SITE/REMEDIAL INVESTIGATION REPORT

FORMER BUILDING 2235

CHARLES WOOD AREA

OCTOBER 2001

PREPARED FOR:

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

PREPARED BY:

Versar INC.
2558 PEARL BUCK ROAD
SUITE 1
BRISTOL, PA 19007

PROJECT NO. 4936-127

2235.DOC

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EXECUTIVE SUMMARY

Site/Remedial Investigation and Post-Excavation Soil Sampling

On November 11, 2001, the UST at former Building 2235 at the Charles Wood area of the U.S. Army Fort Monmouth Base was closed by removal. The objective of the site/remedial investigation activities was. A site/remedial investigation to remove all potentially impacted soil resulting from past operation of the former UST was performed in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.*

Visibly stained soils and soils exhibiting elevated PID levels (greater than 5 ppm) of VOCs, were excavated. Excavation activities continued until potentially impacted soil had been removed. To confirm PID readings and verify the effectiveness of the soil excavation activities, post-excavation soil samples were collected from 8 locations within the excavation and along the piping between November 2 and December 20, 1999. All samples were analyzed for TPH and total solids. The post-excavation soil samples collected from the excavation contained concentrations of TPH below the NJDEP soil cleanup criteria.

Management of Excavated Soils

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.

Site Restoration

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 soil removed from the excavation.

Conclusions and Recommendations

All post excavation soil samples collected from the UST excavation at Building 2235 contained TPH at concentrations either below the detection limit or 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 2235 on June 12, 2001 and July 12, 2001. Samples were analyzed for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOCs). All groundwater analytical results were below the detection limit and therefore 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 2235.

1.0 BACKGROUND INFORMATION

1.1 OVERVIEW

The New Jersey Department of Environmental Protection (NJDEP) UST Registration No. 81515-5, was associated with former Building 2235 at the Charles Wood area of the U.S. Army Fort Monmouth Base, Fort Monmouth, New Jersey. Refer to the site location map in Figure 1.

This report describes the results of the site/remedial investigation activities completed at the site. The objective of the site/remedial investigation activities was to remove all potentially impacted soil resulting from the past operation of the former UST.

This report outlines background information, the site/remedial investigation activities, results of these activities, and conclusions and recommendations drawn from these results.

1.2 SITE DESCRIPTION

Former Building 2235 is located in Charles Wood area of the Fort Monmouth Army Base. The former UST was located a few feet south of Building 2235. A site map is provided in Figure 2.

1.3 GEOLOGICAL/HYDROGEOLOGICAL SETTING

The following is a description of the geological/hydrogeological setting of the area surrounding former Building 2235. 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 Charles Wood 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.

More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thickness' for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Charles Wood 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).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Charles Wood area range from 20 feet above mean seal level (MSL) to 71 feet above MSL.

Hydrogeology

The water table aquifer in the Charles Wood 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.

Six well records for monitor wells installed at locations within the Charles Wood area in February 1981 were used for reference. The wells were completed to total depths ranging from 20 to 25 feet below ground surface (bgs). Water was encountered at depths ranging from 5 to 12 feet bgs.

The lithologic descriptions for these borings described deposits that were primarily fine to coarse, glauconitic sands, with traces of gravel, silt, and clay. These sediments are part of the Hornerstown Marl, from the Tertiary Period (Paleocene Series, approximately 58 to 66 Ma). According to Jablonski, wells drilled in the Red Bank and Tinton Sands

may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Shallow groundwater is locally influenced within the Charles Wood 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 Charles Wood 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. Based on the Charles Wood area topography, groundwater flow in the area of the former Building 2235 is anticipated to be to the south.

1.4 HEALTH AND SAFETY

During all site/remedial investigation activities, hazards at the work site, which may have posed a threat to the Health and Safety of 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 safe, as defined by the Occupational Safety & Health Administration (OSHA).

2.0 SITE/REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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.* Sampling frequency and parameters analyzed complied with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E).

The following Parties participated in Site/Remedial Investigation Activities:

- Project Manager: Charles Appleby
  Employer: DPW U.S. Army, Fort Monmouth
  Phone Number: (732) 532-6224
  NJDEP Certification No.: 2056

- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory
  Contact Person: Daniel K. Wright
  Phone Number: (732) 532-4359
  NJDEP Company Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

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, which 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.

2.3 MANAGEMENT OF EXCAVATED SOILS

The clean soil pile was used as backfill. All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth Directorate of Public Works.

2.4 POST-EXCAVATION SOIL SAMPLING AND RESULTS

The 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. Groundwater was not encountered.

To confirm the PID readings and verify the effectiveness of the soil excavation activities, 8 post-excavation soil samples were collected from within the excavation between November 2 and December 20, 1999. One of the samples was collected from the piping and seven were collected from the UST excavation. Three duplicate samples were collected. The locations of the 8 post-excavation soil samples are shown in Figure 3.

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 (TPH) and total solids. The TPH 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 TPH 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. Four samples were collected from the overburden material and analyzed for TPH. The clean stockpile soil samples revealed non-detectable TPH levels; therefore, the soil was used as backfill material. Appendix C provides photographs of the site/remedial investigations.

2.5 GROUNDWATER SAMPLING

On June 12 and July 12, 2001, groundwater at Building 2235 was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOCs). Sampling and analysis were performed in accordance with the NJDEP *Field Sampling Procedures Manual* and the *Technical Requirements For Site Remediation.*

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To confirm the PID readings and verify the effectiveness of the soil excavation activities, 8 post-excavation soil samples were collected from within the excavation between November 2 and December 20, 1999. All samples were analyzed for TPH and total solids. The post-excavation soil samples collected from the excavation contained concentrations of TPH below the NJDEP soil cleanup criteria.

The post-excavation soil samples collected from the excavation contained concentrations of TPH ranging form below the detection limit to 779.07 mg/kg. All sample results were 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 samples collected from Building 2235 on June 12 and July 12, 2001 contained no compounds above the method detection limits. 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.

3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 2235 were below the NJDEP soil cleanup criteria for of 10,000 mg/kg total organic contaminants.

Based on the analytical results of the groundwater samples collected at Building 2235, groundwater quality has not been impacted by the former UST. All results were below the detection limit and 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 2235.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 1220-K, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	Analysis Method
piping	11/2/99	4/18/97	Soil	Post-Excavation	TPH	OQA-QAM-025
PX1	12/9/99	12/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
PX2	12/9/99	12/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
PX3	12/9/99	12/10/99	Soil	Post-Excavation	TPH	OQA-QAM-025
PX4	12/16/99	12/17/99	Soil	Post-Excavation	TPH	OQA-QAM-025
PX5	12/16/99	12/17/99	Soil	Post-Excavation	TPH	OQA-QAM-025
PX6	12/16/99	12/17/99	Soil	Post-Excavation	TPH	OQA-QAM-025
PX7 dup	12/16/99	12/17/99	Soil	Post-Excavation	TPH	OQA-QAM-025
PX8	4/17/97	4/18/97	Soil	Post-Excavation	TPH	OQA-QAM-025
PX9	4/21/97	4/21/97	Soil	Post-Excavation	TPH	OQA-QAM-025
PX10 dup	4/21/97	4/21/97	Soil	Post-Excavation	TPH	OQA-QAM-025

Note:
* TPH Total Petroleum Hydrocarbons

TABLE 2
POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 1220-K, 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
PX1/east wall 9.5'	5001.01	12/09/99	12/10/99	Total Solid	--	--	81.19	--	--
				TPH	193	Yes	ND	10,000	No
PX2/north wall 11'	5001.02	12/09/99	12/10/99	Total Solid	--	--	82.90	--	--
				TPH	181	Yes	ND	10,000	No
PX3/dup of PX2	5001.03	12/09/99	12/10/99	Total Solid	--	--	86.34	--	--
				TPH	182	Yes	ND	10,000	No
PX4/bottom 11.5'	5017.01	12/16/99	5/17/99	Total Solid	--	--	75.48	--	--
				TPH	203	Yes	377.20	10,000	No
PX5/north wall 10.5	5017.02	12/16/99	5/17/99	Total Solid	--	--	82.31	--	--
				TPH	191	Yes	265.09	10,000	No
PX6/west wall 10'	5017.03	12/16/99	5/17/99	Total Solid	--	--	81.61	--	--
				TPH	190	Yes	779.07	10,000	No
PX7/dup of PX5	5017.04	12/16/99	5/17/99	Total Solid	--	--	85.97	--	--
				TPH	181	Yes	258.46	10,000	No
PX8/south wall 8'	5035.01	12/20/99	12/21/99	Total Solid	--	--	83.81	--	--
				TPH	181	Yes	ND	10,000	No
PX9/south wall 8'	5035.02	12/20/99	12/21/99	Total Solid	--	--	84.15	--	--
				TPH	183	Yes	ND	10,000	No
PX10/dup of PX8	5035.03	12/20/99	12/21/99	Total Solid	--	--	84.16	--	--
				TPH	186	Yes	ND	10,000	No

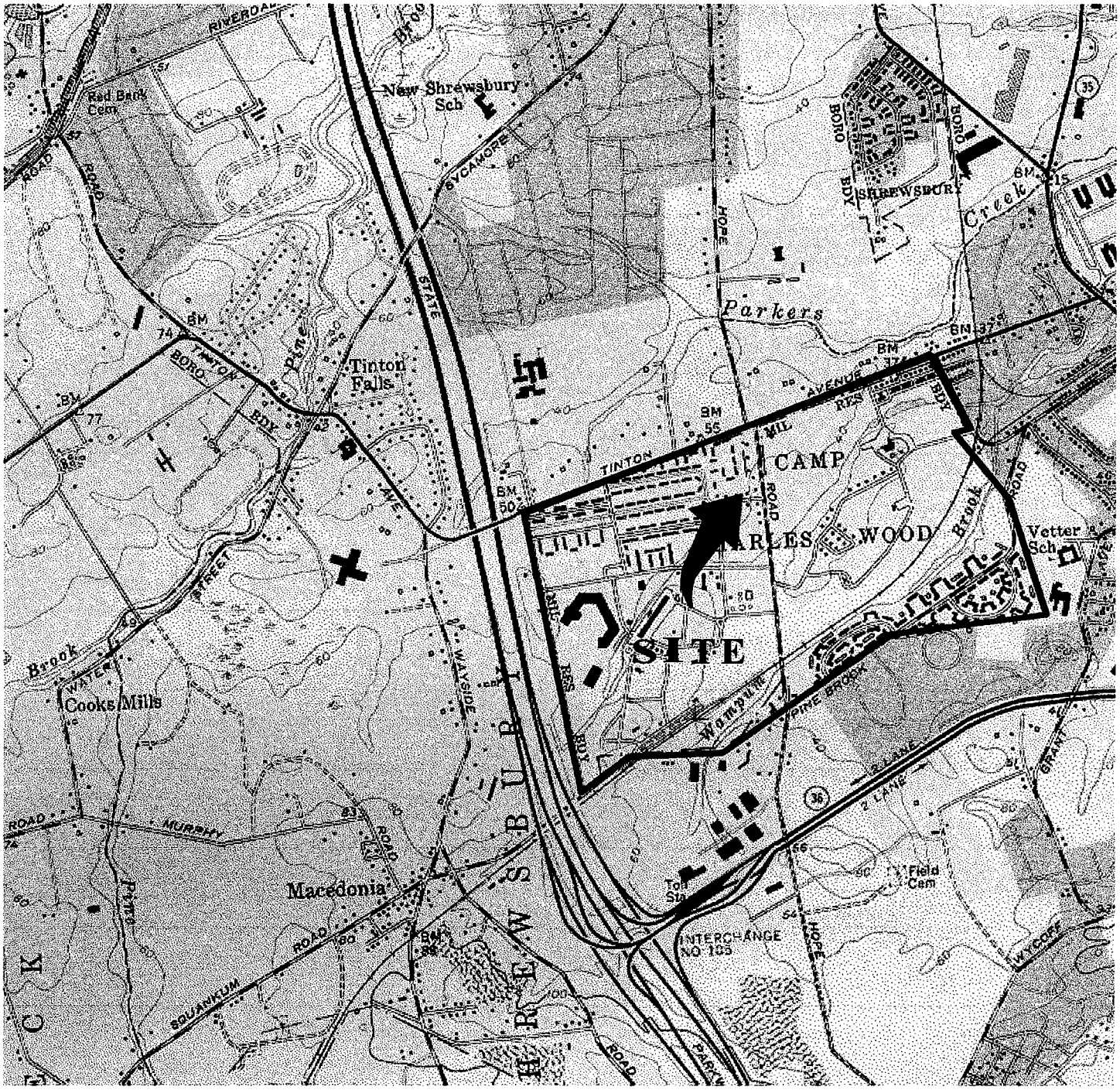
Note:

* 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

NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

LOCATION MAP
Building 2235
Charles Wood
Fort Monmouth Army Base
Monmouth County, NJ

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

Scale: 1" = 2000'

Date: October 2001

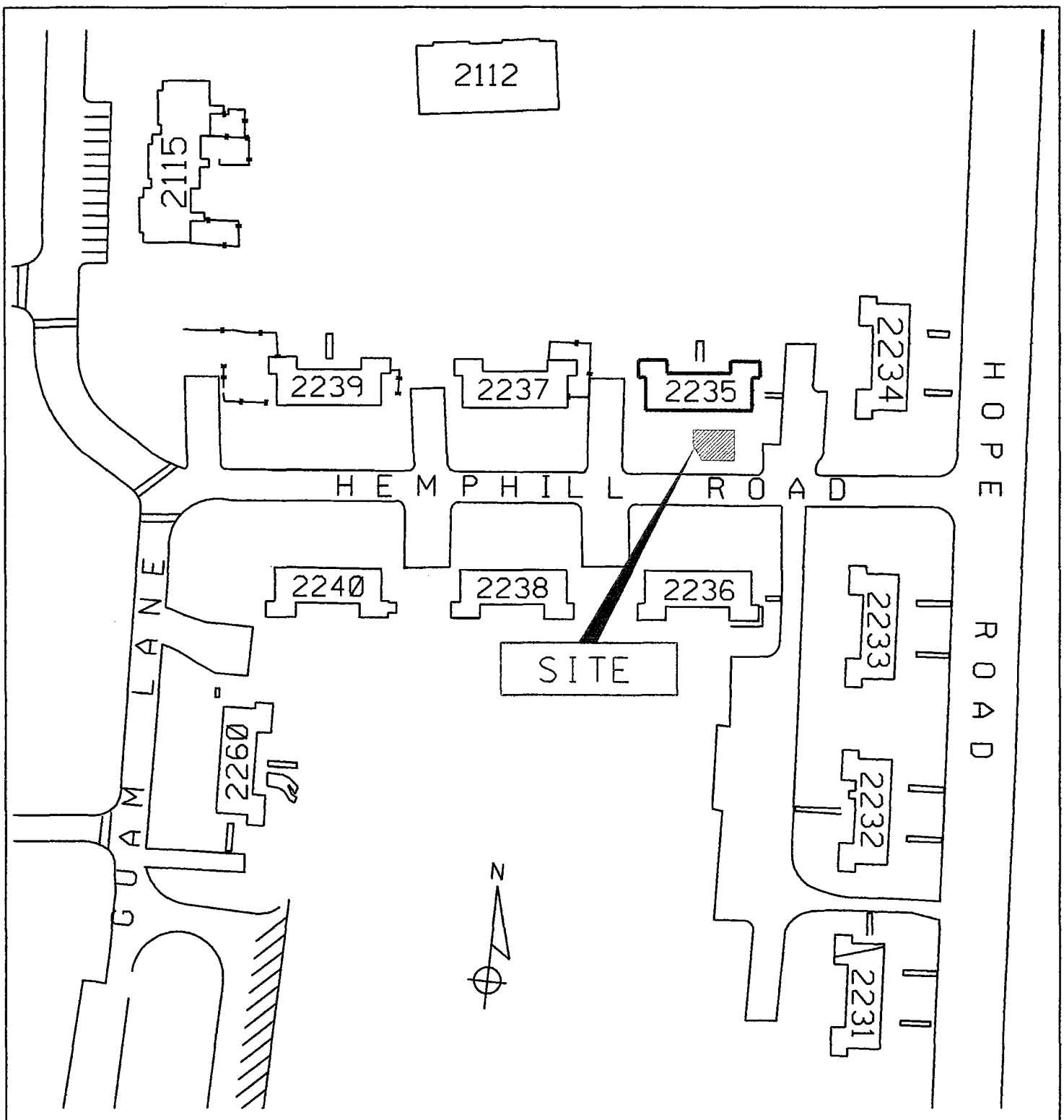


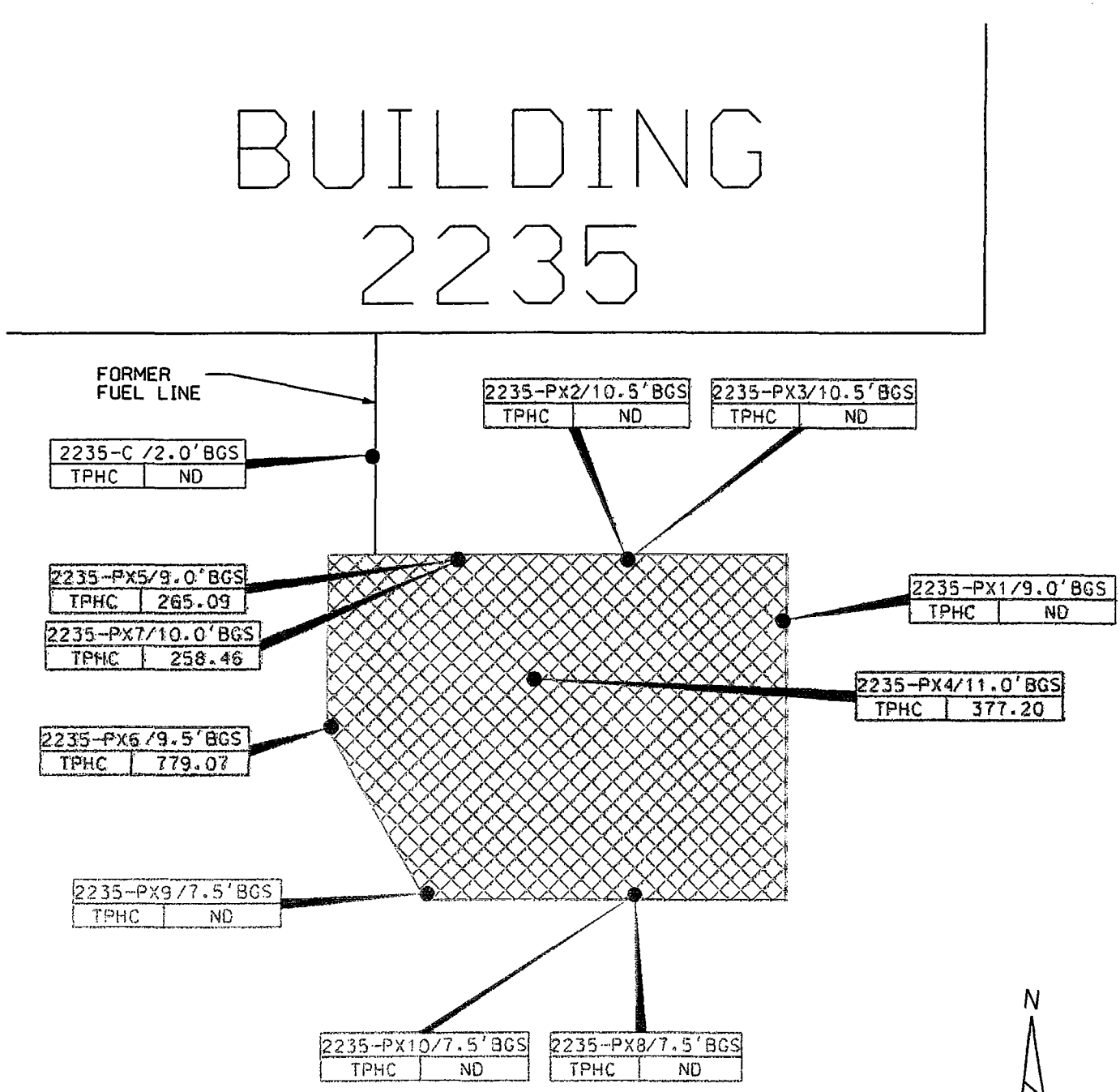
FIGURE 2
SITE MAP
BUILDING 2235
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=100'

DATE: OCT 2001

2235 FIG2



LEGEND

- SOIL SAMPLE LOCATION (NOVEMBER 2, 1999)
- SOIL SAMPLE LOCATION (DECEMBER 9, 1999)
- SOIL SAMPLE LOCATION (DECEMBER 16, 1999)
- SOIL SAMPLE LOCATION (DECEMBER 20, 1999)
- LIMIT OF EXCAVATION (DECEMBER 20, 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 2235
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1"=10' | DATE: OCT 2001

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 : 0081515-5
- 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.: 0010042

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: _____

Company Name: U.S. Army Fort Monmouth Date: _____

APPENDIX B

WASTE MANIFEST

APPENDIX NOT AVAILABLE

AS OF THE DATE OF THIS REPORT

APPENDIX C

UST DISPOSAL FORM

DEPARTMENT OF THE ARMY
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, New Jersey 07703 - 5101

REPLY TO
ATTENTION OF

Directorate of Public Works

10 January 2000

Marpal Disposal Company, Inc.
P.O. Box 188
Lincroft, New Jersey 07738

Re: Non-Hazardous waste disposal
Contract No. DAAB07-96-C-8252
Location: Bldg. 166
Roll off No. 52273
Size: 30 cubic yards
USTs from Bldgs: 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2260 and USARC-Rotterdam, NY

Dear Sirs:

I certify that the above referenced 30 cubic yard roll off dumpster provided by Marpal, Inc. contains only crushed fiberglass underground storage tanks removed from residential buildings at Fort Monmouth, NJ. The tanks only held No. 2 heating oil. The tanks were cleaned in accordance with acceptable industry standards and NJDEP protocol, then crushed. No free liquids are present in the dumpster. The 550 gallon tank from the USARC-Rotterdam, NY was from a wash rack oil/water separator, which contained water, prior to removal.

If you should require any additional information or help at this time, please contact Mr. Dinker Desai, Environmental Engineer, at: (732) 532-1475.

Sincerely,

James Ott
Director, Public Works

APPENDIX D

SOIL 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# 100004

Bldg. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
2235-PX1/East Wall 9-9.5'	5001.01	Soil	09-Dec-99 11:00	12/09/99
2235-PX2/North Wall 10.5-11'	5001.02	Soil	09-Dec-99 15:00	12/09/99
2235-PX3/Duplicate	5001.03	Soil	09-Dec-99 15:00	12/09/99
Trip Blank	5001.04	Methanol	09-Dec-99	12/09/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

12-22-99
Daniel Wright/Date
Laboratory Director

Table of Contents

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991213\T009238.D Vial: 14
Acq On : 13 Dec 1999 5:55 pm Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 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	25.356	26.196 E3	-3.3	0#	0.00
2	tC	C10	26.048	27.210 E3	-4.5	0#	0.00
3	TC	C12	25.256	26.206 E3	-3.8	0#	0.00
4	tC	C14	24.141	24.505 E3	-1.5	0#	0.00
5	tC	C16	23.672	24.332 E3	-2.8	0#	0.00
6	tC	C18	24.442	25.154 E3	-2.9	0#	0.00
7	tC	C20	23.318	24.406 E3	-4.7	0#	0.00
8	tC	C22	24.339	25.211 E3	-3.6	0#	0.00
9	tC	C24	24.011	24.981 E3	-4.0	0#	0.00
10	tC	C26	23.577	24.708 E3	-4.8	0#	0.00
11	tC	C28	22.264	23.906 E3	-7.4	0#	0.00
12	tC	C30	22.151	24.180 E3	-9.2	0#	0.00
13	tC	C32	20.810	22.844 E3	-9.8	0#	0.00
14	tC	C34	20.541	22.876 E3	-11.4	0#	0.00
15	tC	C36	17.068	19.225 E3	-12.6	0#	0.00
16	tC	C38	15.555	17.196 E3	-10.5	0#	0.00
17	tC	C40	10.954	12.228 E3	-11.6	0#	0.00
18	tC	c42	9.043	9.559 E3	-5.7	0#	0.00
19	TC	Pristane	25.999	26.015 E3	-0.1	0#	0.00
20	TC	Phytane	26.724	26.456 E3	1.0	0#	0.00
21	sC	o-terphenyl	29.230	29.350 E3	-0.4	0#	0.00
22	tC	TPHC - total	28.243	26.341 E3	6.7	0#	0.00

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

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

Client :	U.S. Army	**Lab. ID # :**	5001
	DPW. SELFM-PW-EV	**Date Rec'd:**	09-Dec-99
	Bldg. 173	**Analysis Start:**	10-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	13-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
4998.05MS	1000	0.00	984.02	98.40	75-125
4998.05MSD	1000	0.00	975.47	97.55	75-125

RPD	**0.87**	**20.00**

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991210\T009208.D Vial: 7
Acq On : 10 Dec 1999 4:50 pm Operator: Bhaskar
Sample : Tblk288BS Inst : GC/MS Ins
Misc : Tblk288BS S 991210 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 13 8:01 1999 Quant Results File: TPH67.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH67.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 07:50:37 1999
Response via : Initial Calibration
DataAcq Meth : TPH66.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	12.61	147699	4.563 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	45.63%#
Target Compounds			
2) tC C10	7.32	139629	4.738 mg/L
3) TC C12	8.98	427604	15.312 mg/L
4) tC C14	10.17	414774	15.142 mg/L
5) tC C16	11.17	344484	13.030 mg/L
6) tC C18	11.63	220430	8.562 mg/L
7) tC C20	12.07	214674	8.236 mg/L
8) tC C22	12.88	108258	4.042 mg/L
9) tC C24	13.63	49922	1.861 mg/L
19) TC Pristane	11.66	65220	2.198 mg/L
20) TC Phytane	12.11	81813	2.789 mg/L
22) tC TPHC - total	10.17	27718400	765.055 mg/L m

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

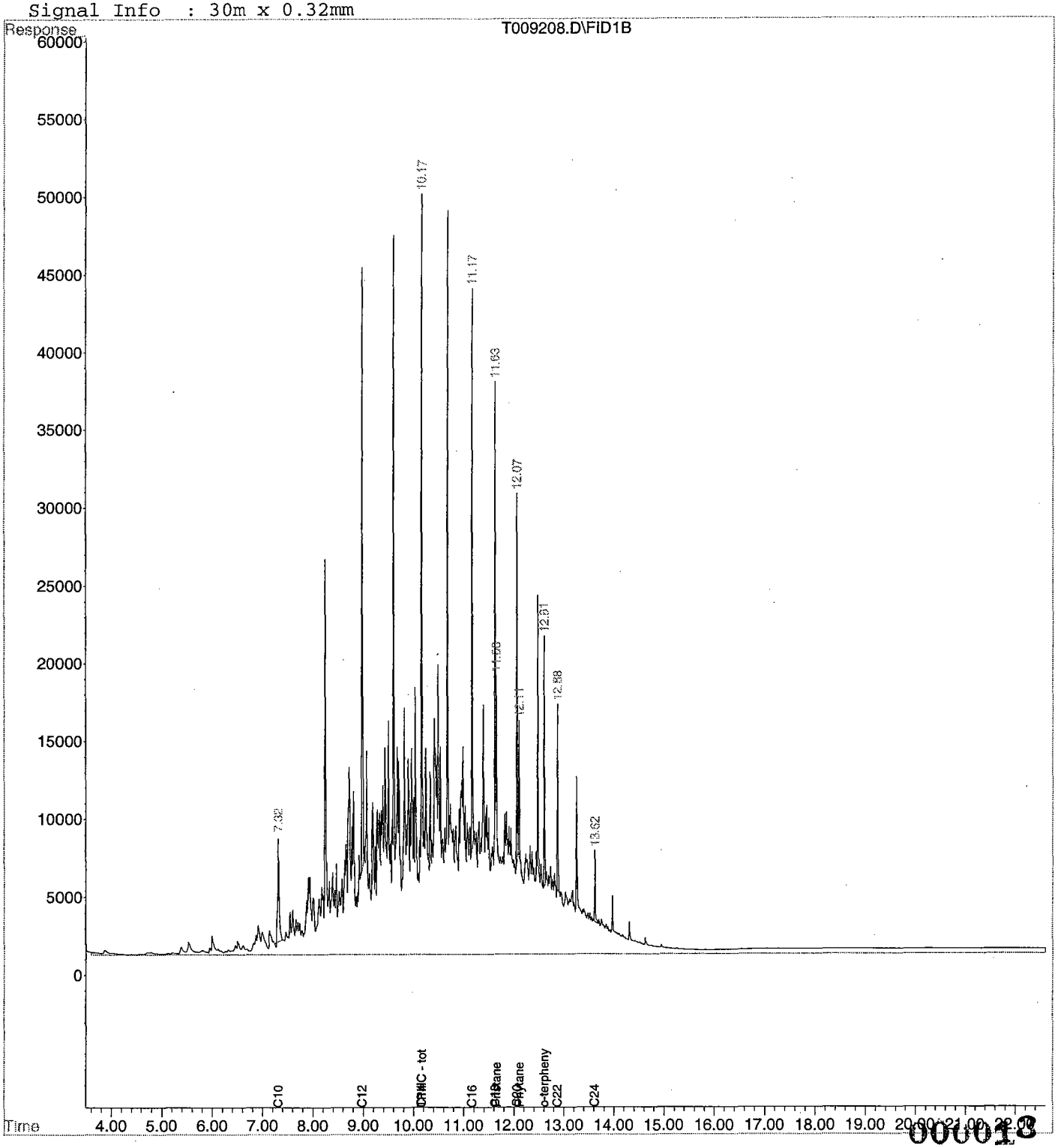
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991210\T009208.D
Acq On : 10 Dec 1999 4:50 pm
Sample : Tblk288BS
Misc : Tblk288BS S 991210
IntFile : TPHCINT.E
Quant Time: Dec 13 8:01 1999 Quant Results File: TPH67.RES

Vial: 7
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH67.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 07:50:37 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH66.M

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



000018

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991213\T009231.D Vial: 7
Acq On : 13 Dec 1999 1:56 pm Operator: Bhaskar
Sample : 5001.01 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	126456	4.326 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 43.26%#		
Target Compounds			
22) tC TPHC - total	12.61	126456	4.477 mg/L

000014

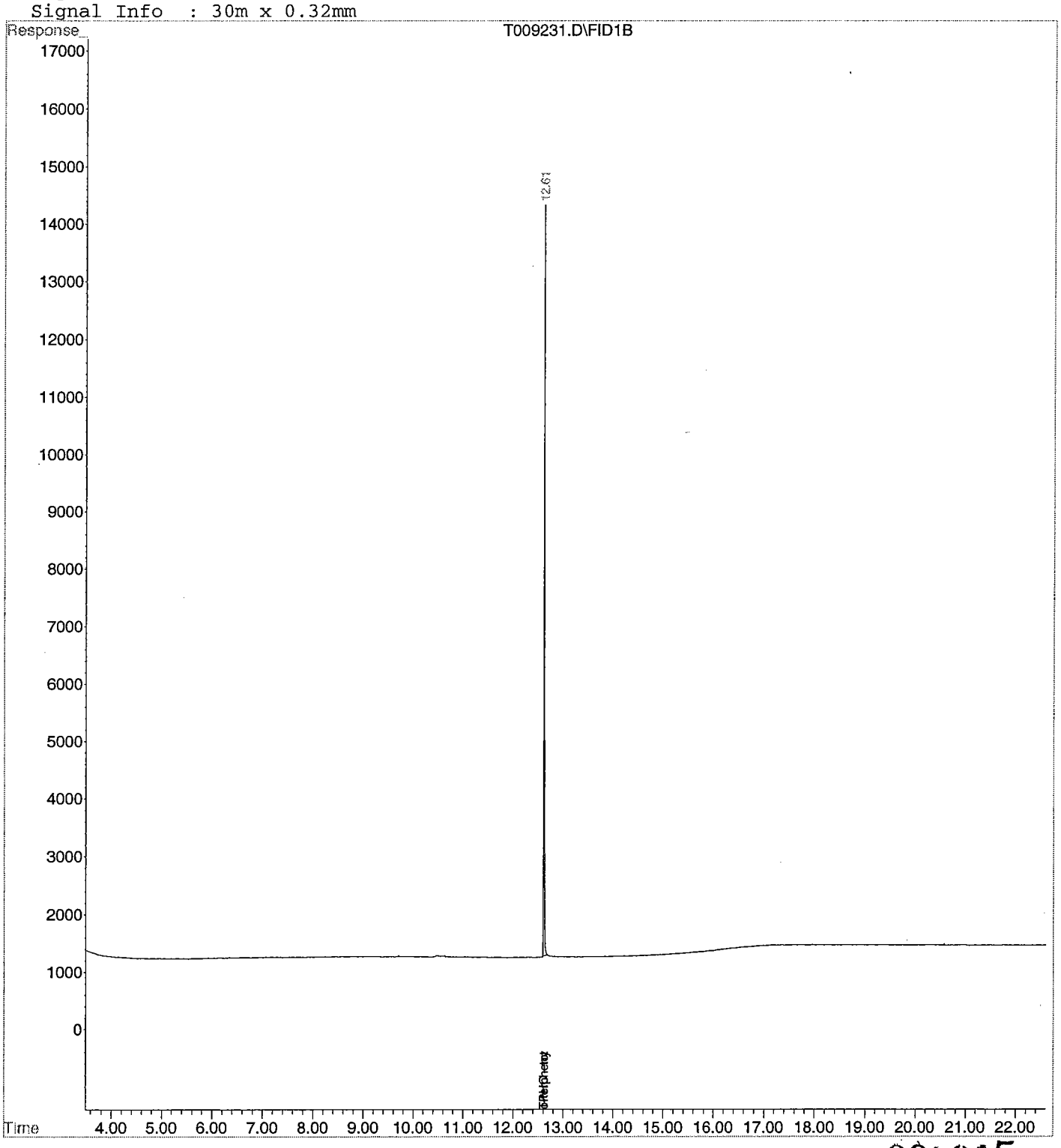
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\[illegible]TA\991213\T009231.D Vial: 7
Acq On : 13 Dec 1999 1:56 pm Operator: Bhaskar
Sample : 5001.01 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\[illegible]A\991213\T009232.D Vial: 8
Acq On : 13 Dec 1999 2:30 pm Operator: Bhaskar
Sample : 5001.02 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	147523	5.047 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 50.47%#			
Target Compounds			
22) tC TPHC - total	12.61	147523	5.223 mg/L

000016

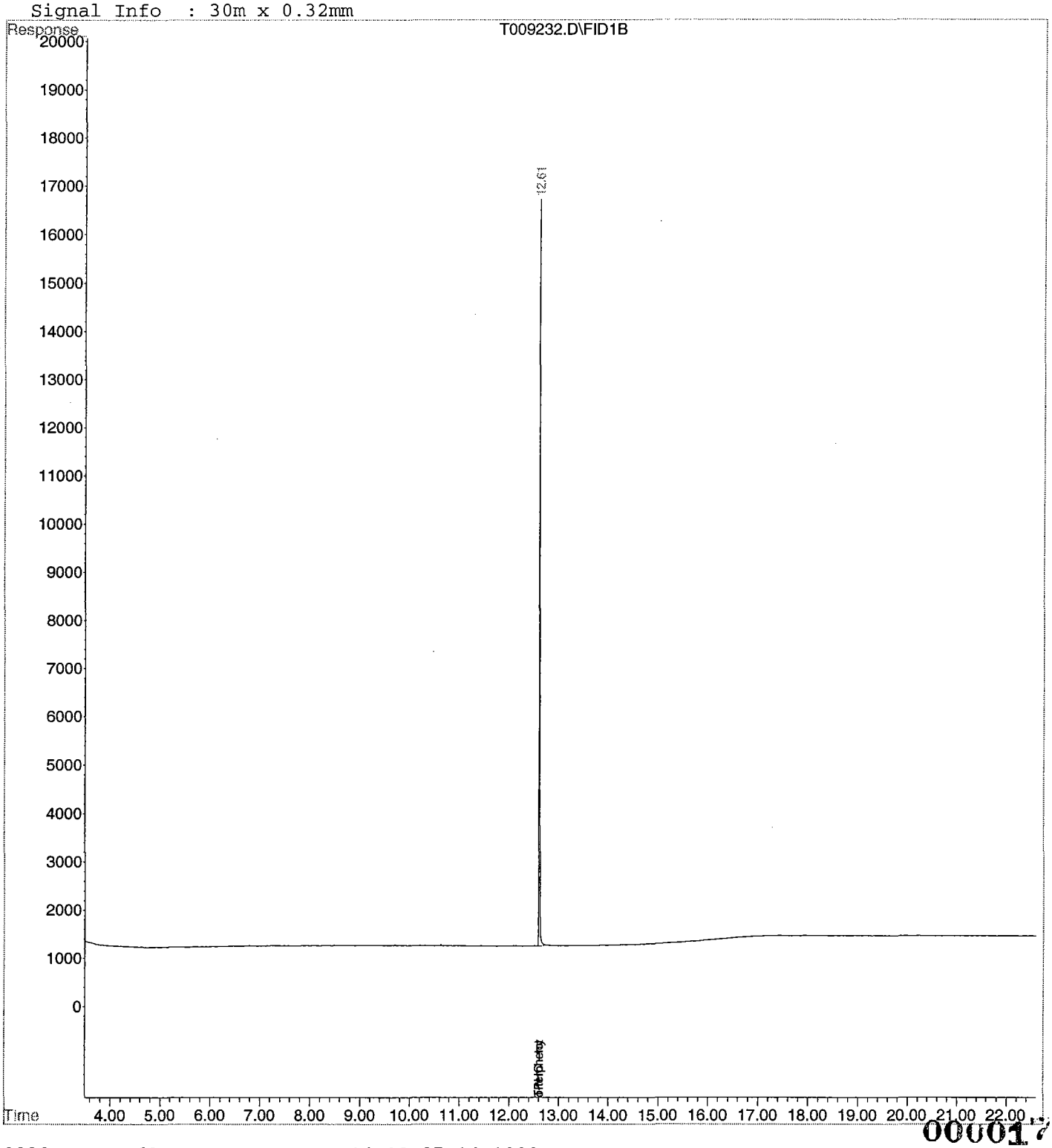
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\991213\T009232.D Vial: 8
Acq On : 13 Dec 1999 2:30 pm Operator: Bhaskar
Sample : 5001.02 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



000017

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991213\T009233.D Vial: 9
Acq On : 13 Dec 1999 3:04 pm Operator: Bhaskar
Sample : 5001.03 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	158446	5.421 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	54.21%#
Target Compounds			
22) tC TPHC - total	12.61	158446	5.610 mg/L

000018

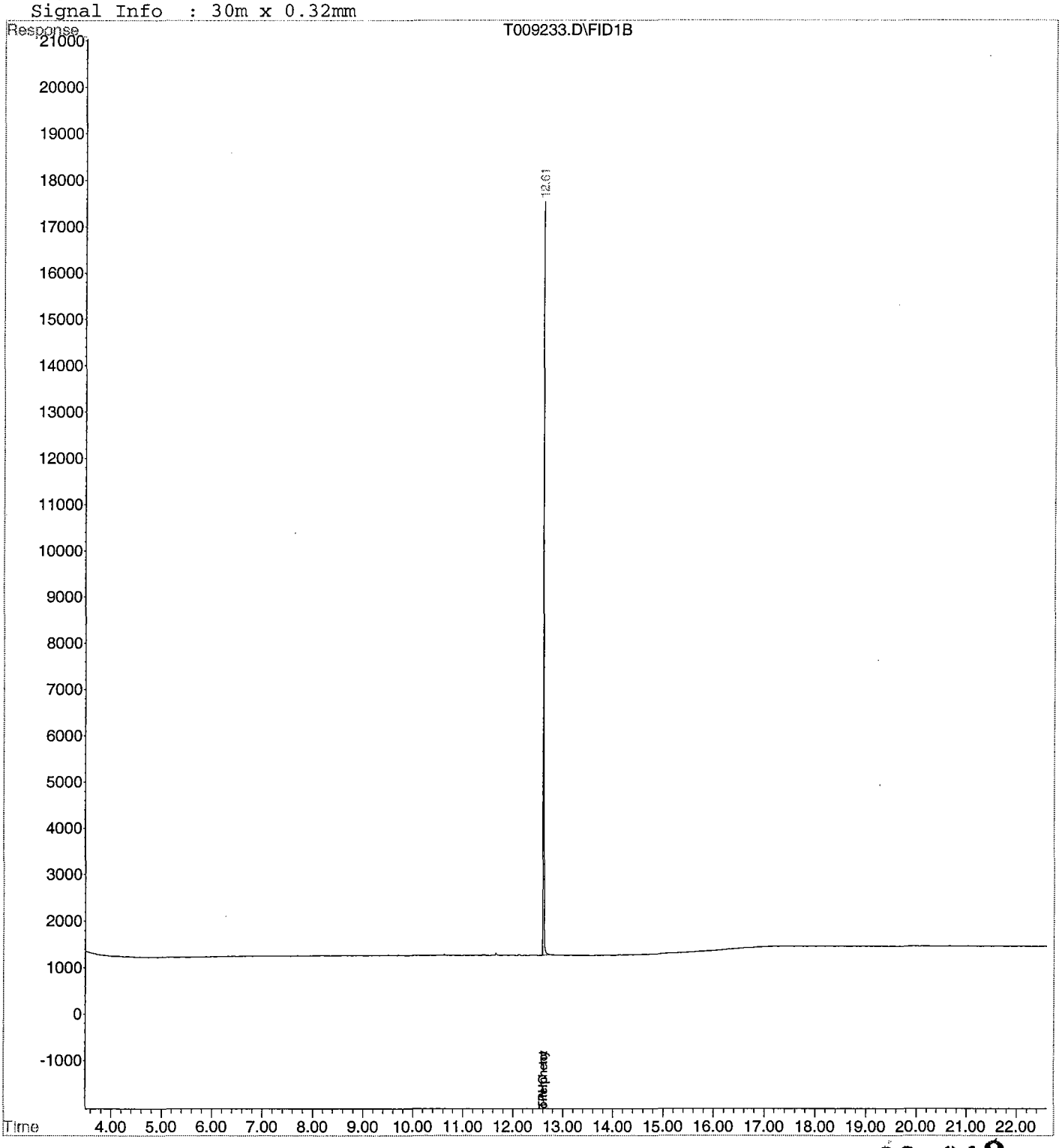
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\[illegible]A\991213\T009233.D Vial: 9
Acq On : 13 Dec 1999 3:04 pm Operator: Bhaskar
Sample : 5001.03 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



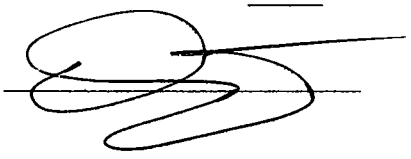
LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature 

Date 12/27/94

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# 100004

Bldg. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
2235-PX4 Bottom 11-11.5'	5017.01	Soil	16-Dec-99 08:50	12/16/99
2235-PX5 North Wall 10-10.5'	5017.02	Soil	16-Dec-99 09:20	12/16/99
2235-PX6 West Wall 9.5-10'	5017.03	Soil	16-Dec-99 09:40	12/16/99
2235-PX7 Duplicate	5017.04	Soil	16-Dec-99 09:20	12/16/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

12-22-99
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 orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

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

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

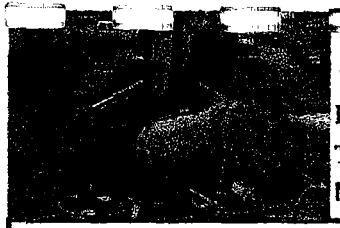
TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

Laboratory Manager

12-22-99
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@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Dinker Desai | Project No: 100004
Phone #: X21475 | Location: BLDG. 2235
( )DERA (X)OMA UST Assessment | UST# 81515-5
Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS *	VOA+10 *	VOA ID #	PID Reading	Remarks / Preservation Method
5017. 01	2235-PX4, BOTTOM 11-11.5 FT	12-16-99	0850	SOIL	2	X	X	X	66	4	ICE
02	2235-PX5, NORTH WALL 10-10.5 FT		0920		2	X	X	X	70	6	
03	2235-PX6, WEST WALL 9.5-10 FT		0940		2	X	X	X	71	35	
04	2235-PX7, DUPLICATE		0920		2	X	X	X	88	3	

Comments: * = Samples Kept <4°C

OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 246 ppm. 0800 12-16-99 (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	
Frank Accorsi	12-16-99 1130				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	

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

Remarks: X CONTINGENT VO+10 ON 25% > 1,000 ppm TPH ON HIGHEST
Dedicated Sampling Tools Used
All sample points have been GPS? (X)YES ( )NO ( )NA

000003

print legibly

USTcoc.xls11/5/99

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

Client :	U.S. Army	**Lab. ID # :**	5017
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-99
	Bldg. 173	**Analysis Start:**	17-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	17-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5017.01	2235-PX4	**1.00**	15.32	75.48	203	**377.20**
5017.02	2235-PX5	**1.00**	14.92	82.31	191	**265.09**
5017.03	2235-PX6	**1.00**	15.14	81.61	190	**779.07**
5017.04	2235-PX7	**1.00**	15.07	85.97	181	**258.46**
METHOD BLANK	TBLK290	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999

Calibration Files
100 =T009278.D 50 =T009279.D 20 =T009282.D
10 =T009286.D 5 =T009284.D

		Compound	100	50	20	10	5	Avg		%RSD
1)	tC	C8	2.541	2.605	2.535	2.534	2.432	2.529	E4	2.45
2)	tC	C10	2.715	2.791	2.745	2.764	2.471	2.697	E4	4.81
3)	TC	C12	2.643	2.733	2.680	2.739	2.527	2.664	E4	3.25
4)	tC	C14	2.525	2.608	2.503	2.542	2.419	2.519	E4	2.71
5)	tC	C16	2.473	2.575	2.474	2.586	2.482	2.518	E4	2.26
6)	tC	C18	2.417	2.611	2.582	2.578	2.390	2.516	E4	4.11
7)	tC	C20	2.483	2.588	2.469	2.510	2.303	2.471	E4	4.22
8)	tC	C22	2.544	2.658	2.554	2.680	2.575	2.602	E4	2.40
9)	tC	C24	2.535	2.638	2.520	2.646	2.598	2.588	E4	2.24
10)	tC	C26	2.487	2.586	2.441	2.591	2.525	2.526	E4	2.54
11)	tC	C28	2.448	2.540	2.400	2.498	2.407	2.458	E4	2.43
12)	tC	C30	2.525	2.583	2.423	2.530	2.417	2.496	E4	2.91
13)	tC	C32	2.427	2.453	2.259	2.326	2.183	2.330	E4	4.86
14)	tC	C34	2.296	2.399	2.186	2.275	2.148	2.261	E4	4.35
15)	tC	C36	1.781	1.849	1.687	1.697	1.622	1.727	E4	5.11
16)	tC	C38	1.373	1.438	1.290	1.290	1.228	1.324	E4	6.18
17)	tC	C40	8.173	8.723	7.668	7.664	7.106	7.867	E3	7.75
18)	tC	c42	5.628	6.099	5.617	5.250	5.583	5.635	E3	5.37
19)	TC	Pristane	2.622	2.729	2.650	2.813	2.720	2.707	E4	2.77
20)	TC	Phytane	2.569	2.578	2.700	2.630	2.566	2.609	E4	2.20
21)	sC	o-terphenyl	2.947	3.070	2.998	3.174	3.113	3.060	E4	2.94
22)	tC	TPHC - total	2.535	2.699	2.823	3.093	3.624	2.955	E4	14.42

#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991217\T009298.D Vial: 18
Acq On : 18 Dec 1999 1:14 am Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 ppm cal Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 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	25.294	26.799	E3	-6.0	103	0.00
2	tC	C10	26.973	28.739	E3	-6.5	103	0.00
3	TC	C12	26.643	28.035	E3	-5.2	103	0.00
4	tC	C14	25.192	26.608	E3	-5.6	102	0.00
5	tC	C16	25.180	25.976	E3	-3.2	101	0.00
6	tC	C18	25.155	25.546	E3	-1.6	98	0.00
7	tC	C20	24.706	25.975	E3	-5.1	100	0.00
8	tC	C22	26.023	26.530	E3	-1.9	100	0.00
9	tC	C24	25.875	26.347	E3	-1.8	100	0.00
10	tC	C26	25.261	25.763	E3	-2.0	100	0.00
11	tC	C28	24.585	25.280	E3	-2.8	100	0.00
12	tC	C30	24.957	25.685	E3	-2.9	99	0.00
13	tC	C32	23.299	24.255	E3	-4.1	99	0.00
14	tC	C34	22.607	23.515	E3	-4.0	98	0.00
15	tC	C36	17.272	18.035	E3	-4.4	98	0.00
16	tC	C38	13.237	13.801	E3	-4.3	96	0.00
17	tC	C40	7.867	8.332	E3	-5.9	96	-0.01
18	tC	c42	5.635	5.694	E3	-1.0	93	-0.02
19	TC	Pristane	27.067	27.349	E3	-1.0	100	0.00
20	TC	Phytane	26.089	25.863	E3	0.9	100	0.00
21	sC	o-terphenyl	30.604	31.083	E3	-1.6	101	0.00
22	tC	TPHC - total	29.549	26.711	E3	9.6	99	0.00

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

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

Client :	U.S. Army	**Lab. ID # :**	5017
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-99
	Bldg. 173	**Analysis Start:**	17-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	17-Dec-99
		UST Reg. #:	81515-5
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	B.Patel	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 mm
Column Type	RTX 5	**Location #:**	Bldg.2235
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
5017.01			10.00	8.99	**89.90**
5017.02			10.00	9.16	**91.60**
5017.03			20.00	17.45	**87.24**
5017.04			10.00	9.09	**90.90**
METHOD BLANK	TBLK290		10.00	9.26	**92.64**

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 # :**	5017
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-99
	Bldg. 173	**Analysis Start:**	17-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	17-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
5017.02MS	1000	65.11	940.56	87.54	75-125
5017.02MSD	1000	65.11	926.59	86.15	75-125
			RPD	**1.61**	**20.00**

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\[illegible]A\991217\T009295.D Vial: 15
Acq On : 17 Dec 1999 11:37 pm Operator: Bhaskar
Sample : 5017.02sMSD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	263195	8.600 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 86.00%#			
Target Compounds			
2) tC C10	7.31	155548	5.767 mg/L
3) TC C12	8.98	430390	16.154 mg/L
4) tC C14	10.16	429481	17.049 mg/L
5) tC C16	11.17	350104	13.904 mg/L
6) tC C18	11.63	225929	8.981 mg/L
7) tC C20	12.06	222283	8.997 mg/L
8) tC C22	12.88	116243	4.467 mg/L
9) tC C24	13.62	52100	2.013 mg/L
19) TC Pristane	11.65	72800	2.690 mg/L
20) TC Phytane	12.11	97791	3.748 mg/L
22) tC TPHC - total	10.16	27379902	926.593 mg/L m

000018

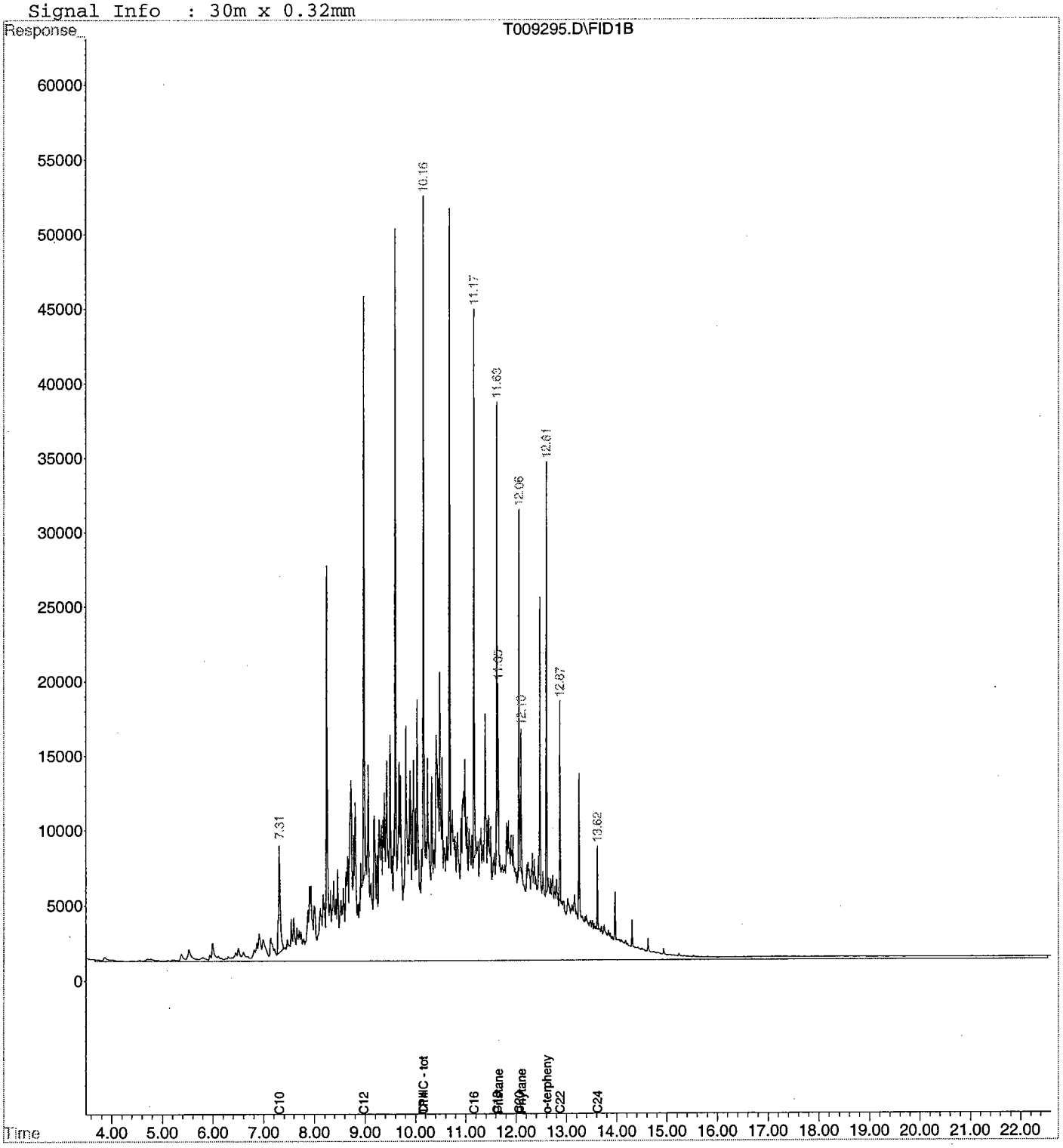
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\[illegible]A\991217\T009295.D Vial: 15
Acq On : 17 Dec 1999 11:37 pm Operator: Bhaskar
Sample : 5017.02sMSD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\[illegible]TA\991217\T009296.D Vial: 16
Acq On : 18 Dec 1999 12:09 am Operator: Bhaskar
Sample : 5017.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	533954	17.447 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 174.47%#	
Target Compounds			
4) tC C14	10.04	31188	1.238 mg/L
6) tC C18	11.65	49952	1.986 mg/L
19) TC Pristane	11.65	49952	1.846 mg/L
22) tC TPHC - total	12.61	5688550	192.512 mg/L m

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

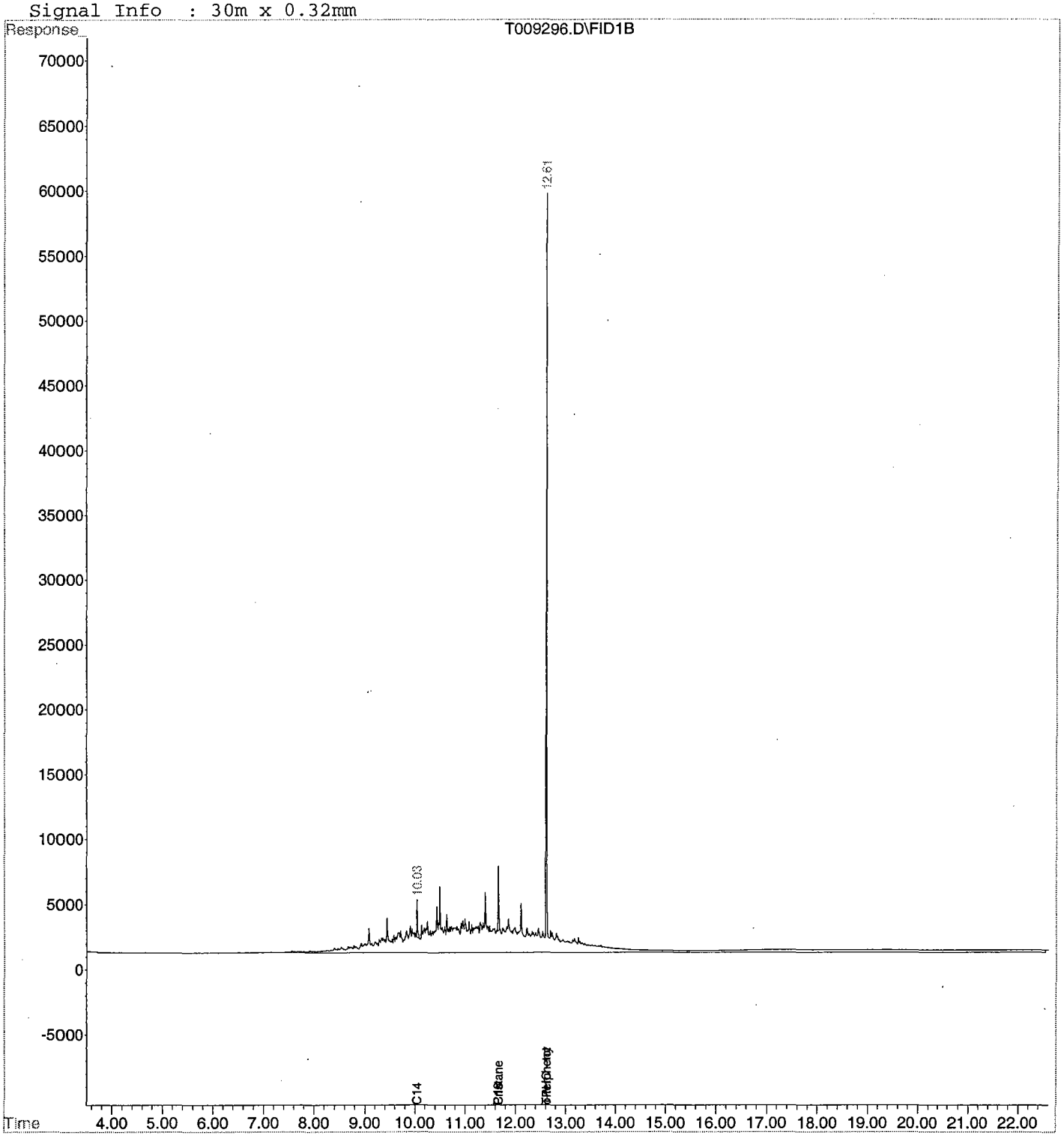
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009296.D
Acq On : 18 Dec 1999 12:09 am
Sample : 5017.03s
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Vial: 16
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



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# 100004

Bldg. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
2235-PX8 South Wall 7.5-8'	5035.01	Soil	20-Dec-99 11:10	12/20/99
2235-PX9 South Wall 7.5-8'	5035.02	Soil	20-Dec-99 13:30	12/20/99
2235-PX10 Duplicate	5035.03	Soil	20-Dec-99 11:10	12/20/99
Trip Blank	5035.04	Soil	20-Dec-99	12/20/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

1/05/00
Daniel Wright/Date
Laboratory Director

Table of Contents

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

Client :	U.S. Army	**Lab. ID # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5035.01	2235-PX8	**1.00**	15.46	83.81	181	**ND**
5035.02	2235-PX9	**1.00**	15.23	84.15	183	**ND**
5035.03	2235-PX10	**1.00**	15.03	84.16	186	**ND**
METHOD BLANK	TBLK294	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999

Calibration Files
100 =T009278.D 50 =T009279.D 20 =T009282.D
10 =T009286.D 5 =T009284.D

		Compound	100	50	20	10	5	Avg		%RSD
1)	tC	C8	2.541	2.605	2.535	2.534	2.432	2.529	E4	2.45
2)	tC	C10	2.715	2.791	2.745	2.764	2.471	2.697	E4	4.81
3)	TC	C12	2.643	2.733	2.680	2.739	2.527	2.664	E4	3.25
4)	tC	C14	2.525	2.608	2.503	2.542	2.419	2.519	E4	2.71
5)	tC	C16	2.473	2.575	2.474	2.586	2.482	2.518	E4	2.26
6)	tC	C18	2.417	2.611	2.582	2.578	2.390	2.516	E4	4.11
7)	tC	C20	2.483	2.588	2.469	2.510	2.303	2.471	E4	4.22
8)	tC	C22	2.544	2.658	2.554	2.680	2.575	2.602	E4	2.40
9)	tC	C24	2.535	2.638	2.520	2.646	2.598	2.588	E4	2.24
10)	tC	C26	2.487	2.586	2.441	2.591	2.525	2.526	E4	2.54
11)	tC	C28	2.448	2.540	2.400	2.498	2.407	2.458	E4	2.43
12)	tC	C30	2.525	2.583	2.423	2.530	2.417	2.496	E4	2.91
13)	tC	C32	2.427	2.453	2.259	2.326	2.183	2.330	E4	4.86
14)	tC	C34	2.296	2.399	2.186	2.275	2.148	2.261	E4	4.35
15)	tC	C36	1.781	1.849	1.687	1.697	1.622	1.727	E4	5.11
16)	tC	C38	1.373	1.438	1.290	1.290	1.228	1.324	E4	6.18
17)	tC	C40	8.173	8.723	7.668	7.664	7.106	7.867	E3	7.75
18)	tC	c42	5.628	6.099	5.617	5.250	5.583	5.635	E3	5.37
19)	TC	Pristane	2.622	2.729	2.650	2.813	2.720	2.707	E4	2.77
20)	TC	Phytane	2.569	2.578	2.700	2.630	2.566	2.609	E4	2.20
21)	sC	o-terphenyl	2.947	3.070	2.998	3.174	3.113	3.060	E4	2.94
22)	tC	TPHC - total	2.535	2.699	2.823	3.093	3.624	2.955	E4	14.42

#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991221\T009345.D Vial: 99
Acq On : 21 Dec 1999 3:22 pm Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 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	25.294	25.546 E3	-1.0	98	0.00
2	tC	C10	26.973	27.640 E3	-2.5	99	0.00
3	TC	C12	26.643	27.542 E3	-3.4	101	0.00
4	tC	C14	25.192	26.555 E3	-5.4	102	0.00
5	tC	C16	25.180	25.644 E3	-1.8	100	0.00
6	tC	C18	25.155	26.927 E3	-7.0	103	0.00
7	tC	C20	24.706	25.195 E3	-2.0	97	0.00
8	tC	C22	26.023	25.615 E3	1.6	96	0.00
9	tC	C24	25.875	25.115 E3	2.9	95	0.00
10	tC	C26	25.261	24.428 E3	3.3	94	0.00
11	tC	C28	24.585	23.743 E3	3.4	93	0.00
12	tC	C30	24.957	24.356 E3	2.4	94	0.00
13	tC	C32	23.299	22.593 E3	3.0	92	0.00
14	tC	C34	22.607	21.521 E3	4.8	90	0.00
15	tC	C36	17.272	16.000 E3	7.4	87	0.00
16	tC	C38	13.237	11.993 E3	9.4	83	0.00
17	tC	C40	7.867	6.834 E3	13.1	78	0.00
18	tC	c42	5.635	4.670 E3	17.1	77	0.00
19	TC	Pristane	27.067	26.946 E3	0.4	99	0.00
20	TC	Phytane	26.089	25.084 E3	3.9	97	0.00
21	sC	o-terphenyl	30.604	30.397 E3	0.7	99	0.00
22	tC	TPHC - total	29.549	28.725 E3	2.8	106	0.00

