United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 233
Main Post-West Area

NJDEP UST Registration No. 0081533-21

August 2001

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 233

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 0081533-21

AUGUST 2001

PREPARED FOR:

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

PREPARED BY:

VERSAR
1900 FROST ROAD
SUITE 110
BRISTOL, PA 19007

PROJECT NO. 2491-308

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EXECUTIVE SUMMARY

UST Closure

TVS was retained by the U.S. Army DPW to implement a site/remedial investigation adjacent to a former No. 2 fuel oil UST. The UST was associated with former Building 233 at the West Area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities was to remove all potentially impacted soil resulting from past operation of the former UST. The site/remedial investigation was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.*

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.

There were no visual or olfactory signs of impact to the soil surrounding the UST. There were no VOCs detected by the PID. To confirm PID readings 6 post-excavation soil samples were collected from within the tank and piping excavation on December 23, 1998. All samples were analyzed for TPHC and total solids. There were no TPH compounds detected in the post-excavation soil samples.

On February 25, 1999, soil sampling unrelated to the investigation was conducted between Buildings 233 and 235 as a safety precaution for workers scheduled for construction activities. One of the Geoprobe soil samples collected in the location of the former UST was screened using a PID and contained 450 PPM of volatile organic compounds (VOCs).

The excavation was re-opened June 11, 1999 and petroleum impacted soil was discovered below the concrete pad from the former UST. Soil removal was conducted on June 11, 14, and 15, 1999. Soil samples collected June 14 determined that additional soil removal was necessary. Additional soil removal was conducted August 10, 1999. Post-excavation samples were collected from the final extent of the excavation to demonstrate that all of the impacted soil had been removed. There were no TPH compounds detected in the final post-excavation samples.

Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with crushed stone, sand, and any available clean (response of <5 PPM on the PID) native backfill and restored to its original condition. A total of 2.46 tons of contaminated soil was excavated from

around the former UST location and placed on and covered with tarps. All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth DPW.

Conclusions and Recommendations

All final post excavation soil samples collected from the UST excavation at Building 233 contained TPHC concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N.J.A.C. 7:26D and revisions dated February 3, 1994).

Groundwater samples were collected at Building 233 on April 28, 2001 and May 25, 2001. Groundwater samples were analyzed for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs), and semi-volatile organic compounds plus 15 tentatively identified compounds (SVOCs). All groundwater analytical results were either below the detection limit or with the exception of methylene chloride which was detected in associated blanks and determined to be laboratory contaminants.

No further action is proposed in regard to the closure and site assessment at Building 233.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

New Jersey Department of Environmental Protection (NJDEP) Registration No. 0081533-21, was closed at Building 233 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey (Figure 1) on December 23, 1998. The UST was a fiberglass, 1,000-gallon tank containing No. 2 fuel oil. This report presents the results of the Department of Public Works (DPW) implementation of the UST Decommissioning/Closure Plan approved by the NJDEP.

Decommissioning activities for UST No. 0081533-21 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. 0081533-21 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The Standard Reporting Form and signed Site Assessment Summary form for UST No. 0081533-21 are included in Appendices A and B, respectively.

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 233 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-21 was located southwest of Building 233 and appurtenant copper piping ran from the excavation to Building 233. 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 233. 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 thickness of these units varies 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:

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

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

Building 233 located approximately 400 feet south of Husky Brook, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 233 is anticipated to be to the north.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All 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, an opening was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground.

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. Field screening and visual observations to identify potentially contaminated material was performed by a NJDEP Certified Sub-Surface Evaluator. During the excavation activities, all soil removed was screened with a photoionization detector (PID) to check for the presence of elevated volatile organic concentrations (VOCs).

Soils that displayed elevated PID readings (i.e., above 5 ppm) were stockpiled separate from those soils that did not display elevated PID readings (i.e., less than 5 ppm). The ground surface in the areas used to stockpile contaminated soils was covered with tarps. All stockpiled contaminated soil was covered with tarps at the completion of each day of excavation.

1.5 MANAGEMENT OF EXCAVATED SOILS

All clean soil (soil displaying PID readings below 5 PPM) was piled and later used as backfill. There were approximately 2.46 tons of contaminated soils excavated and placed on and covered with tarps. All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth Directorate of Public Works.

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

The following Parties participated in Closure and Site Investigation Activities:

- Subsurface Evaluator: Dinker DeSai
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (732) 532-6224
  NJDEP Certification No.: 0010173

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

- Hazardous Waste Hauler: Casie Protank Environmental Services
  Contact Person: Bob Corsiglia
  Phone Number: (609) 696-4401
  NJDEP Company Certification No.: 16931

2.2 POST-EXCAVATION SOIL SAMPLING AND RESULTS

The PID did not detect any VOCs in the soil encountered in the original excavation associated with the UST removal. Seven soil samples were collected between 6 and 9 feet bgs and were submitted for TPH analysis. None of the samples contained detectable concentrations of TPH.

Following the discovery of impacted soils in the area of the former UST the excavation was reopened. Apparently, the soil below the former UST pad was impacted and was not discovered during the initial investigation. Excavation of the impacted soil proceeded in all directions until non-detectable field screening readings (i.e., less than 5 ppm) were obtained with the PID. The excavation extended vertically to groundwater, which was encountered at a depth of 8 to 8.5 feet bgs.

To confirm the PID readings and verify the effectiveness of the soil excavation activities three post-excavation soil samples and one duplicate sample were collected from within the excavation between on June 14, 1999. The samples were collected from the base, the south sidewall, and the west sidewall of the excavation. The sample and duplicate of the sample collected from the south sidewall contained 7079.57 and 7888.00 PPM, respectively, of TPH. The other two samples did not contain detectable levels of TPH.

Additional soil removal was conducted in the excavation to address the elevated results of the June 14, 1999 post-excavation samples. On August 10, 1999, five post-excavation samples were collected between 10.5 and 11 feet bgs from the newly expanded excavation. No TPH was detected in the soil samples.

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

All samples were analyzed for total petroleum hydrocarbons (TPHC) and total solids. The TPHC 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 TPHC analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2. The analytical data packages are provided in Appendix A.

Upon receiving analytical results and confirming the effectiveness of the excavation activities completed at the site, the excavation was backfilled to grade with certified clean crushed stone and sand.

2.3 GROUNDWATER SAMPLING

On April 28, 2001 and May 25, 2001, groundwater at the location of the former UST at Building 233 was sampled and submitted for analysis of volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOCs). There were no compounds detected above the method detection limits in the groundwater sampled June 28, 2001 or May 25, 2001. Sampling and analysis were performed in accordance with the NJDEP *Field Sampling Procedures Manual* and the *Technical Requirements For Site Remediation.* Refer to Appendix B for the field sampling documentation.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To confirm the PID readings and verify the effectiveness of the soil excavation activities, 29 post-excavation soil samples were collected from within the excavation between December 23, 1998 and August 9, 1999. All samples were analyzed for TPHC and total solids. The final post-excavation samples contained concentrations of TPHC below the NJDEP soil cleanup criteria.

Upon receiving analytical results and confirming the effectiveness of the excavation activities completed at the site, the excavation was backfilled to grade with certified clean crushed stone, sand and clean overburden material.

3.2 GROUNDWATER SAMPLING RESULTS

The groundwater sample collected from the location of the former UST at Building 233 on April 28, 2001, contained no VOCs or SVOCs. The analytical data package is provided in Appendix B. The full data package, including quality control, is on file at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 233 were below the NJDEP soil cleanup criteria for TPH.

Based on the analytical results of the groundwater samples collected at Building 233 on April 14, 1999, groundwater quality at Building 233 is in compliance with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment at Building 233.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 233, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
A	12/23/98	12/24/98	Soil	Post-Excavation	TPH	OQA-QAM-025
B	12/23/98	12/24/98	Soil	Post-Excavation	TPH	OQA-QAM-025
C	12/23/98	12/24/98	Soil	Post-Excavation	TPH	OQA-QAM-025
D	12/23/98	12/24/98	Soil	Post-Excavation	TPH	OQA-QAM-025
E	12/23/98	12/24/98	Soil	Post-Excavation	TPH	OQA-QAM-025
F	12/23/98	12/24/98	Soil	Post-Excavation	TPH	OQA-QAM-025
G	12/23/98	12/24/98	Soil	Post-Excavation	TPH	OQA-QAM-025
Base	6/14/99	6/15/99	Soil	Post-Excavation	TPH	OQA-QAM-025
A-west	6/14/99	6/15/99	Soil	Post-Excavation	TPH	OQA-QAM-025
B-south	6/14/99	6/15/99	Soil	Post-Excavation	TPH	OQA-QAM-025
B-south dup	6/14/99	6/15/99	Soil	Post-Excavation	TPH	OQA-QAM-025
A south	8/9/99	8/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
B east	8/9/99	8/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
C west	8/9/99	8/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
C west dup	8/9/99	8/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
D bottom	8/9/99	8/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
E north	8/9/99	8/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025

Note:
* TPH Total Petroleum Hydrocarbons

TABLE 2
POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 233, 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 (% solid) (mg/kg)	NJDEP Soil Cleanup Criteria * (mg/kg)	Exceeds Cleanup Criteria
A (6.5') =	4155.01	12/23/98	12/24/98	Total Solid	--	--	90.22	--	--
				TPH	250	Yes	ND	10,000	No
B (6.5) =	4155.02	12/23/98	12/24/98	Total Solid	--	--	93.25	--	--
				TPH	252	Yes	ND	10,000	No
C (6.5)=	4155.03	12/23/98	12/24/98	Total Solid	--	--	91.21	--	--
				TPH	248	Yes	ND	10,000	No
D (6.5) =	4155.04	12/23/98	12/24/98	Total Solid	--	--	92.08	--	--
				TPH	246	Yes	ND	10,000	No
E (9.0) =	4155.05	12/23/98	12/24/98	Total Solid	--	--	85.55	--	--
				TPH	271	Yes	ND	10,000	No
F (9.0) =	4155.06	12/23/98	12/24/98	Total Solid	--	--	90.68	--	--
				TPH	253	Yes	ND	10,000	No
G (9.0) =	4155.07	12/23/98	12/24/98	Total Solid	--	--	92.77	--	--
				TPH	251	Yes	ND	10,000	No
Base	4550.01	6/14/99	6/15/99	Total Solid	--	--	76.16	--	--
				TPH	202	Yes	ND	10,000	No
A west =	4550.02	6/14/99	6/15/99	Total Solid	--	--	79.51	--	--
				TPH	195	Yes	ND	10,000	No
B south =	4550.03	6/14/99	6/15/99	Total Solid	--	--	76.24	--	--
				TPH	201	Yes	7079.57	10,000	No
B south dup =	4550.04	6/14/99	6/15/99	Total Solid	--	--	84.38	--	--
				TPH	178	Yes	7888.00	10,000	No
A south = (10.5-11')	4701.01	8/9/99	8/10/99	Total Solid	--	--	74.23	--	--
				TPH	205	Yes	ND	10,000	No
B east = (10.5-11')	4701.02	8/9/99	8/10/99	Total Solid	--	--	71.00	--	--
				TPH	217	Yes	ND	10,000	No
C west = (10.5-11')	4701.03	8/9/99	8/10/99	Total Solid	--	--	72.19	--	--
				TPH	210	Yes	ND	10,000	No
C west dup = (10.5-11')	4701.04	8/9/99	8/10/99	Total Solid	--	--	72.92	--	--
				TPH	209	Yes	ND	10,000	No

D bottom = (10.5-11')	4701.05	8/9/99	8/10/99	Total Solid TPH	-- 202	-- Yes	72.97 ND	-- 10,000	-- No
E north = (10.5-11')	4701.07	8/9/99	8/10/99	Total Solid TPH	-- 208	-- Yes	72.77 ND	-- 10,000	-- No

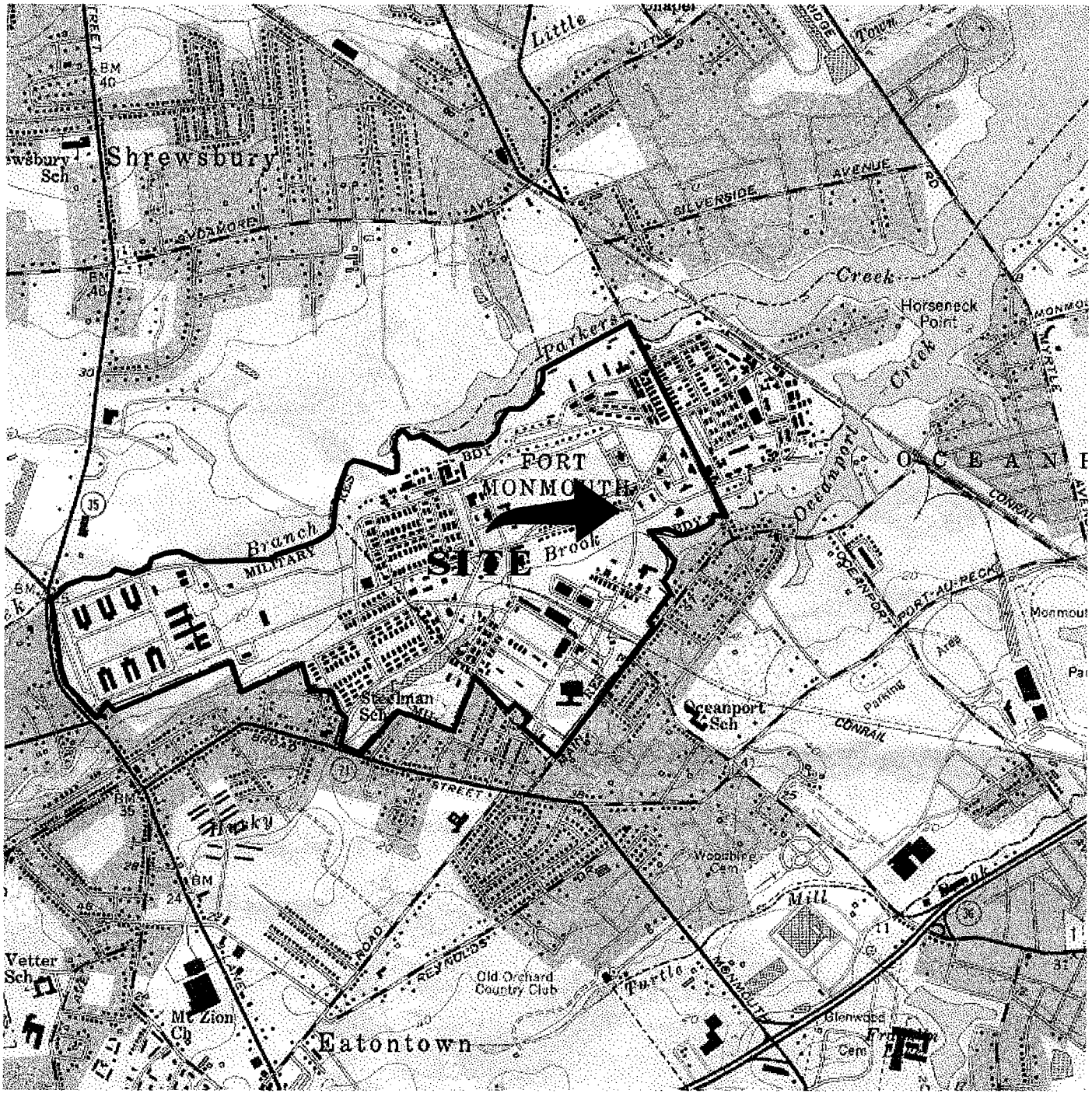
Note:

* 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 233
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

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

Scale: 1" = 2000'	Date: August 2001

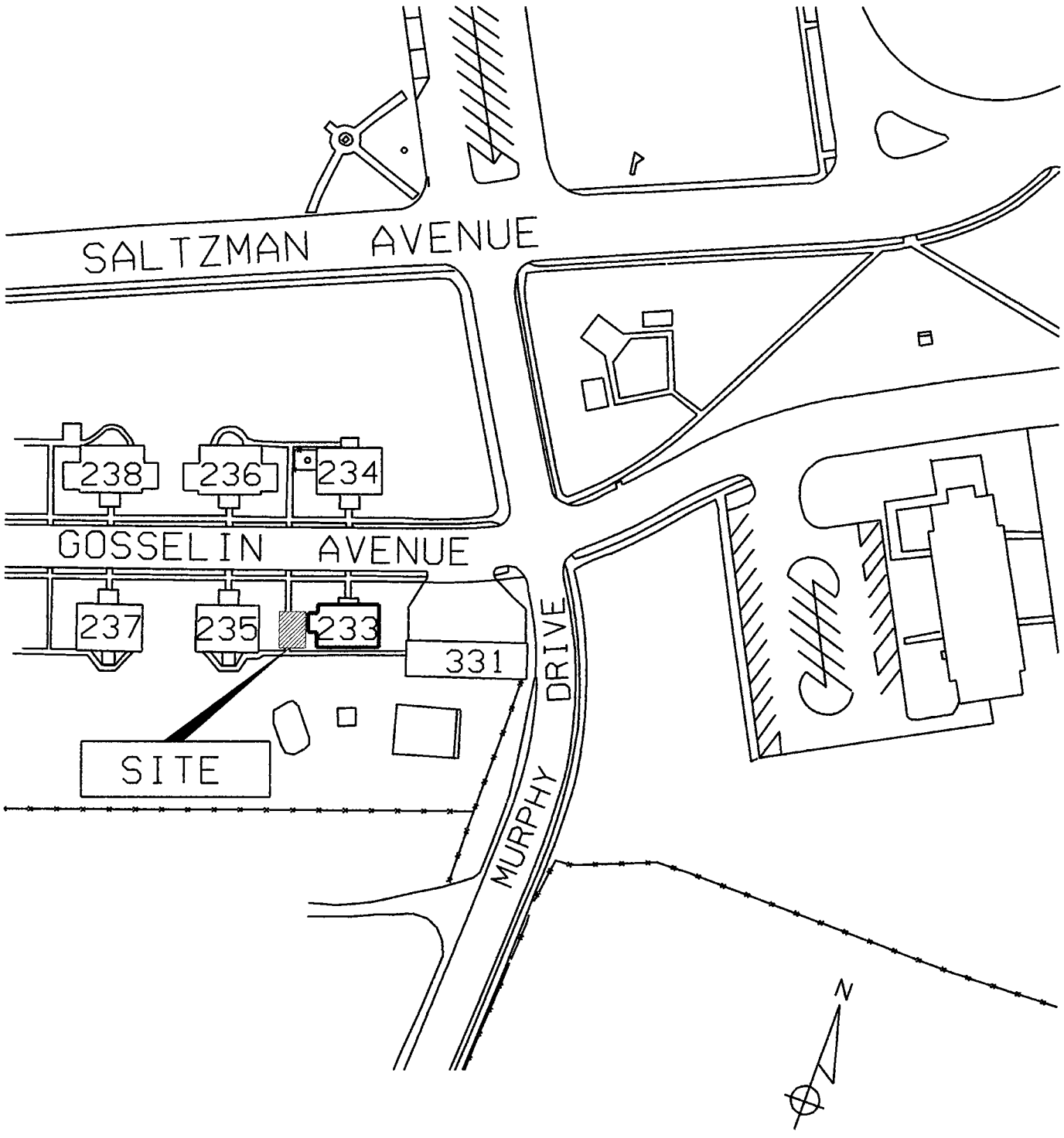
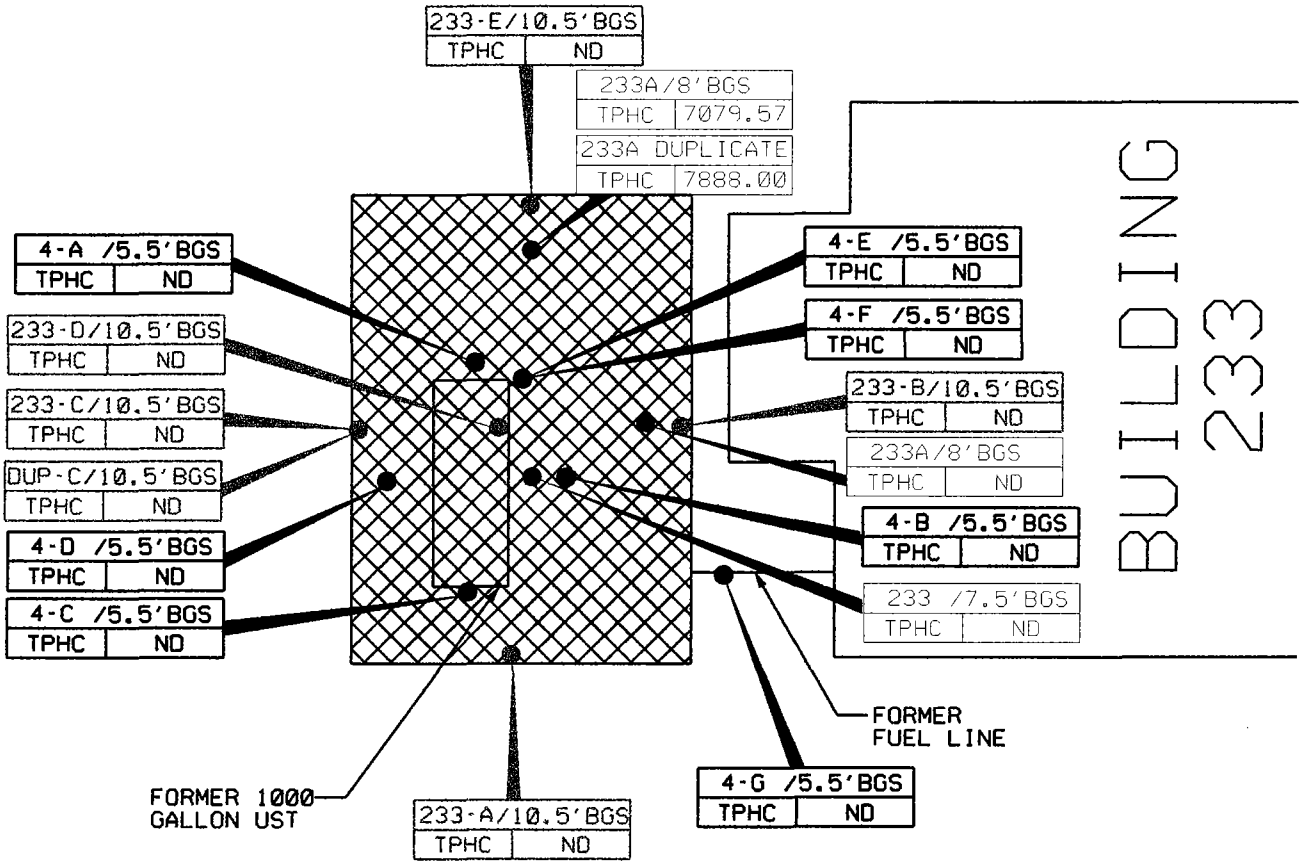


FIGURE 2
SITE MAP
BUILDING 233
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=100' | DATE: DEC 1998

233 I-102



LEGEND

- SOIL SAMPLE LOCATION (DECEMBER 23, 1998)
- SOIL SAMPLE LOCATION (JUNE 14, 1999)
- SOIL SAMPLE LOCATION (AUGUST 9, 1999)
- LIMIT OF EXCAVATION (AUGUST 9, 1999)

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 233
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=10' | DATE: DEC 1998

233 F 104

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 : 0081533-21
- 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.: 0017924

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: 5/18/02

APPENDIX B

WASTE MANIFEST

01740198

BILL TO
MARP508937
MARPAL COMPANY
PO BOX 188
LINCROFT NJ 07738

SOLD TO
MARP508937
MARPAL COMPANY
PO BOX 188
LINCROFT 79208 NJ 07738
Escrow Level: 2400.00

DATE	ENTRY TIME	OPER.	EXIT TIME	OPER	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT
~~12/29/98~~	~~12:08~~	~~VJF~~	~~12:24~~	~~RRW~~	~~(41440 LB)~~	~~(36520 LB)~~	~~(4920 LB)~~
00890778	Scale 02		Scale 04		Scale 02 (20.72 T)	Scale 04 (18.26 T)	(2.46 T)

VEHICLE NUMBER	VEHICLE TYPE	PLATE NUMBER	TRANSACTION TYPE
2065AU	Rolloff Open 20	XX89HD	TOS (1665) Normal

QUANTITY	WC	DESCRIPTION/ORIGIN	UNITS	UNIT PRICE	AMOUNT
2.4600	13	Bulky Waste - (MRF) MONMOUTH COUNTY EATONTOWN BOROUGH	Tons 100.00%	88.15	216.85

I hereby certify that the information provided on this form is true to the best of my knowledge.

44824.40 ***

DRIVER NAME PRINT R. Jacques SIGNATURE

DOCUMENT TOTAL $216.85

APPENDIX C

UST DISPOSAL CERTIFICATE

APPENDIX NOT AVAILABLE

AS OF THE DATE OF THIS REPORT

APPENDIX D

SOIL ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS
PHONE: (732)532-6224 FAX: (732)532-3484
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
NJDEP LABORATORY CERTIFICATION # 13461

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

4 Gosselin

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
4-A (6.5')	4155.01	Soil	23-Dec-98 09:45	12/23/98
4-B (6.5')	4155.02	Soil	23-Dec-98 09:50	12/23/98
4-C (6.5')	4155.03	Soil	23-Dec-98 09:55	12/23/98
4-D (6.5')	4155.04	Soil	23-Dec-98 10:00	12/23/98
4-E (9.0')	4155.05	Soil	23-Dec-98 10:15	12/23/98
4-F (9.0')	4155.06	Soil	23-Dec-98 10:20	12/23/98
4-G (9.0')	4155.07	Soil	23-Dec-98 10:40	12/23/98

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

1/04/99
Daniel Wright/Date
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

		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

1-4-99
Date

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Charles Appleby
Phone #: (732) 532-6224
( )DERA (X)OMA ( )Other:_____
Project No: 99-008
Location: 4 Gosselin
Samplers Name / Company : David Daniels / TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: TPH	% Solids	H-Nu Readings					Comments: Remarks / Preservation Method
4155 01	4-A (6.5)	12.23.98	9:45	Soil	1	X	X	0					ICE
02	4-B (6.5)		9:50			X	X	0					
03	4-C (6.5)		9:55			X	X	0					
04	4-D (6.5)		10:00			X	X	0					
05	4-E (9.0)		10:15			X	X	0					
06	4-F (9.0)		10:20			X	X	0					
07	4-G (2.0)		10:40			X	X	0					

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
David Daniels	12-23-98 11:40				
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 3-5 Days, (_)ASAP Verbal ___ Hrs.

Remarks:

print legibly

coc.XLS12/21/98

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

Client :	U.S. Army	**Lab. ID # :**	4155
	DPW. SELFM-PW-EV	**Date Rec'd:**	23-Dec-98
	Bldg. 173	**Analysis Start:**	24-Dec-98
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	28-Dec-98
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 #:**	4 Gosselin

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4155.01	4-A(6.5)	**1.00**	10.43	90.22	250	**ND**
4155.02	4-B(6.5)	**1.00**	10.01	93.25	252	**ND**
4155.03	4-C(6.5)	**1.00**	10.37	91.21	248	**ND**
4155.04	4-D(6.5)	**1.00**	10.36	92.08	246	**ND**
4155.05	4-E(9.0)	**1.00**	10.15	85.55	271	**ND**
4155.06	4-F(9.0)	**1.00**	10.25	90.68	253	**ND**
4155.07	4-G(2.0)	**1.00**	10.08	92.77	251	**ND**
METHOD BLANK	TBLK 201	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998

Calibration Files
100 =T07370.D 50 =T07371.D 20 =T07372.D
10 =T07373.D 5 =T07374.D

	Compound	100	50	20	10	5	Avg	%RSD
1)	tC C8	2.149	2.297	2.373	2.534	3.113	2.493 E4	14.98
2)	tC C10	2.359	2.496	2.408	2.474	2.703	2.488 E4	5.30
3)	TC C12	2.547	2.701	2.578	2.635	2.859	2.664 E4	4.65
4)	tC C14	2.593	2.752	2.629	2.688	2.931	2.719 E4	4.90
5)	tC C16	2.628	2.796	2.667	2.727	2.975	2.759 E4	4.96
6)	tC C18	2.931	3.264	3.098	3.065	3.421	3.156 E4	6.02
7)	tC C20	2.889	3.071	2.928	2.996	3.274	3.032 E4	5.02
8)	tC C22	2.888	3.076	2.928	3.002	3.267	3.032 E4	4.93
9)	tC C24	2.968	3.162	3.007	3.071	3.348	3.111 E4	4.86
10)	tC C26	2.984	3.185	3.017	3.083	3.357	3.125 E4	4.83
11)	tC C28	3.030	3.231	3.059	3.105	3.387	3.162 E4	4.65
12)	tC C30	3.136	3.339	3.154	3.212	3.493	3.267 E4	4.58
13)	tC C32	3.137	3.316	3.141	3.152	3.424	3.234 E4	4.03
14)	tC C34	3.158	3.298	3.155	3.162	3.403	3.235 E4	3.45
15)	tC C36	2.708	2.828	2.732	2.736	2.931	2.787 E4	3.32
16)	tC C38	1.976	2.067	2.072	2.139	2.208	2.092 E4	4.15
17)	tC C40	1.266	1.322	1.411	1.464	1.437	1.380 E4	6.02
18)	tC c42	0.934	0.973	1.106	1.165	1.078	1.052 E4	9.08
19)	TC Pristane	2.792	2.951	2.797	2.860	3.151	2.910 E4	5.12
20)	TC Phytane	2.900	3.081	2.933	3.008	3.280	3.040 E4	4.96
21)	sC o-terphenyl	2.934	3.116	2.987	3.074	3.398	3.102 E4	5.82
22)	tC TPHC - total	2.864	3.083	2.991	3.204	3.689	3.166 E4	10.04

(#) = Out of Range MEAN RSD = 5.71%

TPH51.M Wed Dec 09 14:04:17 1998

Data File : C:\HPCHEM\1\DATA\981209\T07370.D Vial: 2
Acq On : 9 Dec 98 9:47 am Operator: Deinhardt
Sample : 100 PPM STANDARD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 9 13:33 1998 Quant Results File: TPH50.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH50.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH50.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	12.96	2933919	93.310 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 933.10%#	
Target Compounds			
1) tC C8	4.65	2148590	83.845 mg/L
2) tC C10	7.68	2358647	92.523 mg/L
3) TC C12	9.31	2546727	93.011 mg/L
4) tC C14	10.50	2593265	92.300 mg/L
5) tC C16	11.51	2628379	91.740 mg/L
6) tC C18	11.97	2930613	95.611 mg/L m
7) tC C20	12.41	2889239	91.906 mg/L m
8) tC C22	13.23	2887957	92.560 mg/L
9) tC C24	13.97	2968373	93.373 mg/L
10) tC C26	14.66	2983769	94.355 mg/L
11) tC C28	15.30	3029553	95.453 mg/L
12) tC C30	15.89	3135774	96.457 mg/L
13) tC C32	16.45	3137190	97.881 mg/L
14) tC C34	17.05	3158460	99.748 mg/L
15) tC C36	17.75	2707573	102.757 mg/L
16) tC C38	18.62	1975599	109.945 mg/L m
17) tC C40	19.76	1266032	122.414 mg/L m
18) tC c42	21.29	934303	133.530 mg/L m
19) TC Pristane	12.00	2792078	92.436 mg/L m
20) TC Phytane	12.46	2900202	92.114 mg/L m
22) tC TPHC - total	12.00	57270096	1634.560 mg/L m

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

000006

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981209\T07371.D Vial: 3
Acq On : 9 Dec 98 10:23 am Operator: Deinhardt
Sample : 50 PPM STANDARD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 9 13:21 1998 Quant Results File: TPH50.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH50.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH50.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	12.96	1557890	49.547 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 495.47%#	
Target Compounds			
1) tC C8	4.64	1148393	44.814 mg/L m
2) tC C10	7.68	1247838	48.949 mg/L
3) TC C12	9.31	1350626	49.327 mg/L
4) tC C14	10.50	1376170	48.981 mg/L
5) tC C16	11.50	1398228	48.803 mg/L
6) tC C18	11.97	1632238	53.252 mg/L m
7) tC C20	12.40	1535341	48.839 mg/L m
8) tC C22	13.22	1538171	49.299 mg/L
9) tC C24	13.97	1580806	49.726 mg/L
10) tC C26	14.66	1592395	50.356 mg/L
11) tC C28	15.29	1615516	50.900 mg/L
12) tC C30	15.89	1669365	51.350 mg/L
13) tC C32	16.44	1657905	51.727 mg/L
14) tC C34	17.04	1648899	52.074 mg/L m
15) tC C36	17.74	1413784	53.656 mg/L m
16) tC C38	18.61	1033443	57.513 mg/L m
17) tC C40	19.75	660783	63.892 mg/L
18) tC c42	21.29	486747	69.566 mg/L
19) TC Pristane	12.00	1475725	48.856 mg/L m
20) TC Phytane	12.45	1540309	48.922 mg/L m
22) tC TPHC - total	12.00	30832784	880.006 mg/L m

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

000087

Data File : C:\HPCHEM\1\DATA\981209\T07372.D Vial: 4
Acq On : 9 Dec 98 10:59 am Operator: Deinhardt
Sample : 20 PPM STANDARD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 9 13:47 1998 Quant Results File: TPH50.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH50.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH50.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	12.95	597337	18.998 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery =	189.98%#
Target Compounds			
1) tC C8	4.63	474661	18.523 mg/L m
2) tC C10	7.68	481561	18.890 mg/L
3) TC C12	9.31	515576	18.830 mg/L
4) tC C14	10.49	525738	18.712 mg/L
5) tC C16	11.50	533305	18.614 mg/L
6) tC C18	11.96	619676	20.217 mg/L m
7) tC C20	12.40	585658	18.630 mg/L m
8) tC C22	13.22	585652	18.770 mg/L
9) tC C24	13.96	601406	18.918 mg/L
10) tC C26	14.65	603388	19.081 mg/L
11) tC C28	15.29	611851	19.278 mg/L
12) tC C30	15.88	630722	19.401 mg/L
13) tC C32	16.44	628167	19.599 mg/L
14) tC C34	17.04	630920	19.925 mg/L
15) tC C36	17.74	546437	20.738 mg/L
16) tC C38	18.61	414448	23.065 mg/L m
17) tC C40	19.75	282131	27.279 mg/L m
18) tC c42	21.28	221202	31.614 mg/L m
19) TC Pristane	11.99	559363	18.519 mg/L m
20) TC Phytane	12.44	586648	18.633 mg/L m
22) tC TPHC - total	11.96	11963885	341.464 mg/L m

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

Data File : C:\HPCHEM\1\DATA\981209\T07373.D Vial: 5
Acq On : 9 Dec 98 11:36 am Operator: Deinhardt
Sample : 10 PPM STANDARD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 9 13:39 1998 Quant Results File: TPH50.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH50.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH50.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	12.95	307447	9.778 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 97.78%#			
Target Compounds			
1) tC C8	4.64	253418	9.889 mg/L m
2) tC C10	7.68	247371	9.704 mg/L
3) TC C12	9.31	263483	9.623 mg/L
4) tC C14	10.49	268836	9.568 mg/L
5) tC C16	11.50	272670	9.517 mg/L
6) tC C18	11.96	306536	10.001 mg/L m
7) tC C20	12.40	299570	9.529 mg/L m
8) tC C22	13.22	300196	9.621 mg/L
9) tC C24	13.96	307089	9.660 mg/L
10) tC C26	14.65	308297	9.749 mg/L
11) tC C28	15.29	310532	9.784 mg/L
12) tC C30	15.88	321222	9.881 mg/L
13) tC C32	16.44	315167	9.833 mg/L
14) tC C34	17.03	316203	9.986 mg/L
15) tC C36	17.73	273625	10.385 mg/L
16) tC C38	18.61	213861	11.902 mg/L
17) tC C40	19.75	146371	14.153 mg/L
18) tC c42	21.28	116545	16.657 mg/L
19) TC Pristane	11.99	286039	9.470 mg/L m
20) TC Phytane	12.44	300757	9.552 mg/L m
22) tC TPHC - total	11.96	6408138	182.896 mg/L m

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

Data File : C:\HPCHEM\1\DATA\981209\T07374.D Vial: 6
Acq On : 9 Dec 98 12:13 pm Operator: Deinhardt
Sample : 5 PPM STANDARD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 9 13:35 1998 Quant Results File: TPH50.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH50.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH50.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	12.95	169912	5.404 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery =	54.04%#
Target Compounds			
1) tC C8	4.64	155653	6.074 mg/L m
2) tC C10	7.68	135138	5.301 mg/L
3) TC C12	9.31	142926	5.220 mg/L
4) tC C14	10.49	146551	5.216 mg/L
5) tC C16	11.50	148759	5.192 mg/L
6) tC C18	11.96	171054	5.581 mg/L m
7) tC C20	12.40	163718	5.208 mg/L m
8) tC C22	13.21	163336	5.235 mg/L
9) tC C24	13.96	167411	5.266 mg/L
10) tC C26	14.65	167874	5.309 mg/L
11) tC C28	15.29	169332	5.335 mg/L
12) tC C30	15.88	174665	5.373 mg/L
13) tC C32	16.44	171223	5.342 mg/L
14) tC C34	17.03	170149	5.373 mg/L
15) tC C36	17.73	146534	5.561 mg/L
16) tC C38	18.61	110382	6.143 mg/L
17) tC C40	19.75	71869	6.949 mg/L
18) tC c42	21.28	53913	7.705 mg/L
19) TC Pristane	11.99	157540	5.216 mg/L m
20) TC Phytane	12.44	163988	5.208 mg/L m
22) tC TPHC - total	11.96	3689023	105.289 mg/L m

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

000020

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981224\T07434.D Vial: 2
Acq On : 24 Dec 98 12:31 pm Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	24.932	22.700 E3	9.0	105	0.00
2	tC	C10	24.877	24.944 E3	-0.3	104	0.00
3	TC	C12	26.638	26.802 E3	-0.6	102	0.00
4	tC	C14	27.187	27.121 E3	0.2	100	0.00
5	tC	C16	27.586	27.415 E3	0.6	99	0.00
6	tC	C18	31.560	30.726 E3	2.6	100	0.00
7	tC	C20	30.317	29.707 E3	2.0	99	0.00
8	tC	C22	30.322	29.626 E3	2.3	99	0.00
9	tC	C24	31.112	30.310 E3	2.6	100	0.00
10	tC	C26	31.252	30.352 E3	2.9	100	0.00
11	tC	C28	31.624	30.669 E3	3.0	100	0.00
12	tC	C30	32.667	31.550 E3	3.4	100	0.00
13	tC	C32	32.340	31.352 E3	3.1	101	0.00
14	tC	C34	32.352	31.274 E3	3.3	101	-0.01
15	tC	C36	27.869	27.077 E3	2.8	101	-0.01
16	tC	C38	20.922	20.528 E3	1.9	98	-0.02
17	tC	C40	13.799	13.882 E3	-0.6	92	-0.02
18	tC	c42	10.515	10.566 E3	-0.5	87	-0.02
19	TC	Pristane	29.103	28.439 E3	2.3	97	0.00
20	TC	Phytane	30.403	30.158 E3	0.8	100	0.00
21	sC	o-terphenyl	31.018	30.698 E3	1.0	103	0.00
22	tC	TPHC - total	31.662	29.914 E3	5.5	98	0.00

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07434.D Vial: 2
Acq On : 24 Dec 98 12:31 pm Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 7:52 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	1534925	49.485 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 494.85%#	
Target Compounds			
1) tC C8	4.65	1135017	45.525 mg/L m
2) tC C10	7.67	1247182	50.134 mg/L
3) TC C12	9.31	1340081	50.306 mg/L
4) tC C14	10.49	1356073	49.879 mg/L
5) tC C16	11.50	1370734	49.689 mg/L
6) tC C18	11.96	1536278	48.678 mg/L m
7) tC C20	12.40	1485335	48.994 mg/L m
8) tC C22	13.22	1481278	48.851 mg/L
9) tC C24	13.96	1515495	48.711 mg/L
10) tC C26	14.65	1517578	48.560 mg/L
11) tC C28	15.29	1533437	48.490 mg/L
12) tC C30	15.88	1577489	48.290 mg/L
13) tC C32	16.44	1567611	48.473 mg/L
14) tC C34	17.04	1563698	48.334 mg/L
15) tC C36	17.74	1353850	48.580 mg/L
16) tC C38	18.61	1026407	49.059 mg/L
17) tC C40	19.74	694120	50.303 mg/L
18) tC c42	21.27	528309	50.243 mg/L
19) TC Pristane	11.99	1421955	48.859 mg/L m
20) TC Phytane	12.45	1507887	49.597 mg/L m
22) tC TPHC - total	11.99	29914245	944.809 mg/L m

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

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981224\T07445.D Vial: 13
Acq On : 24 Dec 98 7:07 pm Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	24.932	23.940 E3	4.0	111	0.00
2	tC	C10	24.877	26.560 E3	-6.8	111	0.00
3	TC	C12	26.638	28.713 E3	-7.8	109	0.00
4	tC	C14	27.187	29.121 E3	-7.1	107	0.00
5	tC	C16	27.586	29.494 E3	-6.9	107	0.00
6	tC	C18	31.560	32.661 E3	-3.5	106	0.00
7	tC	C20	30.317	32.176 E3	-6.1	107	0.00
8	tC	C22	30.322	32.130 E3	-6.0	108	0.00
9	tC	C24	31.112	32.937 E3	-5.9	108	0.00
10	tC	C26	31.252	33.091 E3	-5.9	109	0.00
11	tC	C28	31.624	33.464 E3	-5.8	110	0.00
12	tC	C30	32.667	34.656 E3	-6.1	110	0.00
13	tC	C32	32.340	34.452 E3	-6.5	111	0.00
14	tC	C34	32.352	34.554 E3	-6.8	112	-0.01
15	tC	C36	27.869	30.120 E3	-8.1	112	-0.01
16	tC	C38	20.922	23.254 E3	-11.1	111	-0.01
17	tC	C40	13.799	16.207 E3	-17.5	108	-0.01
18	tC	c42	10.515	12.963 E3	-23.3	107	-0.02
19	TC	Pristane	29.103	30.959 E3	-6.4	106	0.00
20	TC	Phytane	30.403	32.535 E3	-7.0	108	0.00
21	sC	o-terphenyl	31.018	32.949 E3	-6.2	111	0.00
22	tC	TPHC - total	31.662	32.581 E3	-2.9	106	0.00

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07445.D Vial: 13
Acq On : 24 Dec 98 7:07 pm Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 7:59 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	1647443	53.112 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 531.12%#	
Target Compounds			
1) tC C8	4.64	1197011	48.011 mg/L m
2) tC C10	7.67	1328001	53.382 mg/L
3) TC C12	9.31	1435661	53.894 mg/L
4) tC C14	10.49	1456037	53.556 mg/L
5) tC C16	11.50	1474688	53.457 mg/L
6) tC C18	11.96	1633039	51.744 mg/L m
7) tC C20	12.40	1608800	53.067 mg/L m
8) tC C22	13.22	1606510	52.981 mg/L
9) tC C24	13.96	1646850	52.932 mg/L
10) tC C26	14.65	1654540	52.942 mg/L
11) tC C28	15.29	1673201	52.910 mg/L
12) tC C30	15.88	1732784	53.043 mg/L
13) tC C32	16.44	1722615	53.266 mg/L
14) tC C34	17.04	1727698	53.404 mg/L
15) tC C36	17.74	1505998	54.039 mg/L
16) tC C38	18.61	1162717	55.574 mg/L
17) tC C40	19.74	810369	58.728 mg/L
18) tC c42	21.27	648171	61.642 mg/L
19) TC Pristane	11.99	1547974	53.189 mg/L m
20) TC Phytane	12.45	1626751	53.507 mg/L m
22) tC TPHC - total	11.99	32580615	1029.023 mg/L m

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

000114

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

Client :	U.S. Army	**Lab. ID # :**	4155
	DPW. SELFM-PW-EV	**Date Rec'd:**	23-Dec-98
	Bldg. 173	**Analysis Start:**	24-Dec-98
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	28-Dec-98
		UST Reg. #:	
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	D.DEINHARDT	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 um
Column Type	RTX 5	**Location #:**	4 Gosselin
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
4155.01			10.00	9.92	**99.16**
4155.02			10.00	10.20	**102.00**
4155.03			10.00	10.13	**101.33**
4155.04			10.00	10.01	**100.05**
4155.05			10.00	10.00	**100.02**
4155.06			10.00	10.05	**100.54**
4155.07			10.00	10.35	**103.45**
METHOD BLANK	TBLK 201		10.00	10.17	**101.70**

Surrogate Added : **o-Terphenyl**

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

Client :	U.S. Army	**Lab. ID # :**	4155
	DPW. SELFM-PW-EV	**Date Rec'd:**	23-Dec-98
	Bldg. 173	**Analysis Start:**	24-Dec-98
	Ft. Monmouth NJ, 07703	**Analysis Complete:**	28-Dec-98
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 #:**	4 Gosselin

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
4155.01MS	827	0.00	865.85	104.70	75-125
4155.01MSD	827	0.00	854.15	103.28	75-125

RPD	**1.36**	**20.00**

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

Client :	U.S. Army	**Lab. ID # :**	4155
	DPW. SELFM-PW-EV	**Date Rec'd:**	23-Dec-98
	Bldg. 173	**Analysis Start:**	24-Dec-98
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	28-Dec-98
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 #:**	4 Gosselin

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	24-Dec-98	827	855.65	103.46	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07436.D Vial: 4
Acq On : 24 Dec 98 1:43 pm Operator: Deinhardt
Sample : TBLK 201 BS Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:07 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	291067	9.384 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery =	93.84%#
Target Compounds			
2) tC C10	7.67	184175	7.403 mg/L
3) TC C12	9.31	391567	14.699 mg/L
4) tC C14	10.49	475919	17.505 mg/L
5) tC C16	11.50	380629	13.798 mg/L
6) tC C18	11.96	287286	9.103 mg/L
7) tC C20	12.40	277003	9.137 mg/L
8) tC C22	13.21	149439	4.928 mg/L
9) tC C24	13.96	64747	2.081 mg/L
19) TC Pristane	11.96	287286	9.871 mg/L
20) TC Phytane	12.44	123067	4.048 mg/L
22) tC TPHC - total	11.01	27091314	855.650 mg/L m

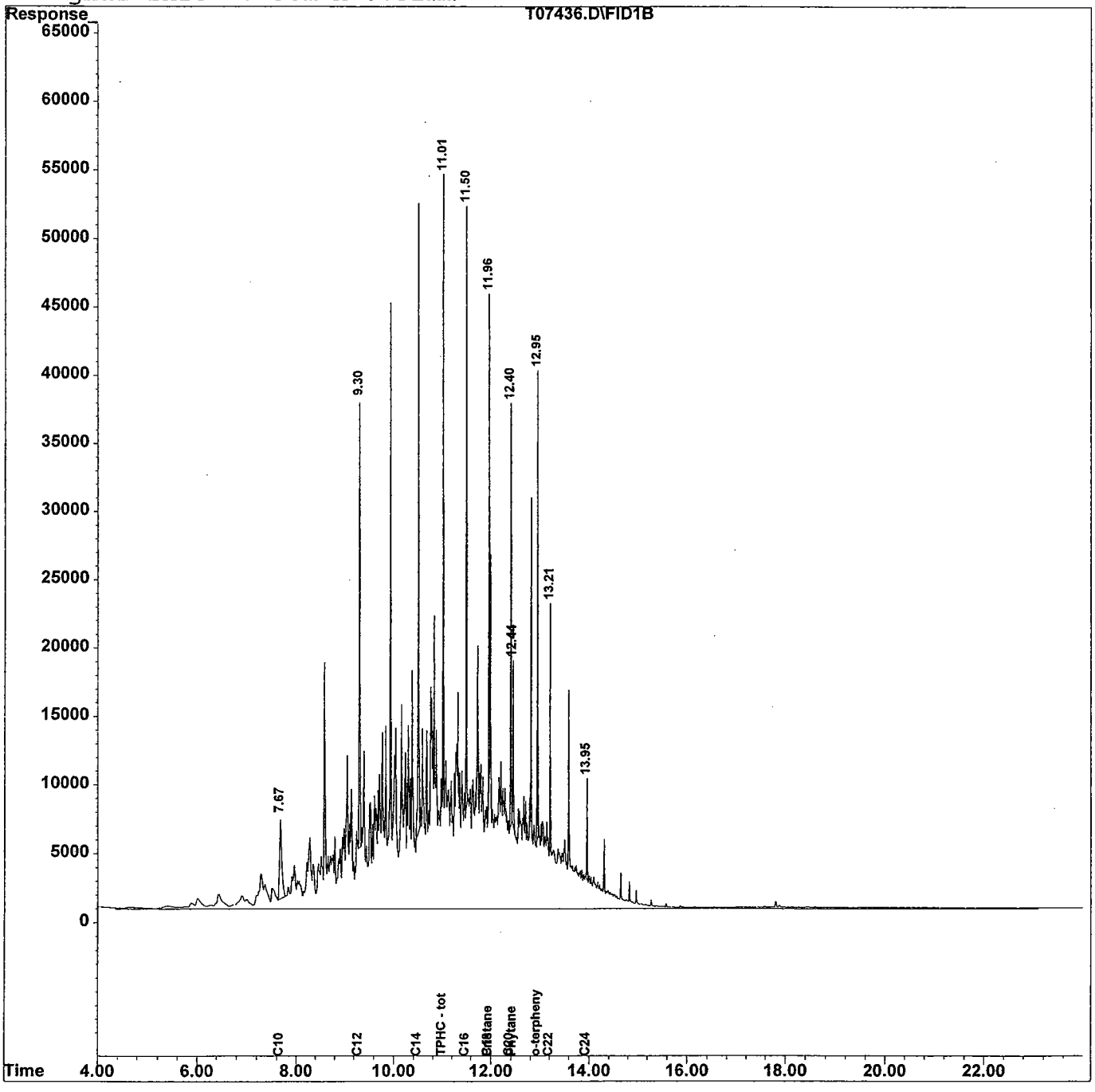
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07436.D Vial: 4
Acq On : 24 Dec 98 1:43 pm Operator: Deinhardt
Sample : TBLK 201 BS Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:07 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



000019

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07435.D Vial: 3
Acq On : 24 Dec 98 1:07 pm Operator: Deinhardt
Sample : TBLK 201 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 13:34 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	315451	10.170 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 101.70%#	
Target Compounds			

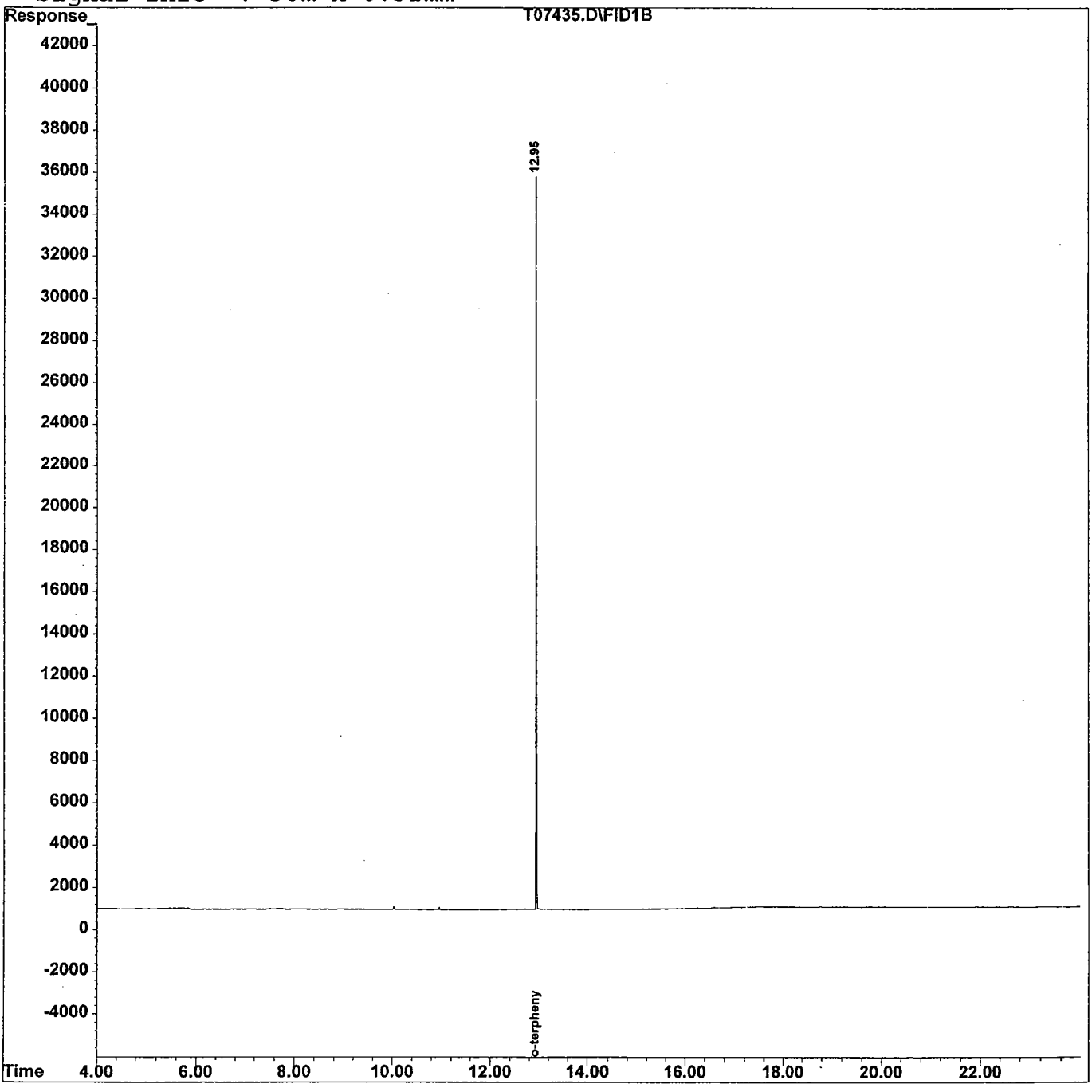
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07435.D Vial: 3
Acq On : 24 Dec 98 1:07 pm Operator: Deinhardt
Sample : TBLK 201 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 13:34 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



