
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	357075	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2566284	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	726976	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2661840	95.80	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 319.33%#			
35) Toluene-d8	23.42	98	8660408	85.32	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 284.40%#			
49) Bromofluorobenzene	30.25	95	3598573	88.92	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 296.40%#			
Target Compounds						Qvalue
22) Chloroform	16.23	83	361646	8.45	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\011015\VC007249.D Vial: 7
Acq On : 15 Oct 2001 8:03 pm Operator: Skelton
Sample : 1650601 Inst : GC/MS Ins
Misc : 886-PX1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 10:58 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007250.D Vial: 8
Acq On : 15 Oct 2001 8:44 pm Operator: Skelton
Sample : 1650602 Inst : GC/MS Ins
Misc : 886-PX2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 21:19 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	352390	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2550700	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	717446	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2698015	98.40	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery =	328.00%#		
35) Toluene-d8	23.42	98	8739558	86.63	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery =	288.77%#		
49) Bromofluorobenzene	30.25	95	3624983	90.76	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery =	302.53%#		
Target Compounds						Qvalue
22) Chloroform	16.23	83	350469	8.30	ug/L	95

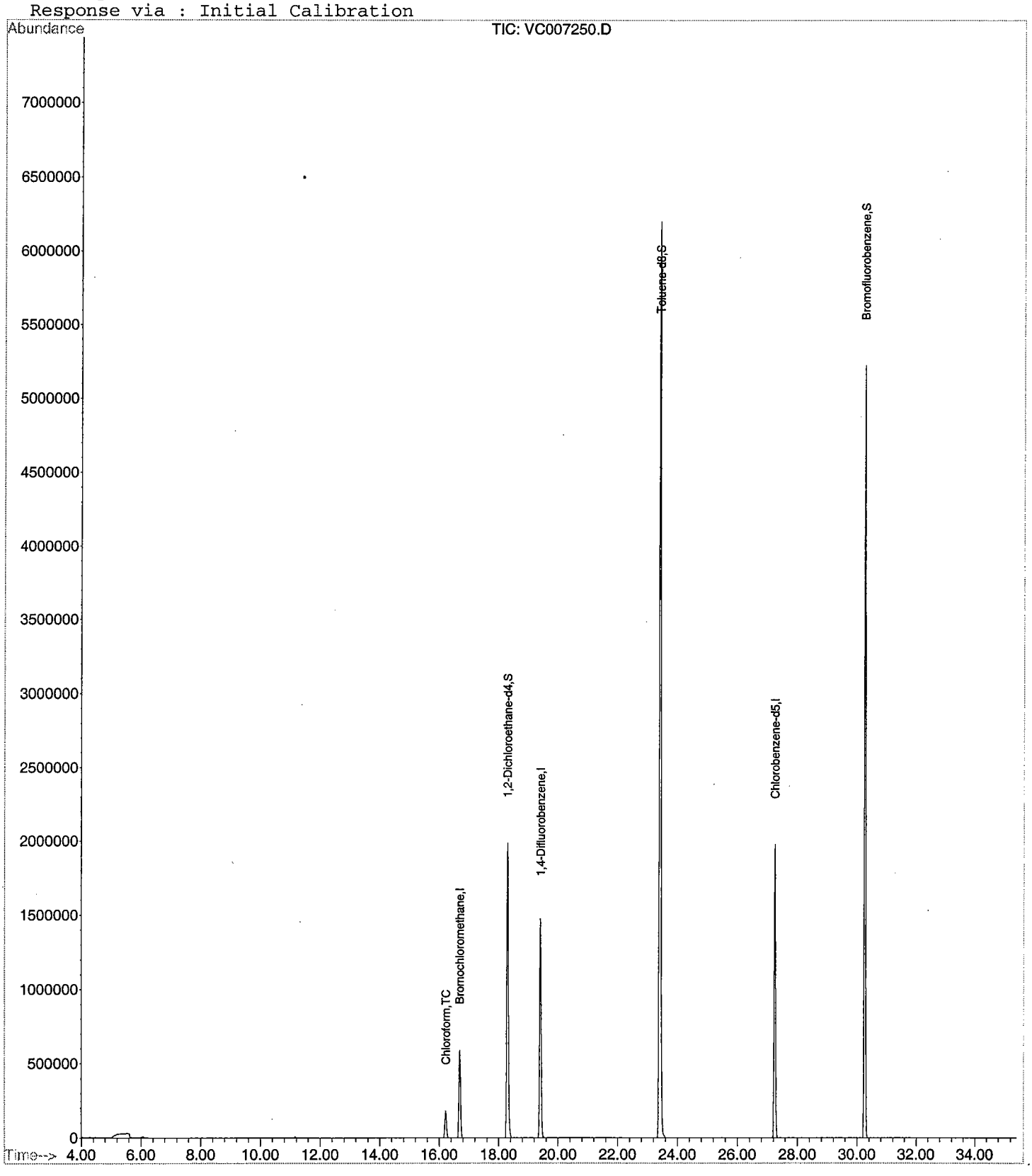
(#) = qualifier out of range (m) = manual integration

000047

Quantitation Report

Data File : D:\HPCHEM\1\DATA\011015\VC007250.D Vial: 8
Acq On : 15 Oct 2001 8:44 pm Operator: Skelton
Sample : 1650602 Inst : GC/MS Ins
Misc : 886-PX2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 21:19 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007251.D Vial: 9
Acq On : 15 Oct 2001 9:25 pm Operator: Skelton
Sample : 1650603 Inst : GC/MS Ins
Misc : 886-PX3 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 22:00 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

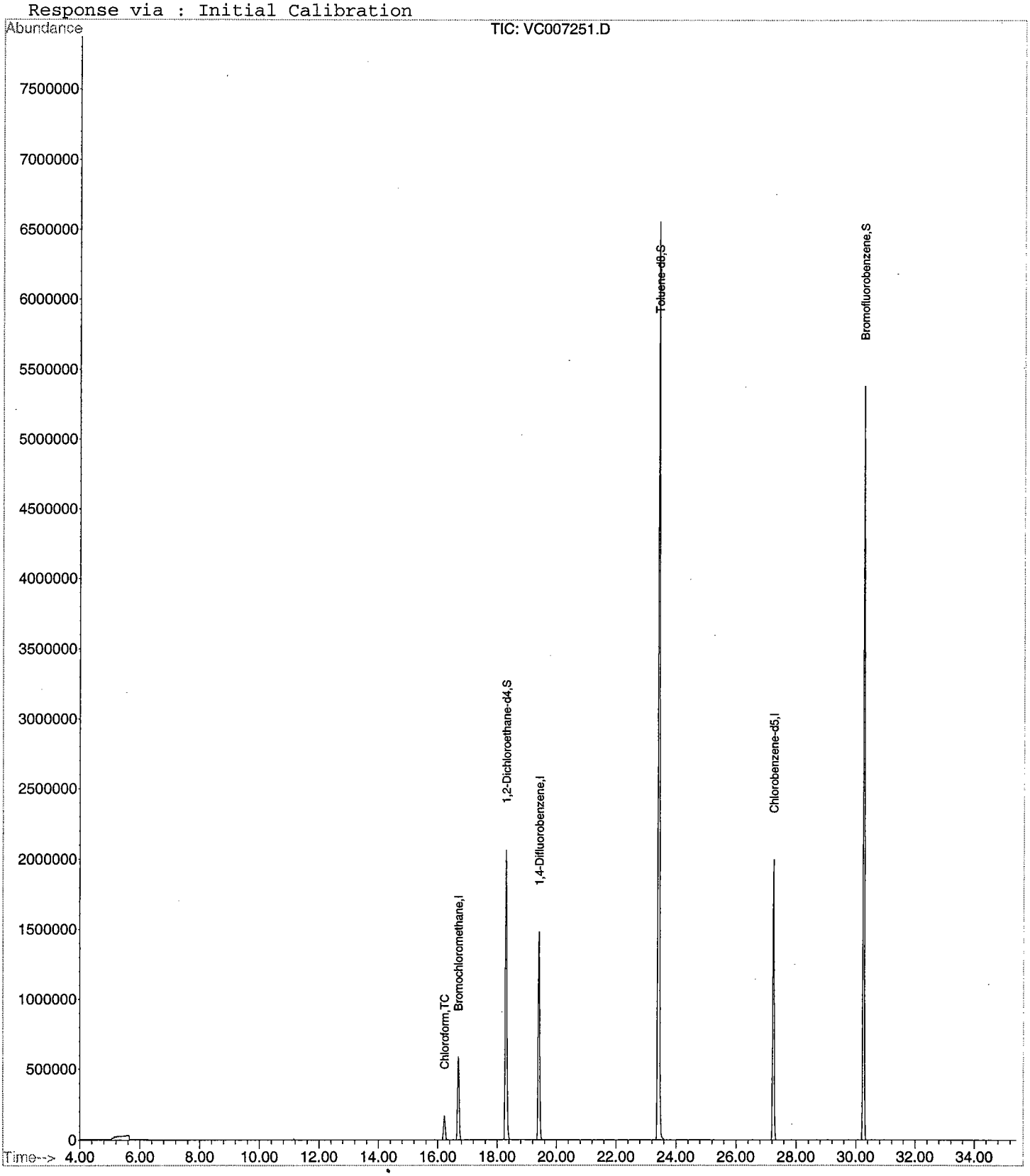
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	352670	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2558289	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	721408	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2791889	101.74	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery =	339.13%#		
35) Toluene-d8	23.42	98	8992567	88.87	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery =	296.23%#		
49) Bromofluorobenzene	30.25	95	3730309	92.89	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery =	309.63%#		
Target Compounds						Qvalue
22) Chloroform	16.23	83	333226	7.89	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\011015\VC007251.D Vial: 9
Acq On : 15 Oct 2001 9:25 pm Operator: Skelton
Sample : 1650603 Inst : GC/MS Ins
Misc : 886-PX3 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 22:00 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007252.D Vial: 10
Acq On : 15 Oct 2001 10:06 pm Operator: Skelton
Sample : 1650604 Inst : GC/MS Ins
Misc : 886-PX4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 22:41 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