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991221\T009356.D Vial: 11
Acq On : 21 Dec 1999 9:30 pm Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 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	25.294	26.047	E3	-3.0	100	0.00
2	tC	C10	26.973	28.641	E3	-6.2	103	0.00
3	TC	C12	26.643	28.626	E3	-7.4	105	0.00
4	tC	C14	25.192	27.628	E3	-9.7	106	0.00
5	tC	C16	25.180	26.950	E3	-7.0	105	0.00
6	tC	C18	25.155	26.728	E3	-6.3	102	0.00
7	tC	C20	24.706	27.077	E3	-9.6	105	0.00
8	tC	C22	26.023	27.407	E3	-5.3	103	0.00
9	tC	C24	25.875	27.190	E3	-5.1	103	0.00
10	tC	C26	25.261	26.475	E3	-4.8	102	0.00
11	tC	C28	24.585	25.989	E3	-5.7	102	0.00
12	tC	C30	24.957	26.368	E3	-5.7	102	0.00
13	tC	C32	23.299	24.824	E3	-6.5	101	0.00
14	tC	C34	22.607	23.659	E3	-4.7	99	0.00
15	tC	C36	17.272	17.922	E3	-3.8	97	0.00
16	tC	C38	13.237	13.512	E3	-2.1	94	0.00
17	tC	C40	7.867	7.907	E3	-0.5	91	0.00
18	tC	c42	5.635	5.664	E3	-0.5	93	0.00
19	TC	Pristane	27.067	28.175	E3	-4.1	103	0.00
20	TC	Phytane	26.089	27.025	E3	-3.6	105	0.00
21	sC	o-terphenyl	30.604	32.050	E3	-4.7	104	0.00
22	tC	TPHC - total	29.549	27.771	E3	6.0	103	0.00

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

Client :	U.S. Army	**Lab. ID # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
		UST Reg. #:	81515-5
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	B.Patel	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 mm
Column Type	RTX 5	**Location #:**	Bldg.2235
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
5035.01			10.00	9.56	**95.59**
5035.02			10.00	8.67	**86.70**
5035.03			10.00	9.13	**91.30**
METHOD BLANK	TBLK294		10.00	8.79	**87.89**

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 # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
5032.03MS	1000	72.05	989.30	91.73	75-125
5032.03MSD	1000	72.05	923.82	85.18	75-125
			RPD	**7.40**	**20.00**

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

Client :	U.S. Army	**Lab. ID # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	21-Dec-99	1000	892.32	89.23	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991221\T009347.D Vial: 2
Acq On : 21 Dec 1999 4:29 pm Operator: Bhaskar
Sample : Tblk294 Inst : GC/MS Ins
Misc : Tblk294 S 991221 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:30 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	268978	8.789 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 87.89%#			
Target Compounds			
22) tC TPHC - total	12.61	268978	9.103 mg/L

000011

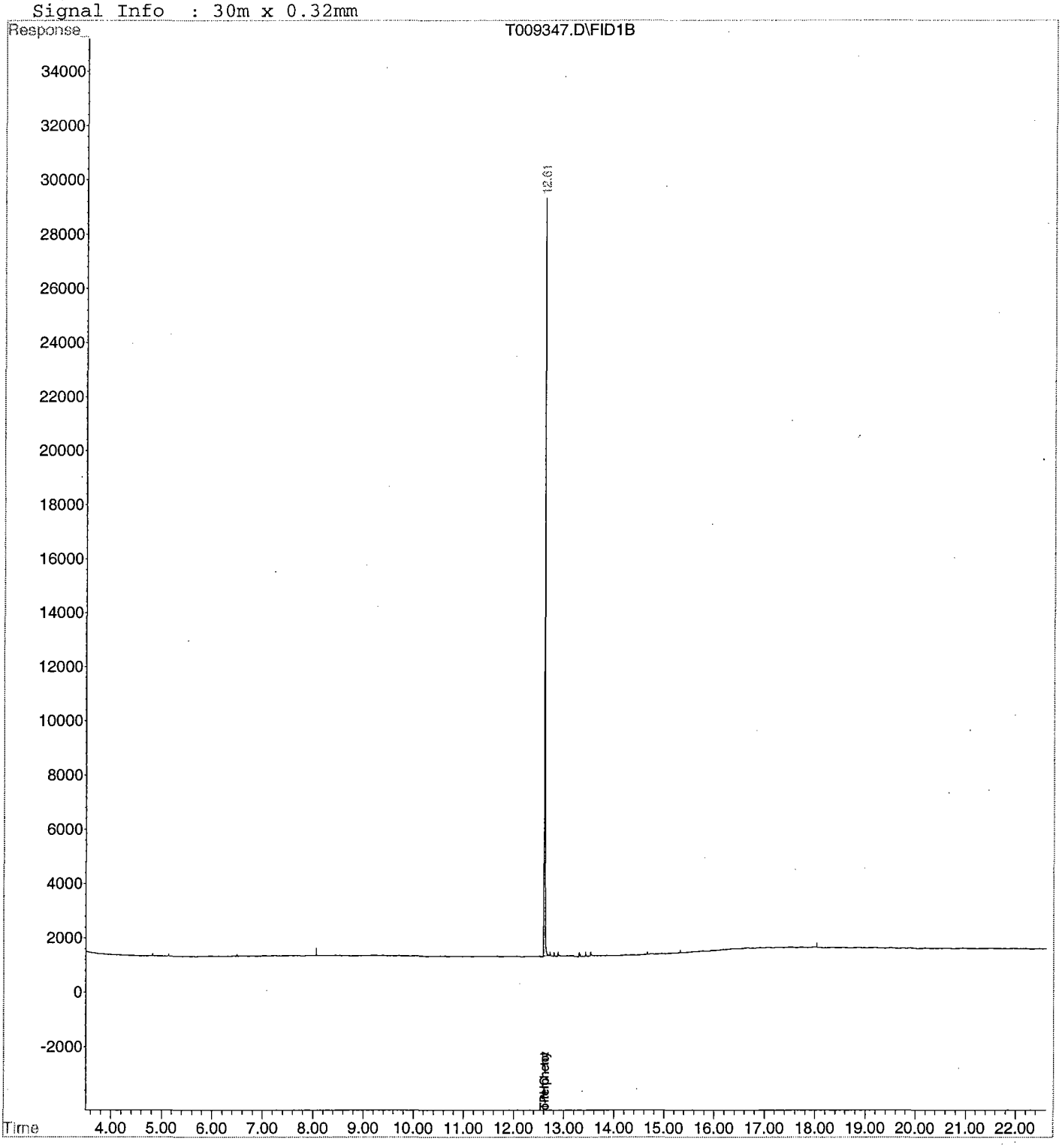
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\[illegible]A\991221\T009347.D Vial: 2
Acq On : 21 Dec 1999 4:29 pm Operator: Bhaskar
Sample : Tblk294 Inst : GC/MS Ins
Misc : Tblk294 S 991221 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:30 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\[illegible]A\991221\T009349.D Vial: 4
Acq On : 21 Dec 1999 5:36 pm Operator: Bhaskar
Sample : 5035.01s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	292554	9.559 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 95.59%#			
Target Compounds			
22) tC TPHC - total	12.61	1360920	46.056 mg/L m

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

000013

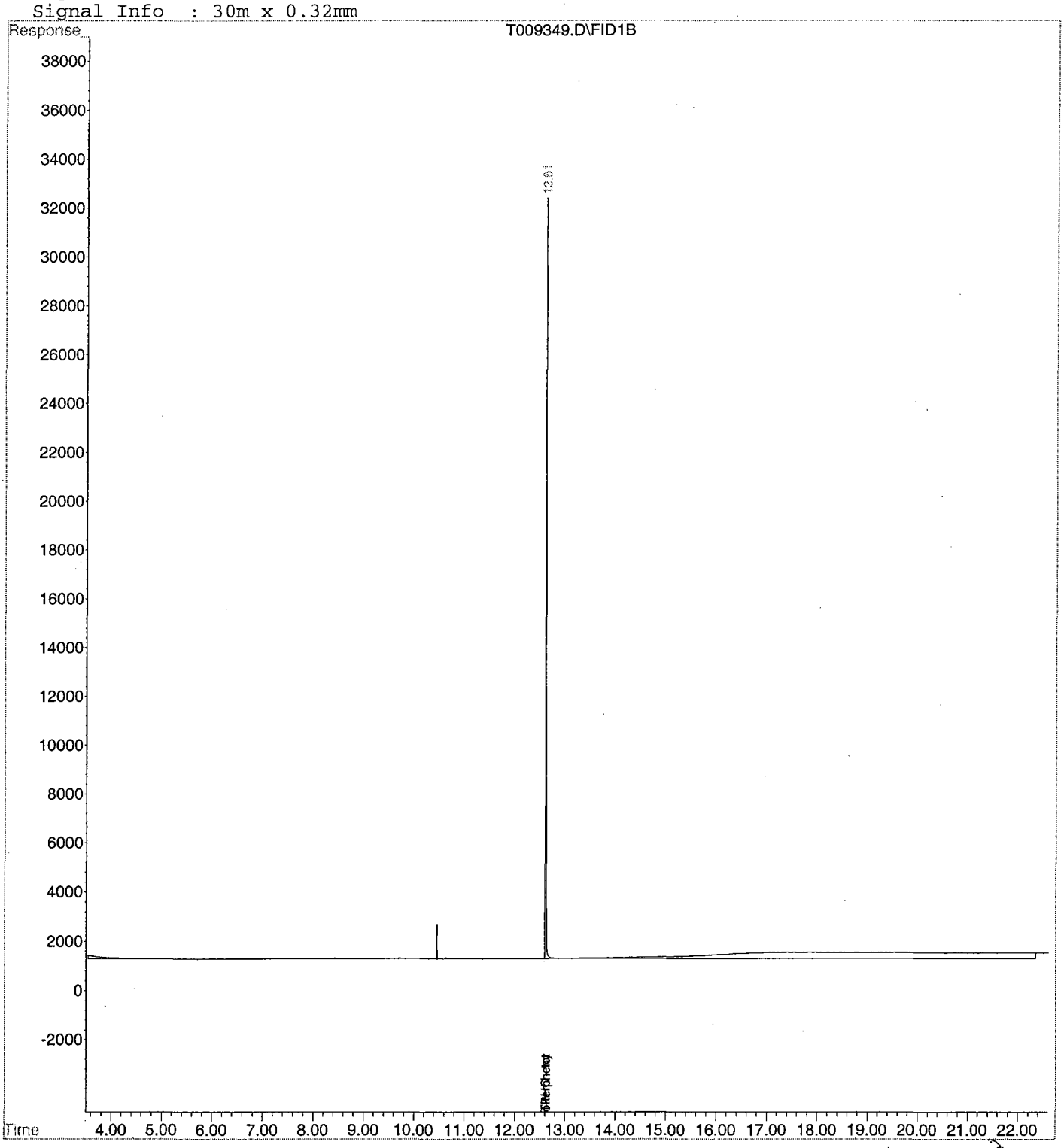
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991221\T009349.D
Acq On : 21 Dec 1999 5:36 pm
Sample : 5035.01s
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

Vial: 4
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\[illegible]A\991221\T009350.D Vial: 5
Acq On : 21 Dec 1999 6:09 pm Operator: Bhaskar
Sample : 5035.02s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	265343	8.670 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 86.70%#			
Target Compounds			
22) tC TPHC - total	12.61	1304714	44.154 mg/L m

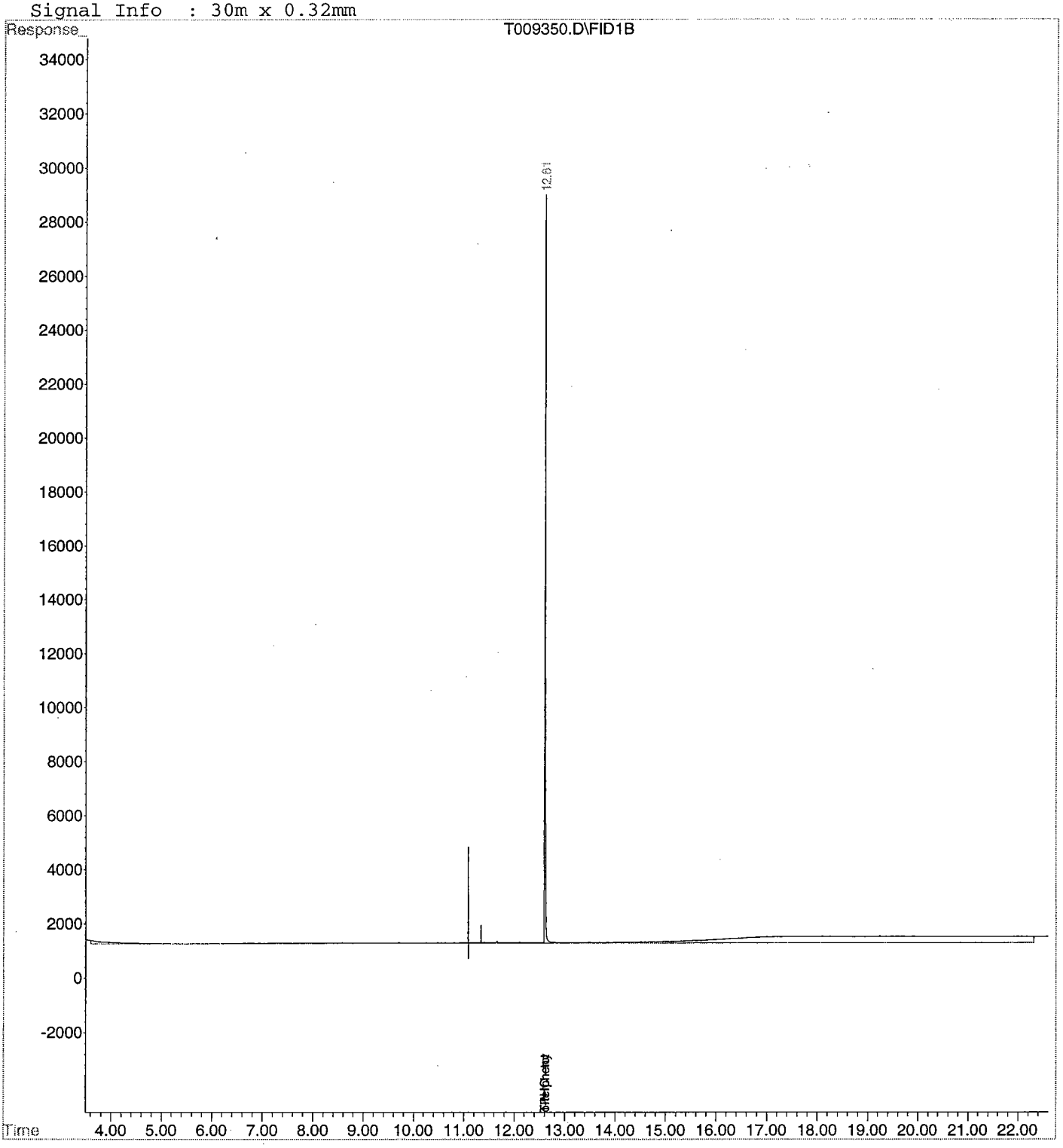
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\[illegible]A\991221\T009350.D [illegible]l: 5
Acq On : 21 Dec 1999 6:09 pm Operator: Bhaskar
Sample : 5035.02s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\[illegible]A\991221\T009351.D Vial: 6
Acq On : 21 Dec 1999 6:43 pm Operator: Bhaskar
Sample : 5035.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:32 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	279425	9.130 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 91.30%#			
Target Compounds			
22) tC TPHC - total	12.61	1325875	44.870 mg/L m

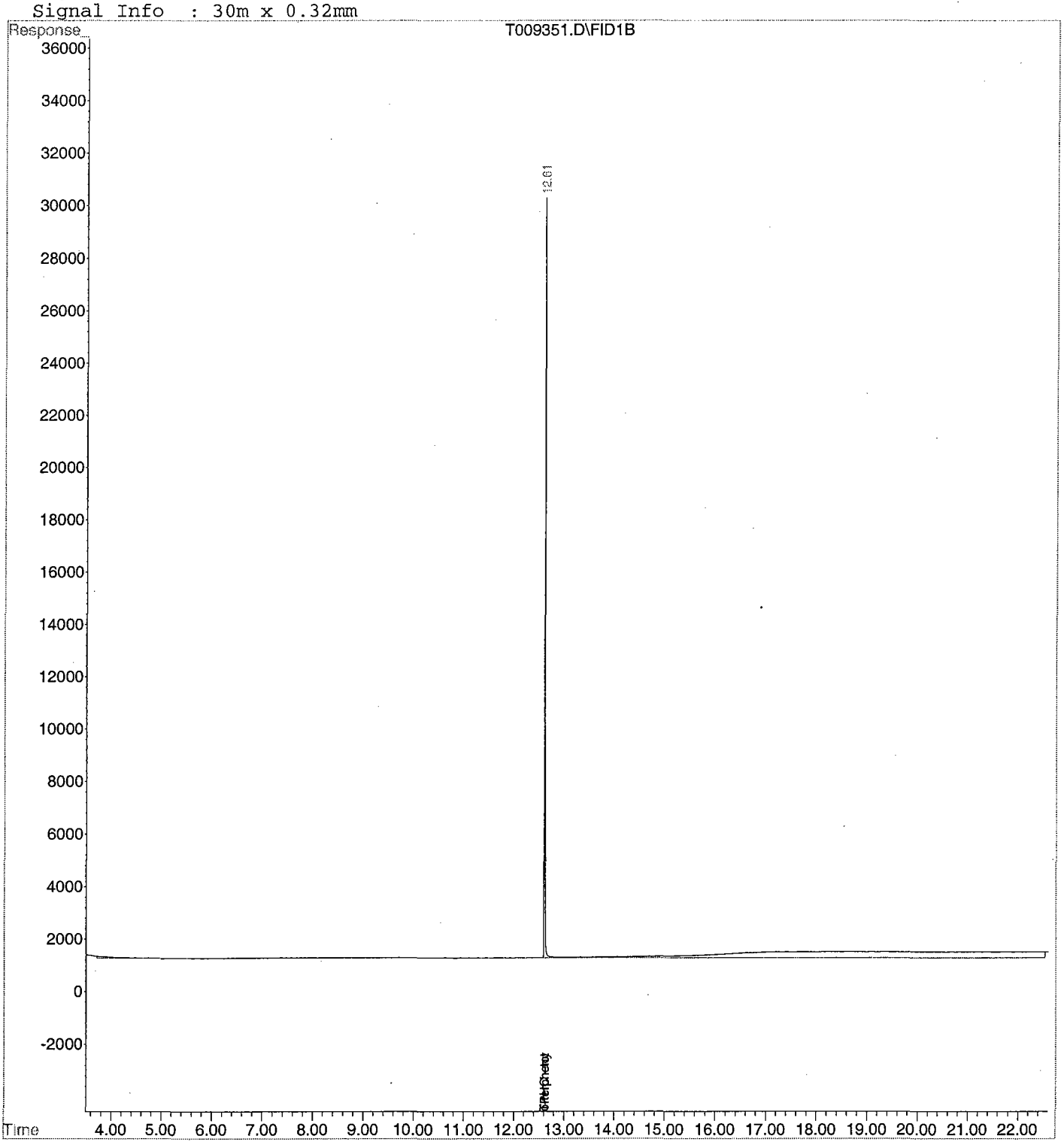
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\L ...TA\991221\T009351.D ...al: 6
Acq On : 21 Dec 1999 6:43 pm Operator: Bhaskar
Sample : 5035.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:32 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.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 _____

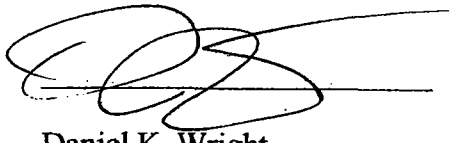
Date 01/03/00

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. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Bldg. 2235	16249.01	Aqueous	12-Jul-01 15:00	07/12/01

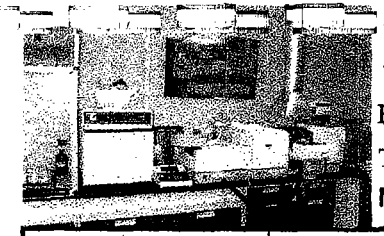
ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

9-24-01
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. Desai
Phone #: X21475
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Bldg 2235 UST GW Rnd 2

Samplers Name / Company: Corey McCormack, TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	+Xylene VOA +15	BN+15							Comments: Remarks / Preservation Method
1102A901	Bldg 2235 GW	7/12/01	1500	AQ	3	✓	✓							Cloudy, low wtr flow

Analysis Parameters

Comments: 4°C / HCl

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	7/12/01 1545				
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:

000002

print legibly

Coc.xls6/26/01

METHOD SUMMARY

Method Summary

EPA Method 624 – Aqueous
Gas Chromatographic Determination of Volatiles in Water

A 5-ml volume of sample is added to 5-ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

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

Surrogates are added to a 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 (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: 9-24-01

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16249

Site: Bldg. 2235

	Date	Hold Time
Date Sampled	07/12/01	NA
Receipt/Refrigeration	07/12/01	NA
Extractions		
1. BN	07/17/01	7 days
Analyses		
1. VOA	07/16,17/01	14 days
2. BN	07/25/01	40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

Definition of Qualifiers

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

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

Data File	**VC006514.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**16-Jul-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

8/6/01 2:15 PM

D:\HPCHEM\Custrpt\Volatile\624fy00.crt

000012

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 2126**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.: _____

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006514.D

Level: (low/med) LOW Date Received: 7/12/01

% Moisture: not dec. _____ Date Analyzed: 7/16/01

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	**VC006538.D**	Sample Name	**1624901**
Operator	**Skelton**	Field ID	**Bldg2235GW**
Date Aquired	**17-Jul-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

8/6/01 2:15 PM

D:\HPCHEM\Custrpt\Volatile\624fy00.crt

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **2235**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1624901

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006538.D

Level: (low/med) LOW Date Received: 7/12/01

% Moisture: not dec. _____ Date Analyzed: 7/17/01

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: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: VC006451.D BFB Injection Date: 7/9/01

Instrument ID: VoaInst#3 BFB Injection Time: 10:27

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	16.4
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	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	69.8
175	4.0 - 9.0% of mass 174	4.7 (6.8)1
176	93.0 - 101.0% of mass 174	66.3 (95.1)1
177	5.0 - 9.0% of mass 176	4.3 (6.4)2

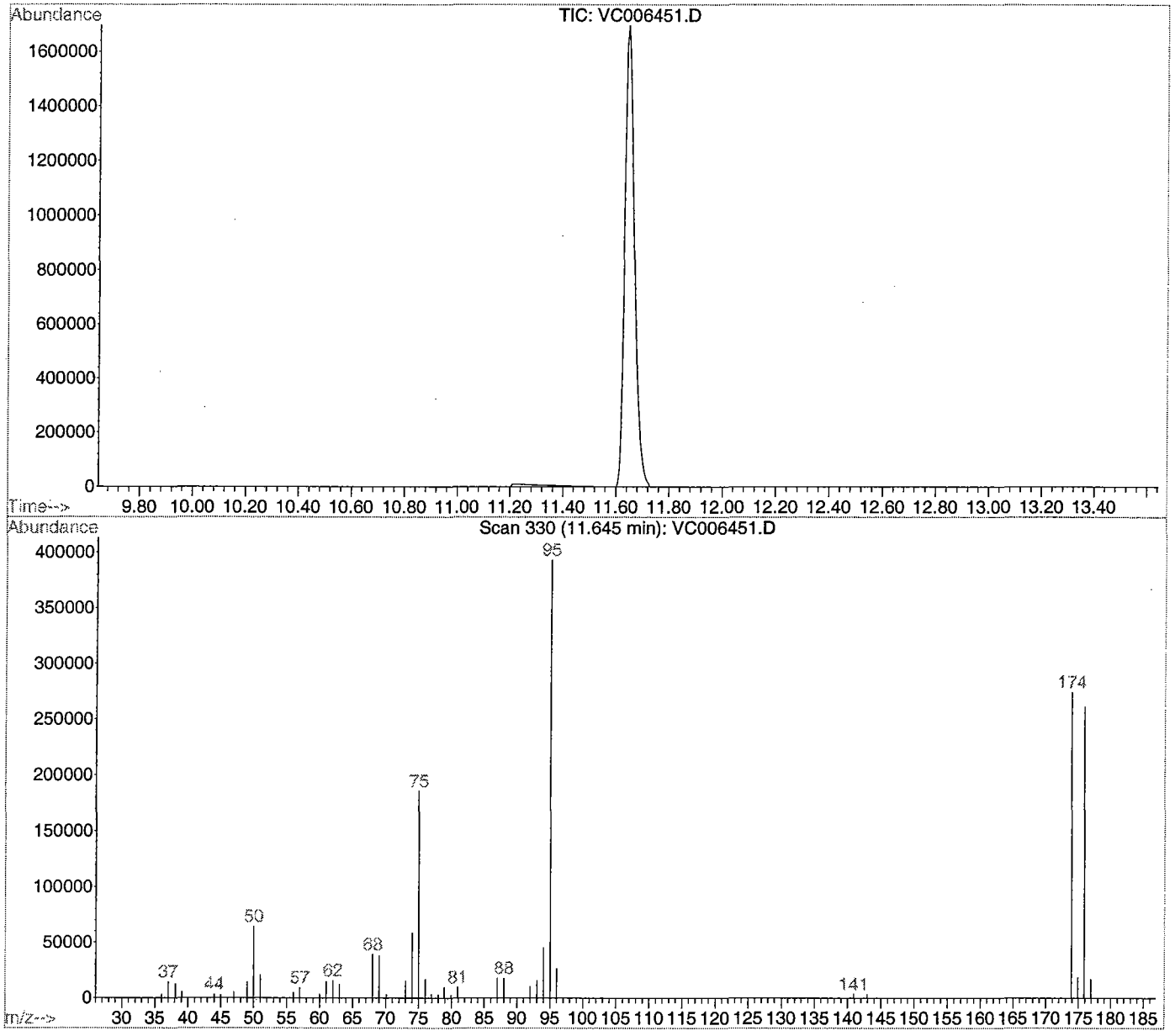
1-Value is % mass 174 2-Value is % mass 176

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	VC006452.D	7/9/01	11:03
02	VSTD100	VSTD100	VC006453.D	7/9/01	11:59
03	VSTD050	VSTD050	VC006454.D	7/9/01	12:40
04	VSTD010	VSTD010	VC006455.D	7/9/01	13:21
05	VSTD005	VSTD005	VC006456.D	7/9/01	14:01

BFB

Data File : D:\HPCHEM\1\DATA\010709\VC006451.D Vial: 1
Acq On : 9 Jul 2001 10:27 am 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\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 330

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.4	64416	PASS
75	95	30	60	47.2	185728	PASS
95	95	100	100	100.0	393408	PASS
96	95	5	9	6.8	26672	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	69.8	274496	PASS
175	174	5	9	6.8	18552	PASS
176	174	95	101	95.1	260992	PASS
177	176	5	9	6.4	16784	PASS

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 2001
Response via : Initial Calibration

Calibration Files
50 =VC006454.D 5 =VC006456.D 10 =VC006455.D
20 =VC006452.D 100 =VC006453.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.416	0.342	0.411	0.398	0.406	0.395	7.69
3)	t	Acrylonitrile	1.054	1.033	1.132	1.138	1.059	1.083	4.47
4)	t	tert-Butyl alcohol	0.125	0.069	0.112	0.125	0.152	0.116	25.99
5)	t	Methyl-tert-Butyl eth	5.666	4.895	5.442	5.743	5.991	5.547	7.46
6)	t	Di-isopropyl ether	1.806	1.274	1.602	1.779	1.921	1.677	15.07
7)	T	Dichlorodifluorometha	1.769	1.155	1.273	2.011	1.833	1.608	23.17
8)	TP	Chloromethane	2.038	1.785	1.862	2.311	2.072	2.014	10.16
9)	TC	Vinyl Chloride	2.375	2.384	2.404	2.778	2.380	2.464	7.13
10)	T	Bromomethane	1.457	1.578	1.521	1.504	1.362	1.484	5.45
11)	T	Chloroethane	1.530	1.375	1.460	1.625	1.578	1.513	6.51
12)	T	Trichlorofluoromethan	2.631	2.445	2.578	2.830	2.725	2.642	5.52
13)	MC	1,1-Dichloroethene	3.051	2.693	2.917	3.146	3.186	2.998	6.66
14)	T	Acetone	0.845	3.100	1.858	1.283	0.969	1.611	57.12
15)	T	Carbon Disulfide	6.339	5.649	5.987	6.719	6.629	6.265	7.14
16)	T	Methylene Chloride	2.306	2.330	2.417	2.461	2.398	2.382	2.66
17)	T	trans-1,2-Dichloroeth	3.070	2.943	3.094	3.200	3.194	3.100	3.41
18)	TP	1,1-Dichloroethane	3.989	3.937	4.084	4.164	4.111	4.057	2.28
19)	T	Vinyl Acetate	3.859	3.024	3.570	3.815	3.771	3.608	9.55
20)	T	2-Butanone	0.832	0.701	0.828	0.854	1.041	0.851	14.31
21)	T	cis-1,2-Dichloroethen	3.053	2.770	2.991	3.111	3.168	3.018	5.10
22)	TC	Chloroform	3.844	3.917	4.033	4.038	3.952	3.957	2.06
23)	T	1,1,1-Trichloroethane	3.062	2.871	3.062	3.131	3.205	3.066	4.04
24)	T	Carbon Tetrachloride	2.636	2.446	2.629	2.707	2.770	2.638	4.62
25)	S	1,2-Dichloroethane-d4	2.572	2.569	2.536	2.467	2.647	2.558	2.55
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.344	1.366	1.414	1.435	1.326	1.377	3.35
28)	T	1,2-Dichloroethane	0.401	0.430	0.435	0.430	0.407	0.421	3.66
29)	TM	Trichloroethene	0.389	0.363	0.385	0.391	0.403	0.386	3.73
30)	TC	1,2-Dichloropropane	0.342	0.326	0.340	0.352	0.350	0.342	3.00
31)	T	Bromodichloromethane	0.377	0.359	0.382	0.391	0.390	0.380	3.35
32)	T	2-Chloroethyl vinyl e	0.114	0.106	0.121	0.120	0.117	0.115	5.20
33)	T	cis-1,3-Dichloroprope	0.496	0.401	0.452	0.492	0.522	0.473	9.97
34)	T	4-Methyl-2-Pentanone	0.107	0.060	0.104	0.104	0.115	0.098	22.29
35)	S	Toluene-d8	1.259	1.229	1.228	1.224	1.323	1.253	3.31
36)	TCM	Toluene	1.350	1.382	1.436	1.443	1.331	1.389	3.63
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.515	1.181	1.377	1.471	1.577	1.424	10.83
39)	T	1,1,2-Trichloroethane	0.959	0.945	1.000	1.005	0.965	0.975	2.73
40)	T	Tetrachloroethene	0.954	0.907	0.984	0.996	0.976	0.963	3.63
41)	T	2-Hexanone	0.483	0.302	0.511	0.449	0.572	0.463	21.75
42)	T	Dibromochloromethane	0.855	0.732	0.816	0.850	0.898	0.830	7.48
43)	TMP	Chlorobenzene	2.878	2.972	3.082	3.047	2.855	2.967	3.38
44)	TC	Ethylbenzene	4.981	4.802	5.224	5.238	4.765	5.002	4.49
45)	T	m+p-Xylenes	1.807	1.666	1.834	1.887	1.811	1.801	4.55
46)	T	o-Xylene	3.422	2.705	3.250	3.446	3.443	3.253	9.75
47)	T	Styrene	3.042	2.424	2.845	3.019	3.112	2.888	9.60
48)	TP	Bromoform	0.551	0.412	0.488	0.534	0.583	0.514	12.94
49)	S	Bromofluorobenzene	1.694	1.478	1.516	1.571	1.807	1.613	8.41
50)	TP	1,1,2,2-Tetrachloroet	0.708	0.799	0.859	0.842	0.699	0.781	9.53
51)	T	1,3-Dichlorobenzene	1.807	1.336	1.584	1.701	1.895	1.665	13.05
52)	T	1,4-Dichlorobenzene	1.732	1.268	1.521	1.614	1.821	1.591	13.44
53)	T	1,2-Dichlorobenzene	1.691	1.264	1.518	1.608	1.766	1.569	12.37

(#) = Out of Range

000618

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: VC006512.D BFB Injection Date: 7/16/01

Instrument ID: VoaInst#3 BFB Injection Time: 12:19

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.4
75	30.0 - 66.0% of mass 95	49.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.3
175	4.0 - 9.0% of mass 174	5.2 (7.4)1
176	93.0 - 101.0% of mass 174	67.6 (96.1)1
177	5.0 - 9.0% of mass 176	4.2 (6.3)2

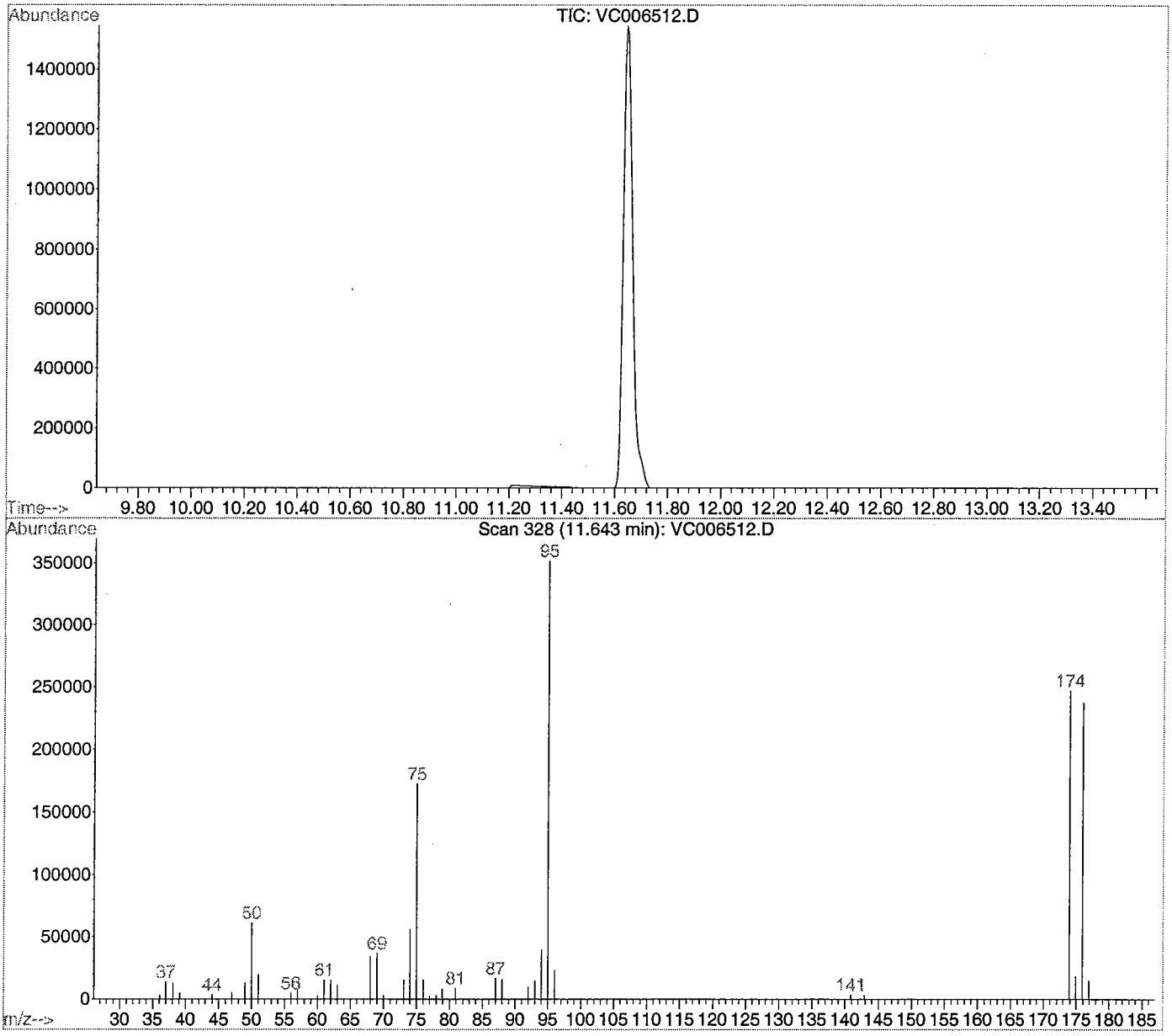
1-Value is % mass 174 2-Value is % mass 176

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	VSTD020	VSTD020	VC006513.D	7/16/01	12:49
02	MB 2126	MB	VC006514.D	7/16/01	13:40
03	2127 MS	1624307 MS	VC006522.D	7/16/01	19:16
04	2128 MSD	1624307 MSD	VC006523.D	7/16/01	19:56
05	2235	1624901	VC006538.D	7/17/01	6:03

Data File : D:\HPCHEM\1\DATA\010716\VC006512.D
Acq On : 16 Jul 2001 12:19 pm
Sample : BFB Tune
Misc : BFB Tune
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362447.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 328

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	61160	PASS
75	95	30	60	49.0	172416	PASS
95	95	100	100	100.0	351680	PASS
96	95	5	9	6.6	23184	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.3	247296	PASS
175	174	5	9	7.4	18368	PASS
176	174	95	101	96.1	237568	PASS
177	176	5	9	6.3	14905	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\010716\VC006513.D Vial: 12
Acq On : 16 Jul 2001 12:49 pm Operator: Skelton
Sample : Vstd020 Inst : GC/MS Ins
Misc : Vstd020 Multiplr: 1.00
MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 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	98	0.00
2	t	Acrolein	0.395	0.199	49.6#	49	0.01
3	t	Acrylonitrile	1.083	1.195	-10.3	103	0.00
4	t	tert-Butyl alcohol	0.116	0.125	-7.8	99	0.00
5	t	Methyl-tert-Butyl ether	5.547	5.468	1.4	94	0.01
6	t	Di-isopropyl ether	1.677	1.679	-0.1	93	0.01
7	T	Dichlorodifluoromethane	1.608	2.128	-32.3#	104	0.00
8	TP	Chloromethane	2.014	2.541	-26.2#	108	0.00
9	TC	Vinyl Chloride	2.464	2.806	-13.9	99	0.00
10	T	Bromomethane	1.484	1.274	14.2	83	0.00
11	T	Chloroethane	1.513	1.585	-4.8	96	0.00
12	T	Trichlorofluoromethane	2.642	2.663	-0.8	93	0.00
13	MC	1,1-Dichloroethene	2.998	3.028	-1.0	95	0.00
14	T	Acetone	1.611	1.571	2.5	120	0.00
15	T	Carbon Disulfide	6.265	6.615	-5.6	97	0.00
16	T	Methylene Chloride	2.382	2.269	4.7	91	0.00
17	T	trans-1,2-Dichloroethene	3.100	2.985	3.7	92	0.00
18	TP	1,1-Dichloroethane	4.057	3.917	3.5	92	0.00
19	T	Vinyl Acetate	3.608	3.953	-9.6	102	0.00
20	T	2-Butanone	0.851	0.946	-11.2	109	0.00
21	T	cis-1,2-Dichloroethene	3.018	2.871	4.9	91	0.00
22	TC	Chloroform	3.957	3.723	5.9	91	0.00
23	T	1,1,1-Trichloroethane	3.066	2.889	5.8	91	0.01
24	T	Carbon Tetrachloride	2.638	2.493	5.5	91	0.00
25	S	1,2-Dichloroethane-d4	2.558	2.476	3.2	99	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
27	TM	Benzene	1.377	1.371	0.4	90	0.00
28	T	1,2-Dichloroethane	0.421	0.417	1.0	91	0.00
29	TM	Trichloroethene	0.386	0.350	9.3	85	0.00
30	TC	1,2-Dichloropropane	0.342	0.336	1.8	90	0.00
31	T	Bromodichloromethane	0.380	0.374	1.6	90	0.00
32	T	2-Chloroethyl vinyl ether	0.115	0.117	-1.7	93	0.00
33	T	cis-1,3-Dichloropropene	0.473	0.460	2.7	88	0.00
34	T	4-Methyl-2-Pentanone	0.098	0.108	-10.2	98	0.00
35	S	Toluene-d8	1.253	1.225	2.2	94	0.00
36	TCM	Toluene	1.389	1.353	2.6	88	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	94	0.00
38	T	trans-1,3-Dichloropropene	1.424	1.399	1.8	89	0.00
39	T	1,1,2-Trichloroethane	0.975	0.970	0.5	91	0.00
40	T	Tetrachloroethene	0.963	0.922	4.3	87	0.00
41	T	2-Hexanone	0.463	0.527	-13.8	110	0.00
42	T	Dibromochloromethane	0.830	0.819	1.3	91	0.00
43	TMP	Chlorobenzene	2.967	2.906	2.1	90	0.00
44	TC	Ethylbenzene	5.002	4.983	0.4	89	0.00
45	T	m+p-Xylenes	1.801	1.955	-8.6	97	0.00
46	T	o-Xylene	3.253	3.572	-9.8	97	0.00
47	T	Styrene	2.888	3.225	-11.7	100	0.00
48	TP	Bromoform	0.514	0.531	-3.3	94	0.00
49	S	Bromofluorobenzene	1.613	1.600	0.8	96	0.00
50	TP	1,1,2,2-Tetrachloroethane	0.781	0.985	-26.1#	110	0.00
51	T	1,3-Dichlorobenzene	1.665	1.898	-14.0	105	0.00
52	T	1,4-Dichlorobenzene	1.591	1.863	-17.1	109	0.00
53	T	1,2-Dichlorobenzene	1.569	1.806	-15.1	106	0.00

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

4A

FIELD ID:

VOLATILE METHOD BLANK SUMMARY

MB 2126

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: VC006514.D Lab Sample ID: MB

Date Analyzed: 7/16/01 Time Analyzed: 13:40

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	2127 MS	1624307 MS	VC006522.D	19:16
02	2128 MSD	1624307 MSD	VC006523.D	19:56
03	2235	1624901	VC006538.D	6:03

COMMENTS:

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.: _____

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 2126	99	97	89	0
02	2127 MS	101	100	96	0
03	2128 MSD	100	99	95	0
04	2235	106	98	85	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	**VC006522.D**	Sample Name	**1624307 MS**
Date Aquired	**16-Jul-01**	Field ID	**1624307 MS**

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	27.94 ug/L	13.97
Acrylonitrile	200	125.01 ug/L	62.50
tert-Butyl alcohol	200	94.36 ug/L	47.18
Methyl-tert-Butyl ether	20	9.75 ug/L	48.76
Di-isopropyl ether	20	9.55 ug/L	47.76
Dichlorodifluoromethane	20	15.34 ug/L	76.70
Chloromethane	20	13.85 ug/L	69.24
Vinyl Chloride	20	13.23 ug/L	66.17
Bromomethane	20	10.46 ug/L	52.31
Chloroethane	20	11.82 ug/L	59.11
Trichlorofluoromethane	20	11.68 ug/L	58.42
1,1-Dichloroethene	20	11.01 ug/L	55.04
Acetone	20	13.91 ug/L	69.56
Carbon Disulfide	20	11.95 ug/L	59.75
Methylene Chloride	20	11.09 ug/L	55.43
trans-1,2-Dichloroethene	20	10.70 ug/L	53.49
1,1-Dichloroethane	20	10.85 ug/L	54.26
Vinyl Acetate	20	10.72 ug/L	53.59
2-Butanone	20	9.50 ug/L	47.49
cis-1,2-Dichloroethene	20	10.14 ug/L	50.68
Chloroform	20	10.85 ug/L	54.26
1,1,1-Trichloroethane	20	10.24 ug/L	51.19
Carbon Tetrachloride	20	10.68 ug/L	53.42
Benzene	20	11.34 ug/L	56.69
1,2-Dichloroethane	20	11.76 ug/L	58.79
Trichloroethene	20	10.24 ug/L	51.19
1,2-Dichloropropane	20	10.76 ug/L	53.79
Bromodichloromethane	20	11.03 ug/L	55.17
2-Chloroethyl vinyl ether	20	11.06 ug/L	55.29
cis-1,3-Dichloropropene	20	9.71 ug/L	48.53
4-Methyl-2-Pentanone	20	10.44 ug/L	52.20
Toluene	20	11.04 ug/L	55.20
trans-1,3-Dichloropropene	20	9.83 ug/L	49.15
1,1,2-Trichloroethane	20	11.39 ug/L	56.97
Tetrachloroethene	20	10.63 ug/L	53.14
2-Hexanone	20	9.40 ug/L	47.01
Dibromochloromethane	20	11.14 ug/L	55.71
Chlorobenzene	20	11.21 ug/L	56.07
Ethylbenzene	20	11.11 ug/L	55.57
m+p-Xylenes	40	23.86 ug/L	59.64
o-Xylene	20	11.24 ug/L	56.19
Styrene	20	11.89 ug/L	59.44
Bromoform	20	10.88 ug/L	54.42
1,1,2,2-Tetrachloroethane	20	13.12 ug/L	65.62
1,3-Dichlorobenzene	20	10.57 ug/L	52.83
1,4-Dichlorobenzene	20	10.68 ug/L	53.41
1,2-Dichlorobenzene	20	11.11 ug/L	55.55

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

Data File	**VC006523.D**	Sample Name	**1624307 MSD**
Date Aquired	**16-Jul-01**	Field ID	**1624307 MSD**

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	38.07 ug/L	19.04
Acrylonitrile	200	148.93 ug/L	74.47
tert-Butyl alcohol	200	116.55 ug/L	58.28
Methyl-tert-Butyl ether	20	11.97 ug/L	59.84
Di-isopropyl ether	20	12.25 ug/L	61.26
Dichlorodifluoromethane	20	18.19 ug/L	90.97
Chloromethane	20	16.52 ug/L	82.61
Vinyl Chloride	20	15.85 ug/L	79.24
Bromomethane	20	12.73 ug/L	63.65
Chloroethane	20	13.92 ug/L	69.60
Trichlorofluoromethane	20	13.96 ug/L	69.79
1,1-Dichloroethene	20	13.50 ug/L	67.49
Acetone	20	14.49 ug/L	72.44
Carbon Disulfide	20	14.31 ug/L	71.56
Methylene Chloride	20	13.35 ug/L	66.73
trans-1,2-Dichloroethene	20	13.04 ug/L	65.21
1,1-Dichloroethane	20	13.02 ug/L	65.10
Vinyl Acetate	20	13.08 ug/L	65.42
2-Butanone	20	11.51 ug/L	57.53
cis-1,2-Dichloroethene	20	12.35 ug/L	61.75
Chloroform	20	13.03 ug/L	65.16
1,1,1-Trichloroethane	20	12.49 ug/L	62.43
Carbon Tetrachloride	20	12.76 ug/L	63.81
Benzene	20	13.63 ug/L	68.16
1,2-Dichloroethane	20	14.01 ug/L	70.03
Trichloroethene	20	12.59 ug/L	62.93
1,2-Dichloropropane	20	13.09 ug/L	65.43
Bromodichloromethane	20	13.57 ug/L	67.83
2-Chloroethyl vinyl ether	20	14.24 ug/L	71.19
cis-1,3-Dichloropropene	20	12.09 ug/L	60.46
4-Methyl-2-Pentanone	20	13.12 ug/L	65.61
Toluene	20	13.38 ug/L	66.88
trans-1,3-Dichloropropene	20	12.38 ug/L	61.89
1,1,2-Trichloroethane	20	13.71 ug/L	68.57
Tetrachloroethene	20	12.79 ug/L	63.95
2-Hexanone	20	12.12 ug/L	60.59
Dibromochloromethane	20	13.20 ug/L	65.98
Chlorobenzene	20	13.41 ug/L	67.04
Ethylbenzene	20	13.40 ug/L	67.01
m+p-Xylenes	40	29.10 ug/L	72.75
o-Xylene	20	14.12 ug/L	70.61
Styrene	20	14.64 ug/L	73.18
Bromoform	20	13.30 ug/L	66.49
1,1,2,2-Tetrachloroethane	20	15.59 ug/L	77.97
1,3-Dichlorobenzene	20	13.63 ug/L	68.13
1,4-Dichlorobenzene	20	13.91 ug/L	69.56
1,2-Dichlorobenzene	20	14.00 ug/L	69.98

8/6/01 2:16 PM

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

000025

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID (Standard): VC006513.D Date Analyzed: 7/16/01

Instrument ID: VoaInst#3 Time Analyzed: 12:49

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	490574	16.69	3394114	19.42	1045787	27.25
	UPPER LIMIT	981148	17.19	6788228	19.92	2091574	27.75
	LOWER LIMIT	245287	16.19	1697057	18.92	522894	26.75
	FIELD ID:						
01	MB 2126	446858	16.70	3055533	19.42	934345	27.25
02	2127 MS	432614	16.70	2973138	19.42	916749	27.24
03	2128 MSD	441010	16.70	3037991	19.42	938355	27.24
04	2235	396758	16.70	2718976	19.42	840672	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\010716\VC006514.D Vial: 12
Acq On : 16 Jul 2001 1:40 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jul 16 14:15 2001 Quant Results File: M362447.RES

Quant Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 2001
Response via : Initial Calibration
DataAcq Meth : M362447

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	446858	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	3055533	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	934345	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	1128995	29.63	ug/L	-0.01
Spiked Amount 30.000	Range 70 - 121		Recovery = 98.77%			
35) Toluene-d8	23.42	98	3694729	28.96	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 96.53%			
49) Bromofluorobenzene	30.25	95	1335752	26.59	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 88.63%			

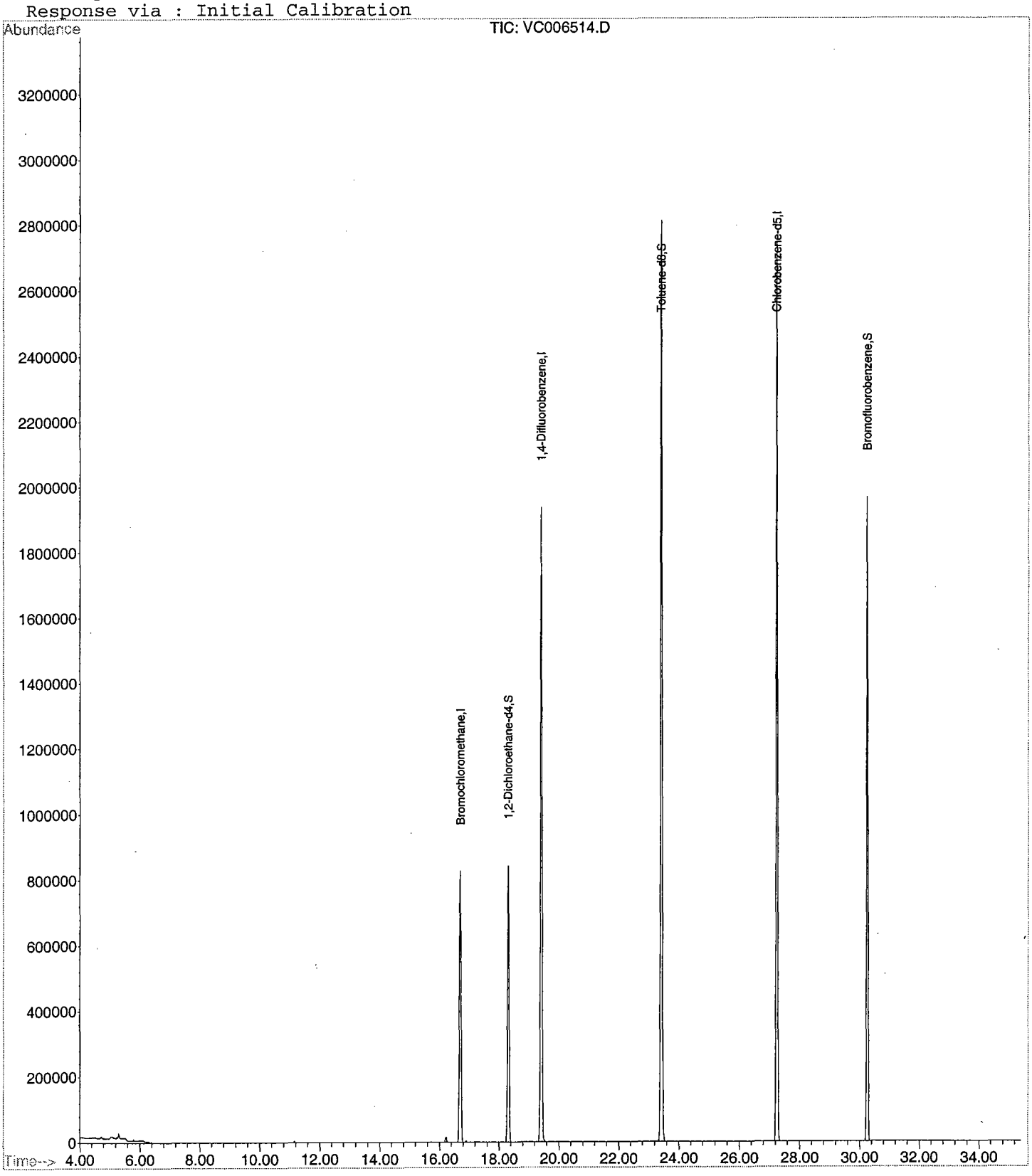
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010716\VC006514.D Vial: 12
Acq On : 16 Jul 2001 1:40 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jul 16 14:15 2001 Quant Results File: M362447.RES

Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 2001
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010716\VC006538.D Vial: 24
Acq On : 17 Jul 2001 6:03 am Operator: Skelton
Sample : 1624901 Inst : GC/MS Ins
Misc : Bldg2235GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jul 17 6:39 2001 Quant Results File: M362447.RES

Quant Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 2001
Response via : Initial Calibration
DataAcq Meth : M362447

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	396758	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2718976	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	840672	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	1080279	31.93	ug/L	-0.01
Spiked Amount 30.000	Range 70 - 121		Recovery = 106.43%			
35) Toluene-d8	23.42	98	3349786	29.51	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 98.37%			
49) Bromofluorobenzene	30.26	95	1149833	25.44	ug/L	0.01
Spiked Amount 30.000	Range 74 - 121		Recovery = 84.80%			

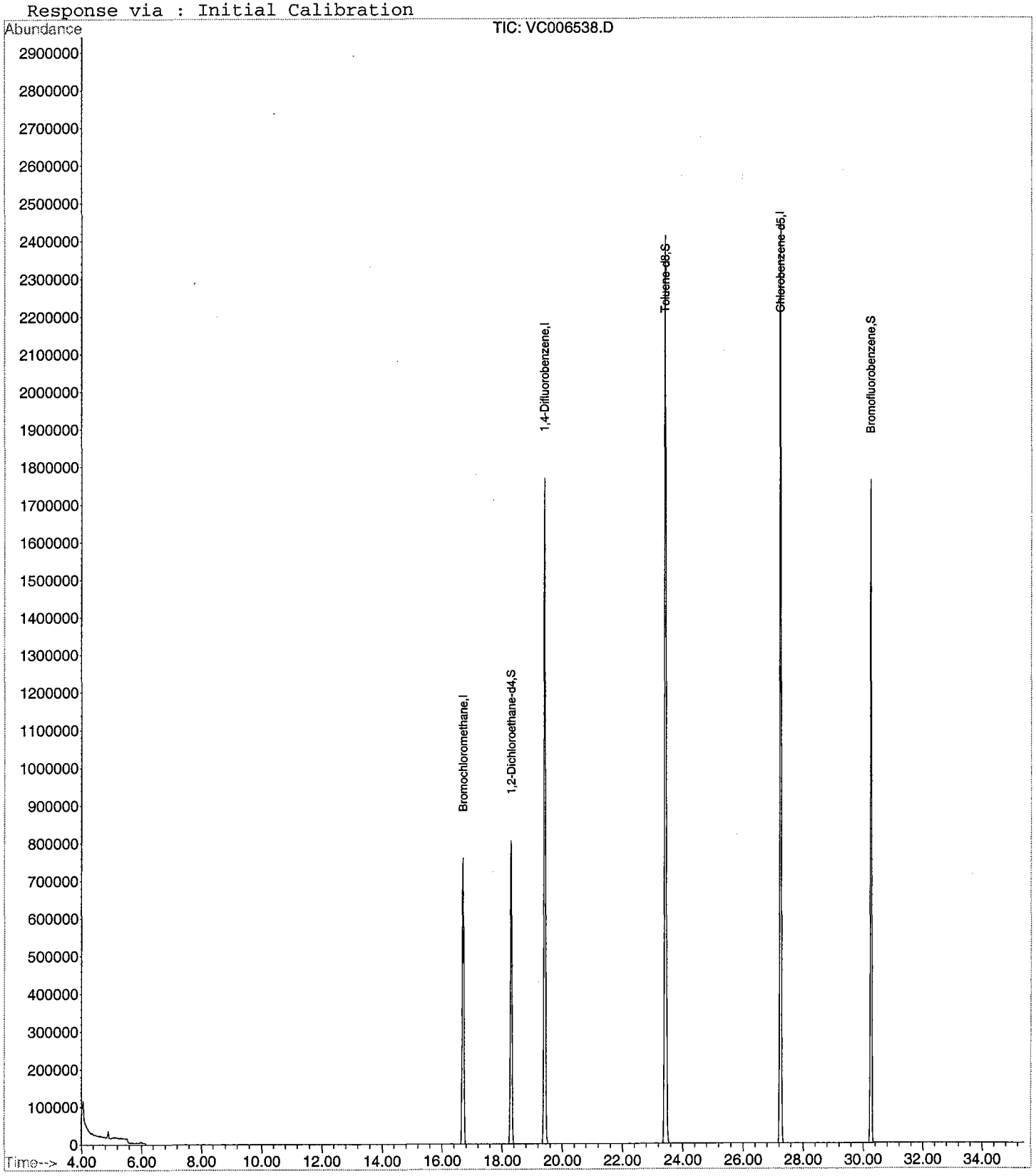
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
VC006538.D M362447.M Mon Aug 06 14:15:29 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010716\VC006538.D Vial: 24
Acq On : 17 Jul 2001 6:03 am Operator: Skelton
Sample : 1624901 Inst : GC/MS Ins
Misc : Bldg2235GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jul 17 6:39 2001 Quant Results File: M362447.RES

Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 2001
Response via : Initial Calibration



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BASE NEUTRALS

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05700.D**	Sample Name	**MB 2015**
Operator	**Skelton**	Misc Info	**7/17/2001**
Date Acquired	**25-Jul-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	**BNA05700.D**	Sample Name	**MB 2015**
Operator	**Skelton**	Misc Info	**7/17/2001**
Date Acquired	**25-Jul-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 2015**

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: MB 2015

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05700.D

Level: (low/med) LOW Date Received: 7/12/01

% Moisture: decanted: (Y/N) N Date Extracted: 7/17/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/01

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	**BNA05714.D**	Sample Name	**1624901**
Operator	**Skelton**	Misc Info	**Bldg2235GW**
Date Acquired	**25-Jul-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	**BNA05714.D**	Sample Name	**1624901**
Operator	**Skelton**	Misc Info	**Bldg2235GW**
Date Acquired	**25-Jul-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: **Bldg2235**

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1624901

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05714.D

Level: (low/med) LOW Date Received: 7/12/01

% Moisture: decanted: (Y/N) N Date Extracted: 7/17/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 7/25/01

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: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: BNA05601.D DFTPP Injection Date: 7/6/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 7:50

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	49.5
68	Less than 2.0% of mass 69	0.4 (0.8)1
69	Mass 69 Relative abundance	50.4
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	57.5
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	26.3
365	Greater than 0.75% of mass 198	4.0
441	Present, but less than mass 443	10.8
442	40.0 - 110.0% of mass 198	72.4
443	15.0 - 24.0% of mass 442	14.2 (19.7)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	BNA05602.D	7/6/01	8:13
02	SSTD020	SSTD020	BNA05603.D	7/6/01	8:56
03	SSTD010	SSTD010	BNA05604.D	7/6/01	10:23
04	SSTD120	SSTD120	BNA05605.D	7/6/01	11:07
05	SSTD080	SSTD080	BNA05606.D	7/6/01	11:53

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05605.D 80 =BNA05606.D 50 =BNA05602.D
20 =BNA05603.D 10 =BNA05604.D

		Compound	120	80	50	20	10	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	----------ISTD----------						
2)	T	Pyridine	1.230	1.225	1.236	1.224	1.126	1.208	3.82
3)	T	N-nitroso-dimethylami	0.658	0.663	0.630	0.577	0.561	0.618	7.58
4)	S	2-Fluorophenol	1.140	1.112	1.050	1.028	0.860	1.038	10.55
5)	T	Aniline	1.989	1.931	1.768	1.695	1.508	1.778	10.81
6)	S	Phenol-d6	1.637	1.548	1.429	1.363	1.261	1.448	10.25
7)	TCM	Phenol	1.651	1.753	1.444	1.471	1.218	1.507	13.67
8)	T	bis(2-Chloroethyl)eth	1.227	1.193	1.101	1.037	1.111	1.134	6.70
9)	TM	2-Chlorophenol	1.294	1.240	1.165	1.153	1.061	1.182	7.52
10)	T	1,3-Dichlorobenzene	1.490	1.415	1.337	1.329	1.258	1.366	6.51
11)	TCM	1,4-Dichlorobenzene	1.562	1.473	1.392	1.389	1.300	1.423	6.94
12)	T	Benzyl alcohol	0.870	0.821	0.763	0.708	0.626	0.758	12.63
13)	T	1,2-Dichlorobenzene	1.434	1.363	1.292	1.291	1.239	1.324	5.73
14)	T	2-Methylphenol	1.251	1.184	1.099	1.081	1.026	1.128	7.89
15)	T	bis(2-chloroisopropyl	1.106	1.107	1.033	1.070	1.028	1.069	3.57
16)	T	4-Methylphenol	1.393	1.250	1.164	1.156	0.979	1.188	12.73
17)	TPM	n-Nitroso-di-n-propyl	0.223	0.217	0.202	0.198	0.179	0.204	8.41
18)	T	Hexachloroethane	0.691	0.638	0.599	0.587	0.550	0.613	8.74
19)	I	Naphthalene-d8	----------ISTD----------						
20)	S	Nitrobenzene-d5	0.445	0.442	0.423	0.427	0.382	0.424	5.97
21)	T	Nitrobenzene	0.431	0.426	0.413	0.397	0.366	0.407	6.47
22)	T	Isophorone	0.700	0.704	0.678	0.687	0.632	0.680	4.24
23)	TC	2-Nitrophenol	0.185	0.180	0.167	0.166	0.144	0.168	9.43
24)	T	2,4-Dimethylphenol	0.399	0.382	0.358	0.347	0.321	0.361	8.44
25)	T	bis(2-Chloroethoxy)me	0.400	0.384	0.359	0.348	0.315	0.361	9.19
26)	TC	2,4-Dichlorophenol	0.272	0.247	0.206	0.250	0.233	0.242	9.97
27)	T	Benzoic Acid	0.253	0.253	0.211	0.157	0.169	0.208	21.68
28)	TM	1,2,4-Trichlorobenzen	0.334	0.317	0.302	0.297	0.280	0.306	6.79
29)	T	Naphthalene	1.070	1.018	0.953	0.932	0.897	0.974	7.16
30)	T	4-Chloroaniline	0.353	0.332	0.336	0.330	0.298	0.330	6.08
31)	TC	Hexachlorobutadiene	0.217	0.206	0.198	0.196	0.189	0.201	5.35
32)	TCM	4-Chloro-3-methylphen	0.353	0.334	0.312	0.306	0.270	0.315	9.92
33)	T	2-Methylnaphthalene	0.747	0.696	0.641	0.634	0.591	0.662	9.14
34)	I	Acenaphthene-d10	----------ISTD----------						
35)	TP	Hexachlorocyclopentad	0.350	0.313	0.270	0.238	0.205	0.275	20.98
36)	TC	2,4,6-Trichlorophenol	0.357	0.335	0.317	0.306	0.268	0.317	10.59
37)	T	2,4,5-Trichlorophenol	0.350	0.349	0.330	0.320	0.310	0.332	5.38
38)	S	2-Fluorobiphenyl	1.257	1.184	1.111	1.114	1.045	1.142	7.08
39)	T	2-Chloronaphthalene	1.039	0.978	0.912	0.899	0.851	0.936	7.84
40)	T	2-Nitroaniline	0.347	0.331	0.314	0.307	0.273	0.314	8.80
41)	T	Dimethylphthalate	1.221	1.176	1.117	1.131	1.053	1.139	5.54
42)	T	Acenaphthylene	1.761	1.667	1.557	1.523	1.420	1.586	8.30
43)	T	2,6-Dinitrotoluene	0.367	0.353	0.336	0.331	0.306	0.339	6.84
44)	T	3-Nitroaniline	0.330	0.286	0.265	0.250	0.218	0.270	15.48
45)	TCM	Acenaphthene	1.174	1.061	0.973	0.957	0.880	1.009	11.16
46)	TP	2,4-Dinitrophenol	0.188	0.178	0.156	0.131	0.085	0.147	27.95
47)	T	Dibenzofuran	1.466	1.394	1.325	1.323	1.258	1.353	5.84
48)	TMP	4-Nitrophenol	0.251	0.191	0.266	0.214	0.156	0.216	20.81
49)	TM	2,4-Dinitrotoluene	0.387	0.375	0.347	0.347	0.310	0.353	8.45
50)	T	Diethylphthalate	1.338	1.302	1.238	1.249	1.177	1.261	4.91
51)	T	Fluorene	1.315	1.224	1.133	1.129	1.065	1.173	8.32
52)	T	4-Chlorophenyl-phenyl	0.657	0.606	0.566	0.562	0.525	0.583	8.60
53)	T	4-Nitroaniline	0.268	0.249	0.242	0.257	0.218	0.247	7.54
54)	I	Phenanthrene-d10	----------ISTD----------						

