United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site/Remedial Investigation Report

Building 1220K
Main Post-West Area

NJDEP UST Registration No. 0081533-230
DICAR No. 95-8-15-1252-01

September 2001

SITE/REMEDIAL INVESTIGATION REPORT

BUILDING 1220K

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 0081533-230

SEPTEMBER 2001

PREPARED FOR:

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

PREPARED BY:

VERSAR
2558 PEARL BUCK ROAD
SUITE 1
BRISTOL, PA 19007

PROJECT NO. 4936-127

TABLE OF CONTENTS (CONTINUED)

FIGURES

APPENDICES

EXECUTIVE SUMMARY

UST Closure

On December 16, 1997, an underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-230 (Fort Monmouth ID No. 1220K) was located north of Building 1220. UST No. 0081533-230 was a 250-gallon No. 2 fuel oil UST. The fill port was located directly above the UST.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted during the site assessment were performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation.* Soils surrounding the tank were screened visually and with air monitoring equipment for evidence of contamination. Following removal, the UST was inspected for corrosion holes. Numerous holes were noted in the UST. Soils at the location of the holes were dark in color and appeared to be contaminated. Based on the inspection of the UST, Directorate of Public Works (DPW) concluded that a discharge of petroleum products was associated with this UST. The NJDEP hotline was notified and the case was assigned DICAR No. 95-8-15-1252-01. Groundwater was not encountered.

Site/Remedial Investigation and Post-Excavation Soil Sampling

Versar was retained by the U.S. Army DPW to implement a site/remedial investigation adjacent to a former No 2 fuel oil UST. The UST was associated with Building 1220K at the Main Post-West area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities were to remove from the ground all soil potentially impacted as the result of the past operation of the former UST. The site/remedial investigation was performed by Versar personnel 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 the PID readings and verify the effectiveness of the soil excavation activities, 6 post-excavation soil samples were collected from within the UST and associated piping December 16, 1997. All samples were analyzed for TPH and total solids. The two soil samples, collected from the UST excavation, were also analyzed for VOC, SVOC, PCB, and metals. The samples exceeded the NJDEP soil cleanup criteria for zinc. These results are contributed to background levels of zinc

commonly found around the site. TPH was detected at concentrations below the NJDEP soil cleanup criteria. There were no other compounds detected at the site.

Management of Excavated Soils

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 back filled to grade with certified clean crushed stones, sand and clean overburden soil removed from the excavation.

Conclusions and Recommendations

All post excavation soil samples collected from the UST excavation at Building 1220K contained either no detectable levels of TPH or concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N.J.A.C. 7:26D and revisions dated February 3, 1994). Zinc was detected at levels exceeding the NJDEP Soil Cleanup Criteria but at concentrations considered normal relative to background levels.

Two (2) groundwater samples were collected at Building 1220K. On November 6, 1998 and December 3, 1998, groundwater from Building 1220K was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's).

All groundwater analytical 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 of UST No. 81533-184 at Building 1220K.

1.0 BACKGROUND INFORMATION

1.1 OVERVIEW

Versar was retained by the United States Army Directorate of Public Works (DPW) to implement a site/remedial investigation adjacent to a former No 2 fuel oil underground storage tank (UST). The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-184, was associated with Building 1220K at the Main Post-West area of the U.S. Army Fort Monmouth Base, Fort Monmouth, New Jersey. Refer to site location map on 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 were to remove from the ground all soil potentially impacted as the result of the past operation of the former UST.

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

1.2 SITE DESCRIPTION

Building 1220K is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-230 was located south of Building 1220. A Site Map is provided as Figure 2.

1.2.1 GEOLOGICAL/HYDROGEOLOGICAL SETTING

The following is a description of the geological/hydrogeological setting of the area surrounding Building 1220. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

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

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

date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

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

Local Geology

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

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

Hydrogeology

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

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

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

Therefore, the direction of shallow groundwater should be determined on a case-by-case basis.

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

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

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

Building 1220 was located approximately 1400 feet north of an unnamed stream, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 1220 is anticipated to be to the south.

1.3 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 OSHA.

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

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

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

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

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

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

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a hole was made in the UST to allow for proper cleaning. Approximately 200 gallons of liquid from the UST and its associated piping were transported to an NJDEP-approved petroleum recycling and disposal company.

The UST was cleaned prior to removal from the excavation in accordance with the NJDEP regulations. After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes. A hole was observed during the inspection by the Sub-Surface Evaluator. Soils at the location of the holes were dark in color and appeared to be contaminated. An unknown amount of soil exhibiting OVA results >5 PPM were removed from the excavation. Groundwater was not encountered.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The UST was transported to Mazza & Sons, Inc., Recycling Division. The transportation of the UST was in compliance with all applicable regulations and laws. Please refer to Appendix D for the UST disposal certificate.