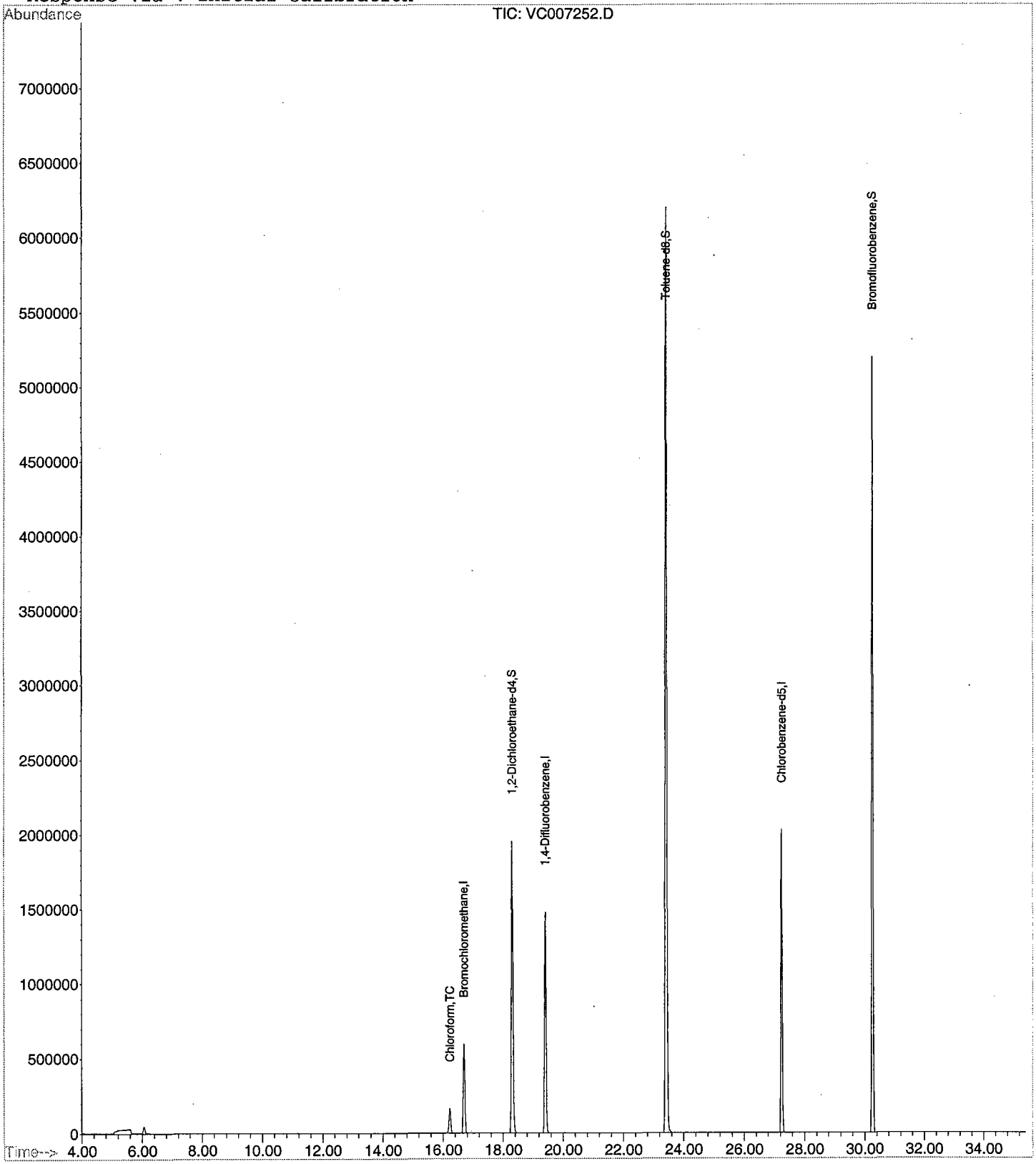
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	352878	30.00	ug/L	-0.01
26) 1,4-Difluorobenzene	19.42	114	2566887	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	715925	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2657457	96.78	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery =	322.60%#		
35) Toluene-d8	23.42	98	8537602	84.09	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery =	280.30%#		
49) Bromofluorobenzene	30.25	95	3566627	89.49	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery =	298.30%#		
Target Compounds						Qvalue
22) Chloroform	16.23	83	325463	7.70	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\011015\VC007252.D Vial: 10
Acq On : 15 Oct 2001 10:06 pm Operator: Skelton
Sample : 1650604 Inst : GC/MS Ins
Misc : 886-PX4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 15 22:41 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007253.D Vial: 11
Acq On : 15 Oct 2001 10:47 pm Operator: Skelton
Sample : 1650605 Inst : GC/MS Ins
Misc : 886-PX5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 10:59 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

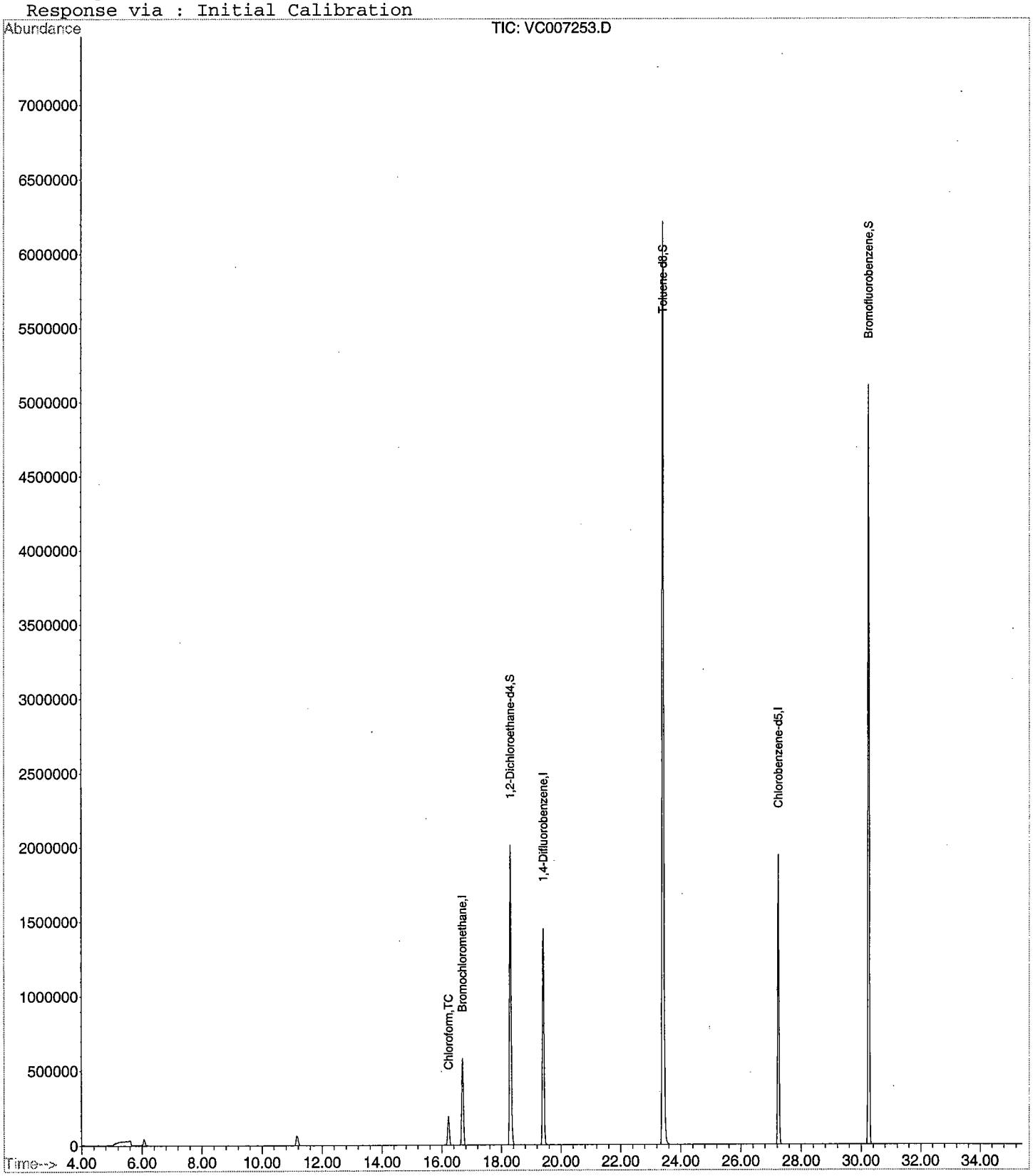
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	348559	30.00	ug/L	-0.01
26) 1,4-Difluorobenzene	19.42	114	2517534	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	702010	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2719197	100.26	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 334.20%#			
35) Toluene-d8	23.42	98	8671574	87.09	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 290.30%#			
49) Bromofluorobenzene	30.25	95	3605623	92.26	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 307.53%#			
Target Compounds						Qvalue
22) Chloroform	16.23	83	376239	9.01	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\011015\VC007253.D Vial: 11
Acq On : 15 Oct 2001 10:47 pm Operator: Skelton
Sample : 1650605 Inst : GC/MS Ins
Misc : 886-PX5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 17 10:59 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007254.D Vial: 12
Acq On : 15 Oct 2001 11:28 pm Operator: Skelton
Sample : 1650606 Inst : GC/MS Ins
Misc : Trip Blank Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 0:03 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	350510	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2551609	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	715793	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2833461	103.89	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery =	346.30%#		
35) Toluene-d8	23.42	98	9010705	89.28	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery =	297.60%#		
49) Bromofluorobenzene	30.25	95	3726073	93.51	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery =	311.70%#		