000021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07437.D Vial: 5
Acq On : 24 Dec 98 2:19 pm Operator: Deinhardt
Sample : 4155.01 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:08 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	307566	9.916 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	99.16%#
Target Compounds			

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

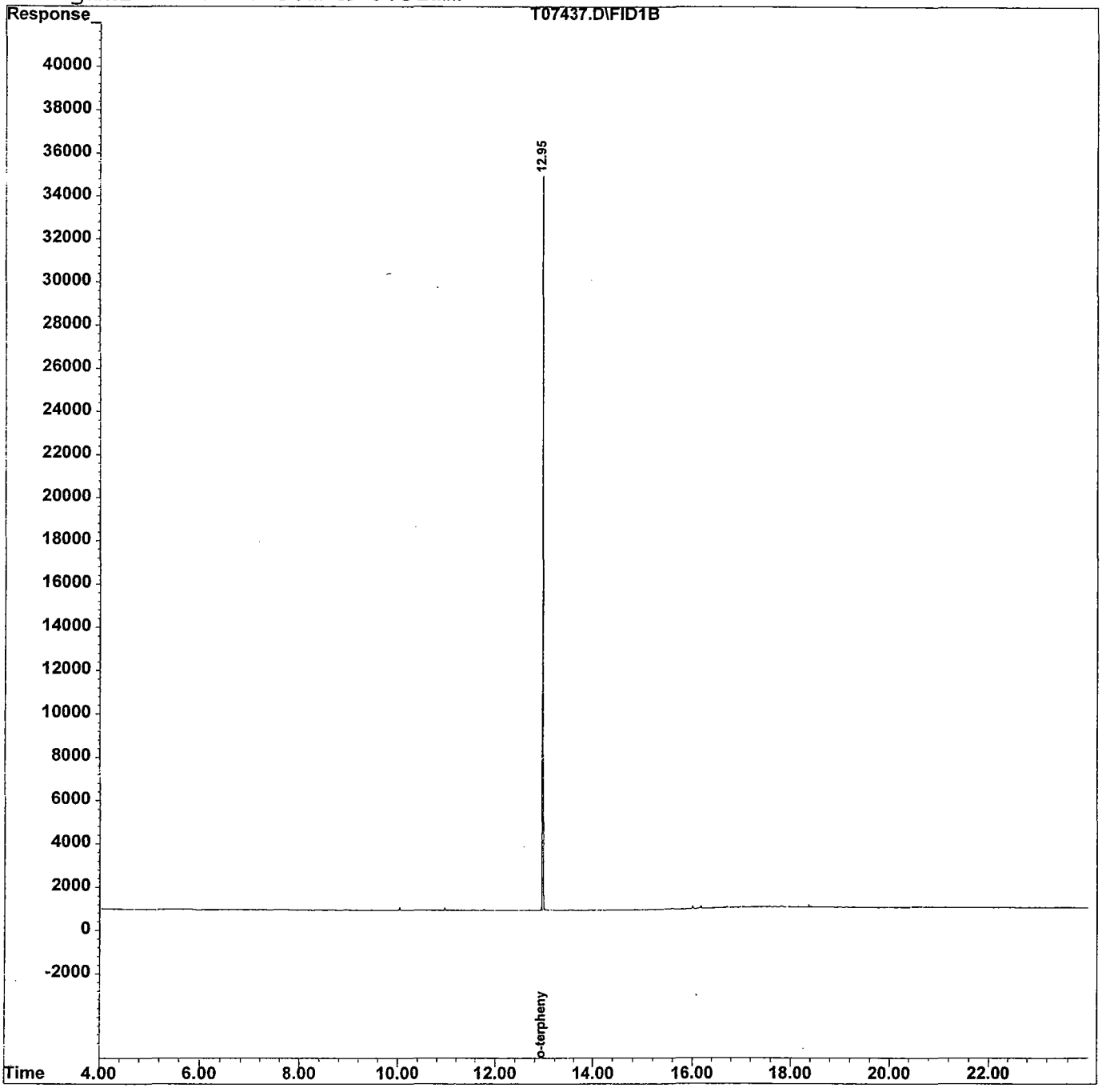
000022

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07437.D Vial: 5
Acq On : 24 Dec 98 2:19 pm Operator: Deinhardt
Sample : 4155.01 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:08 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



000023

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07440.D Vial: 8
Acq On : 24 Dec 98 4:07 pm Operator: Deinhardt
Sample : 4155.02 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 16:33 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	316382	10.200 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 102.00%#	
Target Compounds			

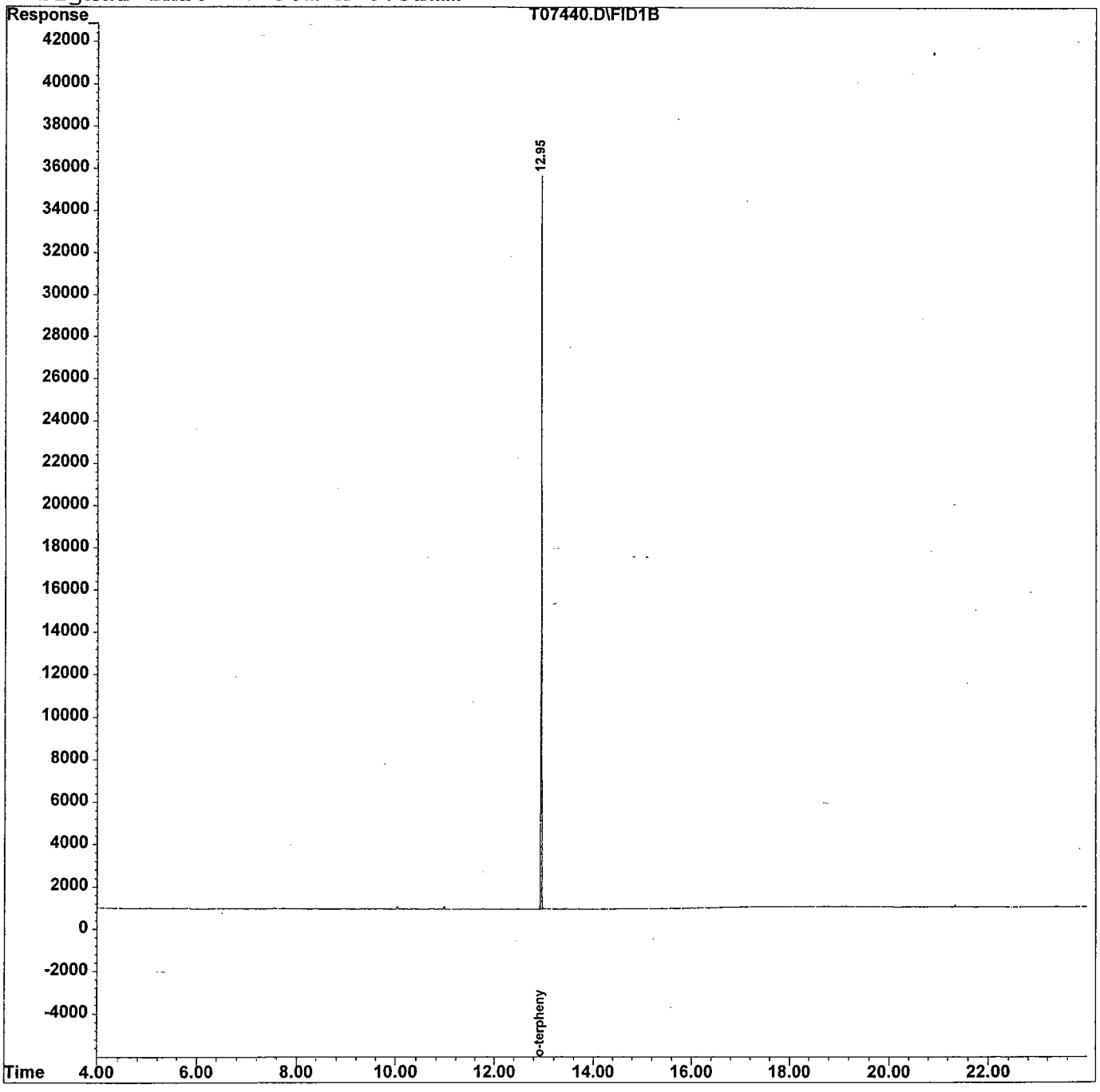
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07440.D Vial: 8
Acq On : 24 Dec 98 4:07 pm Operator: Deinhardt
Sample : 4155.02 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 16:33 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



000025

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07441.D Vial: 9
Acq On : 24 Dec 98 4:43 pm Operator: Deinhardt
Sample : 4155.03 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:10 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	314294	10.133 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 101.33%#	
Target Compounds			

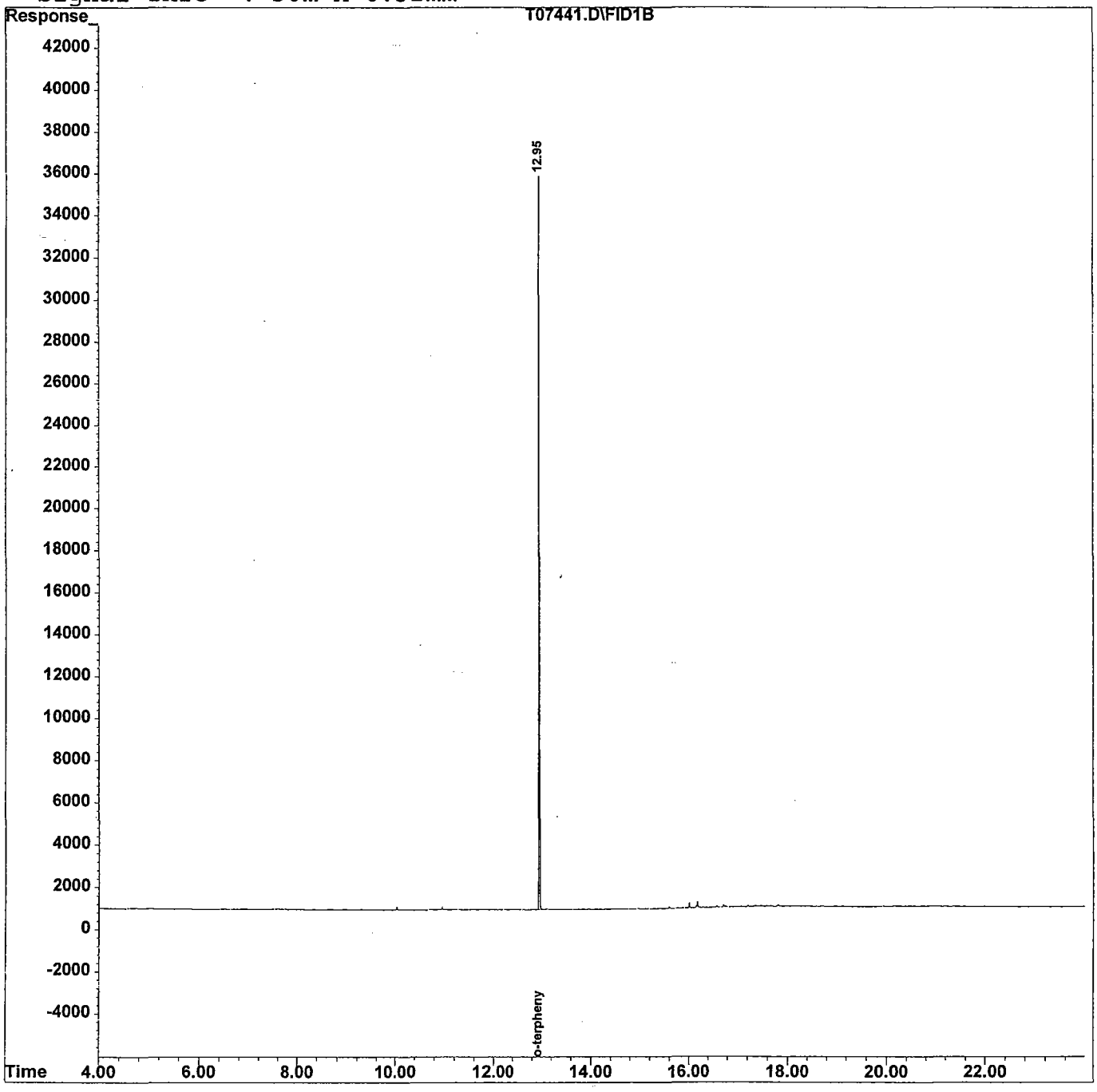
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07441.D Vial: 9
Acq On : 24 Dec 98 4:43 pm Operator: Deinhardt
Sample : 4155.03 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:10 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



000027

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07442.D Vial: 10
Acq On : 24 Dec 98 5:19 pm Operator: Deinhardt
Sample : 4155.04 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:10 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	310323	10.005 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	100.05%#
Target Compounds			

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

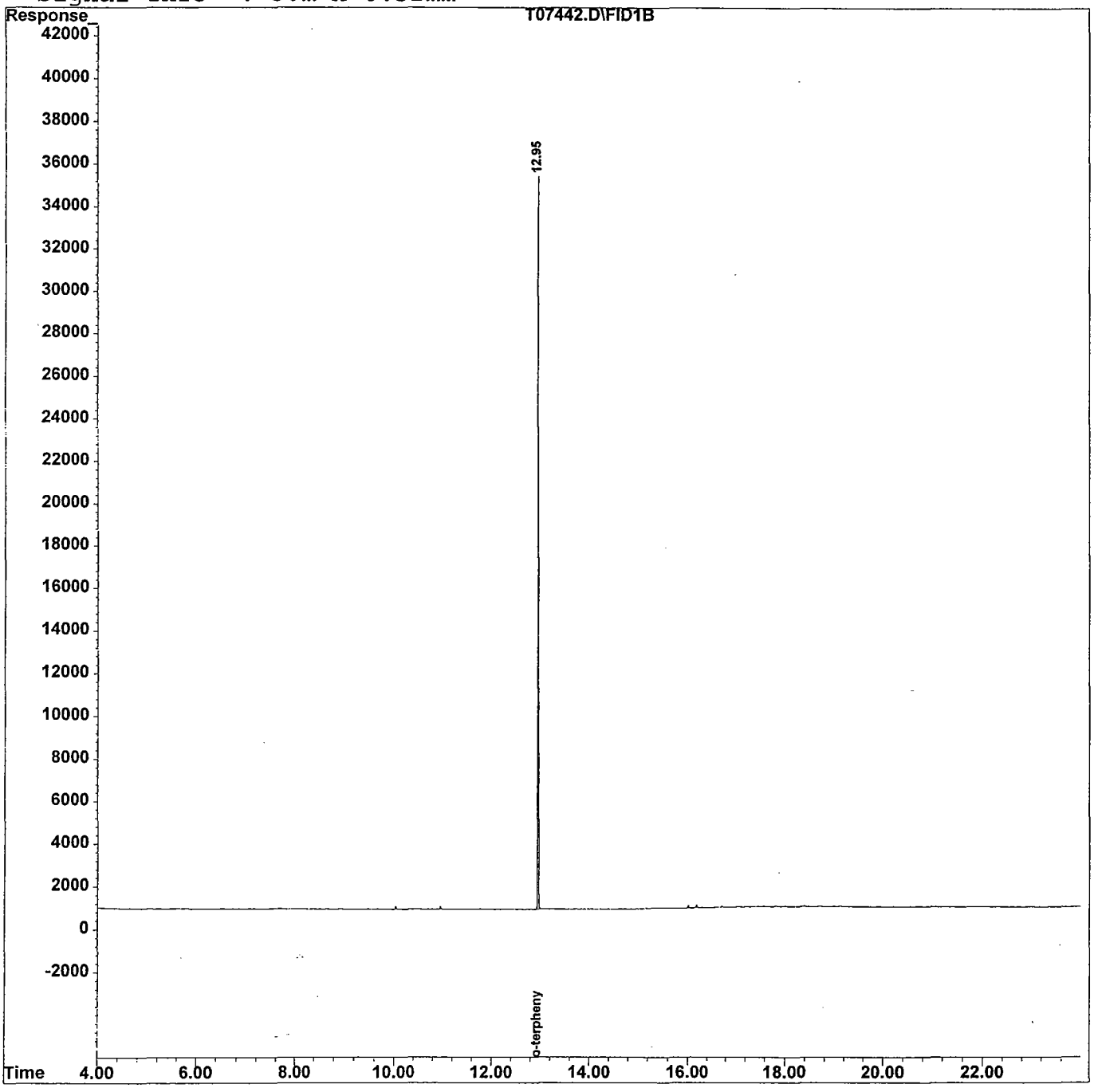
000028

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07442.D Vial: 10
Acq On : 24 Dec 98 5:19 pm Operator: Deinhardt
Sample : 4155.04 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:10 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



000029

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07443.D Vial: 11
Acq On : 24 Dec 98 5:55 pm Operator: Deinhardt
Sample : 4155.05 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 18:21 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	310245	10.002 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 100.02%#	
Target Compounds			

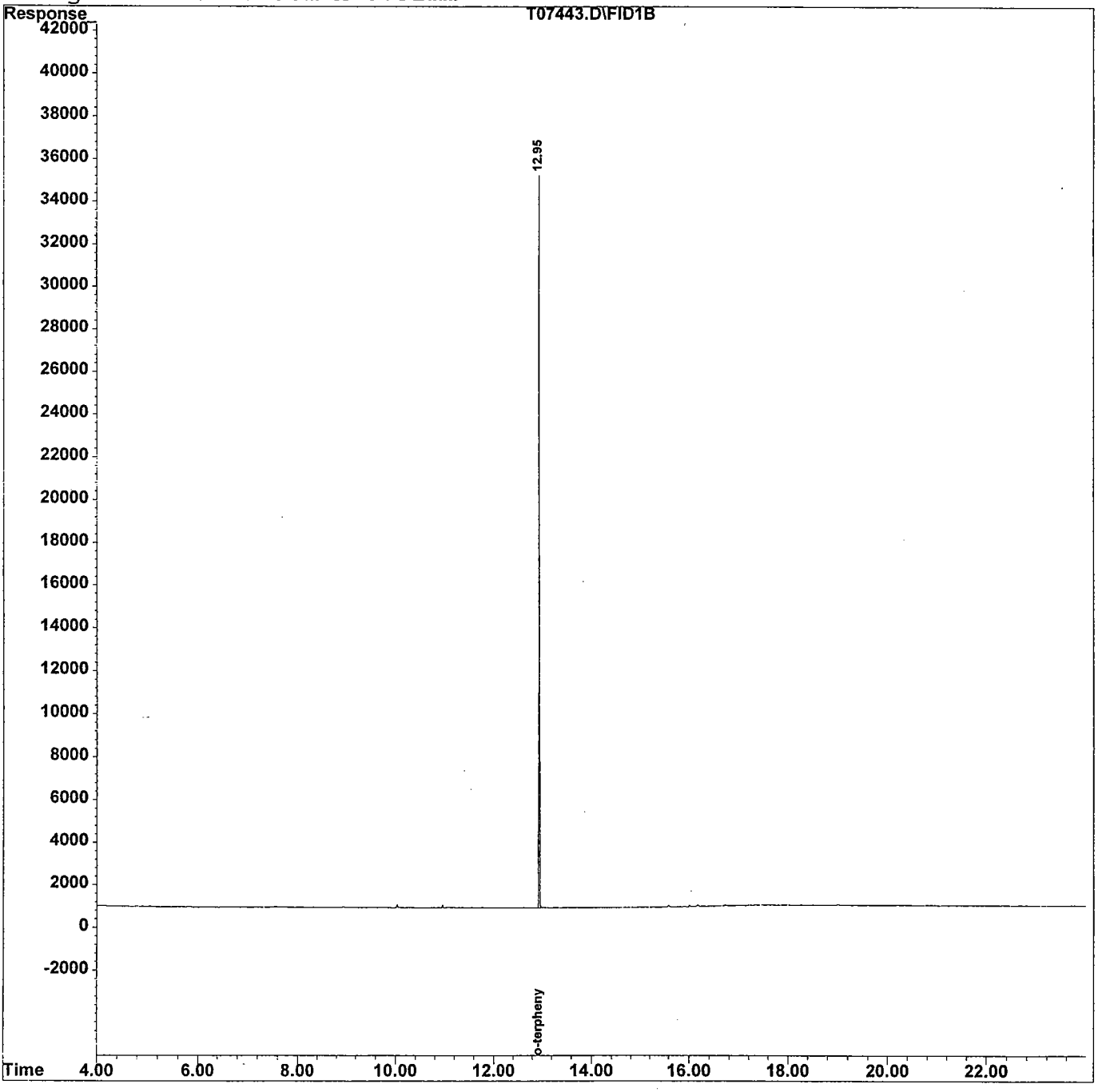
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07443.D Vial: 11
Acq On : 24 Dec 98 5:55 pm Operator: Deinhardt
Sample : 4155.05 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 18:21 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



000031

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07444.D Vial: 12
Acq On : 24 Dec 98 6:31 pm Operator: Deinhardt
Sample : 4155.06 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 18:57 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	311857	10.054 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 100.54%#	
Target Compounds			

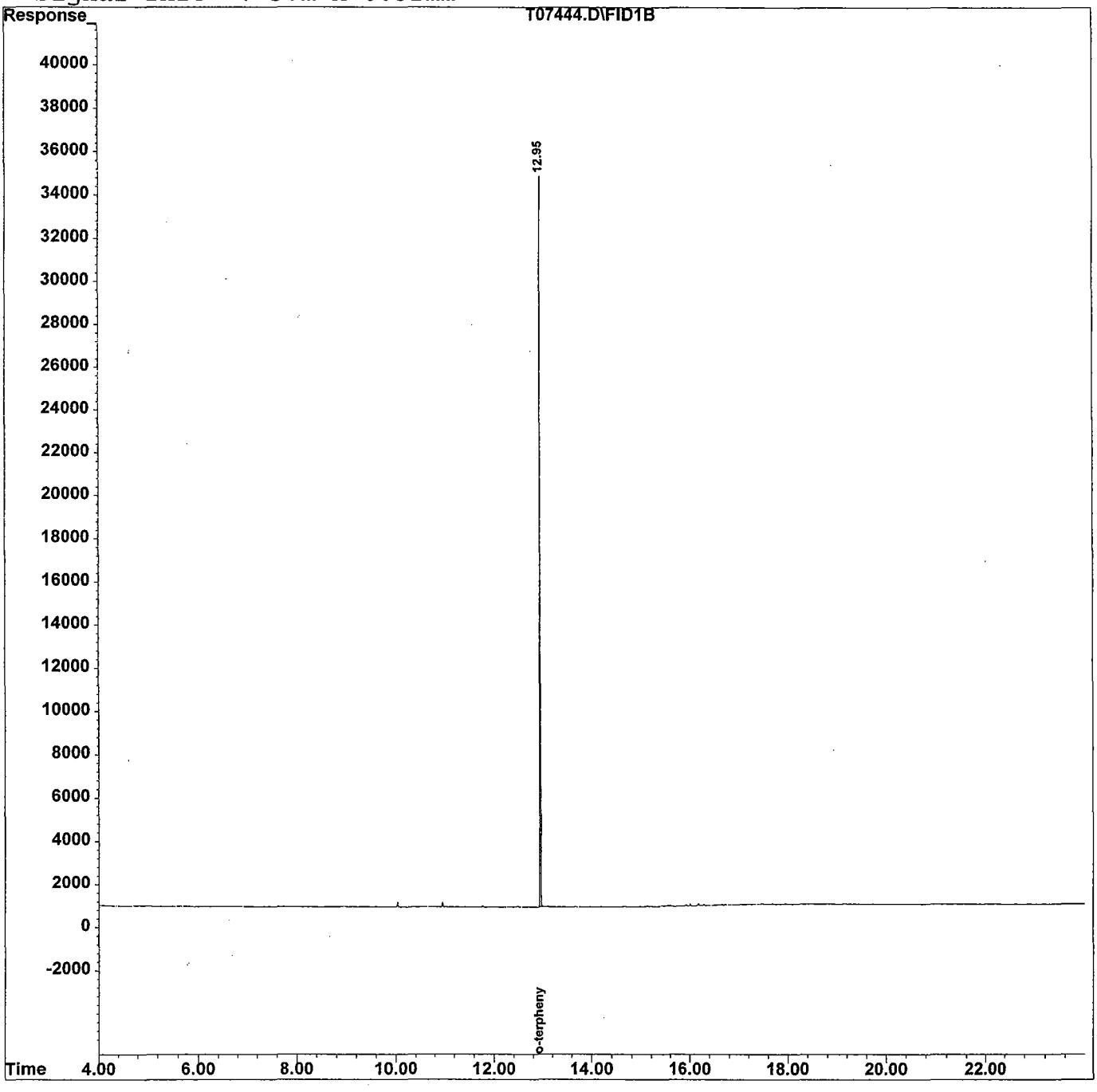
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07444.D Vial: 12
Acq On : 24 Dec 98 6:31 pm Operator: Deinhardt
Sample : 4155.06 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 24 18:57 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981224\T07446.D Vial: 14
Acq On : 24 Dec 98 7:43 pm Operator: Deinhardt
Sample : 4155.07 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:12 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Initial Calibration
DataAcq Meth : TPH51.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	12.95	320872	10.345 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	103.45%#
Target Compounds			

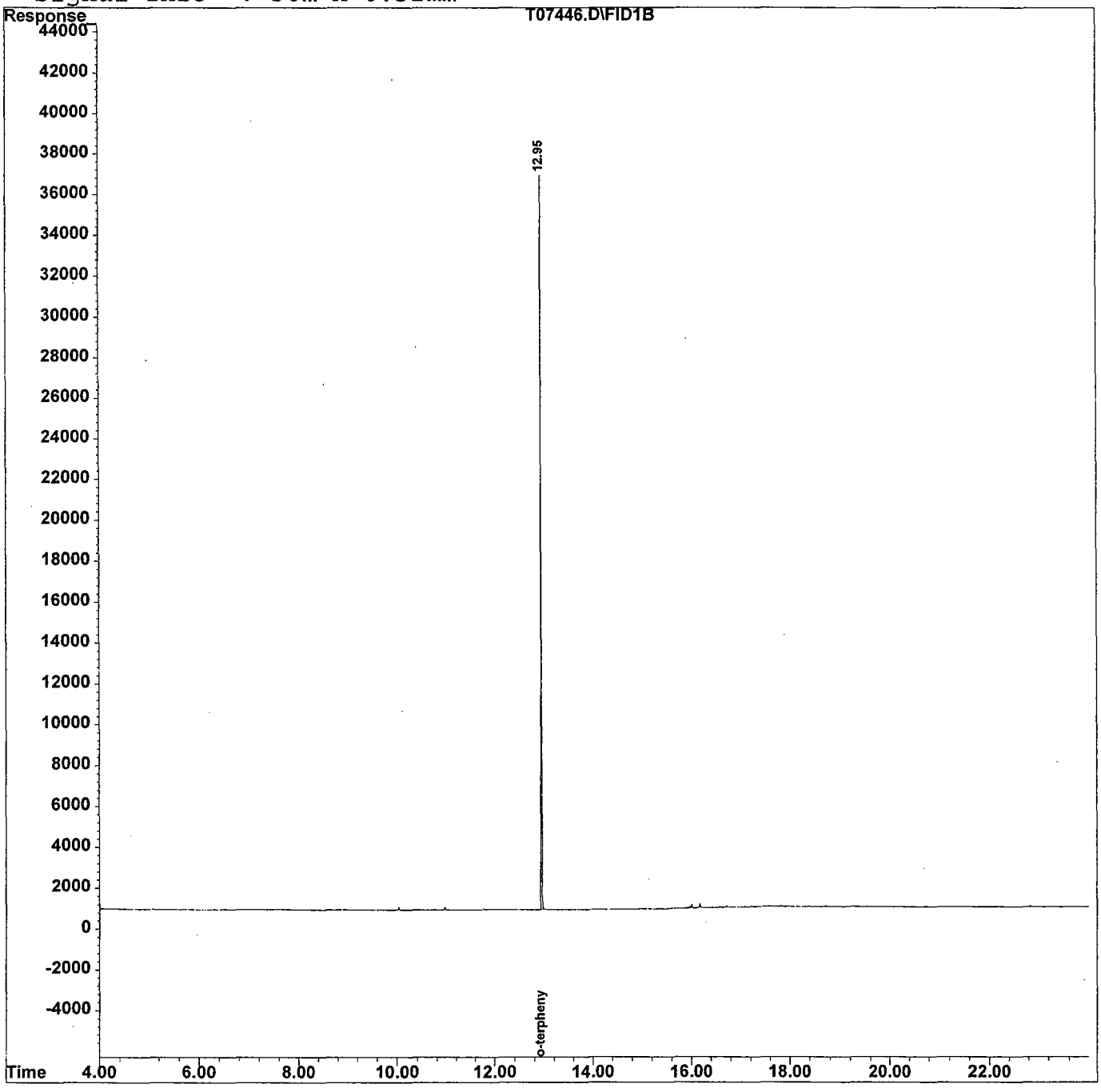
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981224\T07446.D Vial: 14
Acq On : 24 Dec 98 7:43 pm Operator: Deinhardt
Sample : 4155.07 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 28 8:12 1998 Quant Results File: TPH51.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH51.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue Oct 06 08:13:32 1998
Response via : Multiple Level Calibration
DataAcq Meth : TPH51.M

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



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package <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 _____

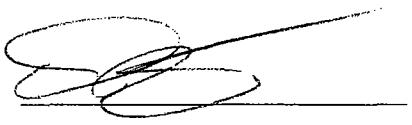
Date 1 / 4 / 19

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
NJDEP LABORATORY CERTIFICATION # 13461

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO# 99-0008

Bldg. 233

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
233 Base	4550.01	Soil	14-Jun-99 09:40	06/14/99
233 A-West	4550.02	Soil	14-Jun-99 08:20	06/14/99
233 B-South	4550.03	Soil	14-Jun-99 11:00	06/14/99
233 B-South Dup.	4550.04	Soil	14-Jun-99 15:30	06/14/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

6-23-99
Daniel Wright/Date
Laboratory Director

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

		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: _____

_____

_____

_____ 6-23-99

Laboratory Manager Date

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: Charles Appleby
Phone #: X26224
( )DERA (X)OMA UST Assessment

Project No: 99-0008
Location: BLDG 233
UST# 81533 - 21

Samplers Name / Company : Steve Schipper/TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS	VOA+15	VOA ID Number	H-Nu Reading	Remarks / Preservation Method
4550.01	233 BASE	6/11/99	9:40	S	1	X	X				
02	233 A-WEST	6/14/99	8:20		1	X	X				
03	233 B-SOUTH	6/14/99	11:00		1	X	X				
04	233 B-SOUTH DUP	6/14/99	15:30		1	X	X				

Analysis Parameters

Comments:
* = Samples Kept <4 Celsius

OVA sn#_____ was calibrated with zero air & at ___ ppm _____ read _____ppm. _____(time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	6/14/99 15:55				
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, ( )Rush 1 Days, ( )ASAP Verbal ___Hrs.

Remarks: Dedicated Sampling Tools Used

print legibly

USTcoc

000023

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

Client :	U.S. Army	**Lab. ID # :**	4550
	DPW. SELFM-PW-EV	**Date Rec'd:**	14-Jun-99
	Bldg. 173	**Analysis Start:**	15-Jun-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	16-Jun-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81533-21
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. 233

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4550.01	233 Base	**1.00**	15.30	76.16	202	**ND**
4550.02	233 A West	**1.00**	15.14	79.51	195	**ND**
4550.03	233 B South	**1.00**	15.30	76.24	201	**7079.57**
4550.04	234 B South Dup	**2.00**	15.64	84.38	178	**7888.00**
METHOD BLANK	TBLK245	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected
MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

000054

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999

Calibration Files
100 =T08097.D 50 =T08098.D 20 =T08099.D
10 =T08100.D 5 =T08101.D

	Compound	100	50	20	10	5	Avg		%RSD
1) tC	C8	1.690	1.618	1.618	1.467	1.695	1.618	E4	5.68
2) tC	C10	1.860	1.763	1.793	1.721	2.030	1.833	E4	6.61
3) TC	C12	1.953	1.851	1.860	1.779	2.070	1.903	E4	5.90
4) tC	C14	2.017	1.907	1.936	1.846	2.201	1.981	E4	6.94
5) tC	C16	2.074	1.964	1.993	1.900	2.295	2.045	E4	7.48
6) tC	C18	2.196	2.152	2.054	1.944	2.435	2.156	E4	8.51
7) tC	C20	2.198	2.082	2.125	2.042	2.481	2.186	E4	8.01
8) tC	C22	2.265	2.145	2.188	2.096	2.542	2.247	E4	7.85
9) tC	C24	2.313	2.186	2.229	2.131	2.591	2.290	E4	7.89
10) tC	C26	2.295	2.168	2.206	2.103	2.536	2.261	E4	7.45
11) tC	C28	2.304	2.173	2.194	2.088	2.517	2.255	E4	7.34
12) tC	C30	2.395	2.251	2.257	2.139	2.603	2.329	E4	7.65
13) tC	C32	2.355	2.199	2.196	2.081	2.510	2.268	E4	7.35
14) tC	C34	2.404	2.234	2.236	2.134	2.621	2.326	E4	8.23
15) tC	C36	2.127	1.966	1.963	1.920	2.283	2.052	E4	7.38
16) tC	C38	2.002	1.867	1.859	1.791	2.169	1.938	E4	7.75
17) tC	C40	1.559	1.469	1.446	1.391	1.706	1.514	E4	8.12
18) tC	c42	1.478	1.398	1.346	1.310	1.558	1.418	E4	7.08
19) TC	Pristane	2.226	2.059	2.161	2.073	2.510	2.206	E4	8.30
20) TC	Phytane	2.240	2.088	2.134	2.047	2.486	2.199	E4	7.99
21) sC	o-terphenyl	2.420	2.288	2.332	2.245	2.722	2.402	E4	7.93
22) tC	TPHC - total	2.269	2.215	2.248	2.231	2.820	2.357	E4	11.02

#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\990615\T008371.D Vial: 2
Acq On : 15 Jun 1999 10:27 am Operator: Deinhardt
Sample : 50 PPM STANDARD Inst : GC/MS Ins
Misc : 50 PPM STANDARD Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
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	16.178	16.137 E3	0.3	100	0.00
2	tC	C10	18.333	18.088 E3	1.3	103	0.00
3	TC	C12	19.026	18.901 E3	0.7	102	0.00
4	tC	C14	19.813	19.367 E3	2.3	102	0.00
5	tC	C16	20.452	19.828 E3	3.1	101	0.00
6	tC	C18	21.563	20.746 E3	3.8	96	0.00
7	tC	C20	21.857	21.313 E3	2.5	102	0.00
8	tC	C22	22.471	21.878 E3	2.6	102	0.00
9	tC	C24	22.898	22.382 E3	2.3	102	-0.01
10	tC	C26	22.614	22.308 E3	1.4	103	-0.01
11	tC	C28	22.551	22.252 E3	1.3	102	-0.01
12	tC	C30	23.290	22.794 E3	2.1	101	-0.01
13	tC	C32	22.683	22.133 E3	2.4	101	-0.01
14	tC	C34	23.259	22.169 E3	4.7	99	-0.02
15	tC	C36	20.517	19.304 E3	5.9	98	-0.02
16	tC	C38	19.377	18.532 E3	4.4	99	-0.03
17	tC	C40	15.143	14.844 E3	2.0	101	-0.03
18	tC	c42	14.180	14.073 E3	0.8	101	-0.05
19	TC	Pristane	22.058	21.750 E3	1.4	106	0.00
20	TC	Phytane	21.989	21.491 E3	2.3	103	-0.01
21	sC	o-terphenyl	24.015	23.463 E3	2.3	103	-0.01
22	tC	TPHC - total	23.566	22.533 E3	4.4	102	0.00

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008371.D Vial: 2
Acq On : 15 Jun 1999 10:27 am Operator: Deinhardt
Sample : 50 PPM STANDARD Inst : GC/MS Ins
Misc : 50 PPM STANDARD Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 15 10:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.87	1173148	48.850 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 488.50%#		
Target Compounds			
1) tC C8	4.46	806827	49.871 mg/L m
2) tC C10	7.58	904395	49.331 mg/L
3) TC C12	9.22	945051	49.672 mg/L
4) tC C14	10.41	968367	48.875 mg/L
5) tC C16	11.42	991383	48.474 mg/L
6) tC C18	11.88	1037287	48.104 mg/L m
7) tC C20	12.32	1065658	48.756 mg/L m
8) tC C22	13.13	1093886	48.680 mg/L
9) tC C24	13.88	1119084	48.872 mg/L
10) tC C26	14.57	1115413	49.325 mg/L
11) tC C28	15.20	1112602	49.336 mg/L
12) tC C30	15.80	1139682	48.934 mg/L
13) tC C32	16.35	1106670	48.788 mg/L
14) tC C34	16.93	1108429	47.656 mg/L
15) tC C36	17.61	965199	47.045 mg/L
16) tC C38	18.46	926617	47.821 mg/L
17) tC C40	19.56	742204	49.014 mg/L
18) tC c42	21.04	703652	49.624 mg/L
19) TC Pristane	11.91	1087487	49.301 mg/L m
20) TC Phytane	12.36	1074574	48.870 mg/L m
22) tC TPHC - total	11.91	22532672	956.160 mg/L m

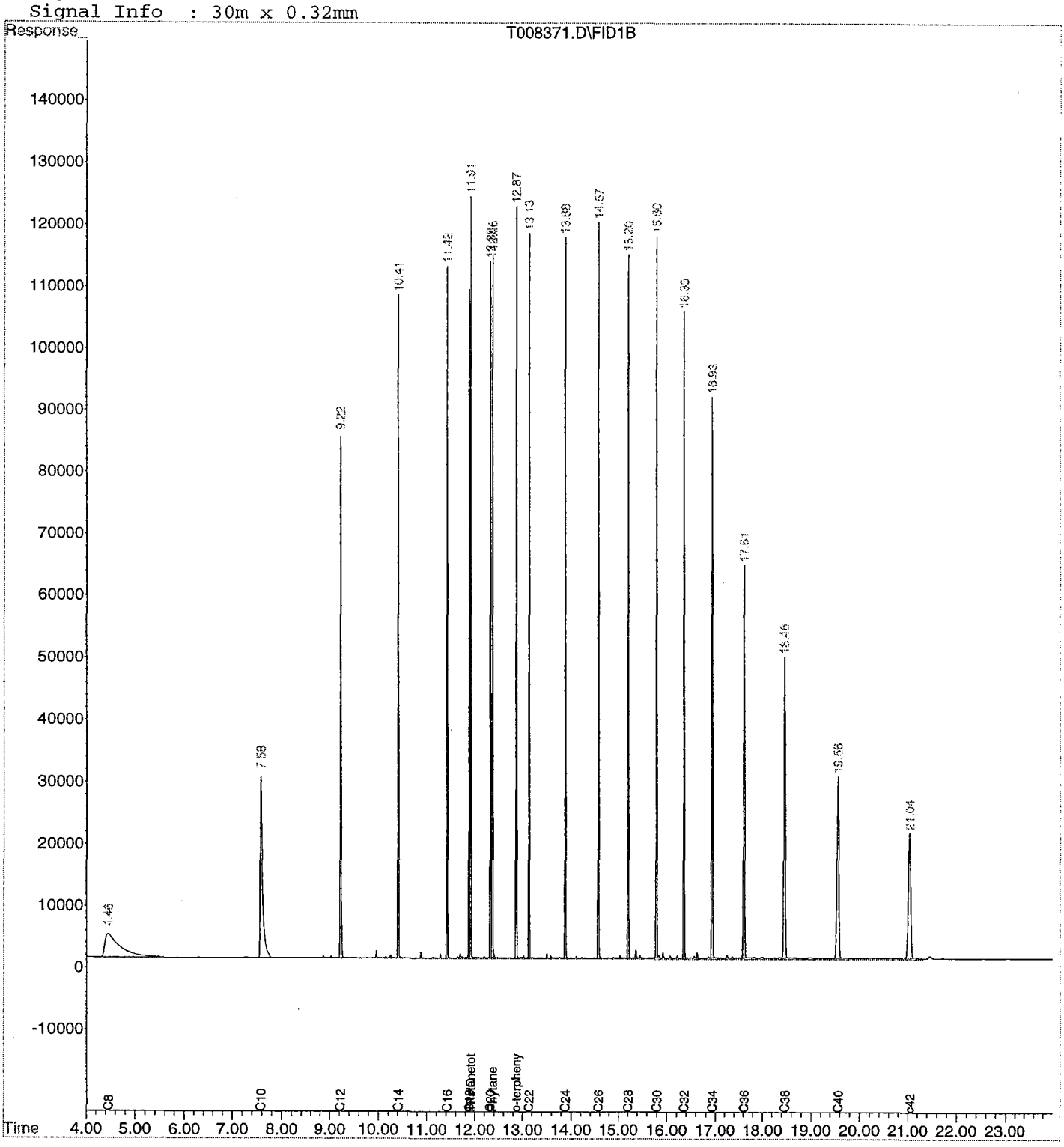
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008371.D Vial: 2
Acq On : 15 Jun 1999 10:27 am Operator: Deinhardt
Sample : 50 PPM STANDARD Inst : GC/MS Ins
Misc : 50 PPM STANDARD Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 15 10:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\990615\T008381.D Vial: 2
Acq On : 16 Jun 1999 8:00 am Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : 50 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
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	16.178	15.873	E3	1.9	98	-0.02
2	tC	C10	18.333	17.939	E3	2.1	102	0.00
3	TC	C12	19.026	18.487	E3	2.8	100	0.00
4	tC	C14	19.813	18.684	E3	5.7	98	0.00
5	tC	C16	20.452	18.982	E3	7.2	97	0.00
6	tC	C18	21.563	19.722	E3	8.5	92	0.00
7	tC	C20	21.857	20.314	E3	7.1	98	-0.01
8	tC	C22	22.471	20.720	E3	7.8	97	0.00
9	tC	C24	22.898	21.071	E3	8.0	96	-0.01
10	tC	C26	22.614	21.004	E3	7.1	97	-0.01
11	tC	C28	22.551	20.869	E3	7.5	96	-0.01
12	tC	C30	23.290	21.361	E3	8.3	95	-0.01
13	tC	C32	22.683	20.708	E3	8.7	94	-0.01
14	tC	C34	23.259	20.794	E3	10.6	93	-0.02
15	tC	C36	20.517	18.004	E3	12.2	92	-0.02
16	tC	C38	19.377	17.338	E3	10.5	93	-0.03
17	tC	C40	15.143	13.849	E3	8.5	94	-0.03
18	tC	c42	14.180	13.172	E3	7.1	94	-0.05
19	TC	Pristane	22.058	20.641	E3	6.4	100	-0.01
20	TC	Phytane	21.989	20.541	E3	6.6	98	-0.01
21	sC	o-terphenyl	24.015	22.327	E3	7.0	98	-0.01
22	tC	TPHC - total	23.566	22.231	E3	5.7	100	0.95#

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008381.D Vial: 2
Acq On : 16 Jun 1999 8:00 am Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : 50 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 10:38 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.87	1116344	46.485 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 464.85%#	
Target Compounds			
1) tC C8	4.44	793670	49.057 mg/L m
2) tC C10	7.58	896974	48.927 mg/L
3) TC C12	9.22	924329	48.583 mg/L
4) tC C14	10.41	934188	47.150 mg/L
5) tC C16	11.42	949101	46.407 mg/L
6) tC C18	11.88	986091	45.730 mg/L m
7) tC C20	12.32	1015686	46.470 mg/L m
8) tC C22	13.13	1035975	46.103 mg/L
9) tC C24	13.88	1053545	46.010 mg/L
10) tC C26	14.57	1050198	46.441 mg/L
11) tC C28	15.20	1043470	46.271 mg/L
12) tC C30	15.80	1068064	45.859 mg/L
13) tC C32	16.35	1035419	45.647 mg/L
14) tC C34	16.93	1039717	44.702 mg/L
15) tC C36	17.61	900208	43.877 mg/L
16) tC C38	18.46	866877	44.738 mg/L
17) tC C40	19.56	692441	45.728 mg/L
18) tC c42	21.04	658591	46.447 mg/L
19) TC Pristane	11.91	1032036	46.787 mg/L m
20) TC Phytane	12.36	1027071	46.709 mg/L m
22) tC TPHC - total	12.87	22231023	943.360 mg/L m

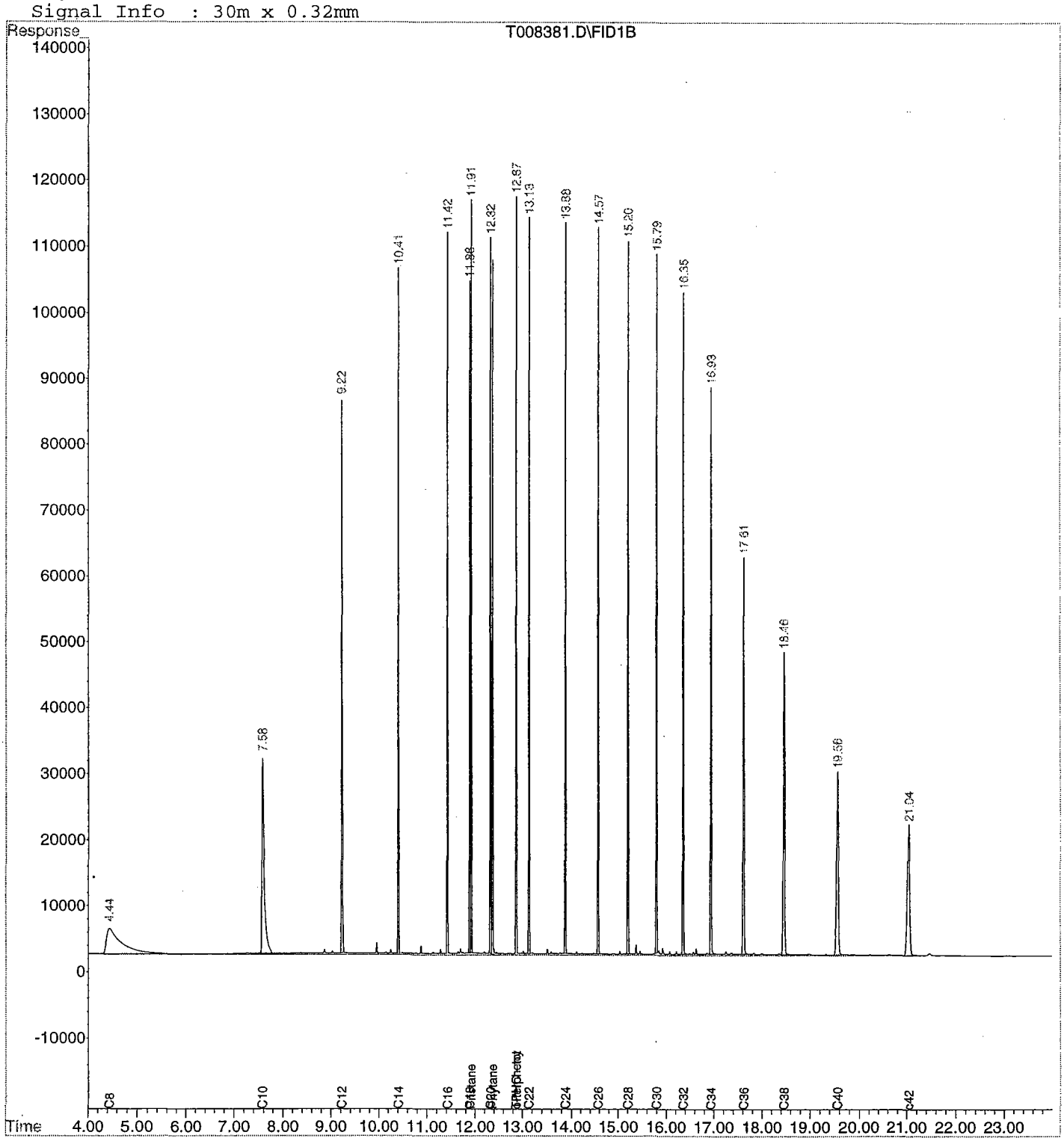
(f)=RT Delta > 1/2 Window (m)=manual int. 000010

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008381.D Vial: 2
Acq On : 16 Jun 1999 8:00 am Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : 50 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 10:38 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



000011

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

Client :	U.S. Army	**Lab. ID # :**	4550
	DPW. SELFM-PW-EV	**Date Rec'd:**	14-Jun-99
	Bldg. 173	**Analysis Start:**	15-Jun-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	16-Jun-99
		UST Reg. #:	
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	D.DEINHARDT	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 um
Column Type	RTX 5	**Location #:**	Bldg. 233
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
4550.01			10.00	10.68	**106.77**
4550.02			10.00	10.27	**102.67**
4550.03			10.00	10.04	**100.35**
4550.04			10.00	9.16	**91.58**
METHOD BLANK	TBLK245		10.00	9.52	**95.21**

Surrogate Added : **o-Terphenyl**

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

Client :	U.S. Army	**Lab. ID # :**	4550
	DPW. SELFM-PW-EV	**Date Rec'd:**	14-Jun-99
	Bldg. 173	**Analysis Start:**	15-Jun-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	16-Jun-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. 233

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	15-Jun-99	898.5142	978.16	108.86	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008372.D Vial: 3
Acq On : 15 Jun 1999 2:40 pm Operator: Deinhardt
Sample : Tblk 245 Inst : GC/MS Ins
Misc : Tblk 245 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:55 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.86	228656	9.521 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	95.21%#
Target Compounds			

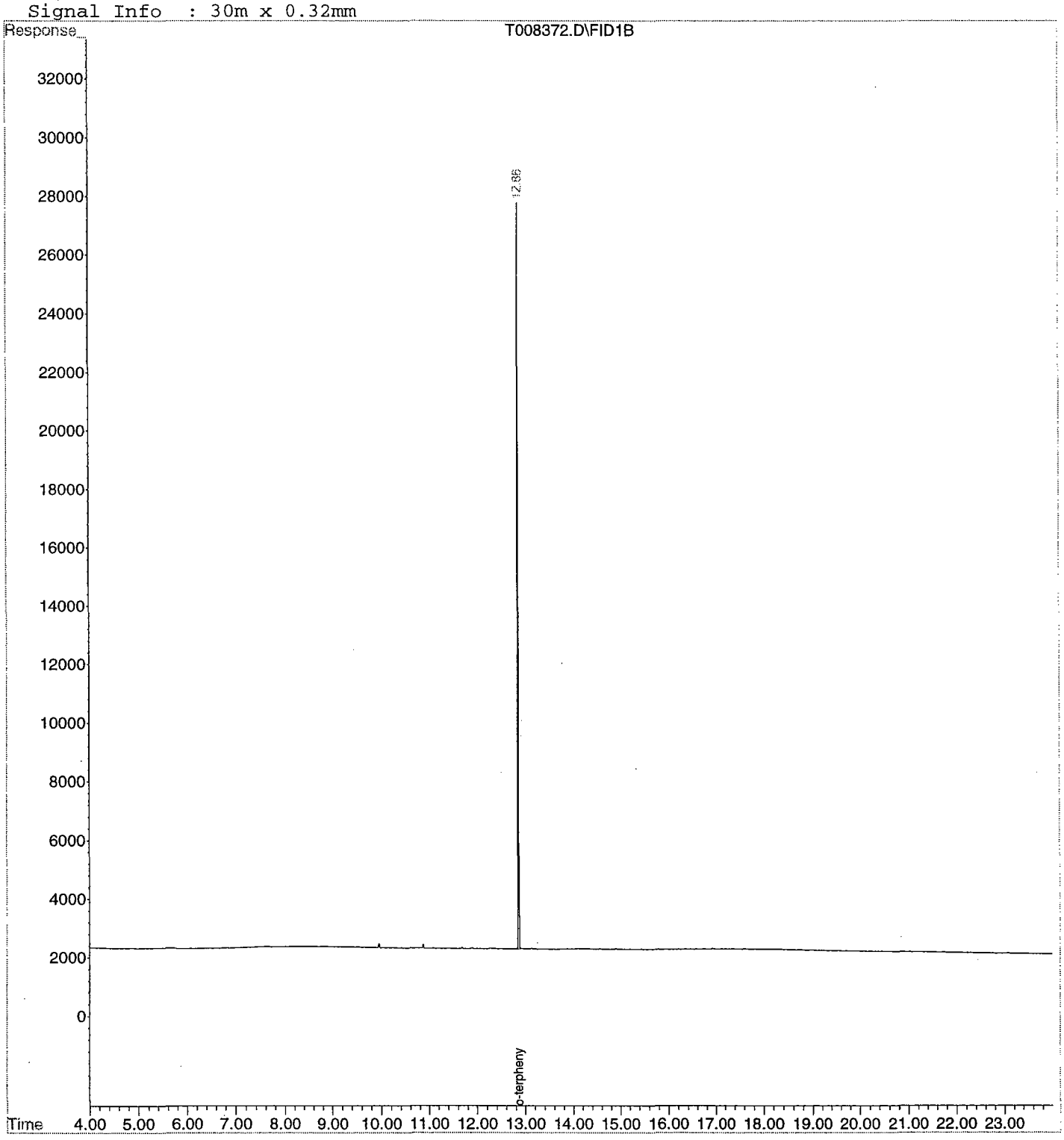
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008372.D Vial: 3
Acq On : 15 Jun 1999 2:40 pm Operator: Deinhardt
Sample : Tblk 245 Inst : GC/MS Ins
Misc : Tblk 245 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:55 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