2.3 POST-EXCAVATION SOIL SAMPLING AND RESULTS

To confirm the PID readings and verify the effectiveness of the soil excavation activities, 6 post-excavation soil samples were collected from within the UST and associated piping excavation on December 6, 1997. Four of the soil samples, 1220K-C through 1220K-F, were collected along the former piping. Two soil samples, 1220K-A and 1220K-B, were collected from the bottom of the excavation.

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

All samples were analyzed for total petroleum hydrocarbons (TPH) and total solids. Two samples, 1220K-A and 1220K-B, were also analyzed for VOC, SVOC, PCB, and metals. 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). There were no VOCs, SVOCs, or PCBs detected in the soil. Zinc was detected in both samples at concentrations slightly above the NJDEP Soil Cleanup Criteria. Zinc and other metals have been detected at elevated levels in the area. The zinc detected at the site is in accordance with background levels. The analytical data packages are provided in Appendix E.

2.4 GROUNDWATER SAMPLING

On November 6, 1998 and December 3, 1998, groundwater from Building 1220K was sampled for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOC's), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOC's). 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

Versar was retained by the U.S. Army DPW to implement a site/remedial investigation adjacent to a former No 2 fuel oil UST. The UST was associated with Building 1220K at the Main Post-West area of the U.S. Army Fort Monmouth Base. The objective of the site/remedial investigation activities were to remove from the ground all soil potentially impacted as the result of the past operation of the former UST.

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. All contaminated soil characterization and disposal was handled directly by the U.S. Army Fort Monmouth DPW.

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

3.2 GROUNDWATER SAMPLING RESULTS

The samples collected from Building 1220K on November 6, 1998 and December 3, 1998 contained no detectable compounds and were therefore in compliance with the New Jersey Ground Water Quality Criteria (GWQC). The analytical data package is provided in Appendix F. The full data package, including quality control, is on file at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey.

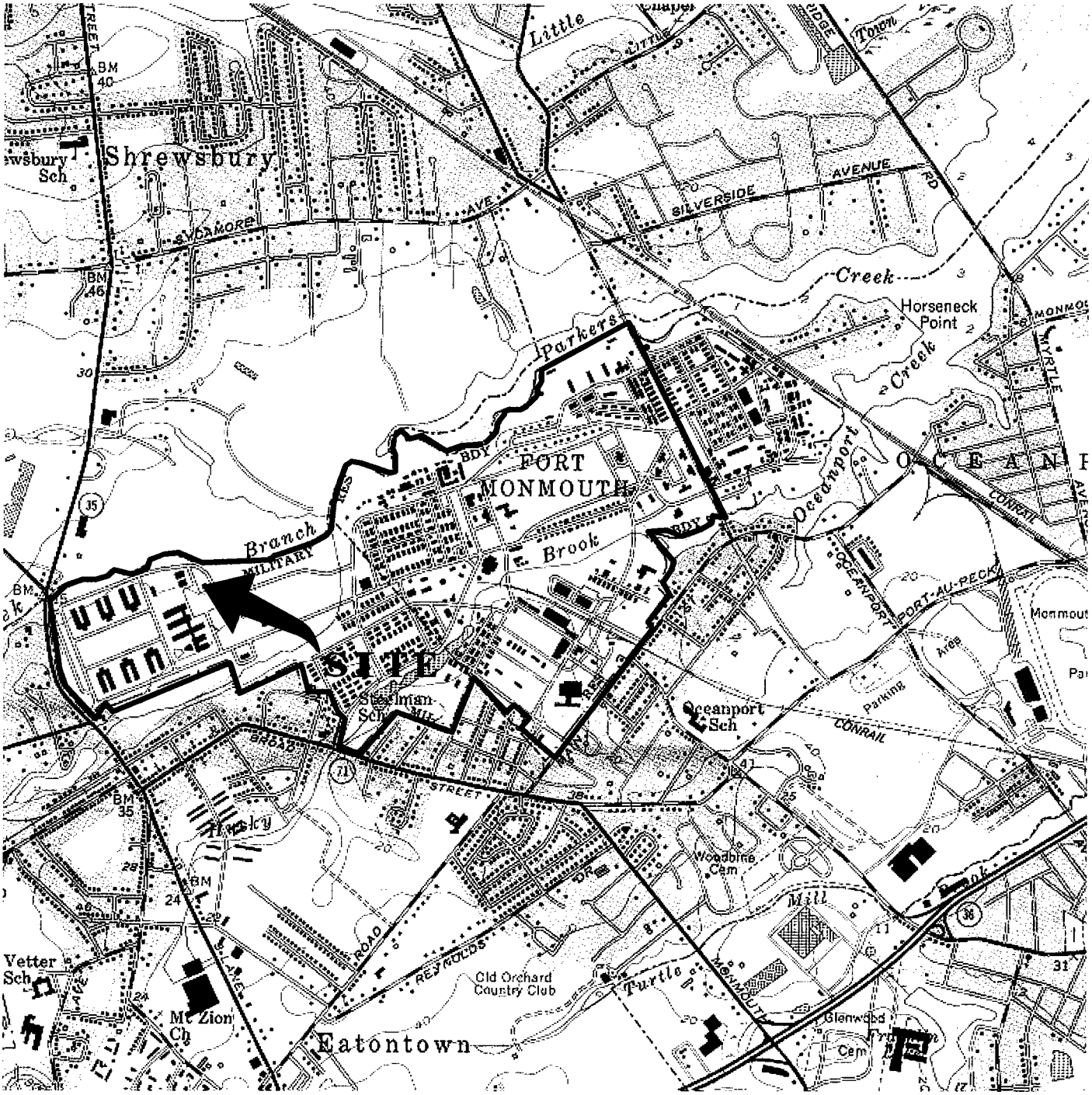
3.3 CONCLUSION AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 1220K were below the NJDEP soil cleanup criteria for total organic contaminants. Zinc levels were above NJDEP soil cleanup criteria but were normal relative to background metals concentrations.