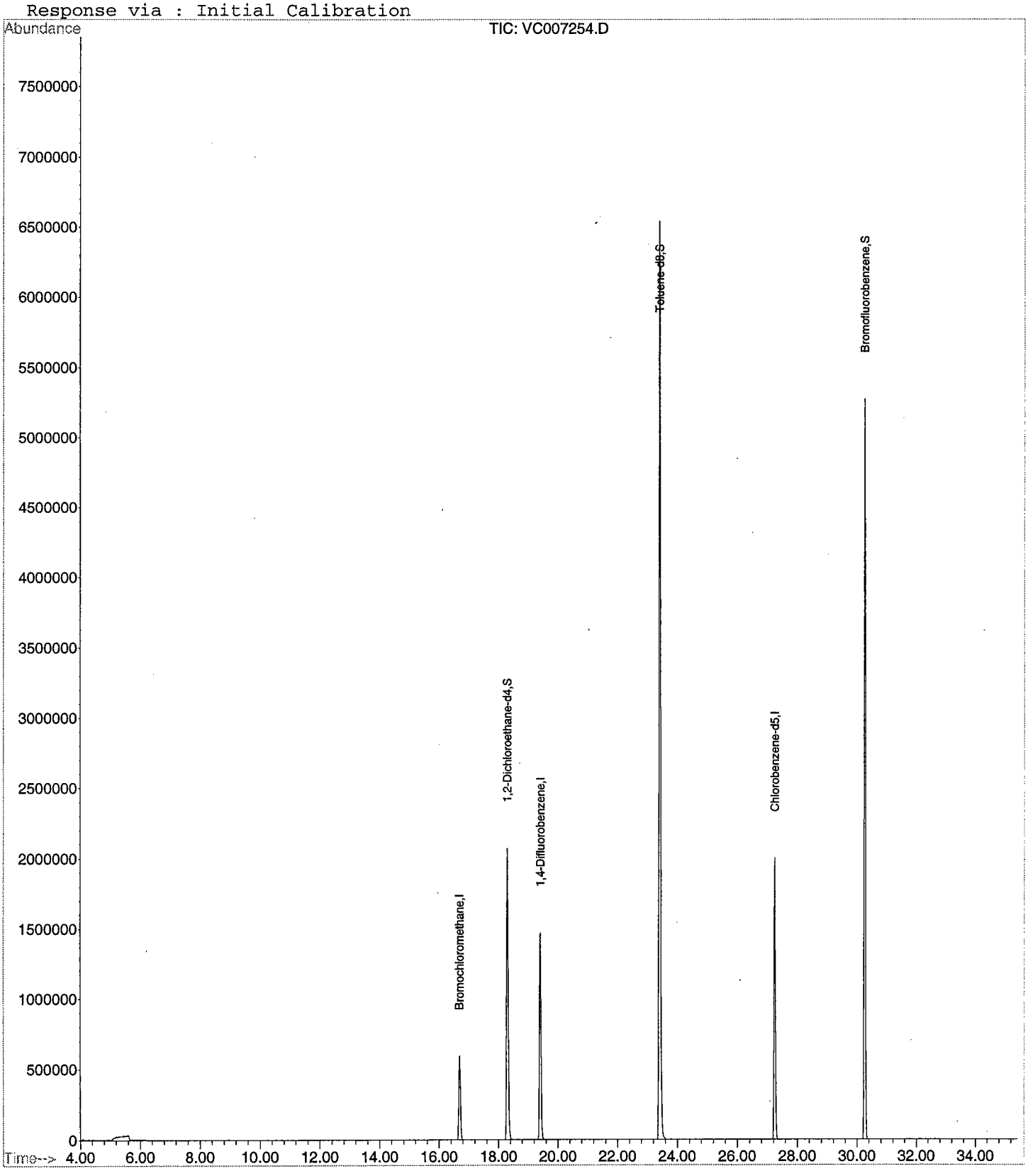
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\011015\VC007254.D Vial: 12
Acq On : 15 Oct 2001 11:28 pm Operator: Skelton
Sample : 1650606 Inst : GC/MS Ins
Misc : Trip Blank Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 0:03 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration



TPHC

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	**Project # :** **Location :** **UST Reg. # :**	16506 Bldg.886 81533-140
Analysis :	OQA-QAM-025	**Date Received :**	12-Oct-01
Matrix :	Soil	**Date Extracted :**	15-Oct-01
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	16-Oct-01
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1650601	886-PX1	**1.00**	15.19	84.48	177	**ND**
METHOD BLANK	MB-2515	**1.00**	15.00	100.00	151	**ND**

ND = Not Detected

MDL = Method Detection Limit

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	**Project # :** **Location :** **UST Reg. # :**	16506 Bldg.886 81533-140
Analysis :	OQA-QAM-025	**Date Received :**	12-Oct-01
Matrix :	Soil	**Date Extracted :**	15-Oct-01
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	16-Oct-01
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1650602	886-PX2	**1.00**	15.71	89.33	161	**ND**
1650603	886-PX3	**1.00**	15.19	97.49	153	**ND**
1650604	886-PX4	**1.00**	15.49	87.20	168	**ND**
1650605	886-PX5	**1.00**	15.17	87.47	171	**ND**
METHOD BLANK	MB-2519	**1.00**	15.00	100.00	151	**ND**

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Calibration Files
5 =T013655.D 100 =T013656.D 50 =T013654.D
20 =T013658.D 10 =T013657.D

		Compound	5	100	50	20	10	Avg		%RSD
1)	tC	C8	1.744	1.887	1.886	1.754	1.738	1.802	E4	4.30
2)	tC	C10	2.003	2.147	2.126	1.965	2.057	2.060	E4	3.79
3)	TC	C12	2.113	2.213	2.208	2.156	2.083	2.155	E4	2.66
4)	tC	C14	2.299	2.326	2.324	2.268	2.306	2.305	E4	1.02
5)	tC	C16	2.493	2.384	2.406	2.366	2.379	2.406	E4	2.12
6)	tC	C18	2.560	2.472	2.471	2.394	2.508	2.481	E4	2.44
7)	tC	C20	2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
8)	tC	C22	2.749	2.537	2.572	2.524	2.557	2.588	E4	3.55
9)	tC	C24	2.833	2.572	2.606	2.557	2.595	2.633	E4	4.31
10)	tC	C26	2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
11)	tC	C28	2.766	2.550	2.598	2.549	2.569	2.606	E4	3.51
12)	tC	C30	2.816	2.620	2.673	2.602	2.581	2.658	E4	3.56
13)	tC	C32	2.764	2.603	2.654	2.589	2.613	2.645	E4	2.69
14)	tC	C34	2.766	2.589	2.631	2.573	2.599	2.632	E4	2.97
15)	tC	C36	2.763	2.655	2.663	2.622	2.627	2.666	E4	2.14
16)	tC	C38	2.526	2.460	2.422	2.425	2.430	2.453	E4	1.79
17)	tC	C40	2.197	2.275	2.148	2.199	2.178	2.199	E4	2.14
18)	tC	c42	1.886	2.124	1.935	1.972	1.902	1.964	E4	4.86
19)	TC	Pristane	2.536	2.306	2.402	2.282	2.379	2.381	E4	4.20
20)	TC	Phytane	2.753	2.476	2.516	2.487	2.554	2.557	E4	4.43
21)	sC	o-terphenyl	2.654	2.507	2.538	2.504	2.538	2.548	E4	2.41
22)	tC	TPHC - total	3.562	2.604	2.659	2.739	2.933	2.899	E4	13.48