(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05605.D 80 =BNA05606.D 50 =BNA05602.D
20 =BNA05603.D 10 =BNA05604.D

		Compound	120	80	50	20	10	Avg	%RSD
55)	T	4,6-Dinitro-2-methylp	0.129	0.125	0.115	0.104	0.085	0.111	16.11
56)	TC	n-Nitrosodiphenylamin	0.434	0.416	0.397	0.392	0.365	0.401	6.51
57)	T	Azobenzene	0.748	0.756	0.738	0.737	0.704	0.737	2.66
58)	S	2,4,6-Tribromophenol	0.099	0.092	0.087	0.080	0.072	0.086	12.52
59)	T	4-Bromophenyl-phenyle	0.191	0.179	0.169	0.161	0.152	0.170	8.96
60)	T	Hexachlorobenzene	0.210	0.196	0.186	0.177	0.168	0.188	8.79
61)	TCM	Pentachlorophenol	0.123	0.112	0.104	0.087	0.072	0.100	20.12
62)	T	Phenanthrene	0.951	0.923	0.877	0.864	0.814	0.886	6.03
63)	T	Anthracene	0.960	0.926	0.879	0.875	0.824	0.893	5.84
64)	T	Di-n-butylphthalate	1.095	1.070	1.034	1.025	0.952	1.035	5.25
65)	TC	Fluoranthene	1.037	1.005	0.963	0.943	0.881	0.966	6.22
66)	I	Chrysene-d12	----------ISTD----------						
67)	T	Benzidine	0.187	0.198	0.230	0.219	0.198	0.207	8.53
68)	TM	Pyrene	0.813	0.879	0.881	0.985	0.952	0.902	7.47
69)	S	p-Terphenyl-d14	0.641	0.667	0.651	0.694	0.655	0.661	3.09
70)	T	Butylbenzylphthalate	0.424	0.449	0.447	0.487	0.455	0.453	5.02
71)	T	Benzo[a]anthracene	0.854	0.901	0.886	0.972	0.941	0.911	5.08
72)	T	3,3'-Dichlorobenzidin	0.359	0.365	0.370	0.368	0.321	0.357	5.74
73)	T	Chrysene	0.807	0.849	0.837	0.905	0.872	0.854	4.33
74)	T	bis(2-Ethylhexyl)phth	0.602	0.634	0.630	0.664	0.620	0.630	3.62
75)	I	Perylene-d12	----------ISTD----------						
76)	TC	Di-n-octylphthalate	1.426	1.402	1.305	1.258	1.127	1.304	9.24
77)	T	Benzo[b]fluoranthene	1.195	1.131	1.034	0.989	0.904	1.051	10.95
78)	T	Benzo[k]fluoranthene	1.224	1.173	1.050	1.006	0.941	1.079	10.86
79)	TC	Benzo[a]pyrene	1.157	1.095	0.997	0.963	0.884	1.019	10.58
80)	T	Indeno[1,2,3-cd]pyren	1.329	1.093	0.979	1.117	1.004	1.104	12.50
81)	T	Dibenz[a,h]anthracene	1.235	1.125	1.017	0.963	0.870	1.042	13.62
82)	T	Benzo[g,h,i]perylene	1.035	1.011	0.937	0.905	0.851	0.948	8.00

#) = Out of Range

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: BNA05698.D DFTPP Injection Date: 7/25/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 9:15

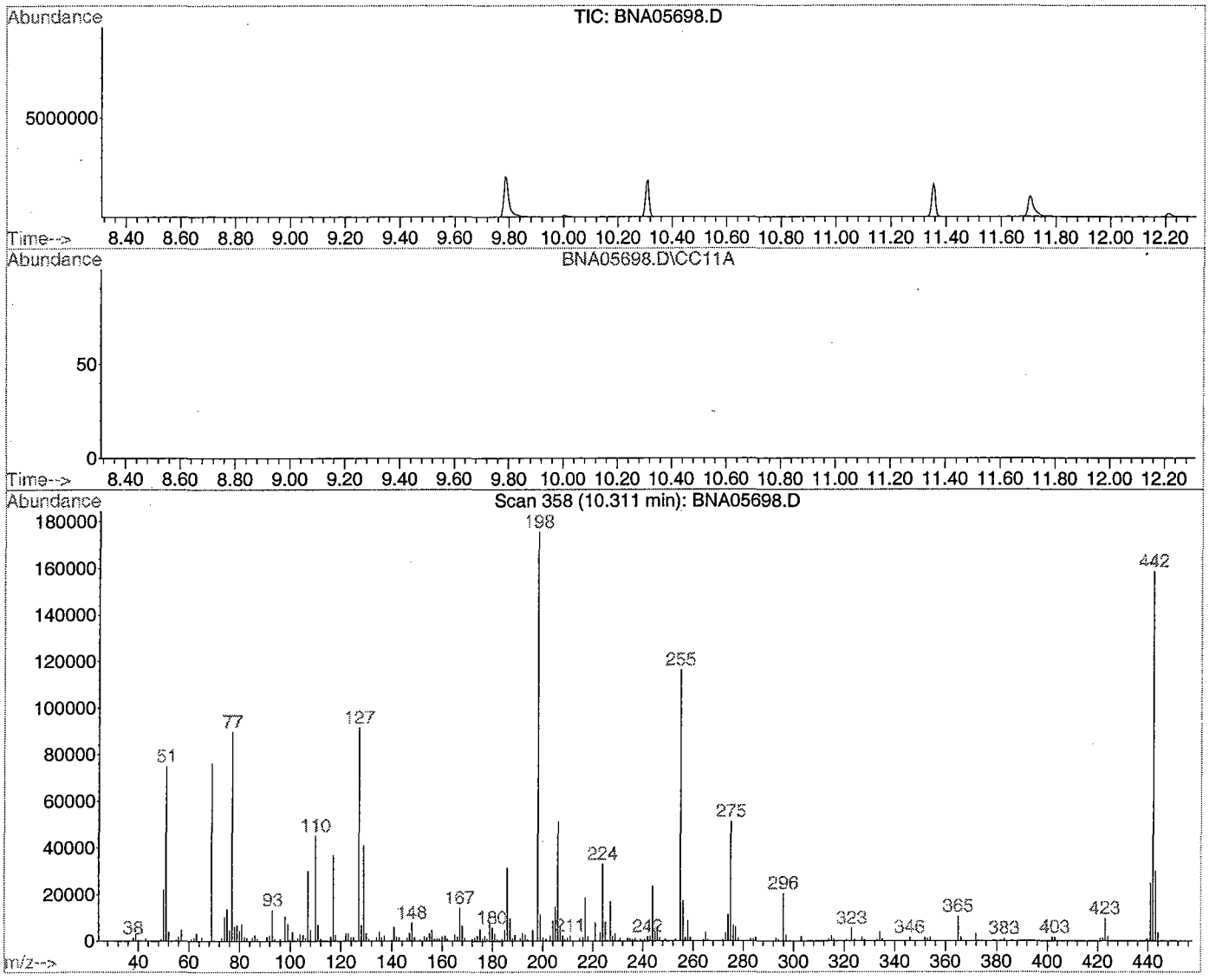
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	46.9
68	Less than 2.0% of mass 69	0.2 (0.3)1
69	Mass 69 Relative abundance	46.9
70	Less than 2.0% of mass 69	0.1 (0.3)1
127	25.0 - 75.0% of mass 198	53.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	28.9
365	Greater than 0.75% of mass 198	5.8
441	Present, but less than mass 443	13.2
442	40.0 - 110.0% of mass 198	89.0
443	15.0 - 24.0% of mass 442	16.4 (18.5)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	BNA05699.D	7/25/01	9:39
02	MB 2015	MB 2015	BNA05700.D	7/25/01	12:13
03	BLDG2235	1624901	BNA05714.D	7/25/01	23:18

Data File : D:\DATA\010725\BNA05698.D Vial: 99
Acq On : 25 Jul 2001 9:15 am 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\M262547.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 358

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.6	74872	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	76064	PASS
70	69	0.00	2	0.7	520	PASS
127	198	40	60	52.1	91472	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	175552	PASS
199	198	5	9	6.4	11233	PASS
275	198	10	30	29.1	51048	PASS
365	198	1	100	6.0	10455	PASS
441	443	1	99	83.0	24696	PASS
442	198	40	100	90.2	158400	PASS
443	442	17	23	18.8	29752	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010725\BNA05699.D Vial: 100
Acq On : 25 Jul 2001 9:39 am 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\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 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	0.00
2	T	Pyridine	1.208	1.085	10.2	60	0.00
3	T	N-nitroso-dimethylamine	0.618	0.578	6.5	62	0.00
4	S	2-Fluorophenol	1.038	0.997	3.9	64	0.00
5	T	Aniline	1.778	1.666	6.3	64	0.00
6	S	Phenol-d6	1.448	1.348	6.9	64	0.00
7	TCM	Phenol	1.507	1.273	15.5	60	0.00
8	T	bis(2-Chloroethyl)ether	1.134	1.004	11.5	62	0.00
9	TM	2-Chlorophenol	1.182	1.095	7.4	64	0.00
10	T	1,3-Dichlorobenzene	1.366	1.287	5.8	65	0.00
11	TCM	1,4-Dichlorobenzene	1.423	1.345	5.5	66	0.00
12	T	Benzyl alcohol	0.758	0.701	7.5	62	0.00
13	T	1,2-Dichlorobenzene	1.324	1.239	6.4	65	0.00
14	T	2-Methylphenol	1.128	1.032	8.5	64	0.00
15	T	bis(2-chloroisopropyl)ether	1.069	0.949	11.2	62	0.00
16	T	4-Methylphenol	1.188	1.073	9.7	63	0.00
17	TPM	n-Nitroso-di-n-propylamine	0.204	0.192	5.9	65	0.00
18	T	Hexachloroethane	0.613	0.591	3.6	67	0.00
19	I	Naphthalene-d8	1.000	1.000	0.0	69	0.00
20	S	Nitrobenzene-d5	0.424	0.415	2.1	67	0.00
21	T	Nitrobenzene	0.407	0.394	3.2	66	0.00
22	T	Isophorone	0.680	0.651	4.3	66	0.00
23	TC	2-Nitrophenol	0.168	0.155	7.7	64	0.00
24	T	2,4-Dimethylphenol	0.361	0.337	6.6	64	0.00
25	T	bis(2-Chloroethoxy)methane	0.361	0.328	9.1	63	0.00
26	TC	2,4-Dichlorophenol	0.242	0.216	10.7	72	0.00
27	T	Benzoic Acid	0.208	0.178	14.4	58	0.00
28	TM	1,2,4-Trichlorobenzene	0.306	0.295	3.6	67	0.00
29	T	Naphthalene	0.974	0.903	7.3	65	0.00
30	T	4-Chloroaniline	0.330	0.264	20.0	54	0.00
31	TC	Hexachlorobutadiene	0.201	0.205	-2.0	71	0.00
32	TCM	4-Chloro-3-methylphenol	0.315	0.295	6.3	65	0.00
33	T	2-Methylnaphthalene	0.662	0.608	8.2	65	0.00
34	I	Acenaphthene-d10	1.000	1.000	0.0	70	0.00
35	TP	Hexachlorocyclopentadiene	0.275	0.291	-5.8	75	0.00
36	TC	2,4,6-Trichlorophenol	0.317	0.301	5.0	66	0.00
37	T	2,4,5-Trichlorophenol	0.332	0.291	12.3	62	0.00
38	S	2-Fluorobiphenyl	1.142	1.056	7.5	67	0.00
39	T	2-Chloronaphthalene	0.936	0.853	8.9	65	0.00
40	T	2-Nitroaniline	0.314	0.284	9.6	63	0.00
41	T	Dimethylphthalate	1.139	1.059	7.0	66	0.00
42	T	Acenaphthylene	1.586	1.464	7.7	66	0.00
43	T	2,6-Dinitrotoluene	0.339	0.346	-2.1	72	0.00
44	T	3-Nitroaniline	0.270	0.235	13.0	62	0.00
45	TCM	Acenaphthene	1.009	0.907	10.1	65	0.00
46	TP	2,4-Dinitrophenol	0.147	0.141	4.1	63	0.00
47	T	Dibenzofuran	1.353	1.251	7.5	66	0.00
48	TMP	4-Nitrophenol	0.216	0.193	10.6	51	0.00
49	TM	2,4-Dinitrotoluene	0.353	0.327	7.4	66	0.00
50	T	Diethylphthalate	1.261	1.165	7.6	66	0.00
51	T	Fluorene	1.173	1.090	7.1	67	0.00
52	T	4-Chlorophenyl-phenylether	0.583	0.544	6.7	67	0.00
53	T	4-Nitroaniline	0.247	0.201	18.6	58	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010725\BNA05699.D Vial: 100
Acq On : 25 Jul 2001 9:39 am 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\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 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	73	0.00
55	T	4,6-Dinitro-2-methylphenol	0.111	0.105	5.4	67	0.00
56	TC	n-Nitrosodiphenylamine	0.401	0.361	10.0	66	0.00
57	T	Azobenzene	0.737	0.698	5.3	69	0.00
58	S	2,4,6-Tribromophenol	0.086	0.083	3.5	70	0.00
59	T	4-Bromophenyl-phenylether	0.170	0.163	4.1	70	0.00
60	T	Hexachlorobenzene	0.188	0.179	4.8	70	0.00
61	TCM	Pentachlorophenol	0.100	0.098	2.0	68	0.00
62	T	Phenanthrene	0.886	0.821	7.3	68	0.00
63	T	Anthracene	0.893	0.823	7.8	68	0.00
64	T	Di-n-butylphthalate	1.035	0.969	6.4	68	0.00
65	TC	Fluoranthene	0.966	0.933	3.4	71	0.00
66	I	Chrysene-d12	1.000	1.000	0.0	73	0.00
67	T	Benzidine	0.207	0.193	6.8	62	0.00
68	TM	Pyrene	0.902	0.834	7.5	69	0.00
69	S	p-Terphenyl-d14	0.661	0.628	5.0	71	0.00
70	T	Butylbenzylphthalate	0.453	0.413	8.8	68	0.00
71	T	Benzo[a]anthracene	0.911	0.857	5.9	71	0.00
72	T	3,3'-Dichlorobenzidine	0.357	0.328	8.1	65	0.00
73	T	Chrysene	0.854	0.799	6.4	70	0.00
74	T	bis(2-Ethylhexyl)phthalate	0.630	0.565	10.3	66	0.00
75	I	Perylene-d12	1.000	1.000	0.0	72	0.00
76	TC	Di-n-octylphthalate	1.304	1.210	7.2	67	0.00
77	T	Benzo[b]fluoranthene	1.051	1.011	3.8	71	0.00
78	T	Benzo[k]fluoranthene	1.079	1.009	6.5	70	0.00
79	TC	Benzo[a]pyrene	1.019	0.960	5.8	70	0.00
80	T	Indeno[1,2,3-cd]pyrene	1.104	0.906	17.9	67	0.00
81	T	Dibenz[a,h]anthracene	1.042	0.922	11.5	66	0.00
82	T	Benzo[g,h,i]perylene	0.948	0.854	9.9	66	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BNA05699.D M262547.M Mon Sep 10 13:29:22 2001 Page 2

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: BNA05785.D DFTPP Injection Date: 8/2/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 8:29

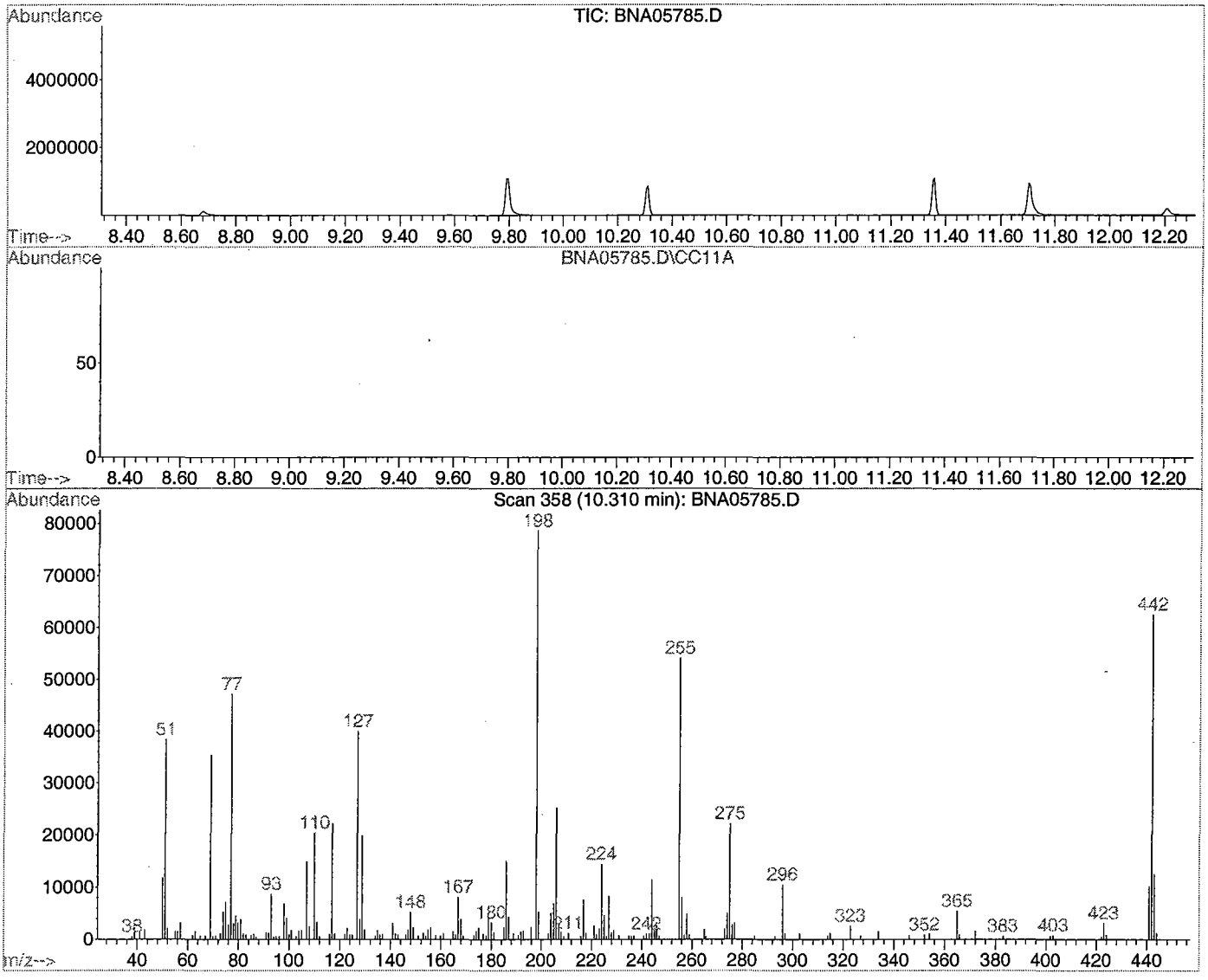
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	48.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	45.0
70	Less than 2.0% of mass 69	0.8 (1.7)1
127	25.0 - 75.0% of mass 198	50.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	28.1
365	Greater than 0.75% of mass 198	6.9
441	Present, but less than mass 443	13.0
442	40.0 - 110.0% of mass 198	79.5
443	15.0 - 24.0% of mass 442	15.9 (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	SSTD050	DAILY CAL	BNA05786.D	8/2/01	8:52
02	1628506MS	1628506MS	BNA05810.D	8/3/01	2:13
03	1628506MSD	1628506MSD	BNA05811.D	8/3/01	2:56

Data File : D:\DATA\010802\BNA05785.D Vial: 99
Acq On : 2 Aug 2001 8:29 am Operator: Skelton
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\M262547.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 358

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	38376	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.0	35424	PASS
70	69	0.00	2	1.7	608	PASS
127	198	40	60	50.8	39976	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	78648	PASS
199	198	5	9	6.8	5347	PASS
275	198	10	30	28.1	22136	PASS
365	198	1	100	6.9	5407	PASS
441	443	1	99	81.7	10185	PASS
442	198	40	100	79.5	62560	PASS
443	442	17	23	19.9	12473	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010802\BNA05786.D Vial: 100
Acq On : 2 Aug 2001 8:52 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\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 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	57	0.00
2	T	Pyridine	1.208	1.033	14.5	47#	0.00
3	T	N-nitroso-dimethylamine	0.618	0.515	16.7	46#	0.00
4	S	2-Fluorophenol	1.038	0.957	7.8	52	-0.01
5	T	Aniline	1.778	1.636	8.0	52	0.00
6	S	Phenol-d6	1.448	1.350	6.8	54	0.00
7	TCM	Phenol	1.507	1.341	11.0	53	0.00
8	T	bis(2-Chloroethyl)ether	1.134	0.990	12.7	51	0.00
9	TM	2-Chlorophenol	1.182	1.098	7.1	53	0.00
10	T	1,3-Dichlorobenzene	1.366	1.309	4.2	55	0.00
11	TCM	1,4-Dichlorobenzene	1.423	1.343	5.6	55	0.00
12	T	Benzyl alcohol	0.758	0.702	7.4	52	0.00
13	T	1,2-Dichlorobenzene	1.324	1.275	3.7	56	0.00
14	T	2-Methylphenol	1.128	1.050	6.9	54	0.00
15	T	bis(2-chloroisopropyl)ether	1.069	0.909	15.0	50#	0.00
16	T	4-Methylphenol	1.188	1.032	13.1	50	0.00
17	TPM	n-Nitroso-di-n-propylamine	0.204	0.186	8.8	52	0.00
18	T	Hexachloroethane	0.613	0.621	-1.3	59	0.00
19	I	Naphthalene-d8	1.000	1.000	0.0	58	0.00
20	S	Nitrobenzene-d5	0.424	0.418	1.4	57	0.00
21	T	Nitrobenzene	0.407	0.407	0.0	57	0.00
22	T	Isophorone	0.680	0.645	5.1	55	0.00
23	TC	2-Nitrophenol	0.168	0.153	8.9	53	0.00
24	T	2,4-Dimethylphenol	0.361	0.340	5.8	54	0.00
25	T	bis(2-Chloroethoxy)methane	0.361	0.322	10.8	52	0.00
26	TC	2,4-Dichlorophenol	0.242	0.220	9.1	61	-0.01
27	T	Benzoic Acid	0.208	0.183	12.0	50	0.00
28	TM	1,2,4-Trichlorobenzene	0.306	0.303	1.0	58	0.00
29	T	Naphthalene	0.974	0.897	7.9	54	0.00
30	T	4-Chloroaniline	0.330	0.301	8.8	52	0.00
31	TC	Hexachlorobutadiene	0.201	0.214	-6.5	62	0.00
32	TCM	4-Chloro-3-methylphenol	0.315	0.297	5.7	55	0.00
33	T	2-Methylnaphthalene	0.662	0.611	7.7	55	0.00
34	I	Acenaphthene-d10	1.000	1.000	0.0	59	0.00
35	TP	Hexachlorocyclopentadiene	0.275	0.265	3.6	58	0.00
36	TC	2,4,6-Trichlorophenol	0.317	0.306	3.5	57	0.00
37	T	2,4,5-Trichlorophenol	0.332	0.313	5.7	56	0.00
38	S	2-Fluorobiphenyl	1.142	1.074	6.0	57	0.00
39	T	2-Chloronaphthalene	0.936	0.858	8.3	55	0.00
40	T	2-Nitroaniline	0.314	0.275	12.4	52	0.00
41	T	Dimethylphthalate	1.139	1.055	7.4	56	0.00
42	T	Acenaphthylene	1.586	1.485	6.4	56	0.00
43	T	2,6-Dinitrotoluene	0.339	0.370	-9.1	65	0.00
44	T	3-Nitroaniline	0.270	0.224	17.0	50#	0.00
45	TCM	Acenaphthene	1.009	0.910	9.8	55	0.00
46	TP	2,4-Dinitrophenol	0.147	0.146	0.7	55	0.00
47	T	Dibenzofuran	1.353	1.265	6.5	56	0.00
48	TMP	4-Nitrophenol	0.216	0.249	-15.3	55	-0.01
49	TM	2,4-Dinitrotoluene	0.353	0.331	6.2	56	0.00
50	T	Diethylphthalate	1.261	1.294	-2.6	62	0.00
51	T	Fluorene	1.173	1.102	6.1	57	0.00
52	T	4-Chlorophenyl-phenylether	0.583	0.565	3.1	59	0.00
53	T	4-Nitroaniline	0.247	0.212	14.2	52	0.00

(#) = Out of Range

000048

Evaluate Continuing Calibration Report

Data File : D:\DATA\010802\BNA05786.D Vial: 100
Acq On : 2 Aug 2001 8:52 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\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 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	63	0.00
55	T	4,6-Dinitro-2-methylphenol	0.111	0.105	5.4	57	0.01
56	TC	n-Nitrosodiphenylamine	0.401	0.353	12.0	56	0.00
57	T	Azobenzene	0.737	0.696	5.6	59	0.00
58	S	2,4,6-Tribromophenol	0.086	0.088	-2.3	63	0.00
59	T	4-Bromophenyl-phenylether	0.170	0.166	2.4	62	0.00
60	T	Hexachlorobenzene	0.188	0.185	1.6	62	0.00
61	TCM	Pentachlorophenol	0.100	0.093	7.0	56	0.00
62	T	Phenanthrene	0.886	0.805	9.1	58	0.00
63	T	Anthracene	0.893	0.801	10.3	57	0.00
64	T	Di-n-butylphthalate	1.035	0.924	10.7	56	0.00
65	TC	Fluoranthene	0.966	0.906	6.2	59	0.00
66	I	Chrysene-d12	1.000	1.000	0.0	68	0.01
67	T	Benzidine	0.207	0.212	-2.4	63	0.00
68	TM	Pyrene	0.902	0.747	17.2	58	0.00
69	S	p-Terphenyl-d14	0.661	0.572	13.5	60	0.00
70	T	Butylbenzylphthalate	0.453	0.351	22.5	54	0.00
71	T	Benzo[a]anthracene	0.911	0.752	17.5	58	0.00
72	T	3,3'-Dichlorobenzidine	0.357	0.358	-0.3	66	0.00
73	T	Chrysene	0.854	0.703	17.7	57	0.00
74	T	bis(2-Ethylhexyl)phthalate	0.630	0.499	20.8	54	0.00
75	I	Perylene-d12	1.000	1.000	0.0	62	0.01
76	TC	Di-n-octylphthalate	1.304	1.173	10.0	56	0.00
77	T	Benzo[b]fluoranthene	1.051	0.966	8.1	58	0.01
78	T	Benzo[k]fluoranthene	1.079	1.002	7.1	59	0.01
79	TC	Benzo[a]pyrene	1.019	0.942	7.6	59	0.01
80	T	Indeno[1,2,3-cd]pyrene	1.104	0.996	9.8	63	0.03
81	T	Dibenz[a,h]anthracene	1.042	0.990	5.0	60	0.03
82	T	Benzo[g,h,i]perylene	0.948	0.891	6.0	59	0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BNA05786.D M262547.M Mon Sep 10 13:53:06 2001

4B

Field Id:

SEMIVOLATILE METHOD BLANK SUMMARY

MB 2015

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: BNA05700.D Lab Sample ID: MB 2015

Instrument ID: GC/MS Ins Date Extracted: 7/17/01

Matrix: (soil/water) WATER Date Analyzed: 7/25/01

Level: (low/med) LOW Time Analyzed: 12:13

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	BLDG2235	1624901	BNA05714.D	7/25/01

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.: _____

	Field Id:	S1 2FP #	S2 PHL #	S3 NBZ #	S4 2FP #	S5 TBP #	S6 TPL #	TOT OUT
01	MB 2015	45	20	60	65	78	77	0
02	BLDG2235	*	*	47	57	*	50	3 0
03	1628506MS	31	18	74	84	108	85	0
04	1628506MSD	39	23	85	97	129*	96	1 0

9/13
9/13

QC LIMITS

S1	2FP	=	2-Fluorophenol	(21-100)
S2	PHL	=	Phenol-d6	(10-94)
S3	NBZ	=	Nitrobenzene-d5	(35-114)
S4	2FP	=	2-Fluorobiphenyl	(43-116)
S5	TBP	=	2,4,6-Tribromophenol	(10-123)
S6	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

Laboratory Chronicle

Lab ID: 16185

Site: Bldg. 2235

	Date	Hold Time
Date Sampled	06/12/01	NA
Receipt/Refrigeration	06/12/01	NA
Extractions		
1. BN	06/15/01	7 days
Analyses		
1. Volatile Organics	06/26/01	14 days
2. BN	06/26/01	40 days

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

Data File	**VC006308.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**26-Jun-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

6/28/01 10:11 AM

D:\HPCHEM\Custrpt\Volatile\624fy00.crt

000011

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 1941**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006308.D

Level: (low/med) LOW Date Received: 6/12/01

% Moisture: not dec. Date Analyzed: 6/26/01

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	**VC006316.D**	Sample Name	**1618501**
Operator	**Skelton**	Field ID	**TB**
Date Aquired	**26-Jun-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: **TB**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1618501

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006316.D

Level: (low/med) LOW Date Received: 6/12/01

% Moisture: not dec. _____ Date Analyzed: 6/26/01

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	**VC006317.D**	Sample Name	**1618502**
Operator	**Skelton**	Field ID	**FB**
Date Aquired	**26-Jun-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	365231	7.97 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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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **FB**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1618502

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006317.D

Level: (low/med) LOW Date Received: 6/12/01

% Moisture: not dec. Date Analyzed: 6/26/01

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	VC006318.D	Sample Name	1618503
Operator	Skelton	Field ID	2235
Date Aquired	26-Jun-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: 2235

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1618503

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006318.D

Level: (low/med) LOW Date Received: 6/12/01

% Moisture: not dec. Date Analyzed: 6/26/01

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: 010001 Case No.: 16185 Location: 2235 SDG No.:

Lab File ID: VC006272.D BFB Injection Date: 6/25/01

Instrument ID: VoaInst#3 BFB Injection Time: 8:34

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	18.0
75	30.0 - 66.0% of mass 95	47.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	65.7
175	4.0 - 9.0% of mass 174	4.5 (6.8)1
176	93.0 - 101.0% of mass 174	62.8 (95.5)1
177	5.0 - 9.0% of mass 176	3.8 (6.0)2

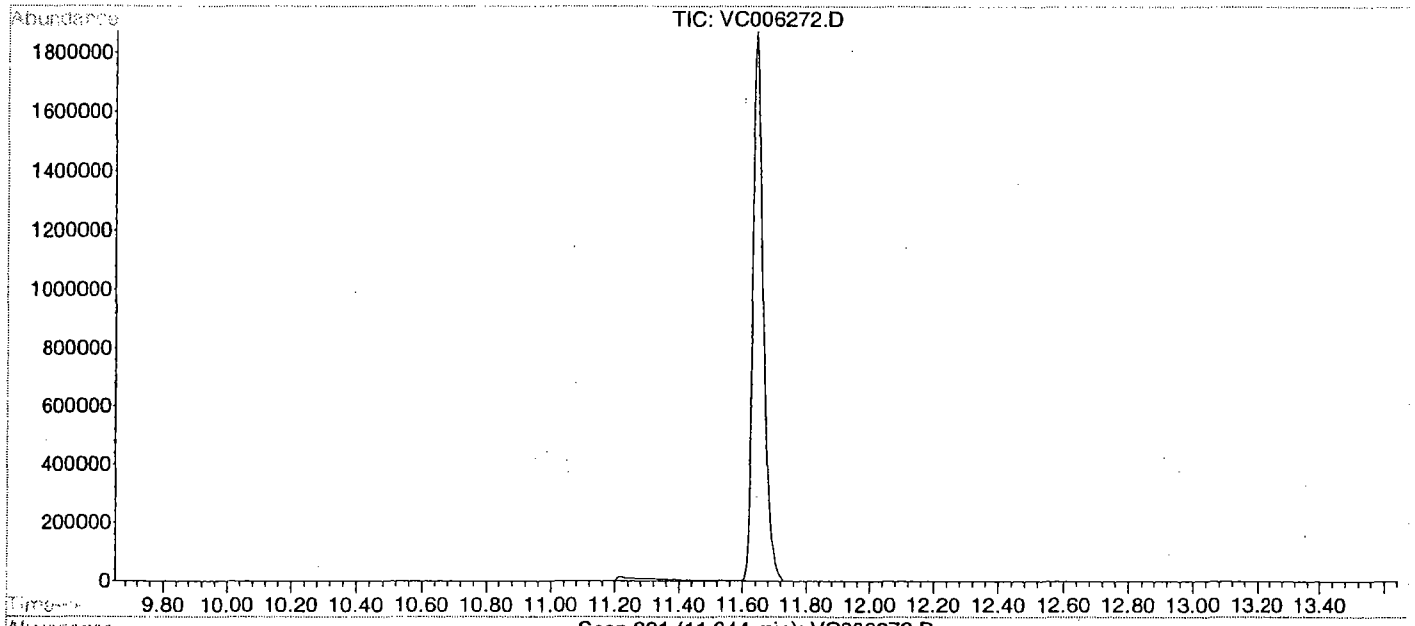
1-Value is % mass 174 2-Value is % mass 176

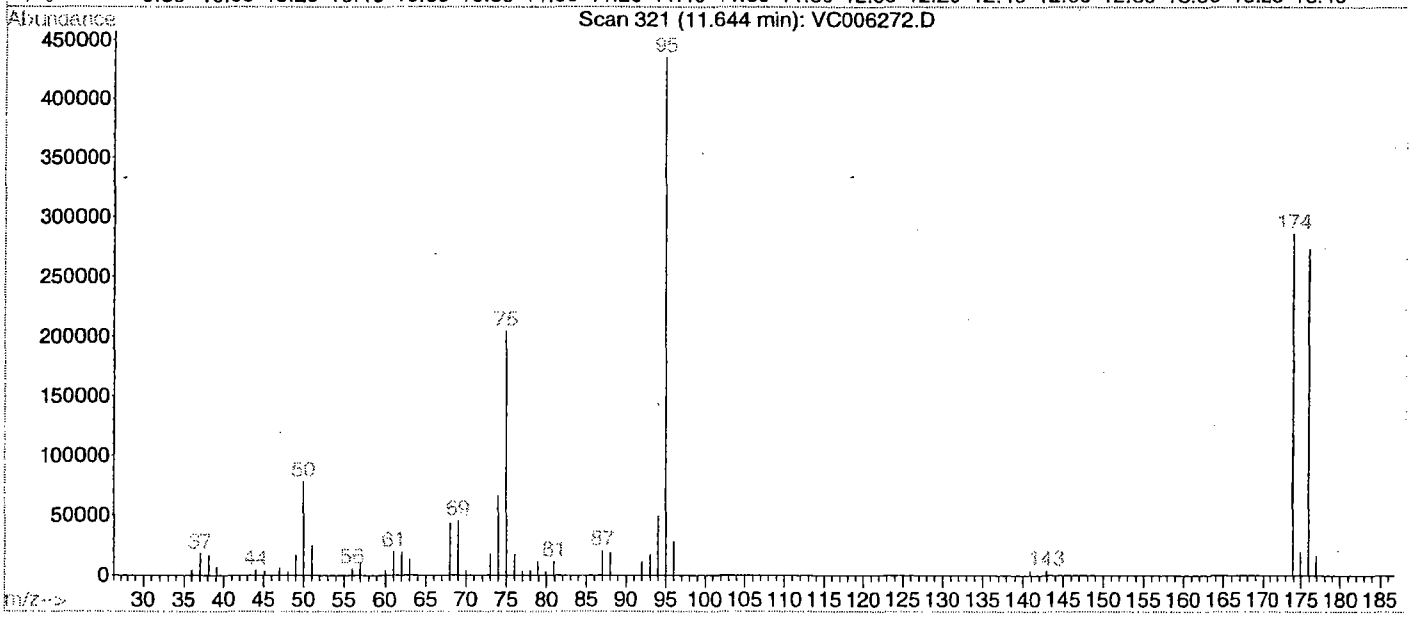
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD020	VC006273.D	6/25/01	9:04
02	VSTD010	VSTD010	VC006274.D	6/25/01	9:58
03	VSTD005	VSTD005	VC006275.D	6/25/01	10:39
04	VSTD100	VSTD100	VC006276.D	6/25/01	11:35
05	VSTD050	VSTD050	VC006277.D	6/25/01	12:16

Data File : D:\HPCHEM\1\DATA\010625\VC006272.D
Acq On : 25 Jun 2001 8:34 am
Sample : BFB Tune
Misc : BFB Tune
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Vial: 35
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00





Spectrum Information: Scan 321

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	78280	PASS
75	95	30	60	47.0	204544	PASS
95	95	100	100	100.0	435456	PASS
96	95	5	9	6.5	28272	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	65.7	286208	PASS
175	174	5	9	6.8	19560	PASS
176	174	95	101	95.5	273408	PASS
177	176	5	9	6.0	16432	PASS

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration

Calibration Files
50 =VC006277.D 5 =VC006275.D 10 =VC006274.D
20 =VC006273.D 100 =VC006276.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.548	0.472	0.594	0.474	0.549	0.527	10.03
3)	t	Acrylonitrile	1.302	1.472	1.604	1.268	1.180	1.365	12.51
4)	t	tert-Butyl alcohol	0.169	0.164	0.178	0.168	0.176	0.171	3.40
5)	t	Methyl-tert-Butyl eth	6.099	5.206	6.051	4.825	5.942	5.625	10.22
6)	t	Di-isopropyl ether	1.856	1.338	1.691	1.383	1.818	1.617	15.00
7)	T	Dichlorodifluorometha	2.605	2.808	3.127	2.167	2.353	2.612	14.44
8)	TP	Chloromethane	2.642	2.886	3.069	2.349	2.369	2.663	11.88
9)	TC	Vinyl Chloride	2.471	3.249	3.520	2.242	2.346	2.766	20.93
10)	T	Bromomethane	1.352	1.599	1.677	0.962	1.168	1.352	21.96
11)	T	Chloroethane	1.719	1.695	1.930	1.505	1.635	1.697	9.12
12)	T	Trichlorofluoromethan	2.834	2.910	3.152	2.431	2.693	2.804	9.51
13)	MC	1,1-Dichloroethene	3.300	3.017	3.483	2.724	3.228	3.151	9.24
14)	T	Acetone	0.809	1.259	1.073	1.032	0.786	0.992	19.85
15)	T	Carbon Disulfide	6.865	6.757	7.503	5.746	6.608	6.696	9.43
16)	T	Methylene Chloride	2.328	2.472	2.623	1.988	2.237	2.330	10.33
17)	T	trans-1,2-Dichloroeth	3.279	3.137	3.469	2.696	3.183	3.153	9.06
18)	TP	1,1-Dichloroethane	4.159	4.145	4.536	3.456	4.021	4.063	9.61
19)	T	Vinyl Acetate	4.260	3.956	5.013	3.661	4.291	4.236	11.90
20)	T	2-Butanone	1.096	0.988	1.139	1.002	1.112	1.067	6.39
21)	T	cis-1,2-Dichloroethen	3.205	2.789	3.255	2.577	3.122	2.990	9.82
22)	TC	Chloroform	3.807	3.979	4.282	3.217	3.664	3.790	10.41
23)	T	1,1,1-Trichloroethane	2.978	2.876	3.158	2.414	2.899	2.865	9.61
24)	T	Carbon Tetrachloride	2.476	2.371	2.714	2.035	2.470	2.413	10.20
25)	S	1,2-Dichloroethane-d4	2.656	2.665	2.654	2.659	2.677	2.662	0.35
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.419	1.443	1.616	1.218	1.287	1.397	11.01
28)	T	1,2-Dichloroethane	0.463	0.503	0.532	0.397	0.436	0.466	11.46
29)	TM	Trichloroethene	0.387	0.338	0.375	0.308	0.374	0.357	9.18
30)	TC	1,2-Dichloropropane	0.375	0.359	0.399	0.306	0.363	0.360	9.52
31)	T	Bromodichloromethane	0.396	0.388	0.429	0.323	0.384	0.384	9.97
32)	T	2-Chloroethyl vinyl e	0.132	0.131	0.146	0.110	0.126	0.129	9.94
33)	T	cis-1,3-Dichloroprope	0.522	0.414	0.500	0.395	0.515	0.469	12.78
34)	T	4-Methyl-2-Pentanone	0.141	0.110	0.142	0.122	0.142	0.131	11.33
35)	S	Toluene-d8	1.264	1.233	1.235	1.253	1.277	1.252	1.52
36)	TCM	Toluene	1.407	1.434	1.588	1.211	1.250	1.378	11.02
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.616	1.299	1.553	1.227	1.581	1.455	12.29
39)	T	1,1,2-Trichloroethane	1.024	1.093	1.176	0.891	0.972	1.031	10.61
40)	T	Tetrachloroethene	0.982	0.977	1.077	0.821	0.937	0.959	9.67
41)	T	2-Hexanone	0.716	0.562	0.736	0.633	0.725	0.674	11.09
42)	T	Dibromochloromethane	0.866	0.806	0.918	0.693	0.864	0.829	10.37
43)	TMP	Chlorobenzene	2.994	3.221	3.423	2.568	2.750	2.991	11.54
44)	TC	Ethylbenzene	5.240	5.220	5.910	4.474	4.465	5.062	12.01
45)	T	m+p-Xylenes	1.992	1.804	2.245	1.686	1.848	1.915	11.20
46)	T	o-Xylene	3.906	2.851	3.974	3.143	3.625	3.500	13.95
47)	T	Styrene	3.385	2.620	3.604	2.769	3.208	3.117	13.27
48)	TP	Bromoform	0.534	0.514	0.564	0.433	0.555	0.520	10.08
49)	S	Bromofluorobenzene	1.652	1.441	1.549	1.600	1.732	1.595	6.86
50)	TP	1,1,2,2-Tetrachloroet	0.832	1.311	1.399	0.880	0.793	1.043	27.63
51)	T	1,3-Dichlorobenzene	1.868	1.163	1.868	1.476	1.864	1.648	19.39
52)	T	1,4-Dichlorobenzene	1.787	1.091	1.808	1.408	1.782	1.575	20.19
53)	T	1,2-Dichlorobenzene	1.723	1.151	1.815	1.331	1.711	1.546	18.66

*) = Out of Range

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

Lab File ID: VC006306.D BFB Injection Date: 6/26/01

Instrument ID: VoaInst#3 BFB Injection Time: 7:54

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

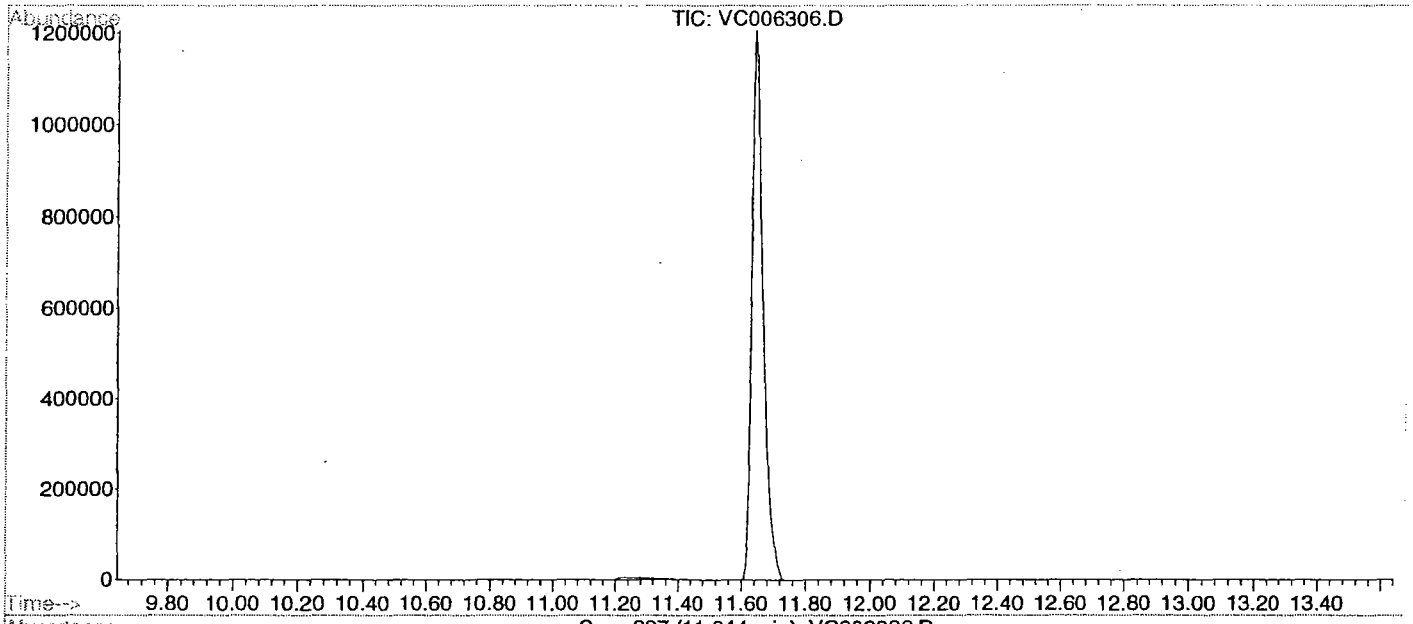
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.1
75	30.0 - 66.0% of mass 95	50.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	71.3
175	4.0 - 9.0% of mass 174	5.0 (7.1)1
176	93.0 - 101.0% of mass 174	69.0 (96.8)1
177	5.0 - 9.0% of mass 176	4.4 (6.4)2

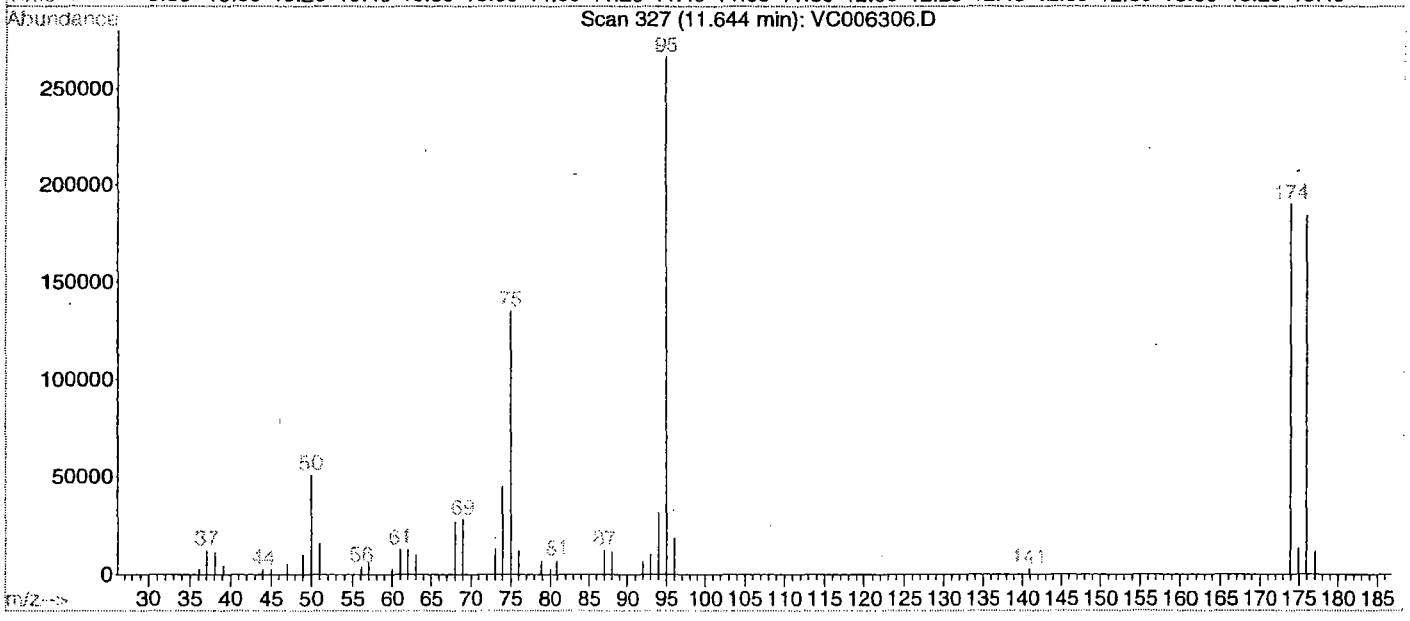
1-Value is % mass 174 2-Value is % mass 176

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	VC006307.D	6/26/01	8:49
02	MB 1941	MB	VC006308.D	6/26/01	9:41
03	TB	1618501	VC006316.D	6/26/01	17:02
04	FB	1618502	VC006317.D	6/26/01	17:43
05	2235	1618503	VC006318.D	6/26/01	18:23
06	TB	1618701	VC006319.D	6/26/01	19:04
07	FB	1618702	VC006320.D	6/26/01	19:44
08	1102	1618709	VC006321.D	6/26/01	20:24
09	1942 MS	1618906 MS	VC006328.D	6/27/01	1:08
10	1943 MSD	1618906 MSD	VC006329.D	6/27/01	1:48

Data File : D:\HPCHEM\1\DATA\010626\VC006306.D Vial: 28
Acq On : 26 Jun 2001 7:54 am 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\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP





Spectrum Information: Scan 327

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	51080	PASS
75	95	30	60	50.7	135232	PASS
95	95	100	100	100.0	266752	PASS
96	95	5	9	7.0	18744	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	71.3	190272	PASS
175	174	5	9	7.1	13416	PASS
176	174	95	101	96.8	184192	PASS
177	176	5	9	6.4	11778	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\010626\VC006307.D Vial: 28
Acq On : 26 Jun 2001 8:49 am Operator: Skelton
Sample : Vstd020 Inst : GC/MS Ins
Misc : Vstd020 Multiplr: 1.00
MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 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	95	0.00
2	t	Acrolein	0.527	0.437	17.1	87	0.00
3	t	Acrylonitrile	1.365	1.114	18.4	83	0.00
4	t	tert-Butyl alcohol	0.171	0.100	41.5#	56	0.00
5	t	Methyl-tert-Butyl ether	5.625	4.561	18.9	89	0.00
6	t	Di-isopropyl ether	1.617	1.370	15.3	94	0.00
7	T	Dichlorodifluoromethane	2.612	2.124	18.7	93	0.00
8	TP	Chloromethane	2.663	2.289	14.0	92	0.00
9	TC	Vinyl Chloride	2.766	2.689	2.8	114	0.00
10	T	Bromomethane	1.352	1.272	5.9	125	0.00
11	T	Chloroethane	1.697	1.457	14.1	92	0.00
12	T	Trichlorofluoromethane	2.804	2.377	15.2	93	0.00
13	MC	1,1-Dichloroethene	3.151	2.708	14.1	94	0.00
14	T	Acetone	0.992	0.681	31.4#	62	0.00
15	T	Carbon Disulfide	6.696	5.990	10.5	99	0.00
16	T	Methylene Chloride	2.330	1.987	14.7	95	0.00
17	T	trans-1,2-Dichloroethene	3.153	2.744	13.0	96	0.00
18	TP	1,1-Dichloroethane	4.063	3.505	13.7	96	0.00
19	T	Vinyl Acetate	4.236	3.947	6.8	102	0.00
20	T	2-Butanone	1.067	0.763	28.5#	72	0.00
21	T	cis-1,2-Dichloroethene	2.990	2.591	13.3	95	0.00
22	TC	Chloroform	3.790	3.260	14.0	96	0.00
23	T	1,1,1-Trichloroethane	2.865	2.429	15.2	95	0.00
24	T	Carbon Tetrachloride	2.413	2.102	12.9	98	0.00
25	S	1,2-Dichloroethane-d4	2.662	2.687	-0.9	96	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
27	TM	Benzene	1.397	1.226	12.2	95	0.00
28	T	1,2-Dichloroethane	0.466	0.400	14.2	95	0.00
29	TM	Trichloroethene	0.357	0.284	20.4	87	0.00
30	TC	1,2-Dichloropropane	0.360	0.308	14.4	95	0.00
31	T	Bromodichloromethane	0.384	0.334	13.0	98	0.00
32	T	2-Chloroethyl vinyl ether	0.129	0.112	13.2	96	0.00
33	T	cis-1,3-Dichloropropene	0.469	0.402	14.3	96	0.00
34	T	4-Methyl-2-Pentanone	0.131	0.097	26.0#	76	0.00
35	S	Toluene-d8	1.252	1.243	0.7	94	0.00
36	TCM	Toluene	1.378	1.207	12.4	94	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	92	0.00
38	T	trans-1,3-Dichloropropene	1.455	1.258	13.5	94	0.00
39	T	1,1,2-Trichloroethane	1.031	0.877	14.9	90	0.00
40	T	Tetrachloroethene	0.959	0.828	13.7	93	0.00
41	T	2-Hexanone	0.674	0.485	28.0#	70	0.00
42	T	Dibromochloromethane	0.829	0.717	13.5	95	0.00
43	TMP	Chlorobenzene	2.991	2.593	13.3	93	0.00
44	TC	Ethylbenzene	5.062	4.537	10.4	93	0.00
45	T	m+p-Xylenes	1.915	1.678	12.4	91	0.00
46	T	o-Xylene	3.500	3.048	12.9	89	0.00
47	T	Styrene	3.117	2.709	13.1	90	0.00
48	TP	Bromoform	0.520	0.446	14.2	95	0.00
49	S	Bromofluorobenzene	1.595	1.570	1.6	90	0.00
50	TP	1,1,2,2-Tetrachloroethane	1.043	1.005	3.6	105	0.00
51	T	1,3-Dichlorobenzene	1.648	1.305	20.8	81	0.00
52	T	1,4-Dichlorobenzene	1.575	1.237	21.5	81	0.00
53	T	1,2-Dichlorobenzene	1.546	1.237	20.0	85	0.00

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

4A

FIELD ID:

VOLATILE METHOD BLANK SUMMARY

MB 1941

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16187 Location: 1102 SDG No.:

Lab File ID: VC006308.D Lab Sample ID: MB

Date Analyzed: 6/26/01 Time Analyzed: 9:41

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	TB	1618501	VC006316.D	17:02
02	FB	1618502	VC006317.D	17:43
03	2235	1618503	VC006318.D	18:23
04	TB	1618701	VC006319.D	19:04
05	FB	1618702	VC006320.D	19:44
06	1102	1618709	VC006321.D	20:24
07	1942 MS	1618906 MS	VC006328.D	1:08
08	1943 MSD	1618906 MSD	VC006329.D	1:48

COMMENTS:

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16187 Location: 1102 SDG No.: _____

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 1941	101	98	85	0
02	TB	105	98	85	0
03	FB	105	98	86	0
04	2235	105	99	86	0
05	TB	105	98	75	0
06	FB	106	98	78	0
07	1102	105	99	78	0
08	1942 MS	104	99	93	0
09	1943 MSD	102	99	93	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	VC006328.D	Sample Name	1618906 MS
Date Aquired	27-Jun-01	Field ID	1618906 MS

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	200.90 ug/L	100.45
Acrylonitrile	200	201.60 ug/L	100.80
tert-Butyl alcohol	200	147.95 ug/L	73.97
Methyl-tert-Butyl ether	20	18.98 ug/L	94.90
Di-isopropyl ether	20	20.10 ug/L	100.49
Dichlorodifluoromethane	20	18.91 ug/L	94.56
Chloromethane	20	20.27 ug/L	101.37
Vinyl Chloride	20	22.26 ug/L	111.32
Bromomethane	20	22.22 ug/L	111.10
Chloroethane	20	19.74 ug/L	98.68
Trichlorofluoromethane	20	19.93 ug/L	99.67
1,1-Dichloroethene	20	20.74 ug/L	103.72
Acetone	20	17.36 ug/L	86.82
Carbon Disulfide	20	21.26 ug/L	106.32
Methylene Chloride	20	20.38 ug/L	101.91
trans-1,2-Dichloroethene	20	21.08 ug/L	105.42
1,1-Dichloroethane	20	21.08 ug/L	105.38
Vinyl Acetate	20	22.44 ug/L	112.22
2-Butanone	20	18.38 ug/L	91.91
cis-1,2-Dichloroethene	20	21.35 ug/L	106.74
Chloroform	20	21.00 ug/L	104.98
1,1,1-Trichloroethane	20	20.70 ug/L	103.51
Carbon Tetrachloride	20	21.50 ug/L	107.52
Benzene	20	21.02 ug/L	105.12
1,2-Dichloroethane	20	20.85 ug/L	104.24
Trichloroethene	20	19.77 ug/L	98.86
1,2-Dichloropropane	20	20.80 ug/L	103.98
Bromodichloromethane	20	21.06 ug/L	105.32
2-Chloroethyl vinyl ether	20	20.93 ug/L	104.67
cis-1,3-Dichloropropene	20	20.13 ug/L	100.65
4-Methyl-2-Pentanone	20	18.66 ug/L	93.31
Toluene	20	21.02 ug/L	105.10
trans-1,3-Dichloropropene	20	20.72 ug/L	103.58
1,1,2-Trichloroethane	20	20.57 ug/L	102.87
Tetrachloroethene	20	20.84 ug/L	104.18
2-Hexanone	20	17.60 ug/L	88.02
Dibromochloromethane	20	21.06 ug/L	105.28
Chlorobenzene	20	20.78 ug/L	103.91
Ethylbenzene	20	21.40 ug/L	107.00
m+p-Xylenes	40	36.91 ug/L	92.27
o-Xylene	20	17.87 ug/L	89.37
Styrene	20	17.89 ug/L	89.43
Bromoform	20	21.13 ug/L	105.65
1,1,2,2-Tetrachloroethane	20	21.87 ug/L	109.34
1,3-Dichlorobenzene	20	13.59 ug/L	67.93
1,4-Dichlorobenzene	20	13.39 ug/L	66.94
1,2-Dichlorobenzene	20	13.99 ug/L	69.93

6/28/01 10:14 AM

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

Data File	VC006329.D	Sample Name	1618906 MSD
Date Aquired	27-Jun-01	Field ID	1618906 MSD

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	200.29 ug/L	100.14
Acrylonitrile	200	196.07 ug/L	98.04
tert-Butyl alcohol	200	150.05 ug/L	75.03
Methyl-tert-Butyl ether	20	18.70 ug/L	93.50
Di-isopropyl ether	20	19.78 ug/L	98.90
Dichlorodifluoromethane	20	18.58 ug/L	92.91
Chloromethane	20	20.07 ug/L	100.35
Vinyl Chloride	20	21.72 ug/L	108.61
Bromomethane	20	21.96 ug/L	109.82
Chloroethane	20	19.29 ug/L	96.44
Trichlorofluoromethane	20	19.50 ug/L	97.48
1,1-Dichloroethene	20	20.22 ug/L	101.08
Acetone	20	17.15 ug/L	85.74
Carbon Disulfide	20	20.59 ug/L	102.93
Methylene Chloride	20	19.75 ug/L	98.77
trans-1,2-Dichloroethene	20	20.32 ug/L	101.62
1,1-Dichloroethane	20	20.49 ug/L	102.45
Vinyl Acetate	20	21.98 ug/L	109.90
2-Butanone	20	18.29 ug/L	91.44
cis-1,2-Dichloroethene	20	20.43 ug/L	102.16
Chloroform	20	20.50 ug/L	102.50
1,1,1-Trichloroethane	20	20.13 ug/L	100.63
Carbon Tetrachloride	20	20.77 ug/L	103.84
Benzene	20	20.76 ug/L	103.79
1,2-Dichloroethane	20	20.32 ug/L	101.59
Trichloroethene	20	19.35 ug/L	96.73
1,2-Dichloropropane	20	20.50 ug/L	102.50
Bromodichloromethane	20	20.39 ug/L	101.94
2-Chloroethyl vinyl ether	20	20.62 ug/L	103.09
cis-1,3-Dichloropropene	20	19.81 ug/L	99.05
4-Methyl-2-Pentanone	20	18.38 ug/L	91.89
Toluene	20	20.77 ug/L	103.86
trans-1,3-Dichloropropene	20	20.16 ug/L	100.81
1,1,2-Trichloroethane	20	20.16 ug/L	100.79
Tetrachloroethene	20	20.28 ug/L	101.42
2-Hexanone	20	18.26 ug/L	91.29
Dibromochloromethane	20	20.64 ug/L	103.18
Chlorobenzene	20	20.51 ug/L	102.54
Ethylbenzene	20	21.16 ug/L	105.78
m+p-Xylenes	40	37.52 ug/L	93.80
o-Xylene	20	18.28 ug/L	91.42
Styrene	20	18.03 ug/L	90.17
Bromoform	20	20.59 ug/L	102.97
1,1,2,2-Tetrachloroethane	20	21.56 ug/L	107.81
1,3-Dichlorobenzene	20	14.24 ug/L	71.20
1,4-Dichlorobenzene	20	13.61 ug/L	68.07
1,2-Dichlorobenzene	20	14.46 ug/L	72.29

6/28/01 10:14 AM

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

000028

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

Lab File ID (Standard): VC006307.D Date Analyzed: 6/26/01

Instrument ID: VoaInst#3 Time Analyzed: 8:49

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	660402	16.69	4438734	19.41	1322604	27.25
	UPPER LIMIT	1320804	17.19	8877468	19.91	2645208	27.75
	LOWER LIMIT	330201	16.19	2219367	18.91	661302	26.75
	FIELD ID:						
01	MB 1941	609648	16.70	4003413	19.42	1177135	27.24
02	TB	598248	16.70	3976231	19.42	1188835	27.25
03	FB	590437	16.69	3944269	19.42	1176049	27.24
04	2235	584703	16.69	3903329	19.42	1167219	27.25
05	TB	585379	16.70	3899526	19.42	1161661	27.25
06	FB	582321	16.70	3881776	19.42	1153972	27.25
07	1102	578063	16.70	3833675	19.42	1146603	27.25
08	1942 MS	610086	16.70	4166862	19.42	1239772	27.26
09	1943 MSD	615294	16.69	4162244	19.42	1233035	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\010626\VC006308.D Vial: 28
Acq On : 26 Jun 2001 9:41 am Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 10:16 2001 Quant Results File: M362445.RES

Quant Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration
DataAcq Meth : M362445

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	609648	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	4003413	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	1177135	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	1640573	30.32	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 101.07%			
35) Toluene-d8	23.42	98	4896928	29.30	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 97.67%			
49) Bromofluorobenzene	30.26	95	1598592	25.55	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 85.17%			
Target Compounds						Qvalue

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

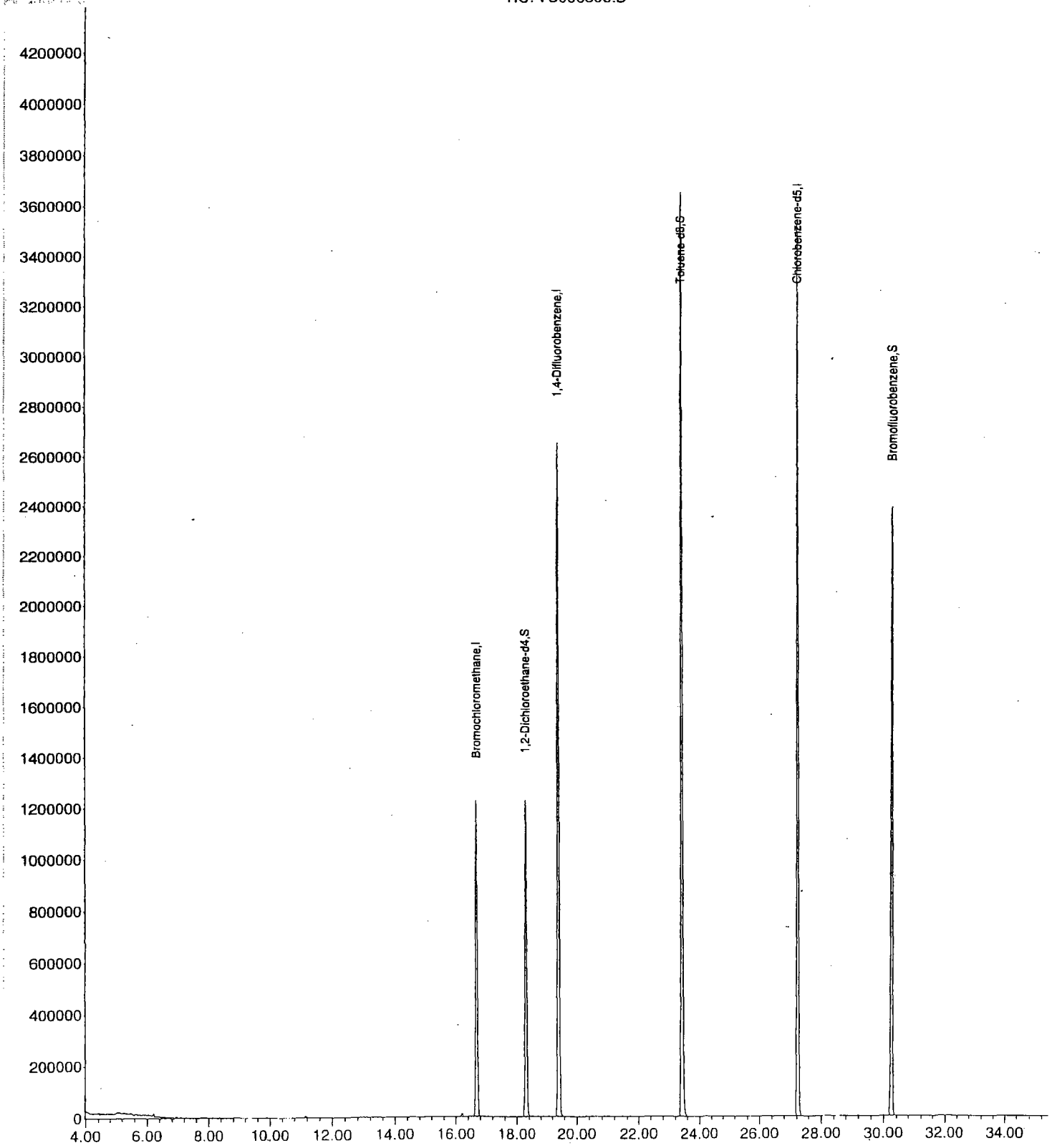
000030

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010626\VC006308.D Vial: 28
Acq On : 26 Jun 2001 9:41 am Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 10:16 2001 Quant Results File: M362445.RES