000016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008374.D Vial: 5
Acq On : 15 Jun 1999 3:57 pm Operator: Deinhardt
Sample : 4550.01s Inst : GC/MS Ins
Misc : 233 Base Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:56 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.86	256411	10.677 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 106.77%#	
Target Compounds			

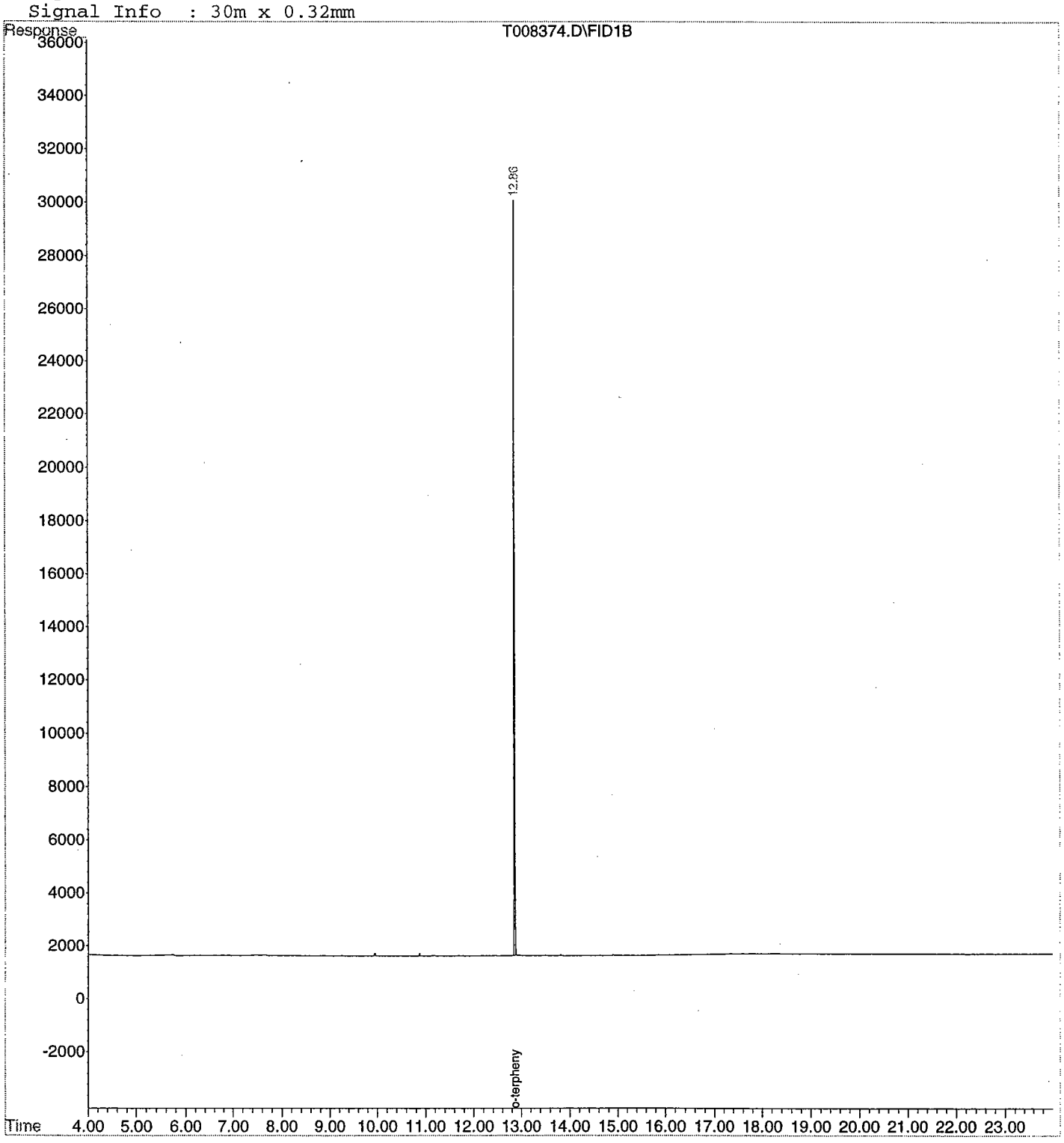
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008374.D Vial: 5
Acq On : 15 Jun 1999 3:57 pm Operator: Deinhardt
Sample : 4550.01s Inst : GC/MS Ins
Misc : 233 Base Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:56 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008377.D Vial: 8
Acq On : 15 Jun 1999 5:53 pm Operator: Deinhardt
Sample : 4550.02s Inst : GC/MS Ins
Misc : 233 A- West Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.86	246574	10.267 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 102.67%#	
Target Compounds			

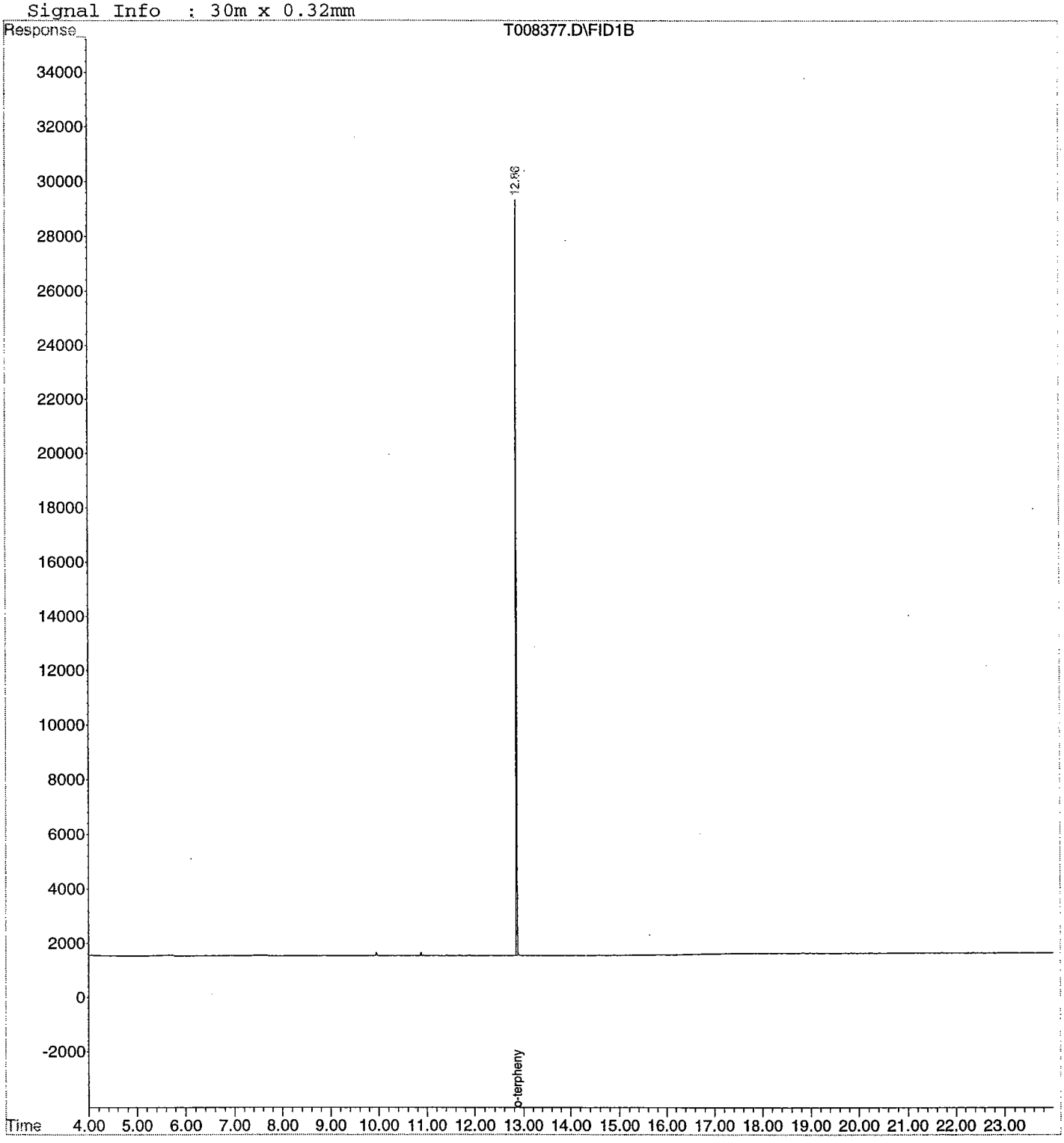
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008377.D Vial: 8
Acq On : 15 Jun 1999 5:53 pm Operator: Deinhardt
Sample : 4550.02s Inst : GC/MS Ins
Misc : 233 A- West Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008378.D Vial: 9
Acq On : 15 Jun 1999 6:32 pm Operator: Deinhardt
Sample : 4550.03s Inst : GC/MS Ins
Misc : 233 B-South Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.86	240981	10.035 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 100.35%#	
Target Compounds			
3) TC C12	9.22	249698	13.124 mg/L
4) tC C14	10.41	574937	29.018 mg/L
5) tC C16	11.42	587921	28.747 mg/L
6) tC C18	11.88	270257	12.533 mg/L
7) tC C20	12.32	352658	16.135 mg/L
8) tC C22	13.13	146908	6.538 mg/L
9) tC C24	13.87	66513	2.905 mg/L
19) TC Pristane	11.91	314201	14.244 mg/L
20) TC Phytane	12.36	155645	7.078 mg/L
22) tC TPHC - total	10.93	38921863	1651.625 mg/L m

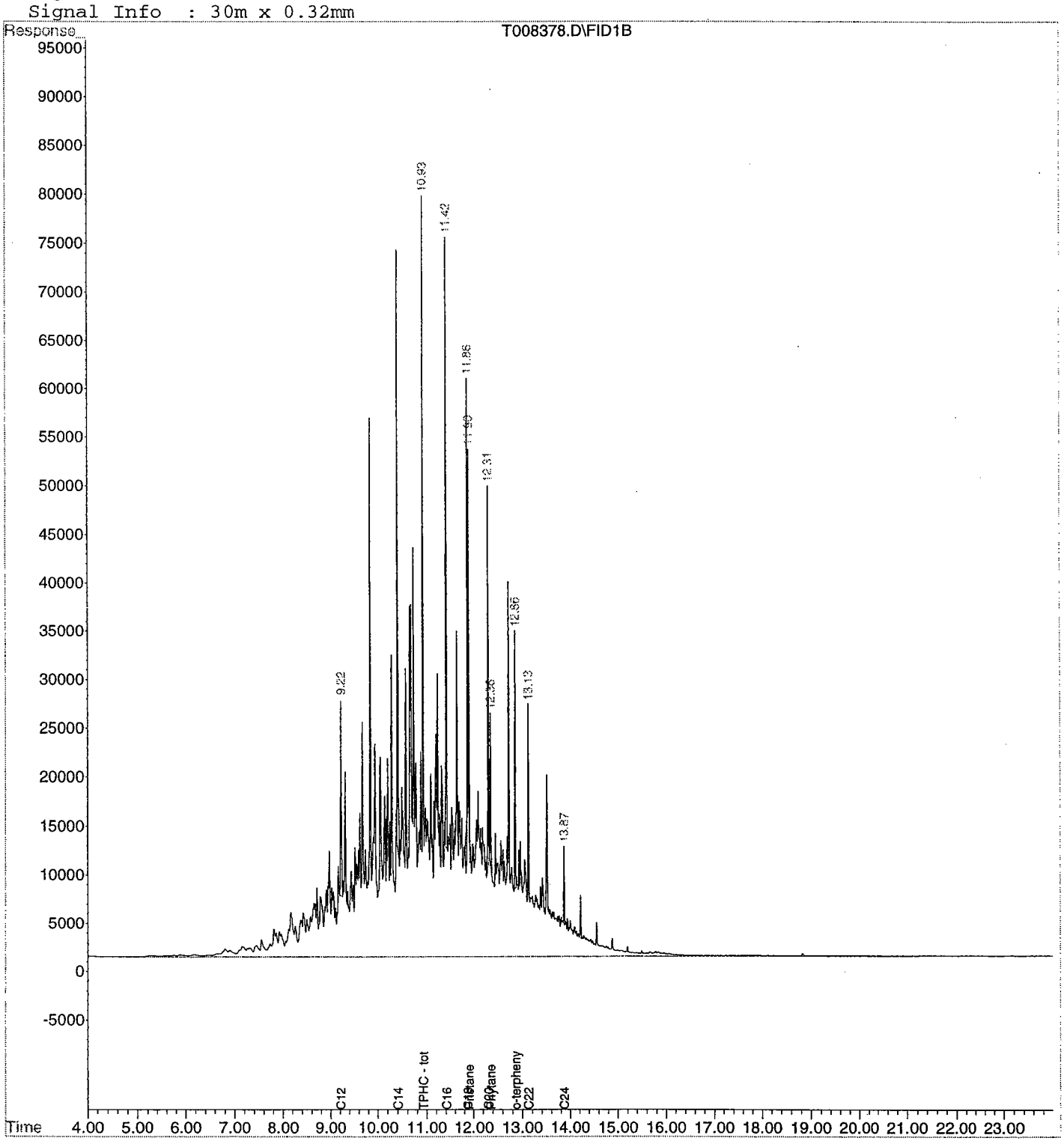
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008378.D Vial: 9
Acq On : 15 Jun 1999 6:32 pm Operator: Deinhardt
Sample : 4550.03s Inst : GC/MS Ins
Misc : 233 B-South Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008379.D Vial: 10
Acq On : 15 Jun 1999 7:10 pm Operator: Deinhardt
Sample : 4550.04s Inst : GC/MS Ins
Misc : 233 B- South Dup. Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.86	236961	9.867 mg/L
Spiked Amount	10.000 Range	8 - 13	Recovery =	98.67%#
	Target Compounds			
2)	tC C10	7.55	71306	3.889 mg/L
3)	TC C12	9.22	119652	6.289 mg/L
4)	tC C14	10.43	123602	6.238 mg/L
5)	tC C16	11.32	60110	2.939 mg/L
6)	tC C18	11.91	627296	29.091 mg/L
7)	tC C20	12.36	297377	13.606 mg/L
8)	tC C22	12.97	56989	2.536 mg/L
19)	TC Pristane	11.91	627296	28.438 mg/L
20)	TC Phytane	12.36	297377	13.524 mg/L
22)	tC TPHC - total	11.91	56054600	2378.642 mg/L m

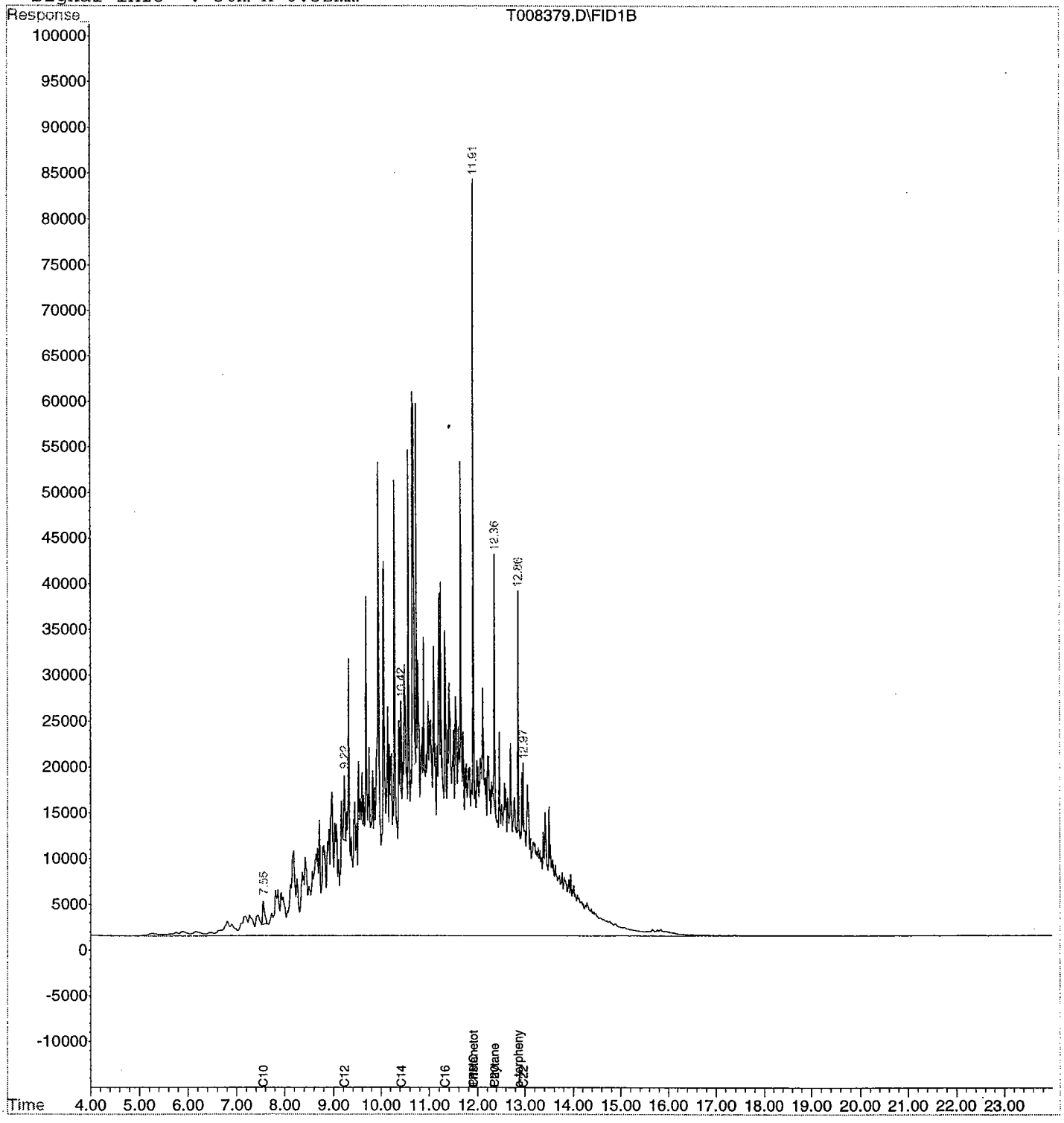
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008379.D Vial: 10
Acq On : 15 Jun 1999 7:10 pm Operator: Deinhardt
Sample : 4550.04s Inst : GC/MS Ins
Misc : 233 B- South Dup. Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 7:57 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990615\T008382.D Vial: 3
Acq On : 16 Jun 1999 8:37 am Operator: Deinhardt
Sample : 4550.04s 1:2 Inst : GC/MS Ins
Misc : 233 B-South Dup. Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 10:06 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Initial Calibration
DataAcq Meth : TPH58.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	12.86	109958	4.579 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery =	45.79%#	
Target Compounds			
3) TC C12	9.22	54066	2.842 mg/L
4) tC C14	10.42	53566	2.704 mg/L
5) tC C16	11.32	115910	5.668 mg/L
6) tC C18	11.90	273493	12.683 mg/L
7) tC C20	12.36	140508	6.429 mg/L
19) TC Pristane	11.90	273493	12.399 mg/L
20) TC Phytane	12.36	140508	6.390 mg/L
22) tC TPHC - total	11.90	24531563	1040.982 mg/L m

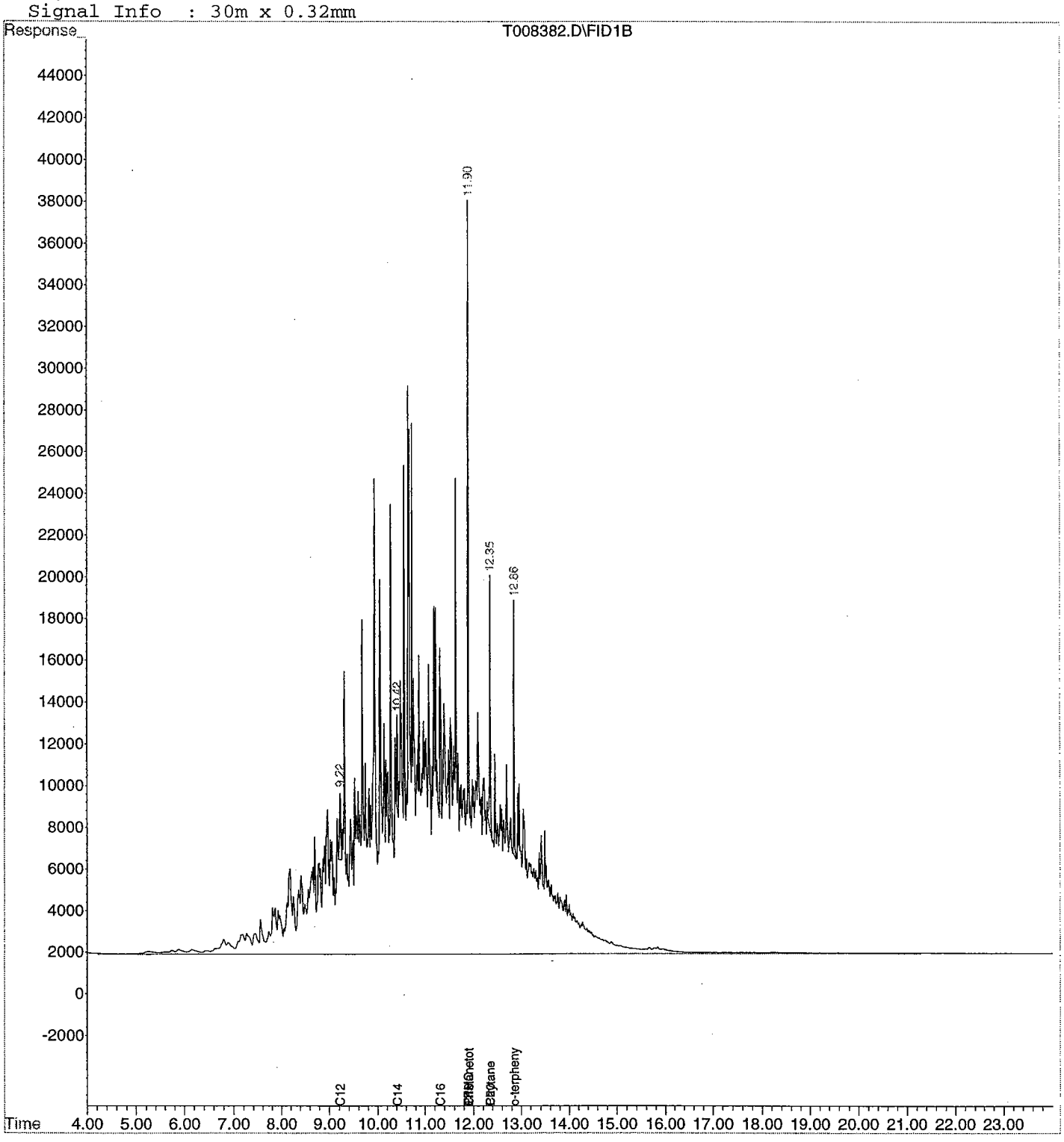
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990615\T008382.D Vial: 3
Acq On : 16 Jun 1999 8:37 am Operator: Deinhardt
Sample : 4550.04s 1:2 Inst : GC/MS Ins
Misc : 233 B-South Dup. Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 16 10:06 1999 Quant Results File: TPH58.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH58.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Tue May 04 13:49:32 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH58.M

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



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** _____
2. **Table of Contents submitted** _____
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** _____
4. **Document paginated and legible** _____
5. **Chain of Custody submitted** _____
6. **Samples submitted to lab within 48 hours of sample collection** _____
7. **Methodology Summary submitted** _____
8. **Laboratory Chronicle and Holding Time Check submitted** _____
9. **Results submitted on a dry weight basis** _____
10. **Method Detection Limits submitted** _____
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** _____

Laboratory Manager or Environmental Consultant's Signature _____
Date ___/___/___

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
NJDEP LABORATORY CERTIFICATION # 13461

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO#99-0008

Bldg. 233/Gosselin Rd.

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
233-A South Wall 10.5-11.0'	4701.01	Soil	09-Aug-99 14:20	08/10/99
233-B East Wall 10.5-11.0'	4701.02	Soil	09-Aug-99 11:00	08/10/99
233-C West Wall 10.5-11.0'	4701.03	Soil	09-Aug-99 11:20	08/10/99
233-C DUP.	4701.04	Soil	09-Aug-99 11:20	08/10/99
233-D Bottom 10.5-11.0'	4701.05	Soil	09-Aug-99 14:00	08/10/99
Trip Blank	4701.06	Soil	09-Aug-99	08/10/99
233-E North Wall 10.5-11.0'	4701.07	Soil	10-Aug-99 11:00	08/10/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

8.24-99
Daniel Wright/Date
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

		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: _____

_____

_____

_____ 8-24-99

Laboratory Manager Date

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: 532-4324
( )DERA ( )OMA (X)Other: UST

Project No: 99-0008
Location: BLDG. 233 GOSSELIN RD.

Samplers Name / Company : FRANK ACCORSI / TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: * TPH	VOA10						PID	Comments: VOO# Remarks / Preservation Method
4791.01	233-A SOUTH WALL 10.5-11.0 FT	8-9-99	1420	SOIL	2	X							0	653
02	233-B EAST WALL 10.5-11.0 FT		1100			X							0	649
03	233-C WEST WALL 10.5-11.0 FT		1120			X							0	650
04	" DUPLICATE		1120			X							0	651
05	233-D BOTTOM 10.5-11.0 FT		1400			X							0	652
06	TRIP BLANK		-	AQ	1		X						-	654
07	233-E NORTH WALL 10.5-11.0 FT	8-10-99	1100	SOIL	2	X							0.5	655

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	8-10-99 1132				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 24 HRS Days, ( )ASAP Verbal ___ Hrs.

Remarks: * CONTINGENT VOA10 ANALYSIS ON 25% OF SAMPLES GREATER THAN 1000 PPM TPH, ON HIGHEST SAMPLE (MIN. ONE)

030000

print legibly

Coc.xls8/9/99

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

Client :	U.S. Army	**Lab. ID # :**	4701
	DPW. SELFM-PW-EV	**Date Rec'd:**	10-Aug-99
	Bldg. 173	**Analysis Start:**	10-Aug-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	11-Aug-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	P.Skelton	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 um
Ext. Meth:	Shake	**Location #:**	Bldg233

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4701.01	233-A	**1.00**	15.44	74.23	205	**ND**
4701.02	233-B	**1.00**	15.28	71.00	217	**ND**
4701.03	233-C	**1.00**	15.51	72.19	210	**ND**
4701.04	233-Duplicate	**1.00**	15.41	72.92	209	**ND**
4701.05	233-D	**1.00**	15.95	72.97	202	**ND**
4701.07	233-E	**1.00**	15.54	72.77	208	**ND**
METHOD BLANK	TBLK261	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected
MDL = Method Detection Limit

8-24-99
Daniel K. Wright
Laboratory Director

000004

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999

Calibration Files
100 =T008622.D 50 =T008623.D 20 =T008624.D
10 =T008625.D 5 =T008626.D

		Compound	100	50	20	10	5	Avg		%RSD
1)	tC	C8	1.778	1.827	1.787	1.706	1.607	1.741	E4	4.98
2)	tC	C10	1.950	2.010	2.041	1.991	2.017	2.002	E4	1.72
3)	TC	C12	2.078	2.148	2.174	2.102	2.110	2.122	E4	1.80
4)	tC	C14	2.186	2.267	2.305	2.236	2.248	2.248	E4	1.93
5)	tC	C16	2.277	2.371	2.414	2.354	2.360	2.355	E4	2.10
6)	tC	C18	2.404	2.445	2.570	2.493	2.484	2.479	E4	2.49
7)	tC	C20	2.465	2.569	2.616	2.568	2.578	2.559	E4	2.20
8)	tC	C22	2.547	2.650	2.700	2.651	2.661	2.642	E4	2.15
9)	tC	C24	2.619	2.721	2.770	2.715	2.728	2.710	E4	2.06
10)	tC	C26	2.614	2.714	2.757	2.707	2.715	2.701	E4	1.95
11)	tC	C28	2.637	2.732	2.773	2.721	2.710	2.715	E4	1.83
12)	tC	C30	2.743	2.838	2.864	2.802	2.785	2.806	E4	1.67
13)	tC	C32	2.714	2.801	2.826	2.762	2.749	2.770	E4	1.59
14)	tC	C34	2.802	2.896	2.921	2.866	2.870	2.871	E4	1.55
15)	tC	C36	2.597	2.675	2.701	2.633	2.623	2.646	E4	1.59
16)	tC	C38	2.714	2.803	2.831	2.754	2.731	2.767	E4	1.78
17)	tC	C40	2.405	2.479	2.497	2.449	2.429	2.452	E4	1.51
18)	tC	c42	2.473	2.557	2.558	2.489	2.452	2.506	E4	1.96
19)	TC	Pristane	2.475	2.578	2.628	2.585	2.599	2.573	E4	2.26
20)	TC	Phytane	2.481	2.581	2.635	2.589	2.607	2.578	E4	2.26
21)	sC	o-terphenyl	2.631	2.743	2.803	2.747	2.765	2.738	E4	2.35
22)	tC	TPHC - total	2.712	2.799	2.933	2.929	3.122	2.899	E4	5.36

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990723\T008622.D Vial: 2
Acq On : 23 Jul 1999 2:34 pm Operator: Deinhardt
Sample : 100 ppm standard Inst : GC/MS Ins
Misc : 100 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jul 23 15:57 1999 Quant Results File: TPH61.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH61.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 12 11:44:30 1999
Response via : Initial Calibration
DataAcq Meth : TPH61.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	12.88	2630834	100.487 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 1004.87%#		
Target Compounds			
1) tC C8	4.46	1777959	112.538 mg/L
2) tC C10	7.59	1949619	107.965 mg/L
3) TC C12	9.23	2077995	108.031 mg/L
4) tC C14	10.42	2186484	107.590 mg/L
5) tC C16	11.43	2277377	104.059 mg/L
6) tC C18	11.89	2404139	104.849 mg/L m
7) tC C20	12.33	2465063	103.464 mg/L m
8) tC C22	13.14	2546541	104.105 mg/L
9) tC C24	13.89	2618623	104.845 mg/L
10) tC C26	14.58	2614348	105.020 mg/L
11) tC C28	15.22	2636511	106.713 mg/L
12) tC C30	15.81	2743051	107.879 mg/L
13) tC C32	16.37	2713678	109.327 mg/L
14) tC C34	16.95	2802122	110.389 mg/L
15) tC C36	17.64	2596510	114.187 mg/L
16) tC C38	18.49	2713940	119.494 mg/L
17) tC C40	19.61	2404608	129.034 mg/L
18) tC c42	21.11	2472990	139.839 mg/L
19) TC Pristane	11.92	2474641	101.239 mg/L m
20) TC Phytane	12.37	2481321	101.011 mg/L m
22) tC TPHC - total	11.92	54248903	1932.930 mg/L m

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990723\T008623.D Vial: 3
Acq On : 23 Jul 1999 3:14 pm Operator: Deinhardt
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : 50 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jul 23 15:59 1999 Quant Results File: TPH61.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH61.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 12 11:44:30 1999
Response via : Initial Calibration
DataAcq Meth : TPH61.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	12.87	1371405	52.382 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 523.82%#		
Target Compounds			
1) tC C8	4.45	913350	57.812 mg/L
2) tC C10	7.58	1005027	55.656 mg/L
3) TC C12	9.23	1073763	55.823 mg/L
4) tC C14	10.41	1133580	55.780 mg/L
5) tC C16	11.42	1185386	54.163 mg/L
6) tC C18	11.88	1222411	53.311 mg/L m
7) tC C20	12.32	1284629	53.919 mg/L m
8) tC C22	13.14	1325208	54.176 mg/L
9) tC C24	13.89	1360493	54.472 mg/L
10) tC C26	14.57	1356798	54.503 mg/L
11) tC C28	15.21	1366104	55.293 mg/L
12) tC C30	15.80	1418930	55.804 mg/L
13) tC C32	16.36	1400705	56.431 mg/L
14) tC C34	16.94	1448069	57.046 mg/L
15) tC C36	17.63	1337622	58.825 mg/L
16) tC C38	18.48	1401383	61.703 mg/L
17) tC C40	19.59	1239417	66.508 mg/L
18) tC c42	21.07	1278489	72.294 mg/L
19) TC Pristane	11.91	1289033	52.735 mg/L m
20) TC Phytane	12.37	1290317	52.527 mg/L m
22) tC TPHC - total	11.91	27986268	997.172 mg/L m

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

000007

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\990723\T008624.D Vial: 4
Acq On : 23 Jul 1999 3:54 pm Operator: Deinhardt
Sample : 20 ppm standard Inst : GC/MS Ins
Misc : 20 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jul 23 17:50 1999 Quant Results File: TPH61.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH61.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 12 11:44:30 1999
Response via : Initial Calibration
DataAcq Meth : TPH61.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	12.87	560666	21.415 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 214.15%#		
Target Compounds			
1) tC C8	4.46	357409	22.623 mg/L
2) tC C10	7.58	408272	22.609 mg/L
3) TC C12	9.23	434799	22.604 mg/L
4) tC C14	10.41	460905	22.680 mg/L
5) tC C16	11.42	482798	22.060 mg/L
6) tC C18	11.88	513937	22.414 mg/L m
7) tC C20	12.32	523293	21.964 mg/L m
8) tC C22	13.13	539979	22.075 mg/L
9) tC C24	13.88	554033	22.182 mg/L
10) tC C26	14.57	551478	22.153 mg/L
11) tC C28	15.21	554633	22.449 mg/L
12) tC C30	15.80	572836	22.529 mg/L
13) tC C32	16.35	565131	22.768 mg/L
14) tC C34	16.94	584223	23.015 mg/L
15) tC C36	17.62	540273	23.760 mg/L
16) tC C38	18.47	566274	24.933 mg/L
17) tC C40	19.57	499332	26.795 mg/L
18) tC c42	21.06	511609	28.930 mg/L
19) TC Pristane	11.91	525500	21.498 mg/L m
20) TC Phytane	12.36	526937	21.451 mg/L m
22) tC TPHC - total	13.88	11733337	418.068 mg/L m

000008

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

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\990723\T008625.D Vial: 5
Acq On : 23 Jul 1999 4:34 pm Operator: Deinhardt
Sample : 10 ppm standard Inst : GC/MS Ins
Misc : 10 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jul 23 17:52 1999 Quant Results File: TPH61.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH61.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 12 11:44:30 1999
Response via : Initial Calibration
DataAcq Meth : TPH61.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	12.87	274674	10.491 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 104.91%#	
Target Compounds			
1) tC C8	4.46	170626	10.800 mg/L
2) tC C10	7.59	199050	11.023 mg/L
3) TC C12	9.22	210221	10.929 mg/L
4) tC C14	10.41	223576	11.002 mg/L
5) tC C16	11.42	235424	10.757 mg/L
6) tC C18	11.88	249311	10.873 mg/L m
7) tC C20	12.32	256759	10.777 mg/L m
8) tC C22	13.13	265074	10.837 mg/L
9) tC C24	13.88	271473	10.869 mg/L
10) tC C26	14.57	270687	10.874 mg/L
11) tC C28	15.20	272076	11.012 mg/L
12) tC C30	15.80	280155	11.018 mg/L
13) tC C32	16.35	276167	11.126 mg/L
14) tC C34	16.93	286620	11.291 mg/L
15) tC C36	17.61	263285	11.578 mg/L
16) tC C38	18.46	275396	12.126 mg/L
17) tC C40	19.56	244910	13.142 mg/L
18) tC c42	21.05	248866	14.072 mg/L
19) TC Pristane	11.91	258452	10.573 mg/L m
20) TC Phytane	12.36	258879	10.539 mg/L m
22) tC TPHC - total	12.86	5857909	208.722 mg/L m

(f)=RT Delta > 1/2 Window (m)=manual int.
T008625.D TPH61.M Thu Aug 05 16:22:25 1999 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\990723\T008626.D Vial: 6
Acq On : 23 Jul 1999 5:14 pm Operator: Deinhardt
Sample : 5 ppm standard Inst : GC/MS Ins
Misc : 5 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jul 23 17:53 1999 Quant Results File: TPH61.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH61.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 12 11:44:30 1999
Response via : Initial Calibration
DataAcq Meth : TPH61.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	12.86	138233	5.280 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery =	52.80%#
Target Compounds			
1) tC C8	4.47	80326	5.084 mg/L m
2) tC C10	7.59	100867	5.586 mg/L
3) TC C12	9.22	105484	5.484 mg/L
4) tC C14	10.41	112385	5.530 mg/L
5) tC C16	11.42	118019	5.393 mg/L
6) tC C18	11.88	124194	5.416 mg/L m
7) tC C20	12.31	128920	5.411 mg/L m
8) tC C22	13.13	133038	5.439 mg/L
9) tC C24	13.88	136378	5.460 mg/L
10) tC C26	14.57	135740	5.453 mg/L
11) tC C28	15.20	135496	5.484 mg/L
12) tC C30	15.80	139243	5.476 mg/L
13) tC C32	16.35	137473	5.538 mg/L
14) tC C34	16.93	143481	5.652 mg/L
15) tC C36	17.61	131154	5.768 mg/L
16) tC C38	18.46	136552	6.012 mg/L
17) tC C40	19.56	121443	6.517 mg/L
18) tC c42	21.04	122588	6.932 mg/L
19) TC Pristane	11.91	129972	5.317 mg/L m
20) TC Phytane	12.36	130351	5.306 mg/L m
22) tC TPHC - total	13.88	3121910	111.236 mg/L m

000010

(f)=RT Delta > 1/2 Window (m)=manual int.
T008626.D TPH61.M Thu Aug 05 16:22:31 1999

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\990810\T008706.D Vial: 25
Acq On : 10 Aug 1999 2:21 pm Operator: Skelton
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : 50 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
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	17.409	16.675	E3	4.2	95	0.00
2	tC	C10	20.018	21.163	E3	-5.7	108	0.00
3	TC	C12	21.223	22.294	E3	-5.0	106	0.00
4	tC	C14	22.483	23.126	E3	-2.9	104	0.00
5	tC	C16	23.553	23.926	E3	-1.6	102	0.00
6	tC	C18	24.791	25.625	E3	-3.4	103	0.00
7	tC	C20	25.594	25.548	E3	0.2	101	0.00
8	tC	C22	26.417	26.560	E3	-0.5	101	0.00
9	tC	C24	27.104	27.253	E3	-0.5	102	0.00
10	tC	C26	27.014	27.182	E3	-0.6	102	0.00
11	tC	C28	27.145	27.362	E3	-0.8	102	0.00
12	tC	C30	28.063	28.335	E3	-1.0	103	0.00
13	tC	C32	27.704	27.852	E3	-0.5	102	0.00
14	tC	C34	28.710	28.237	E3	1.6	101	0.00
15	tC	C36	26.458	25.044	E3	5.3	99	0.00
16	tC	C38	27.666	23.911	E3	13.6	92	0.00
17	tC	C40	24.516	17.957	E3	26.8#	81	0.00
18	tC	c42	25.057	13.916	E3	44.5#	62	0.00
19	TC	Pristane	25.728	25.454	E3	1.1	100	0.00
20	TC	Phytane	25.785	25.864	E3	-0.3	101	0.00
21	sC	o-terphenyl	27.377	27.679	E3	-1.1	101	0.00
22	tC	TPHC - total	28.991	28.105	E3	3.1	101	-1.97#

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990810\T008706.D Vial: 25
Acq On : 10 Aug 1999 2:21 pm Operator: Skelton
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : 50 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 14:59 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.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	12.87	1383973	50.553 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 505.53%#		
Target Compounds			
1) tC C8	4.47	833745	47.892 mg/L
2) tC C10	7.58	1058147	52.860 mg/L
3) TC C12	9.22	1114719	52.525 mg/L
4) tC C14	10.41	1156292	51.429 mg/L
5) tC C16	11.42	1196312	50.791 mg/L
6) tC C18	11.88	1281245	51.681 mg/L m
7) tC C20	12.32	1277424	49.912 mg/L
8) tC C22	13.13	1327976	50.270 mg/L
9) tC C24	13.88	1362646	50.275 mg/L
10) tC C26	14.57	1359091	50.311 mg/L
11) tC C28	15.20	1368111	50.400 mg/L
12) tC C30	15.80	1416770	50.485 mg/L
13) tC C32	16.35	1392579	50.267 mg/L
14) tC C34	16.94	1411831	49.175 mg/L
15) tC C36	17.62	1252201	47.328 mg/L
16) tC C38	18.46	1195559	43.214 mg/L
17) tC C40	19.56	897864	36.623 mg/L
18) tC c42	21.04	695780	27.768 mg/L
19) TC Pristane	11.91	1272694	49.467 mg/L m
20) TC Phytane	12.36	1293199	50.153 mg/L
22) tC TPHC - total	11.91	28105079	969.457 mg/L m

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

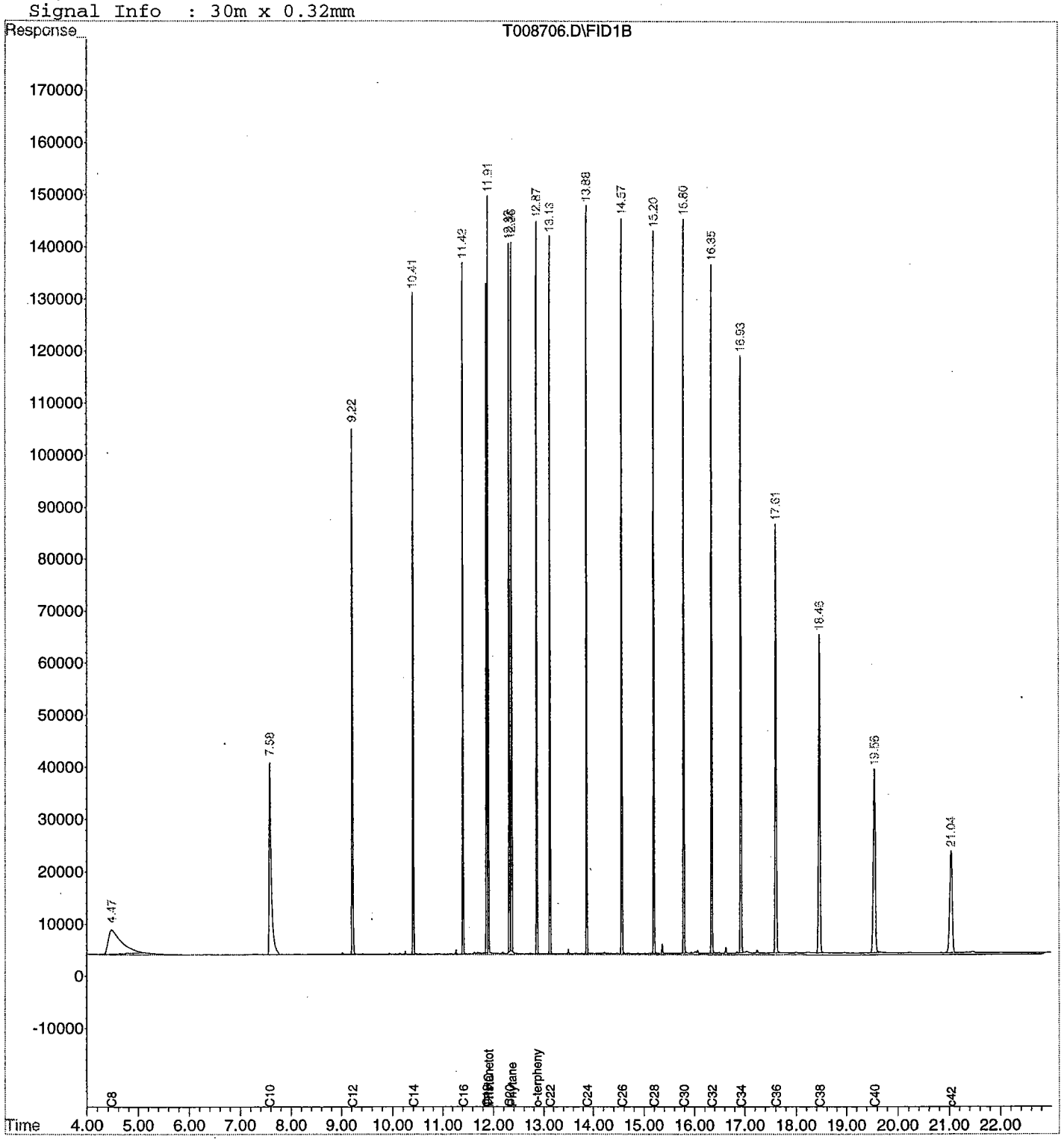
000012

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990810\T008706.D Vial: 25
Acq On : 10 Aug 1999 2:21 pm Operator: Skelton
Sample : 50 ppm standard Inst : GC/MS Ins
Misc : 50 ppm standard Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 14:59 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.M

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



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

Client :	U.S. Army	**Lab. ID # :**	4701
	DPW. SELFM-PW-EV	**Date Rec'd:**	10-Aug-99
	Bldg. 173	**Analysis Start:**	11-Aug-99
	Ft. Monmouth NJ, 07703	**Analysis Complete:**	20-Aug-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	P. Skelton	**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. 233

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
4701.01MS	834.4	0.00	886.47	106.24	75-125
4701.01MSD	834.4	0.00	784.93	94.07	75-125
			RPD	**12.15**	**20.00**

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

Client :	U.S. Army	**Lab. ID # :**	4701
	DPW. SELFM-PW-EV	**Date Rec'd:**	10-Aug-99
	Bldg. 173	**Analysis Start:**	11-Aug-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	20-Aug-99

Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	P. Skelton	**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. 233

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	11-Aug-99	834.4	914.38	109.59	75-125

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

Client :	U.S. Army	**Lab. ID # :**	4701
	DPW. SELFM-PW-EV	**Date Rec'd:**	10-Aug-99
	Bldg. 173	**Analysis Start:**	11-Aug-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	20-Aug-99
		UST Reg. #:	
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	P. Skelton	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 um
Column Type	RTX 5	**Location #:**	Bldg. 233
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
4701.01			10.00	7.61	**76.07**
4701.02			10.00	9.38	**93.83**
4701.03			10.00	9.69	**96.94**
4701.04			10.00	10.11	**101.10**
4701.05			10.00	8.63	**86.32**
4701.06			10.00	8.34	**83.38**
METHOD BLANK	TBLK 261		10.00	10.34	**103.44**

Surrogate Added : **o-Terphenyl**

000016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990810\T008707.D Vial: 1
Acq On : 10 Aug 1999 3:07 pm Operator: Skelton
Sample : Tblk261 Inst : GC/MS Ins
Misc : Tblk261 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 15:33 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.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	12.86	283176	10.344 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 103.44%#	
Target Compounds			

000017

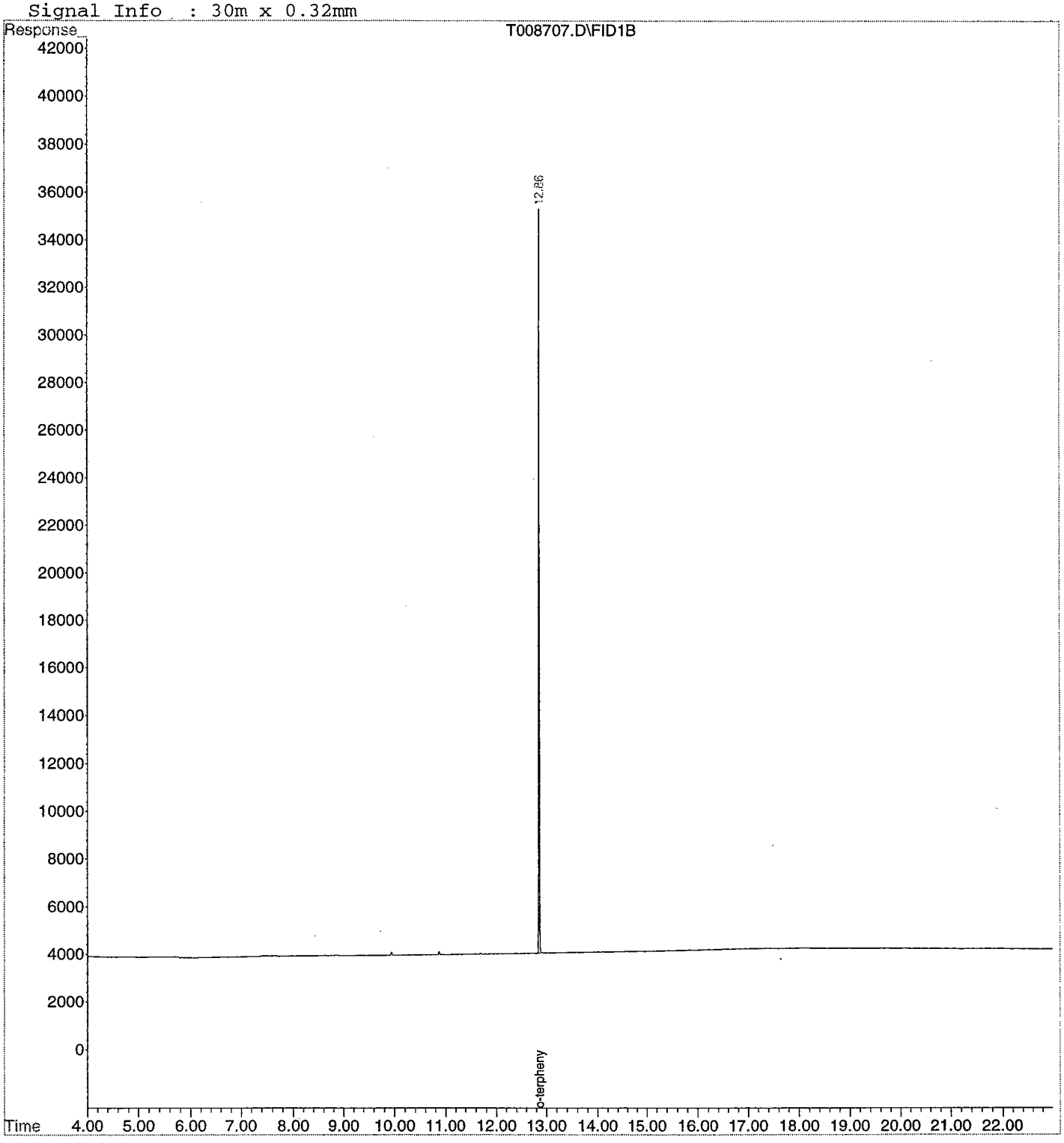
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990810\T008707.D Vial: 1
Acq On : 10 Aug 1999 3:07 pm Operator: Skelton
Sample : Tblk261 Inst : GC/MS Ins
Misc : Tblk261 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 15:33 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.M

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



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\data\990810\T008722.D Vial: 25
Acq On : 11 Aug 1999 8:14 am Operator: Skelton
Sample : 4701.01s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 11 8:41 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.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	12.86	208249	7.607 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	76.07%#
Target Compounds			