#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013669.D Vial: 16
Acq On : 15 Oct 2001 7:43 pm Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 PPM STD Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
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	18.019	19.014 E3	-5.5	101	0.01
2	tC	C10	20.595	22.377 E3	-8.7	105	0.00
3	TC	C12	21.549	23.085 E3	-7.1	105	0.00
4	tC	C14	23.048	24.180 E3	-4.9	104	0.00
5	tC	C16	24.057	24.776 E3	-3.0	103	0.00
6	tC	C18	24.812	25.012 E3	-0.8	101	0.00
7	tC	C20	24.684	25.466 E3	-3.2	103	0.00
8	tC	C22	25.878	26.348 E3	-1.8	102	0.00
9	tC	C24	26.326	26.670 E3	-1.3	102	0.00
10	tC	C26	26.702	26.927 E3	-0.8	102	0.00
11	tC	C28	26.061	26.495 E3	-1.7	102	0.00
12	tC	C30	26.583	27.243 E3	-2.5	102	0.00
13	tC	C32	26.447	26.985 E3	-2.0	102	0.00
14	tC	C34	26.317	26.921 E3	-2.3	102	0.00
15	tC	C36	26.661	27.874 E3	-4.5	105	0.00
16	tC	C38	24.528	26.428 E3	-7.7	109	0.00
17	tC	C40	21.994	25.099 E3	-14.1	117	0.00
18	tC	c42	19.638	24.199 E3	-23.2	125	0.00
19	TC	Pristane	23.812	24.046 E3	-1.0	100	0.00
20	TC	Phytane	25.573	25.856 E3	-1.1	103	0.00
21	sC	o-terphenyl	25.484	26.125 E3	-2.5	103	0.00
22	tC	TPHC - total	28.994	28.793 E3	0.7	108	0.28

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013680.D Vial: 27
Acq On : 16 Oct 2001 1:49 am Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 PPM STD Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
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	18.019	18.377 E3	-2.0	97	0.00
2	tC	C10	20.595	21.602 E3	-4.9	102	0.00
3	TC	C12	21.549	22.362 E3	-3.8	101	0.00
4	tC	C14	23.048	23.537 E3	-2.1	101	0.00
5	tC	C16	24.057	24.206 E3	-0.6	101	0.00
6	tC	C18	24.812	25.449 E3	-2.6	103	0.00
7	tC	C20	24.684	24.900 E3	-0.9	100	0.00
8	tC	C22	25.878	25.708 E3	0.7	100	0.00
9	tC	C24	26.326	26.033 E3	1.1	100	0.00
10	tC	C26	26.702	26.298 E3	1.5	100	0.00
11	tC	C28	26.061	25.816 E3	0.9	99	0.00
12	tC	C30	26.583	26.526 E3	0.2	99	0.00
13	tC	C32	26.447	26.300 E3	0.6	99	0.00
14	tC	C34	26.317	26.214 E3	0.4	100	0.00
15	tC	C36	26.661	27.110 E3	-1.7	102	0.00
16	tC	C38	24.528	25.753 E3	-5.0	106	0.00
17	tC	C40	21.994	24.509 E3	-11.4	114	0.00
18	tC	c42	19.638	23.560 E3	-20.0	122	0.00
19	TC	Pristane	23.812	23.703 E3	0.5	99	0.00
20	TC	Phytane	25.573	25.161 E3	1.6	100	0.00
21	sC	o-terphenyl	25.484	25.505 E3	-0.1	100	0.00
22	tC	TPHC - total	28.994	27.463 E3	5.3	103	-0.95#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013691.D Vial: 38
Acq On : 16 Oct 2001 7:53 am Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
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	18.019	18.508 E3	-2.7	98	0.00
2	tC	C10	20.595	21.645 E3	-5.1	102	0.00
3	TC	C12	21.549	22.587 E3	-4.8	102	0.00
4	tC	C14	23.048	23.954 E3	-3.9	103	0.00
5	tC	C16	24.057	24.677 E3	-2.6	103	0.00
6	tC	C18	24.812	24.781 E3	0.1	100	0.00
7	tC	C20	24.684	25.412 E3	-2.9	103	0.00
8	tC	C22	25.878	26.192 E3	-1.2	102	0.00
9	tC	C24	26.326	26.528 E3	-0.8	102	0.00
10	tC	C26	26.702	26.758 E3	-0.2	102	0.00
11	tC	C28	26.061	26.272 E3	-0.8	101	0.00
12	tC	C30	26.583	26.943 E3	-1.4	101	0.00
13	tC	C32	26.447	26.675 E3	-0.9	100	0.00
14	tC	C34	26.317	26.560 E3	-0.9	101	0.00
15	tC	C36	26.661	27.443 E3	-2.9	103	0.00
16	tC	C38	24.528	25.998 E3	-6.0	107	0.00
17	tC	C40	21.994	24.561 E3	-11.7	114	-0.01
18	tC	c42	19.638	23.252 E3	-18.4	120	0.00
19	TC	Pristane	23.812	23.971 E3	-0.7	100	0.00
20	TC	Phytane	25.573	25.721 E3	-0.6	102	0.00
21	sC	o-terphenyl	25.484	25.988 E3	-2.0	102	0.00
22	tC	TPHC - total	28.994	27.291 E3	5.9	103	1.02#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013702.D Vial: 49
Acq On : 16 Oct 2001 2:02 pm Operator: B.Patel
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
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	18.019	18.632 E3	-3.4	99	0.00
2	tC	C10	20.595	22.169 E3	-7.6	104	0.00
3	TC	C12	21.549	23.089 E3	-7.1	105	0.00
4	tC	C14	23.048	24.435 E3	-6.0	105	0.00
5	tC	C16	24.057	25.180 E3	-4.7	105	0.00
6	tC	C18	24.812	26.378 E3	-6.3	107	0.00
7	tC	C20	24.684	26.011 E3	-5.4	105	0.00
8	tC	C22	25.878	26.755 E3	-3.4	104	0.00
9	tC	C24	26.326	27.054 E3	-2.8	104	0.00
10	tC	C26	26.702	27.246 E3	-2.0	103	0.00
11	tC	C28	26.061	26.758 E3	-2.7	103	0.00
12	tC	C30	26.583	27.484 E3	-3.4	103	0.00
13	tC	C32	26.447	27.211 E3	-2.9	103	0.00
14	tC	C34	26.317	27.042 E3	-2.8	103	0.00
15	tC	C36	26.661	27.851 E3	-4.5	105	0.00
16	tC	C38	24.528	26.291 E3	-7.2	109	0.00
17	tC	C40	21.994	24.624 E3	-12.0	115	0.00
18	tC	c42	19.638	22.774 E3	-16.0	118	0.00
19	TC	Pristane	23.812	24.656 E3	-3.5	103	0.00
20	TC	Phytane	25.573	26.295 E3	-2.8	104	0.00
21	sC	o-terphenyl	25.484	26.527 E3	-4.1	105	0.00
22	tC	TPHC - total	28.994	27.626 E3	4.7	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Matrix Spike/ Duplicate Recovery Report
U.S.Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Project # :**	16506
	DPW. SELFM-PW-EV	**Location :**	Bldg.886
	Bldg. 173	**UST Reg. # :**	81533-140
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	12-Oct-01
Matrix:	Soil	**Date Extracted :**	15-Oct-01
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	16-Oct-01
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1650602MS	1000	0.00	839.28	83.93	75-125
1650602MSD	1000	0.00	853.53	85.35	75-125
			RPD	**1.68**	**20.00**

Quality Control Check Standard Summary
U.S.Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

Client :	U.S. Army	**Project # :**	16506
	DPW. SELFM-PW-EV	**Location :**	Bldg.886
	Bldg. 173	**UST Reg. # :**	81533-140
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	12-Oct-01
Matrix:	Soil	**Date Extracted :**	15-Oct-01
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	16-Oct-01
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-2520	15-Oct-01	1000	806.30	80.63	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013659.D Vial: 6
Acq On : 15 Oct 2001 2:05 pm Operator: B.Patel
Sample : MB-2515 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 15 15:05 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