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration

TIC: VC006308.D



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010626\VC006316.D Vial: 1
Acq On : 26 Jun 2001 5:02 pm Operator: Skelton
Sample : 1618501 Inst : GC/MS Ins
Misc : TB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 17:37 2001 Quant Results File: M362445.RES

Quant Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration
DataAcq Meth : M362445

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	598248	30.00	ug/L	0.01
26) 1,4-Difluorobenzene	19.42	114	3976231	30.00	ug/L	0.01
37) Chlorobenzene-d5	27.25	119	1188835	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	1665231	31.37	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 104.57%			
35) Toluene-d8	23.42	98	4875074	29.37	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 97.90%			
49) Bromofluorobenzene	30.26	95	1603853	25.38	ug/L	0.01
Spiked Amount 30.000	Range 74 - 121		Recovery = 84.60%			

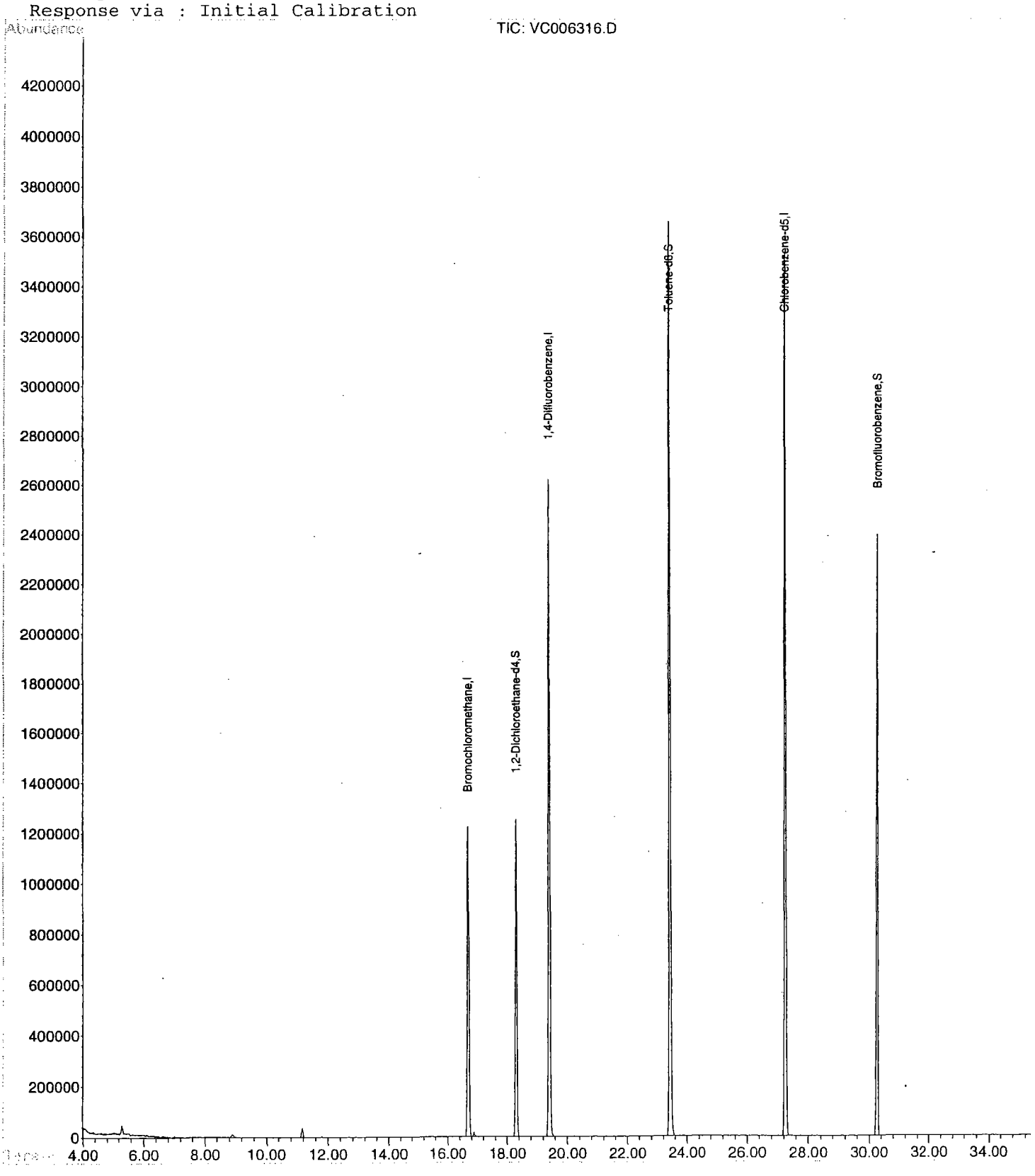
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010626\VC006316.D Vial: 1
Acq On : 26 Jun 2001 5:02 pm Operator: Skelton
Sample : 1618501 Inst : GC/MS Ins
Misc : TB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 17:37 2001 Quant Results File: M362445.RES

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration



000033

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010626\VC006317.D Vial: 2
Acq On : 26 Jun 2001 5:43 pm Operator: Skelton
Sample : 1618502 Inst : GC/MS Ins
Misc : FB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 18:18 2001 Quant Results File: M362445.RES

Quant Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration
DataAcq Meth : M362445

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	590437	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	3944269	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	1176049	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.31	65	1651601	31.52	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 105.07%			
35) Toluene-d8	23.42	98	4855108	29.49	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 98.30%			
49) Bromofluorobenzene	30.26	95	1610628	25.76	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 85.87%			
Target Compounds						Qvalue
16) Methylene Chloride	11.16	84	365231	7.97	ug/L	97

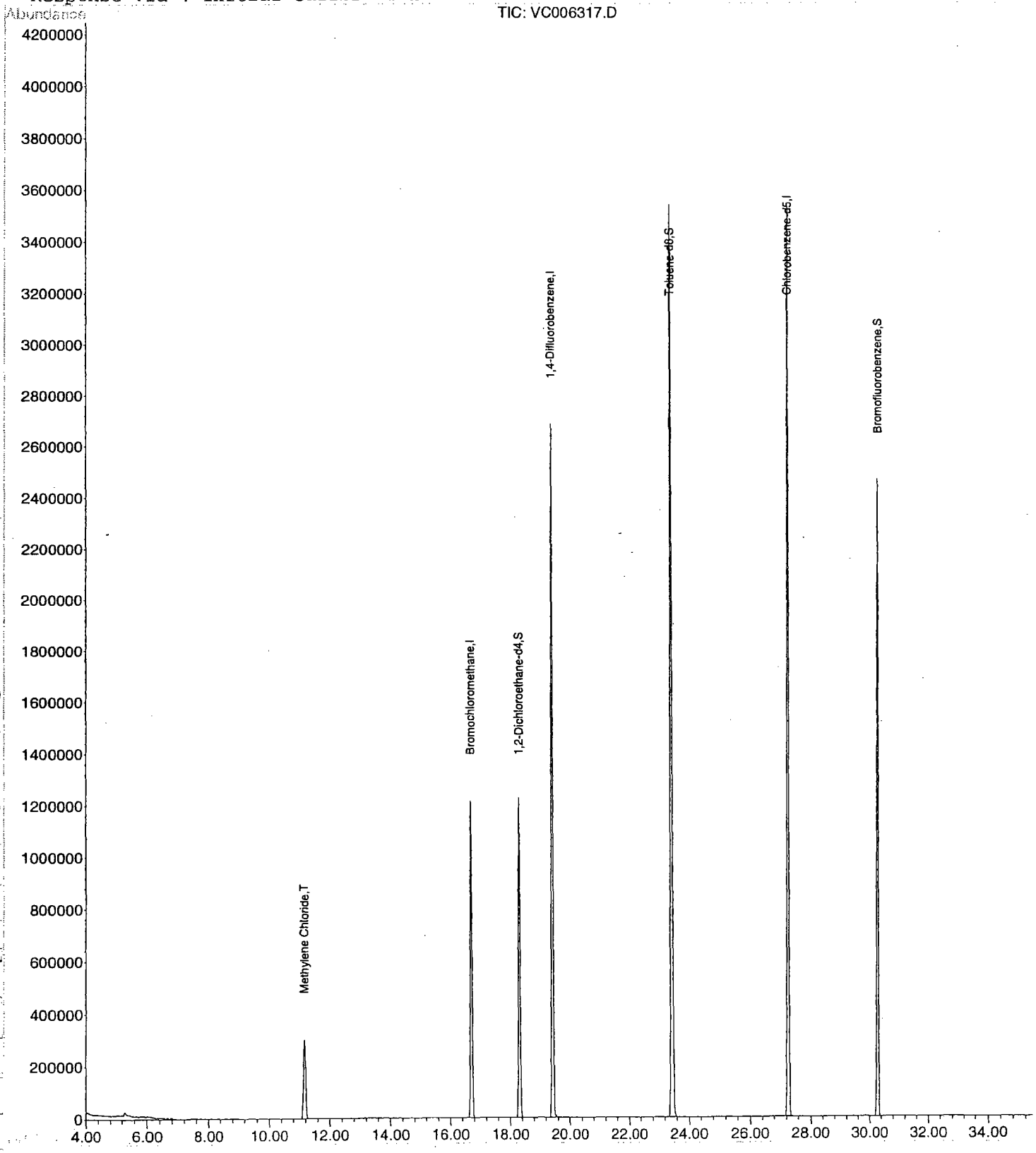
(#) = qualifier out of range (m) = manual integration

000034

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010626\VC006317.D Vial: 2
Acq On : 26 Jun 2001 5:43 pm Operator: Skelton
Sample : 1618502 Inst : GC/MS Ins
Misc : FB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 18:18 2001 Quant Results File: M362445.RES

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010626\VC006318.D Vial: 3
Acq On : 26 Jun 2001 6:23 pm Operator: Skelton
Sample : 1618503 Inst : GC/MS Ins
Misc : 2235 Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 18:59 2001 Quant Results File: M362445.RES

Quant Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration
DataAcq Meth : M362445

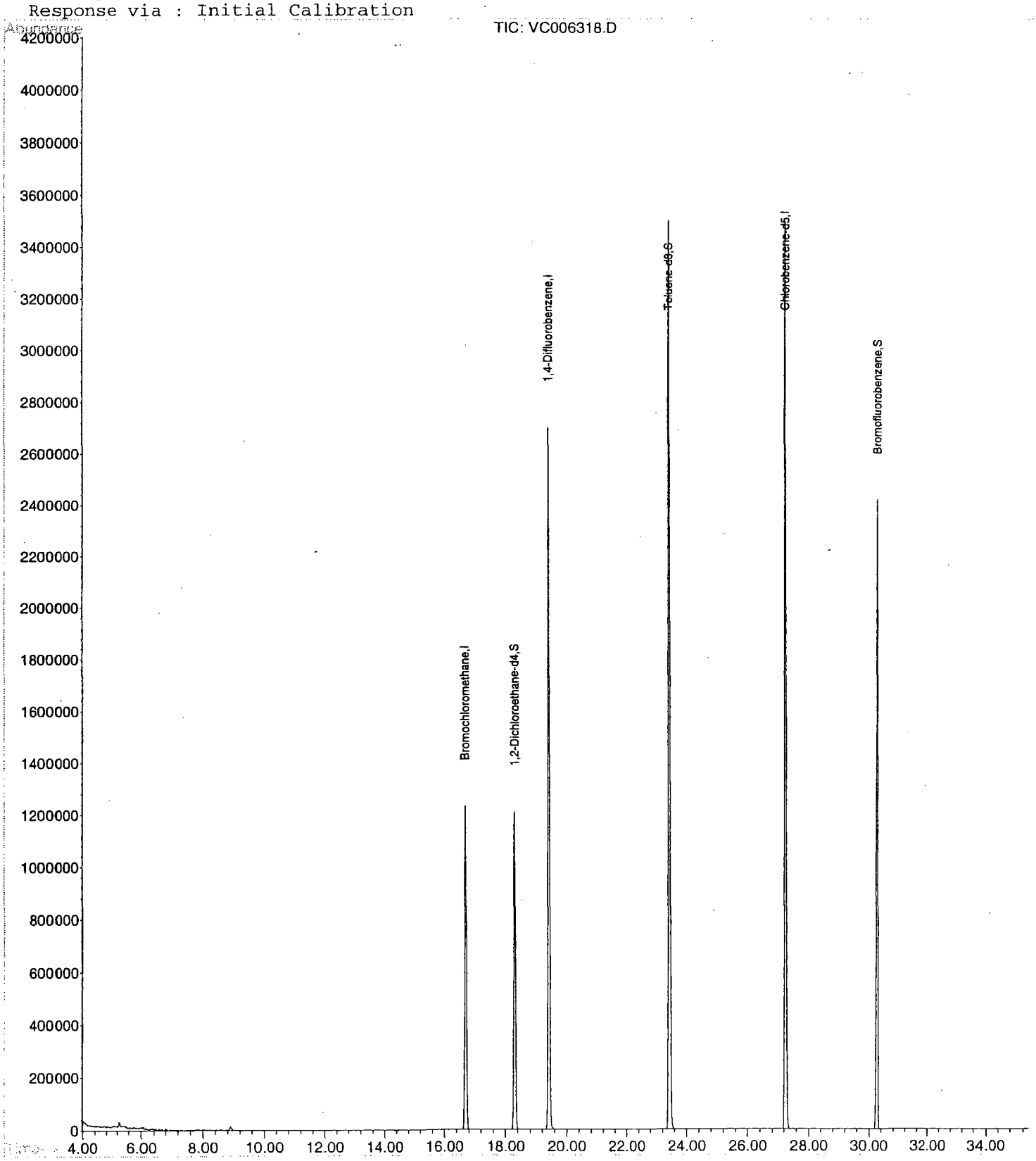
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.69	128	584703	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	3903329	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1167219	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.31	65	1635846	31.53	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 105.10%			
35) Toluene-d8	23.42	98	4816452	29.56	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 98.53%			
49) Bromofluorobenzene	30.26	95	1591947	25.66	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 85.53%			
Target Compounds						Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010626\VC006318.D Vial: 3
Acq On : 26 Jun 2001 6:23 pm Operator: Skelton
Sample : 1618503 Inst : GC/MS Ins
Misc : 2235 Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 18:59 2001 Quant Results File: M362445.RES

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration



1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB 1900**

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: MB 1900

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05515.D

Level: (low/med) LOW Date Received: 6/8/01

% Moisture: decanted: (Y/N) N Date Extracted: 6/15/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/26/01

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	**BNA05518.D**	Sample Name	**1618502**
Operator	**Skelton**	Misc Info	**FB**
Date Acquired	**26-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	**BNA05518.D**	Sample Name	**1618502**
Operator	**Skelton**	Misc Info	**FB**
Date Acquired	**26-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: FB

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1618502

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05518.D

Level: (low/med) LOW Date Received: 6/8/01

% Moisture: decanted: (Y/N) N Date Extracted: 6/15/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/26/01

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **2235**

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1618503

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05519.D

Level: (low/med) LOW Date Received: 6/8/01

% Moisture: decanted: (Y/N) N Date Extracted: 6/15/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/26/01

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: 010001 Case No.: 16176 Location: 164 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

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: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID: BNA05491.D DFTPP Injection Date: 6/25/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 8:12

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	41.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	45.7
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	54.8
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	27.6
365	Greater than 0.75% of mass 198	4.2
441	Present, but less than mass 443	11.9
442	40.0 - 110.0% of mass 198	84.9
443	15.0 - 24.0% of mass 442	16.7 (19.7)2

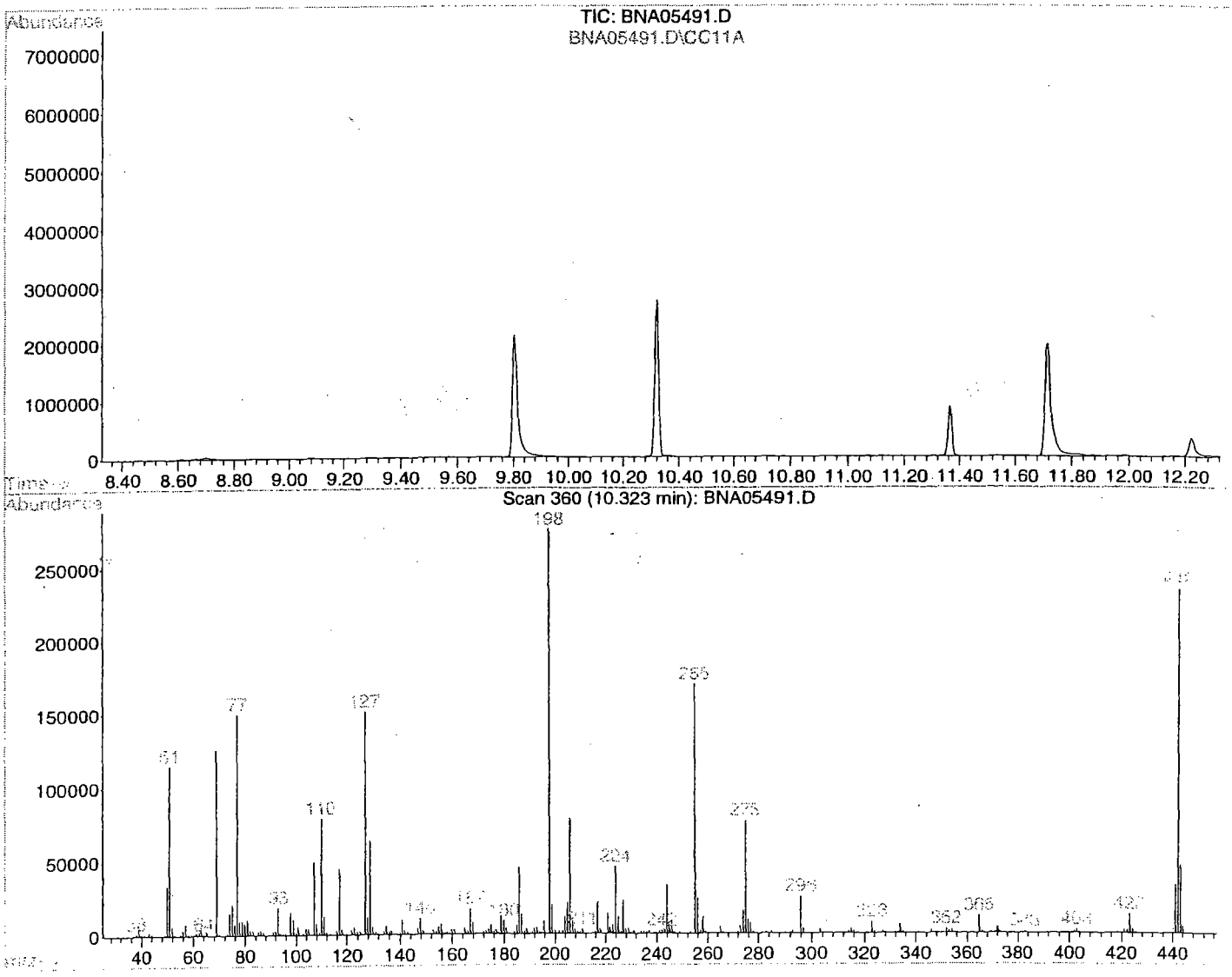
1-Value is % mass 69 2-Value is % mass 442

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	BNA05492.D	6/25/01	8:34
02	MB 1900	MB 1900	BNA05515.D	6/26/01	1:44
03	LCS 1901	LCS 1901	BNA05516.D	6/26/01	2:27
04	164	1617601	BNA05517.D	6/26/01	3:11
05	FB	1618502	BNA05518.D	6/26/01	3:54
06	2235	1618503	BNA05519.D	6/26/01	4:38
07	FB	1618702	BNA05520.D	6/26/01	5:21
08	1102	1618709	BNA05521.D	6/26/01	6:05

Data File : D:\DATA\010625\BNA05491.D
Acq On : 25 Jun 2001 8:12 am
Sample : DFTPP Tune
Misc : DFTPP Tune
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration

Vial: 99
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p



Spectrum Information: Scan 360

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.7	114944	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.7	125840	PASS
70	69	0.00	2	0.8	1036	PASS
127	198	40	60	54.8	151168	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	275648	PASS
199	198	5	9	7.0	19320	PASS
275	198	10	30	27.6	76128	PASS
365	198	1	100	4.2	11663	PASS
441	443	1	99	71.3	32856	PASS
442	198	40	100	84.9	234112	PASS
443	442	17	23	19.7	46104	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010625\BNA05492.D Vial: 100
Acq On : 25 Jun 2001 8:34 am 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	52	-0.05
2	T	Pyridine	1.435	1.220	15.0	45#	-0.02
3	T	N-nitroso-dimethylamine	0.750	0.640	14.7	45#	-0.02
4	S	2-Fluorophenol	1.137	1.104	2.9	51	0.04
5	T	Aniline	1.852	1.907	-3.0	53	-0.03
6	S	Phenol-d6	1.434	1.477	-3.0	54	0.04
7	TCM	Phenol	1.658	1.443	13.0	45#	0.04
8	T	bis(2-Chloroethyl)ether	1.201	1.180	1.7	52	-0.04
9	TM	2-Chlorophenol	1.170	1.219	-4.2	54	0.00
10	T	1,3-Dichlorobenzene	1.276	1.395	-9.3	57	-0.05
11	TCM	1,4-Dichlorobenzene	1.304	1.451	-11.3	58	-0.05
12	T	Benzyl alcohol	0.762	0.798	-4.7	54	-0.02
13	T	1,2-Dichlorobenzene	1.194	1.341	-12.3	59	-0.05
14	T	2-Methylphenol	1.077	1.165	-8.2	56	0.02
15	T	bis(2-chloroisopropyl)ether	1.235	1.121	9.2	48#	-0.05
16	T	4-Methylphenol	1.126	1.222	-8.5	56	0.02
17	TPM	n-Nitroso-di-n-propylamine	0.191	0.210	-9.9	56	-0.04
18	T	Hexachloroethane	0.498	0.605	-21.5	63	-0.05
19	I	Naphthalene-d8	1.000	1.000	0.0	59	-0.05
20	S	Nitrobenzene-d5	0.402	0.423	-5.2	62	-0.04
21	T	Nitrobenzene	0.403	0.414	-2.7	61	-0.04
22	T	Isophorone	0.676	0.691	-2.2	61	-0.04
23	TC	2-Nitrophenol	0.184	0.177	3.8	56	-0.04
24	T	2,4-Dimethylphenol	0.339	0.366	-8.0	64	0.00
25	T	bis(2-Chloroethoxy)methane	0.399	0.374	6.3	55	-0.05
26	TC	2,4-Dichlorophenol	0.235	0.238	-1.3	56	0.00
27	T	Benzoic Acid	0.226	0.179	20.8	48#	0.02
28	TM	1,2,4-Trichlorobenzene	0.287	0.309	-7.7	63	-0.05
29	T	Naphthalene	0.942	0.994	-5.5	62	-0.05
30	T	4-Chloroaniline	0.379	0.338	10.8	51	-0.03
31	TC	Hexachlorobutadiene	0.159	0.197	-23.9	73	-0.05
32	TCM	4-Chloro-3-methylphenol	0.289	0.313	-8.3	63	0.02
33	T	2-Methylnaphthalene	0.612	0.664	-8.5	64	-0.05
34	I	Acenaphthene-d10	1.000	1.000	0.0	66	-0.05
35	TP	Hexachlorocyclopentadiene	0.230	0.222	3.5	58	-0.05
36	TC	2,4,6-Trichlorophenol	0.314	0.328	-4.5	68	-0.03
37	T	2,4,5-Trichlorophenol	0.332	0.341	-2.7	65	0.02
38	S	2-Fluorobiphenyl	1.113	1.177	-5.8	69	-0.05
39	T	2-Chloronaphthalene	0.961	0.968	-0.7	66	-0.05
40	T	2-Nitroaniline	0.363	0.333	8.3	59	-0.03
41	T	Dimethylphthalate	1.097	1.171	-6.7	70	-0.05
42	T	Acenaphthylene	1.553	1.645	-5.9	69	-0.05
43	T	2,6-Dinitrotoluene	0.281	0.333	-18.5	77	-0.05
44	T	3-Nitroaniline	0.280	0.279	0.4	64	-0.02
45	TCM	Acenaphthene	0.980	1.017	-3.8	68	-0.05
46	TP	2,4-Dinitrophenol	0.149	0.142	4.7	58	-0.03
47	T	Dibenzofuran	1.326	1.380	-4.1	68	-0.05
48	TMP	4-Nitrophenol	0.205	0.193	5.9	64	0.10
49	TM	2,4-Dinitrotoluene	0.359	0.363	-1.1	66	-0.04
50	T	Diethylphthalate	1.113	1.256	-12.8	74	-0.05
51	T	Fluorene	1.107	1.178	-6.4	70	-0.05
52	T	4-Chlorophenyl-phenylether	0.529	0.584	-10.4	72	-0.05
53	T	4-Nitroaniline	0.290	0.260	10.3	59	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010625\BNA05492.D
Acq On : 25 Jun 2001 8:34 am
Sample : Sstd050
Misc : Sstd050
MS Integration Params: RTEINT.P

Vial: 100
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
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	76	-0.05
55	T	4,6-Dinitro-2-methylphenol	0.133	0.115	13.5	64	-0.04
56	TC	n-Nitrosodiphenylamine	0.473	0.426	9.9	69	-0.05
57	T	Azobenzene	0.812	0.751	7.5	70	-0.05
58	S	2,4,6-Tribromophenol	0.090	0.088	2.2	74	-0.04
59	T	4-Bromophenyl-phenylether	0.182	0.174	4.4	73	-0.05
60	T	Hexachlorobenzene	0.196	0.191	2.6	76	-0.05
61	TCM	Pentachlorophenol	0.116	0.105	9.5	66	-0.03
62	T	Phenanthrene	0.973	0.915	6.0	72	-0.05
63	T	Anthracene	0.989	0.925	6.5	71	-0.05
64	T	Di-n-butylphthalate	1.096	1.084	1.1	75	-0.05
65	TC	Fluoranthene	1.019	0.998	2.1	75	-0.05
66	I	Chrysene-d12	1.000	1.000	0.0	91	-0.06
67	T	Benzidine	0.396	0.317	19.9	73	-0.04
68	TM	Pyrene	1.159	0.959	17.3	75	-0.06
69	S	p-Terphenyl-d14	0.797	0.701	12.0	80	-0.05
70	T	Butylbenzylphthalate	0.569	0.488	14.2	77	-0.05
71	T	Benzo[a]anthracene	1.092	0.961	12.0	80	-0.06
72	T	3,3'-Dichlorobenzidine	0.354	0.375	-5.9	96	-0.05
73	T	Chrysene	1.037	0.913	12.0	80	-0.06
74	T	bis(2-Ethylhexyl)phthalate	0.779	0.681	12.6	78	-0.06
75	I	Perylene-d12	1.000	1.000	0.0	80	-0.06
76	TC	Di-n-octylphthalate	1.345	1.373	-2.1	78	-0.07
77	T	Benzo[b]fluoranthene	1.114	1.073	3.7	76	-0.06
78	T	Benzo[k]fluoranthene	1.115	1.106	0.8	79	-0.06
79	TC	Benzo[a]pyrene	1.073	1.024	4.6	76	-0.06
80	T	Indeno[1,2,3-cd]pyrene	1.086	0.958	11.8	70	-0.09
81	T	Dibenz[a,h]anthracene	1.104	0.967	12.4	69	-0.09
82	T	Benzo[g,h,i]perylene	1.096	0.891	18.7	65	-0.10

4B

Field Id:

SEMIVOLATILE METHOD BLANK SUMMARY

MB 1900

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID: BNA05515.D Lab Sample ID: MB 1900

Instrument ID: GC/MS Ins Date Extracted: 6/15/01

Matrix: (soil/water) WATER Date Analyzed: 6/26/01

Level: (low/med) LOW Time Analyzed: 1:44

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	LCS 1901	LCS 1901	BNA05516.D	6/26/01
02	164	1617601	BNA05517.D	6/26/01
03	FB	1618502	BNA05518.D	6/26/01
04	FB	1618702	BNA05520.D	6/26/01
05	1102	1618709	BNA05521.D	6/26/01

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 SDG No.: _____

	Field Id:	S1 NBZ #	S2 2FP #	S3 TPL #	TOT OUT
01	MB 1900	53	62	64	0
02	LCS 1901	62	70	67	0
03	164	59	63	28 *	1
04	FB	55	67	36	0
05	2235	48	60	53	0
06	FB	53	63	30 *	1
07	1102	52	63	39	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 **BNA05516.D** Sample Name **LCS 1901**

Date Acquired **26-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		1.99 ug/L	9.97
62-75-9	N-nitroso-dimethylamine		5.66 ug/L	28.28
62-53-3	Aniline		4.68 ug/L	23.42
111-44-4	bis(2-Chloroethyl)ether		9.74 ug/L	48.68
541-73-1	1,3-Dichlorobenzene		11.51 ug/L	57.57
106-46-7	1,4-Dichlorobenzene		11.77 ug/L	58.84
100-51-6	Benzyl alcohol		9.65 ug/L	48.24
95-50-1	1,2-Dichlorobenzene		12.05 ug/L	60.25
39638-32-9	bis(2-chloroisopropyl)ether		15.18 ug/L	75.91
621-64-7	n-Nitroso-di-n-propylamine		12.04 ug/L	60.19
67-72-1	Hexachloroethane		12.09 ug/L	60.47
98-95-3	Nitrobenzene		11.75 ug/L	58.75
78-59-1	Isophorone		13.00 ug/L	64.99
111-91-1	bis(2-Chloroethoxy)methane		10.45 ug/L	52.25
120-82-1	1,2,4-Trichlorobenzene		11.74 ug/L	58.72
91-20-3	Naphthalene		11.86 ug/L	59.30
106-47-8	4-Chloroaniline		6.89 ug/L	34.44
87-68-3	Hexachlorobutadiene		13.16 ug/L	65.82
91-57-6	2-Methylnaphthalene		12.27 ug/L	61.37
77-47-4	Hexachlorocyclopentadiene		7.28 ug/L	36.41
91-58-7	2-Chloronaphthalene		13.29 ug/L	66.43
88-74-4	2-Nitroaniline		11.55 ug/L	57.74
131-11-3	Dimethylphthalate		14.94 ug/L	74.68
208-96-8	Acenaphthylene		13.53 ug/L	67.64
606-20-2	2,6-Dinitrotoluene		15.91 ug/L	79.53
99-09-2	3-Nitroaniline		8.98 ug/L	44.92
83-32-9	Acenaphthene		13.94 ug/L	69.71
132-64-9	Dibenzofuran		14.61 ug/L	73.05
121-14-2	2,4-Dinitrotoluene		13.51 ug/L	67.53
84-66-2	Diethylphthalate		16.09 ug/L	80.46
86-73-7	Fluorene		14.78 ug/L	73.90
7005-72-3	4-Chlorophenyl-phenylether		15.00 ug/L	74.98
100-01-6	4-Nitroaniline		9.53 ug/L	47.63
86-30-6	n-Nitrosodiphenylamine		13.08 ug/L	65.38
103-33-3	Azobenzene		13.22 ug/L	66.11
101-55-3	4-Bromophenyl-phenylether		13.22 ug/L	66.11
118-74-1	Hexachlorobenzene		13.34 ug/L	66.70
85-01-8	Phenanthrene		13.70 ug/L	68.52
120-12-7	Anthracene		13.23 ug/L	66.13
84-74-2	Di-n-butylphthalate		14.33 ug/L	71.66
206-44-0	Fluoranthene		13.91 ug/L	69.55
129-00-0	Pyrene		12.88 ug/L	64.41
85-68-7	Butylbenzylphthalate		12.51 ug/L	62.57
56-55-3	Benzo[a]anthracene		12.76 ug/L	63.78
218-01-9	Chrysene		11.50 ug/L	57.49
117-81-7	bis(2-Ethylhexyl)phthalate		12.54 ug/L	62.69
117-84-0	Di-n-octylphthalate		15.39 ug/L	76.94
205-99-2	Benzo[b]fluoranthene		15.40 ug/L	76.98
207-08-9	Benzo[k]fluoranthene		16.02 ug/L	80.10
50-32-8	Benzo[a]pyrene		14.27 ug/L	71.37
193-39-5	Indeno[1,2,3-cd]pyrene		15.51 ug/L	77.53
53-70-3	Dibenz[a,h]anthracene		12.98 ug/L	64.88
191-24-2	Benzo[g,h,i]perylene		12.76 ug/L	63.81

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05421.D** Sample Name **1615108 MS**

Date Acquired **12-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		5.36 ug/L	26.79
62-75-9	N-nitroso-dimethylamine		6.88 ug/L	34.40
62-53-3	Aniline		10.36 ug/L	51.78
111-44-4	bis(2-Chloroethyl)ether		10.61 ug/L	53.06
541-73-1	1,3-Dichlorobenzene		11.85 ug/L	59.25
106-46-7	1,4-Dichlorobenzene		11.93 ug/L	59.67
100-51-6	Benzyl alcohol		9.00 ug/L	45.00
95-50-1	1,2-Dichlorobenzene		12.33 ug/L	61.66
39638-32-9	bis(2-chloroisopropyl)ether		14.89 ug/L	74.45
621-64-7	n-Nitroso-di-n-propylamine		12.90 ug/L	64.52
67-72-1	Hexachloroethane		12.14 ug/L	60.68
98-95-3	Nitrobenzene		12.09 ug/L	60.47
78-59-1	Isophorone		13.01 ug/L	65.04
111-91-1	bis(2-Chloroethoxy)methane		10.68 ug/L	53.38
120-82-1	1,2,4-Trichlorobenzene		11.74 ug/L	58.69
91-20-3	Naphthalene		11.91 ug/L	59.57
106-47-8	4-Chloroaniline		11.04 ug/L	55.20
87-68-3	Hexachlorobutadiene		12.65 ug/L	63.27
91-57-6	2-Methylnaphthalene		13.33 ug/L	66.63
77-47-4	Hexachlorocyclopentadiene		8.51 ug/L	42.54
91-58-7	2-Chloronaphthalene		13.52 ug/L	67.58
88-74-4	2-Nitroaniline		11.01 ug/L	55.05
131-11-3	Dimethylphthalate		15.66 ug/L	78.31
208-96-8	Acenaphthylene		13.99 ug/L	69.93
606-20-2	2,6-Dinitrotoluene		15.97 ug/L	79.85
99-09-2	3-Nitroaniline		13.14 ug/L	65.71
83-32-9	Acenaphthene		14.18 ug/L	70.91
132-64-9	Dibenzofuran		15.04 ug/L	75.21
121-14-2	2,4-Dinitrotoluene		14.99 ug/L	74.93
84-66-2	Diethylphthalate		16.94 ug/L	84.68
86-73-7	Fluorene		15.41 ug/L	77.06
7005-72-3	4-Chlorophenyl-phenylether		15.23 ug/L	76.16
100-01-6	4-Nitroaniline		12.19 ug/L	60.95
86-30-6	n-Nitrosodiphenylamine		14.11 ug/L	70.56
103-33-3	Azobenzene		13.68 ug/L	68.38
101-55-3	4-Bromophenyl-phenylether		14.01 ug/L	70.04
118-74-1	Hexachlorobenzene		14.41 ug/L	72.06
85-01-8	Phenanthrene		14.57 ug/L	72.83
120-12-7	Anthracene		14.21 ug/L	71.05
84-74-2	Di-n-butylphthalate		15.31 ug/L	76.57
206-44-0	Fluoranthene		14.86 ug/L	74.32
129-00-0	Pyrene		13.57 ug/L	67.85
85-68-7	Butylbenzylphthalate		13.62 ug/L	68.10
56-55-3	Benzo[a]anthracene		14.15 ug/L	70.77
218-01-9	Chrysene		12.45 ug/L	62.27
117-81-7	bis(2-Ethylhexyl)phthalate		13.88 ug/L	69.42
117-84-0	Di-n-octylphthalate		17.05 ug/L	85.26
205-99-2	Benzo[b]fluoranthene		16.99 ug/L	84.96
207-08-9	Benzo[k]fluoranthene		17.75 ug/L	88.76
50-32-8	Benzo[a]pyrene		16.55 ug/L	82.76
193-39-5	Indeno[1,2,3-cd]pyrene		15.73 ug/L	78.67
53-70-3	Dibenz[a,h]anthracene		15.69 ug/L	78.47
191-24-2	Benzo[g,h,i]perylene		16.06 ug/L	80.32

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05422.D** Sample Name **1615108 MSD**

Date Acquired **12-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		3.06 ug/L	15.31
62-75-9	N-nitroso-dimethylamine		7.78 ug/L	38.88
62-53-3	Aniline		8.84 ug/L	44.20
111-44-4	bis(2-Chloroethyl)ether		11.93 ug/L	59.65
541-73-1	1,3-Dichlorobenzene		13.23 ug/L	66.17
106-46-7	1,4-Dichlorobenzene		13.48 ug/L	67.42
100-51-6	Benzyl alcohol		10.08 ug/L	50.40
95-50-1	1,2-Dichlorobenzene		14.14 ug/L	70.69
39638-32-9	bis(2-chloroisopropyl)ether		16.50 ug/L	82.48
621-64-7	n-Nitroso-di-n-propylamine		14.56 ug/L	72.79
67-72-1	Hexachloroethane		13.73 ug/L	68.66
98-95-3	Nitrobenzene		12.86 ug/L	64.29
78-59-1	Isophorone		14.46 ug/L	72.32
111-91-1	bis(2-Chloroethoxy)methane		12.10 ug/L	60.50
120-82-1	1,2,4-Trichlorobenzene		13.08 ug/L	65.40
91-20-3	Naphthalene		13.44 ug/L	67.20
106-47-8	4-Chloroaniline		9.89 ug/L	49.47
87-68-3	Hexachlorobutadiene		14.39 ug/L	71.94
91-57-6	2-Methylnaphthalene		14.70 ug/L	73.52
77-47-4	Hexachlorocyclopentadiene		11.74 ug/L	58.68
91-58-7	2-Chloronaphthalene		15.00 ug/L	75.02
88-74-4	2-Nitroaniline		13.94 ug/L	69.70
131-11-3	Dimethylphthalate		16.74 ug/L	83.69
208-96-8	Acenaphthylene		15.29 ug/L	76.47
606-20-2	2,6-Dinitrotoluene		17.14 ug/L	85.70
99-09-2	3-Nitroaniline		12.95 ug/L	64.75
83-32-9	Acenaphthene		15.51 ug/L	77.55
132-64-9	Dibenzofuran		16.24 ug/L	81.21
121-14-2	2,4-Dinitrotoluene		15.57 ug/L	77.83
84-66-2	Diethylphthalate		17.50 ug/L	87.49
86-73-7	Fluorene		16.38 ug/L	81.92
7005-72-3	4-Chlorophenyl-phenylether		16.38 ug/L	81.90
100-01-6	4-Nitroaniline		12.05 ug/L	60.25
86-30-6	n-Nitrosodiphenylamine		14.99 ug/L	74.94
103-33-3	Azobenzene		14.69 ug/L	73.46
101-55-3	4-Bromophenyl-phenylether		15.00 ug/L	75.01
118-74-1	Hexachlorobenzene		14.95 ug/L	74.75
85-01-8	Phenanthrene		15.20 ug/L	75.98
120-12-7	Anthracene		14.75 ug/L	73.75
84-74-2	Di-n-butylphthalate		15.99 ug/L	79.94
206-44-0	Fluoranthene		15.32 ug/L	76.58
129-00-0	Pyrene		14.37 ug/L	71.84
85-68-7	Butylbenzylphthalate		14.45 ug/L	72.23
56-55-3	Benzo[a]anthracene		14.91 ug/L	74.55
218-01-9	Chrysene		13.21 ug/L	66.07
117-81-7	bis(2-Ethylhexyl)phthalate		14.58 ug/L	72.92
117-84-0	Di-n-octylphthalate		17.72 ug/L	88.62
205-99-2	Benzo[b]fluoranthene		17.76 ug/L	88.79
207-08-9	Benzo[k]fluoranthene		17.93 ug/L	89.66
50-32-8	Benzo[a]pyrene		17.18 ug/L	85.92
193-39-5	Indeno[1,2,3-cd]pyrene		16.54 ug/L	82.70
53-70-3	Dibenz[a,h]anthracene		16.52 ug/L	82.60
191-24-2	Benzo[g,h,i]perylene		16.46 ug/L	82.28

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID (Standard): BNA05492.D Date Analyzed: 6/25/01

Instrument ID: GC_BNA_2 Time Analyzed: 8:34

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	503824	10.07	1984322	13.01	1309895	17.23
	UPPER LIMIT	1007648	10.57	3968644	13.51	2619790	17.73
	LOWER LIMIT	251912	9.57	992161	12.51	654948	16.73
	Field Id:						
01	MB 1900	457167	10.08	1791808	13.00	1036373	17.23
02	LCS 1901	458681	10.07	1791377	13.00	1032583	17.23
03	164	1006491	10.08	3962177	13.00	2319626	17.24
04	FB	455475	10.08	1785523	13.00	1012335	17.23
05	2235	488394	10.08	1904996	13.00	1085506	17.23
06	FB	441101	10.08	1647300	13.00	985747	17.23
07	1102	474649	10.08	1871975	13.00	1087714	17.23

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: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID (Standard): BNA05492.D Date Analyzed: 06/25/01

Instrument ID: GC_BNA_2 Time Analyzed: 08:34

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2503443	20.82	2622505	27.28	2176525	30.50
	UPPER LIMIT	5006886	20.32	5245010	26.78	4353050	30.00
	LOWER LIMIT	1251722	21.32	1311253	27.78	1088263	31.00
	EPA SAMPLE NO.						
01	MB 1900	1921708	20.82	1937110	27.27	1399062	30.49
02	LCS 1901	1976193	20.82	1976656	27.27	1432477	30.50
03	164	4245721	20.83	4340932	27.28	3394667	30.51
04	FB	1898266	20.82	1946190	27.27	1411407	30.49
05	2235	2015359	20.82	2049396	27.27	1492116	30.50
06	FB	1847638	20.82	1898851	27.27	1378140	30.49
07	1102	2050428	20.82	2074896	27.27	1524804	30.50

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\010625\BNA05515.D Vial: 35
Acq On : 26 Jun 2001 1:44 am Operator: Skelton
Sample : MB 1900 Inst : GC/MS Ins
Misc : 6/18/2001 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 2:19 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	10.08	152	457167	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1791808	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1036373	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	1921708	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	1937110	40.00	ug/L	-0.07
75) Perylene-d12	30.49	264	1399062	40.00	ug/L	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	7.41	112	536209	41.25	ug/L	0.05
Spiked Amount 100.000	Range 21 - 100		Recovery = 41.25%			
6) Phenol-d6	9.51	99	357612	21.82	ug/L	0.08
Spiked Amount 100.000	Range 10 - 94		Recovery = 21.82%			
20) Nitrobenzene-d5	11.41	82	480936	26.73	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery = 53.46%			
38) 2-Fluorobiphenyl	15.64	172	891367	30.91	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery = 61.82%			
58) 2,4,6-Tribromophenol	19.19	330	273826	63.22	ug/L	-0.04
Spiked Amount 100.000	Range 10 - 123		Recovery = 63.22%			
69) p-Terphenyl-d14	24.77	244	1231766	31.93	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery = 63.86%			

Target Compounds Qvalue

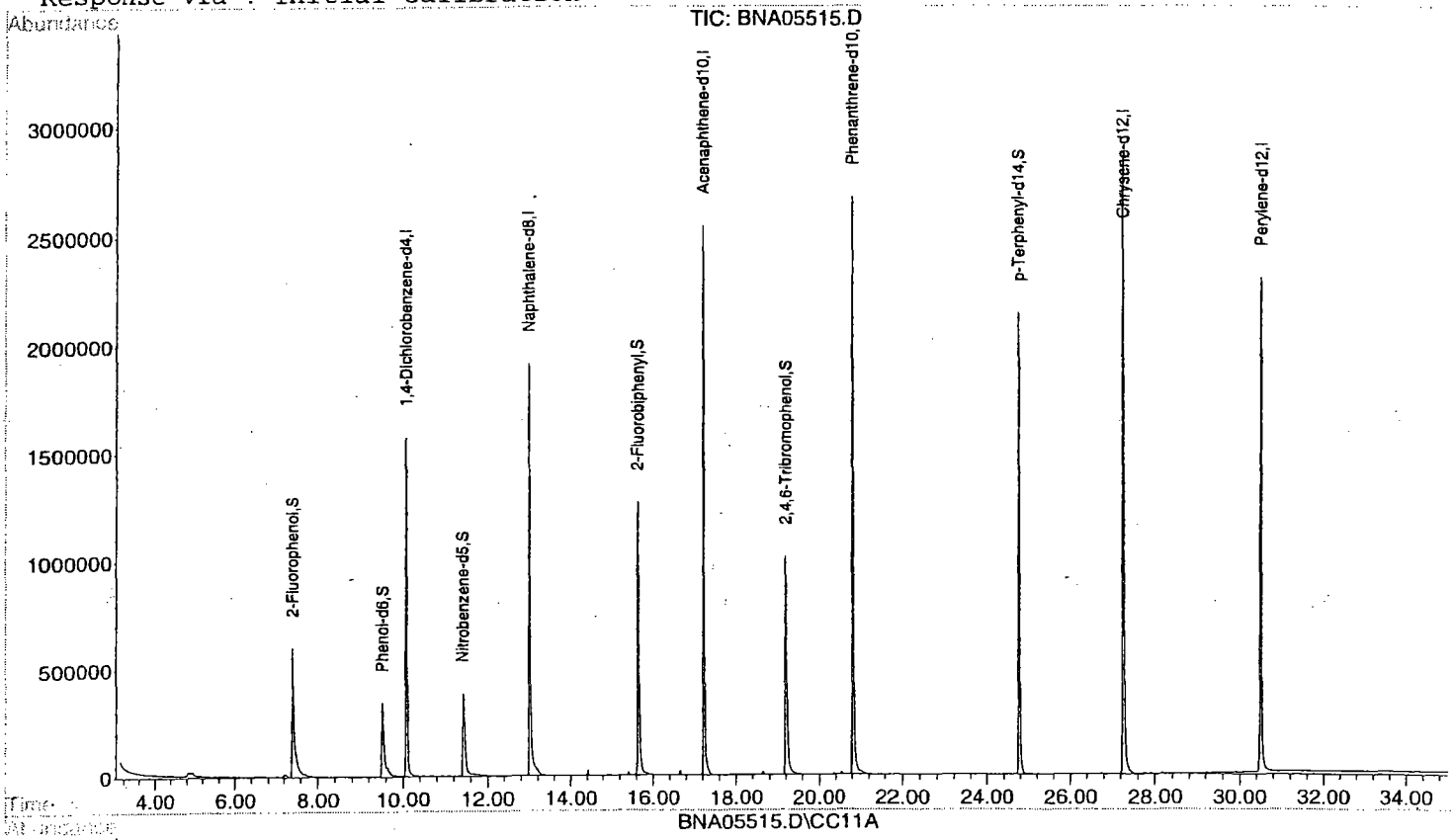
(#) = qualifier out of range (m) = manual integration

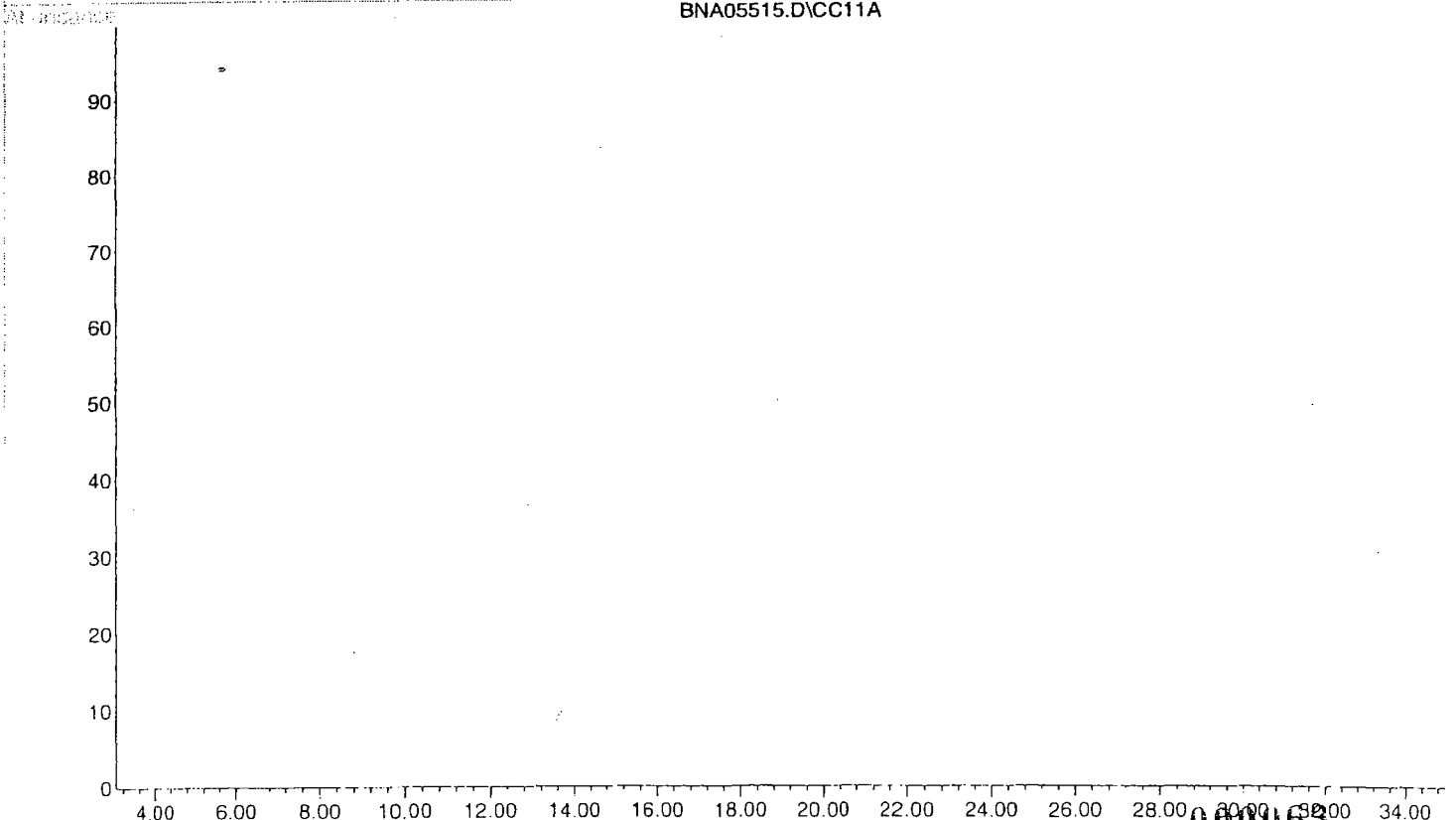
Quantitation Report

Data File : D:\DATA\010625\BNA05515.D
Acq On : 26 Jun 2001 1:44 am
Sample : MB 1900
Misc : 6/18/2001
MS Integration Params: RTEINT.P
Quant Time: Jun 26 2:19 2001

Vial: 35
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\010625\BNA05518.D Vial: 38
Acq On : 26 Jun 2001 3:54 am Operator: Skelton
Sample : 1618502 Inst : GC/MS Ins
Misc : FB Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 27 16:48 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	10.08	152	455475	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1785523	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1012335	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	1898266	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	1946190	40.00	ug/L	-0.07
75) Perylene-d12	30.49	264	1411407	40.00	ug/L	-0.07
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	11.41	82	495225	27.62	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery =	55.24%		
38) 2-Fluorobiphenyl	15.64	172	940933	33.40	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery =	66.80%		
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	24.77	244	692663	17.87	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery =	35.74%		

Target Compounds Qvalue

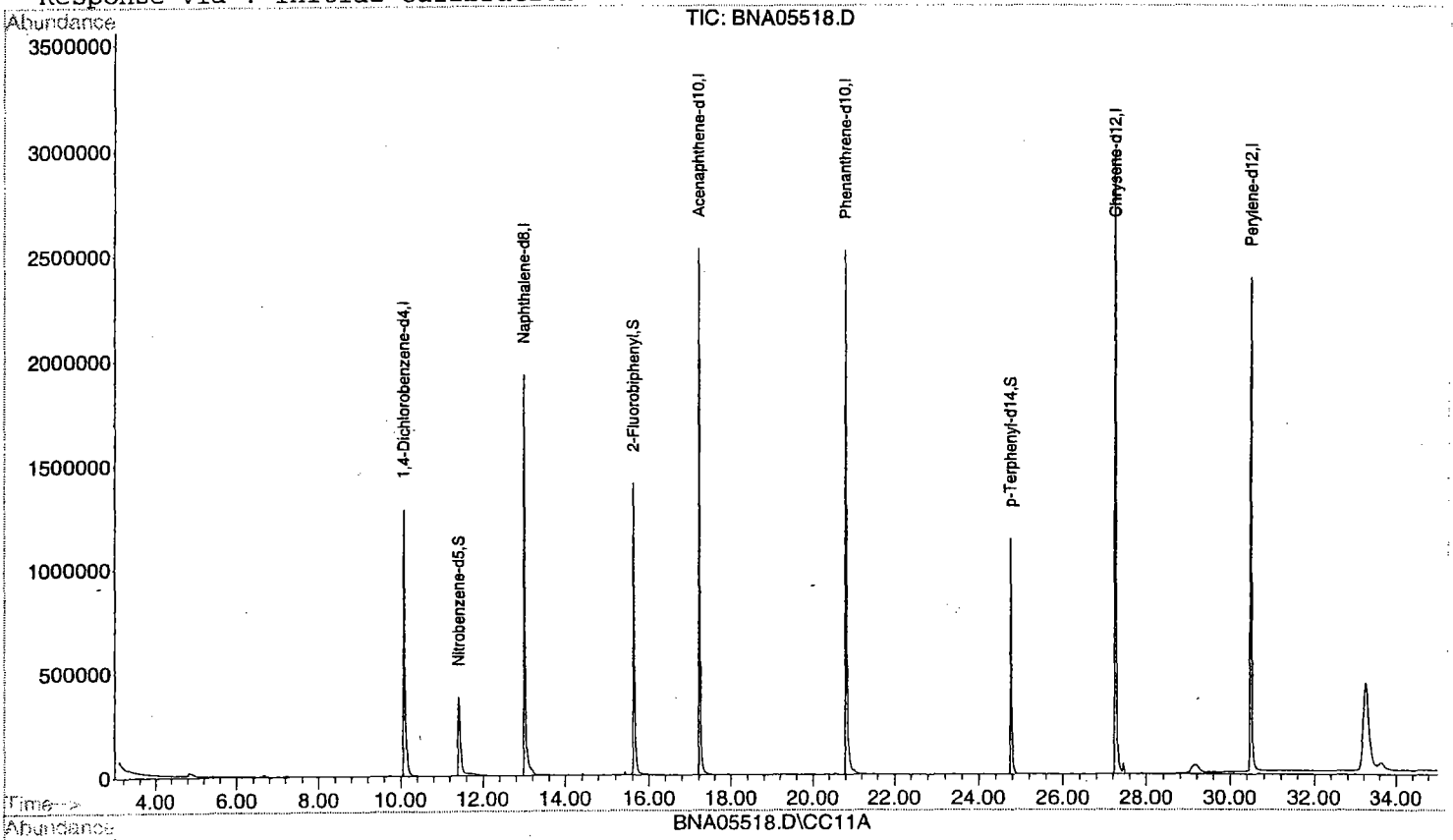
(#) = qualifier out of range (m) = manual integration

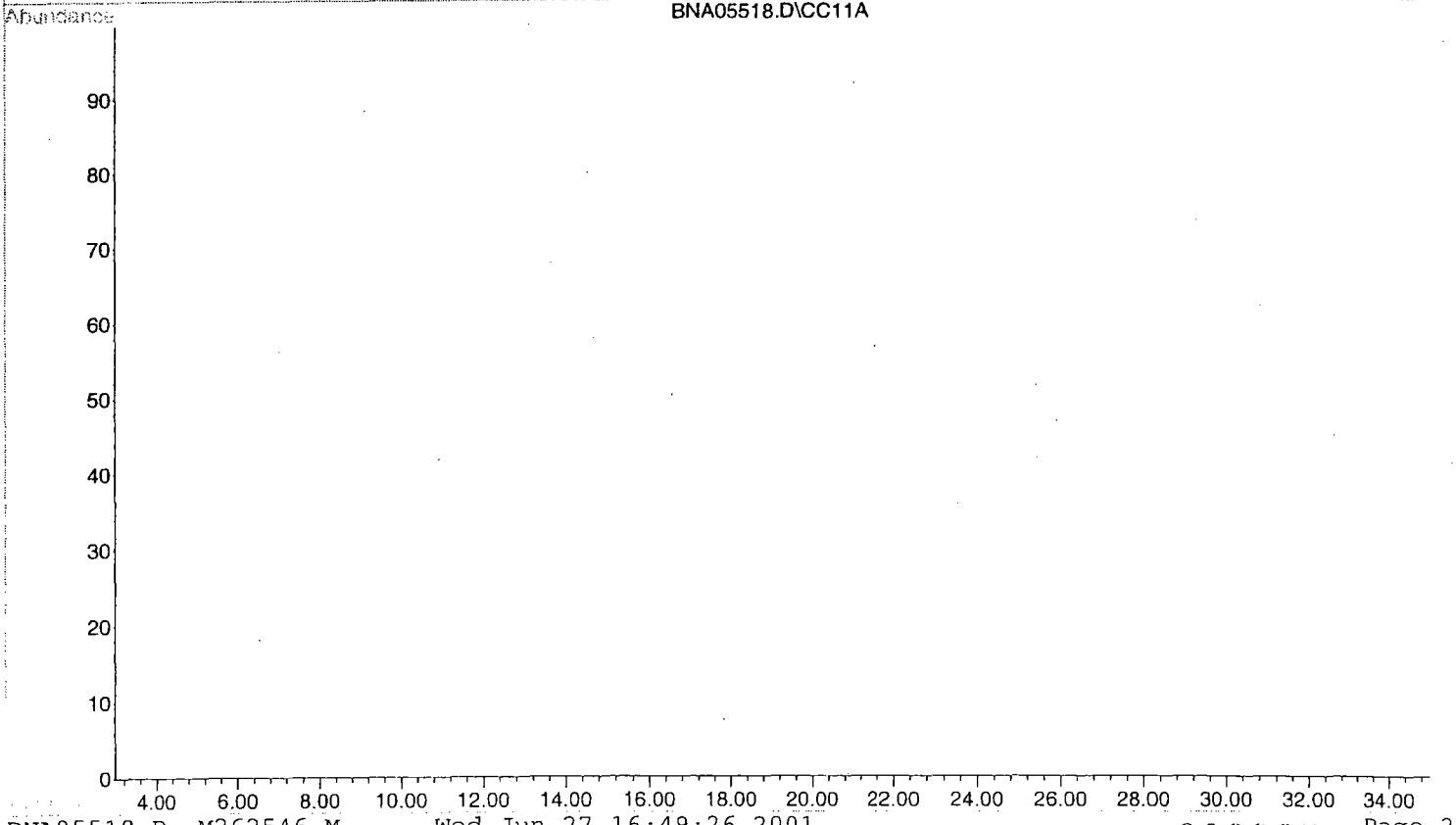
Quantitation Report

Data File : D:\DATA\010625\BNA05518.D
Acq On : 26 Jun 2001 3:54 am
Sample : 1618502
Misc : FB
MS Integration Params: RTEINT.P
Quant Time: Jun 27 16:48 2001

Vial: 38
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\010625\BNA05519.D Vial: 39
Acq On : 26 Jun 2001 4:38 am Operator: Skelton
Sample : 1618503 Inst : GC/MS Ins
Misc : 2235 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 5:13 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	10.08	152	488394	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1904996	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1085506	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	2015359	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	2049396	40.00	ug/L	-0.07
75) Perylene-d12	30.50	264	1492116	40.00	ug/L	-0.07
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	456031	23.84	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery =	47.68%		
38) 2-Fluorobiphenyl	15.64	172	910112	30.13	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery =	60.26%		
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	24.77	244	1086377	26.62	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery =	53.24%		
Target Compounds						Qvalue