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

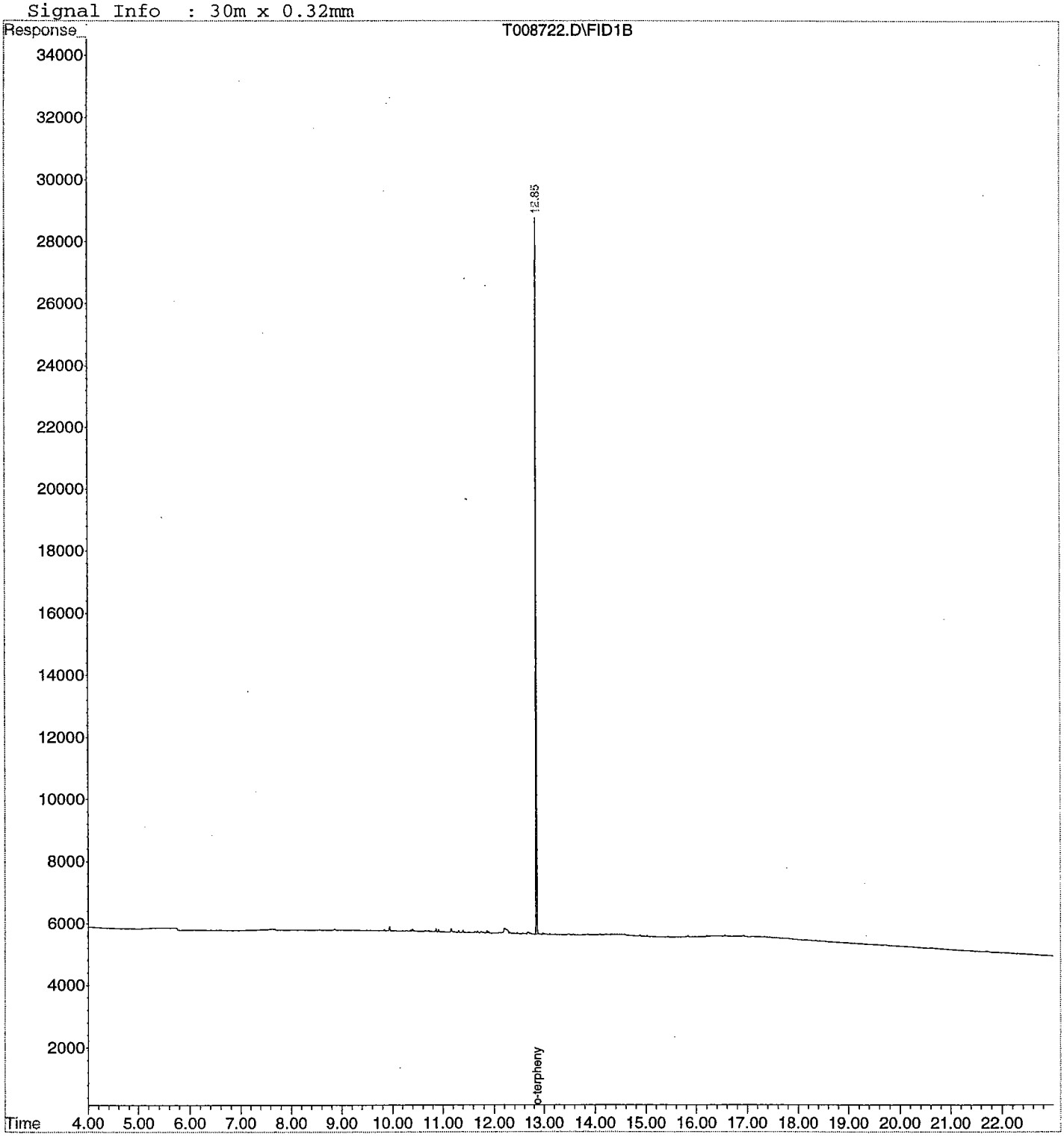
000019

Quantitation Report

Data File : C:\HPCHEM\1\data\990810\T008722.D Vial: 25
Acq On : 11 Aug 1999 8:14 am Operator: Skelton
Sample : 4701.01s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 11 8:41 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990810\T008712.D Vial: 6
Acq On : 10 Aug 1999 6:25 pm Operator: Skelton
Sample : 4701.02s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 18:51 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.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	12.86	256867	9.383 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	93.83%#
Target Compounds			

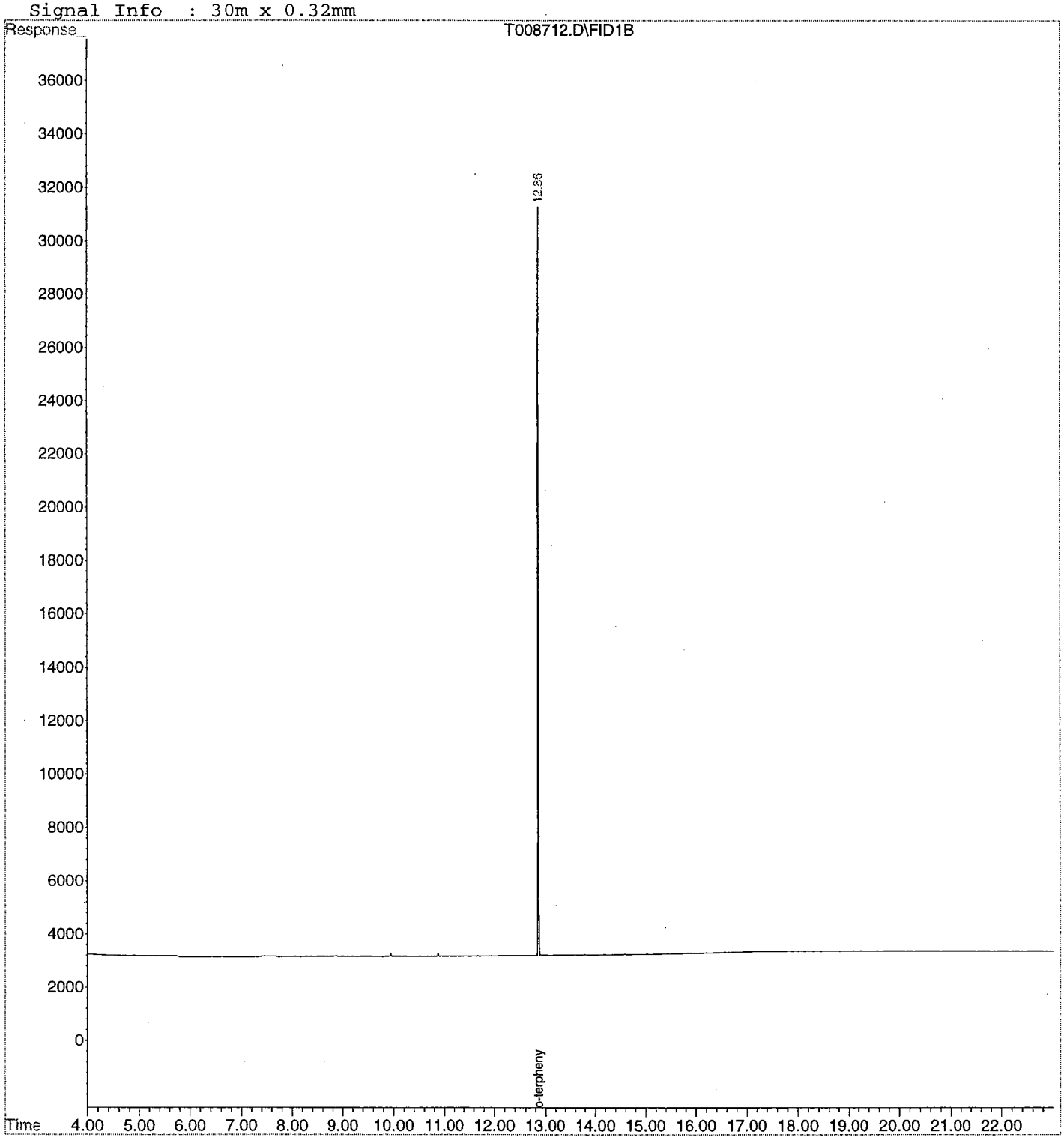
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990810\T008712.D Vial: 6
Acq On : 10 Aug 1999 6:25 pm Operator: Skelton
Sample : 4701.02s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 18:51 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990810\T008713.D Vial: 7
Acq On : 10 Aug 1999 7:03 pm Operator: Skelton
Sample : 4701.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 19:30 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.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	12.86	265381	9.694 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	96.94%#
Target Compounds			

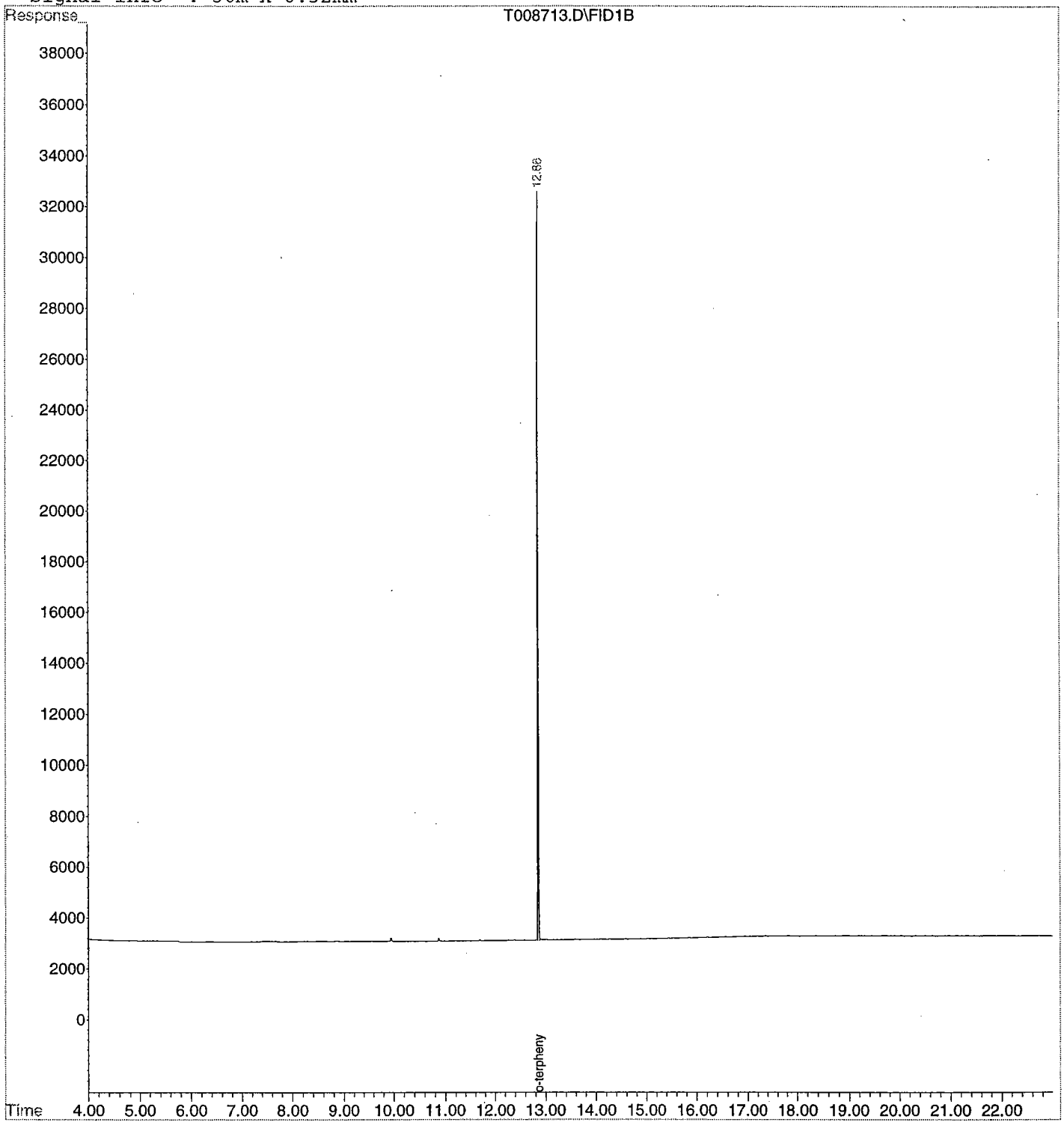
(f)=RT Delta > 1/2 Window (m)=manual int. 000023
T008713.D TPH62.M Wed Aug 11 07:54:31 1999 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990810\T008713.D Vial: 7
Acq On : 10 Aug 1999 7:03 pm Operator: Skelton
Sample : 4701.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 19:30 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990810\T008714.D Vial: 8
Acq On : 10 Aug 1999 7:42 pm Operator: Skelton
Sample : 4701.04s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 20:08 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.M

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

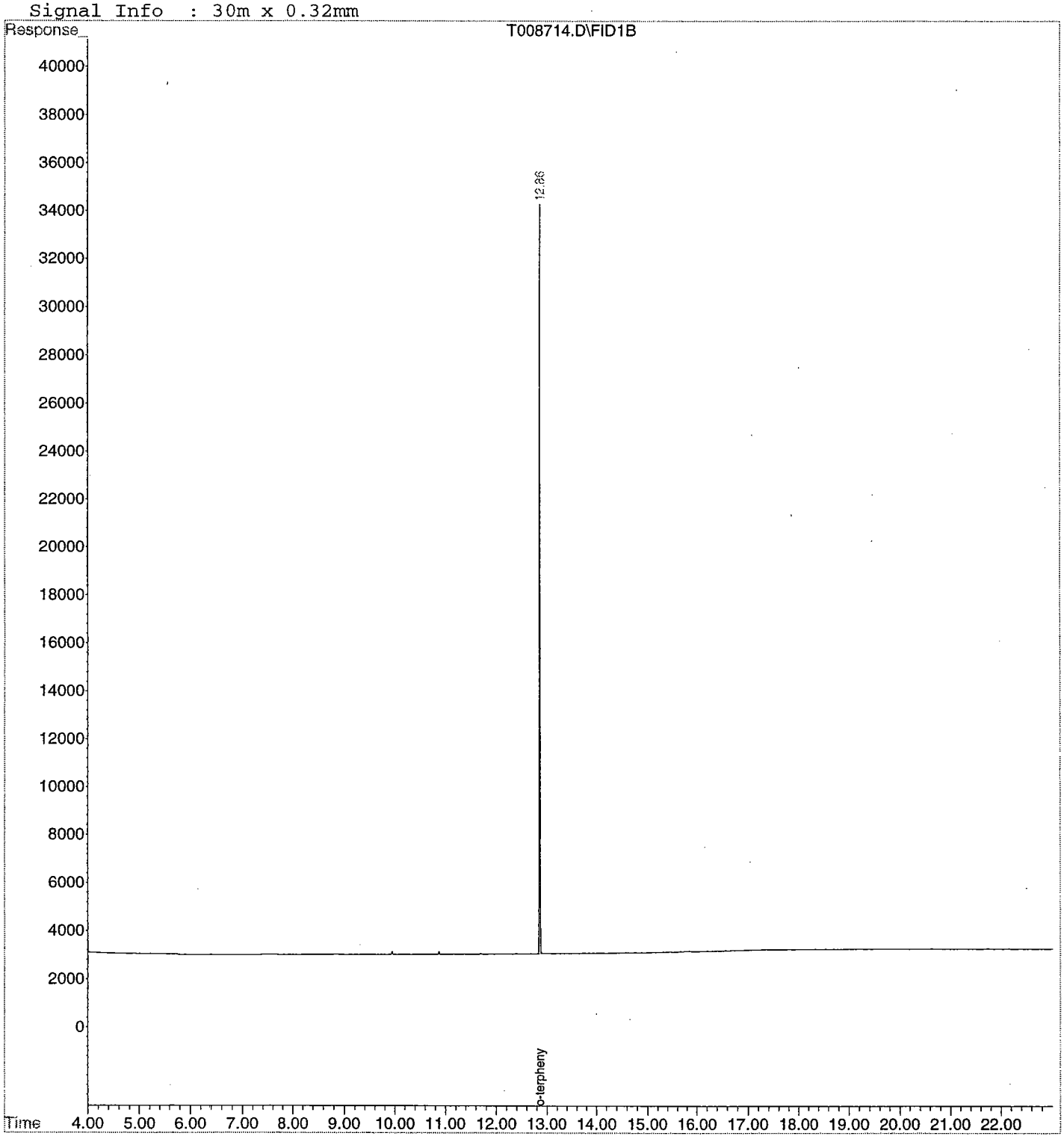
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.86	276767	10.110 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 101.10%#	
Target Compounds			

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990810\T008714.D Vial: 8
Acq On : 10 Aug 1999 7:42 pm Operator: Skelton
Sample : 4701.04s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 20:08 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990810\T008715.D Vial: 9
Acq On : 10 Aug 1999 8:21 pm Operator: Skelton
Sample : 4701.05s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 20:47 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.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	12.86	236312	8.632 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	86.32%#
Target Compounds			

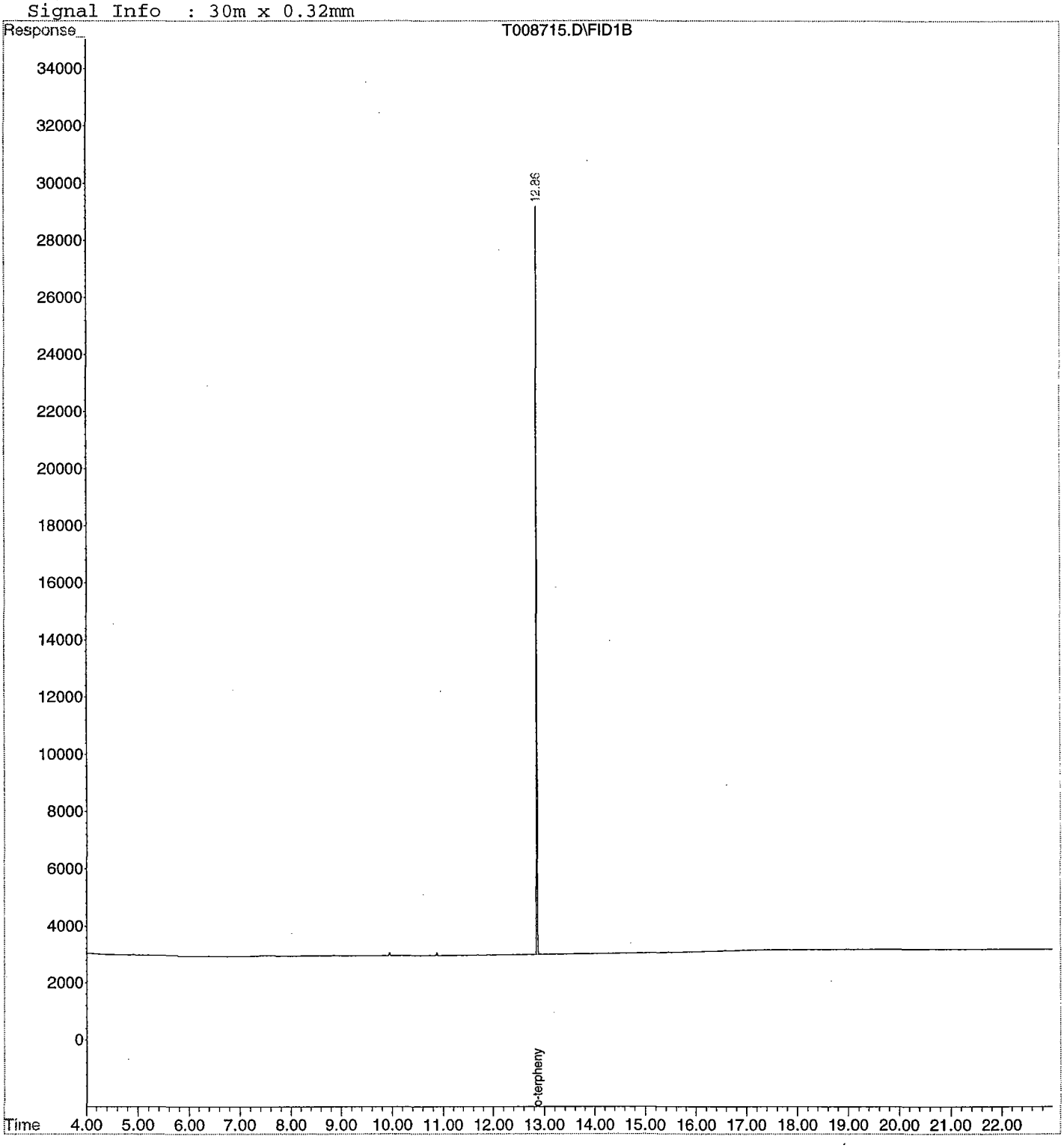
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990810\T008715.D Vial: 9
Acq On : 10 Aug 1999 8:21 pm Operator: Skelton
Sample : 4701.05s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 20:47 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\990810\T008716.D Vial: 10
Acq On : 10 Aug 1999 8:59 pm Operator: Skelton
Sample : 4701.07s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 21:26 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Initial Calibration
DataAcq Meth : TPH62.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	12.86	228262	8.338 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	83.38%#
Target Compounds			

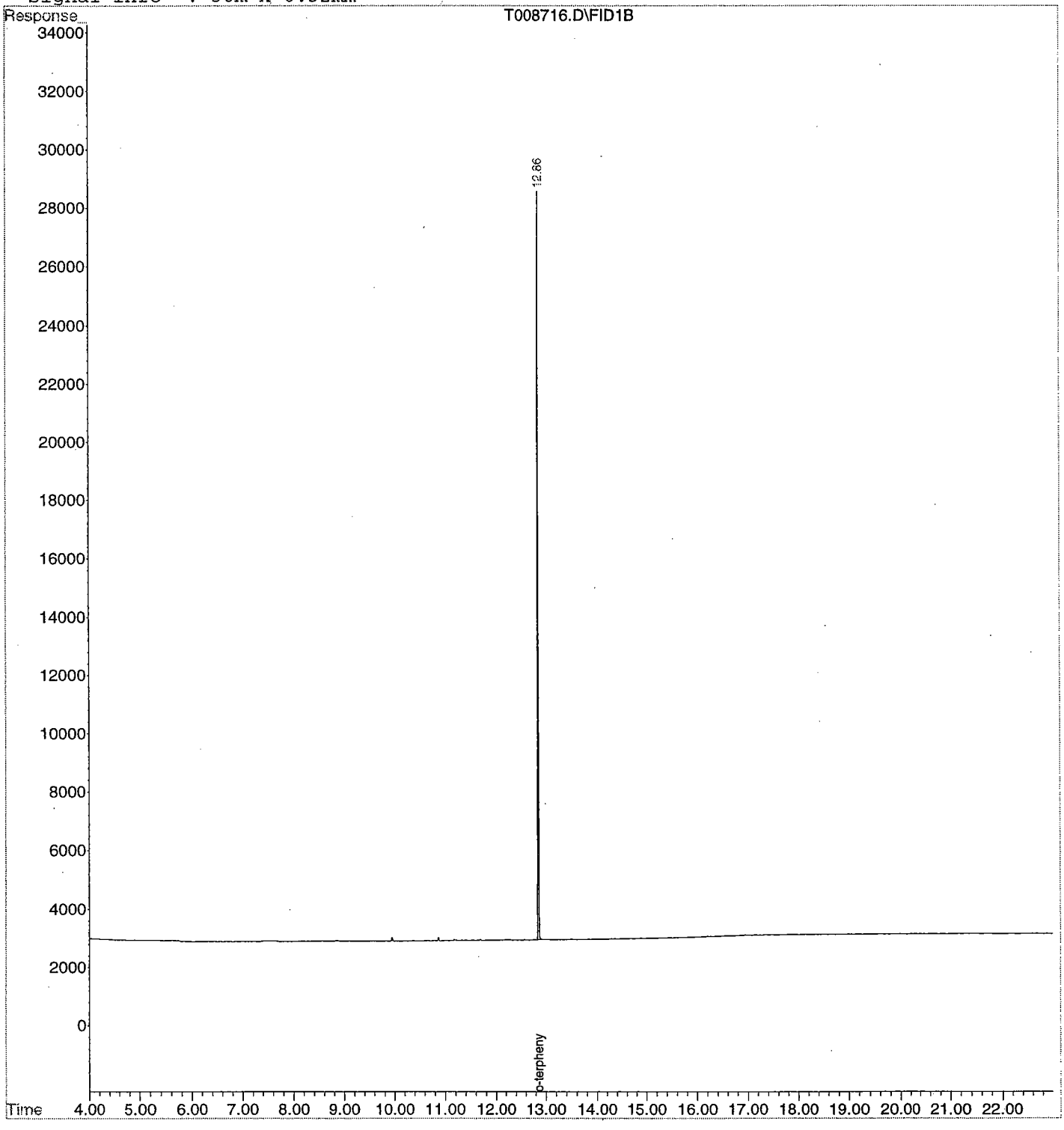
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\990810\T008716.D Vial: 10
Acq On : 10 Aug 1999 8:59 pm Operator: Skelton
Sample : 4701.07s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Aug 10 21:26 1999 Quant Results File: TPH62.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH62.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jul 26 09:48:57 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH62.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 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 4/24/99

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

GROUNDWATER ANALYTICAL DATA PACKAGE

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: IJO# 01-0001

Bldg. 233

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Bldg. 233 GW	16089.01	Aqueous	28-Apr-01 09:30	04/30/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

5-17-01
Daniel Wright/Date
Laboratory Director

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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: D. DeAsi
Phone #: 532 4775
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Bldg 233 (4 Gosselin) 1st GW

Samplers Name / Company: Corey McCormack, TVS

Lims Sample I.D	Sample Location	Date	Time	Sample Type	# bottles	+Xylene VOTIS	BN+TS					Hno3 Read	Remarks / Preservation Method
16089.01	Bldg 233 GW	4/28/01	0930	AQ	2	✓	✓					0.0	Cloudy

Comments: HCL / 4°C

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	4/30/01 7:30				
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: (X)Standard 3 wks, ( )Rush ___ Days, ( )ASAP Verbal ___ Hrs.

Remarks: Shows T/FB/D from 2337 sim date. cpm

20050

print legibly

Coc.xls2/23/01

METHOD SUMMARY

Method Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

Surrogates and internal standards are added to a 5-ml aliquot of sample. The sample is then purged and desorbed into a GC/MS system. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Volatiles are identified and quantitated.

EPA Method 3510/625
Gas Chromatographic Determination of Semi-volatiles in Water

Surrogates are added to measured volume of sample, usually 1 liter, at a specified pH. The sample is serially extracted with Methylene chloride using a separatory funnel. The extract concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

CONFORMANCE/NON CONFORMANCE SUMMARY

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 — Yes
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_____
   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_____
   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_____
   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 _____
c. Acid Fraction NA

11. Extraction Holding Time Met — Yes

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: 5-17-01

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 161089 Site: Bldg. 233

	Date	Hold Time
Date Sampled	04/28/01	NA
Receipt/Refrigeration	04/30/01*	NA
Extractions		
1. BN	05/02/01	7 days
Analyses		
1. VOA	05/01,02/01	14 days
2. BN	05/03/01	40 days

* Sampled and Refrigerated on 4/28/01. Received on 4/30/01.

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**

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Bldg233GW**

Lab Name: FMETL NJDEP#: 13461

Project: UST Case No.: 16089 Location: Bldg23 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1608901

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC005634.D

Level: (low/med) LOW Date Received: 4/30/01

% Moisture: not dec. Date Analyzed: 5/2/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC005634.D**	Sample Name	**1608901**
Operator	**Skelton**	Field ID	**Bldg233GW**
Date Aquired	**2-May-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

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

Data File	**VC005607.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**1-May-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 1731**

Lab Name: FMETL NJDEP#: 13461

Project: UST Case No.: 16089 Location: Bldg23 SDG No.: _____

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC005607.D

Level: (low/med) LOW Date Received: 4/30/01

% Moisture: not dec. _____ Date Analyzed: 5/1/01

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

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

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: UST Case No.: 16089 Location: Bldg23 SDG No.:

Lab File ID: VC005588.D BFB Injection Date: 4/26/01

Instrument ID: VoaInst#3 BFB Injection Time: 15:34

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	19.3
75	30.0 - 66.0% of mass 95	52.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.4 (0.6)1
174	50.0 - 120.0% of mass 95	63.0
175	4.0 - 9.0% of mass 174	4.5 (7.1)1
176	93.0 - 101.0% of mass 174	61.9 (98.2)1
177	5.0 - 9.0% of mass 176	4.1 (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	VC005589.D	4/26/01	16:14
02	VSTD050	VSTD050	VC005590.D	4/26/01	16:55
03	VSTD020	VSTD020	VC005591.D	4/26/01	17:37
04	VSTD010	VSTD010	VC005592.D	4/26/01	18:17
05	VSTD005	VSTD005	VC005593.D	4/26/01	18:58

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\M362440.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed May 02 07:43:51 2001
Response via : Initial Calibration

Calibration Files
50 =VC005590.D 5 =VC005593.D 10 =VC005592.D
20 =VC005591.D 100 =VC005589.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.640	0.644	0.604	0.631	0.579	0.620	4.50
3)	t	Acrylonitrile	1.252	1.575	1.452	1.439	0.890	1.321	20.24
4)	t	tert-Butyl alcohol	0.269	0.204	0.197	0.226	0.272	0.234	15.19
5)	t	Methyl-tert-Butyl eth	7.112	6.103	6.060	6.505	6.773	6.511	6.87
6)	t	Di-isopropyl ether	1.947	1.491	1.608	1.786	1.964	1.759	11.80
7)	T	Dichlorodifluorometha	3.765	3.817	3.756	3.683	3.231	3.651	6.55
8)	TP	Chloromethane	2.881	3.382	3.058	2.884	2.642	2.970	9.22
9)	TC	Vinyl Chloride	2.571	3.243	2.908	2.710	2.215	2.730	14.01
10)	T	Bromomethane	1.670	1.867	1.740	1.670	1.489	1.687	8.11
11)	T	Chloroethane	1.952	2.076	1.916	1.915	1.891	1.950	3.79
12)	T	Trichlorofluoromethan	3.315	3.434	3.280	3.263	3.167	3.292	2.94
13)	MC	1,1-Dichloroethene	3.731	3.556	3.496	3.552	3.589	3.585	2.47
14)	T	Acetone	1.158	3.061	1.851	1.377	1.175	1.725	46.25
15)	T	Carbon Disulfide	6.944	6.586	6.497	6.658	6.074	6.552	4.81
16)	T	Methylene Chloride	2.537	2.752	2.482	2.480	2.463	2.543	4.74
17)	T	trans-1,2-Dichloroeth	3.626	3.665	3.479	3.507	3.440	3.543	2.75
18)	TP	1,1-Dichloroethane	4.564	4.817	4.503	4.500	4.272	4.531	4.30
19)	T	Vinyl Acetate	6.013	4.901	5.088	5.381	5.244	5.325	7.97
20)	T	2-Butanone	1.738	1.718	1.504	1.602	1.746	1.662	6.36
21)	T	cis-1,2-Dichloroethen	3.515	3.301	3.238	3.379	3.327	3.352	3.11
22)	TC	Chloroform	4.104	4.297	4.057	4.018	3.800	4.055	4.40
23)	T	1,1,1-Trichloroethane	3.373	3.146	3.087	3.164	3.257	3.205	3.49
24)	T	Carbon Tetrachloride	2.780	2.493	2.461	2.559	2.728	2.604	5.47
25)	S	1,2-Dichloroethane-d4	2.985	3.188	3.094	3.014	3.059	3.068	2.57
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.392	1.600	1.523	1.524	1.055	1.419	15.29
28)	T	1,2-Dichloroethane	0.548	0.629	0.569	0.558	0.503	0.561	8.06
29)	TM	Trichloroethene	0.330	0.304	0.298	0.312	0.323	0.313	4.20
30)	TC	1,2-Dichloropropane	0.417	0.409	0.391	0.407	0.396	0.404	2.60
31)	T	Bromodichloromethane	0.420	0.373	0.369	0.390	0.408	0.392	5.67
32)	T	2-Chloroethyl vinyl e	0.153	0.159	0.152	0.151	0.150	0.153	2.46
33)	T	cis-1,3-Dichloroprope	0.562	0.425	0.458	0.514	0.510	0.494	10.75
34)	T	4-Methyl-2-Pentanone	0.186	0.124	0.138	0.161	0.181	0.158	17.00
35)	S	Toluene-d8	1.235	1.229	1.226	1.221	1.267	1.236	1.45
36)	TCM	Toluene	1.337	1.524	1.441	1.450	1.030	1.357	14.31
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.863	1.427	1.503	1.707	1.681	1.636	10.58
39)	T	1,1,2-Trichloroethane	1.156	1.173	1.101	1.140	1.086	1.131	3.25
40)	T	Tetrachloroethene	1.073	1.022	0.999	1.054	1.030	1.036	2.79
41)	T	2-Hexanone	0.969	0.649	0.702	0.849	0.953	0.824	17.55
42)	T	Dibromochloromethane	0.928	0.720	0.735	0.818	0.936	0.828	12.37
43)	TMP	Chlorobenzene	3.015	3.337	3.158	3.187	2.493	3.038	10.71
44)	TC	Ethylbenzene	4.828	5.672	5.533	5.645	3.520	5.040	18.19
45)	T	m+p-Xylenes	1.986	2.055	2.038	2.096	1.603	1.956	10.28
46)	T	o-Xylene	3.898	3.556	3.802	4.101	3.081	3.688	10.63
47)	T	Styrene	3.295	2.675	2.879	3.222	2.748	2.964	9.45
48)	TP	Bromoform	0.575	0.397	0.411	0.484	0.608	0.495	19.17
49)	S	Bromofluorobenzene	1.681	1.606	1.631	1.675	1.782	1.675	4.03
50)	TP	1,1,2,2-Tetrachloroet	1.675	1.616	1.538	1.647	1.521	1.599	4.21
51)	T	1,3-Dichlorobenzene	2.074	1.744	1.837	1.976	1.779	1.882	7.38
52)	T	1,4-Dichlorobenzene	2.057	1.692	1.839	1.988	1.735	1.862	8.47
53)	T	1,2-Dichlorobenzene	1.958	1.674	1.789	1.905	1.687	1.803	7.06

(#) = Out of Range

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: UST Case No.: 16089 Location: Bldg23 SDG No.:

Lab File ID: VC005605.D BFB Injection Date: 5/1/01

Instrument ID: VoaInst#3 BFB Injection Time: 10:28

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	22.5
75	30.0 - 66.0% of mass 95	56.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	62.0
175	4.0 - 9.0% of mass 174	4.3 (6.9)1
176	93.0 - 101.0% of mass 174	62.0 (99.9)1
177	5.0 - 9.0% of mass 176	4.1 (6.6)2

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

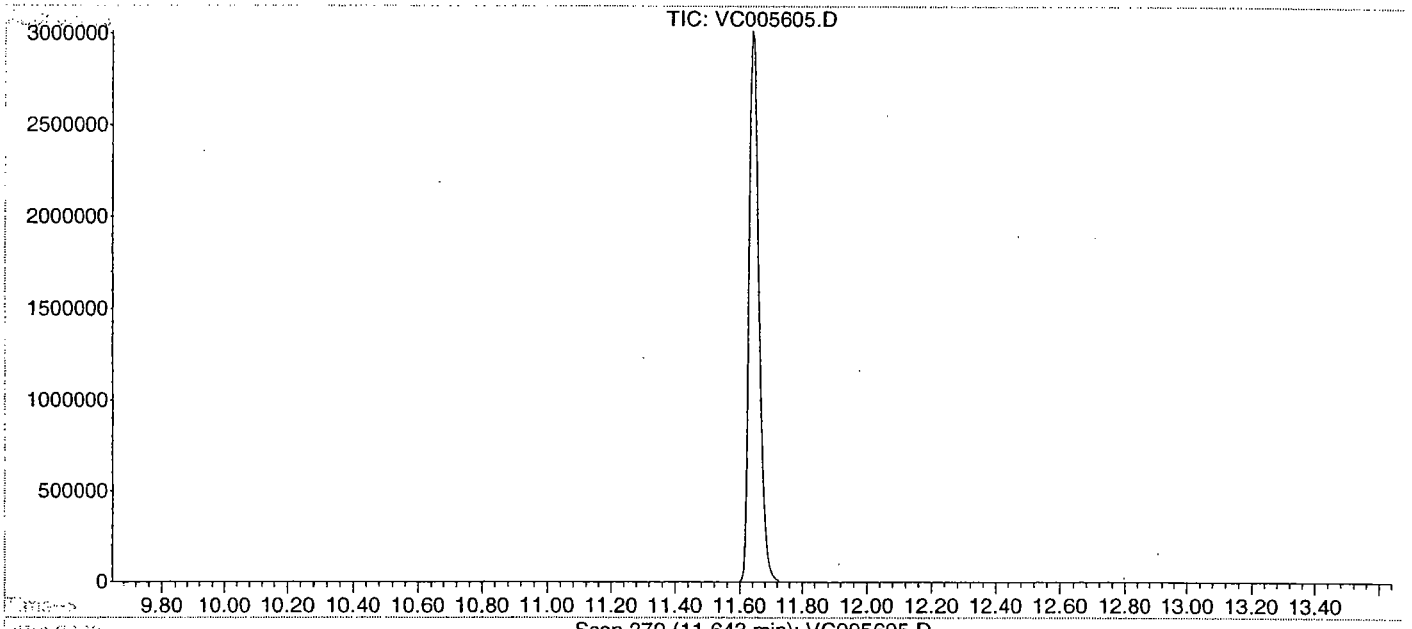
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

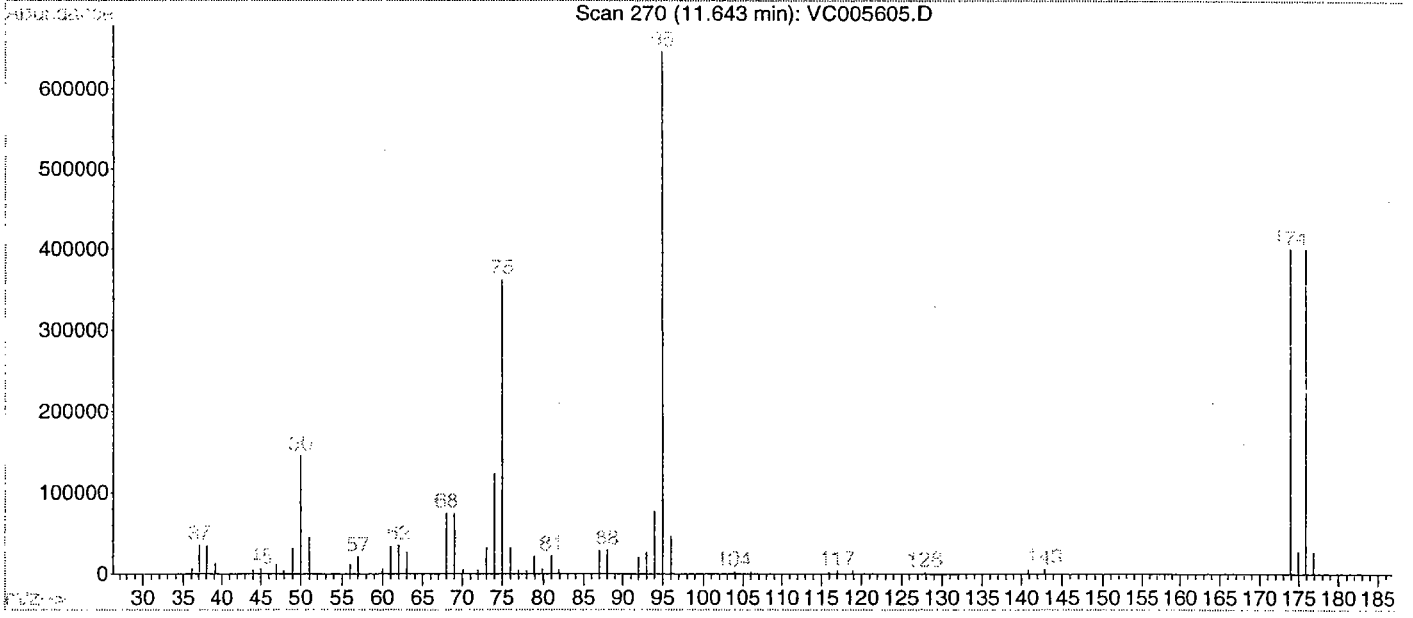
	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD020	VC005606.D	5/1/01	10:57
02	MB 1731	MB	VC005607.D	5/1/01	11:50
03	BLDG233GW	1608901	VC005634.D	5/2/01	6:54
04	1738 MS	1609001 MS	VC005636.D	5/2/01	8:50
05	1739 MSD	1609001 MSD	VC005637.D	5/2/01	9:30

BFB

Data File : D:\HPCHEM\1\DATA\010501\VC005605.D
Acq On : 1 May 2001 10:28 am
Sample : BFB Tune
Misc : BFB Tune
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362440.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Vial: 12
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00





Spectrum Information: Scan 270

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	145472	PASS
75	95	30	60	56.1	363008	PASS
95	95	100	100	100.0	646720	PASS
96	95	5	9	7.2	46480	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.0	401216	PASS
175	174	5	9	6.9	27808	PASS
176	174	95	101	99.9	400704	PASS
177	176	5	9	6.6	26336	PASS

000020

VC005605.D M362440.M Tue May 15 13:30:13 2001

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\010501\VC005606.D Vial: 12
Acq On : 1 May 2001 10:57 am Operator: Skelton
Sample : Vstd020 Inst : GC/MS Ins
Misc : Vstd020 Multiplr: 1.00
MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362440.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed May 02 07:43:51 2001
Response via : Multiple Level Calibration

Min. RRF : 0.025 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	70	0.00
2	t	Acrolein	0.620	0.700	-12.9	78	0.00
3	t	Acrylonitrile	1.321	1.711	-29.5#	84	0.00
4	t	tert-Butyl alcohol	0.234	0.222	5.1	69	0.00
5	t	Methyl-tert-Butyl ether	6.511	6.812	-4.6	74	0.00
6	t	Di-isopropyl ether	1.759	1.821	-3.5	72	0.00
7	T	Dichlorodifluoromethane	3.651	2.975	18.5	57	0.00
8	TP	Chloromethane	2.970	3.490	-17.5	85	0.00
9	TC	Vinyl Chloride	2.730	3.230	-18.3	84	0.00
10	T	Bromomethane	1.687	1.532	9.2	64	0.00
11	T	Chloroethane	1.950	1.899	2.6	70	0.00
12	T	Trichlorofluoromethane	3.292	2.811	14.6	60	0.00
13	MC	1,1-Dichloroethene	3.585	3.428	4.4	68	0.00
14	T	Acetone	1.725	1.628	5.6	83	0.00
15	T	Carbon Disulfide	6.552	6.462	1.4	68	0.00
16	T	Methylene Chloride	2.543	2.605	-2.4	74	0.00
17	T	trans-1,2-Dichloroethene	3.543	3.608	-1.8	72	0.00
18	TP	1,1-Dichloroethane	4.531	4.761	-5.1	74	0.00
19	T	Vinyl Acetate	5.325	6.545	-22.9	85	0.00
20	T	2-Butanone	1.662	1.818	-9.4	80	0.00
21	T	cis-1,2-Dichloroethene	3.352	3.598	-7.3	75	0.00
22	TC	Chloroform	4.055	4.191	-3.4	73	0.00
23	T	1,1,1-Trichloroethane	3.205	2.956	7.8	66	0.00
24	T	Carbon Tetrachloride	2.604	2.341	10.1	64	0.00
25	S	1,2-Dichloroethane-d4	3.068	3.164	-3.1	74	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	72	0.00
27	TM	Benzene	1.419	1.558	-9.8	74	0.00
28	T	1,2-Dichloroethane	0.561	0.592	-5.5	77	0.00
29	TM	Trichloroethene	0.313	0.294	6.1	68	0.00
30	TC	1,2-Dichloropropane	0.404	0.437	-8.2	78	0.00
31	T	Bromodichloromethane	0.392	0.406	-3.6	75	0.00
32	T	2-Chloroethyl vinyl ether	0.153	0.163	-6.5	78	0.00
33	T	cis-1,3-Dichloropropene	0.494	0.530	-7.3	75	0.00
34	T	4-Methyl-2-Pentanone	0.158	0.166	-5.1	74	0.00
35	S	Toluene-d8	1.236	1.260	-1.9	75	0.00
36	TCM	Toluene	1.357	1.473	-8.5	73	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	73	0.00
38	T	trans-1,3-Dichloropropene	1.636	1.775	-8.5	76	0.00
39	T	1,1,2-Trichloroethane	1.131	1.200	-6.1	77	0.00
40	T	Tetrachloroethene	1.036	0.967	6.7	67	0.00
41	T	2-Hexanone	0.824	0.927	-12.5	80	0.00
42	T	Dibromochloromethane	0.828	0.830	-0.2	74	0.00
43	TMP	Chlorobenzene	3.038	3.175	-4.5	73	0.00
44	TC	Ethylbenzene	5.040	5.631	-11.7	73	0.00
45	T	m+p-Xylenes	1.956	2.059	-5.3	72	0.00
46	T	o-Xylene	3.688	4.067	-10.3	72	0.00
47	T	Styrene	2.964	3.228	-8.9	73	0.00
48	TP	Bromoform	0.495	0.497	-0.4	75	0.00
49	S	Bromofluorobenzene	1.675	1.651	1.4	72	0.00
50	TP	1,1,2,2-Tetrachloroethane	1.599	1.773	-10.9	78	0.00
51	T	1,3-Dichlorobenzene	1.882	1.921	-2.1	71	0.00
52	T	1,4-Dichlorobenzene	1.862	1.918	-3.0	70	0.00
53	T	1,2-Dichlorobenzene	1.803	1.876	-4.0	72	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
VC005606.D M362440.M Tue May 15 13:30:38 2001

000021

4A

FIELD ID:

VOLATILE METHOD BLANK SUMMARY

MB 1731

Lab Name: FMETL NJDEP#: 13461

Project: UST Case No.: 16089 Location: Bldg23 SDG No.:

Lab File ID: VC005607.D Lab Sample ID: MB

Date Analyzed: 5/1/01 Time Analyzed: 11:50

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

Instrument ID: VoaInst#3

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

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	BLDG233GW	1608901	VC005634.D	6:54
02	1738 MS	1609001 MS	VC005636.D	8:50
03	1739 MSD	1609001 MSD	VC005637.D	9:30

COMMENTS:

000022

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

Project: UST Case No.: 16089 Location: Bldg23 SDG No.: _____

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 1731	106	98	87	0
02	BLDG233GW	119	102	84	0
03	1738 MS	116	108	101	0
04	1739 MSD	114	107	100	0

QC LIMITS

SMC1	DCE	=	1,2-Dichloroethane-d4	(76-121)
SMC2	TOL	=	Toluene-d8	(88-110)
SMC3	BFB	=	Bromofluorobenzene	(74-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Volatile Matrix Spike Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification Number #13461

Data File	VC005636.D	Sample Name	1609001 MS
Date Aquired	2-May-01	Field ID	1609001 MS

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	156.85 ug/L	78.43
Acrylonitrile	200	268.14 ug/L	134.07
tert-Butyl alcohol	200	126.82 ug/L	63.41
Methyl-tert-Butyl ether	20	17.43 ug/L	87.14
Di-isopropyl ether	20	18.65 ug/L	93.23
Dichlorodifluoromethane	20	17.11 ug/L	85.54
Chloromethane	20	27.59 ug/L	137.96
Vinyl Chloride	20	34.66 ug/L	173.28
Bromomethane	20	16.94 ug/L	84.68
Chloroethane	20	21.04 ug/L	105.18
Trichlorofluoromethane	20	19.03 ug/L	95.14
1,1-Dichloroethene	20	21.54 ug/L	107.69
Acetone	20	14.17 ug/L	70.85
Carbon Disulfide	20	21.33 ug/L	106.63
Methylene Chloride	20	20.62 ug/L	103.09
trans-1,2-Dichloroethene	20	22.93 ug/L	114.67
1,1-Dichloroethane	20	23.18 ug/L	115.91
Vinyl Acetate	20	26.33 ug/L	131.63
2-Butanone	20	20.99 ug/L	104.96
cis-1,2-Dichloroethene	20	22.76 ug/L	113.80
Chloroform	20	21.95 ug/L	109.74
1,1,1-Trichloroethane	20	19.33 ug/L	96.64
Carbon Tetrachloride	20	19.37 ug/L	96.85
Benzene	20	24.00 ug/L	120.01
1,2-Dichloroethane	20	23.77 ug/L	118.83
Trichloroethene	20	19.20 ug/L	96.00
1,2-Dichloropropane	20	23.08 ug/L	115.42
Bromodichloromethane	20	21.57 ug/L	107.87
2-Chloroethyl vinyl ether	20	24.71 ug/L	123.53
cis-1,3-Dichloropropene	20	21.14 ug/L	105.71
4-Methyl-2-Pentanone	20	17.95 ug/L	89.77
Toluene	20	23.76 ug/L	118.82
trans-1,3-Dichloropropene	20	21.19 ug/L	105.94
1,1,2-Trichloroethane	20	21.16 ug/L	105.82
Tetrachloroethene	20	20.05 ug/L	100.23
2-Hexanone	20	23.83 ug/L	119.13
Dibromochloromethane	20	19.90 ug/L	99.48
Chlorobenzene	20	21.91 ug/L	109.57
Ethylbenzene	20	24.64 ug/L	123.22
m+p-Xylenes	40	45.91 ug/L	114.77
o-Xylene	20	23.24 ug/L	116.20
Styrene	20	23.55 ug/L	117.73
Bromoform	20	18.77 ug/L	93.84
1,1,2,2-Tetrachloroethane	20	21.41 ug/L	107.04
1,3-Dichlorobenzene	20	20.33 ug/L	101.67
1,4-Dichlorobenzene	20	21.29 ug/L	106.43
1,2-Dichlorobenzene	20	21.10 ug/L	105.49

5/15/01 1:32 PM

D:\HPCHEM\CUSTRPT\VOLATILE\624MS00.CRT

000024

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

Data File	VC005637.D	Sample Name	1609001 MSD
Date Aquired	2-May-01	Field ID	1609001 MSD

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	186.39 ug/L	93.19
Acrylonitrile	200	270.25 ug/L	135.13
tert-Butyl alcohol	200	136.31 ug/L	68.16
Methyl-tert-Butyl ether	20	18.22 ug/L	91.11
Di-isopropyl ether	20	18.73 ug/L	93.65
Dichlorodifluoromethane	20	17.52 ug/L	87.62
Chloromethane	20	28.11 ug/L	140.56
Vinyl Chloride	20	33.40 ug/L	166.98
Bromomethane	20	17.82 ug/L	89.09
Chloroethane	20	20.76 ug/L	103.82
Trichlorofluoromethane	20	18.88 ug/L	94.39
1,1-Dichloroethene	20	21.56 ug/L	107.81
Acetone	20	14.93 ug/L	74.64
Carbon Disulfide	20	21.20 ug/L	106.01
Methylene Chloride	20	20.96 ug/L	104.78
trans-1,2-Dichloroethene	20	22.66 ug/L	113.30
1,1-Dichloroethane	20	22.99 ug/L	114.94
Vinyl Acetate	20	26.90 ug/L	134.50
2-Butanone	20	21.96 ug/L	109.81
cis-1,2-Dichloroethene	20	22.77 ug/L	113.84
Chloroform	20	21.65 ug/L	108.25
1,1,1-Trichloroethane	20	19.47 ug/L	97.34
Carbon Tetrachloride	20	19.16 ug/L	95.78
Benzene	20	23.85 ug/L	119.23
1,2-Dichloroethane	20	23.90 ug/L	119.52
Trichloroethene	20	19.37 ug/L	96.87
1,2-Dichloropropane	20	23.03 ug/L	115.16
Bromodichloromethane	20	21.65 ug/L	108.23
2-Chloroethyl vinyl ether	20	24.44 ug/L	122.20
cis-1,3-Dichloropropene	20	21.60 ug/L	108.02
4-Methyl-2-Pentanone	20	16.91 ug/L	84.55
Toluene	20	23.99 ug/L	119.95
trans-1,3-Dichloropropene	20	21.90 ug/L	109.48
1,1,2-Trichloroethane	20	21.64 ug/L	108.19
Tetrachloroethene	20	19.80 ug/L	99.01
2-Hexanone	20	24.64 ug/L	123.18
Dibromochloromethane	20	20.22 ug/L	101.08
Chlorobenzene	20	22.00 ug/L	110.02
Ethylbenzene	20	24.77 ug/L	123.84
m+p-Xylenes	40	45.97 ug/L	114.91
o-Xylene	20	23.27 ug/L	116.34
Styrene	20	23.50 ug/L	117.49
Bromoform	20	19.92 ug/L	99.60
1,1,2,2-Tetrachloroethane	20	22.03 ug/L	110.13
1,3-Dichlorobenzene	20	20.79 ug/L	103.96
1,4-Dichlorobenzene	20	21.32 ug/L	106.59
1,2-Dichlorobenzene	20	21.57 ug/L	107.86

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: UST Case No.: 16089 Location: Bldg23 SDG No.:

Lab File ID (Standard): VC005606.D Date Analyzed: 5/1/01

Instrument ID: VoaInst#3 Time Analyzed: 10:57

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	1131189	16.69	7477938	19.42	2139877	27.24
	UPPER LIMIT	2262378	17.19	14955876	19.92	4279754	27.74
	LOWER LIMIT	565595	16.19	3738969	18.92	1069939	26.74
	FIELD ID:						
01	MB 1731	1023153	16.70	6801867	19.42	1890352	27.24
02	BLDG233GW	643626	16.70	4252626	19.42	1209590	27.25
03	1738 MS	727807	16.69	4787446	19.41	1387235	27.25
04	1739 MSD	762153	16.69	4973533	19.42	1433677	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\010501\VC005607.D Vial: 12
Acq On : 1 May 2001 11:50 am Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 2 11:30 2001 Quant Results File: M362440.RES

Quant Method : D:\HPCHEM\1\METHODS\M362440.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed May 02 07:43:51 2001
Response via : Continuing Cal File: D:\HPCHEM\1\DATA\010501\VC005606.D
DataAcq Meth : M362440