Groundwater quality at Building 1220K complies with the New Jersey Ground Water Quality Criteria (GWQC).

No further action is proposed in regard to the closure and site assessment of UST No. 81533-184 at Building 1220K.

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 1220
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

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

Scale: 1" = 2000'

Date: Dec. 1997

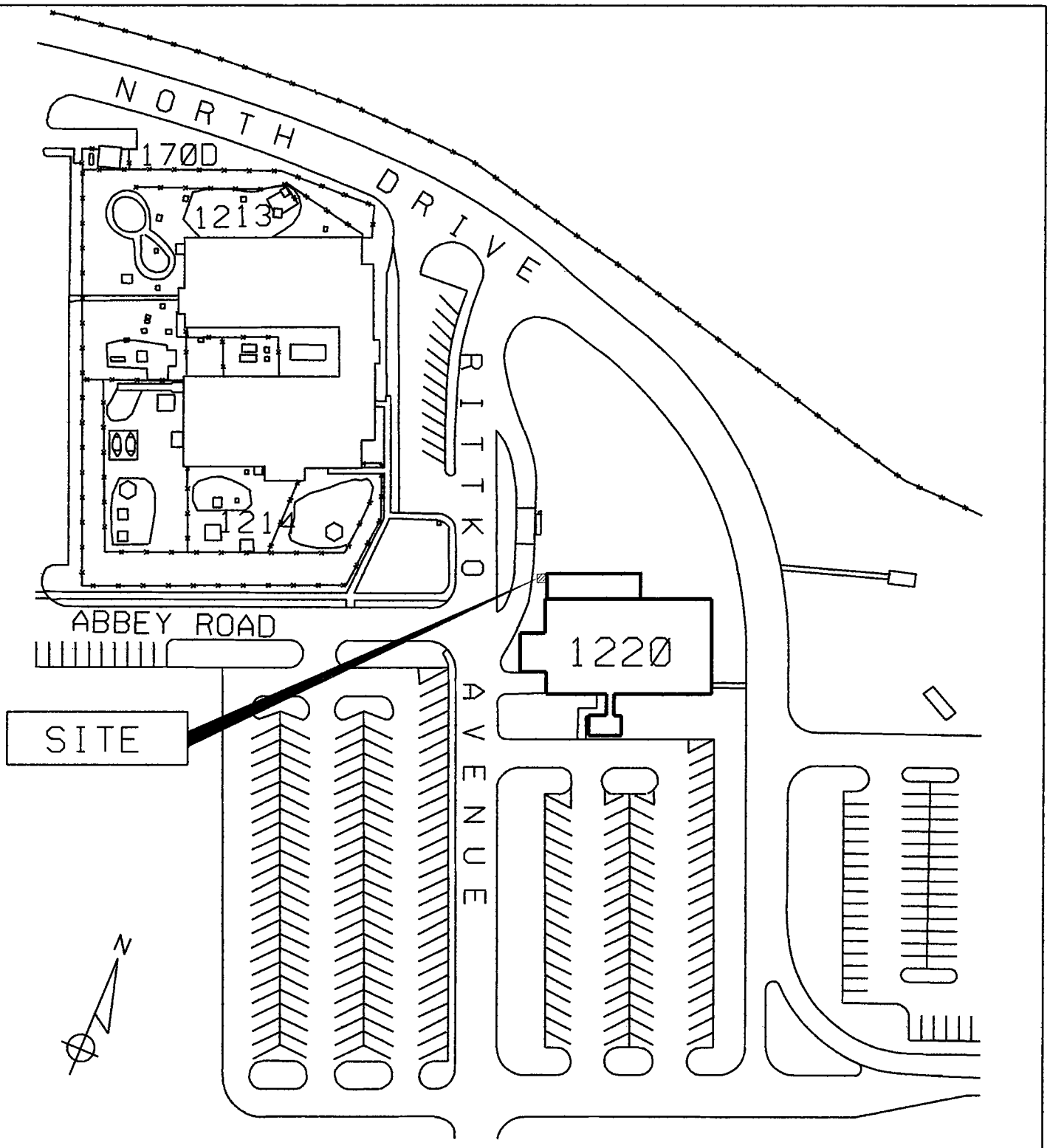
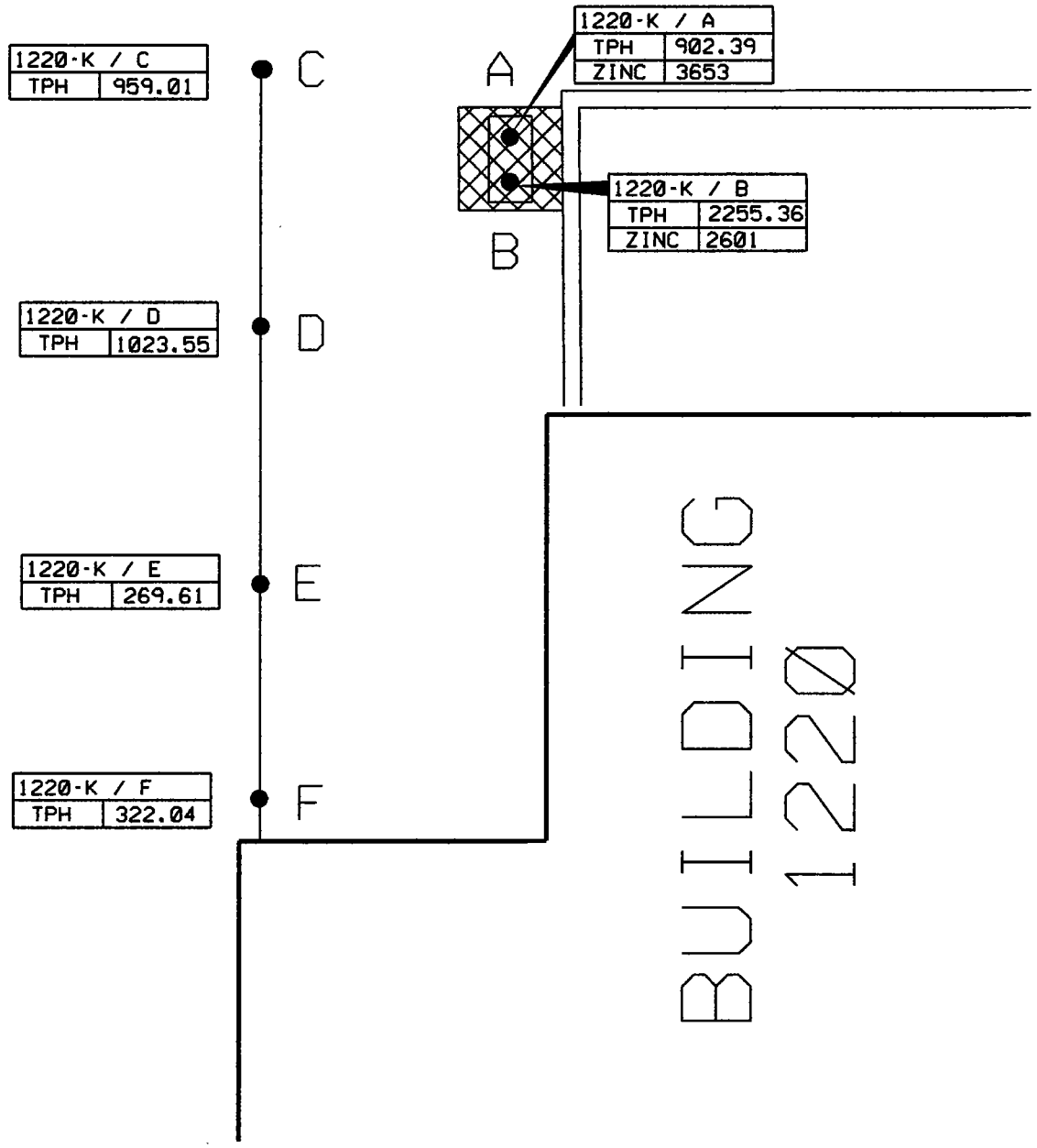