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

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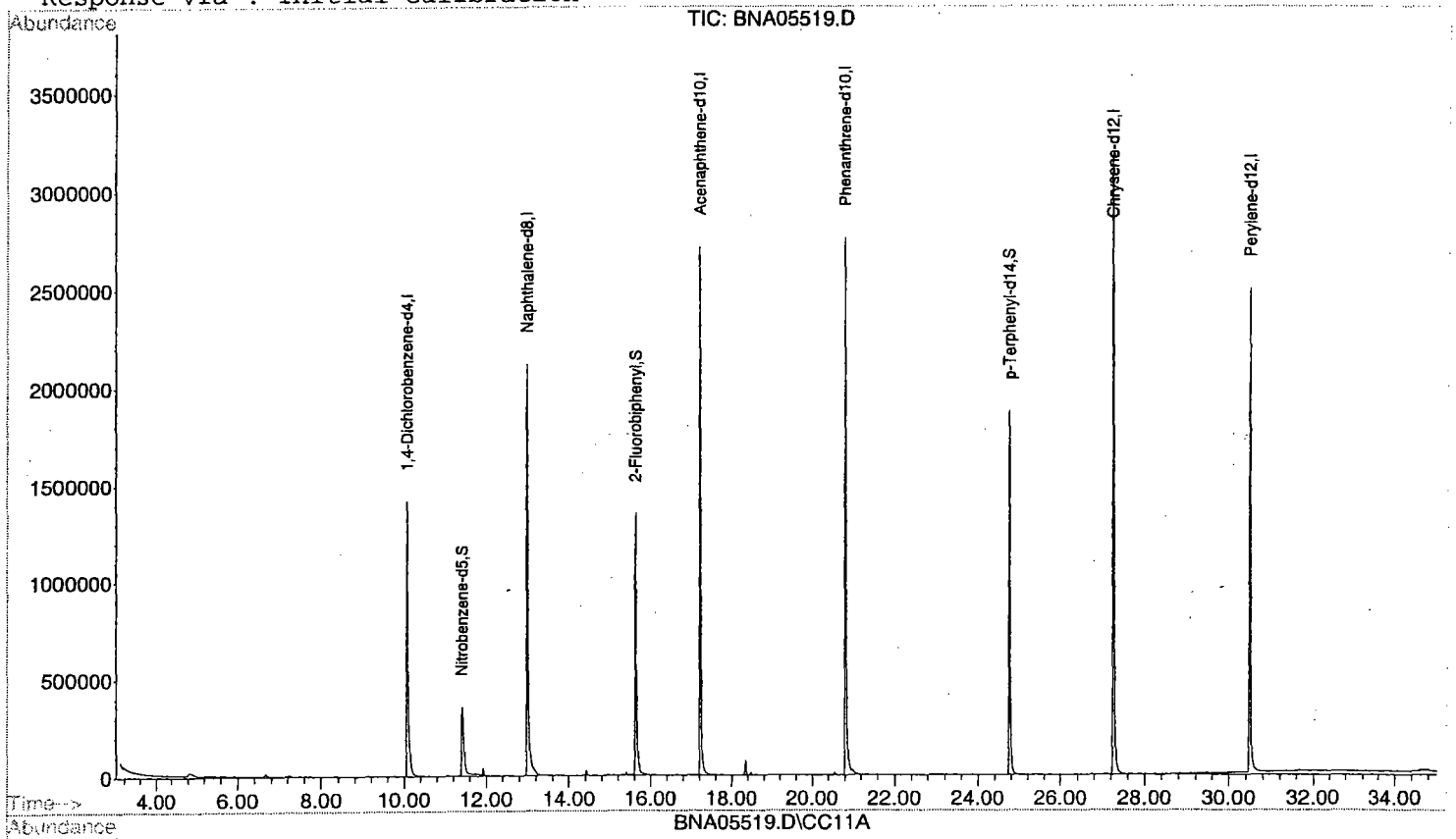
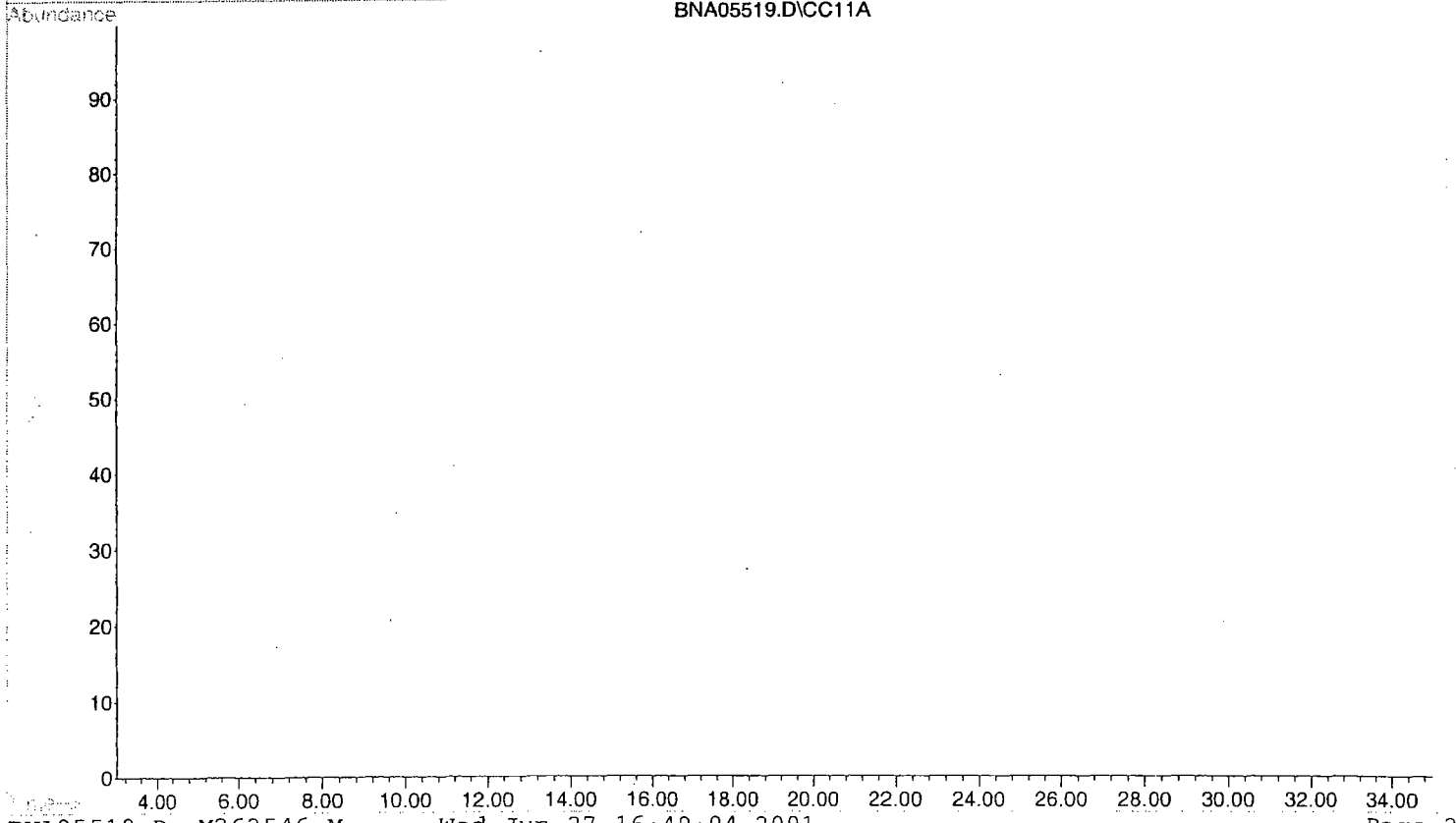
Quantitation Report

Data File : D:\DATA\010625\BNA05519.D
Acq On : 26 Jun 2001 4:38 am
Sample : 1618503
Misc : 2235
MS Integration Params: RTEINT.P
Quant Time: Jun 26 5:13 2001

Vial: 39
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 7/5/01

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# 100004

Bldg. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
2235-PX1/East Wall 9-9.5'	5001.01	Soil	09-Dec-99 11:00	12/09/99
2235-PX2/North Wall 10.5-11'	5001.02	Soil	09-Dec-99 15:00	12/09/99
2235-PX3/Duplicate	5001.03	Soil	09-Dec-99 15:00	12/09/99
Trip Blank	5001.04	Methanol	09-Dec-99	12/09/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

12-22-99
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 orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

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

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

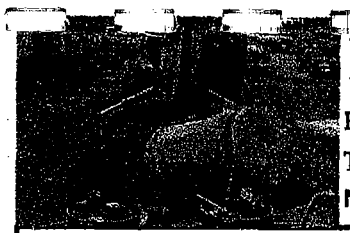
TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

Laboratory Manager

12-22-99
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@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

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

Project No: 100004
Location: BLDG. 2235
UST# 91515-5

Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS *	VOA+10 *	VOA ID #	PID Reading	Comments: * = Samples Kept <4°C / Remarks / Preservation Method
5001.01	2235-PX1, EAST WALL, 9-9.5FT	12-9-99	1100	SOIL	2	X	X	X	067	0.2	ICE
02	2235-PX2, NORTH WALL, 10.5-11FT		1500		2	X	X	X	068	0.5	
03	2235-PX3 DUPLICATE		1500		2	X	X	X	069	0.3	
04	TRIP BLANK		—	AQ.	1			X	065	—	

OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 243 ppm. 1010 12-8-99 FA (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	
Frank Accorsi	12-9-99 1600				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	

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

Remarks: * VO+10 ON 25% > 1,000 PPM TPH, ON HIGHEST
Dedicated Sampling Tools Used
All sample points have been GPS? ( )YES (X) NO ( ) NA

20010003

print legibly

USTcoc.xls11/5/99

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

Client :	U.S. Army	**Lab. ID # :**	5001
	DPW. SELFM-PW-EV	**Date Rec'd:**	09-Dec-99
	Bldg. 173	**Analysis Start:**	10-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	13-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5001.01	2235-PX1	**1.00**	14.96	81.19	193	**ND**
5001.02	2235-PX2	**1.00**	15.64	82.90	181	**ND**
5001.03	2235-PX3	**1.00**	14.98	86.34	182	**ND**
METHOD BLANK	TBLK288	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999

Calibration Files
100 =T009225.D 50 =T009226.D 20 =T009227.D
10 =T009228.D 5 =T009229.D

		Compound	100	50	20	10	5	Avg		%RSD
1)	tC	C8	2.678	2.584	2.520	2.444	2.451	2.536	E4	3.87
2)	tC	C10	2.665	2.714	2.646	2.577	2.422	2.605	E4	4.35
3)	TC	C12	2.563	2.641	2.595	2.461	2.367	2.526	E4	4.37
4)	tC	C14	2.454	2.535	2.444	2.332	2.305	2.414	E4	3.92
5)	tC	C16	2.406	2.495	2.425	2.337	2.174	2.367	E4	5.15
6)	tC	C18	2.461	2.522	2.469	2.471	2.298	2.444	E4	3.49
7)	tC	C20	2.472	2.480	2.303	2.217	2.187	2.332	E4	5.94
8)	tC	C22	2.481	2.602	2.480	2.378	2.228	2.434	E4	5.73
9)	tC	C24	2.434	2.579	2.475	2.375	2.143	2.401	E4	6.76
10)	tC	C26	2.392	2.514	2.406	2.283	2.194	2.358	E4	5.20
11)	tC	C28	2.323	2.415	2.280	2.150	1.963	2.226	E4	7.87
12)	tC	C30	2.359	2.444	2.288	2.114	1.871	2.215	E4	10.28
13)	tC	C32	2.245	2.307	2.123	1.960	1.769	2.081	E4	10.52
14)	tC	C34	2.245	2.314	2.126	1.953	1.632	2.054	E4	13.28
15)	tC	C36	1.884	1.946	1.762	1.578	1.363	1.707	E4	13.94
16)	tC	C38	1.679	1.744	1.503	1.596	1.254	1.555	E4	12.28
17)	tC	C40	1.199	1.234	1.015	1.215	0.813	1.095	E4	16.48
18)	tC	c42	0.978	1.007	0.859	1.028	0.650	0.904	E4	17.32
19)	TC	Pristane	2.612	2.728	2.658	2.396	2.605	2.600	E4	4.77
20)	TC	Phytane	2.544	2.658	2.640	2.800	2.720	2.672	E4	3.55
21)	sC	o-terphenyl	2.870	2.996	2.948	2.922	2.880	2.923	E4	1.76
22)	tC	TPHC - total	2.551	2.760	2.796	2.722	3.292	2.824	E4	9.84

) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991213\T009238.D Vial: 14
Acq On : 13 Dec 1999 5:55 pm Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 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	25.356	26.196	E3	-3.3	0#	0.00
2	tC	C10	26.048	27.210	E3	-4.5	0#	0.00
3	TC	C12	25.256	26.206	E3	-3.8	0#	0.00
4	tC	C14	24.141	24.505	E3	-1.5	0#	0.00
5	tC	C16	23.672	24.332	E3	-2.8	0#	0.00
6	tC	C18	24.442	25.154	E3	-2.9	0#	0.00
7	tC	C20	23.318	24.406	E3	-4.7	0#	0.00
8	tC	C22	24.339	25.211	E3	-3.6	0#	0.00
9	tC	C24	24.011	24.981	E3	-4.0	0#	0.00
10	tC	C26	23.577	24.708	E3	-4.8	0#	0.00
11	tC	C28	22.264	23.906	E3	-7.4	0#	0.00
12	tC	C30	22.151	24.180	E3	-9.2	0#	0.00
13	tC	C32	20.810	22.844	E3	-9.8	0#	0.00
14	tC	C34	20.541	22.876	E3	-11.4	0#	0.00
15	tC	C36	17.068	19.225	E3	-12.6	0#	0.00
16	tC	C38	15.555	17.196	E3	-10.5	0#	0.00
17	tC	C40	10.954	12.228	E3	-11.6	0#	0.00
18	tC	c42	9.043	9.559	E3	-5.7	0#	0.00
19	TC	Pristane	25.999	26.015	E3	-0.1	0#	0.00
20	TC	Phytane	26.724	26.456	E3	1.0	0#	0.00
21	sC	o-terphenyl	29.230	29.350	E3	-0.4	0#	0.00
22	tC	TPHC - total	28.243	26.341	E3	6.7	0#	0.00

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

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

Client :	U.S. Army	**Lab. ID # :**	5001
	DPW. SELFM-PW-EV	**Date Rec'd:**	09-Dec-99
	Bldg. 173	**Analysis Start:**	10-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	13-Dec-99
		UST Reg. #:	81515-5
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	B.Patel	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 mm
Column Type	RTX 5	**Location #:**	Bldg.2235
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
5001.01			5.00	4.33	**86.52**
5001.02			5.00	5.05	**100.94**
5001.03			5.00	5.42	**108.42**
METHOD BLANK	TBLK288		5.00	5.18	**103.66**

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 # :**	5001
	DPW. SELFM-PW-EV	**Date Rec'd:**	09-Dec-99
	Bldg. 173	**Analysis Start:**	10-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	13-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
4998.05MS	1000	0.00	984.02	98.40	75-125
4998.05MSD	1000	0.00	975.47	97.55	75-125
			RPD	**0.87**	**20.00**

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

Client :	U.S. Army	**Lab. ID # :**	5001
	DPW. SELFM-PW-EV	**Date Rec'd:**	09-Dec-99
	Bldg. 173	**Analysis Start:**	10-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	13-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	10-Dec-99	1000	765.06	76.51	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991213\T009230.D Vial: 6
Acq On : 13 Dec 1999 1:22 pm Operator: Bhaskar
Sample : Tblk288 Inst : GC/MS Ins
Misc : Tblk288 s 991210 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 13 14:30 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	151504	5.183 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	51.83%#
Target Compounds			
22) tC TPHC - total	12.61	151504	5.364 mg/L

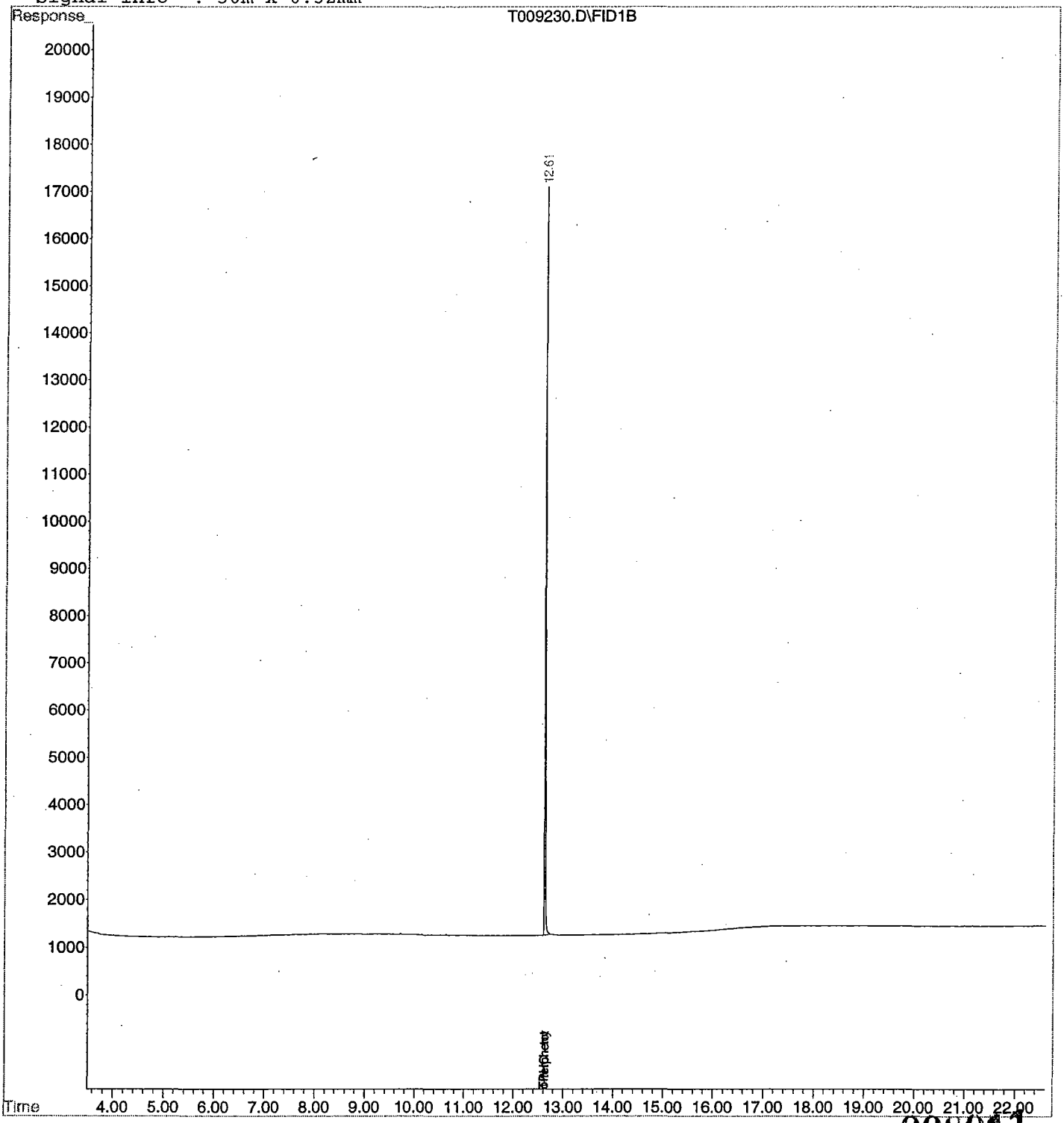
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\991213\T009230.D Vial: 6
Acq On : 13 Dec 1999 1:22 pm Operator: Bhaskar
Sample : Tblk288 Inst : GC/MS Ins
Misc : Tblk288 s 991210 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 13 14:30 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



000011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991210\T009208.D Vial: 7
Acq On : 10 Dec 1999 4:50 pm Operator: Bhaskar
Sample : Tblk288BS Inst : GC/MS Ins
Misc : Tblk288BS S 991210 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 13 8:01 1999 Quant Results File: TPH67.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH67.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 07:50:37 1999
Response via : Initial Calibration
DataAcq Meth : TPH66.M

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

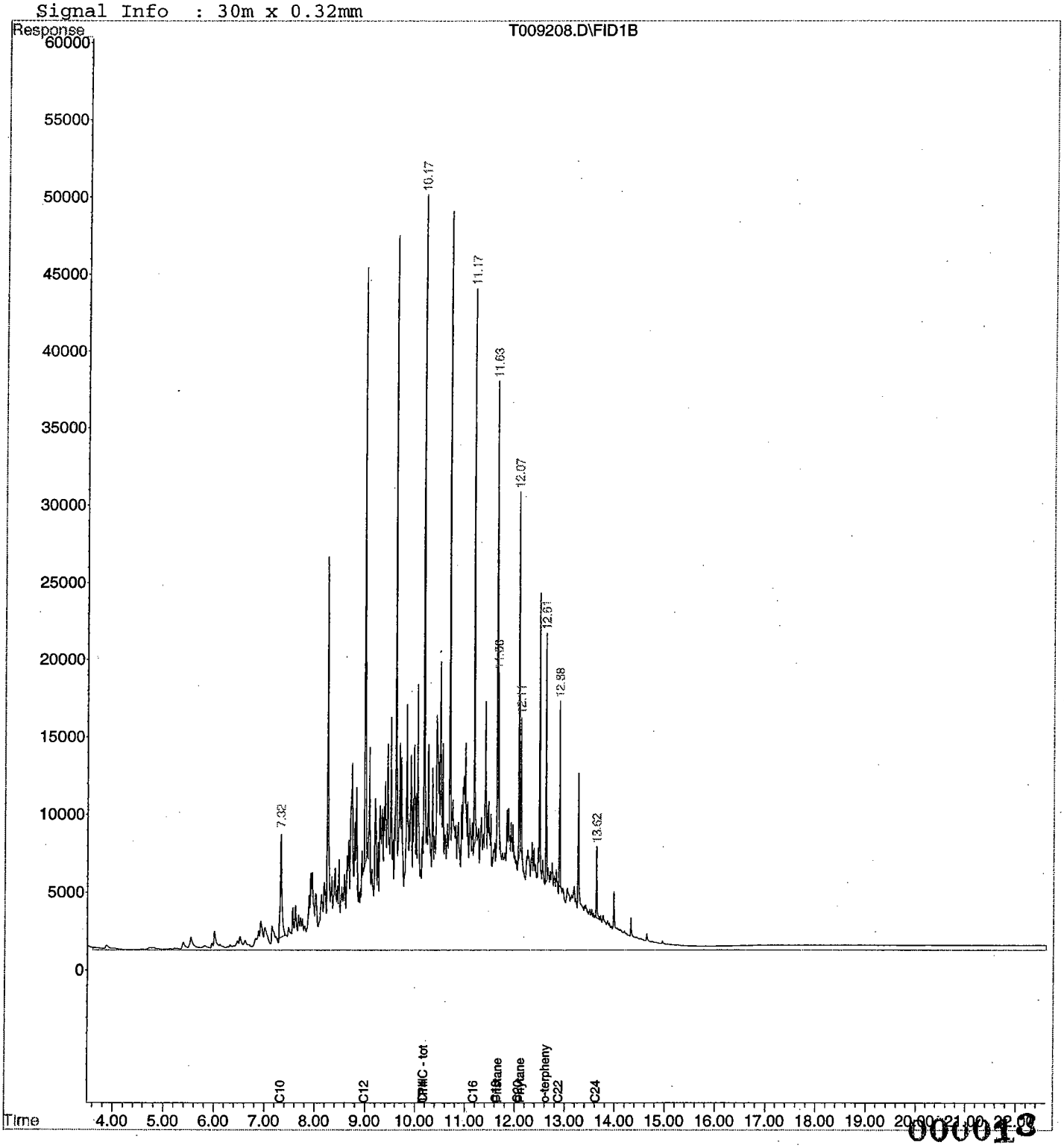
	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
21)	sC o-terphenyl	12.61	147699	4.563 mg/L
Spiked Amount	10.000 Range	8 - 13	Recovery =	45.63%#
	Target Compounds			
2)	tC C10	7.32	139629	4.738 mg/L
3)	TC C12	8.98	427604	15.312 mg/L
4)	tC C14	10.17	414774	15.142 mg/L
5)	tC C16	11.17	344484	13.030 mg/L
6)	tC C18	11.63	220430	8.562 mg/L
7)	tC C20	12.07	214674	8.236 mg/L
8)	tC C22	12.88	108258	4.042 mg/L
9)	tC C24	13.63	49922	1.861 mg/L
19)	TC Pristane	11.66	65220	2.198 mg/L
20)	TC Phytane	12.11	81813	2.789 mg/L
22)	tC TPHC - total	10.17	27718400	765.055 mg/L m

Quantitation Report

Data File : C:\HPCHEM\1\DATA\991210\T009208.D Vial: 7
Acq On : 10 Dec 1999 4:50 pm Operator: Bhaskar
Sample : Tblk288BS Inst : GC/MS Ins
Misc : Tblk288BS S 991210 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 13 8:01 1999 Quant Results File: TPH67.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH67.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 07:50:37 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH66.M

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



000018

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991213\T009231.D Vial: 7
Acq On : 13 Dec 1999 1:56 pm Operator: Bhaskar
Sample : 5001.01 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	126456	4.326 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	43.26%#
Target Compounds			
22) tC TPHC - total	12.61	126456	4.477 mg/L

000014

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

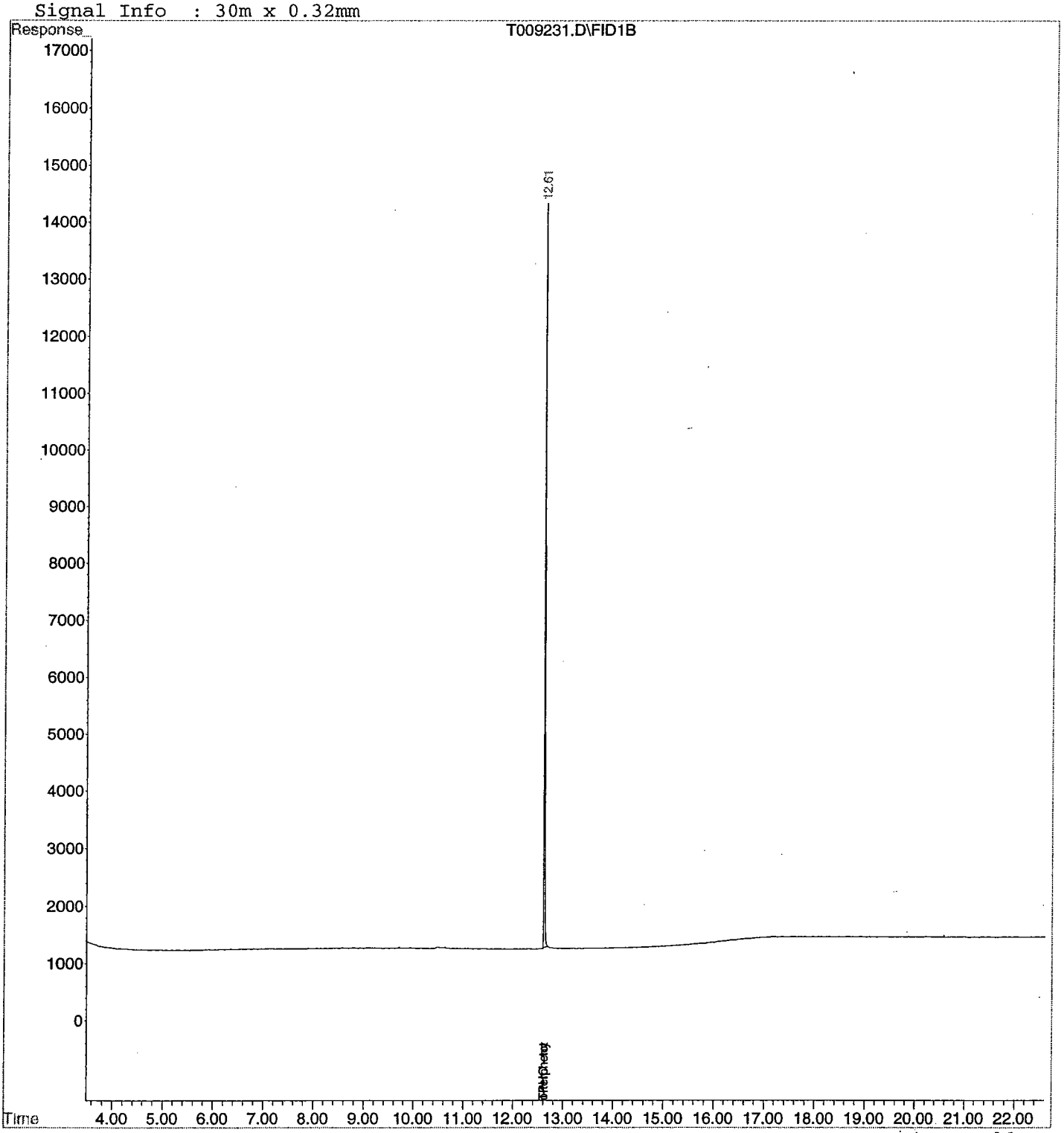
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991213\T009231.D
Acq On : 13 Dec 1999 1:56 pm
Sample : 5001.01
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Vial: 7
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.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\991213\T009232.D Vial: 8
Acq On : 13 Dec 1999 2:30 pm Operator: Bhaskar
Sample : 5001.02 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	147523	5.047 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	50.47%#
Target Compounds			
22) tC TPHC - total	12.61	147523	5.223 mg/L

000016

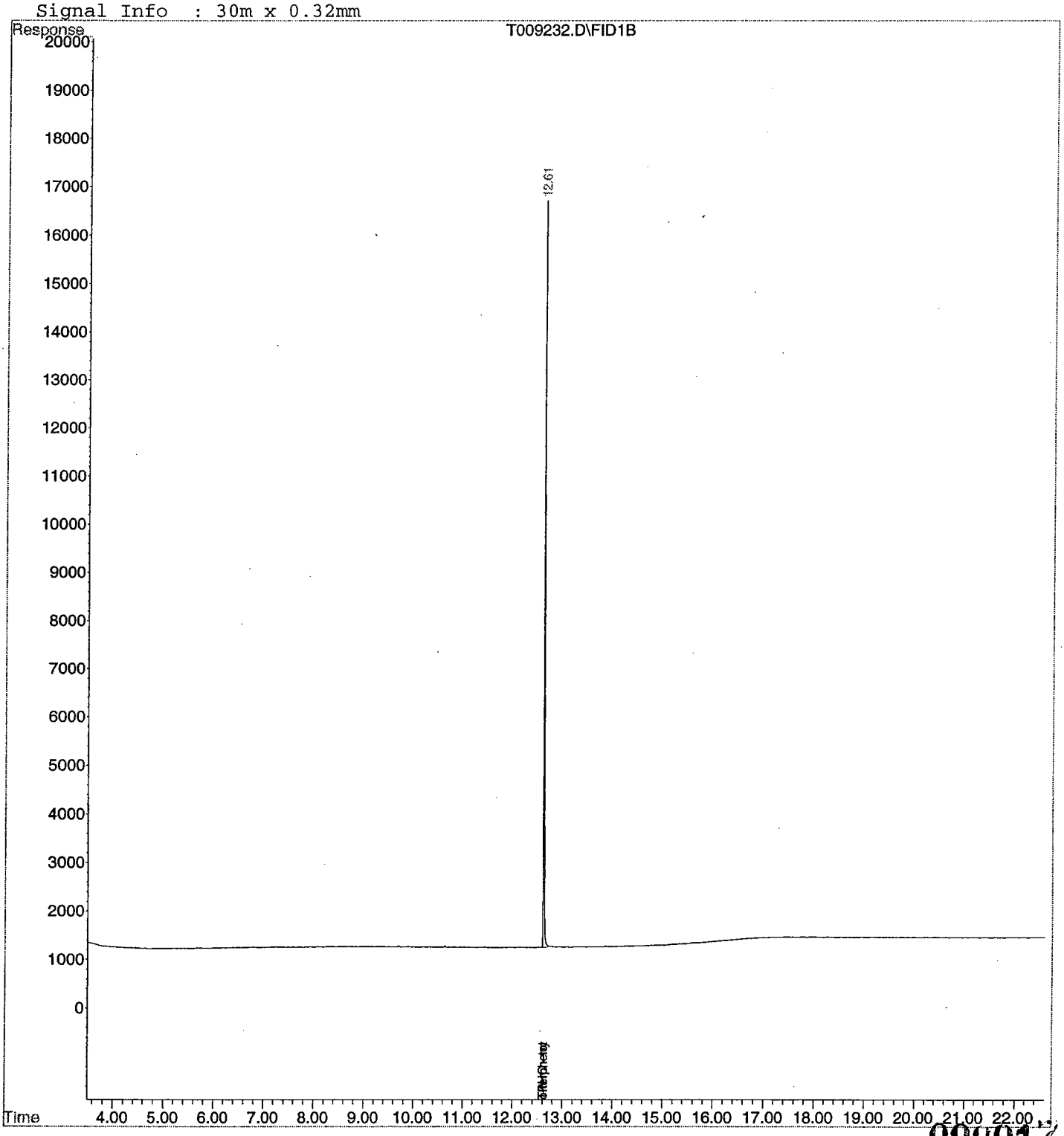
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\991213\T009232.D Vial: 8
Acq On : 13 Dec 1999 2:30 pm Operator: Bhaskar
Sample : 5001.02 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



000017

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991213\T009233.D Vial: 9
Acq On : 13 Dec 1999 3:04 pm Operator: Bhaskar
Sample : 5001.03 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	158446	5.421 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	54.21%#
Target Compounds			
22) tC TPHC - total	12.61	158446	5.610 mg/L

000018

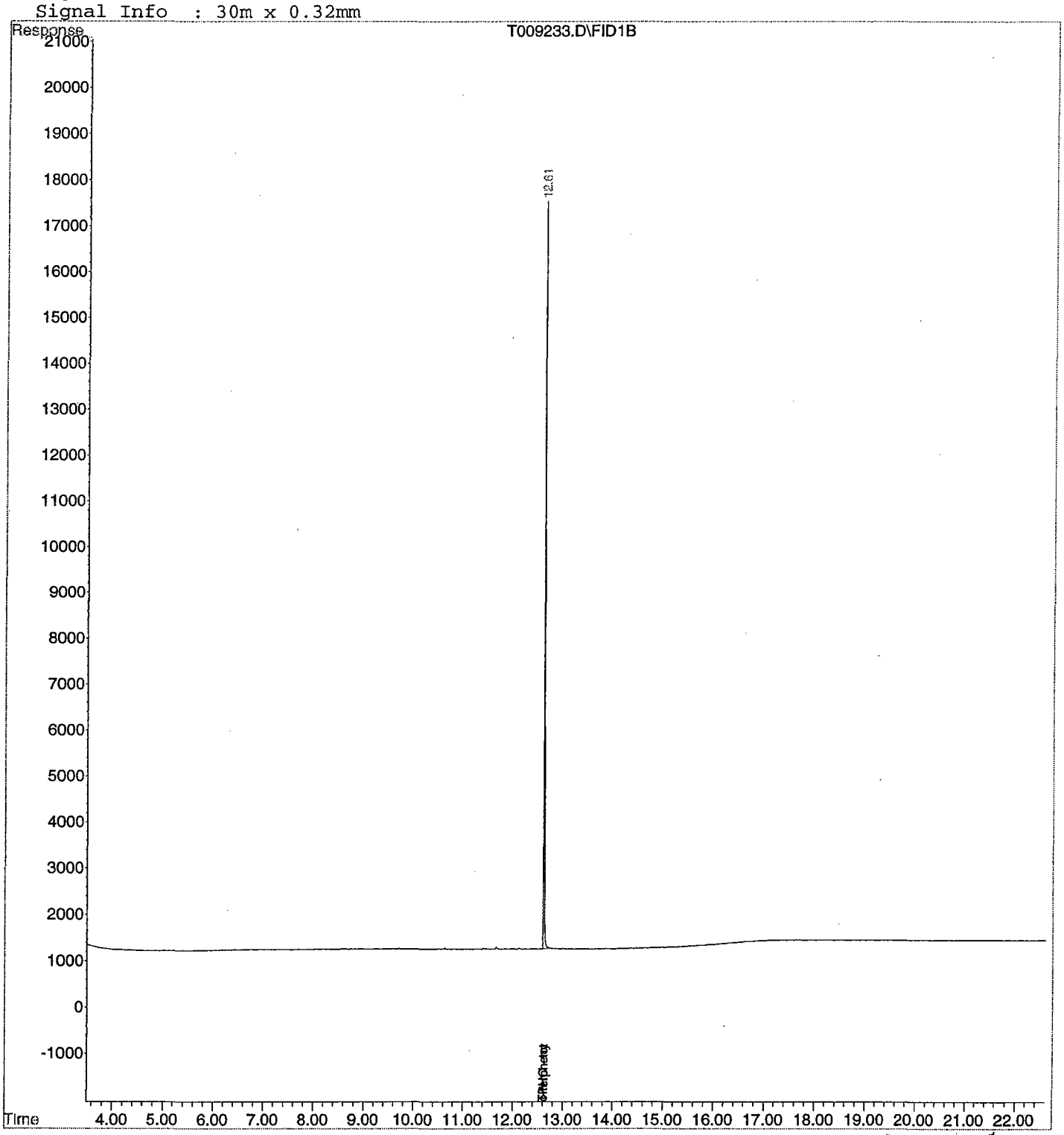
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\991213\T009233.D Vial: 9
Acq On : 13 Dec 1999 3:04 pm Operator: Bhaskar
Sample : 5001.03 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 14 7:52 1999 Quant Results File: TPH68.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH68.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 13 13:18:56 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



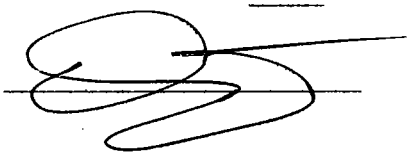
LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature 

Date 12/27/95

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# 100004

Bldg. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
2235-PX4 Bottom 11-11.5'	5017.01	Soil	16-Dec-99 08:50	12/16/99
2235-PX5 North Wall 10-10.5'	5017.02	Soil	16-Dec-99 09:20	12/16/99
2235-PX6 West Wall 9.5-10'	5017.03	Soil	16-Dec-99 09:40	12/16/99
2235-PX7 Duplicate	5017.04	Soil	16-Dec-99 09:20	12/16/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

12-22-99

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

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

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

TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

Laboratory Manager

12-22-99
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@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

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

Project No: 100004
Location: BLDG. 2235
UST# 81515-5

Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS *	VOA+10 *	VOA ID #	PID Reading	Remarks / Preservation Method
5617. 01	2235-PX4, BOTTOM 11-11.5 FT	12-16-99	0850	SOIL	2	X	X	X	66	4	ICE
02	2235-PX5, NORTH WALL 10-10.5 FT		0920		2	X	X	X	70	6	
03	2235-PX6, WEST WALL 9.5-10 FT		0940		2	X	X	X	71	35	
04	2235-PX7, DUPLICATE		0920		2	X	X	X	88	3	

Comments: * = Samples Kept <4°C

OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 246 ppm. 0800 12-16-99 (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	
Frank Accorsi	12-16-99 1130				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	

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

Remarks: X CONTINGENT VOA+10 ON 25% & 1,000 ppm TPH ON HIGHEST
Dedicated Sampling Tools Used
All sample points have been GPS? (X)YES ( )NO ( )NA

20003

print legibly

USTcoc.xls11/5/99

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

Client :	U.S. Army	**Lab. ID # :**	5017
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-99
	Bldg. 173	**Analysis Start:**	17-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	17-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5017.01	2235-PX4	**1.00**	15.32	75.48	203	**377.20**
5017.02	2235-PX5	**1.00**	14.92	82.31	191	**265.09**
5017.03	2235-PX6	**1.00**	15.14	81.61	190	**779.07**
5017.04	2235-PX7	**1.00**	15.07	85.97	181	**258.46**
METHOD BLANK	TBLK290	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999

Calibration Files
100 =T009278.D 50 =T009279.D 20 =T009282.D
10 =T009286.D 5 =T009284.D

	Compound	100	50	20	10	5	Avg		%RSD
1)	tC C8	2.541	2.605	2.535	2.534	2.432	2.529	E4	2.45
2)	tC C10	2.715	2.791	2.745	2.764	2.471	2.697	E4	4.81
3)	TC C12	2.643	2.733	2.680	2.739	2.527	2.664	E4	3.25
4)	tC C14	2.525	2.608	2.503	2.542	2.419	2.519	E4	2.71
5)	tC C16	2.473	2.575	2.474	2.586	2.482	2.518	E4	2.26
6)	tC C18	2.417	2.611	2.582	2.578	2.390	2.516	E4	4.11
7)	tC C20	2.483	2.588	2.469	2.510	2.303	2.471	E4	4.22
8)	tC C22	2.544	2.658	2.554	2.680	2.575	2.602	E4	2.40
9)	tC C24	2.535	2.638	2.520	2.646	2.598	2.588	E4	2.24
10)	tC C26	2.487	2.586	2.441	2.591	2.525	2.526	E4	2.54
11)	tC C28	2.448	2.540	2.400	2.498	2.407	2.458	E4	2.43
12)	tC C30	2.525	2.583	2.423	2.530	2.417	2.496	E4	2.91
13)	tC C32	2.427	2.453	2.259	2.326	2.183	2.330	E4	4.86
14)	tC C34	2.296	2.399	2.186	2.275	2.148	2.261	E4	4.35
15)	tC C36	1.781	1.849	1.687	1.697	1.622	1.727	E4	5.11
16)	tC C38	1.373	1.438	1.290	1.290	1.228	1.324	E4	6.18
17)	tC C40	8.173	8.723	7.668	7.664	7.106	7.867	E3	7.75
18)	tC c42	5.628	6.099	5.617	5.250	5.583	5.635	E3	5.37
19)	TC Pristane	2.622	2.729	2.650	2.813	2.720	2.707	E4	2.77
20)	TC Phytane	2.569	2.578	2.700	2.630	2.566	2.609	E4	2.20
21)	sC o-terphenyl	2.947	3.070	2.998	3.174	3.113	3.060	E4	2.94
22)	tC TPHC - total	2.535	2.699	2.823	3.093	3.624	2.955	E4	14.42

#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991217\T009298.D Vial : 18
Acq On : 18 Dec 1999 1:14 am Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 ppm cal Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 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	25.294	26.799 E3	-6.0	103	0.00
2	tC	C10	26.973	28.739 E3	-6.5	103	0.00
3	TC	C12	26.643	28.035 E3	-5.2	103	0.00
4	tC	C14	25.192	26.608 E3	-5.6	102	0.00
5	tC	C16	25.180	25.976 E3	-3.2	101	0.00
6	tC	C18	25.155	25.546 E3	-1.6	98	0.00
7	tC	C20	24.706	25.975 E3	-5.1	100	0.00
8	tC	C22	26.023	26.530 E3	-1.9	100	0.00
9	tC	C24	25.875	26.347 E3	-1.8	100	0.00
10	tC	C26	25.261	25.763 E3	-2.0	100	0.00
11	tC	C28	24.585	25.280 E3	-2.8	100	0.00
12	tC	C30	24.957	25.685 E3	-2.9	99	0.00
13	tC	C32	23.299	24.255 E3	-4.1	99	0.00
14	tC	C34	22.607	23.515 E3	-4.0	98	0.00
15	tC	C36	17.272	18.035 E3	-4.4	98	0.00
16	tC	C38	13.237	13.801 E3	-4.3	96	0.00
17	tC	C40	7.867	8.332 E3	-5.9	96	-0.01
18	tC	c42	5.635	5.694 E3	-1.0	93	-0.02
19	TC	Pristane	27.067	27.349 E3	-1.0	100	0.00
20	TC	Phytane	26.089	25.863 E3	0.9	100	0.00
21	sC	o-terphenyl	30.604	31.083 E3	-1.6	101	0.00
22	tC	TPHC - total	29.549	26.711 E3	9.6	99	0.00

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

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

Client :	U.S. Army	**Lab. ID # :**	5017
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-99
	Bldg. 173	**Analysis Start:**	17-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	17-Dec-99
		UST Reg. #:	81515-5
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	B.Patel	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 mm
Column Type	RTX 5	**Location #:**	Bldg.2235
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
5017.01			10.00	8.99	**89.90**
5017.02			10.00	9.16	**91.60**
5017.03			20.00	17.45	**87.24**
5017.04			10.00	9.09	**90.90**
METHOD BLANK	TBLK290		10.00	9.26	**92.64**

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 # :**	5017
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-99
	Bldg. 173	**Analysis Start:**	17-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	17-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
5017.02MS	1000	65.11	940.56	87.54	75-125
5017.02MSD	1000	65.11	926.59	86.15	75-125
			RPD	**1.61**	**20.00**

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

Client :	U.S. Army	**Lab. ID # :**	5017
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-99
	Bldg. 173	**Analysis Start:**	17-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	17-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	17-Dec-99	1000	922.99	92.30	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991217\T009290.D Vial: 10
Acq On : 17 Dec 1999 8:54 pm Operator: Bhaskar
Sample : Tblk290 Inst : GC/MS Ins
Misc : Tblk290 S 991217 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:10 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	283509	9.264 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 92.64%#		
Target Compounds			
22) tC TPHC - total	12.61	283509	9.595 mg/L

000010

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

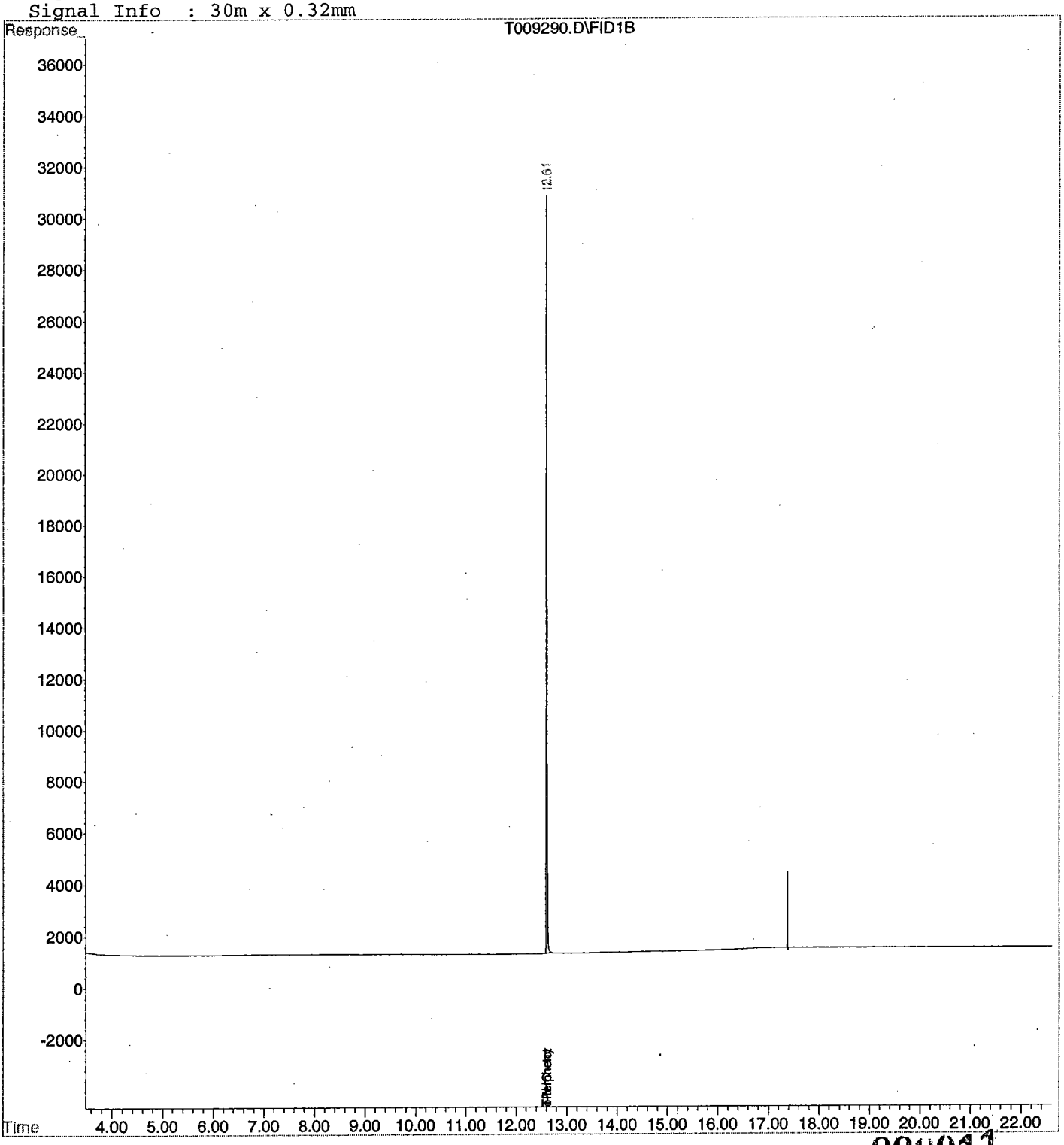
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009290.D
Acq On : 17 Dec 1999 8:54 pm
Sample : Tblk290
Misc : Tblk290 S 991217
IntFile : TPHCINT.E
Quant Time: Dec 20 8:10 1999 Quant Results File: TPH69.RES

Vial: 10
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



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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 _____

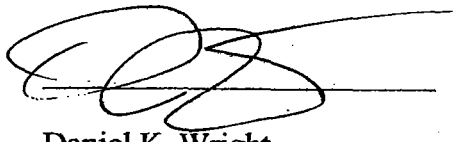
Date 01/03/00

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. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Bldg. 2235	16249.01	Aqueous	12-Jul-01 15:00	07/12/01

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

9-24-01
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. Bensl
Phone #: X21475
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Bldg 2235 UST GW Rnd 2

Samplers Name / Company: Corey McCormack, TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: +Xylene VOA's	Analysis Parameters: BN's	Analysis Parameters	Analysis Parameters	Analysis Parameters	Analysis Parameters	Analysis Parameters	Analysis Parameters	Comments: Remarks / Preservation Method
1602401	Bldg 2235 GW	7/12/01	1500	AQ	3	✓	✓							Cloudy, low wtr flow

Comments: 4°C / Ice

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McCormack	7/12/01 1545				
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:

print legibly

Coc.xls6/26/01

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METHOD SUMMARY

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: 9-24-01

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	**VC006514.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**16-Jul-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 2126**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006514.D

Level: (low/med) LOW Date Received: 7/12/01

% Moisture: not dec. Date Analyzed: 7/16/01

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	**VC006538.D**	Sample Name	**1624901**
Operator	**Skelton**	Field ID	**Bldg2235GW**
Date Aquired	**17-Jul-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	
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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	
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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	
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Qualifiers

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MDL = Method Detection Limit
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R.T. = Retention Time

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **2235**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1624901

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006538.D

Level: (low/med) LOW Date Received: 7/12/01

% Moisture: not dec. _____ Date Analyzed: 7/17/01

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: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: VC006451.D BFB Injection Date: 7/9/01

Instrument ID: VoaInst#3 BFB Injection Time: 10:27

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	16.4
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	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	69.8
175	4.0 - 9.0% of mass 174	4.7 (6.8)1
176	93.0 - 101.0% of mass 174	66.3 (95.1)1
177	5.0 - 9.0% of mass 176	4.3 (6.4)2

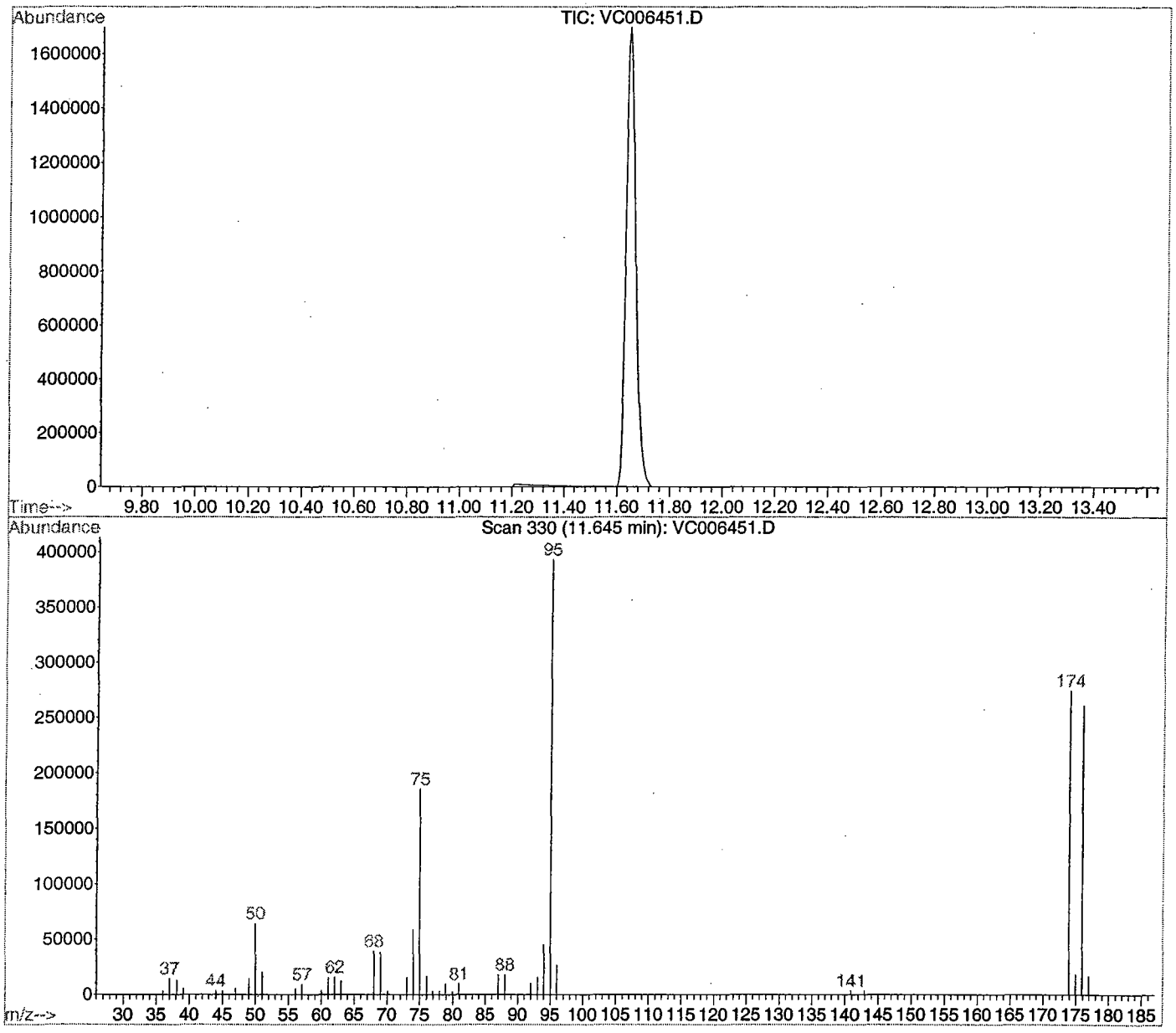
1-Value is % mass 174 2-Value is % mass 176

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	VC006452.D	7/9/01	11:03
02	VSTD100	VSTD100	VC006453.D	7/9/01	11:59
03	VSTD050	VSTD050	VC006454.D	7/9/01	12:40
04	VSTD010	VSTD010	VC006455.D	7/9/01	13:21
05	VSTD005	VSTD005	VC006456.D	7/9/01	14:01

BFB

Data File : D:\HPCHEM\1\DATA\010709\VC006451.D Vial: 1
Acq On : 9 Jul 2001 10:27 am 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\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 330

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.4	64416	PASS
75	95	30	60	47.2	185728	PASS
95	95	100	100	100.0	393408	PASS
96	95	5	9	6.8	26672	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	69.8	274496	PASS
175	174	5	9	6.8	18552	PASS
176	174	95	101	95.1	260992	PASS
177	176	5	9	6.4	16784	PASS

VC006451.D M362447.M Mon Aug 06 14:08:34 2001

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 2001
Response via : Initial Calibration

Calibration Files
50 =VC006454.D 5 =VC006456.D 10 =VC006455.D
20 =VC006452.D 100 =VC006453.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.416	0.342	0.411	0.398	0.406	0.395	7.69
3)	t	Acrylonitrile	1.054	1.033	1.132	1.138	1.059	1.083	4.47
4)	t	tert-Butyl alcohol	0.125	0.069	0.112	0.125	0.152	0.116	25.99
5)	t	Methyl-tert-Butyl eth	5.666	4.895	5.442	5.743	5.991	5.547	7.46
6)	t	Di-isopropyl ether	1.806	1.274	1.602	1.779	1.921	1.677	15.07
7)	T	Dichlorodifluorometha	1.769	1.155	1.273	2.011	1.833	1.608	23.17
8)	TP	Chloromethane	2.038	1.785	1.862	2.311	2.072	2.014	10.16
9)	TC	Vinyl Chloride	2.375	2.384	2.404	2.778	2.380	2.464	7.13
10)	T	Bromomethane	1.457	1.578	1.521	1.504	1.362	1.484	5.45
11)	T	Chloroethane	1.530	1.375	1.460	1.625	1.578	1.513	6.51
12)	T	Trichlorofluoromethan	2.631	2.445	2.578	2.830	2.725	2.642	5.52
13)	MC	1,1-Dichloroethene	3.051	2.693	2.917	3.146	3.186	2.998	6.66
14)	T	Acetone	0.845	3.100	1.858	1.283	0.969	1.611	57.12
15)	T	Carbon Disulfide	6.339	5.649	5.987	6.719	6.629	6.265	7.14
16)	T	Methylene Chloride	2.306	2.330	2.417	2.461	2.398	2.382	2.66
17)	T	trans-1,2-Dichloroeth	3.070	2.943	3.094	3.200	3.194	3.100	3.41
18)	TP	1,1-Dichloroethane	3.989	3.937	4.084	4.164	4.111	4.057	2.28
19)	T	Vinyl Acetate	3.859	3.024	3.570	3.815	3.771	3.608	9.55
20)	T	2-Butanone	0.832	0.701	0.828	0.854	1.041	0.851	14.31
21)	T	cis-1,2-Dichloroethen	3.053	2.770	2.991	3.111	3.168	3.018	5.10
22)	TC	Chloroform	3.844	3.917	4.033	4.038	3.952	3.957	2.06
23)	T	1,1,1-Trichloroethane	3.062	2.871	3.062	3.131	3.205	3.066	4.04
24)	T	Carbon Tetrachloride	2.636	2.446	2.629	2.707	2.770	2.638	4.62
25)	S	1,2-Dichloroethane-d4	2.572	2.569	2.536	2.467	2.647	2.558	2.55
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.344	1.366	1.414	1.435	1.326	1.377	3.35
28)	T	1,2-Dichloroethane	0.401	0.430	0.435	0.430	0.407	0.421	3.66
29)	TM	Trichloroethene	0.389	0.363	0.385	0.391	0.403	0.386	3.73
30)	TC	1,2-Dichloropropane	0.342	0.326	0.340	0.352	0.350	0.342	3.00
31)	T	Bromodichloromethane	0.377	0.359	0.382	0.391	0.390	0.380	3.35
32)	T	2-Chloroethyl vinyl e	0.114	0.106	0.121	0.120	0.117	0.115	5.20
33)	T	cis-1,3-Dichloroprope	0.496	0.401	0.452	0.492	0.522	0.473	9.97
34)	T	4-Methyl-2-Pentanone	0.107	0.060	0.104	0.104	0.115	0.098	22.29
35)	S	Toluene-d8	1.259	1.229	1.228	1.224	1.323	1.253	3.31
36)	TCM	Toluene	1.350	1.382	1.436	1.443	1.331	1.389	3.63
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.515	1.181	1.377	1.471	1.577	1.424	10.83
39)	T	1,1,2-Trichloroethane	0.959	0.945	1.000	1.005	0.965	0.975	2.73
40)	T	Tetrachloroethene	0.954	0.907	0.984	0.996	0.976	0.963	3.63
41)	T	2-Hexanone	0.483	0.302	0.511	0.449	0.572	0.463	21.75
42)	T	Dibromochloromethane	0.855	0.732	0.816	0.850	0.898	0.830	7.48
43)	TMP	Chlorobenzene	2.878	2.972	3.082	3.047	2.855	2.967	3.38
44)	TC	Ethylbenzene	4.981	4.802	5.224	5.238	4.765	5.002	4.49
45)	T	m+p-Xylenes	1.807	1.666	1.834	1.887	1.811	1.801	4.55
46)	T	o-Xylene	3.422	2.705	3.250	3.446	3.443	3.253	9.75
47)	T	Styrene	3.042	2.424	2.845	3.019	3.112	2.888	9.60
48)	TP	Bromoform	0.551	0.412	0.488	0.534	0.583	0.514	12.94
49)	S	Bromofluorobenzene	1.694	1.478	1.516	1.571	1.807	1.613	8.41
50)	TP	1,1,2,2-Tetrachloroet	0.708	0.799	0.859	0.842	0.699	0.781	9.53
51)	T	1,3-Dichlorobenzene	1.807	1.336	1.584	1.701	1.895	1.665	13.05
52)	T	1,4-Dichlorobenzene	1.732	1.268	1.521	1.614	1.821	1.591	13.44
53)	T	1,2-Dichlorobenzene	1.691	1.264	1.518	1.608	1.766	1.569	12.37

(#) = Out of Range

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: VC006512.D BFB Injection Date: 7/16/01

Instrument ID: VoaInst#3 BFB Injection Time: 12:19

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.4
75	30.0 - 66.0% of mass 95	49.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	70.3
175	4.0 - 9.0% of mass 174	5.2 (7.4)1
176	93.0 - 101.0% of mass 174	67.6 (96.1)1
177	5.0 - 9.0% of mass 176	4.2 (6.3)2

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

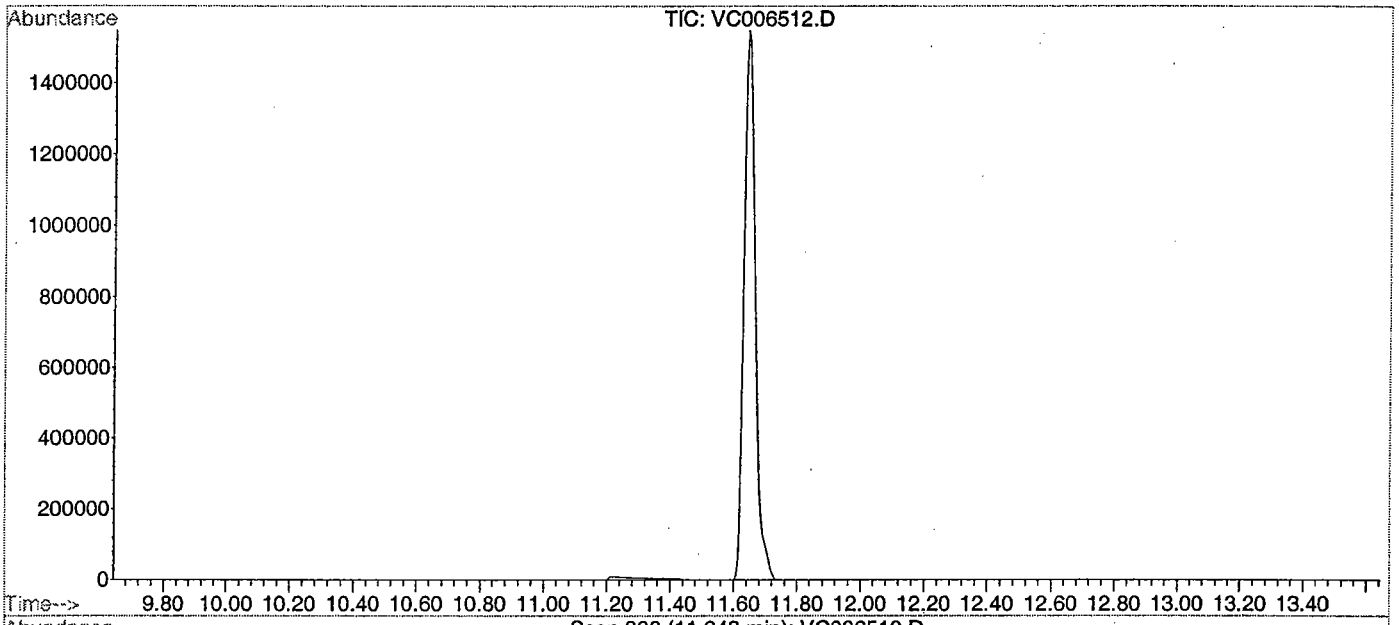
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

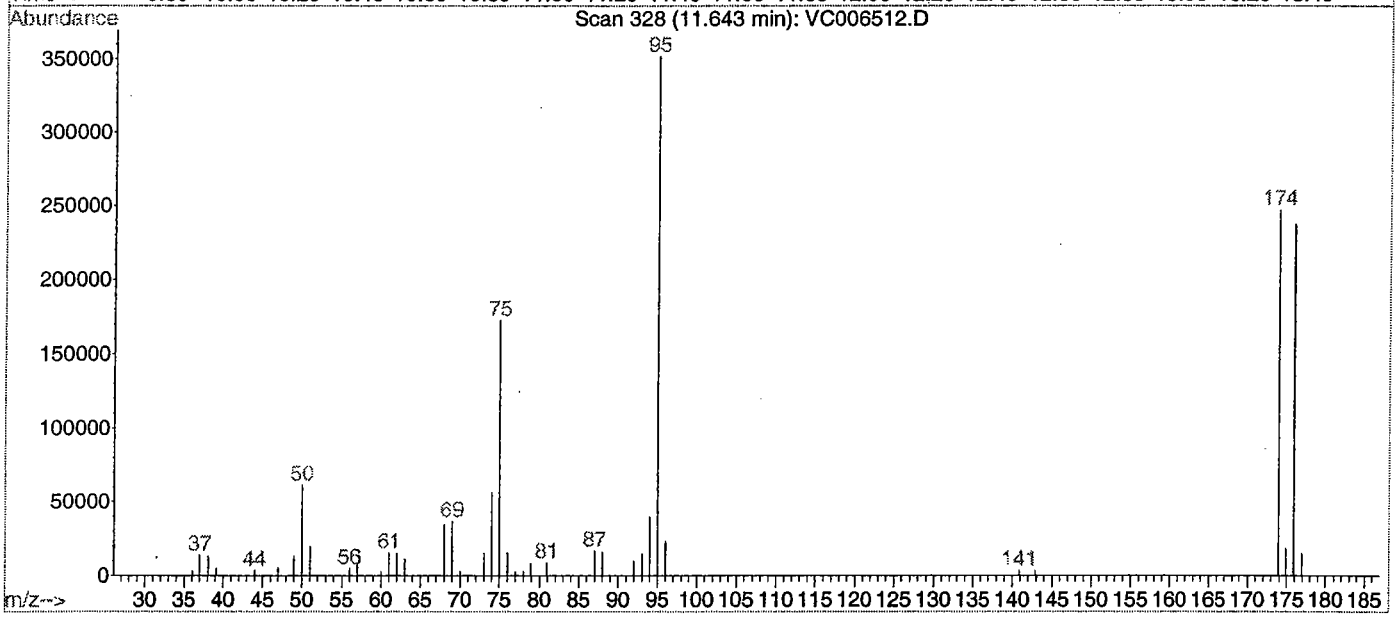
	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD020	VC006513.D	7/16/01	12:49
02	MB 2126	MB	VC006514.D	7/16/01	13:40
03	2127 MS	1624307 MS	VC006522.D	7/16/01	19:16
04	2128 MSD	1624307 MSD	VC006523.D	7/16/01	19:56
05	2235	1624901	VC006538.D	7/17/01	6:03

BFB

Data File : D:\HPCHEM\1\DATA\010716\VC006512.D
Acq On : 16 Jul 2001 12:19 pm
Sample : BFB Tune
Misc : BFB Tune
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362447.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 328