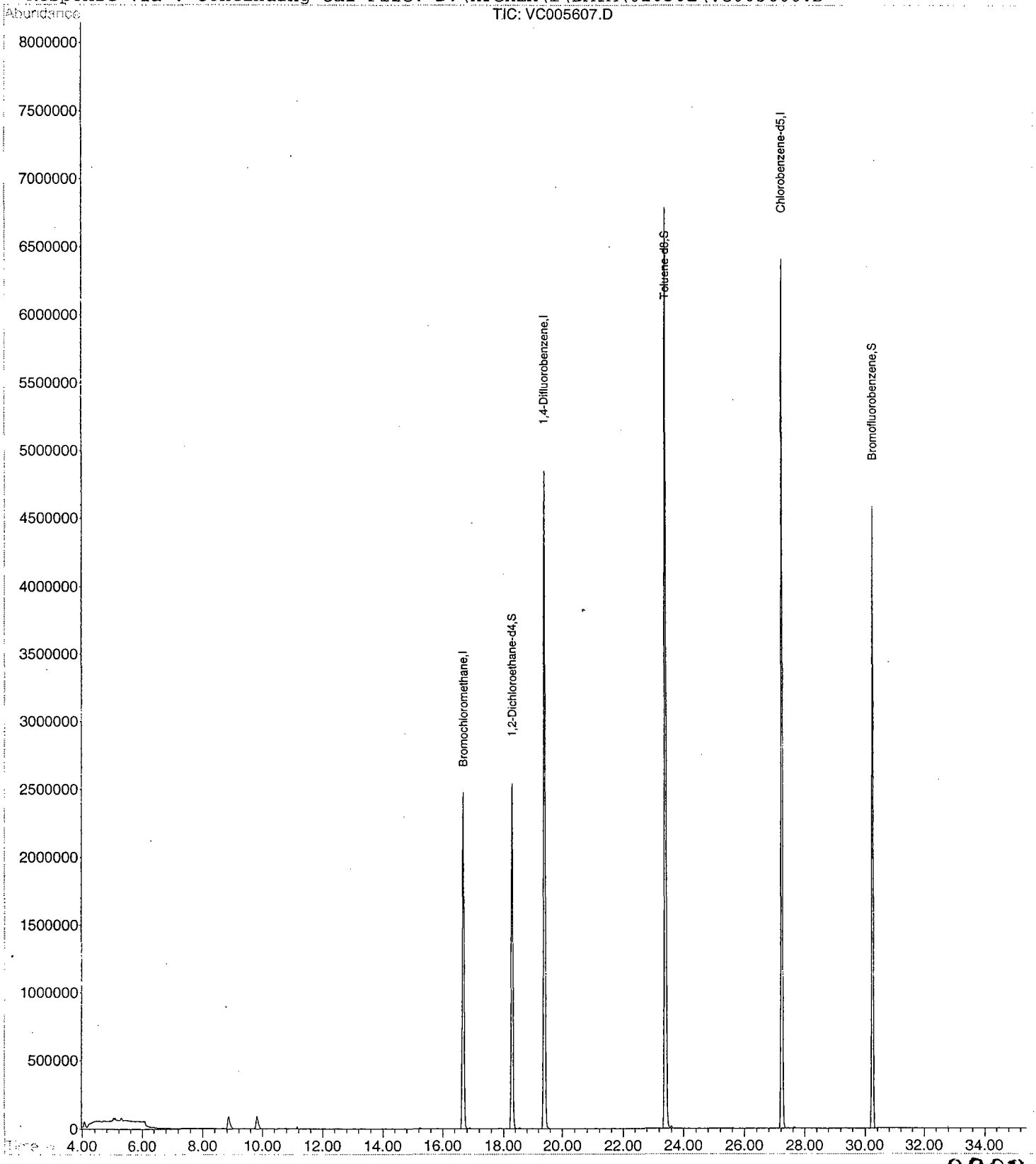
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	1023153	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	6801867	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	1890352	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	3418748	31.68	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 105.60%			
35) Toluene-d8	23.42	98	8361120	29.27	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 97.57%			
49) Bromofluorobenzene	30.25	95	2709560	26.05	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 86.83%			
Target Compounds						Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010501\VC005607.D Vial: 12
Acq On : 1 May 2001 11:50 am Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 2 11:30 2001 Quant Results File: M362440.RES

Method : D:\HPCHEM\1\METHODS\M362440.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed May 02 07:43:51 2001
Response via : Continuing Cal File: D:\HPCHEM\1\DATA\010501\VC005606.D



000028

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010501\VC005634.D Vial: 27
Acq On : 2 May 2001 6:54 am Operator: Skelton
Sample : 1608901 Inst : GC/MS Ins
Misc : Bldg233GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 2 7:48 2001 Quant Results File: M362440.RES

Quant Method : D:\HPCHEM\1\METHODS\M362440.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed May 02 07:43:51 2001
Response via : Continuing Cal File: D:\HPCHEM\1\DATA\010501\VC005606.D
DataAcq Meth : M362440

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	643626	30.00	ug/L	0.01
26) 1,4-Difluorobenzene	19.42	114	4252626	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1209590	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2413039	35.55	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 118.50%			
35) Toluene-d8	23.42	98	5444299	30.48	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 101.60%			
49) Bromofluorobenzene	30.25	95	1681882	25.27	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 84.23%			

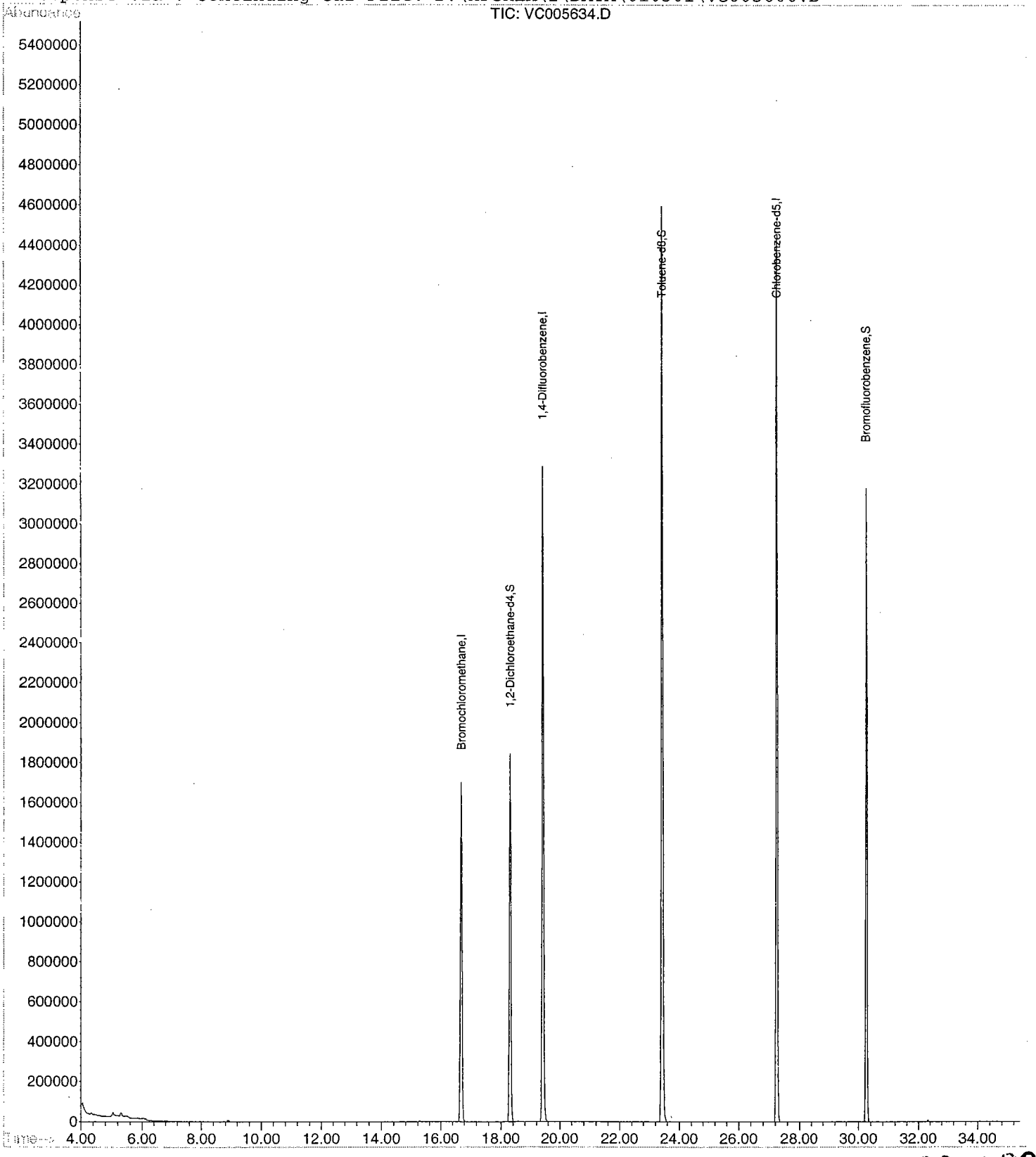
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010501\VC005634.D Vial: 27
Acq On : 2 May 2001 6:54 am Operator: Skelton
Sample : 1608901 Inst : GC/MS Ins
Misc : Bldg233GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 2 7:48 2001 Quant Results File: M362440.RES

Method : D:\HPCHEM\1\METHODS\M362440.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Wed May 02 07:43:51 2001
Response via : Continuing Cal File: D:\HPCHEM\1\DATA\010501\VC005606.D



000030

BASE NEUTRALS

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05323.D**	Sample Name	**MB-1729**
Operator	**Bhaskar**	Misc Info	**MB-010502**
Date Acquired	**3-May-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.54	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.69	ug/L	
62-53-3	Aniline			not detected	NLE	1.85	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.63	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.62	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.58	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.62	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.65	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.57	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.64	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.34	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.51	ug/L	
78-59-1	Isophorone			not detected	100	0.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.48	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.54	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.72	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.78	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.43	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.55	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	0.76	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.53	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.04	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.04	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.70	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.92	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.93	ug/L	
83-32-9	Acenaphthene			not detected	400	0.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.73	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.41	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.54	ug/L	
86-73-7	Fluorene			not detected	300	0.98	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.86	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.96	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.44	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.00	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.28	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.73	ug/L	
120-12-7	Anthracene			not detected	2000	1.85	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.49	ug/L	
206-44-0	Fluoranthene			not detected	300	1.48	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05323.D**	Sample Name	**MB-1729**
Operator	**Bhaskar**	Misc Info	**MB-010502**
Date Acquired	**3-May-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	2.15	ug/L	
129-00-0	Pyrene			not detected	200	1.53	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.24	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	2.68	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.60	ug/L	
218-01-9	Chrysene			not detected	20	1.14	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.34	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.32	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.15	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	2.43	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	2.24	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.94	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.04	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB-1729**

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: BI.233 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: MB-1729

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05323.D

Level: (low/med) LOW Date Received: 4/28/01

% Moisture: decanted: (Y/N) N Date Extracted: 5/2/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/3/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05325.D**	Sample Name	**16089.01**
Operator	**Bhaskar**	Misc Info	**Bldg.233 GW**
Date Acquired	**3-May-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.54	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.69	ug/L	
62-53-3	Aniline			not detected	NLE	1.85	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.63	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.62	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.58	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.62	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.65	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.57	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.64	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.34	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.51	ug/L	
78-59-1	Isophorone			not detected	100	0.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.48	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.54	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.72	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.78	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.43	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.55	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	0.76	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.53	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.04	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.04	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.70	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.92	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.93	ug/L	
83-32-9	Acenaphthene			not detected	400	0.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.73	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.41	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.54	ug/L	
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7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.86	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.96	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.44	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.00	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.28	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.73	ug/L	
120-12-7	Anthracene			not detected	2000	1.85	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.49	ug/L	
206-44-0	Fluoranthene			not detected	300	1.48	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05325.D**	Sample Name	**16089.01**
Operator	**Bhaskar**	Misc Info	**Bldg.233 GW**
Date Acquired	**3-May-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	2.15	ug/L	
129-00-0	Pyrene			not detected	200	1.53	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.24	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	2.68	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.60	ug/L	
218-01-9	Chrysene			not detected	20	1.14	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.34	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.32	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.15	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	2.43	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	2.24	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.94	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.04	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **Bldg.233**

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: Bl.233 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 16089.01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05325.D

Level: (low/med) LOW Date Received: 4/28/01

% Moisture: _____ decanted: (Y/N) N Date Extracted: 5/2/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 5/3/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: Bl.233 SDG No.:

Lab File ID: BNA05123.D DFTPP Injection Date: 3/27/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 8:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	47.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	51.3
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	53.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	23.7
365	Greater than 0.75% of mass 198	2.7
441	Present, but less than mass 443	10.0
442	40.0 - 110.0% of mass 198	68.7
443	15.0 - 24.0% of mass 442	13.7 (19.9)2

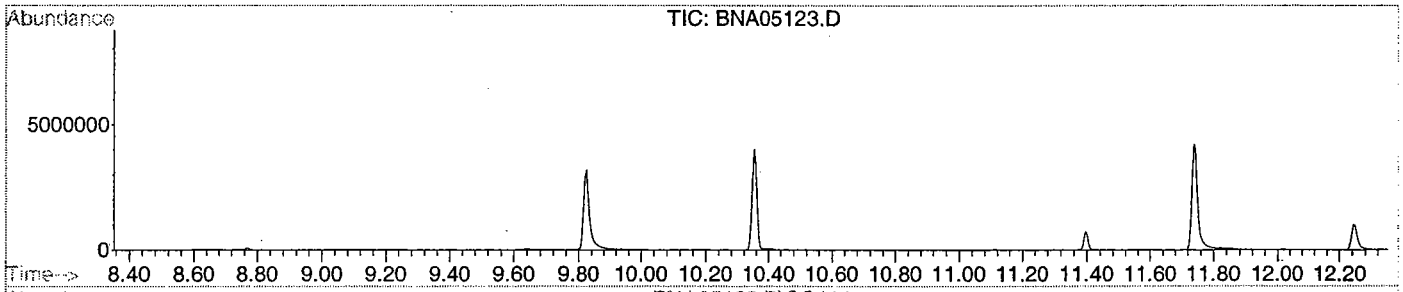
1-Value is % mass 69 2-Value is % mass 442

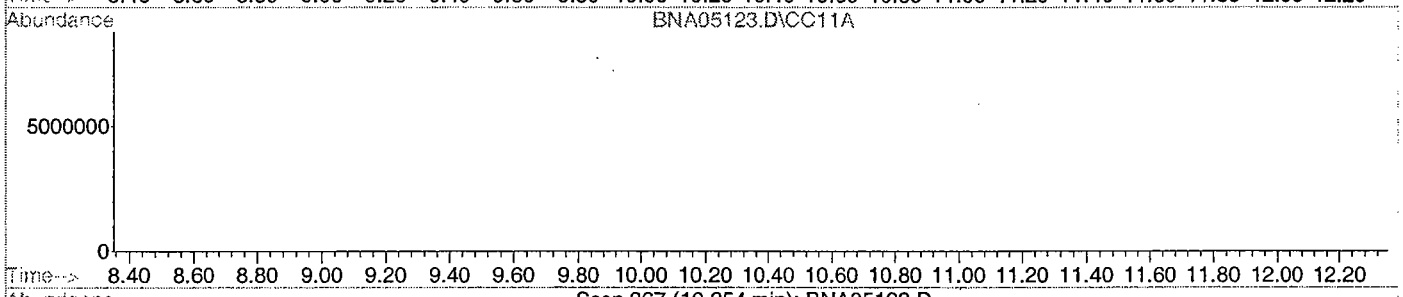
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

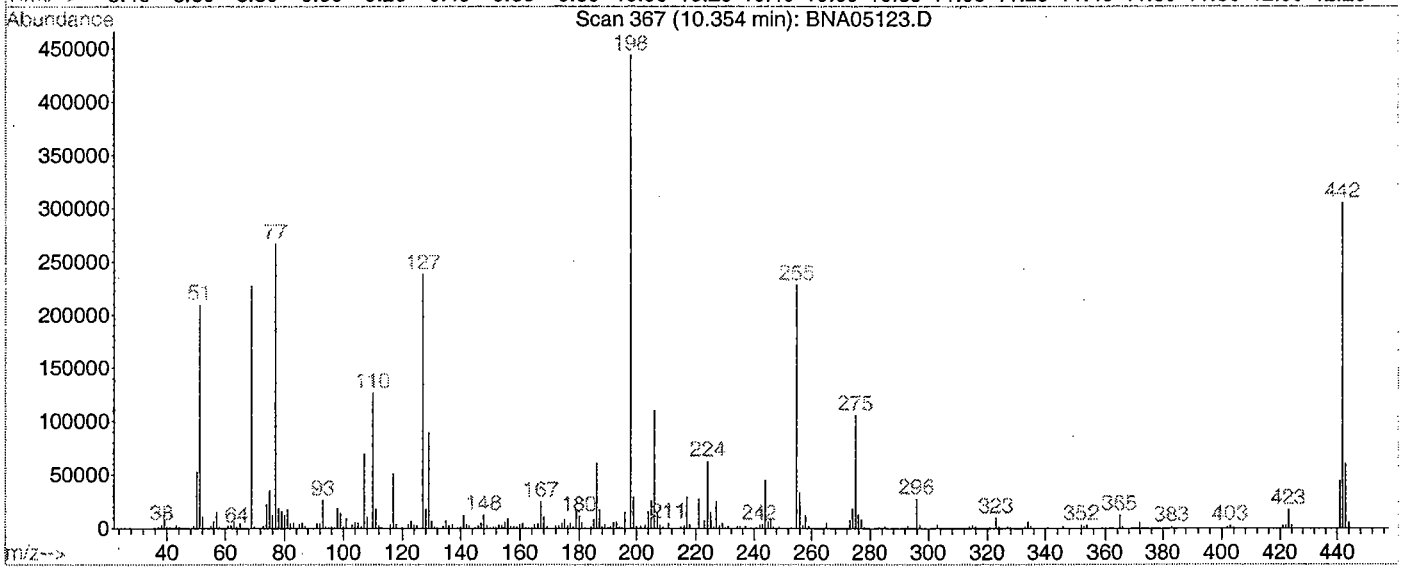
	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD120	120 PPM CAL	BNA05124.D	3/27/01	9:08
02	SSTD010	10 PPM CAL	BNA05125.D	3/27/01	9:55
03	SSTD050	50 PPM CAL	BNA05126.D	3/27/01	10:42
04	SSTD080	80 PPM CAL	BNA05127.D	3/27/01	11:28
05	SSTD020	20 PPM CAL	BNA05128.D	3/27/01	12:13

CLP

Data File : D:\DATA\010327\BNA05123.D Vial: 99
Acq On : 27 Mar 2001 8:44 am Operator: Bhaskar
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50 NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration







Spectrum Information: Scan 367

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.4	210304	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.3	227520	PASS
70	69	0.00	2	0.8	1892	PASS
127	198	40	60	53.7	238528	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	443904	PASS
199	198	5	9	6.6	29456	PASS
275	198	10	30	23.7	105416	PASS
365	198	1	100	2.7	12022	PASS
441	443	1	99	73.0	44304	PASS
442	198	40	100	68.7	305152	PASS
443	442	17	23	19.9	60680	PASS

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05124.D 80 =BNA05127.D 50 =BNA05126.D
20 =BNA05128.D 10 =BNA05125.D

		Compound	120	80	50	20	10	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	----------		ISTD	----------			
2)	T	Pyridine	1.463	1.406	1.422	1.443	1.442	1.435	1.51
3)	T	N-nitroso-dimethylami	0.781	0.744	0.751	0.733	0.740	0.750	2.47
4)	S	2-Fluorophenol	1.158	1.132	1.141	1.133	1.124	1.137	1.13
5)	T	Aniline	1.794	1.806	1.875	1.892	1.891	1.852	2.57
6)	S	Phenol-d6	1.412	1.409	1.440	1.456	1.453	1.434	1.56
7)	TCM	Phenol	1.590	1.610	1.683	1.694	1.713	1.658	3.28
8)	T	bis(2-Chloroethyl)eth	1.192	1.165	1.186	1.231	1.228	1.201	2.37
9)	TM	2-Chlorophenol	1.154	1.146	1.172	1.191	1.186	1.170	1.66
10)	T	1,3-Dichlorobenzene	1.223	1.237	1.278	1.304	1.339	1.276	3.75
11)	TCM	1,4-Dichlorobenzene	1.235	1.256	1.305	1.344	1.379	1.304	4.59
12)	T	Benzyl alcohol	0.775	0.763	0.777	0.748	0.747	0.762	1.87
13)	T	1,2-Dichlorobenzene	1.117	1.134	1.197	1.242	1.280	1.194	5.79
14)	T	2-Methylphenol	1.051	1.047	1.081	1.098	1.107	1.077	2.50
15)	T	bis(2-chloroisopropyl	1.215	1.194	1.233	1.244	1.288	1.235	2.83
16)	T	4-Methylphenol	1.085	1.101	1.143	1.156	1.147	1.126	2.78
17)	TPM	n-Nitroso-di-n-propyl	0.187	0.192	0.195	0.195	0.188	0.191	1.93
18)	T	Hexachloroethane	0.489	0.488	0.499	0.503	0.514	0.498	2.16
19)	I	Naphthalene-d8	----------		ISTD	----------			
20)	S	Nitrobenzene-d5	0.399	0.393	0.401	0.404	0.412	0.402	1.70
21)	T	Nitrobenzene	0.389	0.391	0.400	0.411	0.424	0.403	3.62
22)	T	Isophorone	0.668	0.657	0.669	0.684	0.701	0.676	2.54
23)	TC	2-Nitrophenol	0.185	0.185	0.185	0.185	0.178	0.184	1.82
24)	T	2,4-Dimethylphenol	0.330	0.328	0.337	0.345	0.353	0.339	3.12
25)	T	bis(2-Chloroethoxy)me	0.388	0.389	0.397	0.409	0.412	0.399	2.74
26)	TC	2,4-Dichlorophenol	0.242	0.245	0.249	0.234	0.208	0.235	6.97
27)	T	Benzoic Acid	0.259	0.240	0.219	0.216	0.198	0.226	10.40
28)	TM	1,2,4-Trichlorobenzen	0.271	0.276	0.286	0.297	0.306	0.287	5.12
29)	T	Naphthalene	0.813	0.882	0.948	1.011	1.054	0.942	10.28
30)	T	4-Chloroaniline	0.357	0.377	0.388	0.389	0.384	0.379	3.44
31)	TC	Hexachlorobutadiene	0.147	0.153	0.159	0.165	0.170	0.159	6.03
32)	TCM	4-Chloro-3-methylphen	0.287	0.289	0.294	0.290	0.288	0.289	0.93
33)	T	2-Methylnaphthalene	0.554	0.579	0.614	0.644	0.666	0.612	7.47
34)	I	Acenaphthene-d10	----------		ISTD	----------			
35)	TP	Hexachlorocyclopentad	0.255	0.261	0.251	0.214	0.167	0.230	17.16
36)	TC	2,4,6-Trichlorophenol	0.307	0.312	0.320	0.317	0.313	0.314	1.58
37)	T	2,4,5-Trichlorophenol	0.337	0.338	0.346	0.326	0.315	0.332	3.58
38)	S	2-Fluorobiphenyl	0.986	1.046	1.128	1.184	1.222	1.113	8.73
39)	T	2-Chloronaphthalene	0.884	0.917	0.965	1.011	1.029	0.961	6.37
40)	T	2-Nitroaniline	0.370	0.366	0.375	0.360	0.345	0.363	3.21
41)	T	Dimethylphthalate	1.010	1.049	1.104	1.148	1.172	1.097	6.17
42)	T	Acenaphthylene	1.345	1.438	1.568	1.680	1.734	1.553	10.46
43)	T	2,6-Dinitrotoluene	0.266	0.270	0.285	0.291	0.295	0.281	4.59
44)	T	3-Nitroaniline	0.263	0.279	0.289	0.289	0.280	0.280	3.86
45)	TCM	Acenaphthene	0.892	0.925	0.986	1.031	1.065	0.980	7.32
46)	TP	2,4-Dinitrophenol	0.186	0.177	0.164	0.124	0.096	0.149	25.46
47)	T	Dibenzofuran	1.169	1.233	1.341	1.417	1.470	1.326	9.43
48)	TMP	4-Nitrophenol	0.239	0.203	0.198	0.199	0.186	0.205	9.69
49)	TM	2,4-Dinitrotoluene	0.356	0.355	0.362	0.366	0.354	0.359	1.40
50)	T	Diethylphthalate	1.025	1.063	1.120	1.162	1.196	1.113	6.27
51)	T	Fluorene	0.998	1.040	1.117	1.173	1.206	1.107	7.92
52)	T	4-Chlorophenyl-phenyl	0.489	0.507	0.534	0.549	0.564	0.529	5.75
53)	T	4-Nitroaniline	0.296	0.288	0.291	0.283	0.292	0.290	1.74
54)	I	Phenanthrene-d10	----------		ISTD	----------			

#) = Out of Range

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05124.D 80 =BNA05127.D 50 =BNA05126.D
20 =BNA05128.D 10 =BNA05125.D

		Compound	120	80	50	20	10	Avg	%RSD
55)	T	4,6-Dinitro-2-methylp	0.143	0.142	0.139	0.129	0.114	0.133	9.09
56)	TC	n-Nitrosodiphenylamin	0.435	0.452	0.471	0.496	0.510	0.473	6.47
57)	T	Azobenzene	0.729	0.777	0.819	0.855	0.879	0.812	7.39
58)	S	2,4,6-Tribromophenol	0.090	0.090	0.091	0.090	0.089	0.090	0.84
59)	T	4-Bromophenyl-phenyle	0.172	0.175	0.182	0.190	0.194	0.182	5.12
60)	T	Hexachlorobenzene	0.184	0.188	0.193	0.202	0.212	0.196	5.74
61)	TCM	Pentachlorophenol	0.124	0.123	0.122	0.109	0.103	0.116	8.31
62)	T	Phenanthrene	0.841	0.901	0.974	1.046	1.102	0.973	10.83
63)	T	Anthracene	0.863	0.922	0.991	1.063	1.107	0.989	10.08
64)	T	Di-n-butylphthalate	0.955	1.039	1.108	1.177	1.200	1.096	9.21
65)	TC	Fluoranthene	0.895	0.950	1.019	1.096	1.136	1.019	9.80
66)	I	Chrysene-d12	----------ISTD----------						
67)	T	Benzidine	0.361	0.366	0.394	0.424	0.434	0.396	8.29
68)	TM	Pyrene	1.050	1.100	1.153	1.229	1.263	1.159	7.59
69)	S	p-Terphenyl-d14	0.751	0.772	0.793	0.823	0.844	0.797	4.74
70)	T	Butylbenzylphthalate	0.562	0.570	0.574	0.574	0.565	0.569	0.96
71)	T	Benzo[a]anthracene	1.023	1.057	1.094	1.125	1.162	1.092	5.02
72)	T	3,3'-Dichlorobenzidin	0.334	0.346	0.353	0.368	0.366	0.354	4.06
73)	T	Chrysene	0.964	1.001	1.031	1.071	1.116	1.037	5.74
74)	T	bis(2-Ethylhexyl)phth	0.760	0.780	0.791	0.792	0.772	0.779	1.72
75)	I	Perylene-d12	----------ISTD----------						
76)	TC	Di-n-octylphthalate	1.214	1.325	1.400	1.410	1.374	1.345	5.98
77)	T	Benzo[b]fluoranthene	1.045	1.067	1.130	1.144	1.184	1.114	5.12
78)	T	Benzo[k]fluoranthene	1.001	1.043	1.117	1.192	1.220	1.115	8.40
79)	TC	Benzo[a]pyrene	0.993	1.031	1.084	1.117	1.139	1.073	5.65
80)	T	Indeno[1,2,3-cd]pyren	1.131	1.093	1.092	1.069	1.043	1.086	3.01
81)	T	Dibenz[a,h]anthracene	1.065	1.095	1.119	1.128	1.111	1.104	2.24
82)	T	Benzo[g,h,i]perylene	1.073	1.079	1.100	1.107	1.120	1.096	1.77

#) = Out of Range

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: Bl.233 SDG No.:

Lab File ID: BNA05319.D DFTPP Injection Date: 5/3/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 10:54

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	48.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	51.4
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	25.0 - 75.0% of mass 198	55.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	24.3
365	Greater than 0.75% of mass 198	2.9
441	Present, but less than mass 443	9.5
442	40.0 - 110.0% of mass 198	63.4
443	15.0 - 24.0% of mass 442	12.9 (20.4)2

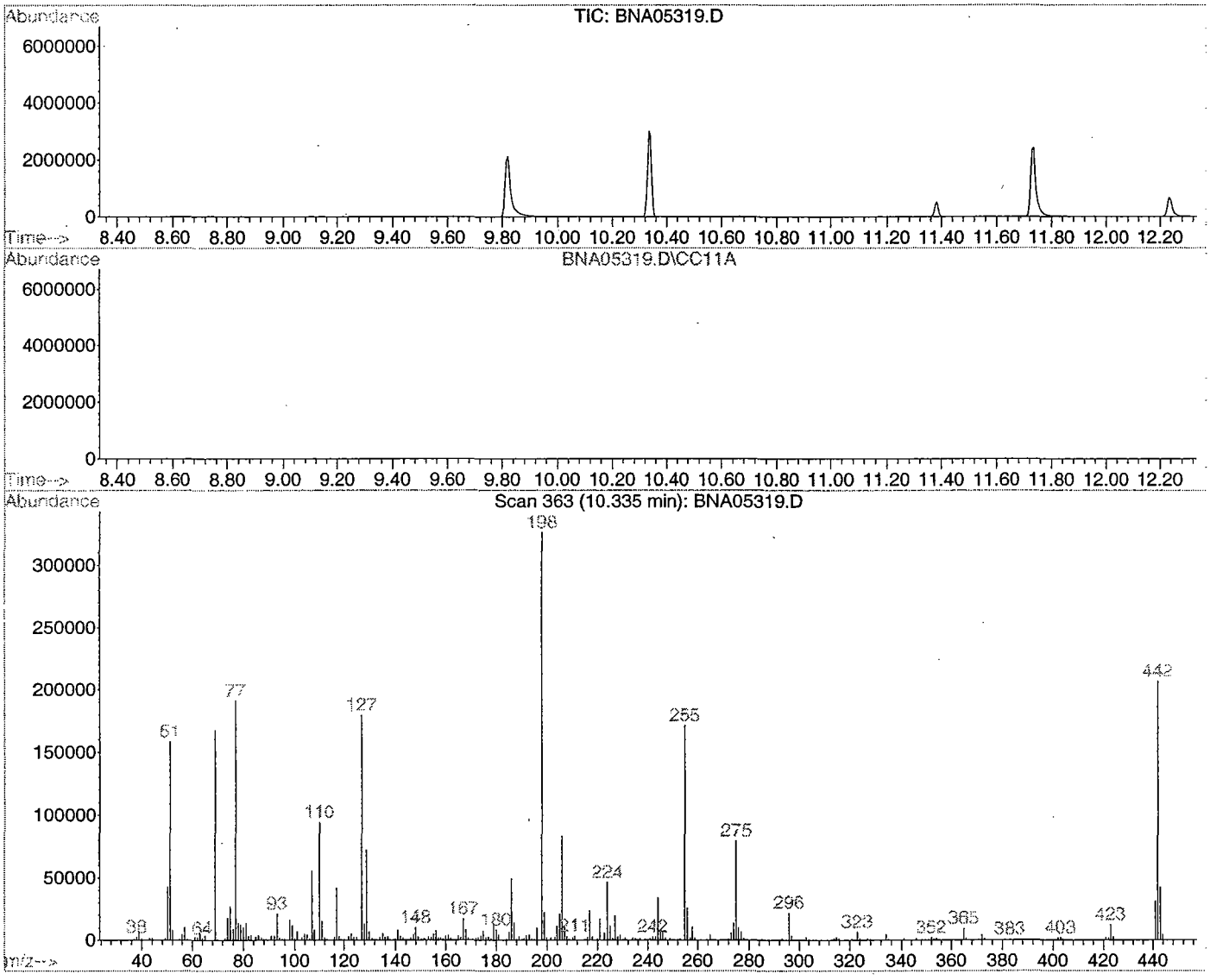
1-Value is % mass 69 2-Value is % mass 442

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	SSTD050	DAILY CAL	BNA05320.D	5/3/01	11:20
02	MB-1729	MB-1729	BNA05323.D	5/3/01	13:39
03	BLDG.233	16089.01	BNA05325.D	5/3/01	15:13

000042

Data File : D:\DATA\010503\BNA05319.D Vial: 99
Acq On : 3 May 2001 10:54 am Operator: Bhaskar
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50 NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 363

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.5	158336	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.4	167680	PASS
70	69	0.00	2	0.6	1045	PASS
127	198	40	60	55.0	179520	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	326528	PASS
199	198	5	9	6.8	22168	PASS
275	198	10	30	24.3	79424	PASS
365	198	1	100	2.9	9486	PASS
441	443	1	99	73.5	31064	PASS
442	198	40	100	63.4	206976	PASS
443	442	17	23	20.4	42256	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010503\BNA05320.D Vial: 100
Acq On : 3 May 2001 11:20 am Operator: Bhaskar
Sample : DAILY CAL Inst : GC/MS Ins
Misc : 50 PPM STD Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	93	-0.02
2	T	Pyridine	1.435	1.210	15.7	79	-0.02
3	T	N-nitroso-dimethylamine	0.750	0.635	15.3	79	0.00
4	S	2-Fluorophenol	1.137	1.028	9.6	84	0.07
5	T	Aniline	1.852	1.530	17.4	76	0.00
6	S	Phenol-d6	1.434	1.349	5.9	87	0.09
7	TCM	Phenol	1.658	1.387	16.3	77	0.09
8	T	bis(2-Chloroethyl)ether	1.201	1.070	10.9	84	-0.01
9	TM	2-Chlorophenol	1.170	1.108	5.3	88	0.02
10	T	1,3-Dichlorobenzene	1.276	1.230	3.6	90	-0.02
11	TCM	1,4-Dichlorobenzene	1.304	1.264	3.1	90	-0.02
12	T	Benzyl alcohol	0.762	0.731	4.1	88	0.01
13	T	1,2-Dichlorobenzene	1.194	1.171	1.9	91	-0.02
14	T	2-Methylphenol	1.077	1.066	1.0	92	0.06
15	T	bis(2-chloroisopropyl)ether	1.235	1.031	16.5	78	-0.02
16	T	4-Methylphenol	1.126	1.119	0.6	91	0.05
17	TPM	n-Nitroso-di-n-propylamine	0.191	0.184	3.7	88	0.00
18	T	Hexachloroethane	0.498	0.503	-1.0	94	-0.02
19	I	Naphthalene-d8	1.000	1.000	0.0	93	-0.02
20	S	Nitrobenzene-d5	0.402	0.399	0.7	92	0.00
21	T	Nitrobenzene	0.403	0.391	3.0	91	-0.01
22	T	Isophorone	0.676	0.641	5.2	89	-0.01
23	TC	2-Nitrophenol	0.184	0.174	5.4	87	-0.01
24	T	2,4-Dimethylphenol	0.339	0.347	-2.4	95	0.03
25	T	bis(2-Chloroethoxy)methane	0.399	0.366	8.3	86	-0.01
26	TC	2,4-Dichlorophenol	0.235	0.240	-2.1	90	0.02
27	T	Benzoic Acid	0.226	0.213	5.8	90	0.07
28	TM	1,2,4-Trichlorobenzene	0.287	0.289	-0.7	94	-0.02
29	T	Naphthalene	0.942	0.944	-0.2	92	-0.02
30	T	4-Chloroaniline	0.379	0.298	21.4	71	0.00
31	TC	Hexachlorobutadiene	0.159	0.170	-6.9	100	-0.02
32	TCM	4-Chloro-3-methylphenol	0.289	0.297	-2.8	94	0.05
33	T	2-Methylnaphthalene	0.612	0.626	-2.3	95	-0.02
34	I	Acenaphthene-d10	1.000	1.000	0.0	98	-0.02
35	TP	Hexachlorocyclopentadiene	0.230	0.254	-10.4	100	-0.03
36	TC	2,4,6-Trichlorophenol	0.314	0.314	0.0	96	0.00
37	T	2,4,5-Trichlorophenol	0.332	0.332	0.0	94	0.03
38	S	2-Fluorobiphenyl	1.113	1.111	0.2	97	-0.02
39	T	2-Chloronaphthalene	0.961	0.932	3.0	95	-0.02
40	T	2-Nitroaniline	0.363	0.335	7.7	88	0.00
41	T	Dimethylphthalate	1.097	1.075	2.0	96	-0.01
42	T	Acenaphthylene	1.553	1.557	-0.3	97	-0.02
43	T	2,6-Dinitrotoluene	0.281	0.297	-5.7	102	-0.01
44	T	3-Nitroaniline	0.280	0.236	15.7	80	0.01
45	TCM	Acenaphthene	0.980	0.970	1.0	97	-0.02
46	TP	2,4-Dinitrophenol	0.149	0.152	-2.0	91	0.00
47	T	Dibenzofuran	1.326	1.299	2.0	95	-0.02
48	TMP	4-Nitrophenol	0.205	0.166	19.0	82	0.10
49	TM	2,4-Dinitrotoluene	0.359	0.345	3.9	94	0.00
50	T	Diethylphthalate	1.113	1.117	-0.4	98	-0.02
51	T	Fluorene	1.107	1.110	-0.3	98	-0.02
52	T	4-Chlorophenyl-phenylether	0.529	0.531	-0.4	98	-0.02
53	T	4-Nitroaniline	0.290	0.258	11.0	87	0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010503\BNA05320.D Vial: 100
Acq On : 3 May 2001 11:20 am Operator: Bhaskar
Sample : DAILY CAL Inst : GC/MS Ins
Misc : 50 PPM STD Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	I	Phenanthrene-d10	1.000	1.000	0.0	98	-0.02
55	T	4,6-Dinitro-2-methylphenol	0.133	0.128	3.8	91	0.00
56	TC	n-Nitrosodiphenylamine	0.473	0.457	3.4	96	-0.01
57	T	Azobenzene	0.812	0.789	2.8	95	-0.02
58	S	2,4,6-Tribromophenol	0.090	0.091	-1.1	98	0.00
59	T	4-Bromophenyl-phenylether	0.182	0.181	0.5	98	-0.02
60	T	Hexachlorobenzene	0.196	0.194	1.0	99	-0.02
61	TCM	Pentachlorophenol	0.116	0.108	6.9	87	0.00
62	T	Phenanthrene	0.973	0.966	0.7	98	-0.02
63	T	Anthracene	0.989	0.986	0.3	98	-0.02
64	T	Di-n-butylphthalate	1.096	1.091	0.5	97	-0.02
65	TC	Fluoranthene	1.019	1.029	-1.0	99	-0.02
66	I	Chrysene-d12	1.000	1.000	0.0	108	-0.02
67	T	Benzidine	0.396	0.313	21.0	86	0.00
68	TM	Pyrene	1.159	1.054	9.1	99	-0.02
69	S	p-Terphenyl-d14	0.797	0.734	7.9	100	-0.02
70	T	Butylbenzylphthalate	0.569	0.499	12.3	94	-0.02
71	T	Benzo[a]anthracene	1.092	1.013	7.2	100	-0.02
72	T	3,3'-Dichlorobenzidine	0.354	0.327	7.6	100	-0.01
73	T	Chrysene	1.037	0.947	8.7	99	-0.02
74	T	bis(2-Ethylhexyl)phthalate	0.779	0.700	10.1	95	-0.03
75	I	Perylene-d12	1.000	1.000	0.0	98	-0.02
76	TC	Di-n-octylphthalate	1.345	1.381	-2.7	97	-0.03
77	T	Benzo[b]fluoranthene	1.114	1.112	0.2	97	-0.02
78	T	Benzo[k]fluoranthene	1.115	1.119	-0.4	99	-0.02
79	TC	Benzo[a]pyrene	1.073	1.071	0.2	97	-0.02
80	T	Indeno[1,2,3-cd]pyrene	1.086	1.078	0.7	97	-0.02
81	T	Dibenz[a,h]anthracene	1.104	1.094	0.9	96	-0.03
82	T	Benzo[g,h,i]perylene	1.096	1.046	4.6	94	-0.02

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

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: Bl.233 SDG No.:

Lab File ID: BNA05230.D DFTPP Injection Date: 4/13/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 11:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	44.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	47.2
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	50.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	24.3
365	Greater than 0.75% of mass 198	3.1
441	Present, but less than mass 443	9.9
442	40.0 - 110.0% of mass 198	66.4
443	15.0 - 24.0% of mass 442	12.9 (19.4)2

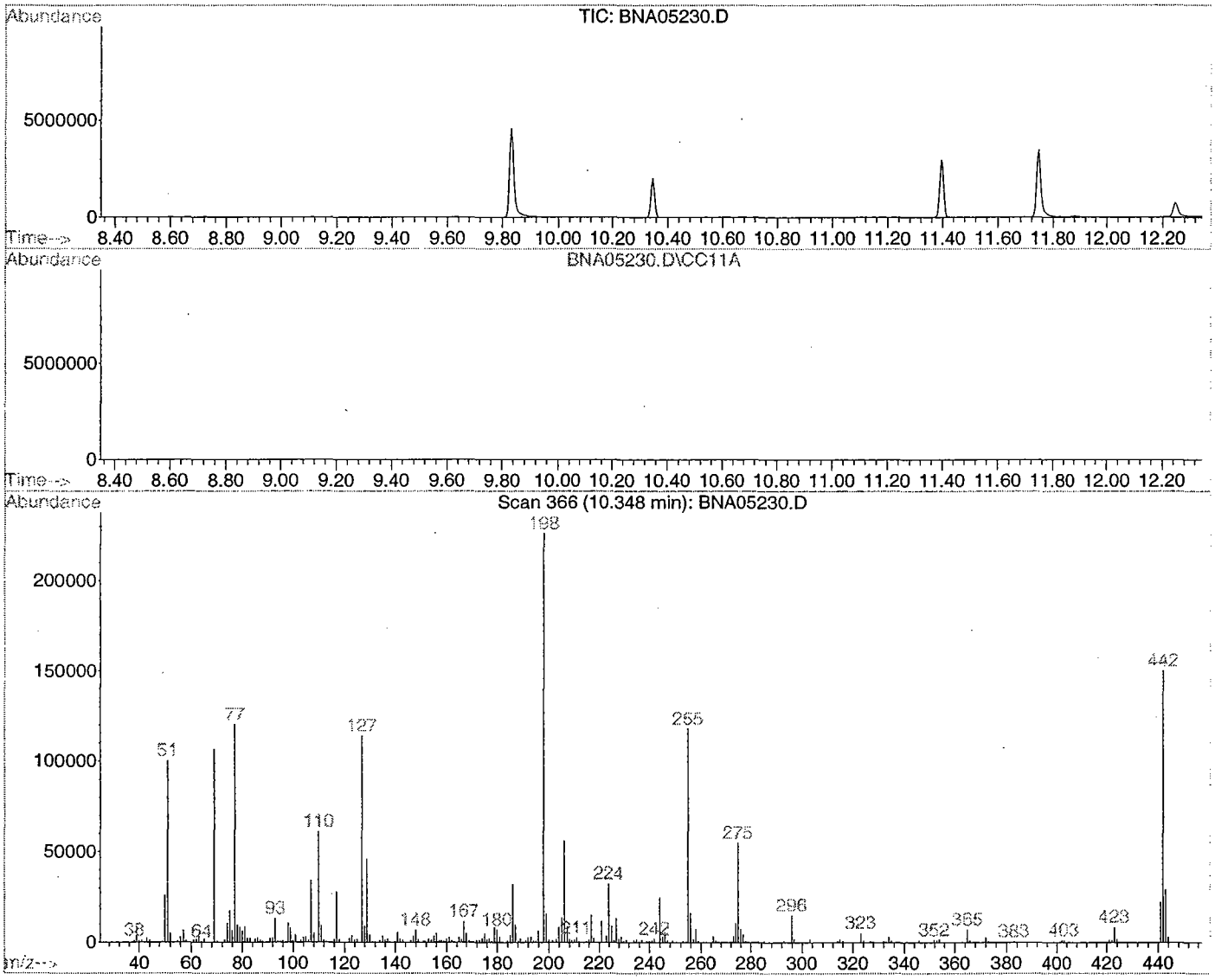
1-Value is % mass 69 2-Value is % mass 442

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	SSTD050	DAILY CAL	BNA05231.D	4/13/01	11:55
02	MS-1662	MS-1662	BNA05245.D	4/13/01	23:44
03	MSD-1663	MSD-1663	BNA05246.D	4/14/01	0:29

000046

Data File : D:\DATA\010413\BNA05230.D Vial: 99
Acq On : 13 Apr 2001 11:29 am Operator: Bhaskar
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50 NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 366

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.3	100232	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.2	106744	PASS
70	69	0.00	2	0.8	819	PASS
127	198	40	60	50.4	114040	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	226304	PASS
199	198	5	9	6.9	15561	PASS
275	198	10	30	24.3	54904	PASS
365	198	1	100	3.1	6969	PASS
441	443	1	99	76.6	22320	PASS
442	198	40	100	66.4	150336	PASS
443	442	17	23	19.4	29120	PASS

4B

Field Id:

SEMIVOLATILE METHOD BLANK SUMMARY

MB-1729

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: BI.233 SDG No.:

Lab File ID: BNA05323.D Lab Sample ID: MB-1729

Instrument ID: GC/MS Ins Date Extracted: 5/2/01

Matrix: (soil/water) WATER Date Analyzed: 5/3/01

Level: (low/med) LOW Time Analyzed: 13:39

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	BLDG.233	16089.01	BNA05325.D	5/3/01

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: Bl.233 SDG No.: _____

	Field Id:	S1 NBZ #	S2 2FP #	S3 TPL #	TOT OUT
01	MS-1662	74	85	81	0
02	MSD-1663	78	88	73	0
03	MB-1729	54	62	59	0
04	BLDG.233	53	61	50	0

QC LIMITS

S1	NBZ	=	Nitrobenzene-d5	(35-114)
S2	2FP	=	2-Fluorobiphenyl	(43-116)
S3	TPL	=	p-Terphenyl-d14	(33-141)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05245.D** Sample Name **MS-1662**

Date Acquired **13-Apr-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		7.88 ug/L	39.41
62-75-9	N-nitroso-dimethylamine		9.69 ug/L	48.47
62-53-3	Aniline		7.83 ug/L	39.16
111-44-4	bis(2-Chloroethyl)ether		14.77 ug/L	73.85
541-73-1	1,3-Dichlorobenzene		14.26 ug/L	71.28
106-46-7	1,4-Dichlorobenzene		14.39 ug/L	71.96
100-51-6	Benzyl alcohol		13.56 ug/L	67.80
95-50-1	1,2-Dichlorobenzene		15.15 ug/L	75.74
39638-32-9	bis(2-chloroisopropyl)ether		20.43 ug/L	102.16
621-64-7	n-Nitroso-di-n-propylamine		17.01 ug/L	85.04
67-72-1	Hexachloroethane		13.83 ug/L	69.13
98-95-3	Nitrobenzene		15.94 ug/L	79.72
78-59-1	Isophorone		16.69 ug/L	83.43
111-91-1	bis(2-Chloroethoxy)methane		14.98 ug/L	74.89
120-82-1	1,2,4-Trichlorobenzene		15.02 ug/L	75.11
91-20-3	Naphthalene		15.66 ug/L	78.30
106-47-8	4-Chloroaniline		9.93 ug/L	49.64
87-68-3	Hexachlorobutadiene		14.78 ug/L	73.91
91-57-6	2-Methylnaphthalene		16.18 ug/L	80.88
77-47-4	Hexachlorocyclopentadiene		17.53 ug/L	87.67
91-58-7	2-Chloronaphthalene		18.42 ug/L	92.11
88-74-4	2-Nitroaniline		16.59 ug/L	82.93
131-11-3	Dimethylphthalate		18.68 ug/L	93.39
208-96-8	Acenaphthylene		18.56 ug/L	92.80
606-20-2	2,6-Dinitrotoluene		19.14 ug/L	95.69
99-09-2	3-Nitroaniline		12.75 ug/L	63.75
83-32-9	Acenaphthene		18.60 ug/L	92.99
132-64-9	Dibenzofuran		18.48 ug/L	92.42
121-14-2	2,4-Dinitrotoluene		18.16 ug/L	90.80
84-66-2	Diethylphthalate		19.32 ug/L	96.58
86-73-7	Fluorene		19.11 ug/L	95.53
7005-72-3	4-Chlorophenyl-phenylether		18.66 ug/L	93.29
100-01-6	4-Nitroaniline		12.97 ug/L	64.83
86-30-6	n-Nitrosodiphenylamine		17.75 ug/L	88.75
103-33-3	Azobenzene		17.16 ug/L	85.79
101-55-3	4-Bromophenyl-phenylether		17.30 ug/L	86.51
118-74-1	Hexachlorobenzene		17.08 ug/L	85.42
85-01-8	Phenanthrene		18.03 ug/L	90.15
120-12-7	Anthracene		17.86 ug/L	89.29
84-74-2	Di-n-butylphthalate		18.28 ug/L	91.42
206-44-0	Fluoranthene		17.60 ug/L	88.01
129-00-0	Pyrene		18.27 ug/L	91.37
85-68-7	Butylbenzylphthalate		17.83 ug/L	89.14
56-55-3	Benzo[a]anthracene		17.70 ug/L	88.50
218-01-9	Chrysene		17.74 ug/L	88.71
117-81-7	bis(2-Ethylhexyl)phthalate		17.31 ug/L	86.55
117-84-0	Di-n-octylphthalate		21.43 ug/L	107.13
205-99-2	Benzo[b]fluoranthene		20.62 ug/L	103.10
207-08-9	Benzo[k]fluoranthene		21.13 ug/L	105.65
50-32-8	Benzo[a]pyrene		20.32 ug/L	101.60
193-39-5	Indeno[1,2,3-cd]pyrene		19.24 ug/L	96.22
53-70-3	Dibenz[a,h]anthracene		19.88 ug/L	99.42
191-24-2	Benzo[g,h,i]perylene		19.87 ug/L	99.36

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: BI.233 SDG No.:

Lab File ID (Standard): BNA05231.D Date Analyzed: 4/13/01

Instrument ID: GC_BNA_2 Time Analyzed: 11:55

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	771161	10.11	2671232	13.05	1611571	17.28
	UPPER LIMIT	1542322	10.61	5342464	13.55	3223142	17.78
	LOWER LIMIT	385581	9.61	1335616	12.55	805786	16.78
	Field Id:						
01	MS-1662	619886	10.11	2320969	13.04	1235984	17.27
02	MSD-1663	604455	10.11	2252217	13.04	1203470	17.27

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: Bl.233 SDG No.:

Lab File ID (Standard): BNA05231.D Date Analyzed: 04/13/01

Instrument ID: GC_BNA_2 Time Analyzed: 11:55

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2654324	20.88	2453116	27.34	2146378	30.57
	UPPER LIMIT	5308648	20.38	4906232	26.84	4292756	30.07
	LOWER LIMIT	1327162	21.38	1226558	27.84	1073189	31.07
	EPA SAMPLE NO.						
01	MS-1662	2179007	20.87	1941124	27.32	1475200	30.56
02	MSD-1663	2113371	20.87	1878383	27.32	1438658	30.56

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: Bl.233 SDG No.:

Lab File ID (Standard): BNA05320.D Date Analyzed: 5/3/01

Instrument ID: GC_BNA_2 Time Analyzed: 11:20

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	895266	10.10	3133159	13.03	1944781	17.26
	UPPER LIMIT	1790532	10.60	6266318	13.53	3889562	17.76
	LOWER LIMIT	447633	9.60	1566580	12.53	972391	16.76
	Field Id:						
01	MB-1729	677078	10.10	2504614	13.03	1379534	17.26
02	BLDG.233	700617	10.10	2627392	13.03	1423903	17.26

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: LTM Case No.: 16089 Location: BI.233 SDG No.:

Lab File ID (Standard): BNA05320.D Date Analyzed: 05/03/01

Instrument ID: GC_BNA_2 Time Analyzed: 11:20

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	3221953	20.86	3123288	27.32	2675891	30.55
	UPPER LIMIT	6443906	20.36	6246576	26.82	5351782	30.05
	LOWER LIMIT	1610977	21.36	1561644	27.82	1337946	31.05
	EPA SAMPLE NO.						
01	MB-1729	2451955	20.85	2274922	27.30	1703004	30.54
02	BLDG.233	2535641	20.85	2368080	27.31	1803601	30.53

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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:\DATA\010503\BNA05323.D Vial: 3
Acq On : 3 May 2001 1:39 pm Operator: Bhaskar
Sample : MB-1729 Inst : GC/MS Ins
Misc : MB-010502 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: May 3 14:14 2001 Quant Results File: M262546.RES

Quant Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration
DataAcq Meth : M262546

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.10	152	677078	40.00	ug/L	-0.02
19) Naphthalene-d8	13.03	136	2504614	40.00	ug/L	-0.02
34) Acenaphthene-d10	17.26	164	1379534	40.00	ug/L	-0.03
54) Phenanthrene-d10	20.85	188	2451955	40.00	ug/L	-0.03
66) Chrysene-d12	27.30	240	2274922	40.00	ug/L	-0.04
75) Perylene-d12	30.54	264	1703004	40.00	ug/L	-0.03
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.43	82	677923	26.95	ug/L	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	53.90%		
38) 2-Fluorobiphenyl	15.66	172	1190545	31.02	ug/L	-0.03
Spiked Amount 50.000	Range 43 - 116		Recovery =	62.04%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.80	244	1336735	29.50	ug/L	-0.03
Spiked Amount 50.000	Range 33 - 141		Recovery =	59.00%		