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

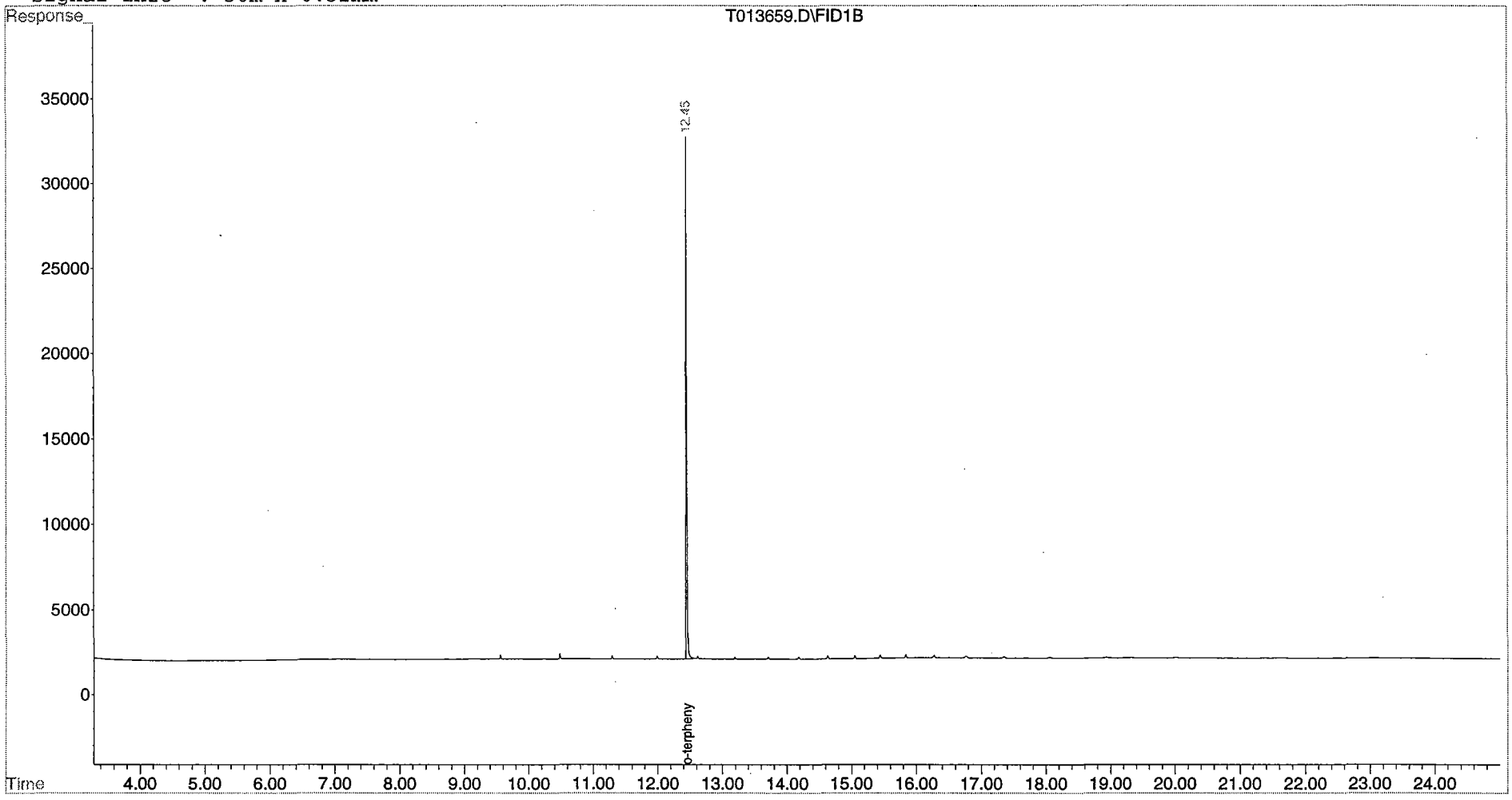
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.45	287051	11.264 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 112.64%#	
Target Compounds			

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

Data File : C:\HPCHEM\1\DATA\011015\T013659.D Vial: 6
Acq On : 15 Oct 2001 2:05 pm Operator: B.Patel
Sample : MB-2515 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 15 15:05 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH95.M

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



000072

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013685.D Vial: 32
Acq On : 16 Oct 2001 4:34 am Operator: B.Patel
Sample : MB-2519 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

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

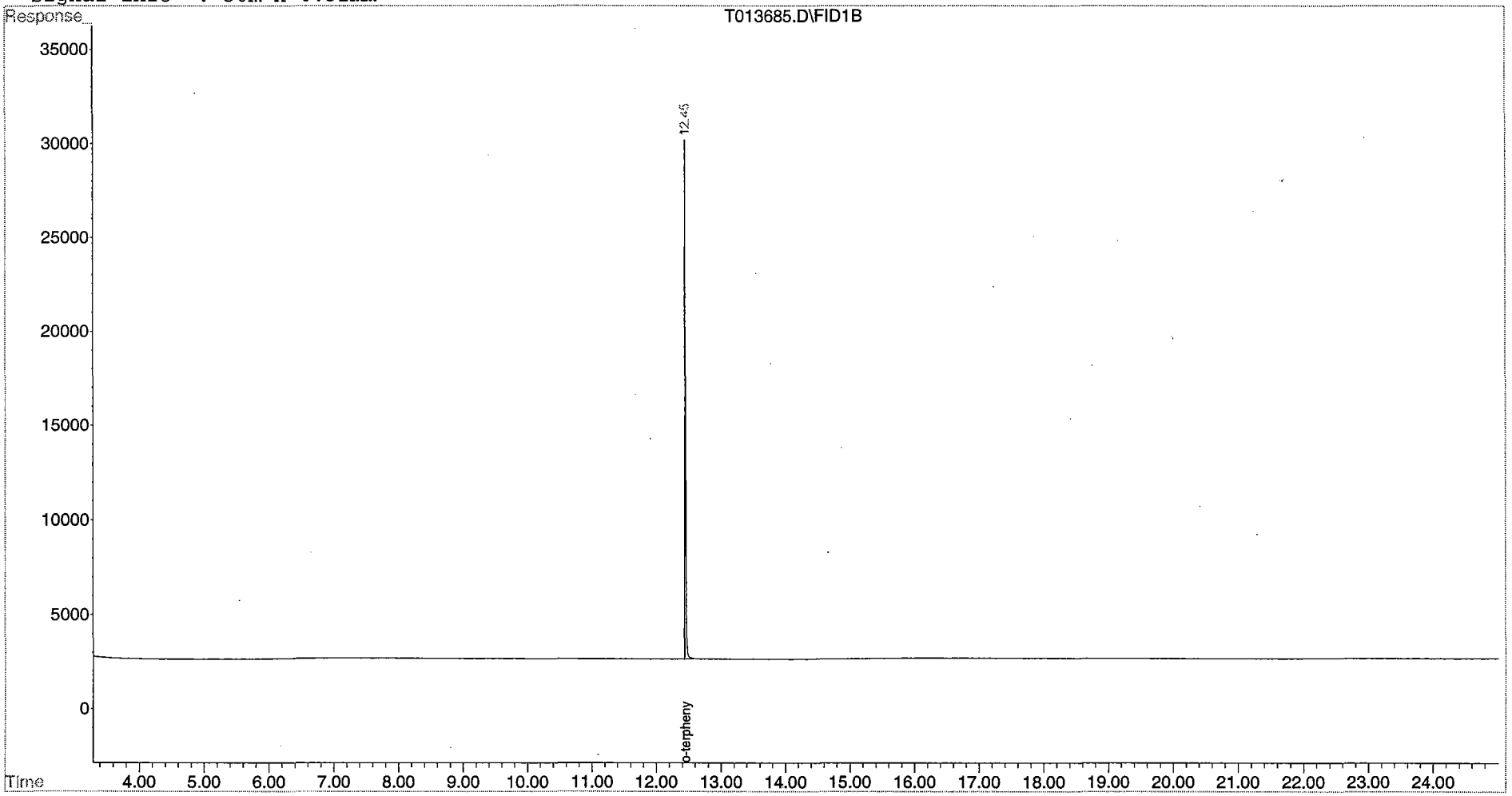
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.45	264784	10.390 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 103.90%#	
Target Compounds			

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

Data File : C:\HPCHEM\1\DATA\011015\T013685.D Vial: 32
Acq On : 16 Oct 2001 4:34 am Operator: B.Patel
Sample : MB-2519 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH95.M

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



000074

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013684.D Vial: 31
Acq On : 16 Oct 2001 4:01 am Operator: B.Patel
Sample : 1650601s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:32 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