FIGURE 2
SITE MAP
BUILDING 1220
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=100' | DATE: DEC 1997

1220 FIG2



LEGEND

- SOIL SAMPLE LOCATION (12/16/97)
- LIMIT OF EXCAVATION (12/16/97)

NOTES:

1. ALL RESULTS IN MG/KG.
2. BGS - BELOW GROUND SURFACE

FIGURE 3
SOIL SAMPLING LOCATION MAP
BUILDING 1220-K
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

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

1220 F164

APPENDIX A

NJDEP UST CERTIFICATION FORM

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

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

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

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

B. Owner (RP)'s Name: _____

Street Address: _____ City : _____

State: _____ Zip: _____ Telephone Number : _____

C. (Check as appropriate)

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

D. (Complete all that apply)

- Assigned Case Manager: Ian Curtis, Federal Case Manager
- UST Registration Number : 0081533-230
- Incident Report Number : 95-8-15-1252-01
- Tank Closure Number: _____

E. Certification by the Subsurface Evaluator:

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

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

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

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

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

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

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

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

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

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

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

Signature: _____

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 CERTIFICATE

THIS CHECK IS DELIVERED FOR PAYMENT ON THE FOLLOWING ACCOUNTS.

DATE		AMOUNT	
TOTAL OF INVOICES			
LESS ____ % DISCOUNT			
LESS FREIGHT			
LESS			
TOTAL DEDUCTIONS			
AMOUNT OF CHECK			

1768

MAZZA & SONS, INC.
RECYCLING DIVISION
P.O. BOX 246
OAKHURST, NJ 07755

55-7233/2212

DATE 4/9/98

PAY TO THE ORDER OF Tecom Vinnell $ 97.80

Ninety Seven & 80/100 DOLLARS

Sovereign Bank

⑈001768⑈ ⑆221272332⑆000 109099286⑈

MAZZA & SONS, INC.

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

NO. 397

DATE. 9 APRIL 98

AST-REMOVED FROM B.430 of SMALL TANK from 1220

Customer's Name Tecom Vinnell

Address

	Weight	Price
Cast Iron		
Steel	1920	
Lt. Iron		
Copper #1		
Copper #2		

22360 LB

22220 LB

140

	Weight	Price
Lt. Copper		
Brass		
Alum Clean		
Lead		
Stainless		
Battery		

19.20

TOTAL AMOUNT:

APR - 9 1998

Ck# 1768

Weigher

Customer

APPENDIX D

SOIL ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
98-0001
Bldg. 1220

Project # 3224
Date Rec. 12/16/97
Date Compl. 12/18/97
Released by:

Daniel K. Wright
Laboratory Director

Table of Contents

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

PHC Conformance/Non-conformance Summary Report

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

Additional Comments:_____

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DPW-ENV
Phone #:
( )DERA (X)OMA ( )Other:_____

Project No: ~~1220~~ 930 98-0001
Location: 1220

Samplers Name / Company : GARY DiMARTINIS-TUS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	% SOLIDS	MUNSELL	VOA'S	BNA'S	PCB'S	PP. METALS	Remarks / Preservation Method
3224.01	1220-A	12-16-97	1134	SOIL	2	X	X	X	X	X	X	X	CENTER LINE @ 5.5' *
02	B		1124			↓	↓	↓	↓	↓	↓	↓	
03	DUP		—	↓	↓	↓	↓	↓		↓	↓	↓	FIELD DUPLICATE
04	TB		—	METHANOL	1				↓				TRIP BLANK
05	C		1154	SOIL		X	X	X					PIPING RUN @ 0.5'
06	D		1156			↓	↓	↓					
07	E		1158										
08	F	↓	1200	↓	↓	↓	↓	↓					↓ *

NOTE: OVA (#AS2114) CALIBRATED W/ 95ppm CH4 + ZERO (0) AIR @ 1180 HRS ON 12-16-97 BY G. DiMARTINIS.

Comments: * = SAMPLES KEPT BELOW 4°C.