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	61160	PASS
75	95	30	60	49.0	172416	PASS
95	95	100	100	100.0	351680	PASS
96	95	5	9	6.6	23184	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.3	247296	PASS
175	174	5	9	7.4	18368	PASS
176	174	95	101	96.1	237568	PASS
177	176	5	9	6.3	14905	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\010716\VC006513.D Vial: 12
Acq On : 16 Jul 2001 12:49 pm Operator: Skelton
Sample : Vstd020 Inst : GC/MS Ins
Misc : Vstd020 Multiplr: 1.00
MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362447.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Jul 09 14:44:24 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	98	0.00
2	t	Acrolein	0.395	0.199	49.6#	49	0.01
3	t	Acrylonitrile	1.083	1.195	-10.3	103	0.00
4	t	tert-Butyl alcohol	0.116	0.125	-7.8	99	0.00
5	t	Methyl-tert-Butyl ether	5.547	5.468	1.4	94	0.01
6	t	Di-isopropyl ether	1.677	1.679	-0.1	93	0.01
7	T	Dichlorodifluoromethane	1.608	2.128	-32.3#	104	0.00
8	TP	Chloromethane	2.014	2.541	-26.2#	108	0.00
9	TC	Vinyl Chloride	2.464	2.806	-13.9	99	0.00
10	T	Bromomethane	1.484	1.274	14.2	83	0.00
11	T	Chloroethane	1.513	1.585	-4.8	96	0.00
12	T	Trichlorofluoromethane	2.642	2.663	-0.8	93	0.00
13	MC	1,1-Dichloroethene	2.998	3.028	-1.0	95	0.00
14	T	Acetone	1.611	1.571	2.5	120	0.00
15	T	Carbon Disulfide	6.265	6.615	-5.6	97	0.00
16	T	Methylene Chloride	2.382	2.269	4.7	91	0.00
17	T	trans-1,2-Dichloroethene	3.100	2.985	3.7	92	0.00
18	TP	1,1-Dichloroethane	4.057	3.917	3.5	92	0.00
19	T	Vinyl Acetate	3.608	3.953	-9.6	102	0.00
20	T	2-Butanone	0.851	0.946	-11.2	109	0.00
21	T	cis-1,2-Dichloroethene	3.018	2.871	4.9	91	0.00
22	TC	Chloroform	3.957	3.723	5.9	91	0.00
23	T	1,1,1-Trichloroethane	3.066	2.889	5.8	91	0.01
24	T	Carbon Tetrachloride	2.638	2.493	5.5	91	0.00
25	S	1,2-Dichloroethane-d4	2.558	2.476	3.2	99	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
27	TM	Benzene	1.377	1.371	0.4	90	0.00
28	T	1,2-Dichloroethane	0.421	0.417	1.0	91	0.00
29	TM	Trichloroethene	0.386	0.350	9.3	85	0.00
30	TC	1,2-Dichloropropane	0.342	0.336	1.8	90	0.00
31	T	Bromodichloromethane	0.380	0.374	1.6	90	0.00
32	T	2-Chloroethyl vinyl ether	0.115	0.117	-1.7	93	0.00
33	T	cis-1,3-Dichloropropene	0.473	0.460	2.7	88	0.00
34	T	4-Methyl-2-Pentanone	0.098	0.108	-10.2	98	0.00
35	S	Toluene-d8	1.253	1.225	2.2	94	0.00
36	TCM	Toluene	1.389	1.353	2.6	88	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	94	0.00
38	T	trans-1,3-Dichloropropene	1.424	1.399	1.8	89	0.00
39	T	1,1,2-Trichloroethane	0.975	0.970	0.5	91	0.00
40	T	Tetrachloroethene	0.963	0.922	4.3	87	0.00
41	T	2-Hexanone	0.463	0.527	-13.8	110	0.00
42	T	Dibromochloromethane	0.830	0.819	1.3	91	0.00
43	TMP	Chlorobenzene	2.967	2.906	2.1	90	0.00
44	TC	Ethylbenzene	5.002	4.983	0.4	89	0.00
45	T	m+p-Xylenes	1.801	1.955	-8.6	97	0.00
46	T	o-Xylene	3.253	3.572	-9.8	97	0.00
47	T	Styrene	2.888	3.225	-11.7	100	0.00
48	TP	Bromoform	0.514	0.531	-3.3	94	0.00
49	S	Bromofluorobenzene	1.613	1.600	0.8	96	0.00
50	TP	1,1,2,2-Tetrachloroethane	0.781	0.985	-26.1#	110	0.00
51	T	1,3-Dichlorobenzene	1.665	1.898	-14.0	105	0.00
52	T	1,4-Dichlorobenzene	1.591	1.863	-17.1	109	0.00
53	T	1,2-Dichlorobenzene	1.569	1.806	-15.1	106	0.00

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

4A

FIELD ID:

VOLATILE METHOD BLANK SUMMARY

MB 2126

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: VC006514.D Lab Sample ID: MB

Date Analyzed: 7/16/01 Time Analyzed: 13:40

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	2127 MS	1624307 MS	VC006522.D	19:16
02	2128 MSD	1624307 MSD	VC006523.D	19:56
03	2235	1624901	VC006538.D	6:03

COMMENTS:

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.: _____

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 2126	99	97	89	0
02	2127 MS	101	100	96	0
03	2128 MSD	100	99	95	0
04	2235	106	98	85	0

QC LIMITS

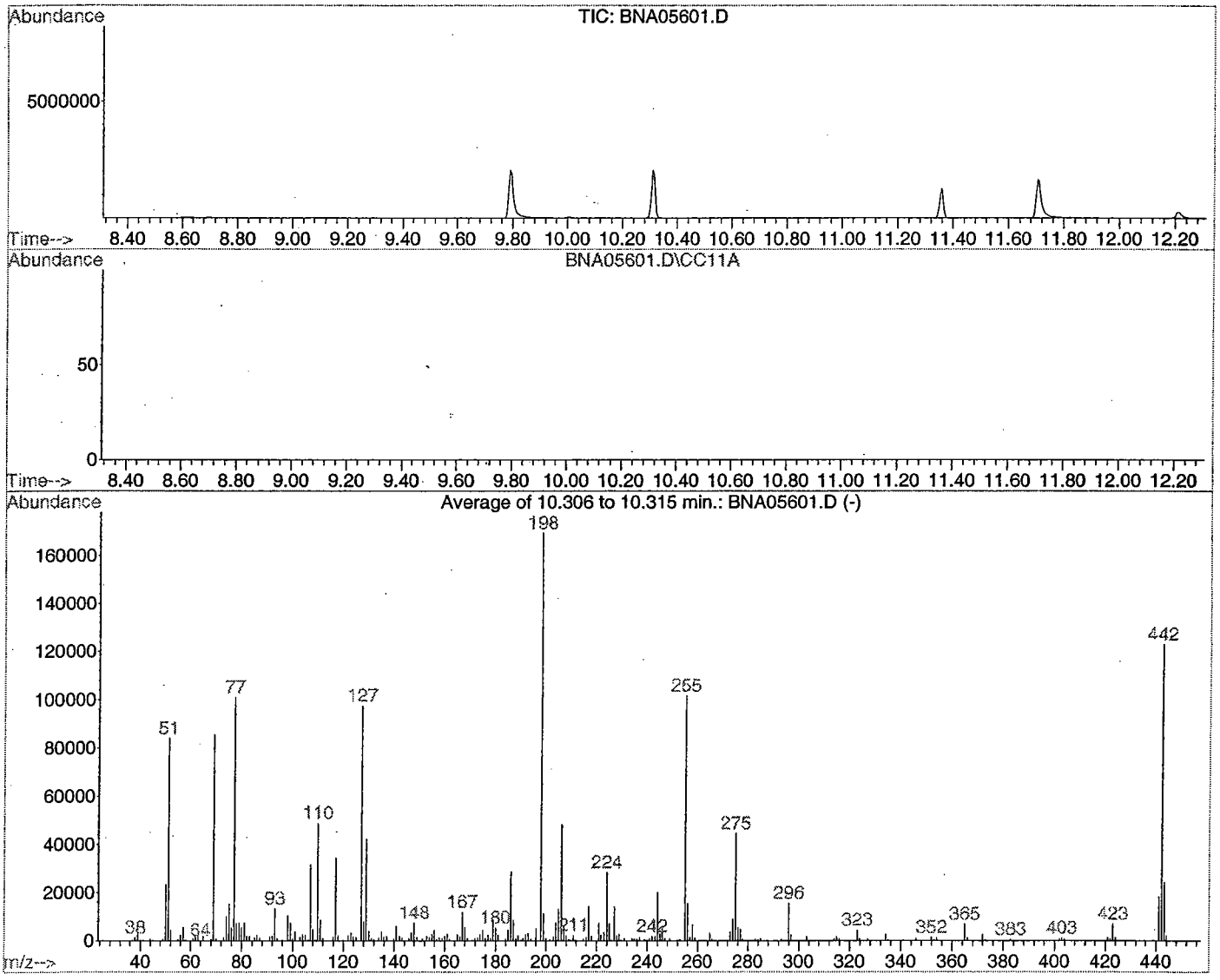
SMC1	DCE	=	1,2-Dichloroethane-d4	(76-121)
SMC2	TOL	=	Toluene-d8	(88-110)
SMC3	BFB	=	Bromofluorobenzene	(74-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Data File : D:\DATA\010706\BNA05601.D Vial: 99
Acq On : 6 Jul 2001 7:50 am 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\M262547.M (RTE Integrator)
Title : BNA Calibration



AutoFind: Scans 357, 358, 359; Background Corrected with Scan 351

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.5	83976	PASS
68	69	0.00	2	0.8	722	PASS
69	198	0.00	100	50.4	85472	PASS
70	69	0.00	2	0.8	699	PASS
127	198	40	60	57.5	97456	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	169520	PASS
199	198	5	9	6.7	11379	PASS
275	198	10	30	26.3	44568	PASS
365	198	1	100	4.0	6804	PASS
441	443	1	99	75.5	18237	PASS
442	198	40	100	72.4	122808	PASS
443	442	17	23	19.7	24142	PASS

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05605.D 80 =BNA05606.D 50 =BNA05602.D
20 =BNA05603.D 10 =BNA05604.D

		Compound	120	80	50	20	10	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	----------ISTD----------						
2)	T	Pyridine	1.230	1.225	1.236	1.224	1.126	1.208	3.82
3)	T	N-nitroso-dimethylami	0.658	0.663	0.630	0.577	0.561	0.618	7.58
4)	S	2-Fluorophenol	1.140	1.112	1.050	1.028	0.860	1.038	10.55
5)	T	Aniline	1.989	1.931	1.768	1.695	1.508	1.778	10.81
6)	S	Phenol-d6	1.637	1.548	1.429	1.363	1.261	1.448	10.25
7)	TCM	Phenol	1.651	1.753	1.444	1.471	1.218	1.507	13.67
8)	T	bis(2-Chloroethyl)eth	1.227	1.193	1.101	1.037	1.111	1.134	6.70
9)	TM	2-Chlorophenol	1.294	1.240	1.165	1.153	1.061	1.182	7.52
10)	T	1,3-Dichlorobenzene	1.490	1.415	1.337	1.329	1.258	1.366	6.51
11)	TCM	1,4-Dichlorobenzene	1.562	1.473	1.392	1.389	1.300	1.423	6.94
12)	T	Benzyl alcohol	0.870	0.821	0.763	0.708	0.626	0.758	12.63
13)	T	1,2-Dichlorobenzene	1.434	1.363	1.292	1.291	1.239	1.324	5.73
14)	T	2-Methylphenol	1.251	1.184	1.099	1.081	1.026	1.128	7.89
15)	T	bis(2-chloroisopropyl	1.106	1.107	1.033	1.070	1.028	1.069	3.57
16)	T	4-Methylphenol	1.393	1.250	1.164	1.156	0.979	1.188	12.73
17)	TPM	n-Nitroso-di-n-propyl	0.223	0.217	0.202	0.198	0.179	0.204	8.41
18)	T	Hexachloroethane	0.691	0.638	0.599	0.587	0.550	0.613	8.74
19)	I	Naphthalene-d8	----------ISTD----------						
20)	S	Nitrobenzene-d5	0.445	0.442	0.423	0.427	0.382	0.424	5.97
21)	T	Nitrobenzene	0.431	0.426	0.413	0.397	0.366	0.407	6.47
22)	T	Isophorone	0.700	0.704	0.678	0.687	0.632	0.680	4.24
23)	TC	2-Nitrophenol	0.185	0.180	0.167	0.166	0.144	0.168	9.43
24)	T	2,4-Dimethylphenol	0.399	0.382	0.358	0.347	0.321	0.361	8.44
25)	T	bis(2-Chloroethoxy)me	0.400	0.384	0.359	0.348	0.315	0.361	9.19
26)	TC	2,4-Dichlorophenol	0.272	0.247	0.206	0.250	0.233	0.242	9.97
27)	T	Benzoic Acid	0.253	0.253	0.211	0.157	0.169	0.208	21.68
28)	TM	1,2,4-Trichlorobenzen	0.334	0.317	0.302	0.297	0.280	0.306	6.79
29)	T	Naphthalene	1.070	1.018	0.953	0.932	0.897	0.974	7.16
30)	T	4-Chloroaniline	0.353	0.332	0.336	0.330	0.298	0.330	6.08
31)	TC	Hexachlorobutadiene	0.217	0.206	0.198	0.196	0.189	0.201	5.35
32)	TCM	4-Chloro-3-methylphen	0.353	0.334	0.312	0.306	0.270	0.315	9.92
33)	T	2-Methylnaphthalene	0.747	0.696	0.641	0.634	0.591	0.662	9.14
34)	I	Acenaphthene-d10	----------ISTD----------						
35)	TP	Hexachlorocyclopentad	0.350	0.313	0.270	0.238	0.205	0.275	20.98
36)	TC	2,4,6-Trichlorophenol	0.357	0.335	0.317	0.306	0.268	0.317	10.59
37)	T	2,4,5-Trichlorophenol	0.350	0.349	0.330	0.320	0.310	0.332	5.38
38)	S	2-Fluorobiphenyl	1.257	1.184	1.111	1.114	1.045	1.142	7.08
39)	T	2-Chloronaphthalene	1.039	0.978	0.912	0.899	0.851	0.936	7.84
40)	T	2-Nitroaniline	0.347	0.331	0.314	0.307	0.273	0.314	8.80
41)	T	Dimethylphthalate	1.221	1.176	1.117	1.131	1.053	1.139	5.54
42)	T	Acenaphthylene	1.761	1.667	1.557	1.523	1.420	1.586	8.30
43)	T	2,6-Dinitrotoluene	0.367	0.353	0.336	0.331	0.306	0.339	6.84
44)	T	3-Nitroaniline	0.330	0.286	0.265	0.250	0.218	0.270	15.48
45)	TCM	Acenaphthene	1.174	1.061	0.973	0.957	0.880	1.009	11.16
46)	TP	2,4-Dinitrophenol	0.188	0.178	0.156	0.131	0.085	0.147	27.95
47)	T	Dibenzofuran	1.466	1.394	1.325	1.323	1.258	1.353	5.84
48)	TMP	4-Nitrophenol	0.251	0.191	0.266	0.214	0.156	0.216	20.81
49)	TM	2,4-Dinitrotoluene	0.387	0.375	0.347	0.347	0.310	0.353	8.45
50)	T	Diethylphthalate	1.338	1.302	1.238	1.249	1.177	1.261	4.91
51)	T	Fluorene	1.315	1.224	1.133	1.129	1.065	1.173	8.32
52)	T	4-Chlorophenyl-phenyl	0.657	0.606	0.566	0.562	0.525	0.583	8.60
53)	T	4-Nitroaniline	0.268	0.249	0.242	0.257	0.218	0.247	7.54
54)	I	Phenanthrene-d10	----------ISTD----------						

(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration

Calibration Files
120 =BNA05605.D 80 =BNA05606.D 50 =BNA05602.D
20 =BNA05603.D 10 =BNA05604.D

		Compound	120	80	50	20	10	Avg	%RSD
55)	T	4,6-Dinitro-2-methylp	0.129	0.125	0.115	0.104	0.085	0.111	16.11
56)	TC	n-Nitrosodiphenylamin	0.434	0.416	0.397	0.392	0.365	0.401	6.51
57)	T	Azobenzene	0.748	0.756	0.738	0.737	0.704	0.737	2.66
58)	S	2,4,6-Tribromophenol	0.099	0.092	0.087	0.080	0.072	0.086	12.52
59)	T	4-Bromophenyl-phenyle	0.191	0.179	0.169	0.161	0.152	0.170	8.96
60)	T	Hexachlorobenzene	0.210	0.196	0.186	0.177	0.168	0.188	8.79
61)	TCM	Pentachlorophenol	0.123	0.112	0.104	0.087	0.072	0.100	20.12
62)	T	Phenanthrene	0.951	0.923	0.877	0.864	0.814	0.886	6.03
63)	T	Anthracene	0.960	0.926	0.879	0.875	0.824	0.893	5.84
64)	T	Di-n-butylphthalate	1.095	1.070	1.034	1.025	0.952	1.035	5.25
65)	TC	Fluoranthene	1.037	1.005	0.963	0.943	0.881	0.966	6.22
66)	I	Chrysene-d12	----------ISTD----------						
67)	T	Benzidine	0.187	0.198	0.230	0.219	0.198	0.207	8.53
68)	TM	Pyrene	0.813	0.879	0.881	0.985	0.952	0.902	7.47
69)	S	p-Terphenyl-d14	0.641	0.667	0.651	0.694	0.655	0.661	3.09
70)	T	Butylbenzylphthalate	0.424	0.449	0.447	0.487	0.455	0.453	5.02
71)	T	Benzo[a]anthracene	0.854	0.901	0.886	0.972	0.941	0.911	5.08
72)	T	3,3'-Dichlorobenzidin	0.359	0.365	0.370	0.368	0.321	0.357	5.74
73)	T	Chrysene	0.807	0.849	0.837	0.905	0.872	0.854	4.33
74)	T	bis(2-Ethylhexyl)phth	0.602	0.634	0.630	0.664	0.620	0.630	3.62
75)	I	Perylene-d12	----------ISTD----------						
76)	TC	Di-n-octylphthalate	1.426	1.402	1.305	1.258	1.127	1.304	9.24
77)	T	Benzo[b]fluoranthene	1.195	1.131	1.034	0.989	0.904	1.051	10.95
78)	T	Benzo[k]fluoranthene	1.224	1.173	1.050	1.006	0.941	1.079	10.86
79)	TC	Benzo[a]pyrene	1.157	1.095	0.997	0.963	0.884	1.019	10.58
80)	T	Indeno[1,2,3-cd]pyren	1.329	1.093	0.979	1.117	1.004	1.104	12.50
81)	T	Dibenz[a,h]anthracene	1.235	1.125	1.017	0.963	0.870	1.042	13.62
82)	T	Benzo[g,h,i]perylene	1.035	1.011	0.937	0.905	0.851	0.948	8.00

#) = Out of Range

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: BNA05698.D DFTPP Injection Date: 7/25/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 9:15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	46.9
68	Less than 2.0% of mass 69	0.2 (0.3)1
69	Mass 69 Relative abundance	46.9
70	Less than 2.0% of mass 69	0.1 (0.3)1
127	25.0 - 75.0% of mass 198	53.4
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	6.7
275	10.0 - 30.0% of mass 198	28.9
365	Greater than 0.75% of mass 198	5.8
441	Present, but less than mass 443	13.2
442	40.0 - 110.0% of mass 198	89.0
443	15.0 - 24.0% of mass 442	16.4 (18.5)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	BNA05699.D	7/25/01	9:39
02	MB 2015	MB 2015	BNA05700.D	7/25/01	12:13
03	BLDG2235	1624901	BNA05714.D	7/25/01	23:18

Evaluate Continuing Calibration Report

Data File : D:\DATA\010725\BNA05699.D Vial: 100
Acq On : 25 Jul 2001 9:39 am Operator: Skelton
Sample : Sstd050 Inst : GC/MS Ins
Misc : Sstd050 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

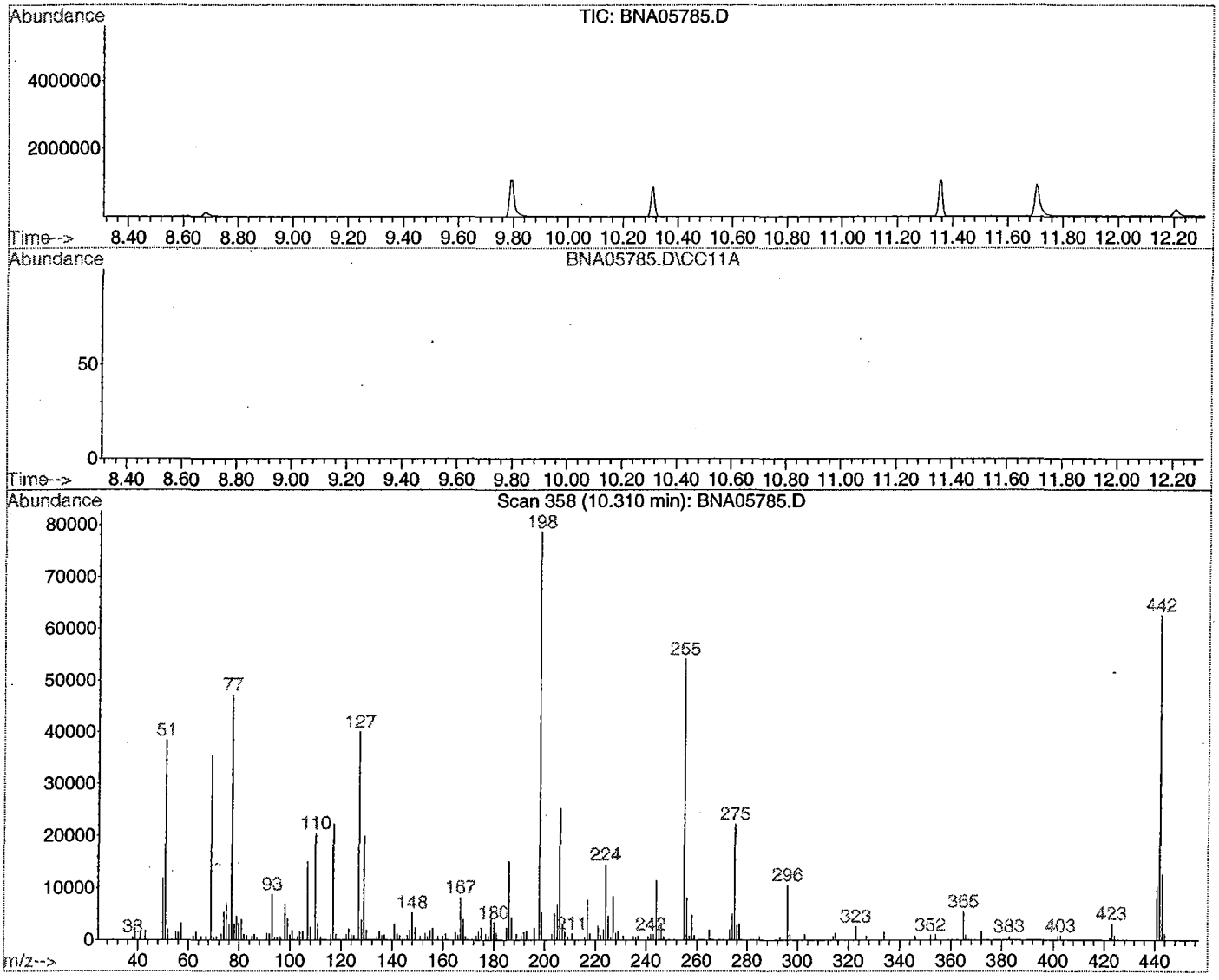
Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Multiple Level Calibration

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	73	0.00
55	T	4,6-Dinitro-2-methylphenol	0.111	0.105	5.4	67	0.00
56	TC	n-Nitrosodiphenylamine	0.401	0.361	10.0	66	0.00
57	T	Azobenzene	0.737	0.698	5.3	69	0.00
58	S	2,4,6-Tribromophenol	0.086	0.083	3.5	70	0.00
59	T	4-Bromophenyl-phenylether	0.170	0.163	4.1	70	0.00
60	T	Hexachlorobenzene	0.188	0.179	4.8	70	0.00
61	TCM	Pentachlorophenol	0.100	0.098	2.0	68	0.00
62	T	Phenanthrene	0.886	0.821	7.3	68	0.00
63	T	Anthracene	0.893	0.823	7.8	68	0.00
64	T	Di-n-butylphthalate	1.035	0.969	6.4	68	0.00
65	TC	Fluoranthene	0.966	0.933	3.4	71	0.00
66	I	Chrysene-d12	1.000	1.000	0.0	73	0.00
67	T	Benzidine	0.207	0.193	6.8	62	0.00
68	TM	Pyrene	0.902	0.834	7.5	69	0.00
69	S	p-Terphenyl-d14	0.661	0.628	5.0	71	0.00
70	T	Butylbenzylphthalate	0.453	0.413	8.8	68	0.00
71	T	Benzo[a]anthracene	0.911	0.857	5.9	71	0.00
72	T	3,3'-Dichlorobenzidine	0.357	0.328	8.1	65	0.00
73	T	Chrysene	0.854	0.799	6.4	70	0.00
74	T	bis(2-Ethylhexyl)phthalate	0.630	0.565	10.3	66	0.00
75	I	Perylene-d12	1.000	1.000	0.0	72	0.00
76	TC	Di-n-octylphthalate	1.304	1.210	7.2	67	0.00
77	T	Benzo[b]fluoranthene	1.051	1.011	3.8	71	0.00
78	T	Benzo[k]fluoranthene	1.079	1.009	6.5	70	0.00
79	TC	Benzo[a]pyrene	1.019	0.960	5.8	70	0.00
80	T	Indeno[1,2,3-cd]pyrene	1.104	0.906	17.9	67	0.00
81	T	Dibenz[a,h]anthracene	1.042	0.922	11.5	66	0.00
82	T	Benzo[g,h,i]perylene	0.948	0.854	9.9	66	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BNA05699.D M262547.M Mon Sep 10 13:29:22 2001 Page 2

Data File : D:\DATA\010802\BNA05785.D Vial: 99
Acq On : 2 Aug 2001 8:29 am Operator: Skelton
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\M262547.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 358

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	38376	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.0	35424	PASS
70	69	0.00	2	1.7	608	PASS
127	198	40	60	50.8	39976	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	78648	PASS
199	198	5	9	6.8	5347	PASS
275	198	10	30	28.1	22136	PASS
365	198	1	100	6.9	5407	PASS
441	443	1	99	81.7	10185	PASS
442	198	40	100	79.5	62560	PASS
443	442	17	23	19.9	12473	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010802\BNA05786.D Vial: 100
Acq On : 2 Aug 2001 8:52 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\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 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	57	0.00
2	T	Pyridine	1.208	1.033	14.5	47#	0.00
3	T	N-nitroso-dimethylamine	0.618	0.515	16.7	46#	0.00
4	S	2-Fluorophenol	1.038	0.957	7.8	52	-0.01
5	T	Aniline	1.778	1.636	8.0	52	0.00
6	S	Phenol-d6	1.448	1.350	6.8	54	0.00
7	TCM	Phenol	1.507	1.341	11.0	53	0.00
8	T	bis(2-Chloroethyl)ether	1.134	0.990	12.7	51	0.00
9	TM	2-Chlorophenol	1.182	1.098	7.1	53	0.00
10	T	1,3-Dichlorobenzene	1.366	1.309	4.2	55	0.00
11	TCM	1,4-Dichlorobenzene	1.423	1.343	5.6	55	0.00
12	T	Benzyl alcohol	0.758	0.702	7.4	52	0.00
13	T	1,2-Dichlorobenzene	1.324	1.275	3.7	56	0.00
14	T	2-Methylphenol	1.128	1.050	6.9	54	0.00
15	T	bis(2-chloroisopropyl)ether	1.069	0.909	15.0	50#	0.00
16	T	4-Methylphenol	1.188	1.032	13.1	50	0.00
17	TPM	n-Nitroso-di-n-propylamine	0.204	0.186	8.8	52	0.00
18	T	Hexachloroethane	0.613	0.621	-1.3	59	0.00
19	I	Naphthalene-d8	1.000	1.000	0.0	58	0.00
20	S	Nitrobenzene-d5	0.424	0.418	1.4	57	0.00
21	T	Nitrobenzene	0.407	0.407	0.0	57	0.00
22	T	Isophorone	0.680	0.645	5.1	55	0.00
23	TC	2-Nitrophenol	0.168	0.153	8.9	53	0.00
24	T	2,4-Dimethylphenol	0.361	0.340	5.8	54	0.00
25	T	bis(2-Chloroethoxy)methane	0.361	0.322	10.8	52	0.00
26	TC	2,4-Dichlorophenol	0.242	0.220	9.1	61	-0.01
27	T	Benzoic Acid	0.208	0.183	12.0	50	0.00
28	TM	1,2,4-Trichlorobenzene	0.306	0.303	1.0	58	0.00
29	T	Naphthalene	0.974	0.897	7.9	54	0.00
30	T	4-Chloroaniline	0.330	0.301	8.8	52	0.00
31	TC	Hexachlorobutadiene	0.201	0.214	-6.5	62	0.00
32	TCM	4-Chloro-3-methylphenol	0.315	0.297	5.7	55	0.00
33	T	2-Methylnaphthalene	0.662	0.611	7.7	55	0.00
34	I	Acenaphthene-d10	1.000	1.000	0.0	59	0.00
35	TP	Hexachlorocyclopentadiene	0.275	0.265	3.6	58	0.00
36	TC	2,4,6-Trichlorophenol	0.317	0.306	3.5	57	0.00
37	T	2,4,5-Trichlorophenol	0.332	0.313	5.7	56	0.00
38	S	2-Fluorobiphenyl	1.142	1.074	6.0	57	0.00
39	T	2-Chloronaphthalene	0.936	0.858	8.3	55	0.00
40	T	2-Nitroaniline	0.314	0.275	12.4	52	0.00
41	T	Dimethylphthalate	1.139	1.055	7.4	56	0.00
42	T	Acenaphthylene	1.586	1.485	6.4	56	0.00
43	T	2,6-Dinitrotoluene	0.339	0.370	-9.1	65	0.00
44	T	3-Nitroaniline	0.270	0.224	17.0	50#	0.00
45	TCM	Acenaphthene	1.009	0.910	9.8	55	0.00
46	TP	2,4-Dinitrophenol	0.147	0.146	0.7	55	0.00
47	T	Dibenzofuran	1.353	1.265	6.5	56	0.00
48	TMP	4-Nitrophenol	0.216	0.249	-15.3	55	-0.01
49	TM	2,4-Dinitrotoluene	0.353	0.331	6.2	56	0.00
50	T	Diethylphthalate	1.261	1.294	-2.6	62	0.00
51	T	Fluorene	1.173	1.102	6.1	57	0.00
52	T	4-Chlorophenyl-phenylether	0.583	0.565	3.1	59	0.00
53	T	4-Nitroaniline	0.247	0.212	14.2	52	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010802\BNA05786.D Vial: 100
Acq On : 2 Aug 2001 8:52 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\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 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	63	0.00
55	T	4,6-Dinitro-2-methylphenol	0.111	0.105	5.4	57	0.01
56	TC	n-Nitrosodiphenylamine	0.401	0.353	12.0	56	0.00
57	T	Azobenzene	0.737	0.696	5.6	59	0.00
58	S	2,4,6-Tribromophenol	0.086	0.088	-2.3	63	0.00
59	T	4-Bromophenyl-phenylether	0.170	0.166	2.4	62	0.00
60	T	Hexachlorobenzene	0.188	0.185	1.6	62	0.00
61	TCM	Pentachlorophenol	0.100	0.093	7.0	56	0.00
62	T	Phenanthrene	0.886	0.805	9.1	58	0.00
63	T	Anthracene	0.893	0.801	10.3	57	0.00
64	T	Di-n-butylphthalate	1.035	0.924	10.7	56	0.00
65	TC	Fluoranthene	0.966	0.906	6.2	59	0.00
66	I	Chrysene-d12	1.000	1.000	0.0	68	0.01
67	T	Benzidine	0.207	0.212	-2.4	63	0.00
68	TM	Pyrene	0.902	0.747	17.2	58	0.00
69	S	p-Terphenyl-d14	0.661	0.572	13.5	60	0.00
70	T	Butylbenzylphthalate	0.453	0.351	22.5	54	0.00
71	T	Benzo[a]anthracene	0.911	0.752	17.5	58	0.00
72	T	3,3'-Dichlorobenzidine	0.357	0.358	-0.3	66	0.00
73	T	Chrysene	0.854	0.703	17.7	57	0.00
74	T	bis(2-Ethylhexyl)phthalate	0.630	0.499	20.8	54	0.00
75	I	Perylene-d12	1.000	1.000	0.0	62	0.01
76	TC	Di-n-octylphthalate	1.304	1.173	10.0	56	0.00
77	T	Benzo[b]fluoranthene	1.051	0.966	8.1	58	0.01
78	T	Benzo[k]fluoranthene	1.079	1.002	7.1	59	0.01
79	TC	Benzo[a]pyrene	1.019	0.942	7.6	59	0.01
80	T	Indeno[1,2,3-cd]pyrene	1.104	0.996	9.8	63	0.03
81	T	Dibenz[a,h]anthracene	1.042	0.990	5.0	60	0.03
82	T	Benzo[g,h,i]perylene	0.948	0.891	6.0	59	0.03

4B

Field Id:

SEMIVOLATILE METHOD BLANK SUMMARY

MB 2015

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID: BNA05700.D Lab Sample ID: MB 2015

Instrument ID: GC/MS Ins Date Extracted: 7/17/01

Matrix: (soil/water) WATER Date Analyzed: 7/25/01

Level: (low/med) LOW Time Analyzed: 12:13

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	BLDG2235	1624901	BNA05714.D	7/25/01

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.: _____

	Field Id:	S1 2FP #	S2 PHL #	S3 NBZ #	S4 2FP #	S5 TBP #	S6 TPL #	TOT OUT
01	MB 2015	45	20	60	65	78	77	0
02	BLDG2235	*	*	47	57	*	50	3/0
03	1628506MS	31	18	74	84	108	85	0
04	1628506MSD	39	23	85	97	129*	96	1/0

JH 9/13
JH 9/13

QC LIMITS

S1	2FP	=	2-Fluorophenol	(21-100)
S2	PHL	=	Phenol-d6	(10-94)
S3	NBZ	=	Nitrobenzene-d5	(35-114)
S4	2FP	=	2-Fluorobiphenyl	(43-116)
S5	TBP	=	2,4,6-Tribromophenol	(10-123)
S6	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 **BNA05810.D** Sample Name **1628506MS**

Date Acquired **3-Aug-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		3.66 ug/L	18.32
62-75-9	N-nitroso-dimethylamine		5.04 ug/L	25.19
62-53-3	Aniline		7.39 ug/L	36.94
111-44-4	bis(2-Chloroethyl)ether		11.96 ug/L	59.79
541-73-1	1,3-Dichlorobenzene		12.40 ug/L	62.01
106-46-7	1,4-Dichlorobenzene		12.26 ug/L	61.31
100-51-6	Benzyl alcohol		8.00 ug/L	40.02
95-50-1	1,2-Dichlorobenzene		12.61 ug/L	63.07
39638-32-9	bis(2-chloroisopropyl)ether		17.49 ug/L	87.43
621-64-7	n-Nitroso-di-n-propylamine		12.93 ug/L	64.63
67-72-1	Hexachloroethane		7.93 ug/L	39.67
98-95-3	Nitrobenzene		14.66 ug/L	73.32
78-59-1	Isophorone		15.32 ug/L	76.62
111-91-1	bis(2-Chloroethoxy)methane		12.95 ug/L	64.75
120-82-1	1,2,4-Trichlorobenzene		13.83 ug/L	69.14
91-20-3	Naphthalene		12.55 ug/L	62.73
106-47-8	4-Chloroaniline		11.49 ug/L	57.47
87-68-3	Hexachlorobutadiene		14.50 ug/L	72.50
91-57-6	2-Methylnaphthalene		13.98 ug/L	69.92
77-47-4	Hexachlorocyclopentadiene		1.17 ug/L	5.84
91-58-7	2-Chloronaphthalene		15.54 ug/L	77.71
88-74-4	2-Nitroaniline		15.03 ug/L	75.15
131-11-3	Dimethylphthalate		16.95 ug/L	84.74
208-96-8	Acenaphthylene		15.44 ug/L	77.18
606-20-2	2,6-Dinitrotoluene		18.44 ug/L	92.21
99-09-2	3-Nitroaniline		9.56 ug/L	47.80
83-32-9	Acenaphthene		15.34 ug/L	76.69
132-64-9	Dibenzofuran		17.02 ug/L	85.08
121-14-2	2,4-Dinitrotoluene		15.54 ug/L	77.71
84-66-2	Diethylphthalate		17.95 ug/L	89.75
86-73-7	Fluorene		15.93 ug/L	79.66
7005-72-3	4-Chlorophenyl-phenylether		16.84 ug/L	84.19
100-01-6	4-Nitroaniline		11.32 ug/L	56.60
86-30-6	n-Nitrosodiphenylamine		16.44 ug/L	82.21
103-33-3	Azobenzene		17.69 ug/L	88.43
101-55-3	4-Bromophenyl-phenylether		17.61 ug/L	88.06
118-74-1	Hexachlorobenzene		17.05 ug/L	85.25
85-01-8	Phenanthrene		16.53 ug/L	82.64
120-12-7	Anthracene		16.38 ug/L	81.91
84-74-2	Di-n-butylphthalate		16.82 ug/L	84.08
206-44-0	Fluoranthene		17.02 ug/L	85.11
129-00-0	Pyrene		19.23 ug/L	96.17
85-68-7	Butylbenzylphthalate		17.81 ug/L	89.03
56-55-3	Benzo[a]anthracene		17.78 ug/L	88.90
218-01-9	Chrysene		13.66 ug/L	68.29
117-81-7	bis(2-Ethylhexyl)phthalate		16.55 ug/L	82.76
117-84-0	Di-n-octylphthalate		19.84 ug/L	99.21
205-99-2	Benzo[b]fluoranthene		19.04 ug/L	95.19
207-08-9	Benzo[k]fluoranthene		19.12 ug/L	95.61
50-32-8	Benzo[a]pyrene		18.23 ug/L	91.17
193-39-5	Indeno[1,2,3-cd]pyrene		18.79 ug/L	93.94
53-70-3	Dibenz[a,h]anthracene		16.92 ug/L	84.59
191-24-2	Benzo[g,h,i]perylene		17.55 ug/L	87.73

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05811.D** Sample Name **1628506MSD**

Date Acquired **3-Aug-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		4.21 ug/L	21.04
62-75-9	N-nitroso-dimethylamine		5.82 ug/L	29.12
62-53-3	Aniline		8.72 ug/L	43.62
111-44-4	bis(2-Chloroethyl)ether		12.51 ug/L	62.57
541-73-1	1,3-Dichlorobenzene		14.00 ug/L	70.00
106-46-7	1,4-Dichlorobenzene		13.92 ug/L	69.59
100-51-6	Benzyl alcohol		9.50 ug/L	47.49
95-50-1	1,2-Dichlorobenzene		14.16 ug/L	70.81
39638-32-9	bis(2-chloroisopropyl)ether		19.58 ug/L	97.90
621-64-7	n-Nitroso-di-n-propylamine		14.79 ug/L	73.94
67-72-1	Hexachloroethane		9.85 ug/L	49.25
98-95-3	Nitrobenzene		16.56 ug/L	82.79
78-59-1	Isophorone		17.05 ug/L	85.23
111-91-1	bis(2-Chloroethoxy)methane		14.47 ug/L	72.36
120-82-1	1,2,4-Trichlorobenzene		15.46 ug/L	77.30
91-20-3	Naphthalene		14.38 ug/L	71.90
106-47-8	4-Chloroaniline		13.74 ug/L	68.71
87-68-3	Hexachlorobutadiene		16.62 ug/L	83.11
91-57-6	2-Methylnaphthalene		16.06 ug/L	80.32
77-47-4	Hexachlorocyclopentadiene		1.58 ug/L	7.90
91-58-7	2-Chloronaphthalene		17.81 ug/L	89.04
88-74-4	2-Nitroaniline		17.18 ug/L	85.90
131-11-3	Dimethylphthalate		18.91 ug/L	94.53
208-96-8	Acenaphthylene		17.00 ug/L	85.02
606-20-2	2,6-Dinitrotoluene		20.93 ug/L	104.66
99-09-2	3-Nitroaniline		12.81 ug/L	64.05
83-32-9	Acenaphthene		17.04 ug/L	85.20
132-64-9	Dibenzofuran		18.76 ug/L	93.81
121-14-2	2,4-Dinitrotoluene		18.14 ug/L	90.71
84-66-2	Diethylphthalate		19.77 ug/L	98.83
86-73-7	Fluorene		18.19 ug/L	90.97
7005-72-3	4-Chlorophenyl-phenylether		19.00 ug/L	95.00
100-01-6	4-Nitroaniline		13.71 ug/L	68.54
86-30-6	n-Nitrosodiphenylamine		18.12 ug/L	90.61
103-33-3	Azobenzene		19.41 ug/L	97.05
101-55-3	4-Bromophenyl-phenylether		19.94 ug/L	99.72
118-74-1	Hexachlorobenzene		19.65 ug/L	98.27
85-01-8	Phenanthrene		18.78 ug/L	93.89
120-12-7	Anthracene		18.45 ug/L	92.23
84-74-2	Di-n-butylphthalate		19.02 ug/L	95.09
206-44-0	Fluoranthene		19.08 ug/L	95.39
129-00-0	Pyrene		21.49 ug/L	107.43
85-68-7	Butylbenzylphthalate		19.76 ug/L	98.82
56-55-3	Benzo[a]anthracene		19.88 ug/L	99.38
218-01-9	Chrysene		15.86 ug/L	79.30
117-81-7	bis(2-Ethylhexyl)phthalate		18.50 ug/L	92.51
117-84-0	Di-n-octylphthalate		22.66 ug/L	113.31
205-99-2	Benzo[b]fluoranthene		21.71 ug/L	108.56
207-08-9	Benzo[k]fluoranthene		20.81 ug/L	104.07
50-32-8	Benzo[a]pyrene		20.34 ug/L	101.70
193-39-5	Indeno[1,2,3-cd]pyrene		20.84 ug/L	104.22
53-70-3	Dibenz[a,h]anthracene		18.94 ug/L	94.71
191-24-2	Benzo[g,h,i]perylene		19.65 ug/L	98.26

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID (Standard): BNA05699.D Date Analyzed: 7/25/01

Instrument ID: GC_BNA_2 Time Analyzed: 9:39

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	261090	10.06	1044220	12.99	723169	17.22
	UPPER LIMIT	522180	10.56	2088440	13.49	1446338	17.72
	LOWER LIMIT	130545	9.56	522110	12.49	361585	16.72
	Field Id:						
01	MB 2015	223379	10.07	838598	13.00	516830	17.22
02	BLDG2235	250945	10.07	995165	12.99	605650	17.22

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: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID (Standard): BNA05699.D Date Analyzed: 07/25/01

Instrument ID: GC_BNA_2 Time Analyzed: 09:39

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	1481253	20.81	1623685	27.27	1302373	30.49
	UPPER LIMIT	2962506	20.31	3247370	26.77	2604746	29.99
	LOWER LIMIT	740627	21.31	811843	27.77	651187	30.99
	EPA SAMPLE NO.						
01	MB 2015	1014539	20.81	1045210	27.26	758978	30.49
02	BLDG2235	1173772	20.81	1250340	27.26	914222	30.49

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: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID (Standard): BNA05786.D Date Analyzed: 8/2/01

Instrument ID: GC_BNA_2 Time Analyzed: 8:52

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	217980	10.06	875592	12.99	608188	17.22
	UPPER LIMIT	435960	10.56	1751184	13.49	1216376	17.72
	LOWER LIMIT	108990	9.56	437796	12.49	304094	16.72
	Field Id:						
01	1628506MS	199871	10.06	793279	12.99	470147	17.22
02	1628506MSD	193365	10.06	770196	12.99	457871	17.22

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: 010001 Case No.: 16249 Location: 2235 SDG No.:

Lab File ID (Standard): BNA05786.D Date Analyzed: 08/02/01

Instrument ID: GC_BNA_2 Time Analyzed: 08:52

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	1274798	20.82	1511313	27.28	1118797	30.51
	UPPER LIMIT	2549596	20.32	3022626	26.78	2237594	30.01
	LOWER LIMIT	637399	21.32	755657	27.78	559399	31.01
	EPA SAMPLE NO.						
01	1628506MS	946151	20.82	936057	27.27	611077	30.51
02	1628506MSD	923851	20.82	920334	27.27	595816	30.51

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\010725\BNA05700.D Vial: 1
Acq On : 25 Jul 2001 12:13 pm Operator: Skelton
Sample : MB 2015 Inst : GC/MS Ins
Misc : 7/17/2001 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jul 25 12:48 2001 Quant Results File: M262547.RES

Quant Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration
DataAcq Meth : M262547

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.07	152	223379	40.00	ug/L	0.00
19) Naphthalene-d8	13.00	136	838598	40.00	ug/L	0.00
34) Acenaphthene-d10	17.22	164	516830	40.00	ug/L	0.00
54) Phenanthrene-d10	20.81	188	1014539	40.00	ug/L	0.00
66) Chrysene-d12	27.26	240	1045210	40.00	ug/L	0.00
75) Perylene-d12	30.49	264	758978	40.00	ug/L	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	7.38	112	259720	44.80	ug/L	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery = 44.80%			
6) Phenol-d6	9.47	99	164036	20.29	ug/L	0.04
Spiked Amount 100.000	Range 10 - 94		Recovery = 20.29%			
20) Nitrobenzene-d5	11.40	82	267280	30.08	ug/L	0.02
Spiked Amount 50.000	Range 35 - 114		Recovery = 60.16%			
38) 2-Fluorobiphenyl	15.63	172	477555	32.36	ug/L	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 64.72%			
58) 2,4,6-Tribromophenol	19.18	330	170813	78.33	ug/L	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 78.33%			
69) p-Terphenyl-d14	24.75	244	665634	38.52	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 77.04%			

Target Compounds Qvalue

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

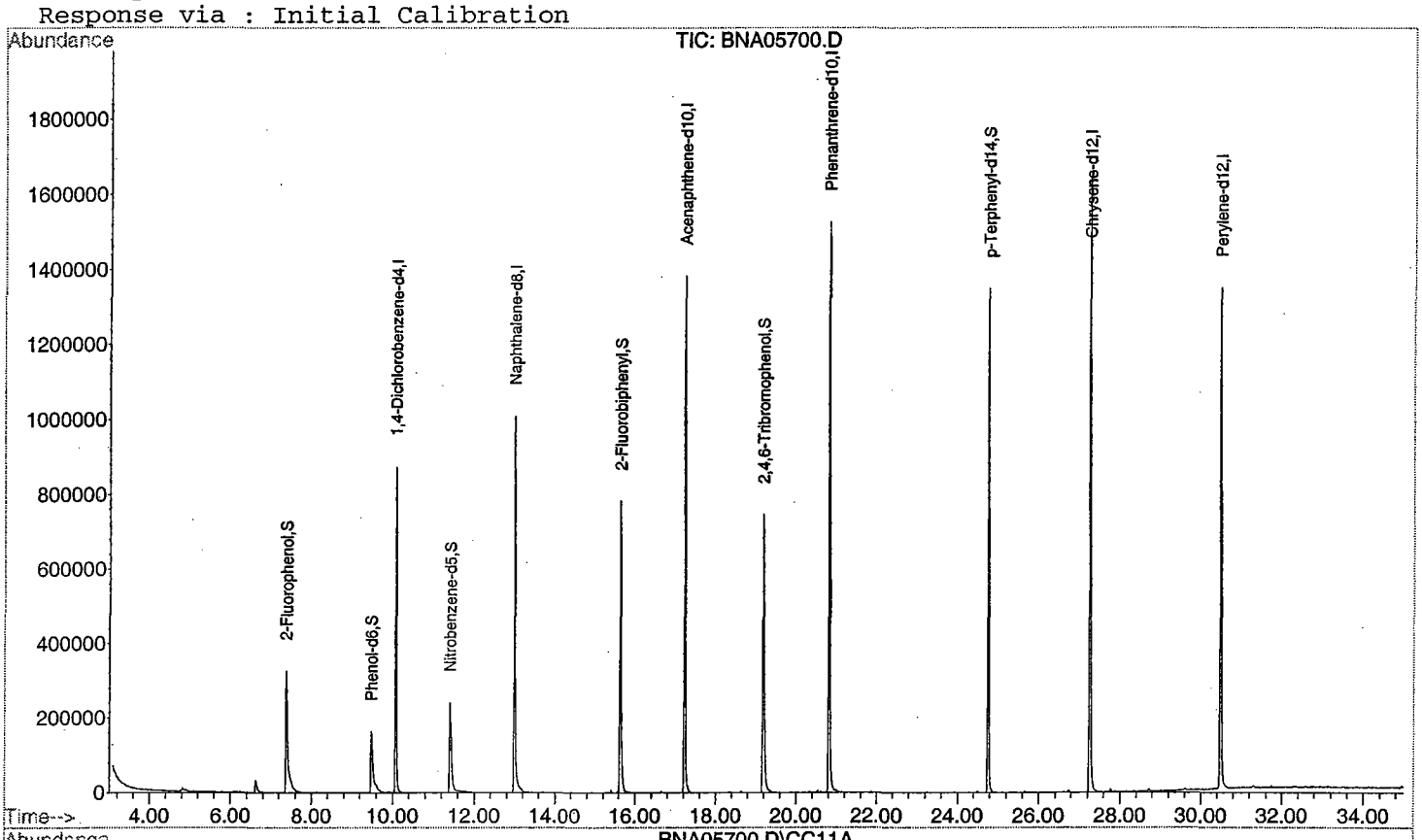
000058

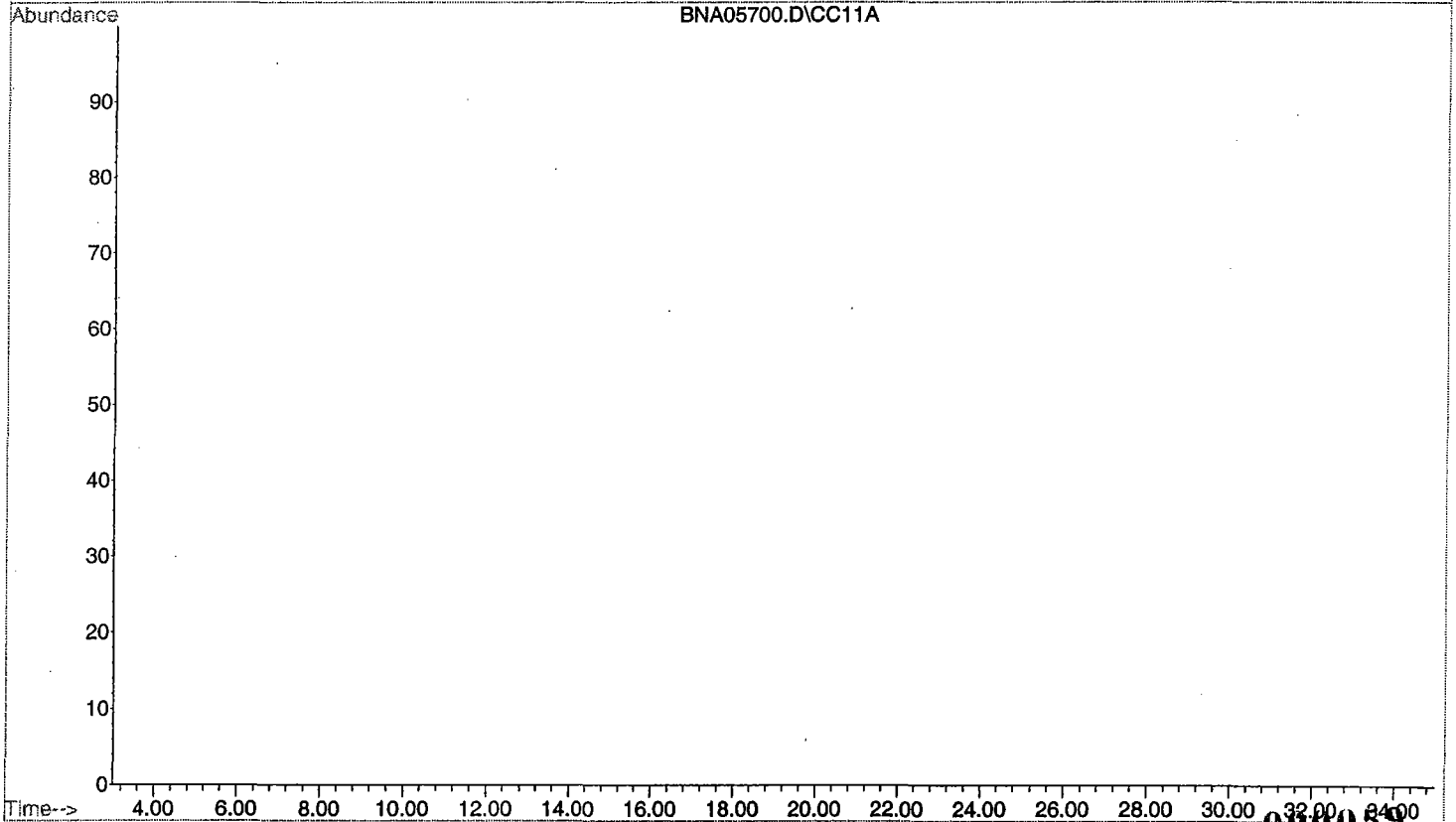
Quantitation Report

Data File : D:\DATA\010725\BNA05700.D
Acq On : 25 Jul 2001 12:13 pm
Sample : MB 2015
Misc : 7/17/2001
MS Integration Params: RTEINT.P
Quant Time: Jul 25 12:48 2001

Vial: 1
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262547.RES

Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data File : D:\DATA\010725\BNA05714.D Vial: 15
Acq On : 25 Jul 2001 11:18 pm Operator: Skelton
Sample : 1624901 Inst : GC/MS Ins
Misc : Bldg2235GW Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jul 25 23:53 2001 Quant Results File: M262547.RES

Quant Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration
DataAcq Meth : M262547

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.07	152	250945	40.00	ug/L	0.00
19) Naphthalene-d8	12.99	136	995165	40.00	ug/L	0.00
34) Acenaphthene-d10	17.22	164	605650	40.00	ug/L	0.00
54) Phenanthrene-d10	20.81	188	1173772	40.00	ug/L	0.00
66) Chrysene-d12	27.26	240	1250340	40.00	ug/L	-0.01
75) Perylene-d12	30.49	264	914222	40.00	ug/L	0.00
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	248586	23.57	ug/L	0.04
Spiked Amount 50.000	Range 35 - 114		Recovery =	47.14%		
38) 2-Fluorobiphenyl	15.63	172	490848	28.38	ug/L	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	56.76%		
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	24.75	244	517662	25.04	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	50.08%		

Target Compounds Qvalue

000060

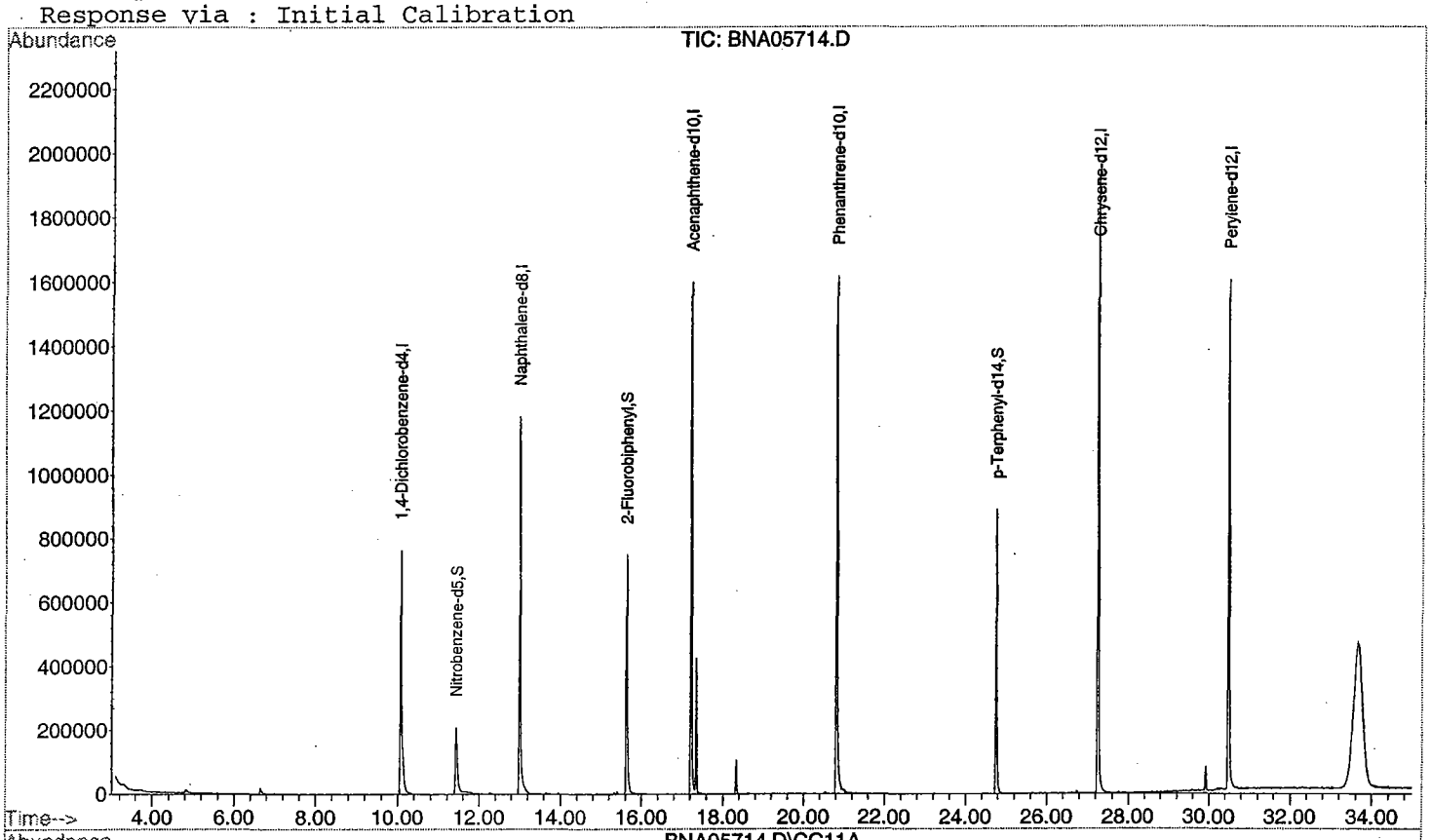
(#) = qualifier out of range (m) = manual integration

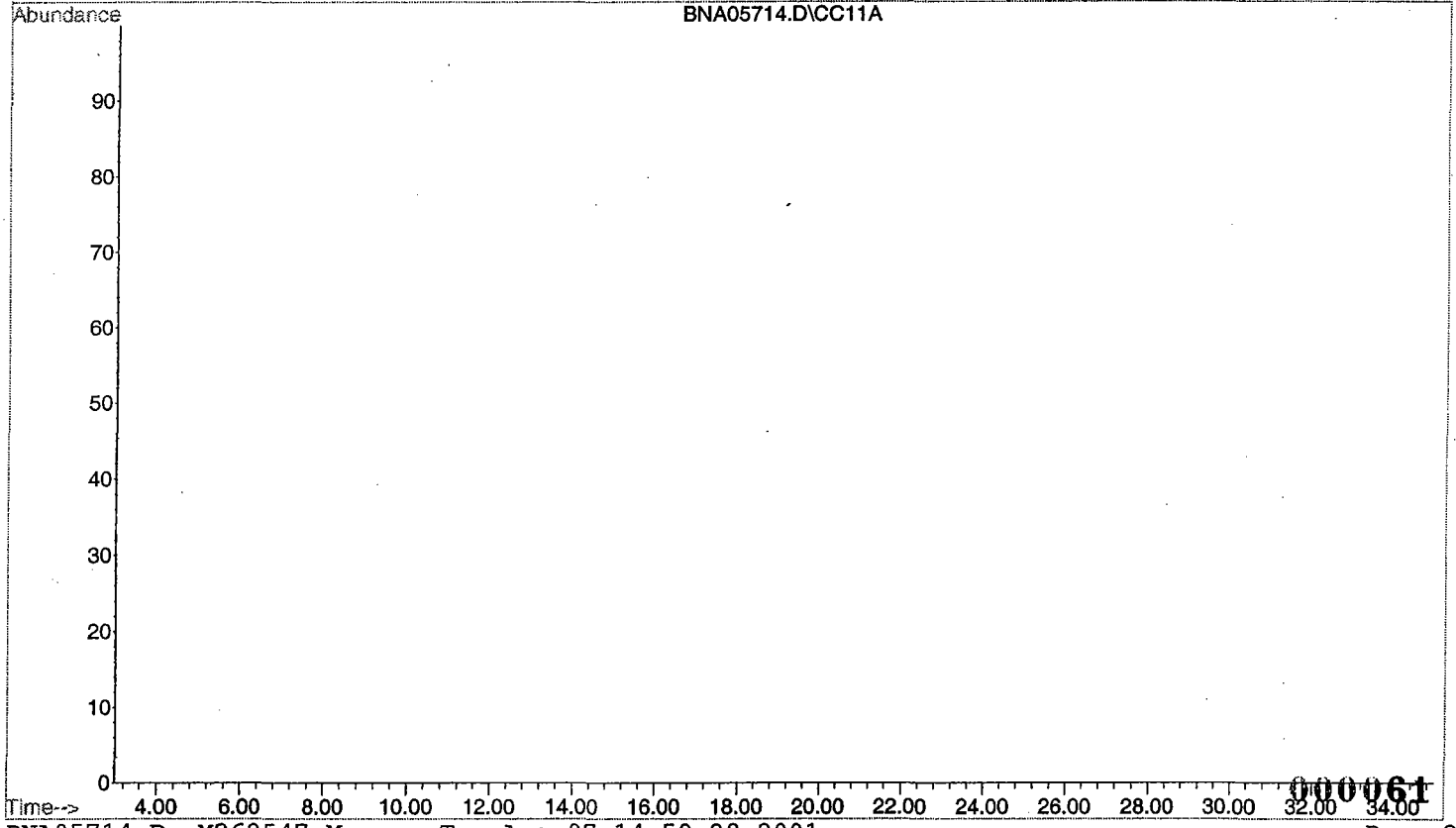
Quantitation Report

Data File : D:\DATA\010725\BNA05714.D
Acq On : 25 Jul 2001 11:18 pm
Sample : 1624901
Misc : Bldg2235GW
MS Integration Params: RTEINT.P
Quant Time: Jul 25 23:53 2001

Vial: 15
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262547.RES

Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Jul 09 09:29:51 2001
Response via : Initial Calibration





000061

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 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 9/24/01

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991217\T009292.D Vial: 12
Acq On : 17 Dec 1999 9:59 pm Operator: Bhaskar
Sample : 5017.01s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:21 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	275139	8.990 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	89.90%#
Target Compounds			
22) tC TPHC - total	12.61	2577701	87.235 mg/L m

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

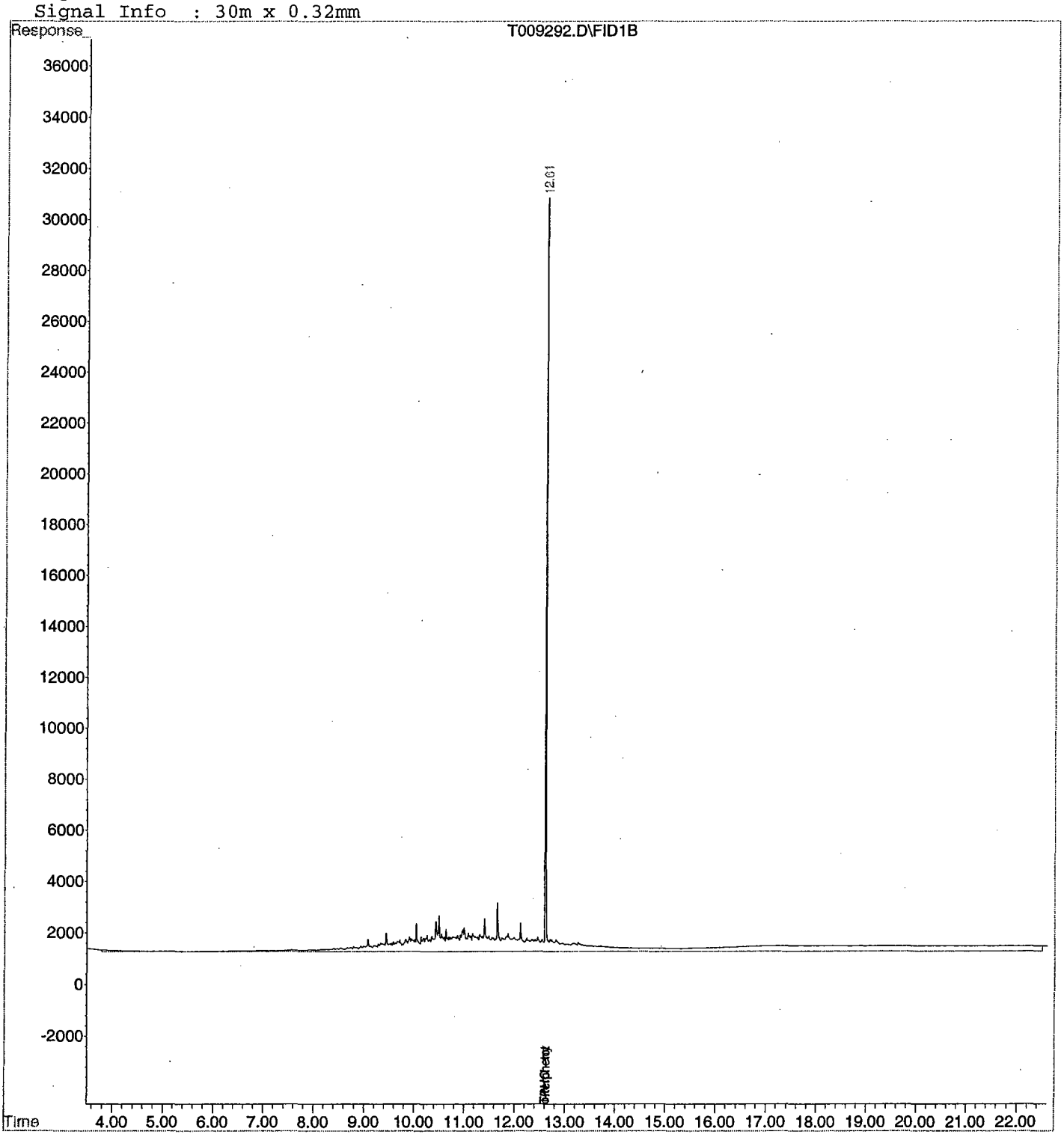
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009292.D
Acq On : 17 Dec 1999 9:59 pm
Sample : 5017.01s
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 20 8:21 1999 Quant Results File: TPH69.RES