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

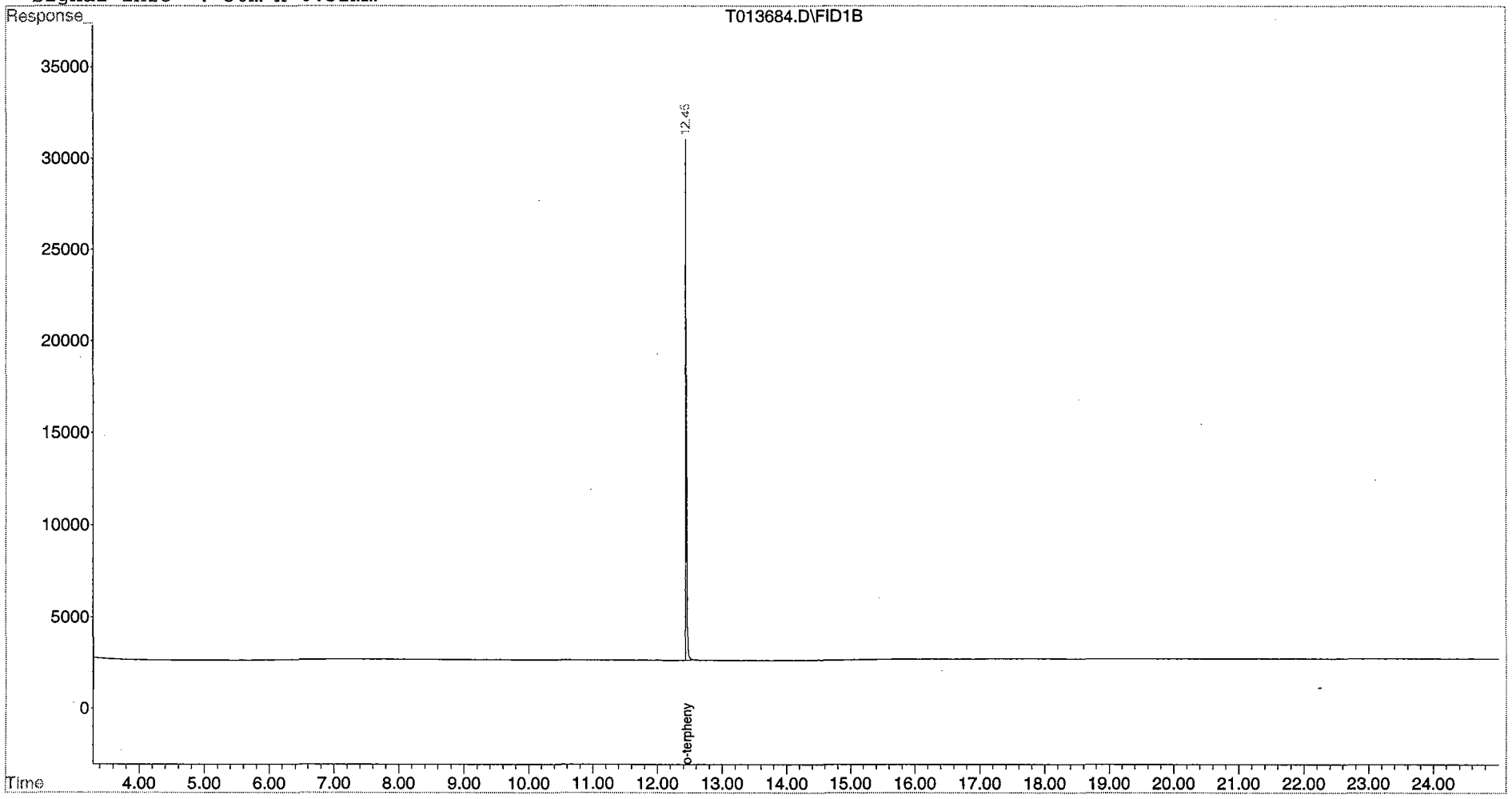
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.45	268657	10.542 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 105.42%#	
Target Compounds			

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

Data File : C:\HPCHEM\1\DATA\011015\T013684.D Vial: 31
Acq On : 16 Oct 2001 4:01 am Operator: B.Patel
Sample : 1650601s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:32 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH95.M

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



940076

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013687.D Vial: 34
Acq On : 16 Oct 2001 5:41 am Operator: B.Patel
Sample : 1650602s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

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

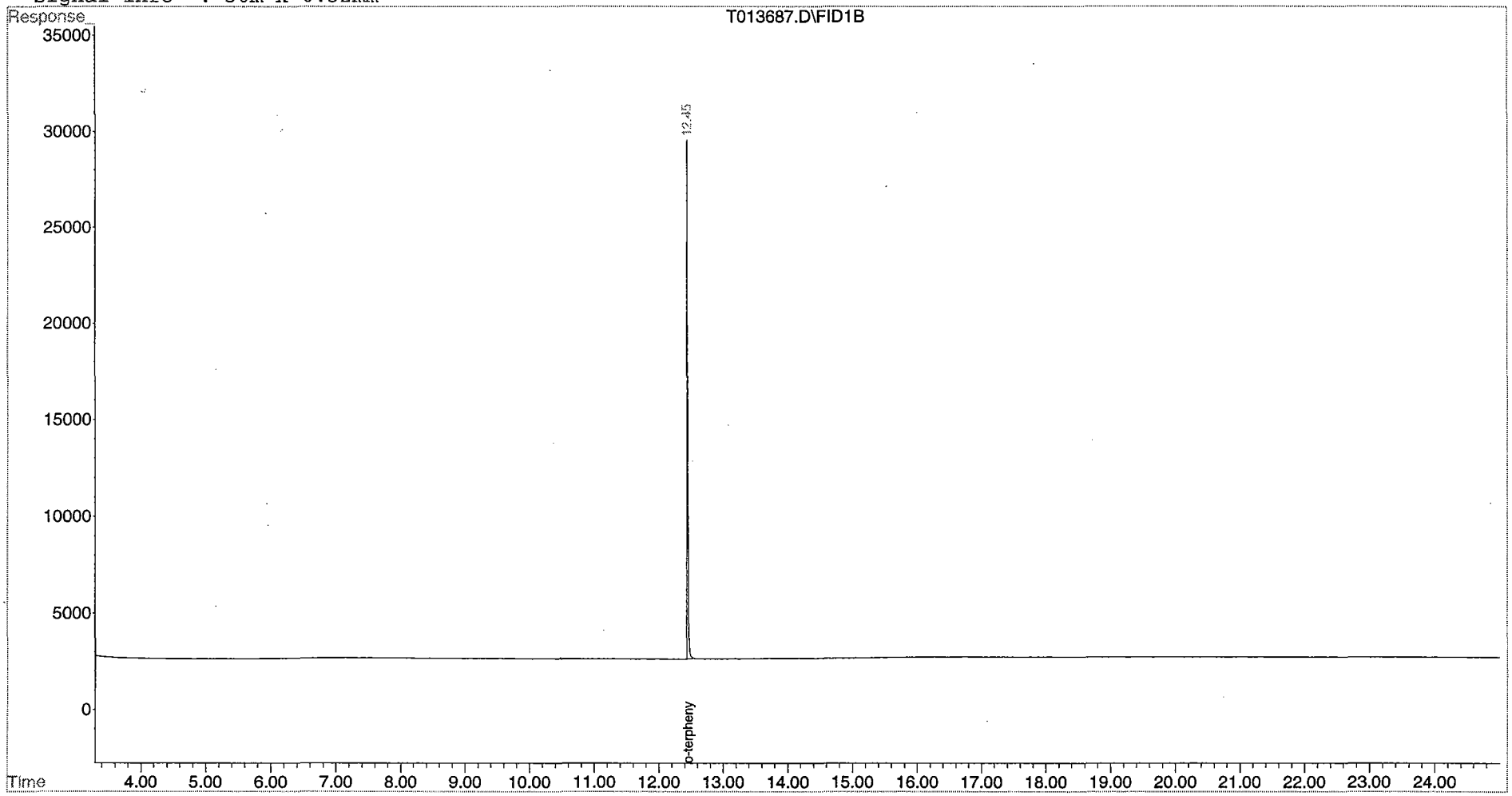
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.45	260900	10.238 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	102.38%#
Target Compounds			

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

Data File : C:\HPCHEM\1\DATA\011015\T013687.D Vial: 34
Acq On : 16 Oct 2001 5:41 am Operator: B.Patel
Sample : 1650602s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH95.M

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



840000

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013690.D Vial: 37
Acq On : 16 Oct 2001 7:20 am Operator: B.Patel
Sample : 1650603s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:34 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