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	12-16-97 1517	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: DEDICATED SAMPLING TOOLS USED.

print legibly

Custody.xls7/10/97

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

Client :	U.S. Army	**Lab. ID # :**	3224
	DPW. SELFM-PW-EV	**Date Rec'd:**	16-Dec-97
	Bldg. 173	**Analysis Start:**	17-Dec-97
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	18-Dec-97
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	D. Deinhardt	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	1220

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3224.01	1220-A	**1.00**	14.98	82.89	189	**902.39**
3224.02	1220-B	**1.00**	15.10	79.62	195	**2255.36**
3224.03	1220-DUP	**1.00**	15.05	81.47	192	**3132.23**
3224.05	1220-C	**1.00**	15.24	89.76	172	**959.01**
3224.06	1220-D	**1.00**	15.35	90.38	169	**1023.55**
3224.07	1220-E	**1.00**	15.37	81.84	187	**269.61**
3224.08	1220-F	**1.00**	15.41	90.64	168	**322.04**
METHOD BLANK	17-Dec-97	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

Response Factor Report FID/TCD

Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997

Calibration Files
1 =T03421.D 2 =T03420.D 3 =T03419.D
4 =T03418.D 5 =T03417.D

		Compound	1	2	3	4	5	Avg		%RSD
1)	t	C8	1.617	1.794	1.612	1.534	1.568	1.625	E4	6.18
2)	t	C10	1.583	1.802	1.614	1.542	1.583	1.625	E4	6.31
3)	t	C12	1.652	1.888	1.688	1.615	1.663	1.701	E4	6.33
4)	t	C14	1.676	1.901	1.705	1.635	1.679	1.719	E4	6.07
5)	t	C16	1.693	1.936	1.719	1.653	1.692	1.739	E4	6.48
6)	t	C18	1.959	2.168	1.920	1.917	1.882	1.969	E4	5.81
7)	t	C20	1.736	1.957	1.807	1.703	1.745	1.790	E4	5.64
8)	t	C22	1.775	2.030	1.839	1.764	1.798	1.841	E4	5.95
9)	t	C24	1.714	1.978	1.807	1.750	1.777	1.805	E4	5.68
10)	t	C26	1.571	1.868	1.713	1.650	1.675	1.695	E4	6.45
11)	t	C28	1.458	1.693	1.559	1.512	1.540	1.552	E4	5.64
12)	t	C30	1.361	1.602	1.502	1.462	1.490	1.483	E4	5.84
13)	t	C32	1.259	1.456	1.368	1.340	1.364	1.357	E4	5.20
14)	t	C34	1.100	1.271	1.201	1.177	1.193	1.188	E4	5.14
15)	t	C36	8.072	9.246	8.727	8.601	8.713	8.672	E3	4.82
16)	t	C38	5.102	5.815	5.639	5.621	5.681	5.571	E3	4.91
17)	t	C40	2.520	2.963	3.043	3.132	3.171	2.966	E3	8.83
18)	t	c42	1.084	1.318	1.418	1.546	1.536	1.380	E3	13.78
19)	T	Pristane	1.814	2.155	1.822	1.720	1.779	1.858	E4	9.19
20)	T	Phytane	1.901	2.132	1.911	1.833	1.878	1.931	E4	6.03
21)	s	o-terphenyl	1.904	2.158	1.940	1.858	1.902	1.952	E4	6.08
22)	t	TPHC - total	2.406	2.190	1.720	1.601	1.602	1.904	E4	19.48

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\971216\T03441.D
Acq On : 17 Dec 97 4:37 am
Sample : 50 PPM STANDARD
Misc :
IntFile : TPHCINT.E

Vial: 2
Operator: DEINHARDT
Inst : FID/TCD
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration

Min. RRF : 0.000 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	t	C8	16.250	16.487 E3	-1.5	105	0.00
2	t	C10	16.250	16.632 E3	-2.4	105	0.00
3	t	C12	17.012	17.385 E3	-2.2	105	0.00
4	t	C14	17.193	17.536 E3	-2.0	104	0.00
5	t	C16	17.387	17.658 E3	-1.6	104	0.00
6	t	C18	19.693	20.370 E3	-3.4	105	0.00
7	t	C20	17.895	18.549 E3	-3.7	104	0.00
8	t	C22	18.412	18.846 E3	-2.4	104	0.00
9	t	C24	18.050	18.558 E3	-2.8	104	0.00
10	t	C26	16.954	17.562 E3	-3.6	104	0.00
11	t	C28	15.525	16.058 E3	-3.4	104	0.00
12	t	C30	14.835	15.350 E3	-3.5	104	0.00
13	t	C32	13.573	14.041 E3	-3.4	103	0.00
14	t	C34	11.885	12.317 E3	-3.6	104	0.00
15	t	C36	8.672	8.970 E3	-3.4	103	0.00
16	t	C38	5.571	5.765 E3	-3.5	102	0.00
17	t	C40	2.966	3.108 E3	-4.8	101	0.01
18	t	c42	1.380	1.425 E3	-3.3	99	0.01
19	T	Pristane	18.581	18.670 E3	-0.5	103	0.00
20	T	Phytane	19.312	19.643 E3	-1.7	104	0.00
21	s	o-terphenyl	19.525	19.924 E3	-2.0	104	0.00
22	t	TPHC - total	19.039	17.410 E3	8.6	103	-0.92#