Target Compounds Qvalue

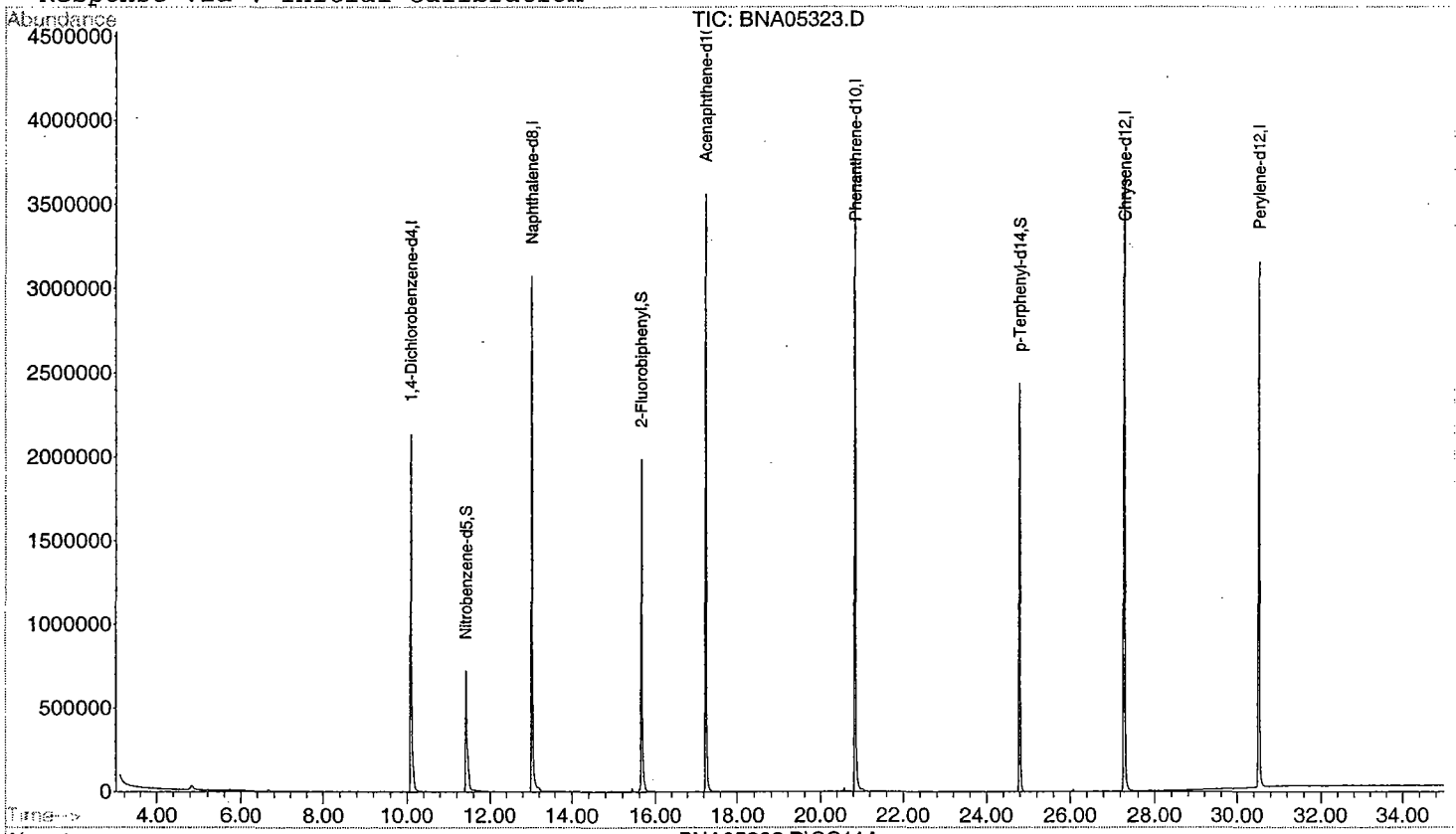
(#) = qualifier out of range (m) = manual integration
BNA05323.D M262546.M Fri May 04 08:22:19 2001

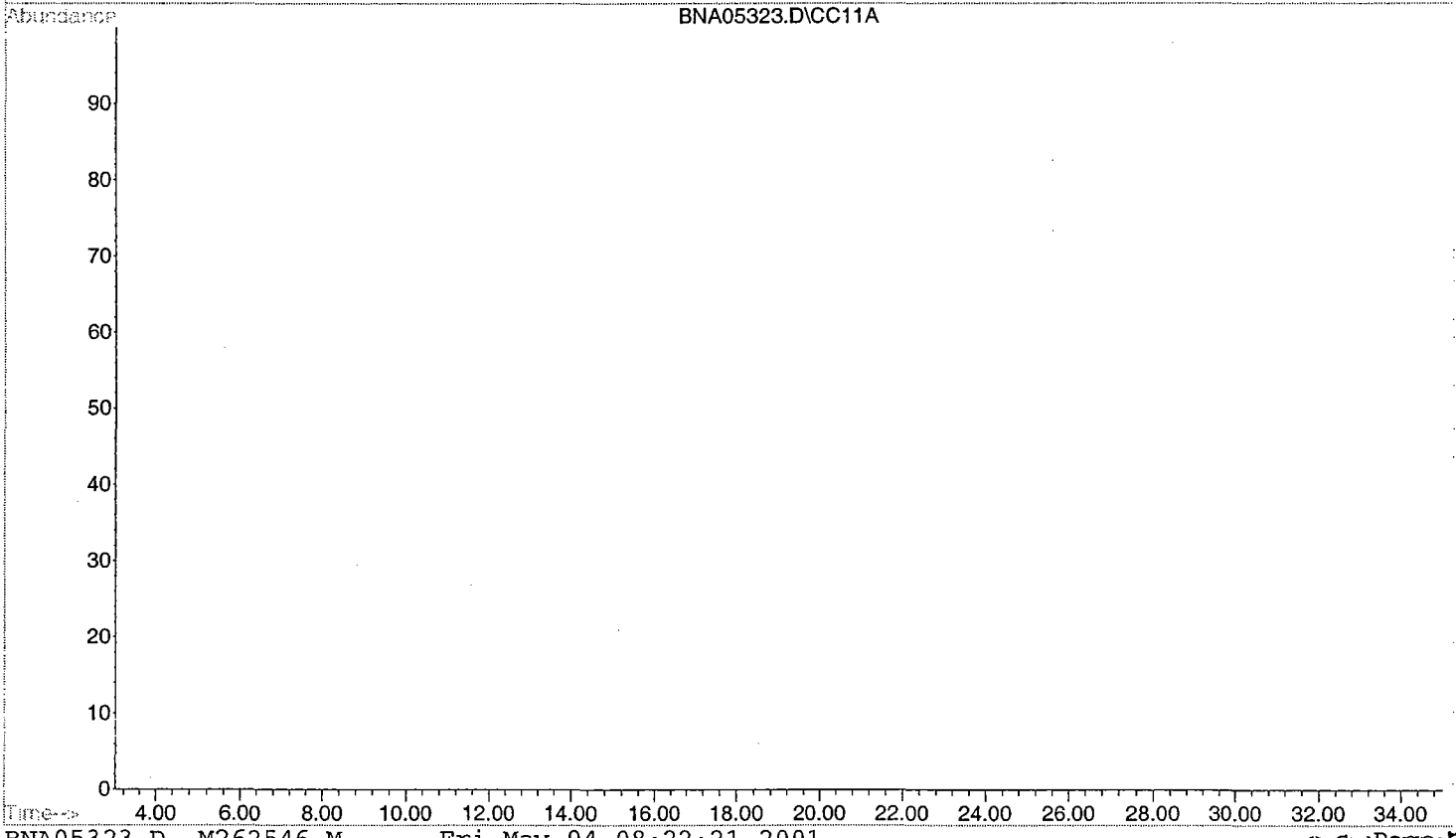
Quantitation Report

Data File : D:\DATA\010503\BNA05323.D
Acq On : 3 May 2001 1:39 pm
Sample : MB-1729
Misc : MB-010502
MS Integration Params: RTEINT.P
Quant Time: May 3 14:14 2001

Vial: 3
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data File : D:\DATA\010503\BNA05325.D Vial: 5
Acq On : 3 May 2001 3:13 pm Operator: Bhaskar
Sample : 16089.01 Inst : GC/MS Ins
Misc : Bldg.233 GW Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: May 3 15:48 2001 Quant Results File: M262546.RES

Quant Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration
DataAcq Meth : M262546

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.10	152	700617	40.00	ug/L	-0.02
19) Naphthalene-d8	13.03	136	2627392	40.00	ug/L	-0.02
34) Acenaphthene-d10	17.26	164	1423903	40.00	ug/L	-0.03
54) Phenanthrene-d10	20.85	188	2535641	40.00	ug/L	-0.03
66) Chrysene-d12	27.31	240	2368080	40.00	ug/L	-0.03
75) Perylene-d12	30.53	264	1803601	40.00	ug/L	-0.03
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.43	82	692585	26.25	ug/L	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	52.50%		
38) 2-Fluorobiphenyl	15.67	172	1217132	30.72	ug/L	-0.03
Spiked Amount 50.000	Range 43 - 116		Recovery =	61.44%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.80	244	1186406	25.16	ug/L	-0.03
Spiked Amount 50.000	Range 33 - 141		Recovery =	50.32%		

Target Compounds Qvalue

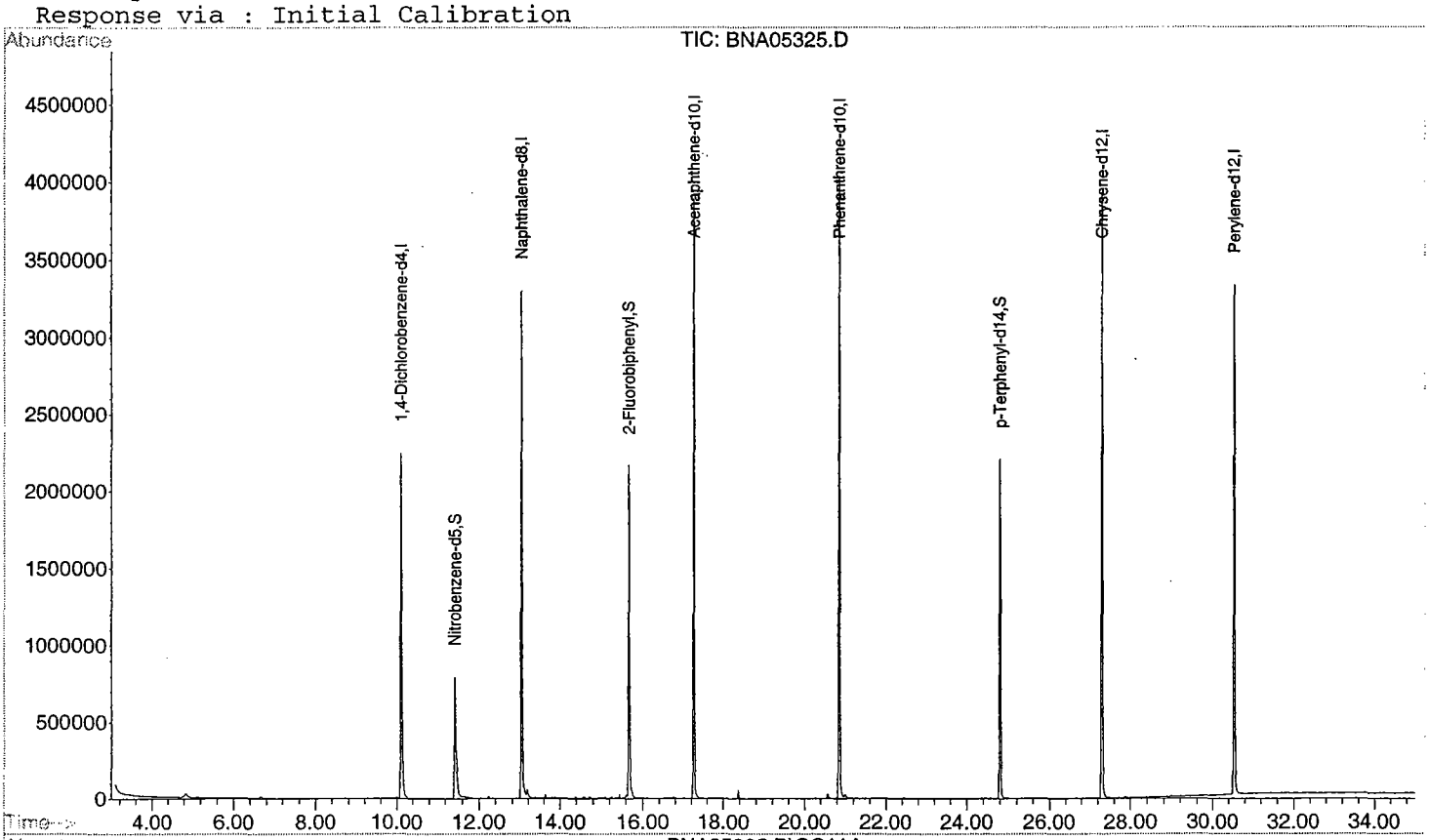
(#) = qualifier out of range (m) = manual integration

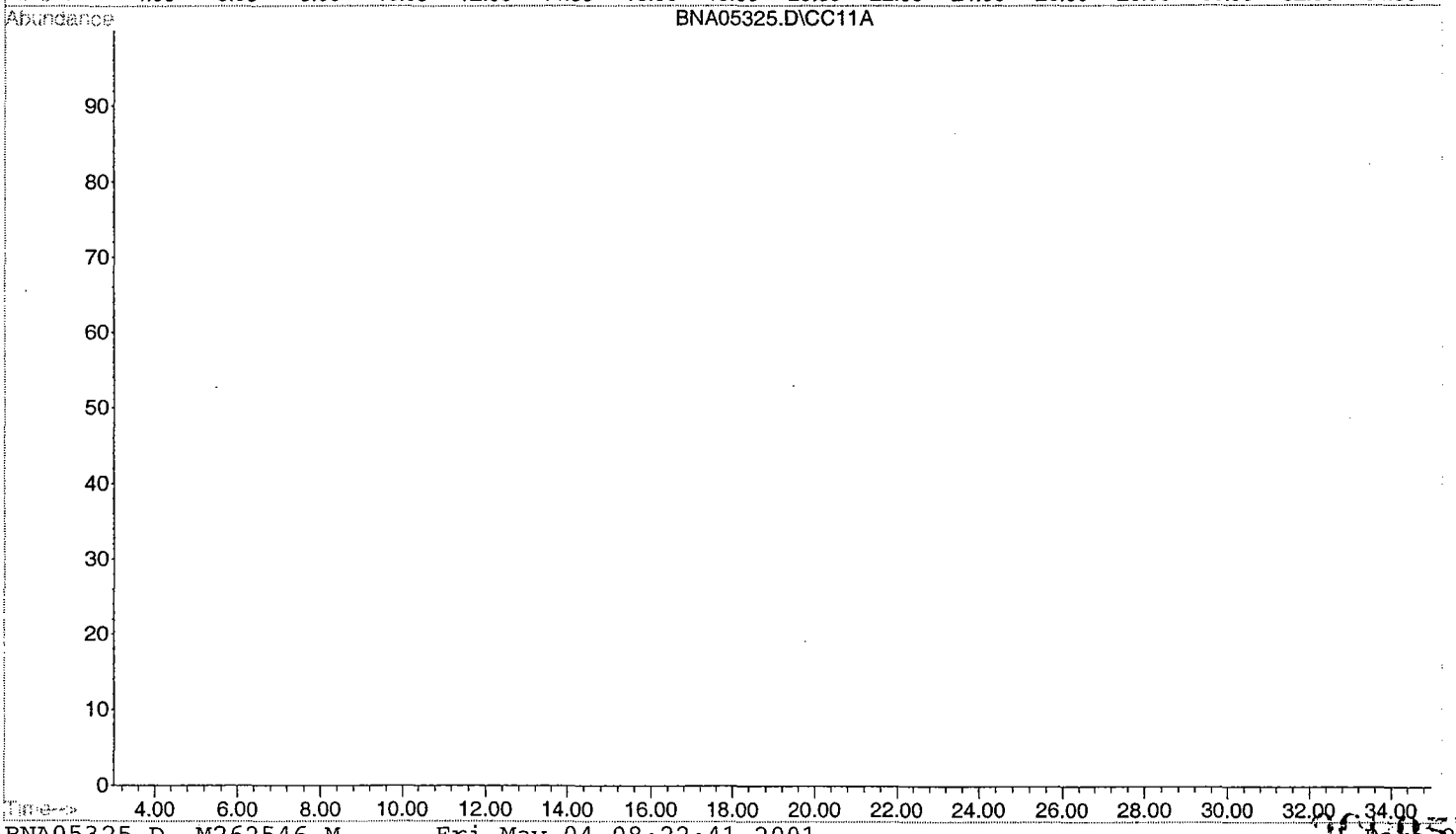
Quantitation Report

Data File : D:\DATA\010503\BNA05325.D
Acq On : 3 May 2001 3:13 pm
Sample : 16089.01
Misc : Bldg.233 GW
MS Integration Params: RTEINT.P
Quant Time: May 3 15:48 2001

Vial: 5
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration





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	NA
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 5/17/01

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: IJO# 01-0001

Bldg. 233

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Trip Blank	16145.01	Aqueous	25-May-01	05/25/01
Field Blank	16145.02	Aqueous	25-May-01 08:00	05/25/01
DUP.	16145.03	Aqueous	25-May-01	05/25/01
233 GW	16145.04	Aqueous	25-May-01 08:13	05/25/01

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

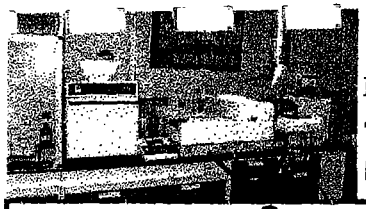
ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

6/26/01

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

Chain of Custody Record

Customer: D. Deasi
Phone #: X2145
( )DERA ( )OMA ( )Other:_____
Project No:
Location: Bldg 233 GW (4 Gossel:n) 2nd Rnd
Samplers Name / Company: Corey McCormack, TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: +xylene VOA+15	Analysis Parameters: BNA+15	Analysis Parameters: Hex Phenol	Comments: Remarks / Preservation Method
1645 .01	Trip	5/25/01	0739	AQ	2	✓		1	HCL/HNO_3/4°C
.02	Field Blank		0800		3	✓	✓	1	
.03	Dupe		—		3	✓	✓	1	
.04	233 GW *		0813		3	✓	✓	00	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	5/25/01 0855				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: Shows T/FB/D w/ 233 same date. cnn

000002

print legibly

Coc5/1/01

METHOD SUMMARY

Method Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

Surrogates and internal standards are added to a 5-ml aliquot of sample. The sample is then purged and desorbed into a GC/MS system. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Volatiles are identified and quantitated.

EPA Method 3510/625
Gas Chromatographic Determination of Semi-volatiles in Water

Surrogates are added to measured volume of sample, usually 1 liter, at a specified pH. The sample is serially extracted with Methylene chloride using a separatory funnel. The extract concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16145

Site: Bldg. 233

	Date	Hold Time
Date Sampled	05/25/01	NA
Receipt/Refrigeration	05/25/01	NA
Extractions		
1. BN	05/31/01	7 days
Analyses		
1. Volatile Organics	05/26/01	14 days
2. BN	06/07/01	40 days

CONFORMANCE/NON CONFORMANCE SUMMARY

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	Yes
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:	ND
a. VOA Fraction	
b. B/N Fraction	
c. Acid Fraction N/A	
8. Surrogate Recoveries Meet Criteria	ND
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction	
b. B/N Fraction Terphenyl-d14 @ 28	
c. Acid Fraction N/A 3	
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	
c. Acid Fraction N/A	

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 _____
    c. Acid Fraction NA

11. Extraction Holding Time Met — YES

    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: 6-26-01

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**

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

Data File	**VC005907.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**25-May-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB**

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.: _____

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC005907.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: not dec. _____ Date Analyzed: 5/25/01

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

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC005920.D**	Sample Name	**1614501**
Operator	**Skelton**	Field ID	**Trip Blank**
Date Aquired	**26-May-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride	11.16	1446306	24.94 ug/L	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1614501

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC005920.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: not dec. Date Analyzed: 5/26/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC005921.D**	Sample Name	**1614502**
Operator	**Skelton**	Field ID	**Field Blank**
Date Aquired	**26-May-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride	11.18	473006	8.04 ug/L	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Field Blank**

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1614502

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC005921.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: not dec. Date Analyzed: 5/26/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC005922.D**	Sample Name	**1614503**
Operator	**Skelton**	Field ID	**Dupe**
Date Aquired	**26-May-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Dupe**

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1614503

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC005922.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: not dec. Date Analyzed: 5/26/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC005923.D**	Sample Name	**1614504**
Operator	**Skelton**	Field ID	**233GW**
Date Aquired	**26-May-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform			not detected	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

6/21/01 9:35 AM

D:\HPCHEM\CUSTRPT\VOLATILE\624FY00.CRT

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **233GW**

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1614504

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC005923.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: not dec. _____ Date Analyzed: 5/26/01

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

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

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: LTM Case No.: 16145 Location: B233 SDG No.:

Lab File ID: VC005900.D BFB Injection Date: 5/25/01

Instrument ID: VoaInst#3 BFB Injection Time: 13:59

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	15.3
75	30.0 - 66.0% of mass 95	47.2
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	61.8
175	4.0 - 9.0% of mass 174	4.7 (7.6)1
176	93.0 - 101.0% of mass 174	60.7 (98.3)1
177	5.0 - 9.0% of mass 176	3.8 (6.3)2

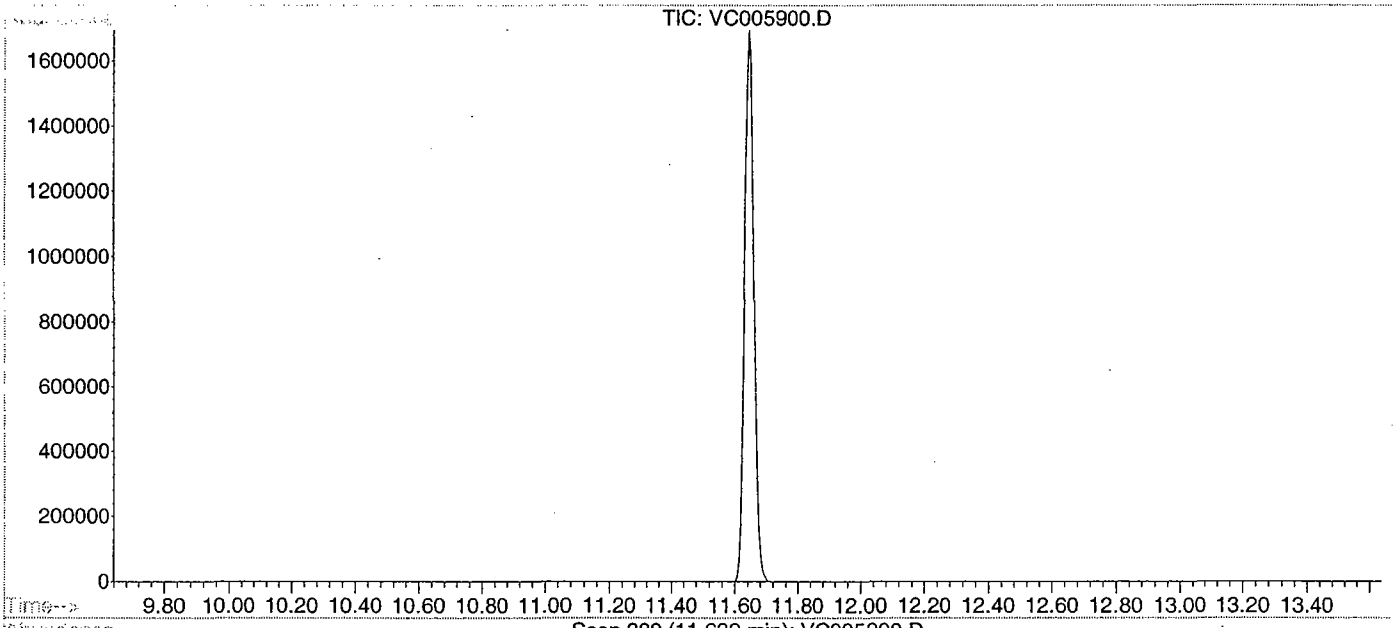
1-Value is % mass 174 2-Value is % mass 176

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	VC005901.D	5/25/01	14:34
02	VSTD050	VSTD050	VC005902.D	5/25/01	15:15
03	VSTD020	VSTD020	VC005903.D	5/25/01	15:56
04	VSTD010	VSTD010	VC005904.D	5/25/01	16:37
05	VSTD005	VSTD005	VC005905.D	5/25/01	17:18
06	MB	MB	VC005907.D	5/25/01	18:39
07	TRIP BLANK	1614501	VC005920.D	5/26/01	3:24
08	FIELD BLANK	1614502	VC005921.D	5/26/01	4:04
09	DUPE	1614503	VC005922.D	5/26/01	4:44
10	233GW	1614504	VC005923.D	5/26/01	5:24
11	1614601 MS	1614601 MS	VC005925.D	5/26/01	6:45
12	1614601 MSD	1614601 MSD	VC005926.D	5/26/01	7:25

BFB

Data File : D:\HPCHEM\1\DATA\010525\VC005900.D Vial: 1
Acq On : 25 May 2001 1:59 pm Operator: Skelton
Sample : BFB Tune Inst : GC/MS Ins
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 329

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	57928	PASS
75	95	30	60	47.2	179136	PASS
95	95	100	100	100.0	379584	PASS
96	95	5	9	6.9	26248	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	61.8	234496	PASS
175	174	5	9	7.6	17856	PASS
176	174	95	101	98.3	230464	PASS
177	176	5	9	6.3	14586	PASS

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration

Calibration Files
50 =VC005902.D 5 =VC005905.D 10 =VC005904.D
20 =VC005903.D 100 =VC005901.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.446	0.460	0.495	0.482	0.474	0.471	4.04
3)	t	Acrylonitrile	0.891	0.974	1.036	0.988	0.877	0.953	7.06
4)	t	tert-Butyl alcohol	0.199	0.156	0.198	0.196	0.219	0.194	11.90
5)	t	Methyl-tert-Butyl eth	6.167	6.194	6.559	6.615	6.640	6.435	3.64
6)	t	Di-isopropyl ether	1.866	1.823	1.950	1.979	2.012	1.926	4.09
7)	T	Dichlorodifluorometha	2.296	2.323	2.355	2.396	2.448	2.364	2.54
8)	TP	Chloromethane	1.320	1.500	1.442	1.417	1.412	1.418	4.58
9)	TC	Vinyl Chloride	1.301	1.660	1.564	1.459	1.299	1.457	10.96
10)	T	Bromomethane	1.348	1.500	1.493	1.483	1.394	1.444	4.74
11)	T	Chloroethane	1.367	1.451	1.451	1.470	1.448	1.437	2.82
12)	T	Trichlorofluoromethan	2.622	2.808	2.838	2.849	2.762	2.776	3.33
13)	MC	1,1-Dichloroethene	2.618	2.785	2.841	2.843	2.799	2.777	3.33
14)	T	Acetone	0.546	0.784	0.714	0.629	0.599	0.654	14.43
15)	T	Carbon Disulfide	5.886	6.098	6.185	6.303	6.142	6.123	2.49
16)	T	Methylene Chloride	2.014	2.175	2.156	2.195	2.152	2.138	3.35
17)	T	trans-1,2-Dichloroeth	2.559	2.782	2.814	2.810	2.721	2.737	3.89
18)	TP	1,1-Dichloroethane	3.248	3.550	3.600	3.591	3.448	3.487	4.21
19)	T	Vinyl Acetate	3.522	3.301	3.670	3.741	3.796	3.606	5.52
20)	T	2-Butanone	0.795	0.753	0.846	0.822	0.864	0.816	5.36
21)	T	cis-1,2-Dichloroethen	2.509	2.737	2.757	2.758	2.657	2.684	3.95
22)	TC	Chloroform	3.290	3.599	3.645	3.610	3.486	3.526	4.11
23)	T	1,1,1-Trichloroethane	2.862	3.019	3.084	3.101	3.068	3.027	3.22
24)	T	Carbon Tetrachloride	2.440	2.470	2.545	2.625	2.623	2.541	3.36
25)	S	1,2-Dichloroethane-d4	2.371	2.397	2.400	2.358	2.318	2.369	1.41
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.157	1.323	1.328	1.312	1.153	1.255	7.25
28)	T	1,2-Dichloroethane	0.357	0.423	0.416	0.405	0.376	0.395	7.05
29)	TM	Trichloroethene	0.287	0.315	0.315	0.318	0.305	0.308	4.07
30)	TC	1,2-Dichloropropane	0.280	0.314	0.318	0.312	0.296	0.304	5.21
31)	T	Bromodichloromethane	0.339	0.343	0.360	0.367	0.364	0.355	3.58
32)	T	2-Chloroethyl vinyl e	0.099	0.108	0.111	0.111	0.105	0.107	4.79
33)	T	cis-1,3-Dichloroprope	0.453	0.445	0.474	0.492	0.485	0.470	4.30
34)	T	4-Methyl-2-Pentanone	0.115	0.103	0.120	0.121	0.124	0.116	7.15
35)	S	Toluene-d8	1.220	1.226	1.227	1.225	1.213	1.222	0.46
36)	TCM	Toluene	1.201	1.385	1.386	1.368	1.170	1.302	8.24
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.488	1.418	1.509	1.588	1.575	1.515	4.55
39)	T	1,1,2-Trichloroethane	0.913	1.004	1.018	1.013	0.959	0.982	4.55
40)	T	Tetrachloroethene	0.892	0.989	0.993	0.995	0.921	0.958	5.01
41)	T	2-Hexanone	0.505	0.414	0.513	0.526	0.530	0.498	9.63
42)	T	Dibromochloromethane	0.829	0.755	0.820	0.873	0.904	0.836	6.79
43)	TMP	Chlorobenzene	2.720	3.123	3.084	3.086	2.728	2.948	6.96
44)	TC	Ethylbenzene	4.603	5.244	5.289	5.295	4.246	4.936	9.80
45)	T	m+p-Xylenes	1.806	2.035	2.043	2.062	1.753	1.940	7.62
46)	T	o-Xylene	3.582	3.889	3.962	4.046	3.507	3.797	6.29
47)	T	Styrene	3.150	3.192	3.333	3.471	3.160	3.261	4.25
48)	TP	Bromoform	0.513	0.409	0.480	0.521	0.570	0.499	11.92
49)	S	Bromofluorobenzene	1.703	1.684	1.673	1.706	1.682	1.689	0.84
50)	TP	1,1,2,2-Tetrachloroet	1.248	1.335	1.391	1.389	1.293	1.331	4.64
51)	T	1,3-Dichlorobenzene	1.938	2.078	2.110	2.152	1.967	2.049	4.52
52)	T	1,4-Dichlorobenzene	1.941	2.046	2.103	2.166	1.956	2.042	4.69
53)	T	1,2-Dichlorobenzene	1.837	1.940	2.004	2.050	1.865	1.939	4.63

(#) = Out of Range

4A

FIELD ID:

VOLATILE METHOD BLANK SUMMARY

MB

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.: _____

Lab File ID: VC005907.D Lab Sample ID: MB

Date Analyzed: 5/25/01 Time Analyzed: 18:39

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

Instrument ID: VoaInst#3

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

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	TRIP BLANK	1614501	VC005920.D	3:24
02	FIELD BLANK	1614502	VC005921.D	4:04
03	DUPE	1614503	VC005922.D	4:44
04	233GW	1614504	VC005923.D	5:24
05	1614601 MS	1614601 MS	VC005925.D	6:45
06	1614601 MSD	1614601 MSD	VC005926.D	7:25

COMMENTS:

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.: _____

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB	105	100	98	0
02	TRIP BLANK	114	101	98	0
03	FIELD BLANK	116	100	99	0
04	DUPE	116	101	100	0
05	233GW	116	101	100	0
06	1614601 MS	115	101	101	0
07	1614601 MSD	117	101	103	0

QC LIMITS

SMC1	DCE	=	1,2-Dichloroethane-d4	(76-121)
SMC2	TOL	=	Toluene-d8	(88-110)
SMC3	BFB	=	Bromofluorobenzene	(74-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Volatile Matrix Spike Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification Number #13461

Data File	VC005925.D	Sample Name	1614601 MS
Date Aquired	26-May-01	Field ID	1614601 MS

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	202.76 ug/L	101.38
Acrylonitrile	200	234.11 ug/L	117.05
tert-Butyl alcohol	200	172.06 ug/L	86.03
Methyl-tert-Butyl ether	20	21.31 ug/L	106.54
Di-isopropyl ether	20	20.79 ug/L	103.97
Dichlorodifluoromethane	20	21.36 ug/L	106.82
Chloromethane	20	27.92 ug/L	139.59
Vinyl Chloride	20	26.51 ug/L	132.57
Bromomethane	20	20.76 ug/L	103.82
Chloroethane	20	23.65 ug/L	118.24
Trichlorofluoromethane	20	21.72 ug/L	108.60
1,1-Dichloroethene	20	23.97 ug/L	119.85
Acetone	20	48.04 ug/L	240.21
Carbon Disulfide	20	21.28 ug/L	106.38
Methylene Chloride	20	21.27 ug/L	106.36
trans-1,2-Dichloroethene	20	23.79 ug/L	118.97
1,1-Dichloroethane	20	23.75 ug/L	118.75
Vinyl Acetate	20	23.46 ug/L	117.28
2-Butanone	20	22.84 ug/L	114.19
cis-1,2-Dichloroethene	20	23.95 ug/L	119.75
Chloroform	20	22.12 ug/L	110.58
1,1,1-Trichloroethane	20	21.42 ug/L	107.09
Carbon Tetrachloride	20	20.84 ug/L	104.20
Benzene	20	22.26 ug/L	111.31
1,2-Dichloroethane	20	24.28 ug/L	121.39
Trichloroethene	20	21.03 ug/L	105.15
1,2-Dichloropropane	20	23.54 ug/L	117.69
Bromodichloromethane	20	21.74 ug/L	108.69
2-Chloroethyl vinyl ether	20	24.27 ug/L	121.35
cis-1,3-Dichloropropene	20	20.82 ug/L	104.09
4-Methyl-2-Pentanone	20	21.26 ug/L	106.29
Toluene	20	21.38 ug/L	106.88
trans-1,3-Dichloropropene	20	20.38 ug/L	101.90
1,1,2-Trichloroethane	20	20.19 ug/L	100.93
Tetrachloroethene	20	20.61 ug/L	103.03
2-Hexanone	20	22.41 ug/L	112.06
Dibromochloromethane	20	20.16 ug/L	100.80
Chlorobenzene	20	20.29 ug/L	101.46
Ethylbenzene	20	21.53 ug/L	107.63
m+p-Xylenes	40	41.00 ug/L	102.49
o-Xylene	20	21.36 ug/L	106.78
Styrene	20	20.60 ug/L	103.00
Bromoform	20	18.91 ug/L	94.57
1,1,2,2-Tetrachloroethane	20	18.92 ug/L	94.62
1,3-Dichlorobenzene	20	20.09 ug/L	100.44
1,4-Dichlorobenzene	20	20.01 ug/L	100.05
1,2-Dichlorobenzene	20	20.20 ug/L	101.01

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

Data File	**VC005926.D**	Sample Name	**1614601 MSD**
Date Aquired	**26-May-01**	Field ID	**1614601 MSD**

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	219.48 ug/L	109.74
Acrylonitrile	200	235.45 ug/L	117.73
tert-Butyl alcohol	200	177.30 ug/L	88.65
Methyl-tert-Butyl ether	20	21.23 ug/L	106.14
Di-isopropyl ether	20	20.50 ug/L	102.52
Dichlorodifluoromethane	20	19.70 ug/L	98.49
Chloromethane	20	27.69 ug/L	138.47
Vinyl Chloride	20	25.80 ug/L	129.02
Bromomethane	20	20.56 ug/L	102.78
Chloroethane	20	23.20 ug/L	116.01
Trichlorofluoromethane	20	21.00 ug/L	105.00
1,1-Dichloroethene	20	23.63 ug/L	118.14
Acetone	20	47.88 ug/L	239.41
Carbon Disulfide	20	20.92 ug/L	104.62
Methylene Chloride	20	21.00 ug/L	105.00
trans-1,2-Dichloroethene	20	23.60 ug/L	118.01
1,1-Dichloroethane	20	23.46 ug/L	117.32
Vinyl Acetate	20	23.99 ug/L	119.95
2-Butanone	20	23.18 ug/L	115.92
cis-1,2-Dichloroethene	20	23.76 ug/L	118.79
Chloroform	20	21.71 ug/L	108.57
1,1,1-Trichloroethane	20	21.03 ug/L	105.16
Carbon Tetrachloride	20	20.51 ug/L	102.57
Benzene	20	21.86 ug/L	109.28
1,2-Dichloroethane	20	23.83 ug/L	119.15
Trichloroethene	20	20.69 ug/L	103.43
1,2-Dichloropropane	20	23.19 ug/L	115.96
Bromodichloromethane	20	21.42 ug/L	107.12
2-Chloroethyl vinyl ether	20	23.83 ug/L	119.16
cis-1,3-Dichloropropene	20	20.53 ug/L	102.65
4-Methyl-2-Pentanone	20	21.18 ug/L	105.89
Toluene	20	21.00 ug/L	104.99
trans-1,3-Dichloropropene	20	20.34 ug/L	101.68
1,1,2-Trichloroethane	20	20.32 ug/L	101.58
Tetrachloroethene	20	20.73 ug/L	103.67
2-Hexanone	20	22.68 ug/L	113.40
Dibromochloromethane	20	19.98 ug/L	99.92
Chlorobenzene	20	20.29 ug/L	101.44
Ethylbenzene	20	21.33 ug/L	106.67
m+p-Xylenes	40	40.84 ug/L	102.11
o-Xylene	20	21.29 ug/L	106.47
Styrene	20	20.45 ug/L	102.23
Bromoform	20	19.31 ug/L	96.56
1,1,2,2-Tetrachloroethane	20	19.10 ug/L	95.48
1,3-Dichlorobenzene	20	20.13 ug/L	100.64
1,4-Dichlorobenzene	20	20.01 ug/L	100.03
1,2-Dichlorobenzene	20	20.07 ug/L	100.33

6/21/01 9:35 AM

D:\HPCHEM\CUSTRPT\VOLATILE\624MSD00.CRT

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16145 Location: B233 SDG No.:

Lab File ID (Standard): VC005903.D Date Analyzed: 5/25/01

Instrument ID: VoaInst#3 Time Analyzed: 15:56

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	834026	16.70	5714345	19.42	1667920	27.24
	UPPER LIMIT	1668052	17.20	11428690	19.92	3335840	27.74
	LOWER LIMIT	417013	16.20	2857173	18.92	833960	26.74
	FIELD ID:						
01	MB	838315	16.70	5725126	19.42	1681802	27.24
02	TRIP BLANK	813721	16.70	5567682	19.42	1650888	27.24
03	FIELD BLANK	825527	16.70	5688688	19.42	1656787	27.25
04	DUPE	825940	16.70	5659757	19.42	1663538	27.25
05	233GW	811678	16.70	5519548	19.42	1628908	27.25
06	1614601 MS	846769	16.70	5777405	19.42	1713772	27.24
07	1614601 MSD	850395	16.69	5822120	19.42	1701541	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\010525\VC005907.D Vial: 7
Acq On : 25 May 2001 6:39 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:22 2001 Quant Results File: M362443.RES

Quant Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration
DataAcq Meth : M362442

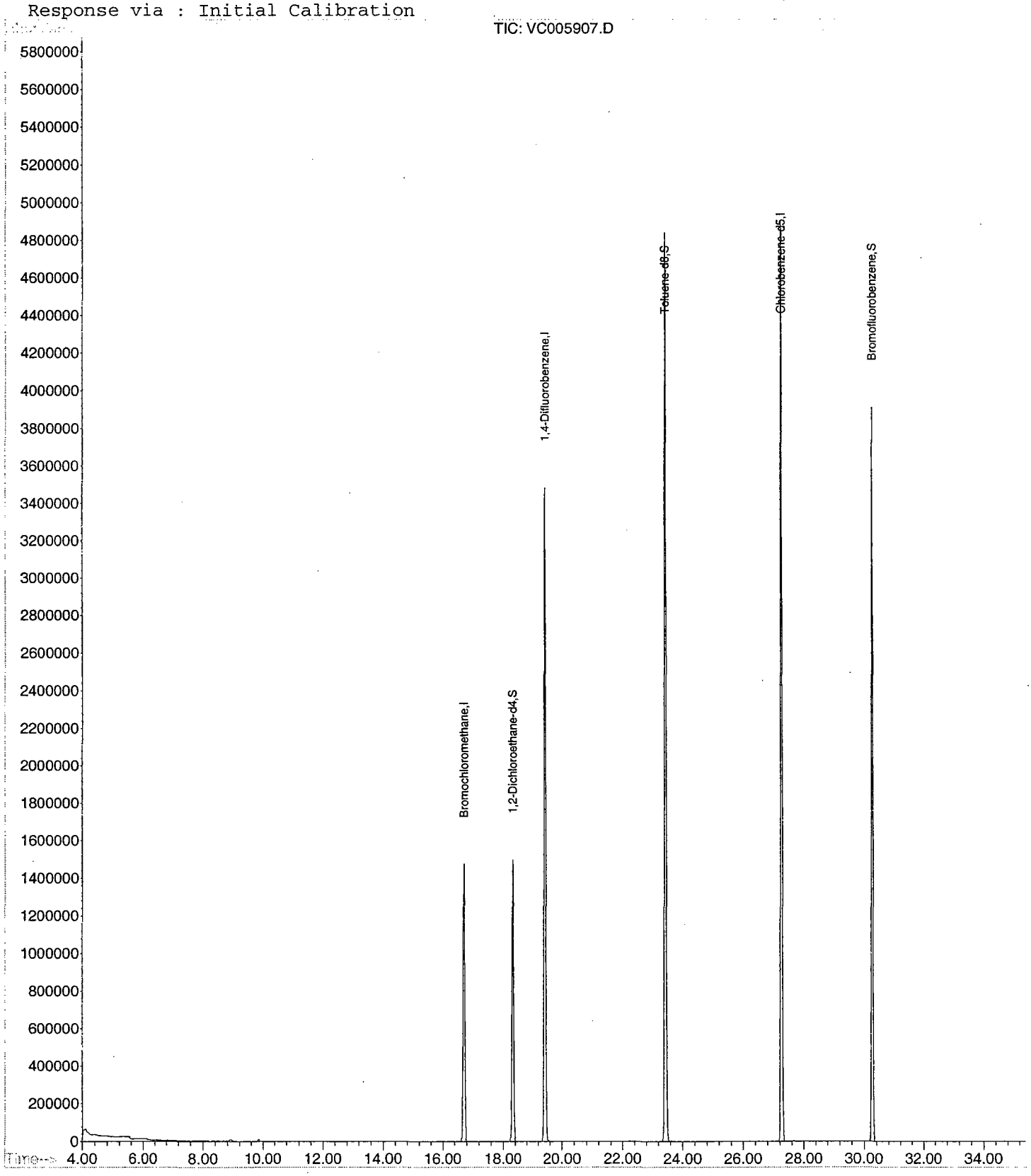
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	838315	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	5725126	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	1681802	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2082552	31.47	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 104.90%			
35) Toluene-d8	23.42	98	7024266	30.12	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 100.40%			
49) Bromofluorobenzene	30.25	95	2770886	29.26	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 97.53%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration
VC005907.D M362443.M Thu Jun 21 09:32:21 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010525\VC005907.D Vial: 7
Acq On : 25 May 2001 6:39 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:22 2001 Quant Results File: M362443.RES

Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010525\VC005920.D Vial: 20
Acq On : 26 May 2001 3:24 am Operator: Skelton
Sample : 1614501 Inst : GC/MS Ins
Misc : Trip Blank Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Quant Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration
DataAcq Meth : M362442

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	813721	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	5567682	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	1650888	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2199622	34.24	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 114.13%			
35) Toluene-d8	23.42	98	6872804	30.30	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 101.00%			
49) Bromofluorobenzene	30.25	95	2730331	29.37	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 97.90%			
Target Compounds						Qvalue
16) Methylene Chloride	11.16	84	1446306	24.94	ug/L	88

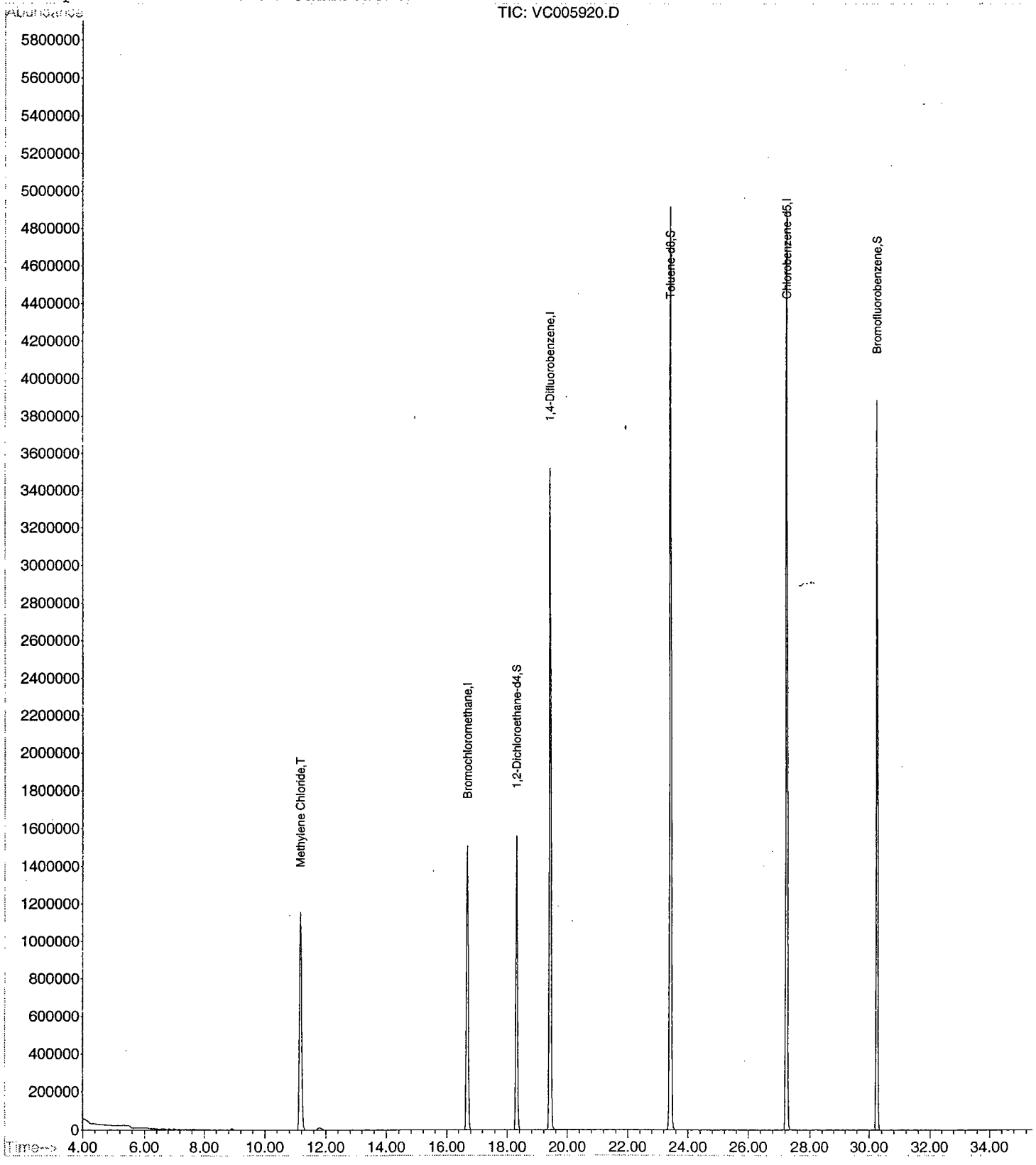
(#) = qualifier out of range (m) = manual integration

000032

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010525\VC005920.D Vial: 20
Acq On : 26 May 2001 3:24 am Operator: Skelton
Sample : 1614501 Inst : GC/MS Ins
Misc : Trip Blank Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010525\VC005921.D Vial: 21
Acq On : 26 May 2001 4:04 am Operator: Skelton
Sample : 1614502 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Quant Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration
DataAcq Meth : M362442

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	825527	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	5688688	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1656787	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2267180	34.79	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 115.97%			
35) Toluene-d8	23.42	98	6985113	30.14	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 100.47%			
49) Bromofluorobenzene	30.25	95	2760462	29.59	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 98.63%			
Target Compounds						Qvalue
16) Methylene Chloride	11.18	84	473006	8.04	ug/L	90

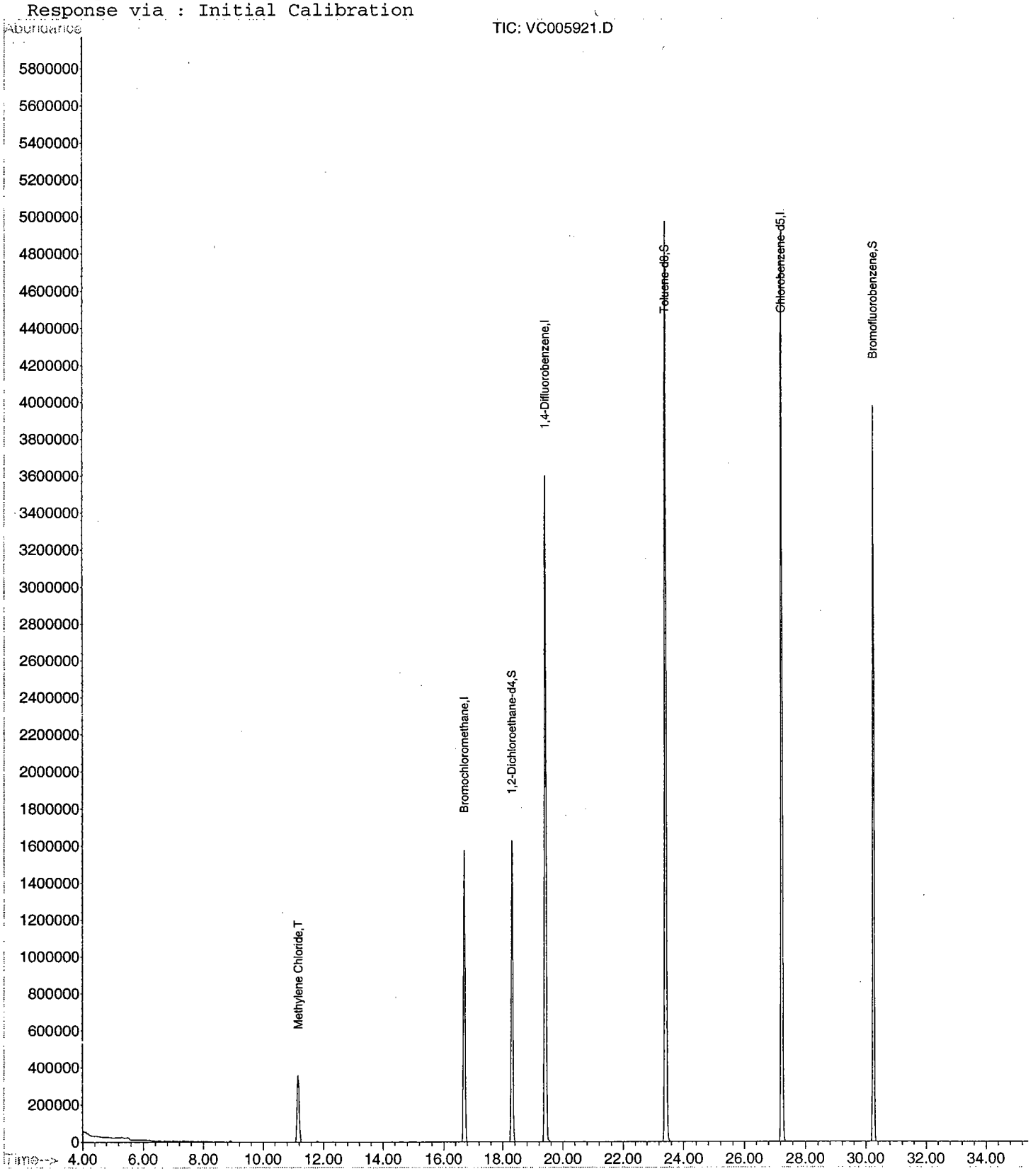
(#) = qualifier out of range (m) = manual integration

000034

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010525\VC005921.D Vial: 21
Acq On : 26 May 2001 4:04 am Operator: Skelton
Sample : 1614502 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration



000035

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010525\VC005922.D Vial: 22
Acq On : 26 May 2001 4:44 am Operator: Skelton
Sample : 1614503 Inst : GC/MS Ins
Misc : Dupe Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Quant Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration
DataAcq Meth : M362442