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

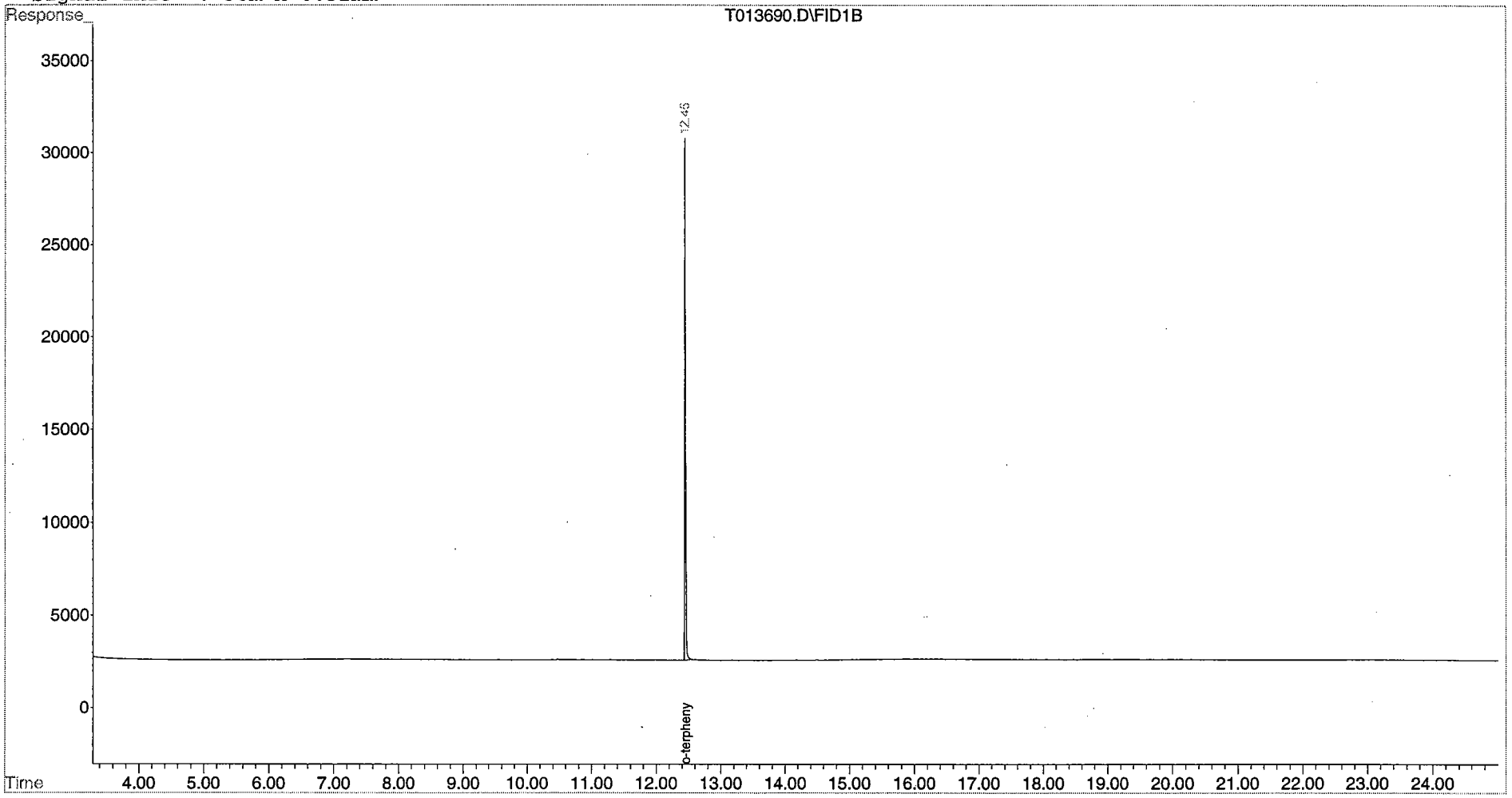
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.45	273694	10.740 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 107.40%#	
Target Compounds			

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

Data File : C:\HPCHEM\1\DATA\011015\T013690.D Vial: 37
Acq On : 16 Oct 2001 7:20 am Operator: B.Patel
Sample : 1650603s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 8:34 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH95.M

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



080000

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013692.D Vial: 39
Acq On : 16 Oct 2001 8:26 am Operator: B.Patel
Sample : 1650604s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 10:29 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

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

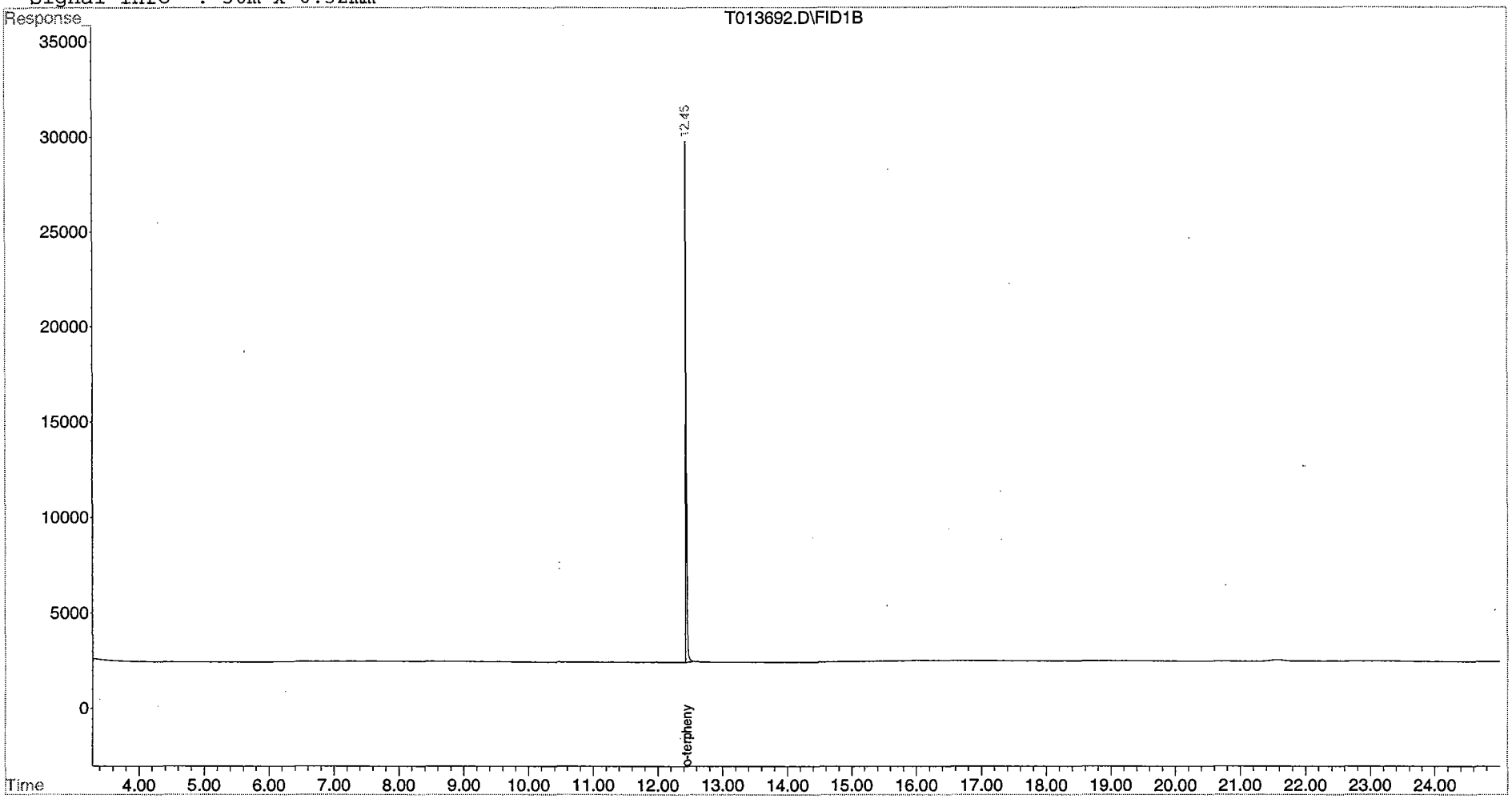
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.45	265895	10.434 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 104.34%#	
Target Compounds			

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

Data File : C:\HPCHEM\1\DATA\011015\T013692.D Vial: 39
Acq On : 16 Oct 2001 8:26 am Operator: B.Patel
Sample : 1650604s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 10:29 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH95.M

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



280082

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013693.D Vial: 40
Acq On : 16 Oct 2001 9:00 am Operator: B.Patel
Sample : 1650605s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 10:29 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.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	12.45	264314	10.372 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 103.72%#	
Target Compounds			