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

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\971216\T03452.D Vial: 2
Acq On : 17 Dec 97 9:03 pm Operator: DEINHARDT
Sample : 50 PPM STANDARD Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration

Min. RRF : 0.000 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	t	C8	16.250	16.564 E3	-1.9	105	0.00
2	t	C10	16.250	16.863 E3	-3.8	106	0.00
3	t	C12	17.012	17.639 E3	-3.7	106	0.00
4	t	C14	17.193	17.823 E3	-3.7	106	0.00
5	t	C16	17.387	17.929 E3	-3.1	106	0.00
6	t	C18	19.693	20.655 E3	-4.9	106	0.00
7	t	C20	17.895	18.874 E3	-5.5	106	0.00
8	t	C22	18.412	19.161 E3	-4.1	105	0.00
9	t	C24	18.050	19.067 E3	-5.6	107	0.00
10	t	C26	16.954	17.833 E3	-5.2	105	0.00
11	t	C28	15.525	16.513 E3	-6.4	107	0.00
12	t	C30	14.835	15.847 E3	-6.8	107	0.00
13	t	C32	13.573	14.522 E3	-7.0	107	0.00
14	t	C34	11.885	12.678 E3	-6.7	107	0.00
15	t	C36	8.672	9.225 E3	-6.4	106	0.00
16	t	C38	5.571	5.963 E3	-7.0	106	0.00
17	t	C40	2.966	3.258 E3	-9.8	106	0.00
18	t	c42	1.380	1.527 E3	-10.7	106	0.00
19	T	Pristane	18.581	18.817 E3	-1.3	104	0.00
20	T	Phytane	19.312	19.946 E3	-3.3	105	0.00
21	s	o-terphenyl	19.525	20.194 E3	-3.4	106	0.00
22	t	TPHC - total	19.039	17.865 E3	6.2	105	-0.92#

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

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

Surrogate Recovery Report

Lab. ID # : 3224

Location #: 1220

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
3224.01		10.00	12.91	**129.06**
3224.02		10.00	12.95	**129.46**
3224.03		10.00	12.83	**128.31**
3224.05		10.00	12.76	**127.64**
3224.06		10.00	13.05	**130.46**
3224.07		10.00	12.50	**125.04**
3224.08		10.00	12.97	**129.71**
METHOD BLANK	17-Dec-97	10.00	12.96	**129.64**

Surrogate Added : **o-Terphenyl**

12/29/97

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

Blank Spike Recovery Report

Lab. ID # : 3224

Location #: 1220

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
Blank Spike	17-Dec-97	1000	971.74	97.17	75-125

12/29/97

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

Matrix Spike Recovery Report

Lab. ID # : 3224

Location #: 1220

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
3224.08MS	1000	89.96	1059.65	96.97	75-125
3224.08MSD	1000	89.96	1056.84	96.69	75-125

RPD	**0.29**	**20.00**

12/29/97

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\971216\T03450.D Vial: 11
Acq On : 17 Dec 97 7:44 pm Operator: DEINHARDT
Sample : 3224.01 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 10:12 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Initial Calibration
DataAcq Meth : TPH18.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)	s o-terphenyl	13.60	251979	12.906	mg/L	
Spiked Amount	10.000	Recovery	=	129.06%		
	Target Compounds					
1)	t C8	0.00	0	N.D.	mg/L	
2)	t C10	0.00	0	N.D.	mg/L	
3)	t C12	0.00	0	N.D.	mg/L	
4)	t C14	0.00	0	N.D.	mg/L	
5)	t C16	12.19	2036	0.117	mg/L	
6)	t C18	12.65	2464	0.125	mg/L	
7)	t C20	13.09	2467	0.138	mg/L	
8)	t C22	13.90	2594	0.141	mg/L	
9)	t C24	14.65	1721	0.095	mg/L	
10)	t C26	15.34	1318	0.078	mg/L	
11)	t C28	15.98	1870	0.120	mg/L	
12)	t C30	16.57	1549	0.104	mg/L	
13)	t C32	17.13	1246	0.092	mg/L	
14)	t C34	17.65	1083	0.091	mg/L	
15)	t C36	18.20	1113	0.128	mg/L	
16)	t C38	0.00	0	N.D.	mg/L	
17)	t C40	0.00	0	N.D.	mg/L	
18)	t c42	0.00	0	N.D.	mg/L	
19)	T Pristane	12.68	4442	0.239	mg/L	
20)	T Phytane	13.13	3693	0.191	mg/L	
22)	t TPHC - total	13.60	4266571	224.098	mg/L	m