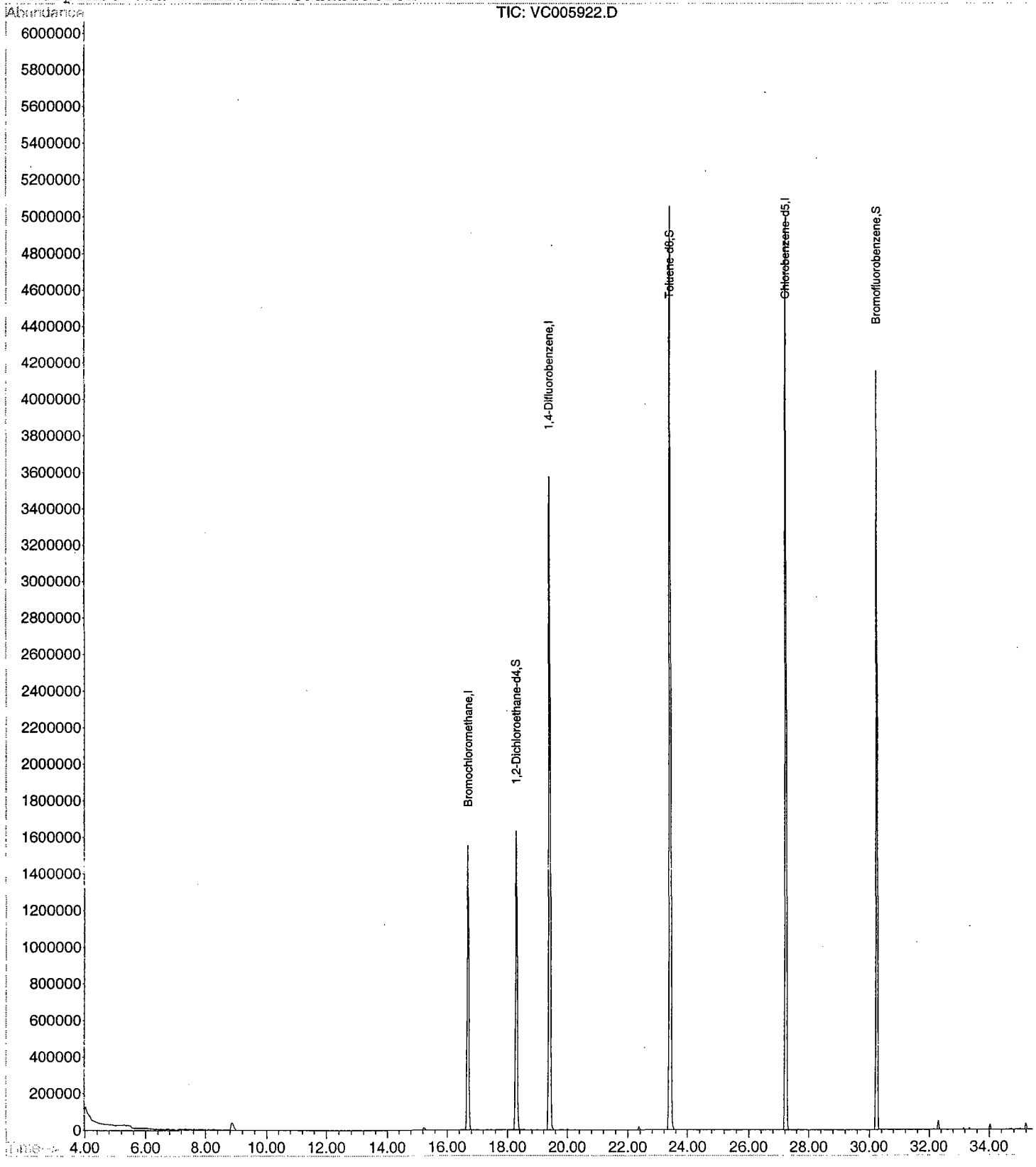
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	825940	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	5659757	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1663538	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2266497	34.76	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 115.87%			
35) Toluene-d8	23.42	98	6979931	30.27	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 100.90%			
49) Bromofluorobenzene	30.25	95	2813744	30.03	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 100.10%			
Target Compounds						Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010525\VC005922.D Vial: 22
Acq On : 26 May 2001 4:44 am Operator: Skelton
Sample : 1614503 Inst : GC/MS Ins
Misc : Dupe Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010525\VC005923.D Vial: 23
Acq On : 26 May 2001 5:24 am Operator: Skelton
Sample : 1614504 Inst : GC/MS Ins
Misc : 233GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Quant Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration
DataAcq Meth : M362442

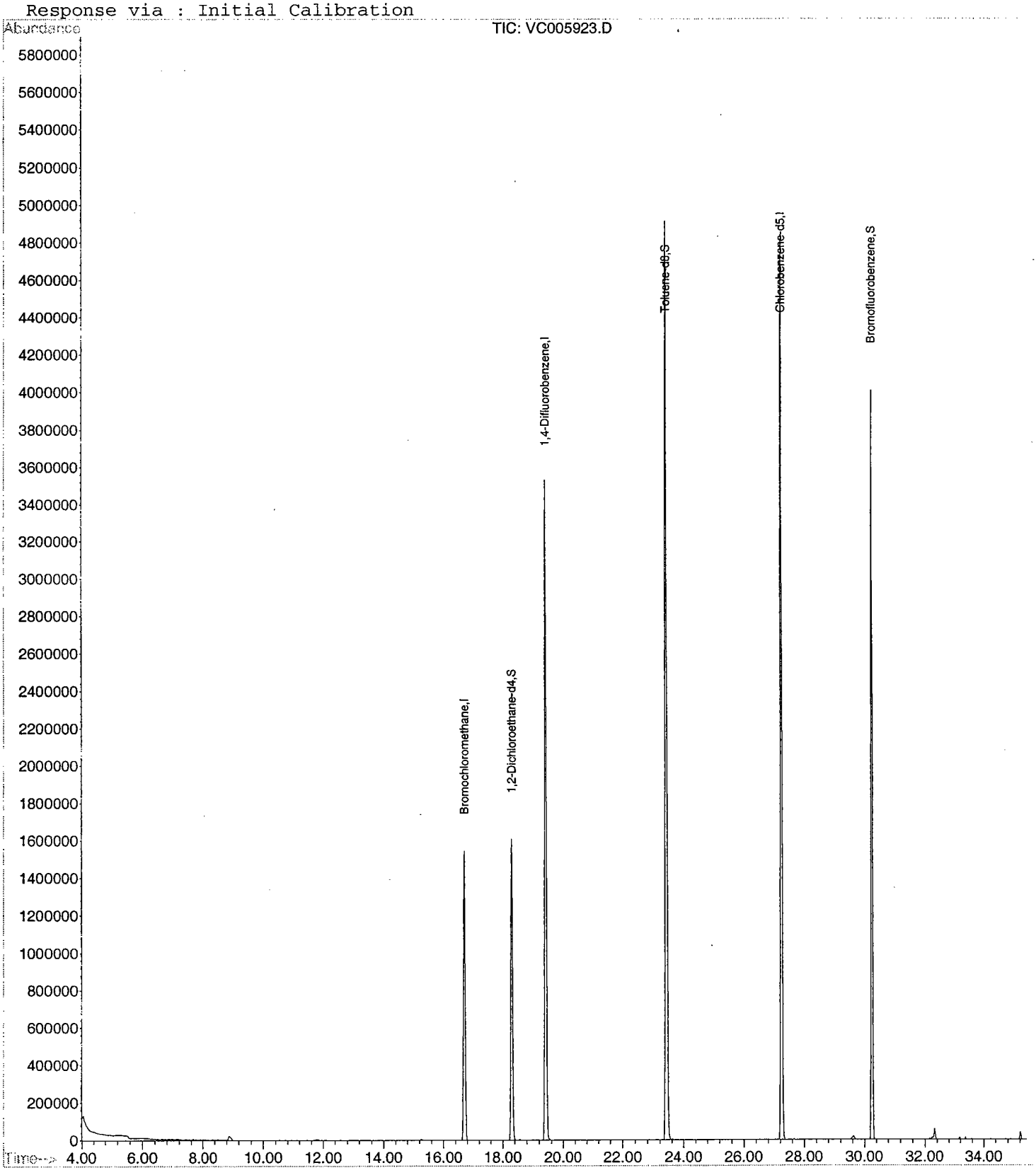
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	811678	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	5519548	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1628908	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	2226730	34.75	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 115.83%			
35) Toluene-d8	23.42	98	6815287	30.31	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 101.03%			
49) Bromofluorobenzene	30.25	95	2759260	30.08	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 100.27%			
Target Compounds						Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010525\VC005923.D Vial: 23
Acq On : 26 May 2001 5:24 am Operator: Skelton
Sample : 1614504 Inst : GC/MS Ins
Misc : 233GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: May 29 8:24 2001 Quant Results File: M362443.RES

Method : D:\HPCHEM\1\METHODS\M362443.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue May 29 08:20:11 2001
Response via : Initial Calibration



000039

BASE NEUTRALS

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05407.D**	Sample Name	**MB 1864**
Operator	**Skelton**	Misc Info	**31May01**
Date Acquired	**5-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.54	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.69	ug/L	
62-53-3	Aniline			not detected	NLE	1.85	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.63	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.62	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.58	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.62	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.65	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.57	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.64	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.34	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.51	ug/L	
78-59-1	Isophorone			not detected	100	0.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.48	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.54	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.72	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.78	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.43	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.55	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	0.76	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.53	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.04	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.04	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.70	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.92	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.93	ug/L	
83-32-9	Acenaphthene			not detected	400	0.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.73	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.41	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.54	ug/L	
86-73-7	Fluorene			not detected	300	0.98	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.86	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.96	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.44	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.00	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.28	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.73	ug/L	
120-12-7	Anthracene			not detected	2000	1.85	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.49	ug/L	
206-44-0	Fluoranthene			not detected	300	1.48	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05407.D**	Sample Name	**MB 1864**
Operator	**Skelton**	Misc Info	**31May01**
Date Acquired	**5-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	2.15	ug/L	
129-00-0	Pyrene			not detected	200	1.53	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.24	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	2.68	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.60	ug/L	
218-01-9	Chrysene			not detected	20	1.14	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.34	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.32	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.15	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	2.43	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	2.24	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.94	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.04	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB 1864**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB 1864

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05407.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: _____ decanted: (Y/N) N Date Extracted: 5/31/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/5/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05449.D**	Sample Name	**1614502**
Operator	**Skelton**	Misc Info	**Field Blank**
Date Acquired	**7-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.54	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.69	ug/L	
62-53-3	Aniline			not detected	NLE	1.85	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.63	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.62	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.58	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.62	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.65	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.57	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.64	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.34	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.51	ug/L	
78-59-1	Isophorone			not detected	100	0.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.48	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.54	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.72	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.78	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.43	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.55	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	0.76	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.53	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.04	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.04	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.70	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.92	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.93	ug/L	
83-32-9	Acenaphthene			not detected	400	0.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.73	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.41	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.54	ug/L	
86-73-7	Fluorene			not detected	300	0.98	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.86	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.96	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.44	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.00	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.28	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.73	ug/L	
120-12-7	Anthracene			not detected	2000	1.85	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.49	ug/L	
206-44-0	Fluoranthene			not detected	300	1.48	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05449.D**	Sample Name	**1614502**
Operator	**Skelton**	Misc Info	**Field Blank**
Date Acquired	**7-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	2.15	ug/L	
129-00-0	Pyrene			not detected	200	1.53	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.24	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	2.68	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.60	ug/L	
218-01-9	Chrysene			not detected	20	1.14	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.34	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.32	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.15	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	2.43	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	2.24	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.94	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.04	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **Field Blank**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1614502

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05449.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: _____ decanted: (Y/N) N Date Extracted: 5/31/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05450.D**	Sample Name	**1614503**
Operator	**Skelton**	Misc Info	**Dupe**
Date Acquired	**7-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.54	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.69	ug/L	
62-53-3	Aniline			not detected	NLE	1.85	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.63	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.62	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.58	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.62	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.65	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.57	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.64	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.34	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.51	ug/L	
78-59-1	Isophorone			not detected	100	0.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.48	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.54	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.72	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.78	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.43	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.55	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	0.76	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.53	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.04	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.04	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.70	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.92	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.93	ug/L	
83-32-9	Acenaphthene			not detected	400	0.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.73	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.41	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.54	ug/L	
86-73-7	Fluorene			not detected	300	0.98	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.86	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.96	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.44	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.00	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.28	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.73	ug/L	
120-12-7	Anthracene			not detected	2000	1.85	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.49	ug/L	
206-44-0	Fluoranthene			not detected	300	1.48	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05450.D**	Sample Name	**1614503**
Operator	**Skelton**	Misc Info	**Dupe**
Date Acquired	**7-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	2.15	ug/L	
129-00-0	Pyrene			not detected	200	1.53	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.24	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	2.68	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.60	ug/L	
218-01-9	Chrysene			not detected	20	1.14	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.34	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.32	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.15	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	2.43	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	2.24	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.94	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.04	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **Dupe**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1614503

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05450.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: decanted: (Y/N) N Date Extracted: 5/31/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05451.D**	Sample Name	**1614504**
Operator	**Skelton**	Misc Info	**233GW**
Date Acquired	**7-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.54	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.69	ug/L	
62-53-3	Aniline			not detected	NLE	1.85	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.63	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.62	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.58	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.62	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.65	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.57	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.64	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.34	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.51	ug/L	
78-59-1	Isophorone			not detected	100	0.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.48	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.54	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.72	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.78	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.43	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.55	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	0.76	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.53	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.04	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.04	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.70	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.92	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.93	ug/L	
83-32-9	Acenaphthene			not detected	400	0.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.73	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.41	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.54	ug/L	
86-73-7	Fluorene			not detected	300	0.98	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.86	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.96	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.44	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.00	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.28	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.73	ug/L	
120-12-7	Anthracene			not detected	2000	1.85	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.49	ug/L	
206-44-0	Fluoranthene			not detected	300	1.48	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05451.D**	Sample Name	**1614504**
Operator	**Skelton**	Misc Info	**233GW**
Date Acquired	**7-Jun-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	2.15	ug/L	
129-00-0	Pyrene			not detected	200	1.53	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.24	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	2.68	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.60	ug/L	
218-01-9	Chrysene			not detected	20	1.14	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.34	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.44	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.32	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.15	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	2.43	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	2.24	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.94	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.04	ug/L	

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **233GW**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1614504

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05451.D

Level: (low/med) LOW Date Received: 5/25/01

% Moisture: _____ decanted: (Y/N) N Date Extracted: 5/31/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/7/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Lab File ID: BNA05123.D DFTPP Injection Date: 3/27/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 8:44

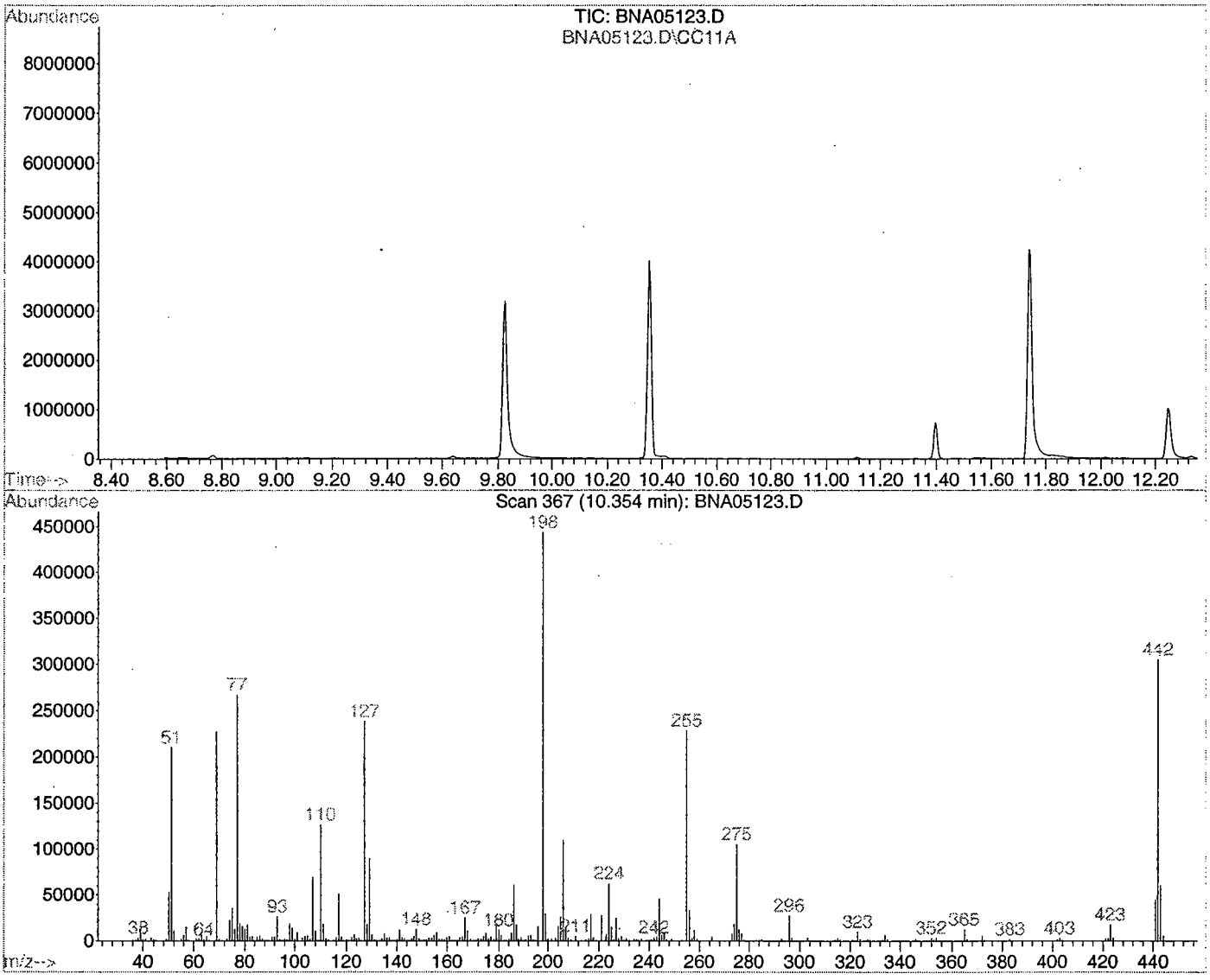
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	47.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	51.3
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	53.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	23.7
365	Greater than 0.75% of mass 198	2.7
441	Present, but less than mass 443	10.0
442	40.0 - 110.0% of mass 198	68.7
443	15.0 - 24.0% of mass 442	13.7 (19.9)2

1-Value is % mass 69 2-Value is % mass 442

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	SSTD120	120 PPM CAL	BNA05124.D	3/27/01	9:08
02	SSTD010	10 PPM CAL	BNA05125.D	3/27/01	9:55
03	SSTD050	50 PPM CAL	BNA05126.D	3/27/01	10:42
04	SSTD080	80 PPM CAL	BNA05127.D	3/27/01	11:28
05	SSTD020	20 PPM CAL	BNA05128.D	3/27/01	12:13

Data File : D:\DATA\010327\BNA05123.D Vial: 99
Acq On : 27 Mar 2001 8:44 am Operator: Bhaskar
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50 NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 367

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.4	210304	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.3	227520	PASS
70	69	0.00	2	0.8	1892	PASS
127	198	40	60	53.7	238528	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	443904	PASS
199	198	5	9	6.6	29456	PASS
275	198	10	30	23.7	105416	PASS
365	198	1	100	2.7	12022	PASS
441	443	1	99	73.0	44304	PASS
442	198	40	100	68.7	305152	PASS
443	442	17	23	19.9	60680	PASS

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05124.D 80 =BNA05127.D 50 =BNA05126.D
20 =BNA05128.D 10 =BNA05125.D

		Compound	120	80	50	20	10	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD						
2)	T	Pyridine	1.463	1.406	1.422	1.443	1.442	1.435	1.51
3)	T	N-nitroso-dimethylami	0.781	0.744	0.751	0.733	0.740	0.750	2.47
4)	S	2-Fluorophenol	1.158	1.132	1.141	1.133	1.124	1.137	1.13
5)	T	Aniline	1.794	1.806	1.875	1.892	1.891	1.852	2.57
6)	S	Phenol-d6	1.412	1.409	1.440	1.456	1.453	1.434	1.56
7)	TCM	Phenol	1.590	1.610	1.683	1.694	1.713	1.658	3.28
8)	T	bis(2-Chloroethyl)eth	1.192	1.165	1.186	1.231	1.228	1.201	2.37
9)	TM	2-Chlorophenol	1.154	1.146	1.172	1.191	1.186	1.170	1.66
10)	T	1,3-Dichlorobenzene	1.223	1.237	1.278	1.304	1.339	1.276	3.75
11)	TCM	1,4-Dichlorobenzene	1.235	1.256	1.305	1.344	1.379	1.304	4.59
12)	T	Benzyl alcohol	0.775	0.763	0.777	0.748	0.747	0.762	1.87
13)	T	1,2-Dichlorobenzene	1.117	1.134	1.197	1.242	1.280	1.194	5.79
14)	T	2-Methylphenol	1.051	1.047	1.081	1.098	1.107	1.077	2.50
15)	T	bis(2-chloroisopropyl	1.215	1.194	1.233	1.244	1.288	1.235	2.83
16)	T	4-Methylphenol	1.085	1.101	1.143	1.156	1.147	1.126	2.78
17)	TPM	n-Nitroso-di-n-propyl	0.187	0.192	0.195	0.195	0.188	0.191	1.93
18)	T	Hexachloroethane	0.489	0.488	0.499	0.503	0.514	0.498	2.16
19)	I	Naphthalene-d8	ISTD						
20)	S	Nitrobenzene-d5	0.399	0.393	0.401	0.404	0.412	0.402	1.70
21)	T	Nitrobenzene	0.389	0.391	0.400	0.411	0.424	0.403	3.62
22)	T	Isophorone	0.668	0.657	0.669	0.684	0.701	0.676	2.54
23)	TC	2-Nitrophenol	0.185	0.185	0.185	0.185	0.178	0.184	1.82
24)	T	2,4-Dimethylphenol	0.330	0.328	0.337	0.345	0.353	0.339	3.12
25)	T	bis(2-Chloroethoxy)me	0.388	0.389	0.397	0.409	0.412	0.399	2.74
26)	TC	2,4-Dichlorophenol	0.242	0.245	0.249	0.234	0.208	0.235	6.97
27)	T	Benzoic Acid	0.259	0.240	0.219	0.216	0.198	0.226	10.40
28)	TM	1,2,4-Trichlorobenzen	0.271	0.276	0.286	0.297	0.306	0.287	5.12
29)	T	Naphthalene	0.813	0.882	0.948	1.011	1.054	0.942	10.28
30)	T	4-Chloroaniline	0.357	0.377	0.388	0.389	0.384	0.379	3.44
31)	TC	Hexachlorobutadiene	0.147	0.153	0.159	0.165	0.170	0.159	6.03
32)	TCM	4-Chloro-3-methylphen	0.287	0.289	0.294	0.290	0.288	0.289	0.93
33)	T	2-Methylnaphthalene	0.554	0.579	0.614	0.644	0.666	0.612	7.47
34)	I	Acenaphthene-d10	ISTD						
35)	TP	Hexachlorocyclopentad	0.255	0.261	0.251	0.214	0.167	0.230	17.16
36)	TC	2,4,6-Trichlorophenol	0.307	0.312	0.320	0.317	0.313	0.314	1.58
37)	T	2,4,5-Trichlorophenol	0.337	0.338	0.346	0.326	0.315	0.332	3.58
38)	S	2-Fluorobiphenyl	0.986	1.046	1.128	1.184	1.222	1.113	8.73
39)	T	2-Chloronaphthalene	0.884	0.917	0.965	1.011	1.029	0.961	6.37
40)	T	2-Nitroaniline	0.370	0.366	0.375	0.360	0.345	0.363	3.21
41)	T	Dimethylphthalate	1.010	1.049	1.104	1.148	1.172	1.097	6.17
42)	T	Acenaphthylene	1.345	1.438	1.568	1.680	1.734	1.553	10.46
43)	T	2,6-Dinitrotoluene	0.266	0.270	0.285	0.291	0.295	0.281	4.59
44)	T	3-Nitroaniline	0.263	0.279	0.289	0.289	0.280	0.280	3.86
45)	TCM	Acenaphthene	0.892	0.925	0.986	1.031	1.065	0.980	7.32
46)	TP	2,4-Dinitrophenol	0.186	0.177	0.164	0.124	0.096	0.149	25.46
47)	T	Dibenzofuran	1.169	1.233	1.341	1.417	1.470	1.326	9.43
48)	TMP	4-Nitrophenol	0.239	0.203	0.198	0.199	0.186	0.205	9.69
49)	TM	2,4-Dinitrotoluene	0.356	0.355	0.362	0.366	0.354	0.359	1.40
50)	T	Diethylphthalate	1.025	1.063	1.120	1.162	1.196	1.113	6.27
51)	T	Fluorene	0.998	1.040	1.117	1.173	1.206	1.107	7.92
52)	T	4-Chlorophenyl-phenyl	0.489	0.507	0.534	0.549	0.564	0.529	5.75
53)	T	4-Nitroaniline	0.296	0.288	0.291	0.283	0.292	0.290	1.74
54)	I	Phenanthrene-d10	ISTD						

(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05124.D 80 =BNA05127.D 50 =BNA05126.D
20 =BNA05128.D 10 =BNA05125.D

		Compound	120	80	50	20	10	Avg	%RSD
55)	T	4,6-Dinitro-2-methylp	0.143	0.142	0.139	0.129	0.114	0.133	9.09
56)	TC	n-Nitrosodiphenylamin	0.435	0.452	0.471	0.496	0.510	0.473	6.47
57)	T	Azobenzene	0.729	0.777	0.819	0.855	0.879	0.812	7.39
58)	S	2,4,6-Tribromophenol	0.090	0.090	0.091	0.090	0.089	0.090	0.84
59)	T	4-Bromophenyl-phenyle	0.172	0.175	0.182	0.190	0.194	0.182	5.12
60)	T	Hexachlorobenzene	0.184	0.188	0.193	0.202	0.212	0.196	5.74
61)	TCM	Pentachlorophenol	0.124	0.123	0.122	0.109	0.103	0.116	8.31
62)	T	Phenanthrene	0.841	0.901	0.974	1.046	1.102	0.973	10.83
63)	T	Anthracene	0.863	0.922	0.991	1.063	1.107	0.989	10.08
64)	T	Di-n-butylphthalate	0.955	1.039	1.108	1.177	1.200	1.096	9.21
65)	TC	Fluoranthene	0.895	0.950	1.019	1.096	1.136	1.019	9.80
66)	I	Chrysene-d12	----------ISTD----------						
67)	T	Benzidine	0.361	0.366	0.394	0.424	0.434	0.396	8.29
68)	TM	Pyrene	1.050	1.100	1.153	1.229	1.263	1.159	7.59
69)	S	p-Terphenyl-d14	0.751	0.772	0.793	0.823	0.844	0.797	4.74
70)	T	Butylbenzylphthalate	0.562	0.570	0.574	0.574	0.565	0.569	0.96
71)	T	Benzo[a]anthracene	1.023	1.057	1.094	1.125	1.162	1.092	5.02
72)	T	3,3'-Dichlorobenzidin	0.334	0.346	0.353	0.368	0.366	0.354	4.06
73)	T	Chrysene	0.964	1.001	1.031	1.071	1.116	1.037	5.74
74)	T	bis(2-Ethylhexyl)phth	0.760	0.780	0.791	0.792	0.772	0.779	1.72
75)	I	Perylene-d12	----------ISTD----------						
76)	TC	Di-n-octylphthalate	1.214	1.325	1.400	1.410	1.374	1.345	5.98
77)	T	Benzo[b]fluoranthene	1.045	1.067	1.130	1.144	1.184	1.114	5.12
78)	T	Benzo[k]fluoranthene	1.001	1.043	1.117	1.192	1.220	1.115	8.40
79)	TC	Benzo[a]pyrene	0.993	1.031	1.084	1.117	1.139	1.073	5.65
80)	T	Indeno[1,2,3-cd]pyren	1.131	1.093	1.092	1.069	1.043	1.086	3.01
81)	T	Dibenz[a,h]anthracene	1.065	1.095	1.119	1.128	1.111	1.104	2.24
82)	T	Benzo[g,h,i]perylene	1.073	1.079	1.100	1.107	1.120	1.096	1.77

(#) = Out of Range

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Lab File ID: BNA05400.D DFTPP Injection Date: 6/5/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 12:07

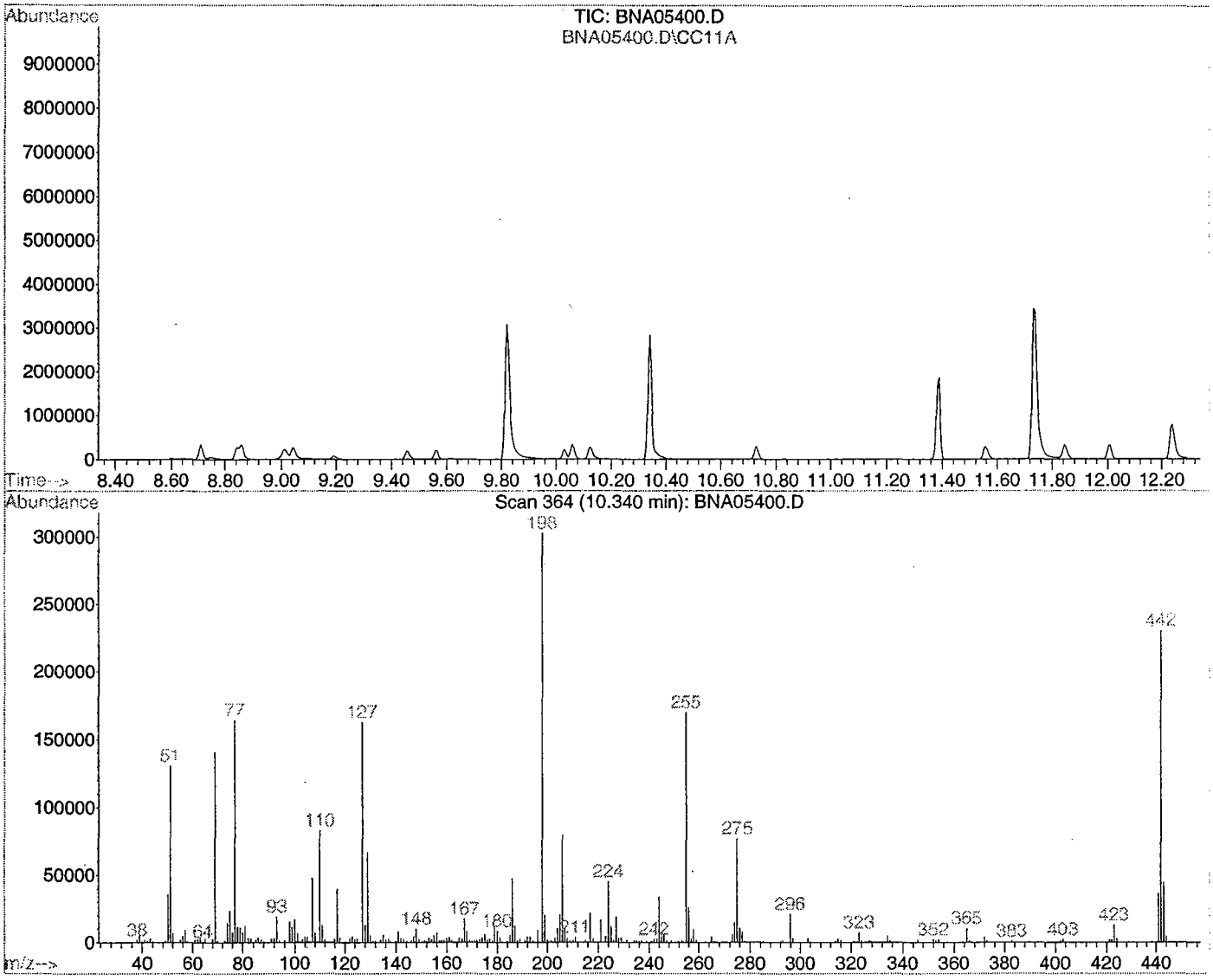
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	43.1
68	Less than 2.0% of mass 69	0.8 (1.8)1
69	Mass 69 Relative abundance	46.5
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	53.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	25.4
365	Greater than 0.75% of mass 198	3.5
441	Present, but less than mass 443	11.9
442	40.0 - 110.0% of mass 198	76.0
443	15.0 - 24.0% of mass 442	14.6 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

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	SSTD050	SSTD050	BNA05401.D	6/5/01	12:34
02	MB 1864	MB 1864	BNA05407.D	6/5/01	17:13
03	LCS 1865	LCS 1865	BNA05413.D	6/5/01	21:46

Data File : D:\DATA\010605\BNA05400.D Vial: 99
Acq On : 5 Jun 2001 12:07 pm Operator: Bhaskar
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : DFTPP Tune Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 364

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.1	130552	PASS
68	69	0.00	2	1.8	2476	PASS
69	198	0.00	100	46.5	140992	PASS
70	69	0.00	2	0.8	1161	PASS
127	198	40	60	53.7	162624	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	302912	PASS
199	198	5	9	6.7	20416	PASS
275	198	10	30	25.4	76800	PASS
365	198	1	100	3.5	10490	PASS
441	443	1	99	81.2	35992	PASS
442	198	40	100	76.0	230208	PASS
443	442	17	23	19.3	44336	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010605\BNA05401.D Vial: 100
Acq On : 5 Jun 2001 12:34 pm Operator: Bhaskar
Sample : Sstd050 Inst : GC/MS Ins
Misc : Sstd050 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	69	-0.02
2	T	Pyridine	1.435	1.171	18.4	57	-0.02
3	T	N-nitroso-dimethylamine	0.750	0.618	17.6	57	0.00
4	S	2-Fluorophenol	1.137	1.024	9.9	62	0.06
5	T	Aniline	1.852	1.702	8.1	63	0.00
6	S	Phenol-d6	1.434	1.339	6.6	64	0.07
7	TCM	Phenol	1.658	1.372	17.2	56	0.07
8	T	bis(2-Chloroethyl)ether	1.201	1.068	11.1	62	-0.01
9	TM	2-Chlorophenol	1.170	1.107	5.4	65	0.02
10	T	1,3-Dichlorobenzene	1.276	1.245	2.4	67	-0.02
11	TCM	1,4-Dichlorobenzene	1.304	1.280	1.8	68	-0.02
12	T	Benzyl alcohol	0.762	0.702	7.9	63	0.01
13	T	1,2-Dichlorobenzene	1.194	1.186	0.7	69	-0.02
14	T	2-Methylphenol	1.077	1.035	3.9	66	0.04
15	T	bis(2-chloroisopropyl)ether	1.235	1.016	17.7	57	-0.02
16	T	4-Methylphenol	1.126	1.074	4.6	65	0.04
17	TPM	n-Nitroso-di-n-propylamine	0.191	0.187	2.1	66	-0.01
18	T	Hexachloroethane	0.498	0.503	-1.0	70	-0.02
19	I	Naphthalene-d8	1.000	1.000	0.0	75	-0.02
20	S	Nitrobenzene-d5	0.402	0.363	9.7	68	0.00
21	T	Nitrobenzene	0.403	0.358	11.2	67	-0.01
22	T	Isophorone	0.676	0.598	11.5	67	-0.01
23	TC	2-Nitrophenol	0.184	0.162	12.0	66	-0.01
24	T	2,4-Dimethylphenol	0.339	0.319	5.9	71	0.02
25	T	bis(2-Chloroethoxy)methane	0.399	0.332	16.8	63	-0.01
26	TC	2,4-Dichlorophenol	0.235	0.222	5.5	67	0.03
27	T	Benzoic Acid	0.226	0.127	43.8#	44#	0.02
28	TM	1,2,4-Trichlorobenzene	0.287	0.269	6.3	71	-0.02
29	T	Naphthalene	0.942	0.873	7.3	69	-0.02
30	T	4-Chloroaniline	0.379	0.328	13.5	64	0.00
31	TC	Hexachlorobutadiene	0.159	0.160	-0.6	76	-0.02
32	TCM	4-Chloro-3-methylphenol	0.289	0.271	6.2	69	0.04
33	T	2-Methylnaphthalene	0.612	0.573	6.4	70	-0.02
34	I	Acenaphthene-d10	1.000	1.000	0.0	81	-0.02
35	TP	Hexachlorocyclopentadiene	0.230	0.247	-7.4	80	-0.02
36	TC	2,4,6-Trichlorophenol	0.314	0.285	9.2	72	0.00
37	T	2,4,5-Trichlorophenol	0.332	0.300	9.6	70	0.04
38	S	2-Fluorobiphenyl	1.113	1.020	8.4	73	-0.02
39	T	2-Chloronaphthalene	0.961	0.852	11.3	71	-0.02
40	T	2-Nitroaniline	0.363	0.307	15.4	66	0.00
41	T	Dimethylphthalate	1.097	0.985	10.2	72	-0.01
42	T	Acenaphthylene	1.553	1.423	8.4	73	-0.02
43	T	2,6-Dinitrotoluene	0.281	0.262	6.8	74	-0.01
44	T	3-Nitroaniline	0.280	0.250	10.7	70	0.01
45	TCM	Acenaphthene	0.980	0.881	10.1	72	-0.02
46	TP	2,4-Dinitrophenol	0.149	0.135	9.4	67	0.00
47	T	Dibenzofuran	1.326	1.203	9.3	72	-0.02
48	TMP	4-Nitrophenol	0.205	0.214	-4.4	87	0.09
49	TM	2,4-Dinitrotoluene	0.359	0.315	12.3	70	0.00
50	T	Diethylphthalate	1.113	1.022	8.2	74	-0.02
51	T	Fluorene	1.107	1.009	8.9	73	-0.02
52	T	4-Chlorophenyl-phenylether	0.529	0.482	8.9	73	-0.02
53	T	4-Nitroaniline	0.290	0.237	18.3	66	0.01

(#) = Out of Range

000059

Evaluate Continuing Calibration Report

Data File : D:\DATA\010605\BNA05401.D Vial: 100
Acq On : 5 Jun 2001 12:34 pm Operator: Bhaskar
Sample : Sstd050 Inst : GC/MS Ins
Misc : Sstd050 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	I	Phenanthrene-d10	1.000	1.000	0.0	90	-0.01
55	T	4,6-Dinitro-2-methylphenol	0.133	0.103	22.6	67	0.00
56	TC	n-Nitrosodiphenylamine	0.473	0.376	20.5	72	-0.01
57	T	Azobenzene	0.812	0.641	21.1	71	-0.02
58	S	2,4,6-Tribromophenol	0.090	0.076	15.6	75	0.00
59	T	4-Bromophenyl-phenylether	0.182	0.149	18.1	74	-0.02
60	T	Hexachlorobenzene	0.196	0.160	18.4	75	-0.02
61	TCM	Pentachlorophenol	0.116	0.092	20.7	68	0.00
62	T	Phenanthrene	0.973	0.796	18.2	74	-0.02
63	T	Anthracene	0.989	0.811	18.0	74	-0.02
64	T	Di-n-butylphthalate	1.096	0.904	17.5	74	-0.02
65	TC	Fluoranthene	1.019	0.848	16.8	75	-0.01
66	I	Chrysene-d12	1.000	1.000	0.0	93	-0.02
67	T	Benzidine	0.396	0.404	-2.0	95	0.00
68	TM	Pyrene	1.159	0.933	19.5	75	-0.02
69	S	p-Terphenyl-d14	0.797	0.641	19.6	75	-0.02
70	T	Butylbenzylphthalate	0.569	0.456	19.9	73	-0.02
71	T	Benzo[a]anthracene	1.092	0.891	18.4	75	-0.02
72	T	3,3'-Dichlorobenzidine	0.354	0.354	0.0	93	0.00
73	T	Chrysene	1.037	0.833	19.7	75	-0.02
74	T	bis(2-Ethylhexyl)phthalate	0.779	0.617	20.8	72	-0.03
75	I	Perylene-d12	1.000	1.000	0.0	90	-0.02
76	TC	Di-n-octylphthalate	1.345	1.138	15.4	73	-0.03
77	T	Benzo[b]fluoranthene	1.114	0.906	18.7	72	-0.02
78	T	Benzo[k]fluoranthene	1.115	0.921	17.4	74	-0.02
79	TC	Benzo[a]pyrene	1.073	0.885	17.5	73	-0.02
80	T	Indeno[1,2,3-cd]pyrene	1.086	0.873	19.6	72	-0.03
81	T	Dibenz[a,h]anthracene	1.104	0.901	18.4	72	-0.03
82	T	Benzo[g,h,i]perylene	1.096	0.860	21.5	70	-0.02

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Lab File ID: BNA05435.D DFTPP Injection Date: 6/6/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 14:07

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	40.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	44.6
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	51.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	26.0
365	Greater than 0.75% of mass 198	3.8
441	Present, but less than mass 443	12.1
442	40.0 - 110.0% of mass 198	82.0
443	15.0 - 24.0% of mass 442	15.7 (19.1)2

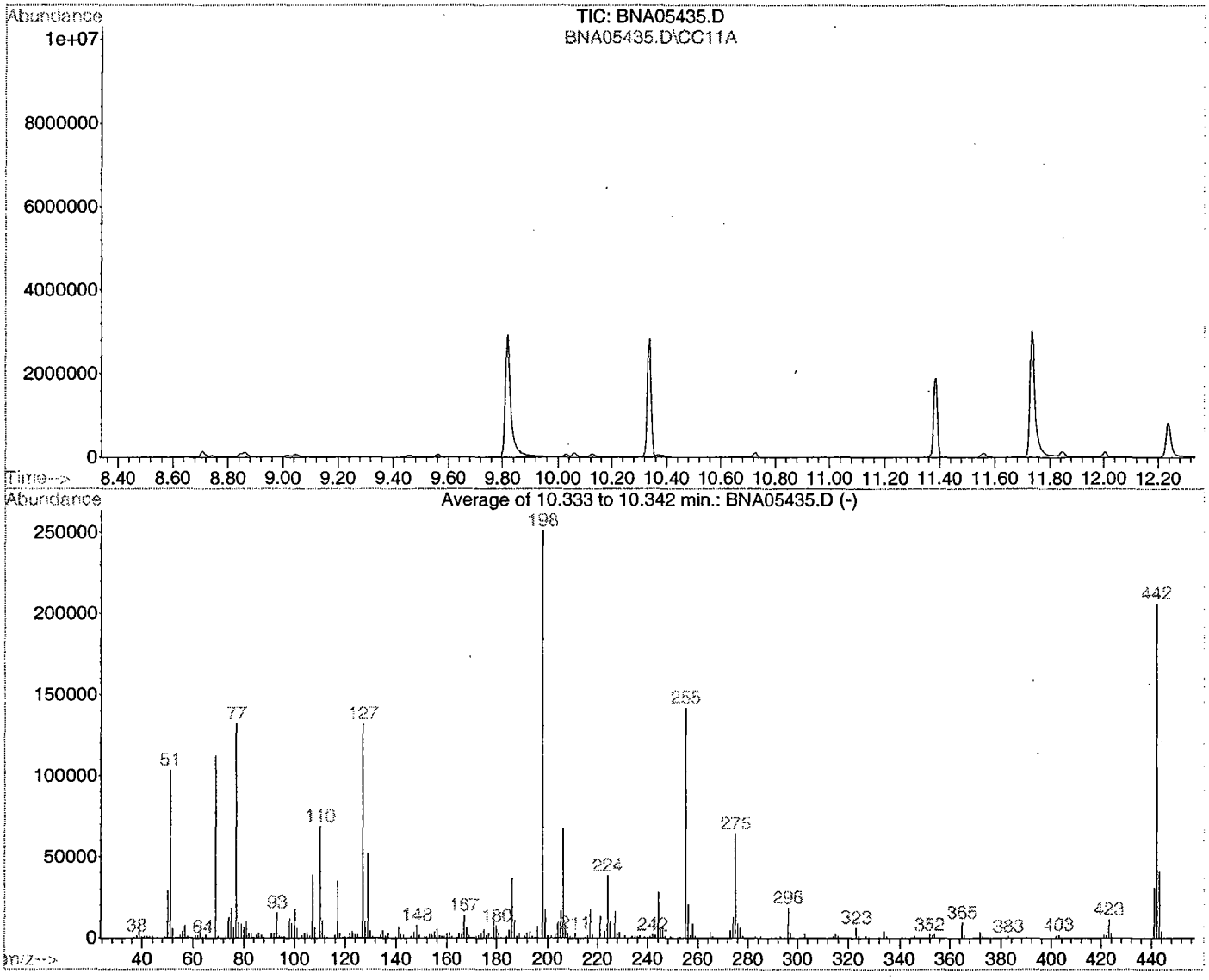
1-Value is % mass 69 2-Value is % mass 442

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	SSTD050	SSTD050	BNA05436.D	6/6/01	15:23
02	1612306 MS	1612306 MS	BNA05437.D	6/6/01	16:17
03	1612306 MSD	1612306 MSD	BNA05438.D	6/6/01	17:01
04	FIELD BLANK	1614502	BNA05449.D	6/7/01	0:54
05	DUPE	1614503	BNA05450.D	6/7/01	1:37
06	233GW	1614504	BNA05451.D	6/7/01	2:20
07	237GW	1614601	BNA05452.D	6/7/01	3:03

DFTPP Tune Report

Data File : D:\DATA\010606\BNA05435.D Vial: 99
Acq On : 6 Jun 2001 2:07 pm Operator: Skelton
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : DFTPP Tune Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : BNA Calibration



AutoFind: Scans 362, 363, 364; Background Corrected with Scan 355

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.3	103717	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.8	112571	PASS
70	69	0.00	2	1.0	1137	PASS
127	198	40	60	52.6	132128	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	251392	PASS
199	198	5	9	6.9	17466	PASS
275	198	10	30	25.6	64395	PASS
365	198	1	100	3.8	9507	PASS
441	443	1	99	75.4	30757	PASS
442	198	40	100	82.0	206187	PASS
443	442	17	23	19.8	40789	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010606\BNA05436.D Vial: 100
Acq On : 6 Jun 2001 3:23 pm Operator: Skelton
Sample : Sstd050 Inst : GC/MS Ins
Misc : Sstd050 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	68	-0.02
2	T	Pyridine	1.435	1.220	15.0	58	-0.01
3	T	N-nitroso-dimethylamine	0.750	0.649	13.5	59	-0.01
4	S	2-Fluorophenol	1.137	1.079	5.1	64	0.05
5	T	Aniline	1.852	1.798	2.9	65	0.00
6	S	Phenol-d6	1.434	1.419	1.0	67	0.06
7	TCM	Phenol	1.658	1.437	13.3	58	0.06
8	T	bis(2-Chloroethyl)ether	1.201	1.138	5.2	65	-0.01
9	TM	2-Chlorophenol	1.170	1.173	-0.3	68	0.02
10	T	1,3-Dichlorobenzene	1.276	1.334	-4.5	71	-0.02
11	TCM	1,4-Dichlorobenzene	1.304	1.368	-4.9	71	-0.02
12	T	Benzyl alcohol	0.762	0.754	1.0	66	0.00
13	T	1,2-Dichlorobenzene	1.194	1.267	-6.1	72	-0.02
14	T	2-Methylphenol	1.077	1.099	-2.0	69	0.04
15	T	bis(2-chloroisopropyl)ether	1.235	1.070	13.4	59	-0.02
16	T	4-Methylphenol	1.126	1.147	-1.9	68	0.04
17	TPM	n-Nitroso-di-n-propylamine	0.191	0.199	-4.2	69	-0.02
18	T	Hexachloroethane	0.498	0.541	-8.6	73	-0.03
19	I	Naphthalene-d8	1.000	1.000	0.0	74	-0.02
20	S	Nitrobenzene-d5	0.402	0.388	3.5	71	-0.01
21	T	Nitrobenzene	0.403	0.378	6.2	70	-0.02
22	T	Isophorone	0.676	0.630	6.8	69	-0.02
23	TC	2-Nitrophenol	0.184	0.172	6.5	68	-0.02
24	T	2,4-Dimethylphenol	0.339	0.338	0.3	74	0.02
25	T	bis(2-Chloroethoxy)methane	0.399	0.354	11.3	66	-0.02
26	TC	2,4-Dichlorophenol	0.235	0.252	-7.2	75	0.02
27	T	Benzoic Acid	0.226	0.146	35.4#	49#	0.02
28	TM	1,2,4-Trichlorobenzene	0.287	0.287	0.0	74	-0.02
29	T	Naphthalene	0.942	0.925	1.8	72	-0.02
30	T	4-Chloroaniline	0.379	0.343	9.5	65	0.00
31	TC	Hexachlorobutadiene	0.159	0.172	-8.2	80	-0.03
32	TCM	4-Chloro-3-methylphenol	0.289	0.284	1.7	71	0.04
33	T	2-Methylnaphthalene	0.612	0.611	0.2	73	-0.02
34	I	Acenaphthene-d10	1.000	1.000	0.0	78	-0.02
35	TP	Hexachlorocyclopentadiene	0.230	0.257	-11.7	80	-0.03
36	TC	2,4,6-Trichlorophenol	0.314	0.305	2.9	75	0.00
37	T	2,4,5-Trichlorophenol	0.332	0.316	4.8	71	0.03
38	S	2-Fluorobiphenyl	1.113	1.093	1.8	76	-0.02
39	T	2-Chloronaphthalene	0.961	0.920	4.3	75	-0.02
40	T	2-Nitroaniline	0.363	0.331	8.8	69	0.00
41	T	Dimethylphthalate	1.097	1.065	2.9	76	-0.02
42	T	Acenaphthylene	1.553	1.529	1.5	76	-0.02
43	T	2,6-Dinitrotoluene	0.281	0.280	0.4	77	-0.01
44	T	3-Nitroaniline	0.280	0.274	2.1	74	0.01
45	TCM	Acenaphthene	0.980	0.942	3.9	75	-0.02
46	TP	2,4-Dinitrophenol	0.149	0.120	19.5	58	0.00
47	T	Dibenzofuran	1.326	1.289	2.8	75	-0.02
48	TMP	4-Nitrophenol	0.205	0.231	-12.7	91	0.09
49	TM	2,4-Dinitrotoluene	0.359	0.342	4.7	74	0.00
50	T	Diethylphthalate	1.113	1.108	0.4	78	-0.02
51	T	Fluorene	1.107	1.086	1.9	76	-0.02
52	T	4-Chlorophenyl-phenylether	0.529	0.524	0.9	77	-0.02
53	T	4-Nitroaniline	0.290	0.253	12.8	68	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010606\BNA05436.D Vial: 100
Acq On : 6 Jun 2001 3:23 pm Operator: Skelton
Sample : Sstd050 Inst : GC/MS Ins
Misc : Sstd050 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	I	Phenanthrene-d10	1.000	1.000	0.0	88	-0.02
55	T	4,6-Dinitro-2-methylphenol	0.133	0.104	21.8	66	0.00
56	TC	n-Nitrosodiphenylamine	0.473	0.404	14.6	75	-0.02
57	T	Azobenzene	0.812	0.682	16.0	73	-0.02
58	S	2,4,6-Tribromophenol	0.090	0.080	11.1	77	0.00
59	T	4-Bromophenyl-phenylether	0.182	0.162	11.0	78	-0.02
60	T	Hexachlorobenzene	0.196	0.172	12.2	78	-0.03
61	TCM	Pentachlorophenol	0.116	0.097	16.4	70	0.00
62	T	Phenanthrene	0.973	0.850	12.6	77	-0.02
63	T	Anthracene	0.989	0.868	12.2	77	-0.02
64	T	Di-n-butylphthalate	1.096	0.973	11.2	77	-0.02
65	TC	Fluoranthene	1.019	0.905	11.2	78	-0.02
66	I	Chrysene-d12	1.000	1.000	0.0	90	-0.02
67	T	Benzidine	0.396	0.398	-0.5	91	0.00
68	TM	Pyrene	1.159	0.991	14.5	77	-0.02
69	S	p-Terphenyl-d14	0.797	0.705	11.5	80	-0.02
70	T	Butylbenzylphthalate	0.569	0.496	12.8	78	-0.02
71	T	Benzo[a]anthracene	1.092	0.961	12.0	79	-0.02
72	T	3,3'-Dichlorobenzidine	0.354	0.357	-0.8	91	-0.01
73	T	Chrysene	1.037	0.907	12.5	79	-0.02
74	T	bis(2-Ethylhexyl)phthalate	0.779	0.673	13.6	76	-0.03
75	I	Perylene-d12	1.000	1.000	0.0	87	-0.02
76	TC	Di-n-octylphthalate	1.345	1.249	7.1	77	-0.03
77	T	Benzo[b]fluoranthene	1.114	1.005	9.8	77	-0.02
78	T	Benzo[k]fluoranthene	1.115	0.991	11.1	77	-0.02
79	TC	Benzo[a]pyrene	1.073	0.964	10.2	77	-0.02
80	T	Indeno[1,2,3-cd]pyrene	1.086	0.955	12.1	76	-0.02
81	T	Dibenz[a,h]anthracene	1.104	0.979	11.3	76	-0.04
82	T	Benzo[g,h,i]perylene	1.096	0.923	15.8	73	-0.03

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

4B

Field Id: **MB 1864**

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Lab File ID: BNA05407.D Lab Sample ID: MB 1864