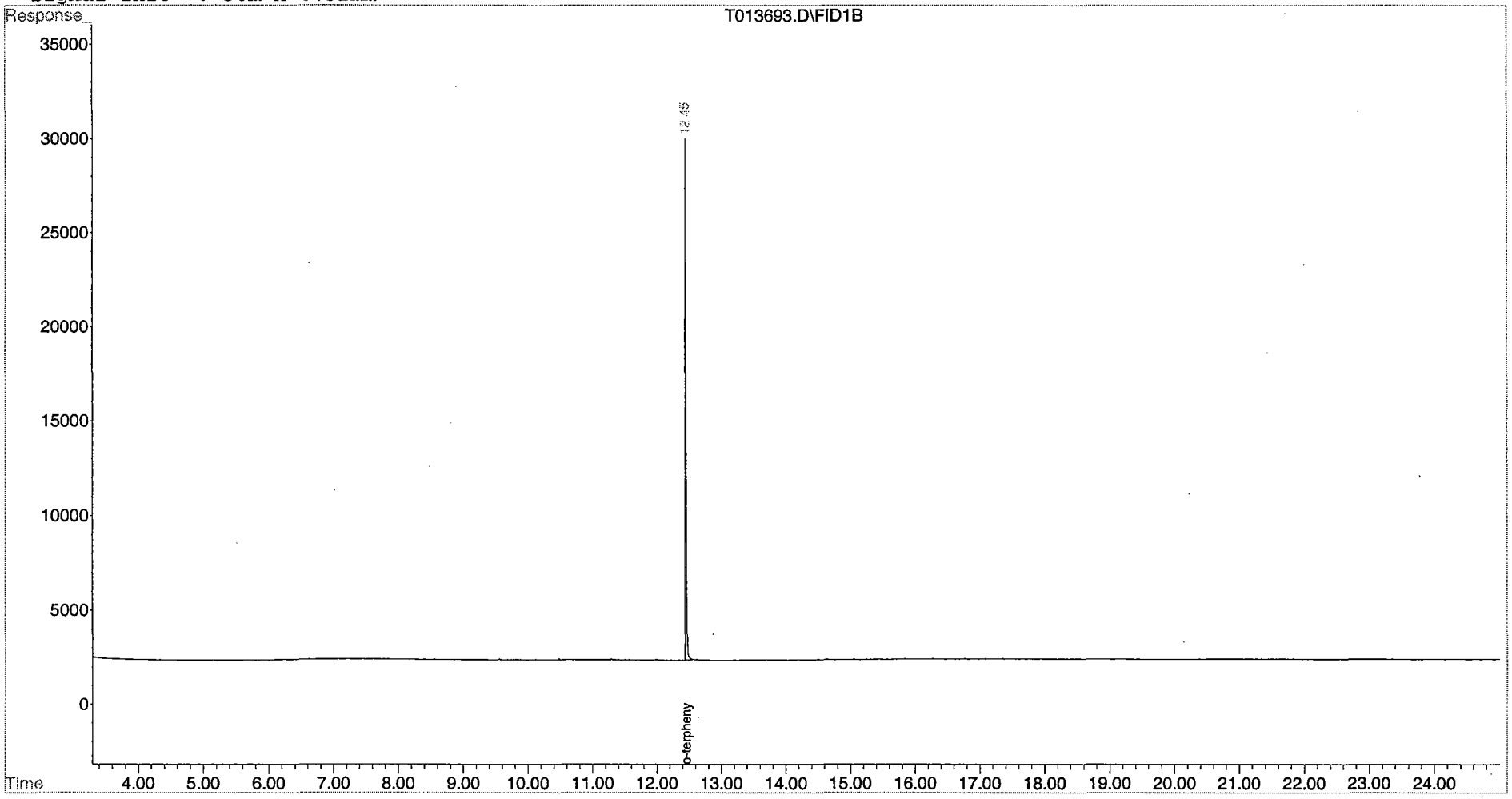
(f)=RT Delta > 1/2 Window (m)=manual int.

000083

Data File : C:\HPCHEM\1\DATA\011015\T013693.D Vial: 40
Acq On : 16 Oct 2001 9:00 am Operator: B.Patel
Sample : 1650605s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Oct 16 10:29 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH95.M

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



000084

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 10/16/21

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

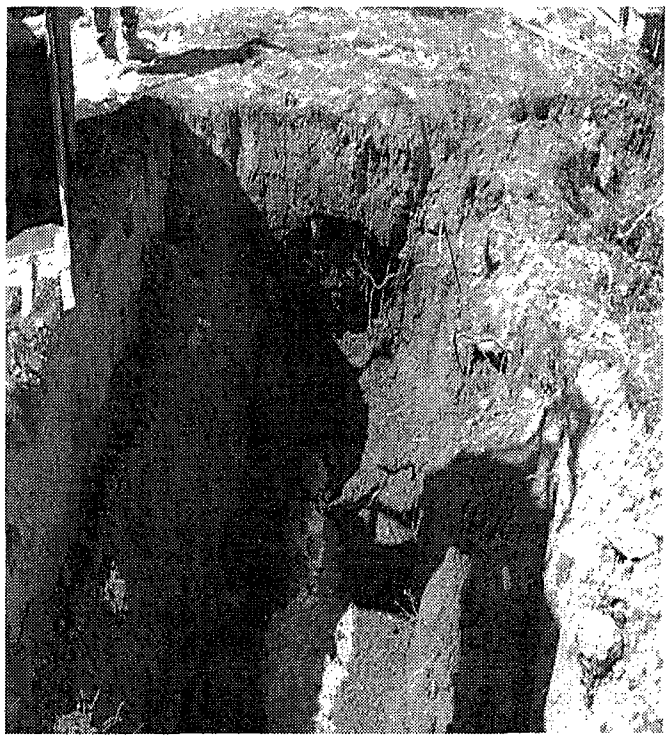
Laboratory Authentication Statement

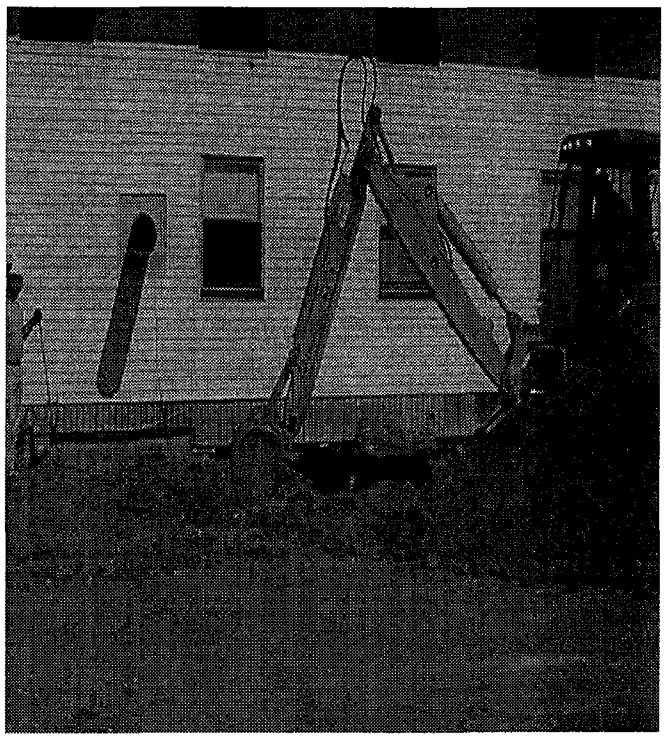
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information 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.

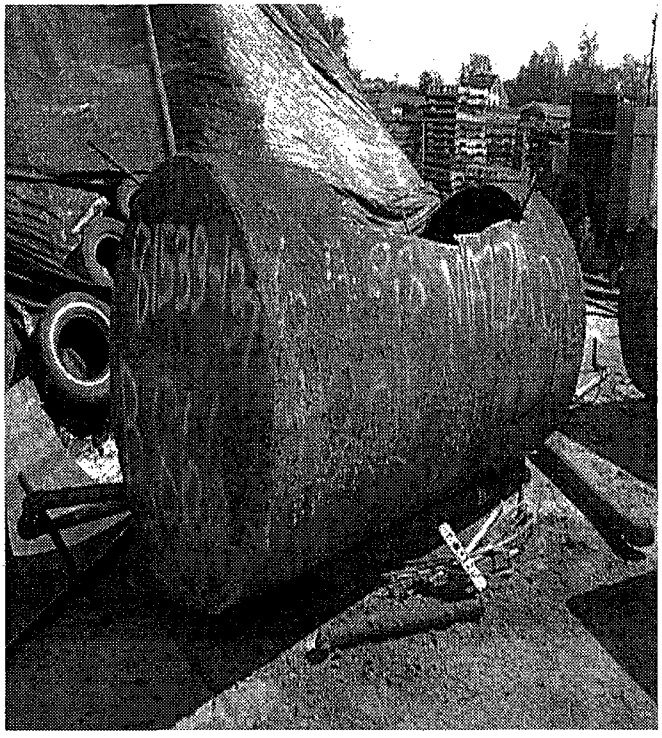
Daniel K. Wright
Laboratory Manager

APPENDIX E

PHOTOGRAPHS







June 4, 1998

PHOTOGRAPHIC LOG

UST NO. 81533-137

Building 886
Main Post-West
Fort Monmouth

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