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

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.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\991217\T009293.D Vial: 13
Acq On : 17 Dec 1999 10:32 pm Operator: Bhaskar
Sample : 5017.02s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:22 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	280026	9.150 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery =	91.50%#
Target Compounds			
22) tC TPHC - total	12.60	1923896	65.109 mg/L m

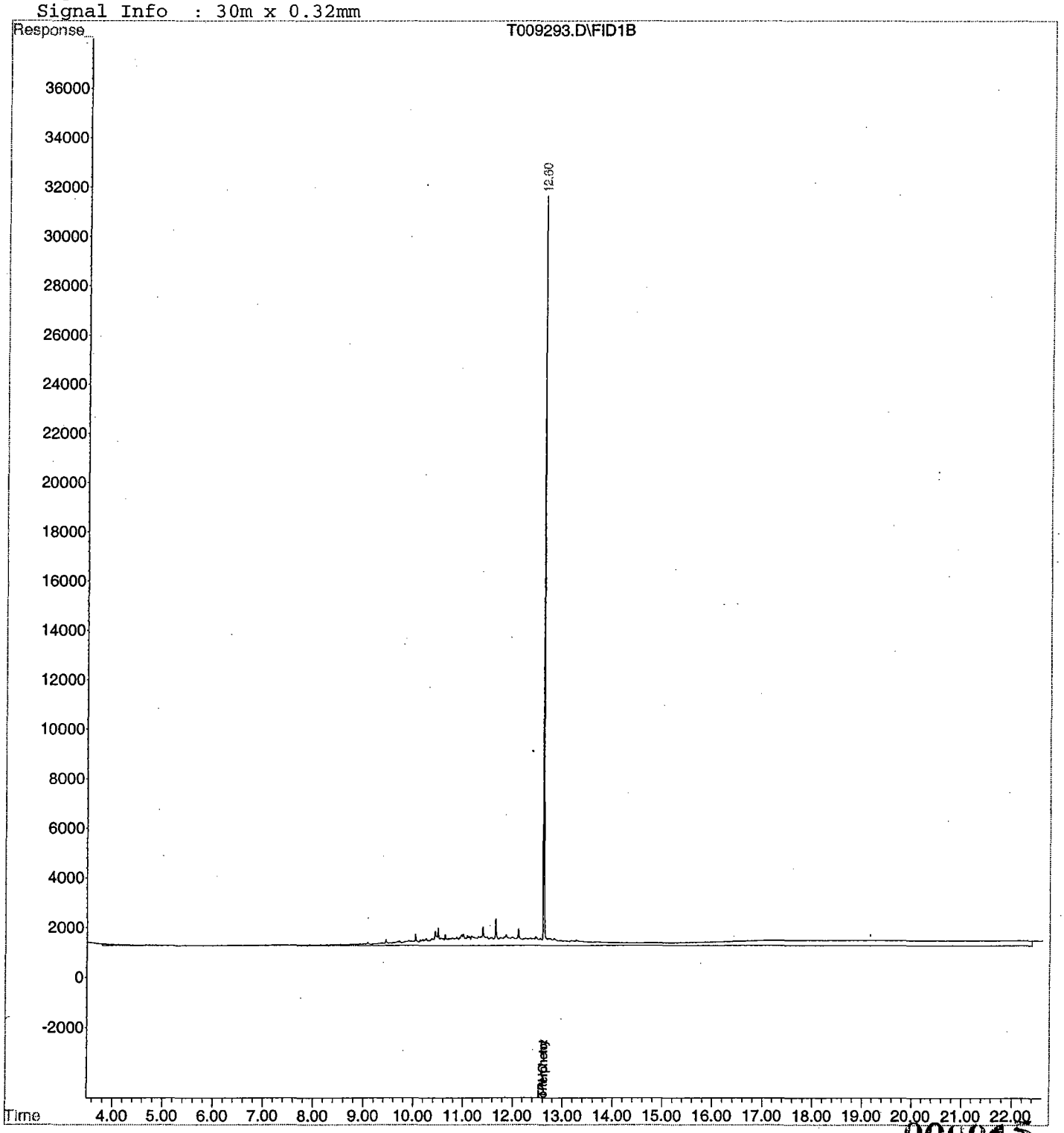
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009293.D Vial: 13
Acq On : 17 Dec 1999 10:32 pm Operator: Bhaskar
Sample : 5017.02s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:22 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



000015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991217\T009294.D Vial: 14
Acq On : 17 Dec 1999 11:05 pm Operator: Bhaskar
Sample : 5017.02sMS Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:22 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	259900	8.492 mg/L
Spiked Amount	10.000 Range	8 - 13	Recovery =	84.92%#
	Target Compounds			
2)	tC C10	7.31	154094	5.713 mg/L
3)	TC C12	8.98	425818	15.983 mg/L
4)	tC C14	10.16	422794	16.783 mg/L
5)	tC C16	11.17	345460	13.719 mg/L
6)	tC C18	11.63	220154	8.752 mg/L
7)	tC C20	12.06	218154	8.830 mg/L
8)	tC C22	12.88	111893	4.300 mg/L
9)	tC C24	13.62	50752	1.961 mg/L
19)	TC Pristane	11.65	80024	2.957 mg/L
20)	TC Phytane	12.11	100304	3.845 mg/L
22)	tC TPHC - total	10.16	27792577	940.559 mg/L m

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

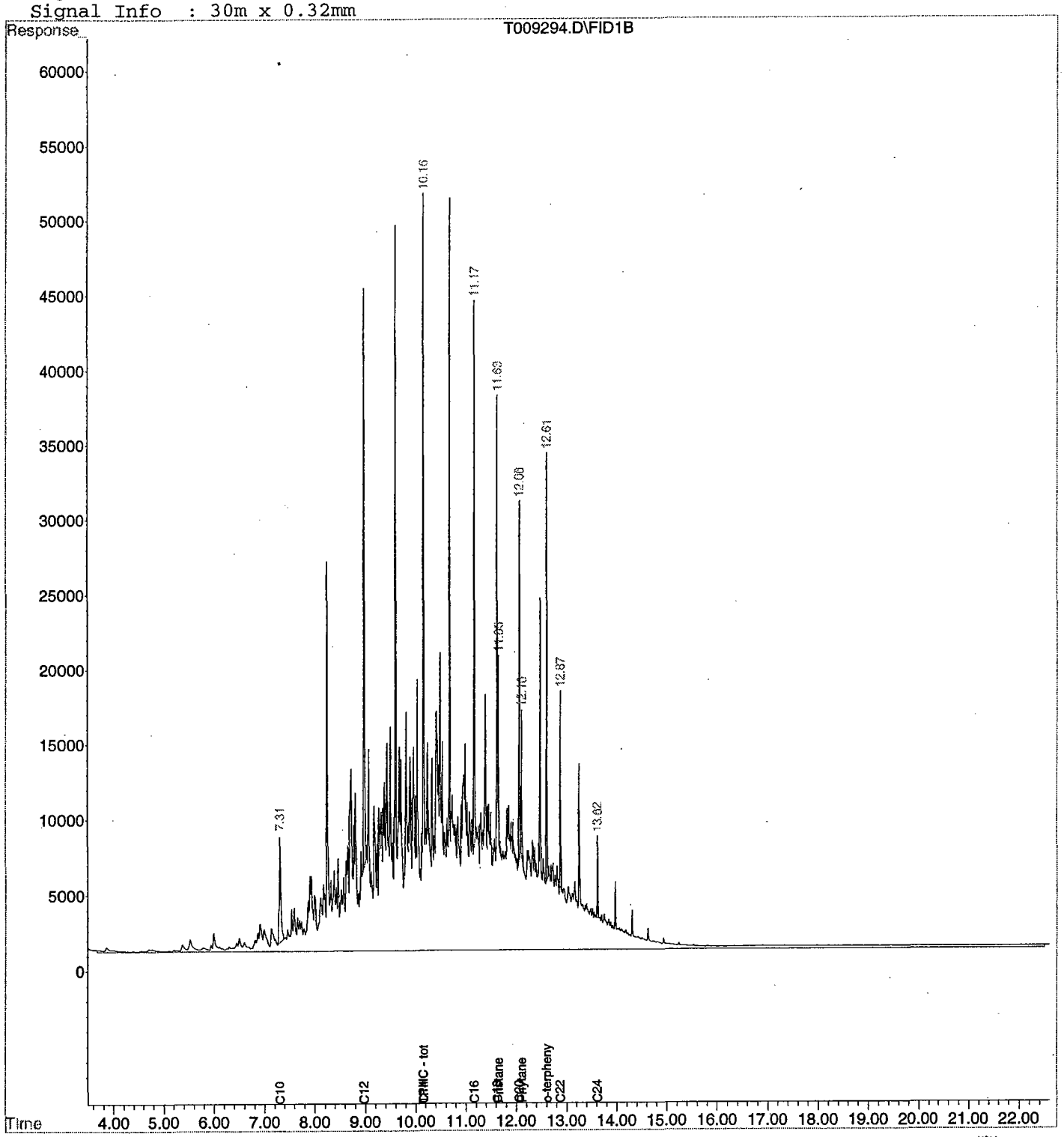
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009294.D
Acq On : 17 Dec 1999 11:05 pm
Sample : 5017.02sMS
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 20 8:22 1999 Quant Results File: TPH69.RES

Vial: 14
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.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\991217\T009295.D Vial: 15
Acq On : 17 Dec 1999 11:37 pm Operator: Bhaskar
Sample : 5017.02sMSD Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	263195	8.600 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	86.00%#
Target Compounds			
2) tC C10	7.31	155548	5.767 mg/L
3) TC C12	8.98	430390	16.154 mg/L
4) tC C14	10.16	429481	17.049 mg/L
5) tC C16	11.17	350104	13.904 mg/L
6) tC C18	11.63	225929	8.981 mg/L
7) tC C20	12.06	222283	8.997 mg/L
8) tC C22	12.88	116243	4.467 mg/L
9) tC C24	13.62	52100	2.013 mg/L
19) TC Pristane	11.65	72800	2.690 mg/L
20) TC Phytane	12.11	97791	3.748 mg/L
22) tC TPHC - total	10.16	27379902	926.593 mg/L m

000018

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

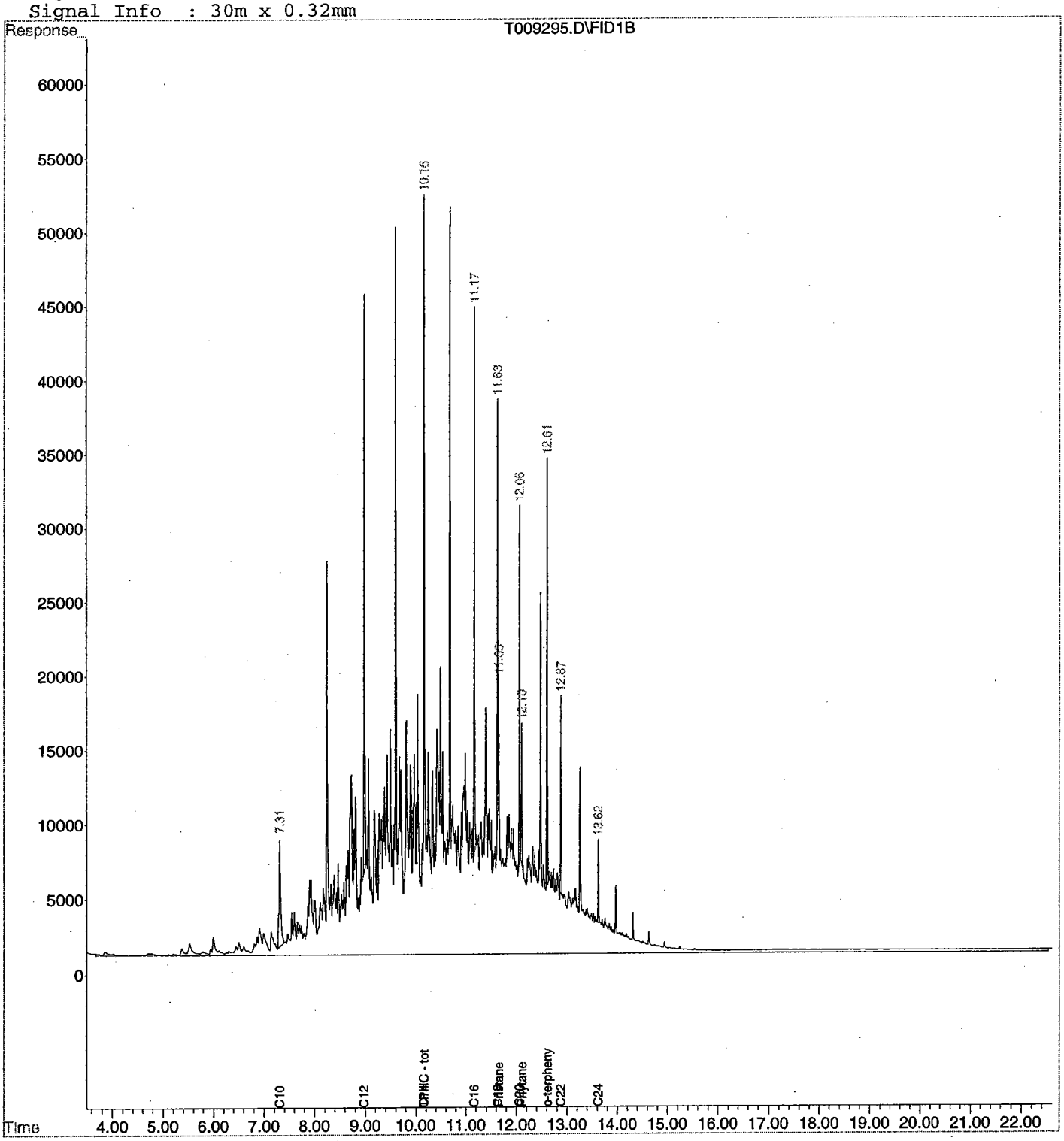
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009295.D
Acq On : 17 Dec 1999 11:37 pm
Sample : 5017.02sMSD
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Vial: 15
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.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\991217\T009296.D Vial: 16
Acq On : 18 Dec 1999 12:09 am Operator: Bhaskar
Sample : 5017.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	533954	17.447 mg/L
Spiked Amount 10.000 Range 8 - 13		Recovery = 174.47%#	
Target Compounds			
4) tC C14	10.04	31188	1.238 mg/L
6) tC C18	11.65	49952	1.986 mg/L
19) TC Pristane	11.65	49952	1.846 mg/L
22) tC TPHC - total	12.61	5688550	192.512 mg/L m

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

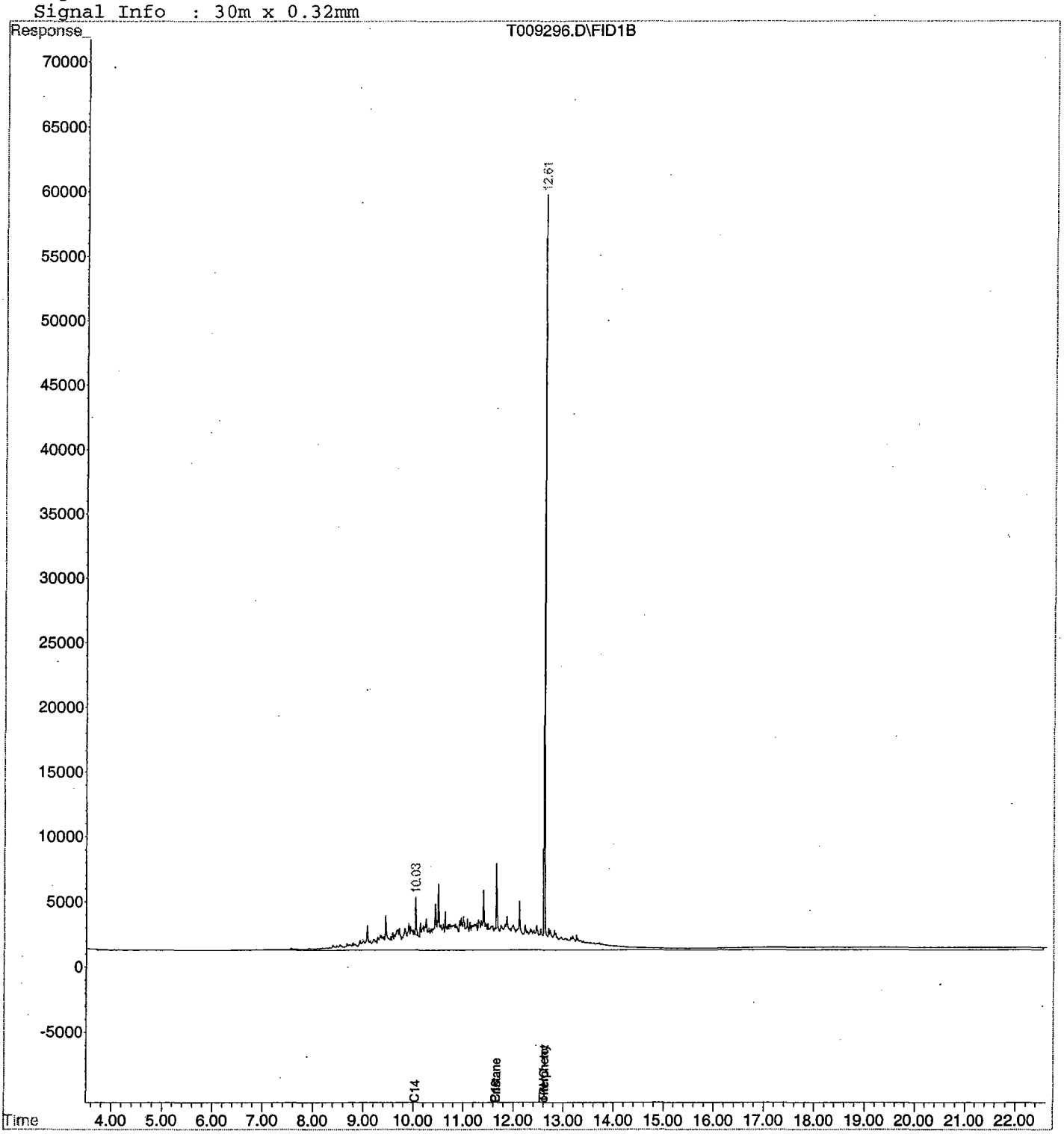
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009296.D
Acq On : 18 Dec 1999 12:09 am
Sample : 5017.03s
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 20 8:23 1999 Quant Results File: TPH69.RES

Vial: 16
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.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\991217\T009297.D Vial: 17
Acq On : 18 Dec 1999 12:42 am Operator: Bhaskar
Sample : 5017.04s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 20 8:24 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH68.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	12.61	278190	9.090 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery = 90.90%#		
Target Compounds			
22) tC TPHC - total	12.60	1978885	66.970 mg/L m

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

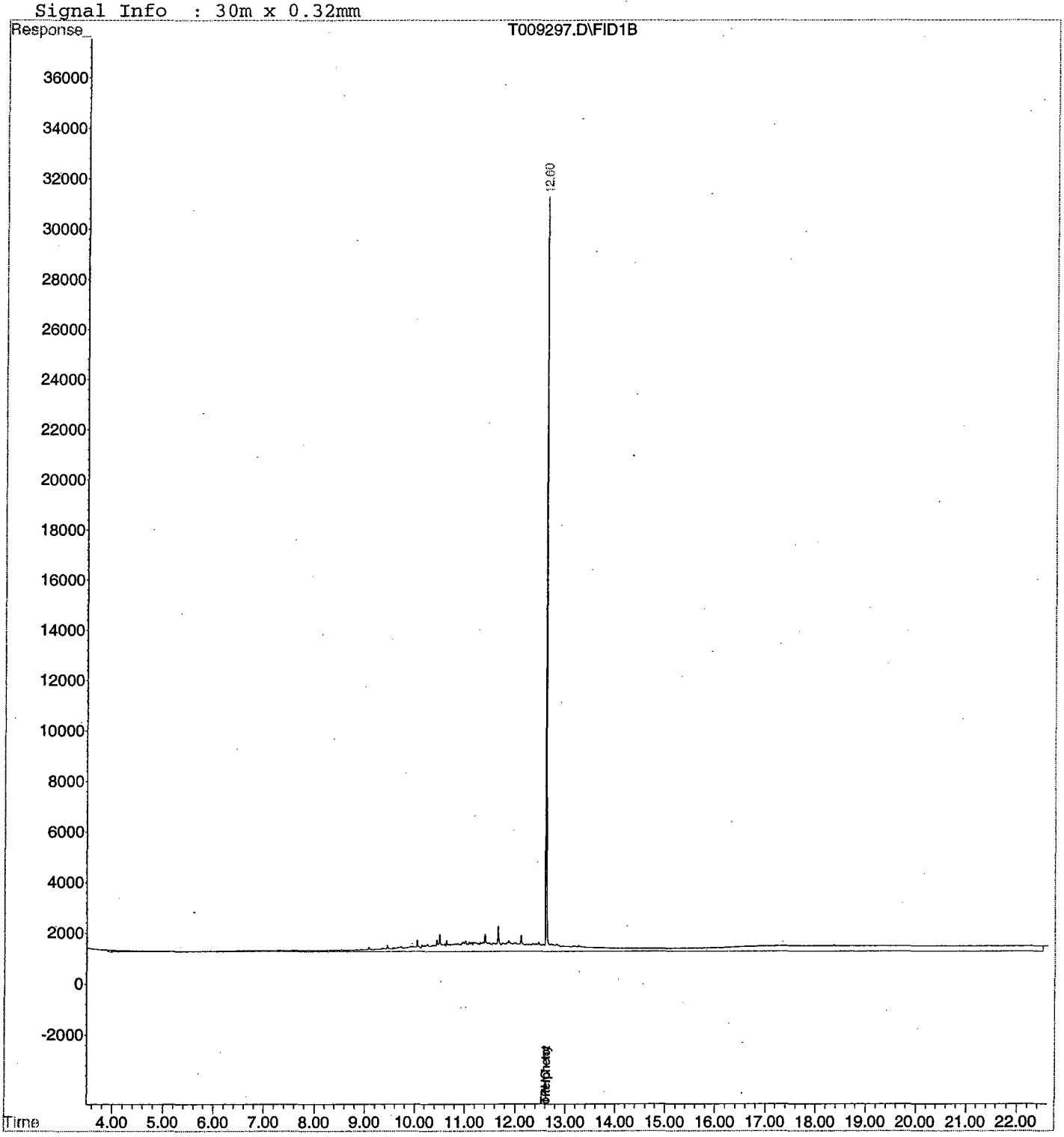
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991217\T009297.D
Acq On : 18 Dec 1999 12:42 am
Sample : 5017.04s
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 20 8:24 1999 Quant Results File: TPH69.RES

Vial: 17
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH68.M

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



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

Date 12/22/99

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

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# 100004

Bldg. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
2235-PX8 South Wall 7.5-8'	5035.01	Soil	20-Dec-99 11:10	12/20/99
2235-PX9 South Wall 7.5-8'	5035.02	Soil	20-Dec-99 13:30	12/20/99
2235-PX10 Duplicate	5035.03	Soil	20-Dec-99 11:10	12/20/99
Trip Blank	5035.04	Soil	20-Dec-99	12/20/99

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

01/03/00
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 orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

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

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

TPHC CONFORMANCE/NON – CONFORMANCE SUMMARY REPORT

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

Additional comments: _____

Laboratory Manager: _____ Date: 01/03/00

000002

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

Project No: 100004
Location: BLDG. 2235
UST# 81515-5

Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS	VOA+10	VOA ID #	PID Reading	Comments: * = Samples Kept <4°C / Remarks / Preservation Method
5035.01	2235-PX8, SOUTH WALL, 7.5-8 FT	12-20-99	1110	SOIL	2	X	X	X	161	3.0	ICE
02	2235-PX9, SOUTH WALL, 7.5-8 FT		1330		3	X	X	X	164	3.0	
03	2235-PX10, DUPLICATE		1110		2	X	X	X	162	3.0	
04	TRIP BLANK		—	AQ.	1			X	163	—	

OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 247 ppm. 1000 12-20-99 FA (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	
Frank Accorsi	12-20-99 1455				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	

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

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

000003

print legibly

USTcoc.xls11/5/99

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

Client :	U.S. Army	**Lab. ID # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
5035.01	2235-PX8	**1.00**	15.46	83.81	181	**ND**
5035.02	2235-PX9	**1.00**	15.23	84.15	183	**ND**
5035.03	2235-PX10	**1.00**	15.03	84.16	186	**ND**
METHOD BLANK	TBLK294	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999

Calibration Files
100 =T009278.D 50 =T009279.D 20 =T009282.D
10 =T009286.D 5 =T009284.D

	Compound	100	50	20	10	5	Avg		%RSD
1)	tC C8	2.541	2.605	2.535	2.534	2.432	2.529	E4	2.45
2)	tC C10	2.715	2.791	2.745	2.764	2.471	2.697	E4	4.81
3)	TC C12	2.643	2.733	2.680	2.739	2.527	2.664	E4	3.25
4)	tC C14	2.525	2.608	2.503	2.542	2.419	2.519	E4	2.71
5)	tC C16	2.473	2.575	2.474	2.586	2.482	2.518	E4	2.26
6)	tC C18	2.417	2.611	2.582	2.578	2.390	2.516	E4	4.11
7)	tC C20	2.483	2.588	2.469	2.510	2.303	2.471	E4	4.22
8)	tC C22	2.544	2.658	2.554	2.680	2.575	2.602	E4	2.40
9)	tC C24	2.535	2.638	2.520	2.646	2.598	2.588	E4	2.24
10)	tC C26	2.487	2.586	2.441	2.591	2.525	2.526	E4	2.54
11)	tC C28	2.448	2.540	2.400	2.498	2.407	2.458	E4	2.43
12)	tC C30	2.525	2.583	2.423	2.530	2.417	2.496	E4	2.91
13)	tC C32	2.427	2.453	2.259	2.326	2.183	2.330	E4	4.86
14)	tC C34	2.296	2.399	2.186	2.275	2.148	2.261	E4	4.35
15)	tC C36	1.781	1.849	1.687	1.697	1.622	1.727	E4	5.11
16)	tC C38	1.373	1.438	1.290	1.290	1.228	1.324	E4	6.18
17)	tC C40	8.173	8.723	7.668	7.664	7.106	7.867	E3	7.75
18)	tC c42	5.628	6.099	5.617	5.250	5.583	5.635	E3	5.37
19)	TC Pristane	2.622	2.729	2.650	2.813	2.720	2.707	E4	2.77
20)	TC Phytane	2.569	2.578	2.700	2.630	2.566	2.609	E4	2.20
21)	sC o-terphenyl	2.947	3.070	2.998	3.174	3.113	3.060	E4	2.94
22)	tC TPHC - total	2.535	2.699	2.823	3.093	3.624	2.955	E4	14.42

#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991221\T009345.D Vial: 99
Acq On : 21 Dec 1999 3:22 pm Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 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	25.294	25.546 E3	-1.0	98	0.00
2	tC C10	26.973	27.640 E3	-2.5	99	0.00
3	TC C12	26.643	27.542 E3	-3.4	101	0.00
4	tC C14	25.192	26.555 E3	-5.4	102	0.00
5	tC C16	25.180	25.644 E3	-1.8	100	0.00
6	tC C18	25.155	26.927 E3	-7.0	103	0.00
7	tC C20	24.706	25.195 E3	-2.0	97	0.00
8	tC C22	26.023	25.615 E3	1.6	96	0.00
9	tC C24	25.875	25.115 E3	2.9	95	0.00
10	tC C26	25.261	24.428 E3	3.3	94	0.00
11	tC C28	24.585	23.743 E3	3.4	93	0.00
12	tC C30	24.957	24.356 E3	2.4	94	0.00
13	tC C32	23.299	22.593 E3	3.0	92	0.00
14	tC C34	22.607	21.521 E3	4.8	90	0.00
15	tC C36	17.272	16.000 E3	7.4	87	0.00
16	tC C38	13.237	11.993 E3	9.4	83	0.00
17	tC C40	7.867	6.834 E3	13.1	78	0.00
18	tC c42	5.635	4.670 E3	17.1	77	0.00
19	TC Pristane	27.067	26.946 E3	0.4	99	0.00
20	TC Phytane	26.089	25.084 E3	3.9	97	0.00
21	sC o-terphenyl	30.604	30.397 E3	0.7	99	0.00
22	tC TPHC - total	29.549	28.725 E3	2.8	106	0.00

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

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\991221\T009356.D Vial: 11
Acq On : 21 Dec 1999 9:30 pm Operator: Bhaskar
Sample : Tstd050 Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 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	25.294	26.047 E3	-3.0	100	0.00
2	tC	C10	26.973	28.641 E3	-6.2	103	0.00
3	TC	C12	26.643	28.626 E3	-7.4	105	0.00
4	tC	C14	25.192	27.628 E3	-9.7	106	0.00
5	tC	C16	25.180	26.950 E3	-7.0	105	0.00
6	tC	C18	25.155	26.728 E3	-6.3	102	0.00
7	tC	C20	24.706	27.077 E3	-9.6	105	0.00
8	tC	C22	26.023	27.407 E3	-5.3	103	0.00
9	tC	C24	25.875	27.190 E3	-5.1	103	0.00
10	tC	C26	25.261	26.475 E3	-4.8	102	0.00
11	tC	C28	24.585	25.989 E3	-5.7	102	0.00
12	tC	C30	24.957	26.368 E3	-5.7	102	0.00
13	tC	C32	23.299	24.824 E3	-6.5	101	0.00
14	tC	C34	22.607	23.659 E3	-4.7	99	0.00
15	tC	C36	17.272	17.922 E3	-3.8	97	0.00
16	tC	C38	13.237	13.512 E3	-2.1	94	0.00
17	tC	C40	7.867	7.907 E3	-0.5	91	0.00
18	tC	c42	5.635	5.664 E3	-0.5	93	0.00
19	TC	Pristane	27.067	28.175 E3	-4.1	103	0.00
20	TC	Phytane	26.089	27.025 E3	-3.6	105	0.00
21	sC	o-terphenyl	30.604	32.050 E3	-4.7	104	0.00
22	tC	TPHC - total	29.549	27.771 E3	6.0	103	0.00

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

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

Client :	U.S. Army	**Lab. ID # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
		UST Reg. #:	81515-5
Analysis:	OQA-QAM-025	**Closure #:**	
Matrix:	Soil	**DICAR #:**	
Analyst:	B.Patel	**Injection Volume**	1 ul
Inst. ID.	GC TPHC INST. #1	**Column ID**	0.32 mm
Column Type	RTX 5	**Location #:**	Bldg.2235
Ext. Meth:	Shake		

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
5035.01			10.00	9.56	**95.59**
5035.02			10.00	8.67	**86.70**
5035.03			10.00	9.13	**91.30**
METHOD BLANK	TBLK294		10.00	8.79	**87.89**

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 # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
5032.03MS	1000	72.05	989.30	91.73	75-125
5032.03MSD	1000	72.05	923.82	85.18	75-125

RPD	**7.40**	**20.00**

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

Client :	U.S. Army	**Lab. ID # :**	5035
	DPW. SELFM-PW-EV	**Date Rec'd:**	20-Dec-99
	Bldg. 173	**Analysis Start:**	21-Dec-99
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	21-Dec-99
Analysis:	OQA-QAM-025	**UST Reg. #:**	81515-5
Matrix:	Soil	**Closure #:**	
Analyst:	B.Patel	**DICAR #:**	
Inst. ID.	GC TPHC INST. #1	**Injection Volume**	1 ul
Column Type	RTX 5	**Column ID**	0.32 mm
Ext. Meth:	Shake	**Location #:**	Bldg.2235

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	21-Dec-99	1000	892.32	89.23	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\991221\T009347.D Vial: 2
Acq On : 21 Dec 1999 4:29 pm Operator: Bhaskar
Sample : Tblk294 Inst : GC/MS Ins
Misc : Tblk294 S 991221 Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:30 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	268978	8.789 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery =	87.89%#	
Target Compounds			
22) tC TPHC - total	12.61	268978	9.103 mg/L

000011

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

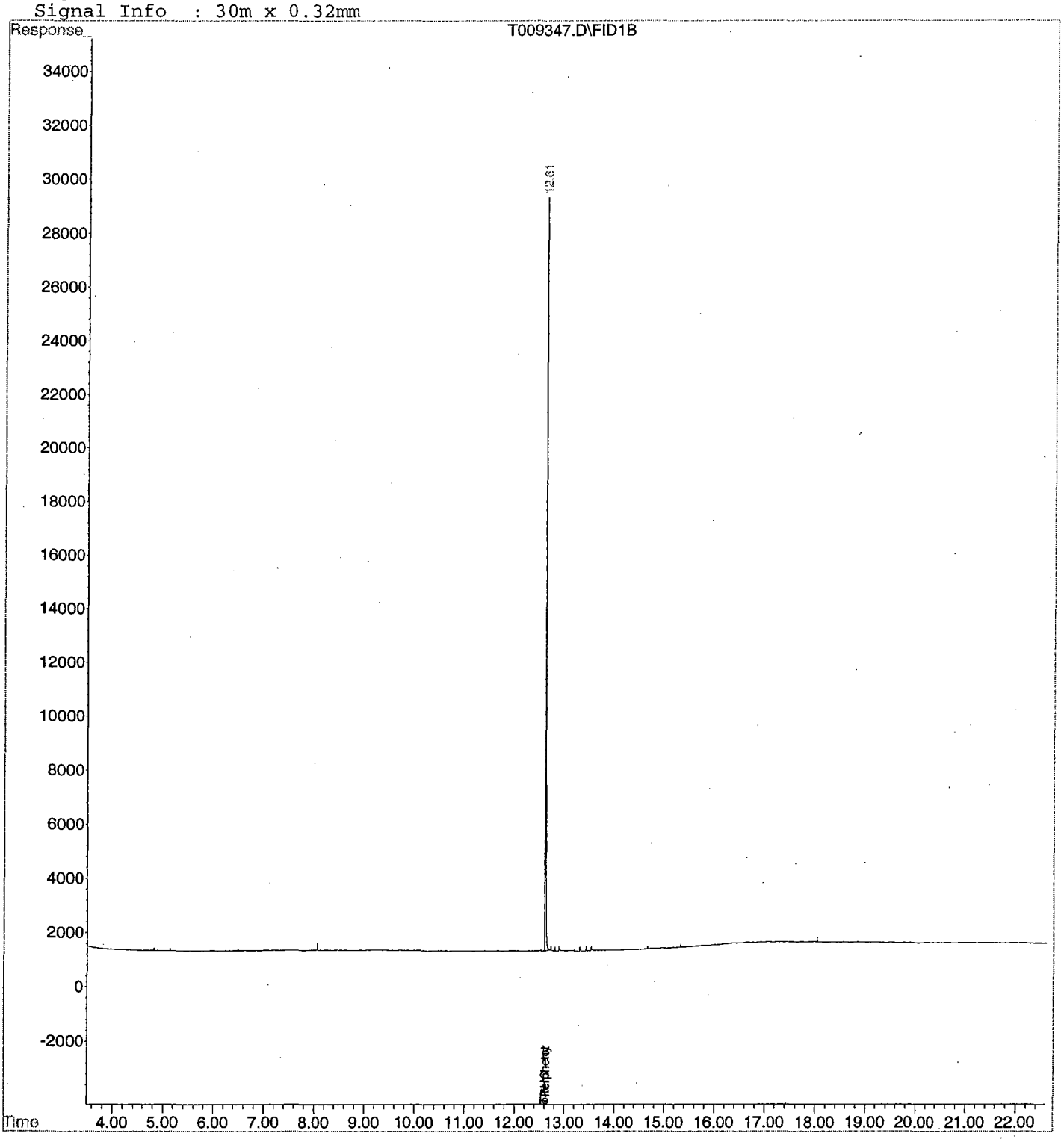
Quantitation Report

Data File : C:\HPCHEM\1\[illegible]A\991221\T009347.D
Acq On : 21 Dec 1999 4:29 pm
Sample : Tblk294
Misc : Tblk294 S 991221
IntFile : TPHCINT.E
Quant Time: Dec 22 7:30 1999 Quant Results File: TPH69.RES

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

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.M

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



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\[illegible]A\991221\T009349.D [illegible]l: 4
Acq On : 21 Dec 1999 5:36 pm Operator: Bhaskar
Sample : 5035.01s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	292554	9.559 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	95.59%#
Target Compounds			
22) tC TPHC - total	12.61	1360920	46.056 mg/L m

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

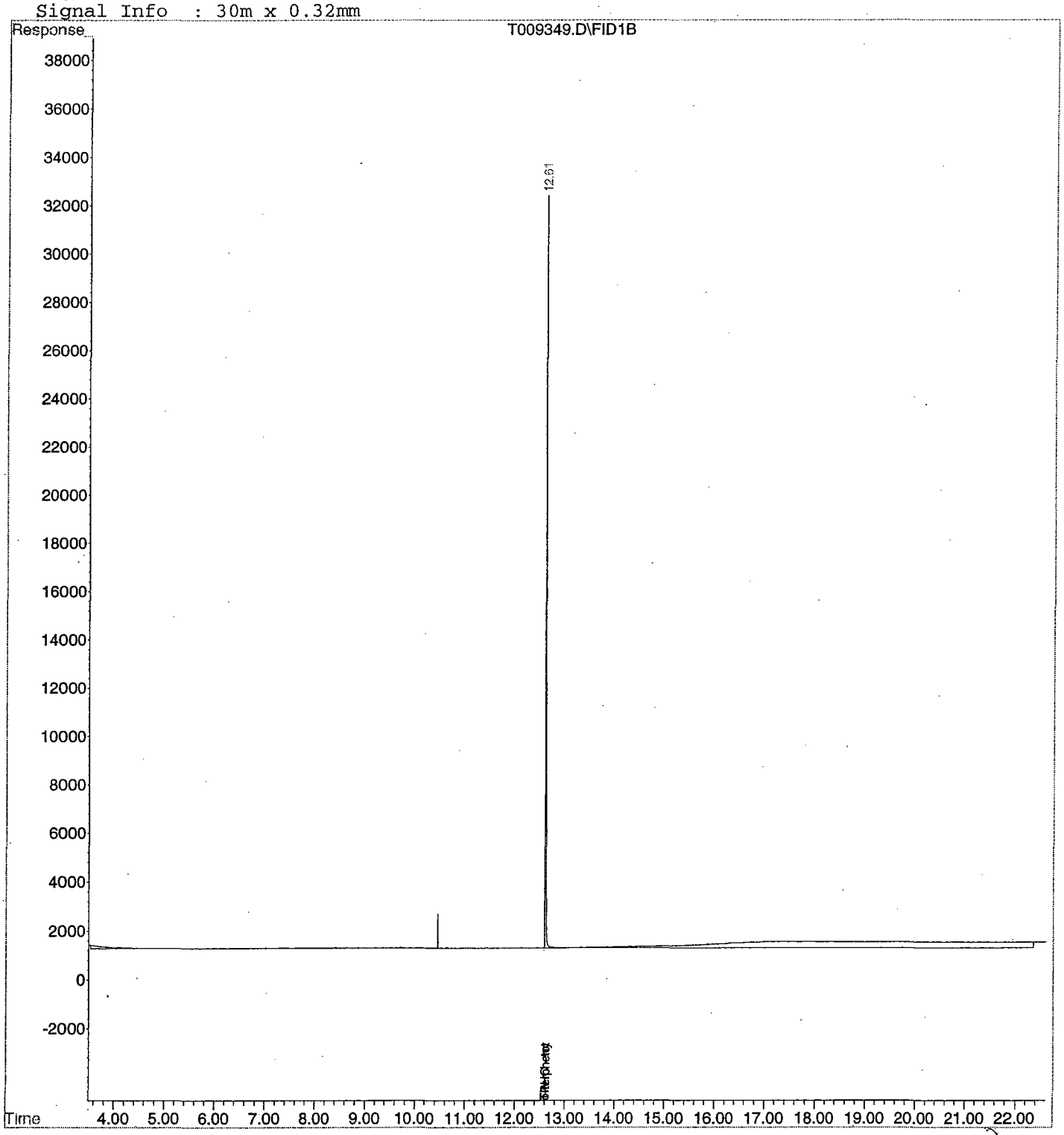
Quantitation Report

Data File : C:\HPCHEM\1\DATA\991221\T009349.D
Acq On : 21 Dec 1999 5:36 pm
Sample : 5035.01s
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

Vial: 4
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.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\991221\T009350.D Vial: 5
Acq On : 21 Dec 1999 6:09 pm Operator: Bhaskar
Sample : 5035.02s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	265343	8.670 mg/L
Spiked Amount 10.000 Range 8 - 13	Recovery =	86.70%#	
Target Compounds			
22) tC TPHC - total	12.61	1304714	44.154 mg/L m

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

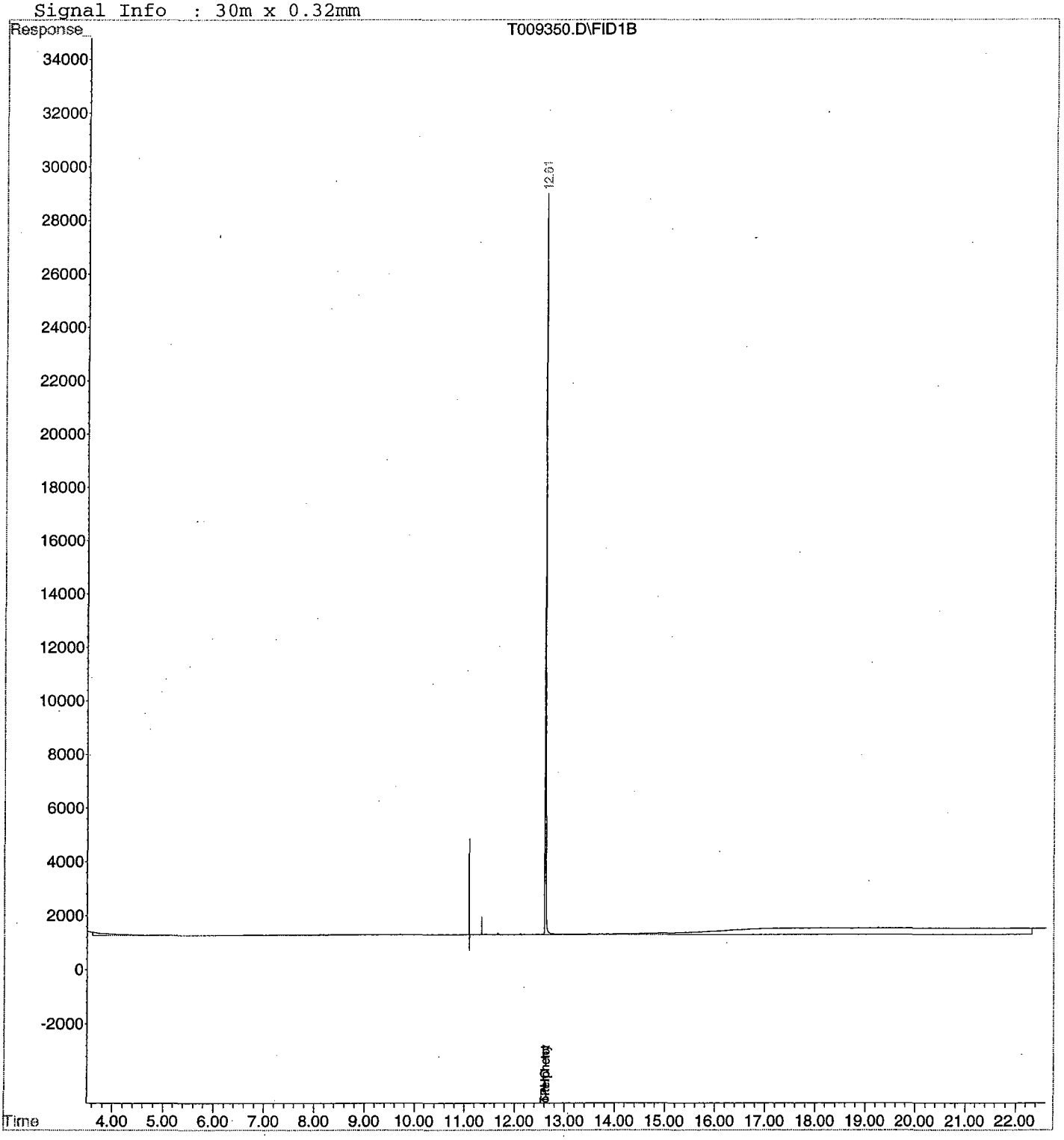
Quantitation Report

Data File : C:\HPCHEM\1\[illegible]A\991221\T009350.D
Acq On : 21 Dec 1999 6:09 pm
Sample : 5035.02s
Misc :
IntFile : TPHCINT.E
Quant Time: Dec 22 7:31 1999 Quant Results File: TPH69.RES

[illegible]l: 5
Operator: Bhaskar
Inst : GC/MS Ins
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.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\991221\T009351.D Vial: 6
Acq On : 21 Dec 1999 6:43 pm Operator: Bhaskar
Sample : 5035.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:32 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Initial Calibration
DataAcq Meth : TPH69.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	12.61	279425	9.130 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	91.30%#
Target Compounds			
22) tC TPHC - total	12.61	1325875	44.870 mg/L m

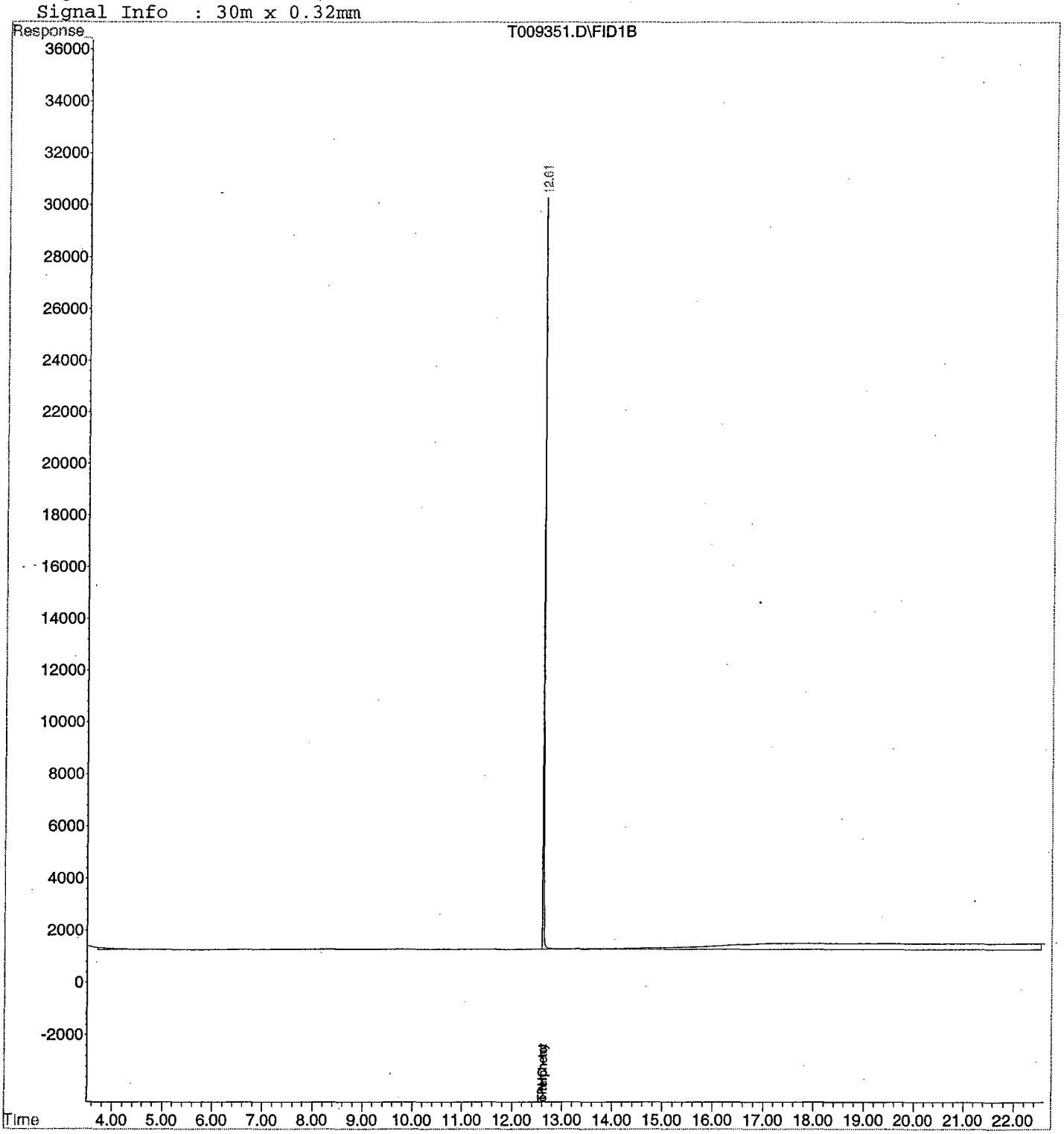
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\[illegible]TA\991221\T009351.D [illegible]l: 6
Acq On : 21 Dec 1999 6:43 pm Operator: Bhaskar
Sample : 5035.03s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 22 7:32 1999 Quant Results File: TPH69.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH69.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Dec 20 08:08:49 1999
Response via : Multiple Level Calibration
DataAcq Meth : TPH69.M

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



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. 2235

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
T. B.	16185.01	Aqueous	12-Jun-01	06/12/01
F. B.	16185.02	Aqueous	12-Jun-01 13:30	06/12/01
2235 7.6'	16185.03	Aqueous	12-Jun-01 14:10	06/12/01

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

7-5-01
Daniel Wright/Date
Laboratory Director

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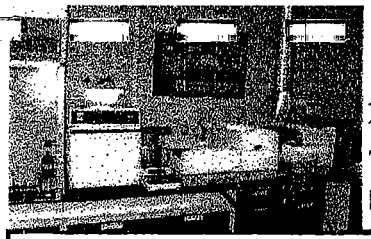
CHAIN OF CUSTODY



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. DESAI - VERSAR
Phone #: x21475
( )DERA ( )OMA ( )Other:_____

Project No: 01-0001
Location: BLDG. 2235 #19

Samplers Name / Company: MARK LAURA - TVS-PWS07

Lims Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA + 15	Analysis Parameters: BN + 15	Comments: Remarks / Preservation Method
11685. 1	T.B.	6-12-01	—	AQ.	2	X		HCL
2	F.B.		1330	"	3	X	X	HCL, <4°C
3	2235 7.6'		1410	"	3	X	X	" , "

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	6-12-01 1420	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

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

Remarks:

200002

print legibly

Coc.xls2/6/01

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

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: 7-5-01

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16185

Site: Bldg. 2235

	Date	Hold Time
Date Sampled	06/12/01	NA
Receipt/Refrigeration	06/12/01	NA
Extractions		
1. BN	06/15/01	7 days
Analyses		
1. Volatile Organics	06/26/01	14 days
2. BN	06/26/01	40 days

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

Data File	**VC006308.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**26-Jun-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

6/28/01 10:11 AM

D:\HPCHEM\Custrpt\Volatile\624fy00.crt

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 1941**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006308.D

Level: (low/med) LOW Date Received: 6/12/01

% Moisture: not dec. Date Analyzed: 6/26/01

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **FB**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1618502

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006317.D

Level: (low/med) LOW Date Received: 6/12/01

% Moisture: not dec. _____ Date Analyzed: 6/26/01

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	**VC006318.D**	Sample Name	**1618503**
Operator	**Skelton**	Field ID	**2235**
Date Aquired	**26-Jun-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

6/28/01 10:11 AM

D:\HPCHEM\Custrpt\Volatile\624fy00.crt

000017

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **2235**

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1618503

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006318.D

Level: (low/med) LOW Date Received: 6/12/01

% Moisture: not dec. _____ Date Analyzed: 6/26/01

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: 010001 Case No.: 16185 Location: 2235 SDG No.:

Lab File ID: VC006272.D BFB Injection Date: 6/25/01

Instrument ID: VoaInst#3 BFB Injection Time: 8:34

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

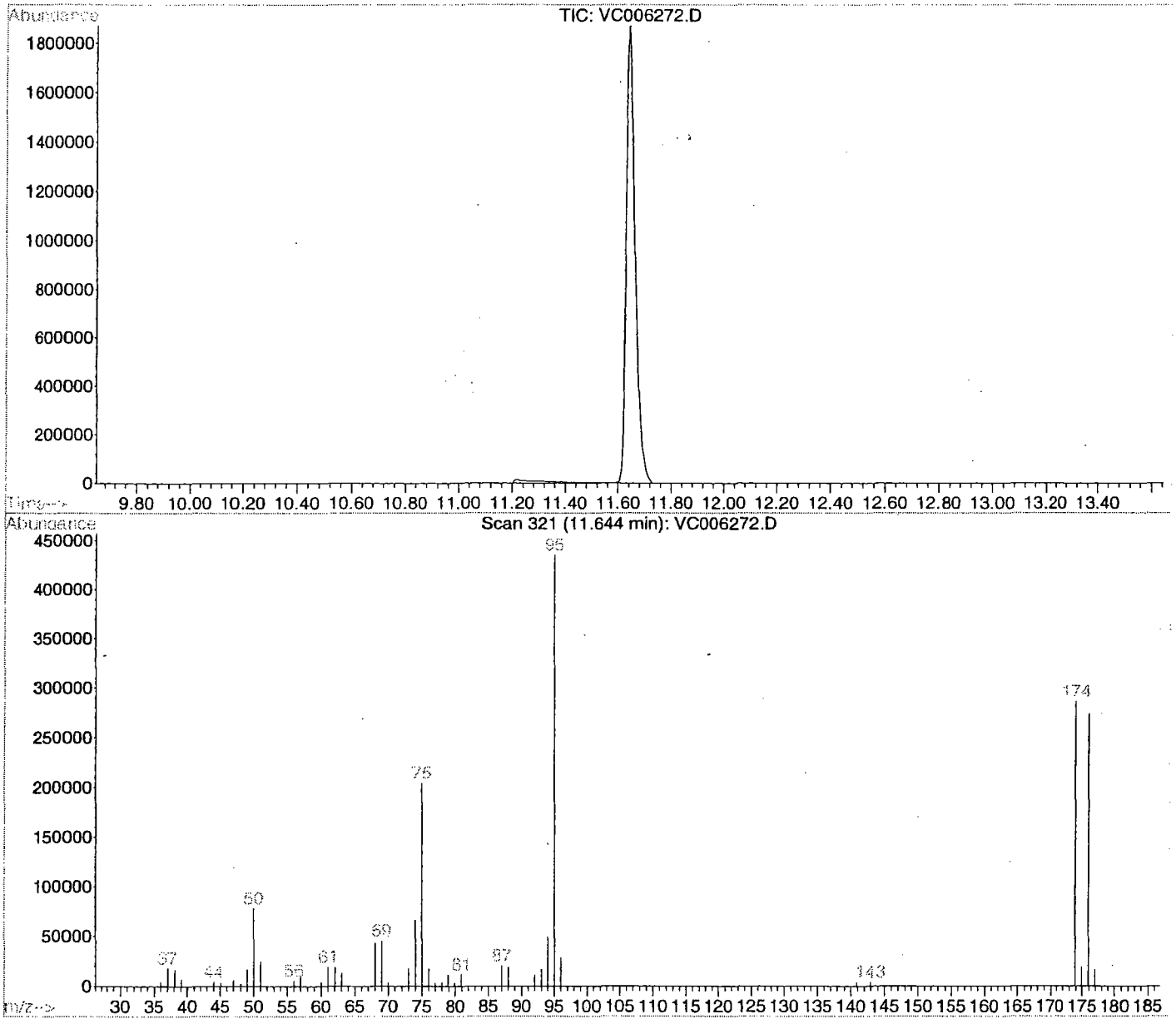
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.0
75	30.0 - 66.0% of mass 95	47.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	65.7
175	4.0 - 9.0% of mass 174	4.5 (6.8)1
176	93.0 - 101.0% of mass 174	62.8 (95.5)1
177	5.0 - 9.0% of mass 176	3.8 (6.0)2

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

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

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD020	VC006273.D	6/25/01	9:04
02	VSTD010	VSTD010	VC006274.D	6/25/01	9:58
03	VSTD005	VSTD005	VC006275.D	6/25/01	10:39
04	VSTD100	VSTD100	VC006276.D	6/25/01	11:35
05	VSTD050	VSTD050	VC006277.D	6/25/01	12:16

Data File : D:\HPCHEM\1\DATA\010625\VC006272.D Vial: 35
Acq On : 25 Jun 2001 8:34 am 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\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 321

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	78280	PASS
75	95	30	60	47.0	204544	PASS
95	95	100	100	100.0	435456	PASS
96	95	5	9	6.5	28272	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	65.7	286208	PASS
175	174	5	9	6.8	19560	PASS
176	174	95	101	95.5	273408	PASS
177	176	5	9	6.0	16432	PASS

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 2001
Response via : Initial Calibration

Calibration Files
50 =VC006277.D 5 =VC006275.D 10 =VC006274.D
20 =VC006273.D 100 =VC006276.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	ISTD						
2)	t	Acrolein	0.548	0.472	0.594	0.474	0.549	0.527	10.03
3)	t	Acrylonitrile	1.302	1.472	1.604	1.268	1.180	1.365	12.51
4)	t	tert-Butyl alcohol	0.169	0.164	0.178	0.168	0.176	0.171	3.40
5)	t	Methyl-tert-Butyl eth	6.099	5.206	6.051	4.825	5.942	5.625	10.22
6)	t	Di-isopropyl ether	1.856	1.338	1.691	1.383	1.818	1.617	15.00
7)	T	Dichlorodifluorometha	2.605	2.808	3.127	2.167	2.353	2.612	14.44
8)	TP	Chloromethane	2.642	2.886	3.069	2.349	2.369	2.663	11.88
9)	TC	Vinyl Chloride	2.471	3.249	3.520	2.242	2.346	2.766	20.93
10)	T	Bromomethane	1.352	1.599	1.677	0.962	1.168	1.352	21.96
11)	T	Chloroethane	1.719	1.695	1.930	1.505	1.635	1.697	9.12
12)	T	Trichlorofluoromethan	2.834	2.910	3.152	2.431	2.693	2.804	9.51
13)	MC	1,1-Dichloroethene	3.300	3.017	3.483	2.724	3.228	3.151	9.24
14)	T	Acetone	0.809	1.259	1.073	1.032	0.786	0.992	19.85
15)	T	Carbon Disulfide	6.865	6.757	7.503	5.746	6.608	6.696	9.43
16)	T	Methylene Chloride	2.328	2.472	2.623	1.988	2.237	2.330	10.33
17)	T	trans-1,2-Dichloroeth	3.279	3.137	3.469	2.696	3.183	3.153	9.06
18)	TP	1,1-Dichloroethane	4.159	4.145	4.536	3.456	4.021	4.063	9.61
19)	T	Vinyl Acetate	4.260	3.956	5.013	3.661	4.291	4.236	11.90
20)	T	2-Butanone	1.096	0.988	1.139	1.002	1.112	1.067	6.39
21)	T	cis-1,2-Dichloroethen	3.205	2.789	3.255	2.577	3.122	2.990	9.82
22)	TC	Chloroform	3.807	3.979	4.282	3.217	3.664	3.790	10.41
23)	T	1,1,1-Trichloroethane	2.978	2.876	3.158	2.414	2.899	2.865	9.61
24)	T	Carbon Tetrachloride	2.476	2.371	2.714	2.035	2.470	2.413	10.20
25)	S	1,2-Dichloroethane-d4	2.656	2.665	2.654	2.659	2.677	2.662	0.35
26)	I	1,4-Difluorobenzene	ISTD						
27)	TM	Benzene	1.419	1.443	1.616	1.218	1.287	1.397	11.01
28)	T	1,2-Dichloroethane	0.463	0.503	0.532	0.397	0.436	0.466	11.46
29)	TM	Trichloroethene	0.387	0.338	0.375	0.308	0.374	0.357	9.18
30)	TC	1,2-Dichloropropane	0.375	0.359	0.399	0.306	0.363	0.360	9.52
31)	T	Bromodichloromethane	0.396	0.388	0.429	0.323	0.384	0.384	9.97
32)	T	2-Chloroethyl vinyl e	0.132	0.131	0.146	0.110	0.126	0.129	9.94
33)	T	cis-1,3-Dichloroprope	0.522	0.414	0.500	0.395	0.515	0.469	12.78
34)	T	4-Methyl-2-Pentanone	0.141	0.110	0.142	0.122	0.142	0.131	11.33
35)	S	Toluene-d8	1.264	1.233	1.235	1.253	1.277	1.252	1.52
36)	TCM	Toluene	1.407	1.434	1.588	1.211	1.250	1.378	11.02
37)	I	Chlorobenzene-d5	ISTD						
38)	T	trans-1,3-Dichloropro	1.616	1.299	1.553	1.227	1.581	1.455	12.29
39)	T	1,1,2-Trichloroethane	1.024	1.093	1.176	0.891	0.972	1.031	10.61
40)	T	Tetrachloroethene	0.982	0.977	1.077	0.821	0.937	0.959	9.67
41)	T	2-Hexanone	0.716	0.562	0.736	0.633	0.725	0.674	11.09
42)	T	Dibromochloromethane	0.866	0.806	0.918	0.693	0.864	0.829	10.37
43)	TMP	Chlorobenzene	2.994	3.221	3.423	2.568	2.750	2.991	11.54
44)	TC	Ethylbenzene	5.240	5.220	5.910	4.474	4.465	5.062	12.01
45)	T	m+p-Xylenes	1.992	1.804	2.245	1.686	1.848	1.915	11.20
46)	T	o-Xylene	3.906	2.851	3.974	3.143	3.625	3.500	13.95
47)	T	Styrene	3.385	2.620	3.604	2.769	3.208	3.117	13.27
48)	TP	Bromoform	0.534	0.514	0.564	0.433	0.555	0.520	10.08
49)	S	Bromofluorobenzene	1.652	1.441	1.549	1.600	1.732	1.595	6.86
50)	TP	1,1,2,2-Tetrachloroet	0.832	1.311	1.399	0.880	0.793	1.043	27.63
51)	T	1,3-Dichlorobenzene	1.868	1.163	1.868	1.476	1.864	1.648	19.39
52)	T	1,4-Dichlorobenzene	1.787	1.091	1.808	1.408	1.782	1.575	20.19
53)	T	1,2-Dichlorobenzene	1.723	1.151	1.815	1.331	1.711	1.546	18.66

(#) = Out of Range

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16185 Location: 2235 SDG No.:

Lab File ID: VC006306.D BFB Injection Date: 6/26/01

Instrument ID: VoaInst#3 BFB Injection Time: 7:54

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

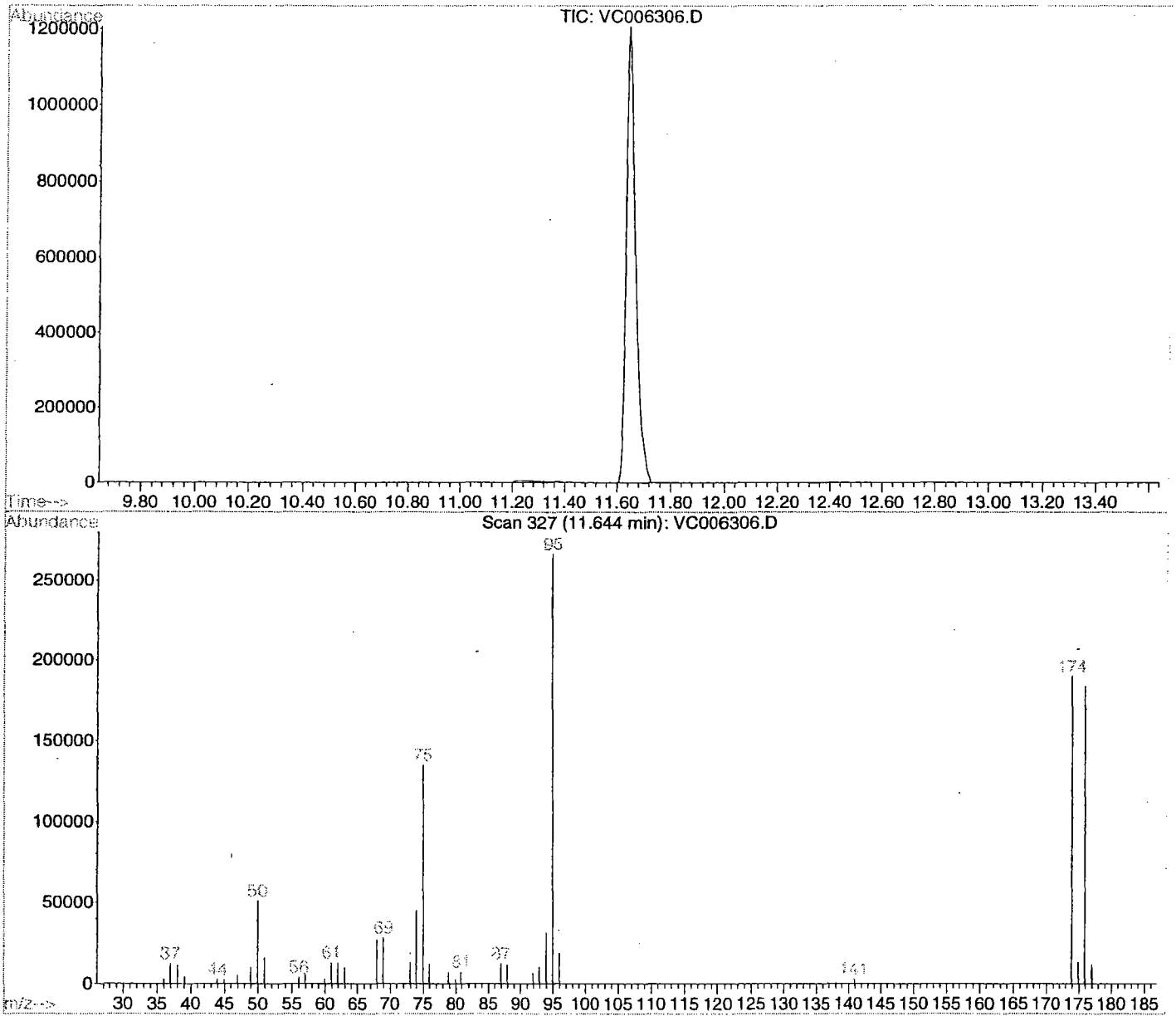
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.1
75	30.0 - 66.0% of mass 95	50.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	71.3
175	4.0 - 9.0% of mass 174	5.0 (7.1)1
176	93.0 - 101.0% of mass 174	69.0 (96.8)1
177	5.0 - 9.0% of mass 176	4.4 (6.4)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	VC006307.D	6/26/01	8:49
02	MB 1941	MB	VC006308.D	6/26/01	9:41
03	TB	1618501	VC006316.D	6/26/01	17:02
04	FB	1618502	VC006317.D	6/26/01	17:43
05	2235	1618503	VC006318.D	6/26/01	18:23
06	TB	1618701	VC006319.D	6/26/01	19:04
07	FB	1618702	VC006320.D	6/26/01	19:44
08	1102	1618709	VC006321.D	6/26/01	20:24
09	1942 MS	1618906 MS	VC006328.D	6/27/01	1:08
10	1943 MSD	1618906 MSD	VC006329.D	6/27/01	1:48

Data File : D:\HPCHEM\1\DATA\010626\VC006306.D Vial: 28
Acq On : 26 Jun 2001 7:54 am 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\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 327

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	51080	PASS
75	95	30	60	50.7	135232	PASS
95	95	100	100	100.0	266752	PASS
96	95	5	9	7.0	18744	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	71.3	190272	PASS
175	174	5	9	7.1	13416	PASS
176	174	95	101	96.8	184192	PASS
177	176	5	9	6.4	11778	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\010626\VC006307.D Vial: 28
Acq On : 26 Jun 2001 8:49 am Operator: Skelton
Sample : Vstd020 Inst : GC/MS Ins
Misc : Vstd020 Multiplr: 1.00
MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Jun 26 09:28:34 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	95	0.00
2	t	Acrolein	0.527	0.437	17.1	87	0.00
3	t	Acrylonitrile	1.365	1.114	18.4	83	0.00
4	t	tert-Butyl alcohol	0.171	0.100	41.5#	56	0.00
5	t	Methyl-tert-Butyl ether	5.625	4.561	18.9	89	0.00
6	t	Di-isopropyl ether	1.617	1.370	15.3	94	0.00
7	T	Dichlorodifluoromethane	2.612	2.124	18.7	93	0.00
8	TP	Chloromethane	2.663	2.289	14.0	92	0.00
9	TC	Vinyl Chloride	2.766	2.689	2.8	114	0.00
10	T	Bromomethane	1.352	1.272	5.9	125	0.00
11	T	Chloroethane	1.697	1.457	14.1	92	0.00
12	T	Trichlorofluoromethane	2.804	2.377	15.2	93	0.00
13	MC	1,1-Dichloroethene	3.151	2.708	14.1	94	0.00
14	T	Acetone	0.992	0.681	31.4#	62	0.00
15	T	Carbon Disulfide	6.696	5.990	10.5	99	0.00
16	T	Methylene Chloride	2.330	1.987	14.7	95	0.00
17	T	trans-1,2-Dichloroethene	3.153	2.744	13.0	96	0.00
18	TP	1,1-Dichloroethane	4.063	3.505	13.7	96	0.00
19	T	Vinyl Acetate	4.236	3.947	6.8	102	0.00
20	T	2-Butanone	1.067	0.763	28.5#	72	0.00
21	T	cis-1,2-Dichloroethene	2.990	2.591	13.3	95	0.00
22	TC	Chloroform	3.790	3.260	14.0	96	0.00
23	T	1,1,1-Trichloroethane	2.865	2.429	15.2	95	0.00
24	T	Carbon Tetrachloride	2.413	2.102	12.9	98	0.00
25	S	1,2-Dichloroethane-d4	2.662	2.687	-0.9	96	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	94	0.00
27	TM	Benzene	1.397	1.226	12.2	95	0.00
28	T	1,2-Dichloroethane	0.466	0.400	14.2	95	0.00
29	TM	Trichloroethene	0.357	0.284	20.4	87	0.00
30	TC	1,2-Dichloropropane	0.360	0.308	14.4	95	0.00
31	T	Bromodichloromethane	0.384	0.334	13.0	98	0.00
32	T	2-Chloroethyl vinyl ether	0.129	0.112	13.2	96	0.00
33	T	cis-1,3-Dichloropropene	0.469	0.402	14.3	96	0.00
34	T	4-Methyl-2-Pentanone	0.131	0.097	26.0#	76	0.00
35	S	Toluene-d8	1.252	1.243	0.7	94	0.00
36	TCM	Toluene	1.378	1.207	12.4	94	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	92	0.00
38	T	trans-1,3-Dichloropropene	1.455	1.258	13.5	94	0.00
39	T	1,1,2-Trichloroethane	1.031	0.877	14.9	90	0.00
40	T	Tetrachloroethene	0.959	0.828	13.7	93	0.00
41	T	2-Hexanone	0.674	0.485	28.0#	70	0.00
42	T	Dibromochloromethane	0.829	0.717	13.5	95	0.00
43	TMP	Chlorobenzene	2.991	2.593	13.3	93	0.00
44	TC	Ethylbenzene	5.062	4.537	10.4	93	0.00
45	T	m+p-Xylenes	1.915	1.678	12.4	91	0.00
46	T	o-Xylene	3.500	3.048	12.9	89	0.00
47	T	Styrene	3.117	2.709	13.1	90	0.00
48	TP	Bromoform	0.520	0.446	14.2	95	0.00
49	S	Bromofluorobenzene	1.595	1.570	1.6	90	0.00
50	TP	1,1,2,2-Tetrachloroethane	1.043	1.005	3.6	105	0.00
51	T	1,3-Dichlorobenzene	1.648	1.305	20.8	81	0.00
52	T	1,4-Dichlorobenzene	1.575	1.237	21.5	81	0.00
53	T	1,2-Dichlorobenzene	1.546	1.237	20.0	85	0.00

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

4A

FIELD ID:

VOLATILE METHOD BLANK SUMMARY

MB 1941

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16187 Location: 1102 SDG No.:

Lab File ID: VC006308.D Lab Sample ID: MB

Date Analyzed: 6/26/01 Time Analyzed: 9:41

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	TB	1618501	VC006316.D	17:02
02	FB	1618502	VC006317.D	17:43
03	2235	1618503	VC006318.D	18:23
04	TB	1618701	VC006319.D	19:04
05	FB	1618702	VC006320.D	19:44
06	1102	1618709	VC006321.D	20:24
07	1942 MS	1618906 MS	VC006328.D	1:08
08	1943 MSD	1618906 MSD	VC006329.D	1:48

COMMENTS:

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

Project: 010001 Case No.: 16187 Location: 1102 SDG No.: _____

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 1941	101	98	85	0
02	TB	105	98	85	0
03	FB	105	98	86	0
04	2235	105	99	86	0
05	TB	105	98	75	0
06	FB	106	98	78	0
07	1102	105	99	78	0
08	1942 MS	104	99	93	0
09	1943 MSD	102	99	93	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	VC006328.D	Sample Name	1618906 MS
Date Aquired	27-Jun-01	Field ID	1618906 MS

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	200.90 ug/L	100.45
Acrylonitrile	200	201.60 ug/L	100.80
tert-Butyl alcohol	200	147.95 ug/L	73.97
Methyl-tert-Butyl ether	20	18.98 ug/L	94.90
Di-isopropyl ether	20	20.10 ug/L	100.49
Dichlorodifluoromethane	20	18.91 ug/L	94.56
Chloromethane	20	20.27 ug/L	101.37
Vinyl Chloride	20	22.26 ug/L	111.32
Bromomethane	20	22.22 ug/L	111.10
Chloroethane	20	19.74 ug/L	98.68
Trichlorofluoromethane	20	19.93 ug/L	99.67
1,1-Dichloroethene	20	20.74 ug/L	103.72
Acetone	20	17.36 ug/L	86.82
Carbon Disulfide	20	21.26 ug/L	106.32
Methylene Chloride	20	20.38 ug/L	101.91
trans-1,2-Dichloroethene	20	21.08 ug/L	105.42
1,1-Dichloroethane	20	21.08 ug/L	105.38
Vinyl Acetate	20	22.44 ug/L	112.22
2-Butanone	20	18.38 ug/L	91.91
cis-1,2-Dichloroethene	20	21.35 ug/L	106.74
Chloroform	20	21.00 ug/L	104.98
1,1,1-Trichloroethane	20	20.70 ug/L	103.51
Carbon Tetrachloride	20	21.50 ug/L	107.52
Benzene	20	21.02 ug/L	105.12
1,2-Dichloroethane	20	20.85 ug/L	104.24
Trichloroethene	20	19.77 ug/L	98.86
1,2-Dichloropropane	20	20.80 ug/L	103.98
Bromodichloromethane	20	21.06 ug/L	105.32
2-Chloroethyl vinyl ether	20	20.93 ug/L	104.67
cis-1,3-Dichloropropene	20	20.13 ug/L	100.65
4-Methyl-2-Pentanone	20	18.66 ug/L	93.31
Toluene	20	21.02 ug/L	105.10
trans-1,3-Dichloropropene	20	20.72 ug/L	103.58
1,1,2-Trichloroethane	20	20.57 ug/L	102.87
Tetrachloroethene	20	20.84 ug/L	104.18
2-Hexanone	20	17.60 ug/L	88.02
Dibromochloromethane	20	21.06 ug/L	105.28
Chlorobenzene	20	20.78 ug/L	103.91
Ethylbenzene	20	21.40 ug/L	107.00
m+p-Xylenes	40	36.91 ug/L	92.27
o-Xylene	20	17.87 ug/L	89.37
Styrene	20	17.89 ug/L	89.43
Bromoform	20	21.13 ug/L	105.65
1,1,2,2-Tetrachloroethane	20	21.87 ug/L	109.34
1,3-Dichlorobenzene	20	13.59 ug/L	67.93
1,4-Dichlorobenzene	20	13.39 ug/L	66.94
1,2-Dichlorobenzene	20	13.99 ug/L	69.93

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

Data File	**VC006329.D**	Sample Name	**1618906 MSD**
Date Aquired	**27-Jun-01**	Field ID	**1618906 MSD**

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	200.29 ug/L	100.14
Acrylonitrile	200	196.07 ug/L	98.04
tert-Butyl alcohol	200	150.05 ug/L	75.03
Methyl-tert-Butyl ether	20	18.70 ug/L	93.50
Di-isopropyl ether	20	19.78 ug/L	98.90
Dichlorodifluoromethane	20	18.58 ug/L	92.91
Chloromethane	20	20.07 ug/L	100.35
Vinyl Chloride	20	21.72 ug/L	108.61
Bromomethane	20	21.96 ug/L	109.82
Chloroethane	20	19.29 ug/L	96.44
Trichlorofluoromethane	20	19.50 ug/L	97.48
1,1-Dichloroethene	20	20.22 ug/L	101.08
Acetone	20	17.15 ug/L	85.74
Carbon Disulfide	20	20.59 ug/L	102.93
Methylene Chloride	20	19.75 ug/L	98.77
trans-1,2-Dichloroethene	20	20.32 ug/L	101.62
1,1-Dichloroethane	20	20.49 ug/L	102.45
Vinyl Acetate	20	21.98 ug/L	109.90
2-Butanone	20	18.29 ug/L	91.44
cis-1,2-Dichloroethene	20	20.43 ug/L	102.16
Chloroform	20	20.50 ug/L	102.50
1,1,1-Trichloroethane	20	20.13 ug/L	100.63
Carbon Tetrachloride	20	20.77 ug/L	103.84
Benzene	20	20.76 ug/L	103.79
1,2-Dichloroethane	20	20.32 ug/L	101.59
Trichloroethene	20	19.35 ug/L	96.73
1,2-Dichloropropane	20	20.50 ug/L	102.50
Bromodichloromethane	20	20.39 ug/L	101.94
2-Chloroethyl vinyl ether	20	20.62 ug/L	103.09
cis-1,3-Dichloropropene	20	19.81 ug/L	99.05
4-Methyl-2-Pentanone	20	18.38 ug/L	91.89
Toluene	20	20.77 ug/L	103.86
trans-1,3-Dichloropropene	20	20.16 ug/L	100.81
1,1,2-Trichloroethane	20	20.16 ug/L	100.79
Tetrachloroethene	20	20.28 ug/L	101.42
2-Hexanone	20	18.26 ug/L	91.29
Dibromochloromethane	20	20.64 ug/L	103.18
Chlorobenzene	20	20.51 ug/L	102.54
Ethylbenzene	20	21.16 ug/L	105.78
m+p-Xylenes	40	37.52 ug/L	93.80
o-Xylene	20	18.28 ug/L	91.42
Styrene	20	18.03 ug/L	90.17
Bromoform	20	20.59 ug/L	102.97
1,1,2,2-Tetrachloroethane	20	21.56 ug/L	107.81
1,3-Dichlorobenzene	20	14.24 ug/L	71.20
1,4-Dichlorobenzene	20	13.61 ug/L	68.07
1,2-Dichlorobenzene	20	14.46 ug/L	72.29

6/28/01 10:14 AM

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000028

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 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

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: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID: BNA05491.D DFTPP Injection Date: 6/25/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 8:12

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	41.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	45.7
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	54.8
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	27.6
365	Greater than 0.75% of mass 198	4.2
441	Present, but less than mass 443	11.9
442	40.0 - 110.0% of mass 198	84.9
443	15.0 - 24.0% of mass 442	16.7 (19.7)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	BNA05492.D	6/25/01	8:34
02	MB 1900	MB 1900	BNA05515.D	6/26/01	1:44
03	LCS 1901	LCS 1901	BNA05516.D	6/26/01	2:27
04	164	1617601	BNA05517.D	6/26/01	3:11
05	FB	1618502	BNA05518.D	6/26/01	3:54
06	2235	1618503	BNA05519.D	6/26/01	4:38
07	FB	1618702	BNA05520.D	6/26/01	5:21
08	1102	1618709	BNA05521.D	6/26/01	6:05

Evaluate Continuing Calibration Report

Data File : D:\DATA\010625\BNA05492.D
Acq On : 25 Jun 2001 8:34 am
Sample : Sstd050
Misc : Sstd050
MS Integration Params: RTEINT.P

Vial: 100
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
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	52	-0.05
2	T	Pyridine	1.435	1.220	15.0	45#	-0.02
3	T	N-nitroso-dimethylamine	0.750	0.640	14.7	45#	-0.02
4	S	2-Fluorophenol	1.137	1.104	2.9	51	0.04
5	T	Aniline	1.852	1.907	-3.0	53	-0.03
6	S	Phenol-d6	1.434	1.477	-3.0	54	0.04
7	TCM	Phenol	1.658	1.443	13.0	45#	0.04
8	T	bis(2-Chloroethyl)ether	1.201	1.180	1.7	52	-0.04
9	TM	2-Chlorophenol	1.170	1.219	-4.2	54	0.00
10	T	1,3-Dichlorobenzene	1.276	1.395	-9.3	57	-0.05
11	TCM	1,4-Dichlorobenzene	1.304	1.451	-11.3	58	-0.05
12	T	Benzyl alcohol	0.762	0.798	-4.7	54	-0.02
13	T	1,2-Dichlorobenzene	1.194	1.341	-12.3	59	-0.05
14	T	2-Methylphenol	1.077	1.165	-8.2	56	0.02
15	T	bis(2-chloroisopropyl)ether	1.235	1.121	9.2	48#	-0.05
16	T	4-Methylphenol	1.126	1.222	-8.5	56	0.02
17	TPM	n-Nitroso-di-n-propylamine	0.191	0.210	-9.9	56	-0.04
18	T	Hexachloroethane	0.498	0.605	-21.5	63	-0.05
19	I	Naphthalene-d8	1.000	1.000	0.0	59	-0.05
20	S	Nitrobenzene-d5	0.402	0.423	-5.2	62	-0.04
21	T	Nitrobenzene	0.403	0.414	-2.7	61	-0.04
22	T	Isophorone	0.676	0.691	-2.2	61	-0.04
23	TC	2-Nitrophenol	0.184	0.177	3.8	56	-0.04
24	T	2,4-Dimethylphenol	0.339	0.366	-8.0	64	0.00
25	T	bis(2-Chloroethoxy)methane	0.399	0.374	6.3	55	-0.05
26	TC	2,4-Dichlorophenol	0.235	0.238	-1.3	56	0.00
27	T	Benzoic Acid	0.226	0.179	20.8	48#	0.02
28	TM	1,2,4-Trichlorobenzene	0.287	0.309	-7.7	63	-0.05
29	T	Naphthalene	0.942	0.994	-5.5	62	-0.05
30	T	4-Chloroaniline	0.379	0.338	10.8	51	-0.03
31	TC	Hexachlorobutadiene	0.159	0.197	-23.9	73	-0.05
32	TCM	4-Chloro-3-methylphenol	0.289	0.313	-8.3	63	0.02
33	T	2-Methylnaphthalene	0.612	0.664	-8.5	64	-0.05
34	I	Acenaphthene-d10	1.000	1.000	0.0	66	-0.05
35	TP	Hexachlorocyclopentadiene	0.230	0.222	3.5	58	-0.05
36	TC	2,4,6-Trichlorophenol	0.314	0.328	-4.5	68	-0.03
37	T	2,4,5-Trichlorophenol	0.332	0.341	-2.7	65	0.02
38	S	2-Fluorobiphenyl	1.113	1.177	-5.8	69	-0.05
39	T	2-Chloronaphthalene	0.961	0.968	-0.7	66	-0.05
40	T	2-Nitroaniline	0.363	0.333	8.3	59	-0.03
41	T	Dimethylphthalate	1.097	1.171	-6.7	70	-0.05
42	T	Acenaphthylene	1.553	1.645	-5.9	69	-0.05
43	T	2,6-Dinitrotoluene	0.281	0.333	-18.5	77	-0.05
44	T	3-Nitroaniline	0.280	0.279	0.4	64	-0.02
45	TCM	Acenaphthene	0.980	1.017	-3.8	68	-0.05
46	TP	2,4-Dinitrophenol	0.149	0.142	4.7	58	-0.03
47	T	Dibenzofuran	1.326	1.380	-4.1	68	-0.05
48	TMP	4-Nitrophenol	0.205	0.193	5.9	64	0.10
49	TM	2,4-Dinitrotoluene	0.359	0.363	-1.1	66	-0.04
50	T	Diethylphthalate	1.113	1.256	-12.8	74	-0.05
51	T	Fluorene	1.107	1.178	-6.4	70	-0.05
52	T	4-Chlorophenyl-phenylether	0.529	0.584	-10.4	72	-0.05
53	T	4-Nitroaniline	0.290	0.260	10.3	59	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010625\BNA05492.D Vial: 100
Acq On : 25 Jun 2001 8:34 am 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	76	-0.05
55	T	4,6-Dinitro-2-methylphenol	0.133	0.115	13.5	64	-0.04
56	TC	n-Nitrosodiphenylamine	0.473	0.426	9.9	69	-0.05
57	T	Azobenzene	0.812	0.751	7.5	70	-0.05
58	S	2,4,6-Tribromophenol	0.090	0.088	2.2	74	-0.04
59	T	4-Bromophenyl-phenylether	0.182	0.174	4.4	73	-0.05
60	T	Hexachlorobenzene	0.196	0.191	2.6	76	-0.05
61	TCM	Pentachlorophenol	0.116	0.105	9.5	66	-0.03
62	T	Phenanthrene	0.973	0.915	6.0	72	-0.05
63	T	Anthracene	0.989	0.925	6.5	71	-0.05
64	T	Di-n-butylphthalate	1.096	1.084	1.1	75	-0.05
65	TC	Fluoranthene	1.019	0.998	2.1	75	-0.05
66	I	Chrysene-d12	1.000	1.000	0.0	91	-0.06
67	T	Benzidine	0.396	0.317	19.9	73	-0.04
68	TM	Pyrene	1.159	0.959	17.3	75	-0.06
69	S	p-Terphenyl-d14	0.797	0.701	12.0	80	-0.05
70	T	Butylbenzylphthalate	0.569	0.488	14.2	77	-0.05
71	T	Benzo[a]anthracene	1.092	0.961	12.0	80	-0.06
72	T	3,3'-Dichlorobenzidine	0.354	0.375	-5.9	96	-0.05
73	T	Chrysene	1.037	0.913	12.0	80	-0.06
74	T	bis(2-Ethylhexyl)phthalate	0.779	0.681	12.6	78	-0.06
75	I	Perylene-d12	1.000	1.000	0.0	80	-0.06
76	TC	Di-n-octylphthalate	1.345	1.373	-2.1	78	-0.07
77	T	Benzo[b]fluoranthene	1.114	1.073	3.7	76	-0.06
78	T	Benzo[k]fluoranthene	1.115	1.106	0.8	79	-0.06
79	TC	Benzo[a]pyrene	1.073	1.024	4.6	76	-0.06
80	T	Indeno[1,2,3-cd]pyrene	1.086	0.958	11.8	70	-0.09
81	T	Dibenz[a,h]anthracene	1.104	0.967	12.4	69	-0.09
82	T	Benzo[g,h,i]perylene	1.096	0.891	18.7	65	-0.10

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Field Id: **MB 1900**

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID: BNA05515.D Lab Sample ID: MB 1900

Instrument ID: GC/MS Ins Date Extracted: 6/15/01

Matrix: (soil/water) WATER Date Analyzed: 6/26/01

Level: (low/med) LOW Time Analyzed: 1:44

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	LCS 1901	LCS 1901	BNA05516.D	6/26/01
02	164	1617601	BNA05517.D	6/26/01
03	FB	1618502	BNA05518.D	6/26/01
04	FB	1618702	BNA05520.D	6/26/01
05	1102	1618709	BNA05521.D	6/26/01

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 SDG No.: _____

	Field Id:	S1 NBZ #	S2 2FP #	S3 TPL #	TOT OUT
01	MB 1900	53	62	64	0
02	LCS 1901	62	70	67	0
03	164	59	63	28 *	1
04	FB	55	67	36	0
05	2235	48	60	53	0
06	FB	53	63	30 *	1
07	1102	52	63	39	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 **BNA05516.D** Sample Name **LCS 1901**

Date Acquired **26-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		1.99 ug/L	9.97
62-75-9	N-nitroso-dimethylamine		5.66 ug/L	28.28
62-53-3	Aniline		4.68 ug/L	23.42
111-44-4	bis(2-Chloroethyl)ether		9.74 ug/L	48.68
541-73-1	1,3-Dichlorobenzene		11.51 ug/L	57.57
106-46-7	1,4-Dichlorobenzene		11.77 ug/L	58.84
100-51-6	Benzyl alcohol		9.65 ug/L	48.24
95-50-1	1,2-Dichlorobenzene		12.05 ug/L	60.25
39638-32-9	bis(2-chloroisopropyl)ether		15.18 ug/L	75.91
621-64-7	n-Nitroso-di-n-propylamine		12.04 ug/L	60.19
67-72-1	Hexachloroethane		12.09 ug/L	60.47
98-95-3	Nitrobenzene		11.75 ug/L	58.75
78-59-1	Isophorone		13.00 ug/L	64.99
111-91-1	bis(2-Chloroethoxy)methane		10.45 ug/L	52.25
120-82-1	1,2,4-Trichlorobenzene		11.74 ug/L	58.72
91-20-3	Naphthalene		11.86 ug/L	59.30
106-47-8	4-Chloroaniline		6.89 ug/L	34.44
87-68-3	Hexachlorobutadiene		13.16 ug/L	65.82
91-57-6	2-Methylnaphthalene		12.27 ug/L	61.37
77-47-4	Hexachlorocyclopentadiene		7.28 ug/L	36.41
91-58-7	2-Chloronaphthalene		13.29 ug/L	66.43
88-74-4	2-Nitroaniline		11.55 ug/L	57.74
131-11-3	Dimethylphthalate		14.94 ug/L	74.68
208-96-8	Acenaphthylene		13.53 ug/L	67.64
606-20-2	2,6-Dinitrotoluene		15.91 ug/L	79.53
99-09-2	3-Nitroaniline		8.98 ug/L	44.92
83-32-9	Acenaphthene		13.94 ug/L	69.71
132-64-9	Dibenzofuran		14.61 ug/L	73.05
121-14-2	2,4-Dinitrotoluene		13.51 ug/L	67.53
84-66-2	Diethylphthalate		16.09 ug/L	80.46
86-73-7	Fluorene		14.78 ug/L	73.90
7005-72-3	4-Chlorophenyl-phenylether		15.00 ug/L	74.98
100-01-6	4-Nitroaniline		9.53 ug/L	47.63
86-30-6	n-Nitrosodiphenylamine		13.08 ug/L	65.38
103-33-3	Azobenzene		13.22 ug/L	66.11
101-55-3	4-Bromophenyl-phenylether		13.22 ug/L	66.11
118-74-1	Hexachlorobenzene		13.34 ug/L	66.70
85-01-8	Phenanthrene		13.70 ug/L	68.52
120-12-7	Anthracene		13.23 ug/L	66.13
84-74-2	Di-n-butylphthalate		14.33 ug/L	71.66
206-44-0	Fluoranthene		13.91 ug/L	69.55
129-00-0	Pyrene		12.88 ug/L	64.41
85-68-7	Butylbenzylphthalate		12.51 ug/L	62.57
56-55-3	Benzo[a]anthracene		12.76 ug/L	63.78
218-01-9	Chrysene		11.50 ug/L	57.49
117-81-7	bis(2-Ethylhexyl)phthalate		12.54 ug/L	62.69
117-84-0	Di-n-octylphthalate		15.39 ug/L	76.94
205-99-2	Benzo[b]fluoranthene		15.40 ug/L	76.98
207-08-9	Benzo[k]fluoranthene		16.02 ug/L	80.10
50-32-8	Benzo[a]pyrene		14.27 ug/L	71.37
193-39-5	Indeno[1,2,3-cd]pyrene		15.51 ug/L	77.53
53-70-3	Dibenz[a,h]anthracene		12.98 ug/L	64.88
191-24-2	Benzo[g,h,i]perylene		12.76 ug/L	63.81

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05421.D** Sample Name **1615108 MS**

Date Acquired **12-Jun-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		5.36 ug/L	26.79
62-75-9	N-nitroso-dimethylamine		6.88 ug/L	34.40
62-53-3	Aniline		10.36 ug/L	51.78
111-44-4	bis(2-Chloroethyl)ether		10.61 ug/L	53.06
541-73-1	1,3-Dichlorobenzene		11.85 ug/L	59.25
106-46-7	1,4-Dichlorobenzene		11.93 ug/L	59.67
100-51-6	Benzyl alcohol		9.00 ug/L	45.00
95-50-1	1,2-Dichlorobenzene		12.33 ug/L	61.66
39638-32-9	bis(2-chloroisopropyl)ether		14.89 ug/L	74.45
621-64-7	n-Nitroso-di-n-propylamine		12.90 ug/L	64.52
67-72-1	Hexachloroethane		12.14 ug/L	60.68
98-95-3	Nitrobenzene		12.09 ug/L	60.47
78-59-1	Isophorone		13.01 ug/L	65.04
111-91-1	bis(2-Chloroethoxy)methane		10.68 ug/L	53.38
120-82-1	1,2,4-Trichlorobenzene		11.74 ug/L	58.69
91-20-3	Naphthalene		11.91 ug/L	59.57
106-47-8	4-Chloroaniline		11.04 ug/L	55.20
87-68-3	Hexachlorobutadiene		12.65 ug/L	63.27
91-57-6	2-Methylnaphthalene		13.33 ug/L	66.63
77-47-4	Hexachlorocyclopentadiene		8.51 ug/L	42.54
91-58-7	2-Chloronaphthalene		13.52 ug/L	67.58
88-74-4	2-Nitroaniline		11.01 ug/L	55.05
131-11-3	Dimethylphthalate		15.66 ug/L	78.31
208-96-8	Acenaphthylene		13.99 ug/L	69.93
606-20-2	2,6-Dinitrotoluene		15.97 ug/L	79.85
99-09-2	3-Nitroaniline		13.14 ug/L	65.71
83-32-9	Acenaphthene		14.18 ug/L	70.91
132-64-9	Dibenzofuran		15.04 ug/L	75.21
121-14-2	2,4-Dinitrotoluene		14.99 ug/L	74.93
84-66-2	Diethylphthalate		16.94 ug/L	84.68
86-73-7	Fluorene		15.41 ug/L	77.06
7005-72-3	4-Chlorophenyl-phenylether		15.23 ug/L	76.16
100-01-6	4-Nitroaniline		12.19 ug/L	60.95
86-30-6	n-Nitrosodiphenylamine		14.11 ug/L	70.56
103-33-3	Azobenzene		13.68 ug/L	68.38
101-55-3	4-Bromophenyl-phenylether		14.01 ug/L	70.04
118-74-1	Hexachlorobenzene		14.41 ug/L	72.06
85-01-8	Phenanthrene		14.57 ug/L	72.83
120-12-7	Anthracene		14.21 ug/L	71.05
84-74-2	Di-n-butylphthalate		15.31 ug/L	76.57
206-44-0	Fluoranthene		14.86 ug/L	74.32
129-00-0	Pyrene		13.57 ug/L	67.85
85-68-7	Butylbenzylphthalate		13.62 ug/L	68.10
56-55-3	Benzo[a]anthracene		14.15 ug/L	70.77
218-01-9	Chrysene		12.45 ug/L	62.27
117-81-7	bis(2-Ethylhexyl)phthalate		13.88 ug/L	69.42
117-84-0	Di-n-octylphthalate		17.05 ug/L	85.26
205-99-2	Benzo[b]fluoranthene		16.99 ug/L	84.96
207-08-9	Benzo[k]fluoranthene		17.75 ug/L	88.76
50-32-8	Benzo[a]pyrene		16.55 ug/L	82.76
193-39-5	Indeno[1,2,3-cd]pyrene		15.73 ug/L	78.67
53-70-3	Dibenz[a,h]anthracene		15.69 ug/L	78.47
191-24-2	Benzo[g,h,i]perylene		16.06 ug/L	80.32

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name BNA05422.D Sample Name 1615108 MSD

Date Acquired 12-Jun-01

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		3.06 ug/L	15.31
62-75-9	N-nitroso-dimethylamine		7.78 ug/L	38.88
62-53-3	Aniline		8.84 ug/L	44.20
111-44-4	bis(2-Chloroethyl)ether		11.93 ug/L	59.65
541-73-1	1,3-Dichlorobenzene		13.23 ug/L	66.17
106-46-7	1,4-Dichlorobenzene		13.48 ug/L	67.42
100-51-6	Benzyl alcohol		10.08 ug/L	50.40
95-50-1	1,2-Dichlorobenzene		14.14 ug/L	70.69
39638-32-9	bis(2-chloroisopropyl)ether		16.50 ug/L	82.48
621-64-7	n-Nitroso-di-n-propylamine		14.56 ug/L	72.79
67-72-1	Hexachloroethane		13.73 ug/L	68.66
98-95-3	Nitrobenzene		12.86 ug/L	64.29
78-59-1	Isophorone		14.46 ug/L	72.32
111-91-1	bis(2-Chloroethoxy)methane		12.10 ug/L	60.50
120-82-1	1,2,4-Trichlorobenzene		13.08 ug/L	65.40
91-20-3	Naphthalene		13.44 ug/L	67.20
106-47-8	4-Chloroaniline		9.89 ug/L	49.47
87-68-3	Hexachlorobutadiene		14.39 ug/L	71.94
91-57-6	2-Methylnaphthalene		14.70 ug/L	73.52
77-47-4	Hexachlorocyclopentadiene		11.74 ug/L	58.68
91-58-7	2-Chloronaphthalene		15.00 ug/L	75.02
88-74-4	2-Nitroaniline		13.94 ug/L	69.70
131-11-3	Dimethylphthalate		16.74 ug/L	83.69
208-96-8	Acenaphthylene		15.29 ug/L	76.47
606-20-2	2,6-Dinitrotoluene		17.14 ug/L	85.70
99-09-2	3-Nitroaniline		12.95 ug/L	64.75
83-32-9	Acenaphthene		15.51 ug/L	77.55
132-64-9	Dibenzofuran		16.24 ug/L	81.21
121-14-2	2,4-Dinitrotoluene		15.57 ug/L	77.83
84-66-2	Diethylphthalate		17.50 ug/L	87.49
86-73-7	Fluorene		16.38 ug/L	81.92
7005-72-3	4-Chlorophenyl-phenylether		16.38 ug/L	81.90
100-01-6	4-Nitroaniline		12.05 ug/L	60.25
86-30-6	n-Nitrosodiphenylamine		14.99 ug/L	74.94
103-33-3	Azobenzene		14.69 ug/L	73.46
101-55-3	4-Bromophenyl-phenylether		15.00 ug/L	75.01
118-74-1	Hexachlorobenzene		14.95 ug/L	74.75
85-01-8	Phenanthrene		15.20 ug/L	75.98
120-12-7	Anthracene		14.75 ug/L	73.75
84-74-2	Di-n-butylphthalate		15.99 ug/L	79.94
206-44-0	Fluoranthene		15.32 ug/L	76.58
129-00-0	Pyrene		14.37 ug/L	71.84
85-68-7	Butylbenzylphthalate		14.45 ug/L	72.23
56-55-3	Benzo[a]anthracene		14.91 ug/L	74.55
218-01-9	Chrysene		13.21 ug/L	66.07
117-81-7	bis(2-Ethylhexyl)phthalate		14.58 ug/L	72.92
117-84-0	Di-n-octylphthalate		17.72 ug/L	88.62
205-99-2	Benzo[b]fluoranthene		17.76 ug/L	88.79
207-08-9	Benzo[k]fluoranthene		17.93 ug/L	89.66
50-32-8	Benzo[a]pyrene		17.18 ug/L	85.92
193-39-5	Indeno[1,2,3-cd]pyrene		16.54 ug/L	82.70
53-70-3	Dibenz[a,h]anthracene		16.52 ug/L	82.60
191-24-2	Benzo[g,h,i]perylene		16.46 ug/L	82.28

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID (Standard): BNA05492.D Date Analyzed: 6/25/01

Instrument ID: GC_BNA_2 Time Analyzed: 8:34

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	503824	10.07	1984322	13.01	1309895	17.23
	UPPER LIMIT	1007648	10.57	3968644	13.51	2619790	17.73
	LOWER LIMIT	251912	9.57	992161	12.51	654948	16.73
	Field Id:						
01	MB 1900	457167	10.08	1791808	13.00	1036373	17.23
02	LCS 1901	458681	10.07	1791377	13.00	1032583	17.23
03	164	1006491	10.08	3962177	13.00	2319626	17.24
04	FB	455475	10.08	1785523	13.00	1012335	17.23
05	2235	488394	10.08	1904996	13.00	1085506	17.23
06	FB	441101	10.08	1647300	13.00	985747	17.23
07	1102	474649	10.08	1871975	13.00	1087714	17.23

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: 010001 Case No.: 16176 Location: 164 SDG No.:

Lab File ID (Standard): BNA05492.D Date Analyzed: 06/25/01

Instrument ID: GC_BNA_2 Time Analyzed: 08:34

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2503443	20.82	2622505	27.28	2176525	30.50
	UPPER LIMIT	5006886	20.32	5245010	26.78	4353050	30.00
	LOWER LIMIT	1251722	21.32	1311253	27.78	1088263	31.00
	EPA SAMPLE NO.						
01	MB 1900	1921708	20.82	1937110	27.27	1399062	30.49
02	LCS 1901	1976193	20.82	1976656	27.27	1432477	30.50
03	164	4245721	20.83	4340932	27.28	3394667	30.51
04	FB	1898266	20.82	1946190	27.27	1411407	30.49
05	2235	2015359	20.82	2049396	27.27	1492116	30.50
06	FB	1847638	20.82	1898851	27.27	1378140	30.49
07	1102	2050428	20.82	2074896	27.27	1524804	30.50

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\010625\BNA05515.D Vial: 35
Acq On : 26 Jun 2001 1:44 am Operator: Skelton
Sample : MB 1900 Inst : GC/MS Ins
Misc : 6/18/2001 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 2:19 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	10.08	152	457167	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1791808	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1036373	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	1921708	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	1937110	40.00	ug/L	-0.07
75) Perylene-d12	30.49	264	1399062	40.00	ug/L	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	7.41	112	536209	41.25	ug/L	0.05
Spiked Amount 100.000	Range 21 - 100		Recovery = 41.25%			
6) Phenol-d6	9.51	99	357612	21.82	ug/L	0.08
Spiked Amount 100.000	Range 10 - 94		Recovery = 21.82%			
20) Nitrobenzene-d5	11.41	82	480936	26.73	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery = 53.46%			
38) 2-Fluorobiphenyl	15.64	172	891367	30.91	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery = 61.82%			
58) 2,4,6-Tribromophenol	19.19	330	273826	63.22	ug/L	-0.04
Spiked Amount 100.000	Range 10 - 123		Recovery = 63.22%			
69) p-Terphenyl-d14	24.77	244	1231766	31.93	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery = 63.86%			
Target Compounds						Qvalue

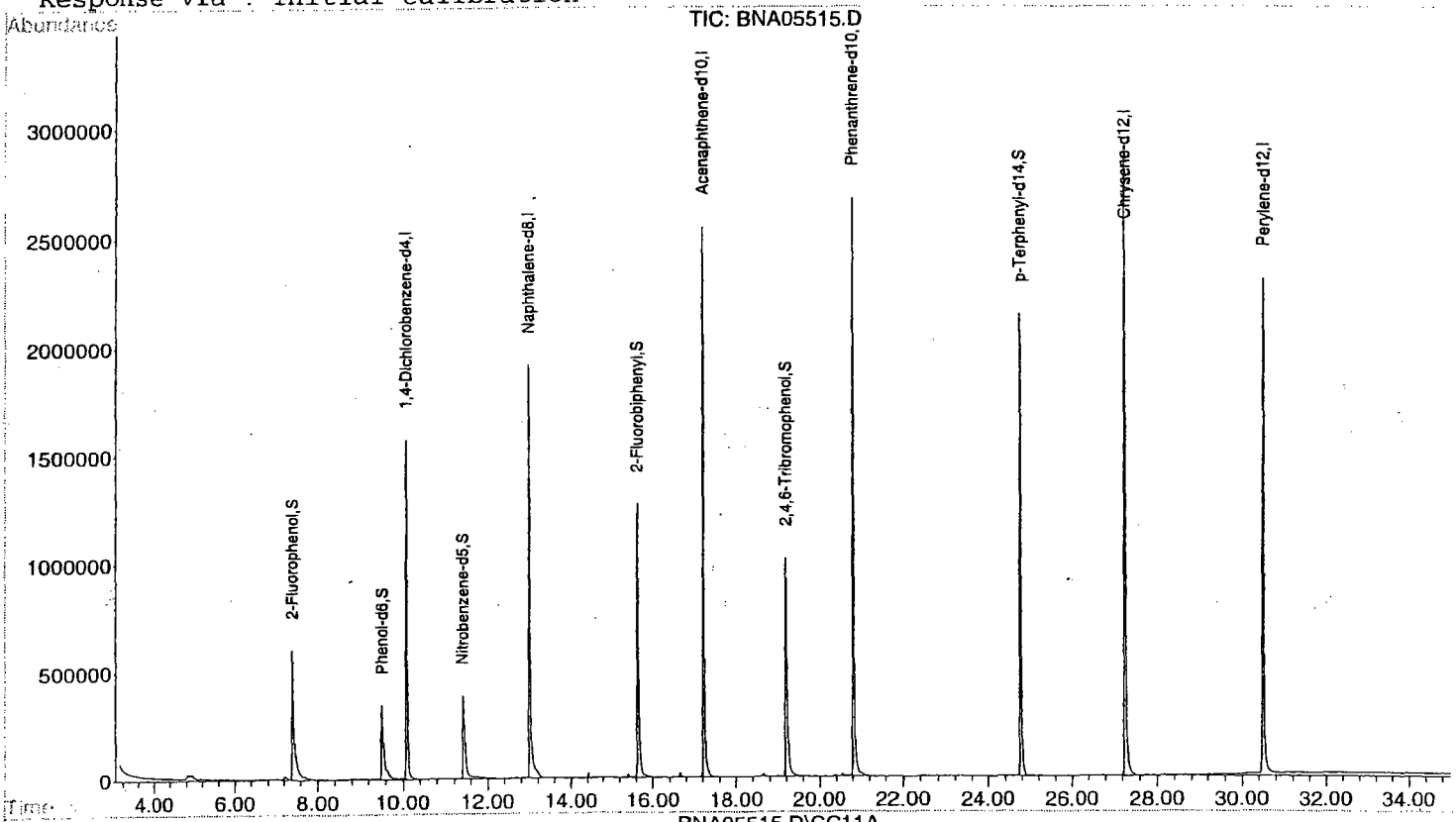
(#) = qualifier out of range (m) = manual integration

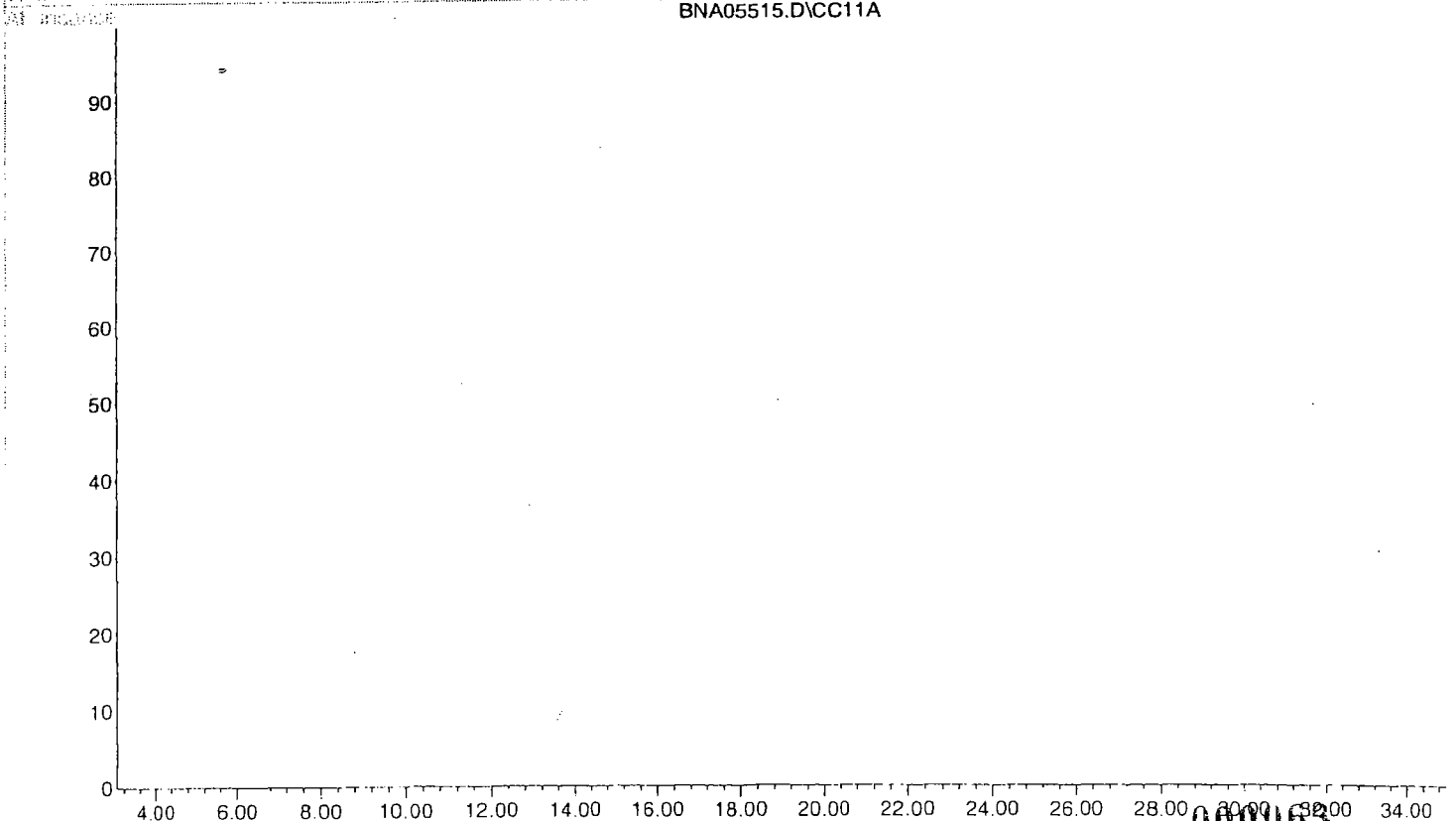
Quantitation Report

Data File : D:\DATA\010625\BNA05515.D
Acq On : 26 Jun 2001 1:44 am
Sample : MB 1900
Misc : 6/18/2001
MS Integration Params: RTEINT.P
Quant Time: Jun 26 2:19 2001

Vial: 35
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\010625\BNA05518.D Vial: 38
Acq On : 26 Jun 2001 3:54 am Operator: Skelton
Sample : 1618502 Inst : GC/MS Ins
Misc : FB Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 27 16:48 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	10.08	152	455475	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1785523	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1012335	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	1898266	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	1946190	40.00	ug/L	-0.07
75) Perylene-d12	30.49	264	1411407	40.00	ug/L	-0.07
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	11.41	82	495225	27.62	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery =	55.24%		
38) 2-Fluorobiphenyl	15.64	172	940933	33.40	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery =	66.80%		
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	24.77	244	692663	17.87	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery =	35.74%		
Target Compounds						Qvalue

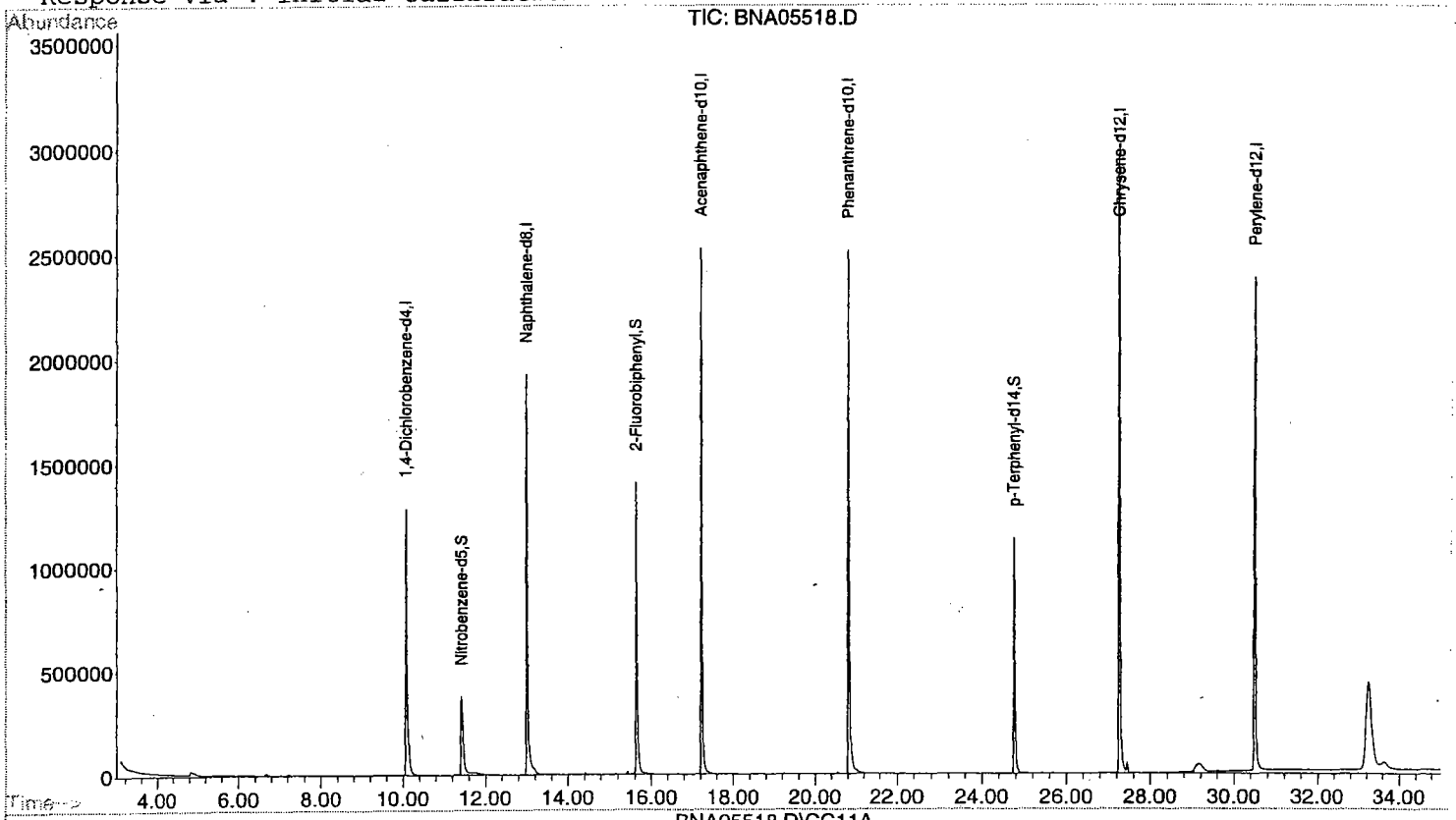
(#) = qualifier out of range (m) = manual integration

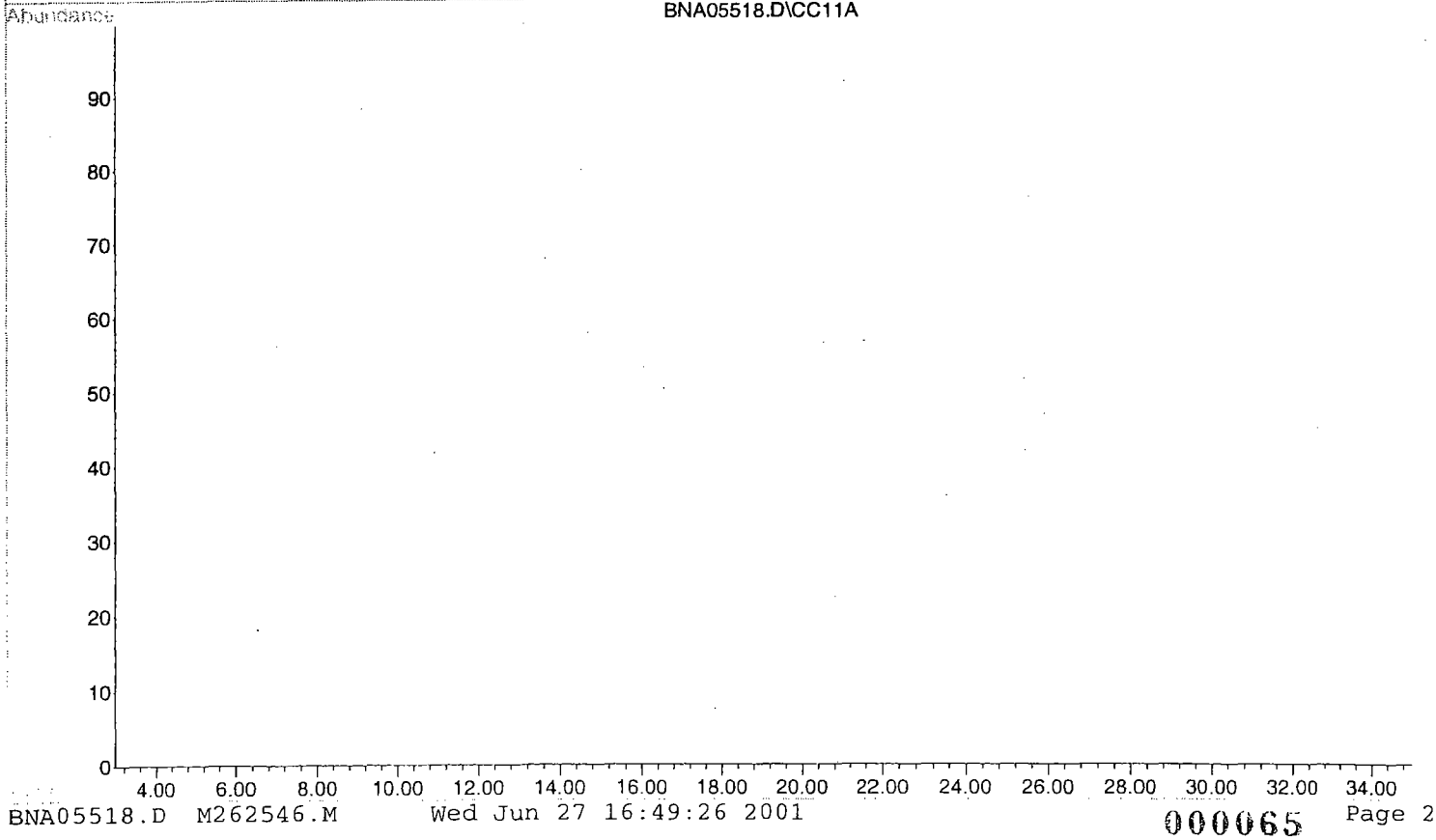
Quantitation Report

Data File : D:\DATA\010625\BNA05518.D
Acq On : 26 Jun 2001 3:54 am
Sample : 1618502
Misc : FB
MS Integration Params: RTEINT.P
Quant Time: Jun 27 16:48 2001

Vial: 38
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\010625\BNA05519.D Vial: 39
Acq On : 26 Jun 2001 4:38 am Operator: Skelton
Sample : 1618503 Inst : GC/MS Ins
Misc : 2235 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 5:13 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	10.08	152	488394	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1904996	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1085506	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	2015359	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	2049396	40.00	ug/L	-0.07
75) Perylene-d12	30.50	264	1492116	40.00	ug/L	-0.07
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	456031	23.84	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery =	47.68%		
38) 2-Fluorobiphenyl	15.64	172	910112	30.13	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery =	60.26%		
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	24.77	244	1086377	26.62	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery =	53.24%		
Target Compounds						Qvalue

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

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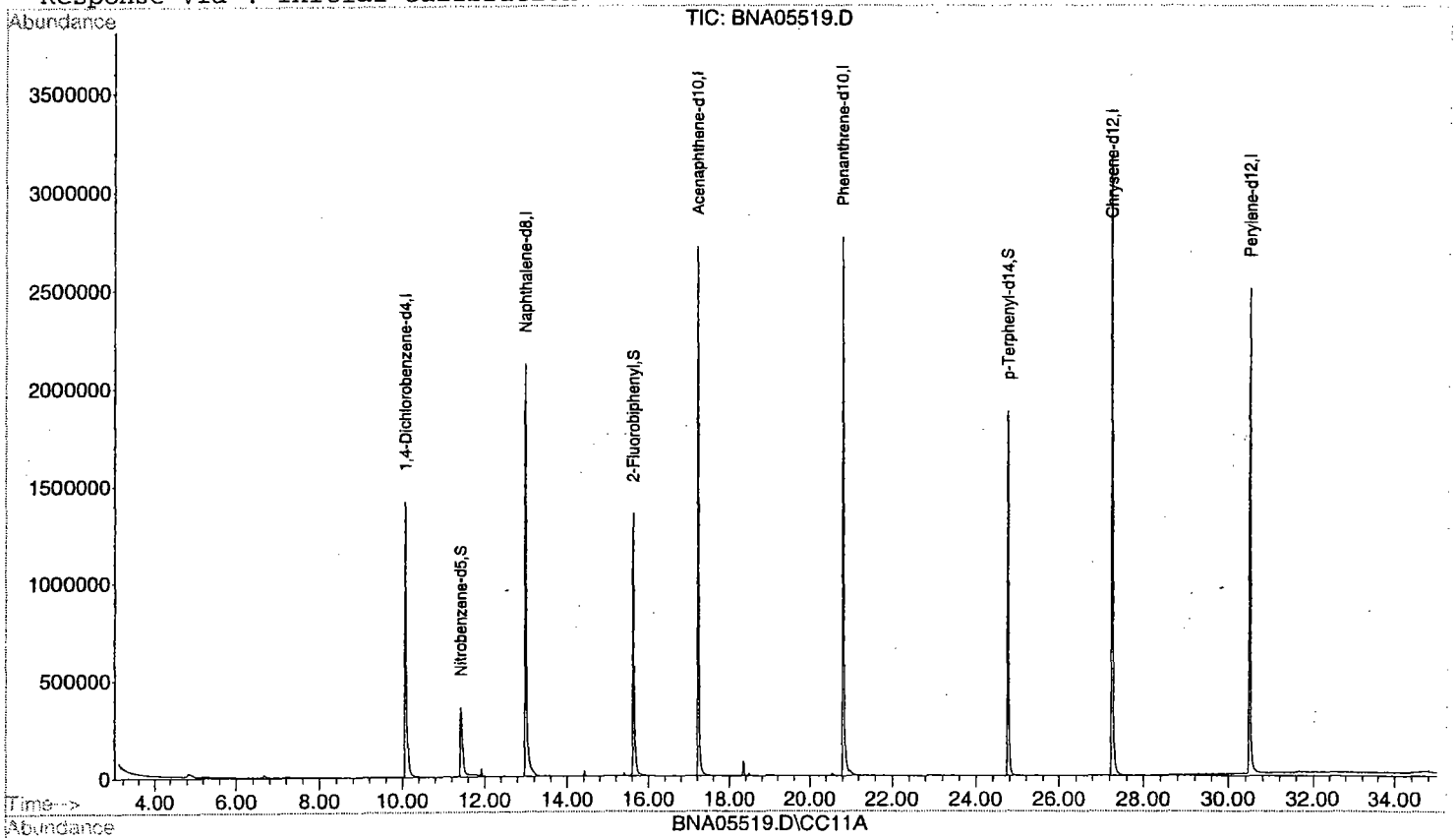
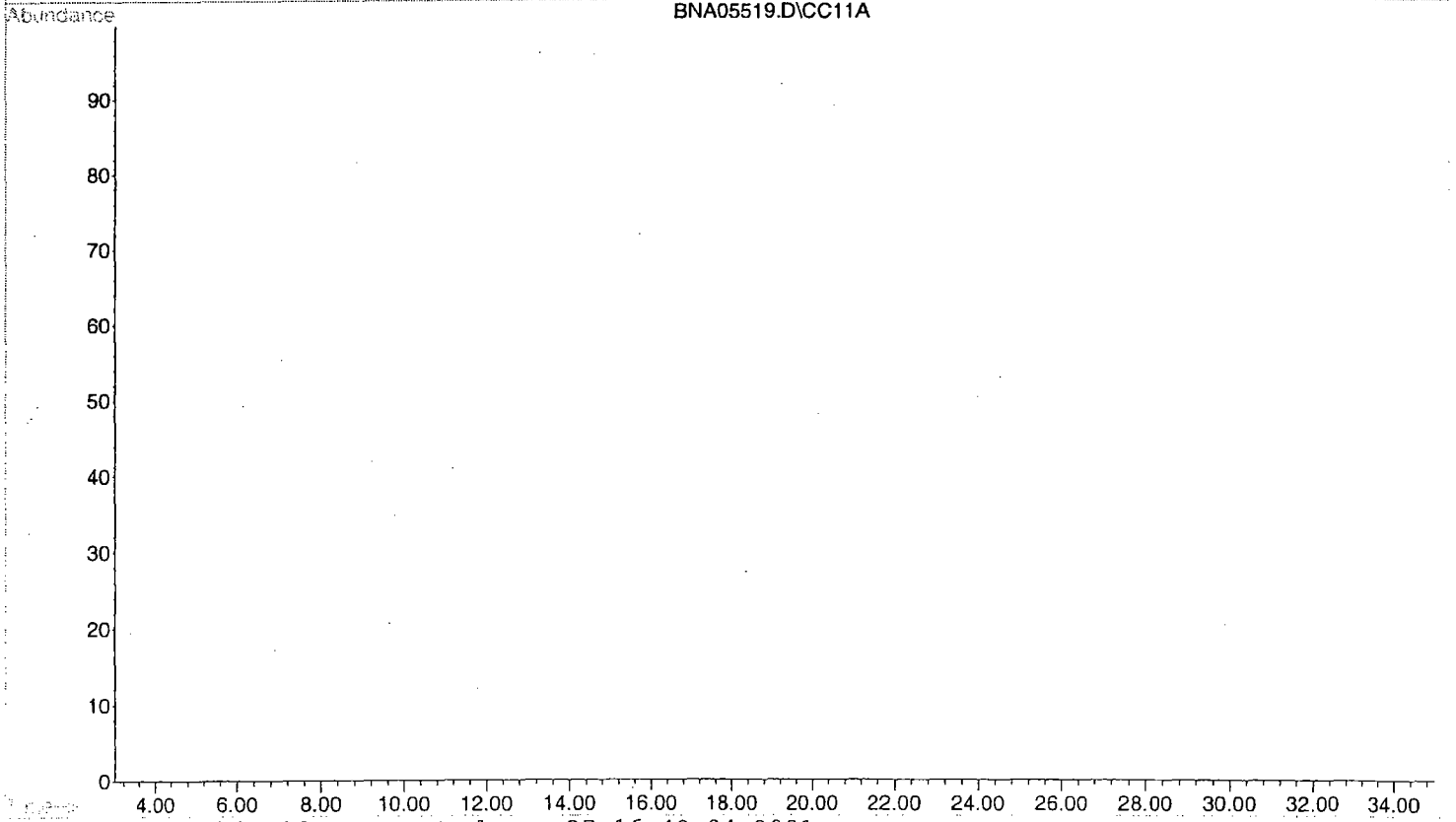
Quantitation Report

Data File : D:\DATA\010625\BNA05519.D
Acq On : 26 Jun 2001 4:38 am
Sample : 1618503
Misc : 2235
MS Integration Params: RTEINT.P
Quant Time: Jun 26 5:13 2001

Vial: 39
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 7/5/01

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