Instrument ID: GC/MS Ins Date Extracted: 5/31/01

Matrix: (soil/water) WATER Date Analyzed: 6/5/01

Level: (low/med) LOW Time Analyzed: 17:13

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	LCS 1865	LCS 1865	BNA05413.D	6/5/01
02	1612306 MS	1612306 MS	BNA05437.D	6/6/01
03	1612306 MSD	1612306 MSD	BNA05438.D	6/6/01
04	FIELD BLANK	1614502	BNA05449.D	6/7/01
05	DUPE	1614503	BNA05450.D	6/7/01
06	233GW	1614504	BNA05451.D	6/7/01
07	237GW	1614601	BNA05452.D	6/7/01

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.: _____

	Field Id:	S1 NBZ #	S2 2FP #	S3 TPL #	TOT OUT
01	MB 1864	60	67	68	0
02	LCS 1865	56	64	70	0
03	1612306 MS	84	95	81	0
04	1612306 MSD	69	79	69	0
05	FIELD BLANK	58	71	28 *	1
06	DUPE	52	62	39	0
07	233GW	54	67	44	0
08	237GW	57	68	43	0

QC LIMITS

S1	NBZ	=	Nitrobenzene-d5	(35-114)
S2	2FP	=	2-Fluorobiphenyl	(43-116)
S3	TPL	=	p-Terphenyl-d14	(33-141)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05413.D** Sample Name **LCS 1865**

Date Acquired **5-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		3.80 ug/L	18.98
62-75-9	N-nitroso-dimethylamine		6.14 ug/L	30.69
62-53-3	Aniline		9.01 ug/L	45.05
111-44-4	bis(2-Chloroethyl)ether		9.18 ug/L	45.89
541-73-1	1,3-Dichlorobenzene		10.72 ug/L	53.61
106-46-7	1,4-Dichlorobenzene		10.68 ug/L	53.39
100-51-6	Benzyl alcohol		8.19 ug/L	40.95
95-50-1	1,2-Dichlorobenzene		11.23 ug/L	56.14
39638-32-9	bis(2-chloroisopropyl)ether		13.43 ug/L	67.14
621-64-7	n-Nitroso-di-n-propylamine		11.78 ug/L	58.89
67-72-1	Hexachloroethane		10.56 ug/L	52.82
98-95-3	Nitrobenzene		11.00 ug/L	54.98
78-59-1	Isophorone		11.75 ug/L	58.74
111-91-1	bis(2-Chloroethoxy)methane		9.87 ug/L	49.33
120-82-1	1,2,4-Trichlorobenzene		11.07 ug/L	55.35
91-20-3	Naphthalene		11.31 ug/L	56.53
106-47-8	4-Chloroaniline		10.17 ug/L	50.84
87-68-3	Hexachlorobutadiene		11.73 ug/L	58.64
91-57-6	2-Methylnaphthalene		12.27 ug/L	61.37
77-47-4	Hexachlorocyclopentadiene		9.48 ug/L	47.40
91-58-7	2-Chloronaphthalene		12.84 ug/L	64.20
88-74-4	2-Nitroaniline		12.15 ug/L	60.76
131-11-3	Dimethylphthalate		14.91 ug/L	74.56
208-96-8	Acenaphthylene		13.33 ug/L	66.67
606-20-2	2,6-Dinitrotoluene		14.84 ug/L	74.19
99-09-2	3-Nitroaniline		13.40 ug/L	66.99
83-32-9	Acenaphthene		13.51 ug/L	67.57
132-64-9	Dibenzofuran		14.28 ug/L	71.39
121-14-2	2,4-Dinitrotoluene		14.58 ug/L	72.89
84-66-2	Diethylphthalate		15.65 ug/L	78.26
86-73-7	Fluorene		14.75 ug/L	73.73
7005-72-3	4-Chlorophenyl-phenylether		14.62 ug/L	73.09
100-01-6	4-Nitroaniline		12.90 ug/L	64.51
86-30-6	n-Nitrosodiphenylamine		13.89 ug/L	69.43
103-33-3	Azobenzene		13.02 ug/L	65.10
101-55-3	4-Bromophenyl-phenylether		13.60 ug/L	68.01
118-74-1	Hexachlorobenzene		14.07 ug/L	70.35
85-01-8	Phenanthrene		14.39 ug/L	71.97
120-12-7	Anthracene		14.14 ug/L	70.72
84-74-2	Di-n-butylphthalate		14.36 ug/L	71.82
206-44-0	Fluoranthene		14.45 ug/L	72.23
129-00-0	Pyrene		14.41 ug/L	72.06
85-68-7	Butylbenzylphthalate		13.32 ug/L	66.59
56-55-3	Benzo[a]anthracene		13.96 ug/L	69.81
218-01-9	Chrysene		12.51 ug/L	62.56
117-81-7	bis(2-Ethylhexyl)phthalate		12.84 ug/L	64.21
117-84-0	Di-n-octylphthalate		15.71 ug/L	78.55
205-99-2	Benzo[b]fluoranthene		16.81 ug/L	84.06
207-08-9	Benzo[k]fluoranthene		17.28 ug/L	86.40
50-32-8	Benzo[a]pyrene		16.23 ug/L	81.13
193-39-5	Indeno[1,2,3-cd]pyrene		18.60 ug/L	93.02
53-70-3	Dibenz[a,h]anthracene		15.24 ug/L	76.19
191-24-2	Benzo[g,h,i]perylene		15.10 ug/L	75.50

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05437.D** Sample Name **1612306 MS**

Date Acquired **6-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		not detected	#VALUE!
62-75-9	N-nitroso-dimethylamine		7.22 ug/L	36.11
62-53-3	Aniline		2.70 ug/L	13.50
111-44-4	bis(2-Chloroethyl)ether		14.79 ug/L	73.95
541-73-1	1,3-Dichlorobenzene		15.31 ug/L	76.53
106-46-7	1,4-Dichlorobenzene		15.93 ug/L	79.67
100-51-6	Benzyl alcohol		7.15 ug/L	35.77
95-50-1	1,2-Dichlorobenzene		16.46 ug/L	82.28
39638-32-9	bis(2-chloroisopropyl)ether		19.70 ug/L	98.51
621-64-7	n-Nitroso-di-n-propylamine		17.92 ug/L	89.59
67-72-1	Hexachloroethane		14.93 ug/L	74.67
98-95-3	Nitrobenzene		16.07 ug/L	80.35
78-59-1	Isophorone		17.69 ug/L	88.43
111-91-1	bis(2-Chloroethoxy)methane		14.48 ug/L	72.40
120-82-1	1,2,4-Trichlorobenzene		15.77 ug/L	78.87
91-20-3	Naphthalene		16.15 ug/L	80.76
106-47-8	4-Chloroaniline		8.24 ug/L	41.19
87-68-3	Hexachlorobutadiene		15.89 ug/L	79.43
91-57-6	2-Methylnaphthalene		18.29 ug/L	91.47
77-47-4	Hexachlorocyclopentadiene		12.31 ug/L	61.54
91-58-7	2-Chloronaphthalene		18.81 ug/L	94.07
88-74-4	2-Nitroaniline		19.12 ug/L	95.59
131-11-3	Dimethylphthalate		20.64 ug/L	103.19
208-96-8	Acenaphthylene		18.57 ug/L	92.84
606-20-2	2,6-Dinitrotoluene		19.74 ug/L	98.70
99-09-2	3-Nitroaniline		13.46 ug/L	67.29
83-32-9	Acenaphthene		19.56 ug/L	97.79
132-64-9	Dibenzofuran		21.17 ug/L	105.83
121-14-2	2,4-Dinitrotoluene		19.59 ug/L	97.95
84-66-2	Diethylphthalate		21.28 ug/L	106.40
86-73-7	Fluorene		20.21 ug/L	101.06
7005-72-3	4-Chlorophenyl-phenylether		20.35 ug/L	101.76
100-01-6	4-Nitroaniline		11.97 ug/L	59.84
86-30-6	n-Nitrosodiphenylamine		16.78 ug/L	83.92
103-33-3	Azobenzene		16.40 ug/L	82.01
101-55-3	4-Bromophenyl-phenylether		18.34 ug/L	91.68
118-74-1	Hexachlorobenzene		18.31 ug/L	91.55
85-01-8	Phenanthrene		18.80 ug/L	94.02
120-12-7	Anthracene		18.53 ug/L	92.63
84-74-2	Di-n-butylphthalate		19.57 ug/L	97.85
206-44-0	Fluoranthene		18.96 ug/L	94.81
129-00-0	Pyrene		18.46 ug/L	92.30
85-68-7	Butylbenzylphthalate		18.17 ug/L	90.83
56-55-3	Benzo[a]anthracene		18.34 ug/L	91.68
218-01-9	Chrysene		19.33 ug/L	96.66
117-81-7	bis(2-Ethylhexyl)phthalate		18.59 ug/L	92.93
117-84-0	Di-n-octylphthalate		22.26 ug/L	111.31
205-99-2	Benzo[b]fluoranthene		21.39 ug/L	106.94
207-08-9	Benzo[k]fluoranthene		22.55 ug/L	112.74
50-32-8	Benzo[a]pyrene		20.52 ug/L	102.62
193-39-5	Indeno[1,2,3-cd]pyrene		20.71 ug/L	103.54
53-70-3	Dibenz[a,h]anthracene		21.55 ug/L	107.76
191-24-2	Benzo[g,h,i]perylene		20.62 ug/L	103.10

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05438.D** Sample Name **1612306 MSD**

Date Acquired **6-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		4.06 ug/L	20.29
62-75-9	N-nitroso-dimethylamine		6.48 ug/L	32.41
62-53-3	Aniline		8.42 ug/L	42.09
111-44-4	bis(2-Chloroethyl)ether		12.33 ug/L	61.64
541-73-1	1,3-Dichlorobenzene		13.93 ug/L	69.66
106-46-7	1,4-Dichlorobenzene		14.54 ug/L	72.68
100-51-6	Benzyl alcohol		9.99 ug/L	49.93
95-50-1	1,2-Dichlorobenzene		14.87 ug/L	74.35
39638-32-9	bis(2-chloroisopropyl)ether		16.93 ug/L	84.65
621-64-7	n-Nitroso-di-n-propylamine		14.87 ug/L	74.33
67-72-1	Hexachloroethane		13.69 ug/L	68.44
98-95-3	Nitrobenzene		13.56 ug/L	67.81
78-59-1	Isophorone		14.64 ug/L	73.20
111-91-1	bis(2-Chloroethoxy)methane		12.89 ug/L	64.45
120-82-1	1,2,4-Trichlorobenzene		14.05 ug/L	70.26
91-20-3	Naphthalene		13.90 ug/L	69.48
106-47-8	4-Chloroaniline		10.45 ug/L	52.23
87-68-3	Hexachlorobutadiene		14.66 ug/L	73.30
91-57-6	2-Methylnaphthalene		14.89 ug/L	74.44
77-47-4	Hexachlorocyclopentadiene		10.94 ug/L	54.71
91-58-7	2-Chloronaphthalene		16.38 ug/L	81.92
88-74-4	2-Nitroaniline		16.03 ug/L	80.13
131-11-3	Dimethylphthalate		17.44 ug/L	87.21
208-96-8	Acenaphthylene		16.66 ug/L	83.31
606-20-2	2,6-Dinitrotoluene		17.04 ug/L	85.20
99-09-2	3-Nitroaniline		11.60 ug/L	58.01
83-32-9	Acenaphthene		17.19 ug/L	85.96
132-64-9	Dibenzofuran		17.38 ug/L	86.91
121-14-2	2,4-Dinitrotoluene		16.50 ug/L	82.51
84-66-2	Diethylphthalate		17.81 ug/L	89.05
86-73-7	Fluorene		17.56 ug/L	87.79
7005-72-3	4-Chlorophenyl-phenylether		17.64 ug/L	88.19
100-01-6	4-Nitroaniline		10.68 ug/L	53.39
86-30-6	n-Nitrosodiphenylamine		15.79 ug/L	78.96
103-33-3	Azobenzene		15.06 ug/L	75.30
101-55-3	4-Bromophenyl-phenylether		15.80 ug/L	79.02
118-74-1	Hexachlorobenzene		16.05 ug/L	80.25
85-01-8	Phenanthrene		16.15 ug/L	80.73
120-12-7	Anthracene		15.76 ug/L	78.81
84-74-2	Di-n-butylphthalate		16.54 ug/L	82.69
206-44-0	Fluoranthene		15.99 ug/L	79.96
129-00-0	Pyrene		16.03 ug/L	80.16
85-68-7	Butylbenzylphthalate		15.45 ug/L	77.26
56-55-3	Benzo[a]anthracene		15.38 ug/L	76.91
218-01-9	Chrysene		13.80 ug/L	68.99
117-81-7	bis(2-Ethylhexyl)phthalate		15.23 ug/L	76.16
117-84-0	Di-n-octylphthalate		18.42 ug/L	92.11
205-99-2	Benzo[b]fluoranthene		18.43 ug/L	92.17
207-08-9	Benzo[k]fluoranthene		18.57 ug/L	92.83
50-32-8	Benzo[a]pyrene		17.51 ug/L	87.57
193-39-5	Indeno[1,2,3-cd]pyrene		17.70 ug/L	88.51
53-70-3	Dibenz[a,h]anthracene		17.56 ug/L	87.80
191-24-2	Benzo[g,h,i]perylene		17.15 ug/L	85.75

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Lab File ID (Standard): BNA05401.D Date Analyzed: 6/5/01

Instrument ID: GC_BNA_2 Time Analyzed: 12:34

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	665814	10.10	2536589	13.03	1600182	17.26
	UPPER LIMIT	1331628	10.60	5073178	13.53	3200364	17.76
	LOWER LIMIT	332907	9.60	1268295	12.53	800091	16.76
	Field Id:						
01	MB 1864	704839	10.10	2590824	13.03	1465206	17.26
02	LCS 1865	641092	10.10	2432878	13.03	1342984	17.26

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.: _____

Lab File ID (Standard): BNA05401.D Date Analyzed: 06/05/01

Instrument ID: GC_BNA_2 Time Analyzed: 12:34

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2951574	20.87	2681247	27.32	2441712	30.55
	UPPER LIMIT	5903148	20.37	5362494	26.82	4883424	30.05
	LOWER LIMIT	1475787	21.37	1340624	27.82	1220856	31.05
	EPA SAMPLE NO.						
01	MB 1864	2638152	20.86	2484642	27.31	1862593	30.54
02	LCS 1865	2440466	20.86	2276414	27.31	1685391	30.54

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Lab File ID (Standard): BNA05436.D Date Analyzed: 6/6/01

Instrument ID: GC_BNA_2 Time Analyzed: 15:23

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	651196	10.09	2483925	13.03	1550884	17.26
	UPPER LIMIT	1302392	10.59	4967850	13.53	3101768	17.76
	LOWER LIMIT	325598	9.59	1241963	12.53	775442	16.76
	Field Id:						
01	1612306 MS	663542	10.10	2499834	13.03	1348530	17.26
02	1612306 MSD	637000	10.10	2401089	13.03	1289695	17.26
03	FIELD BLANK	628261	10.10	2433989	13.03	1315023	17.26
04	DUPE	667050	10.10	2538529	13.03	1380759	17.26
05	233GW	614346	10.10	2344970	13.03	1271220	17.26
06	237GW	663264	10.10	2544777	13.03	1380635	17.26

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16145 Location: B 233 SDG No.:

Lab File ID (Standard): BNA05436.D Date Analyzed: 06/06/01

Instrument ID: GC_BNA_2 Time Analyzed: 15:23

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2878471	20.86	2606503	27.31	2359653	30.54
	UPPER LIMIT	5756942	20.36	5213006	26.81	4719306	30.04
	LOWER LIMIT	1439236	21.36	1303252	27.81	1179827	31.04
	EPA SAMPLE NO.						
01	1612306 MS	2444495	20.86	2270787	27.31	1719284	30.54
02	1612306 MSD	2341886	20.85	2180285	27.31	1639472	30.54
03	FIELD BLANK	2372899	20.85	2238792	27.30	1678309	30.54
04	DUPE	2506917	20.85	2371763	27.31	1811442	30.54
05	233GW	2300210	20.85	2187963	27.30	1644845	30.54
06	237GW	2476080	20.85	2375993	27.31	1786438	30.54

IS1 DCB = 1,4-Dichlorobenzene-d4
IS2 NAP = Naphthalene-d8
IS3 ANE = Acenaphthene-d10
IS4 PNE = Phenanthrene-d10
IS5 CYS = Chrysene-d12
IS6 PRL = Perylene-d12

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:\DATA\010605\BNA05407.D Vial: 5
Acq On : 5 Jun 2001 5:13 pm Operator: Skelton
Sample : MB 1864 Inst : GC/MS Ins
Misc : 31May01 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 5 17:48 2001 Quant Results File: M262546.RES

Quant Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration
DataAcq Meth : M262546

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.10	152	704839	40.00	ug/L	-0.01
19) Naphthalene-d8	13.03	136	2590824	40.00	ug/L	-0.02
34) Acenaphthene-d10	17.26	164	1465206	40.00	ug/L	-0.02
54) Phenanthrene-d10	20.86	188	2638152	40.00	ug/L	-0.02
66) Chrysene-d12	27.31	240	2484642	40.00	ug/L	-0.03
75) Perylene-d12	30.54	264	1862593	40.00	ug/L	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	7.42	112	841800	42.00	ug/L	0.06
Spiked Amount 100.000	Range 21 - 100		Recovery = 42.00%			
6) Phenol-d6	9.51	99	606238	23.99	ug/L	0.08
Spiked Amount 100.000	Range 10 - 94		Recovery = 23.99%			
20) Nitrobenzene-d5	11.43	82	777483	29.88	ug/L	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery = 59.76%			
38) 2-Fluorobiphenyl	15.67	172	1374583	33.72	ug/L	-0.02
Spiked Amount 50.000	Range 43 - 116		Recovery = 67.44%			
58) 2,4,6-Tribromophenol	19.22	330	365126	61.41	ug/L	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 61.41%			
69) p-Terphenyl-d14	24.80	244	1678725	33.92	ug/L	-0.02
Spiked Amount 50.000	Range 33 - 141		Recovery = 67.84%			

Target Compounds Qvalue

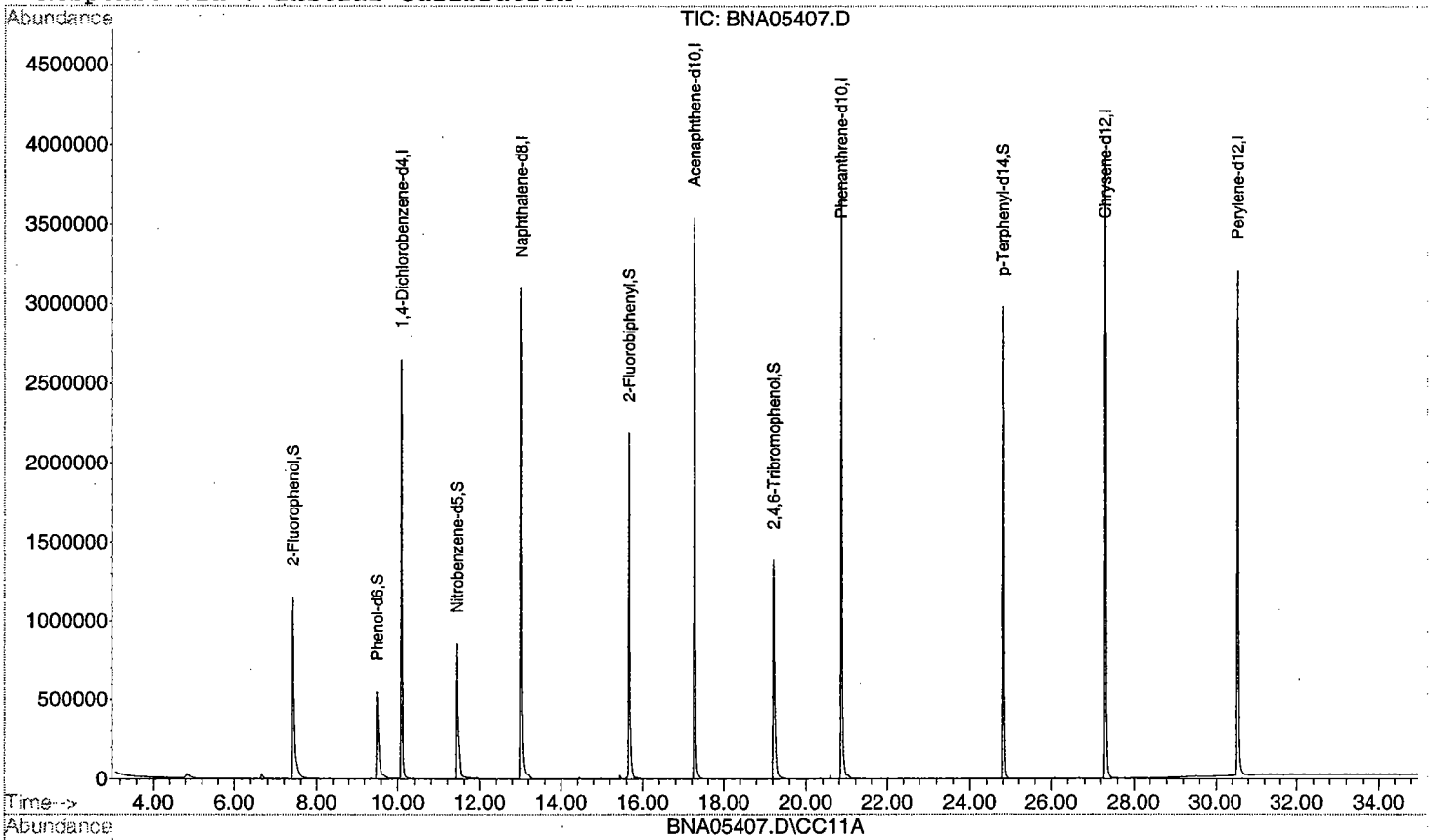
(#) = qualifier out of range (m) = manual integration

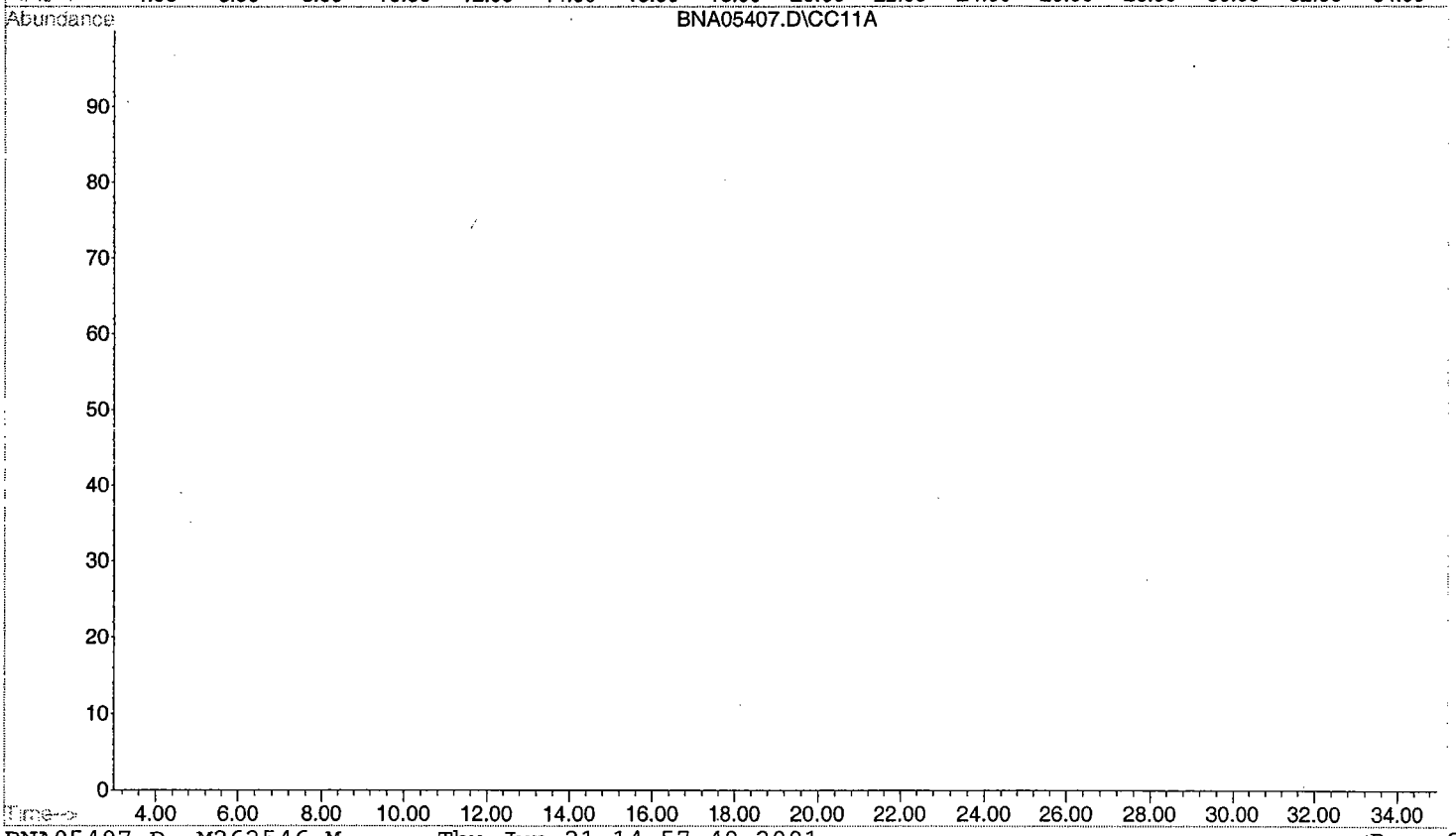
Quantitation Report

Data File : D:\DATA\010605\BNA05407.D
Acq On : 5 Jun 2001 5:13 pm
Sample : MB 1864
Misc : 31May01
MS Integration Params: RTEINT.P
Quant Time: Jun 5 17:48 2001

Vial: 5
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data File : D:\DATA\010606\BNA05449.D Vial: 13
Acq On : 7 Jun 2001 12:54 am Operator: Skelton
Sample : 1614502 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 7 1:29 2001 Quant Results File: M262546.RES

Quant Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration
DataAcq Meth : M262546

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.10	152	628261	40.00	ug/L	-0.02
19) Naphthalene-d8	13.03	136	2433989	40.00	ug/L	-0.02
34) Acenaphthene-d10	17.26	164	1315023	40.00	ug/L	-0.02
54) Phenanthrene-d10	20.85	188	2372899	40.00	ug/L	-0.02
66) Chrysene-d12	27.30	240	2238792	40.00	ug/L	-0.03
75) Perylene-d12	30.54	264	1678309	40.00	ug/L	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.42	82	707331	28.94	ug/L	-0.01
Spiked Amount 50.000	Range 35 - 114		Recovery =	57.88%		
38) 2-Fluorobiphenyl	15.67	172	1292337	35.32	ug/L	-0.02
Spiked Amount 50.000	Range 43 - 116		Recovery =	70.64%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.80	244	615527	13.80	ug/L	-0.02
Spiked Amount 50.000	Range 33 - 141		Recovery =	27.60%#		

Target Compounds Qvalue

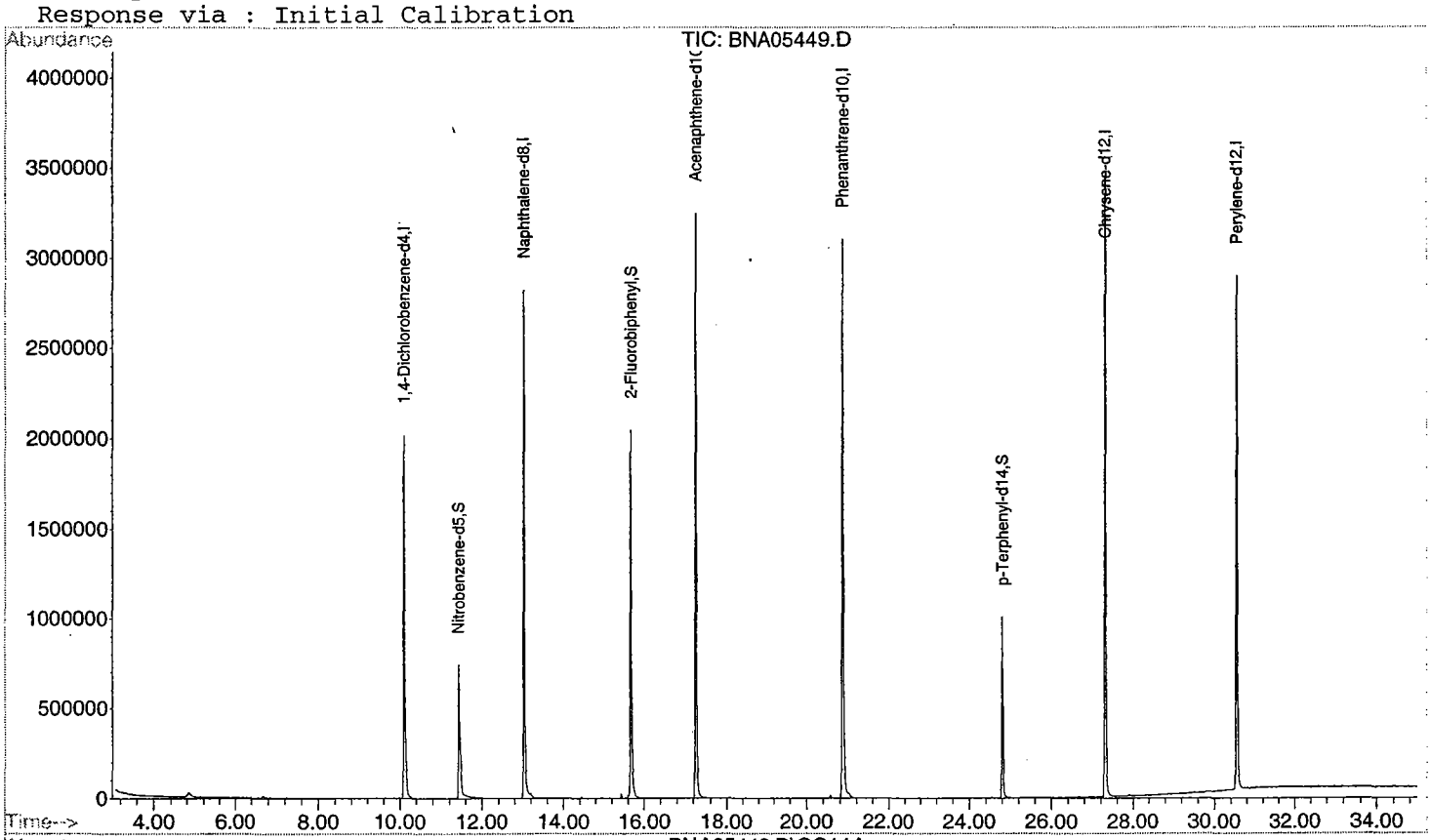
(#) = qualifier out of range (m) = manual integration

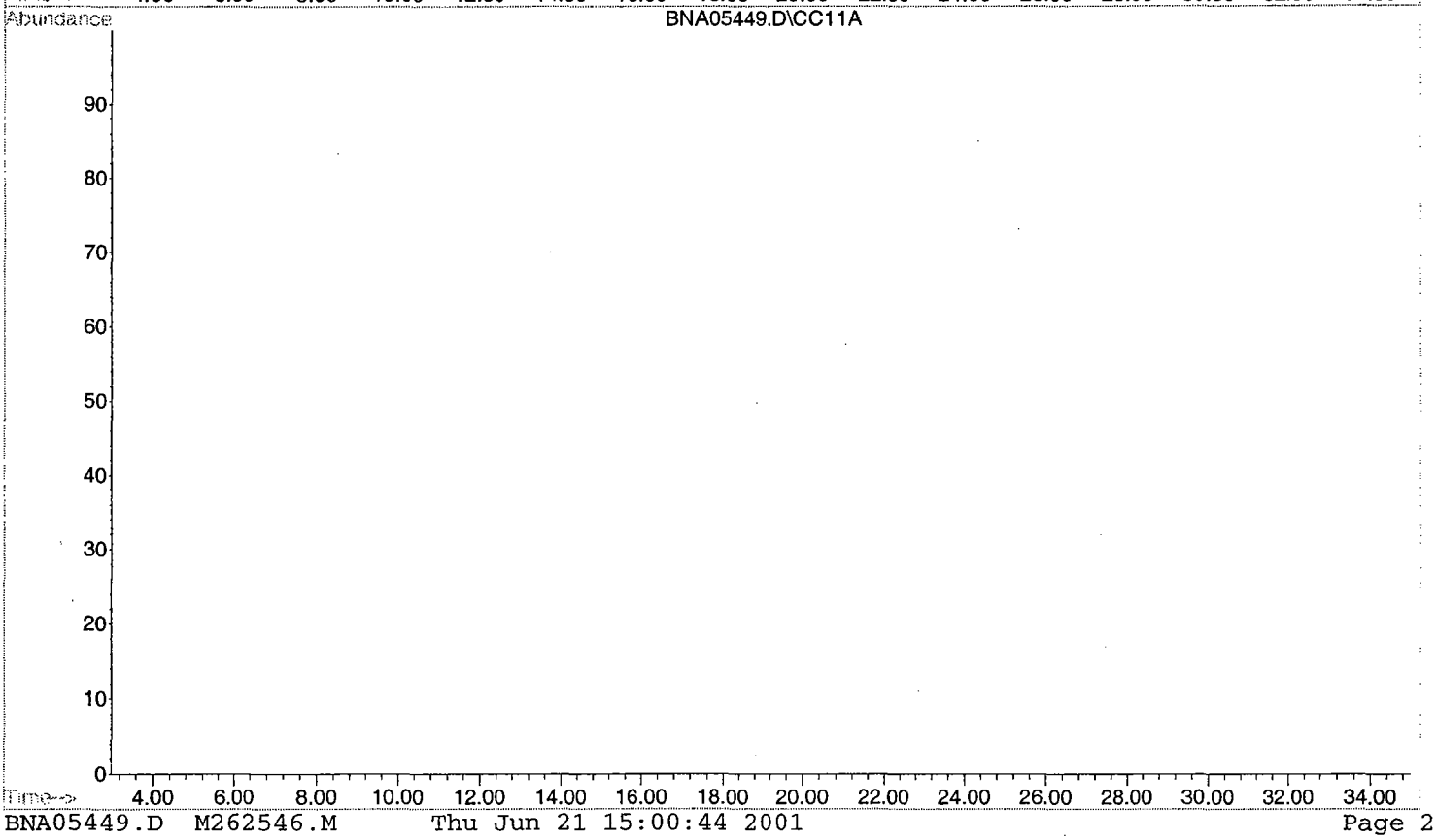
Quantitation Report

Data File : D:\DATA\010606\BNA05449.D
Acq On : 7 Jun 2001 12:54 am
Sample : 1614502
Misc : Field Blank
MS Integration Params: RTEINT.P
Quant Time: Jun 7 1:29 2001

Vial: 13
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration





000077

Quantitation Report (QT Reviewed)

Data File : D:\DATA\010606\BNA05450.D Vial: 14
Acq On : 7 Jun 2001 1:37 am Operator: Skelton
Sample : 1614503 Inst : GC/MS Ins
Misc : Dupe Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 7 2:12 2001 Quant Results File: M262546.RES

Quant Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration
DataAcq Meth : M262546

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.10	152	667050	40.00	ug/L	-0.02
19) Naphthalene-d8	13.03	136	2538529	40.00	ug/L	-0.03
34) Acenaphthene-d10	17.26	164	1380759	40.00	ug/L	-0.03
54) Phenanthrene-d10	20.85	188	2506917	40.00	ug/L	-0.03
66) Chrysene-d12	27.31	240	2371763	40.00	ug/L	-0.03
75) Perylene-d12	30.54	264	1811442	40.00	ug/L	-0.03
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.42	82	665033	26.09	ug/L	-0.01
Spiked Amount 50.000	Range 35 - 114		Recovery =	52.18%		
38) 2-Fluorobiphenyl	15.67	172	1186640	30.89	ug/L	-0.03
Spiked Amount 50.000	Range 43 - 116		Recovery =	61.78%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.80	244	909692	19.26	ug/L	-0.03
Spiked Amount 50.000	Range 33 - 141		Recovery =	38.52%		

Target Compounds Qvalue

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

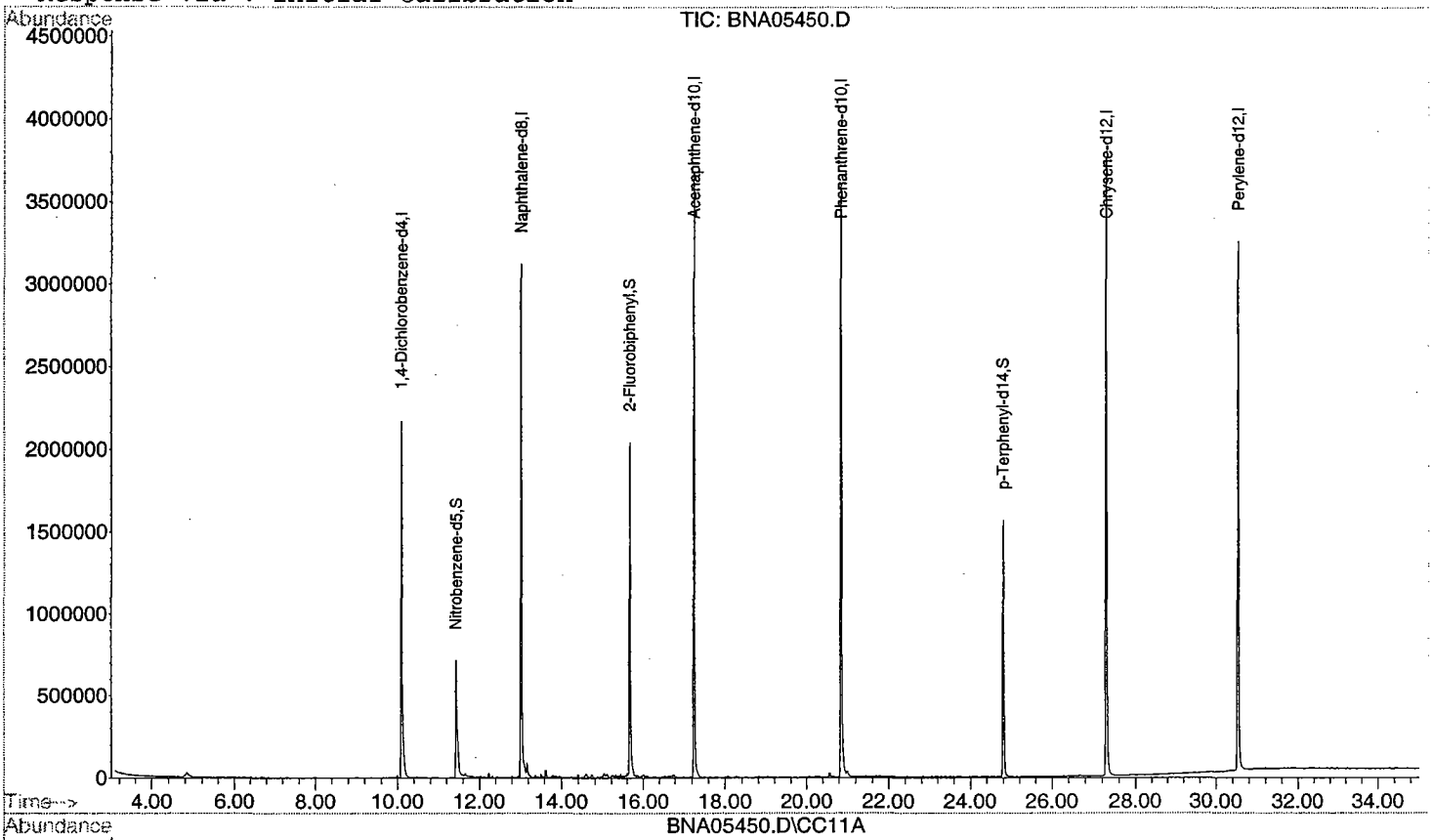
000078

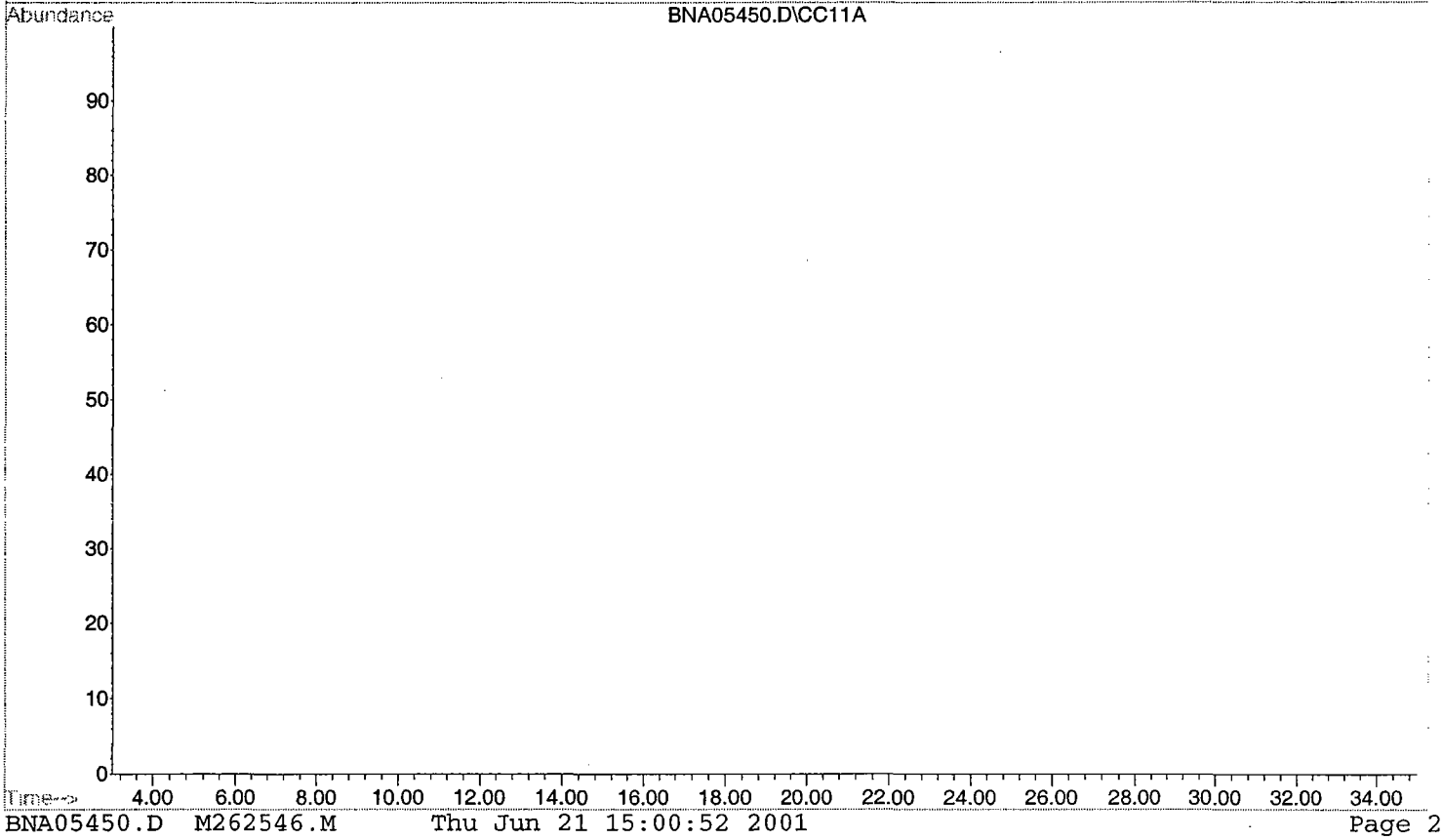
Quantitation Report

Data File : D:\DATA\010606\BNA05450.D
Acq On : 7 Jun 2001 1:37 am
Sample : 1614503
Misc : Dupe
MS Integration Params: RTEINT.P
Quant Time: Jun 7 2:12 2001

Vial: 14
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration





000079

Quantitation Report (QT Reviewed)

Data File : D:\DATA\010606\BNA05451.D Vial: 15
Acq On : 7 Jun 2001 2:20 am Operator: Skelton
Sample : 1614504 Inst : GC/MS Ins
Misc : 233GW Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 7 2:55 2001 Quant Results File: M262546.RES

Quant Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration
DataAcq Meth : M262546

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.10	152	614346	40.00	ug/L	-0.02
19) Naphthalene-d8	13.03	136	2344970	40.00	ug/L	-0.02
34) Acenaphthene-d10	17.26	164	1271220	40.00	ug/L	-0.02
54) Phenanthrene-d10	20.85	188	2300210	40.00	ug/L	-0.03
66) Chrysene-d12	27.30	240	2187963	40.00	ug/L	-0.03
75) Perylene-d12	30.54	264	1644845	40.00	ug/L	-0.03
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.43	82	638216	27.10	ug/L	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	54.20%		
38) 2-Fluorobiphenyl	15.66	172	1181746	33.41	ug/L	-0.03
Spiked Amount 50.000	Range 43 - 116		Recovery =	66.82%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.80	244	950664	21.82	ug/L	-0.03
Spiked Amount 50.000	Range 33 - 141		Recovery =	43.64%		

Target Compounds Qvalue

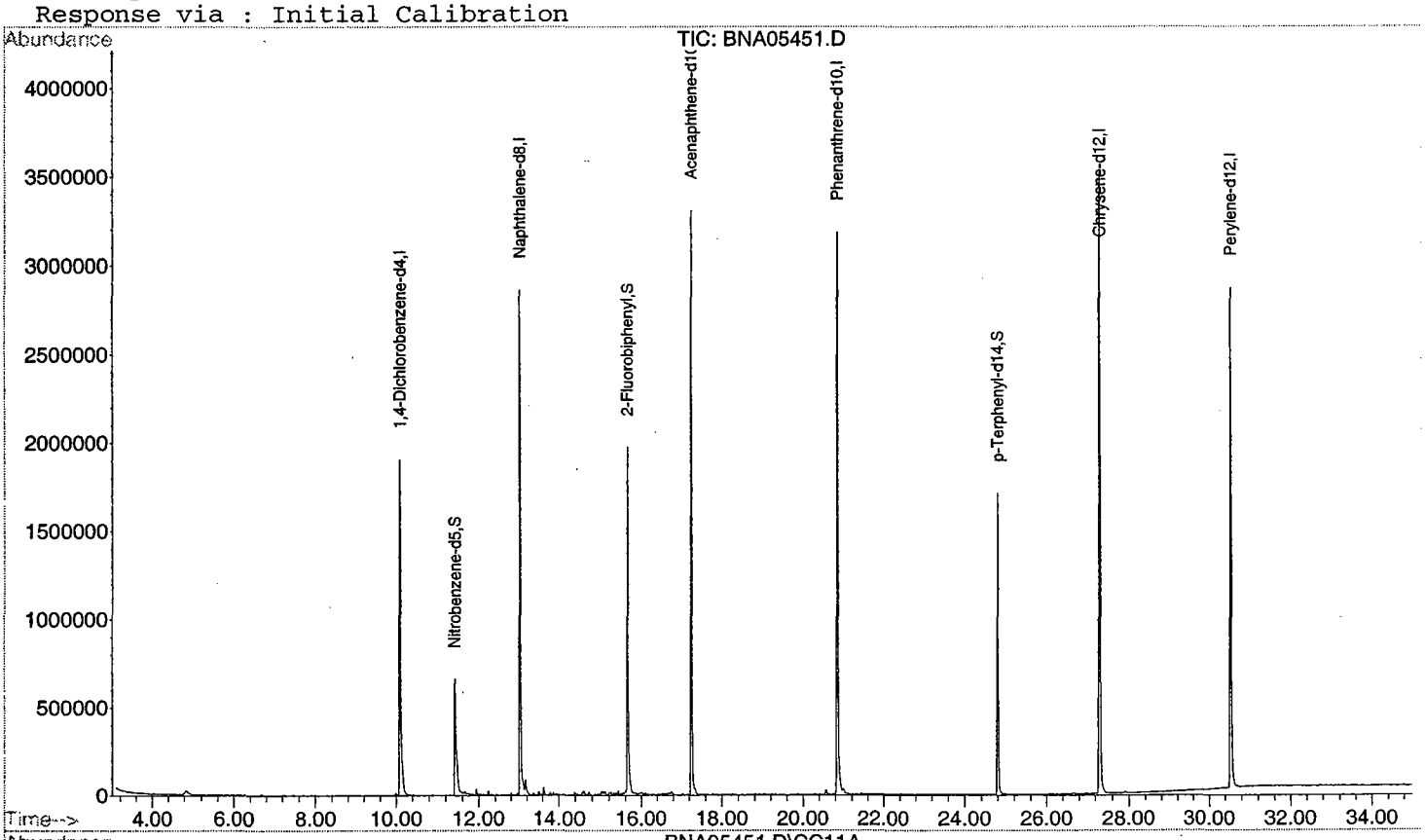
(#) = qualifier out of range (m) = manual integration

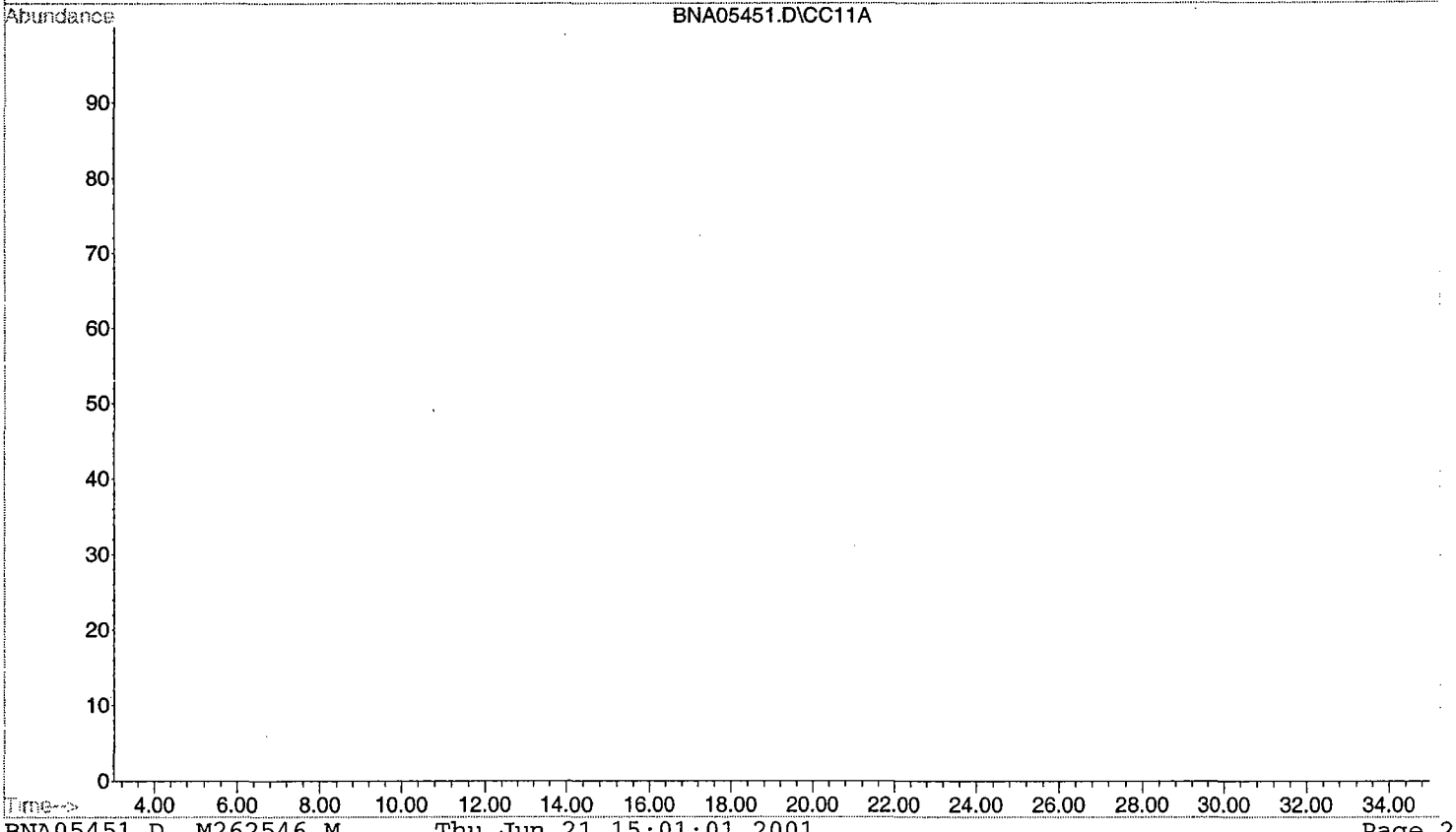
Quantitation Report

Data File : D:\DATA\010606\BNA05451.D
Acq On : 7 Jun 2001 2:20 am
Sample : 1614504
Misc : 233GW
MS Integration Params: RTEINT.P
Quant Time: Jun 7 2:55 2001

Vial: 15
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Mar 27 12:58:41 2001
Response via : Initial Calibration





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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 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 NA
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 6/26/01

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