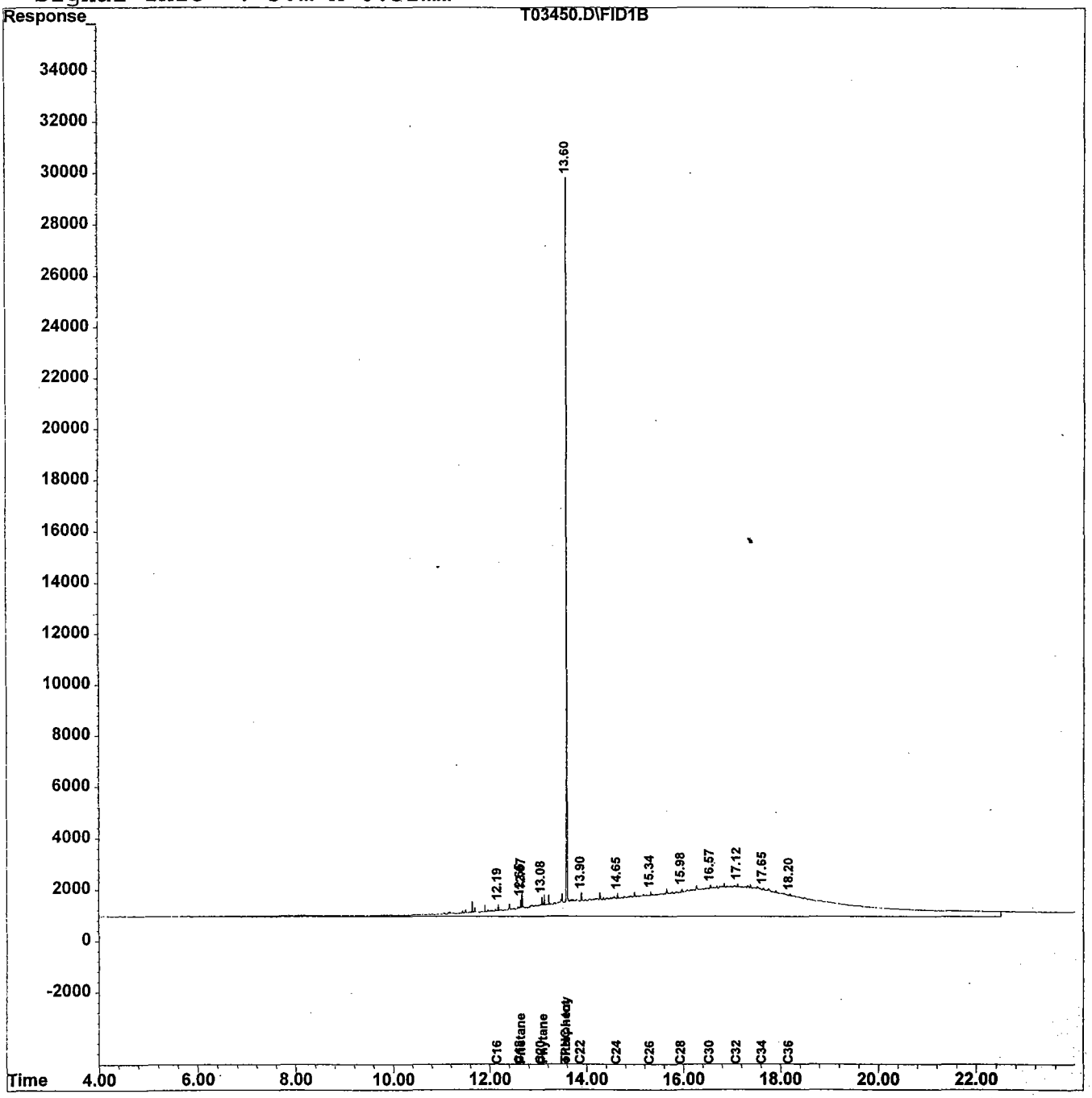
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971216\T03450.D Vial: 11
Acq On : 17 Dec 97 7:44 pm Operator: DEINHARDT
Sample : 3224.01 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 10:12 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPH18.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\971216\T03451.D Vial: 12
Acq On : 17 Dec 97 8:23 pm Operator: DEINHARDT
Sample : 3224.02 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 10:12 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Initial Calibration
DataAcq Meth : TPH18.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) s o-terphenyl	13.60	252776	12.946	mg/L
Spiked Amount 10.000		Recovery =	129.46%	
Target Compounds				
1) t C8	0.00	0	N.D.	mg/L
2) t C10	0.00	0	N.D.	mg/L
3) t C12	0.00	0	N.D.	mg/L
4) t C14	0.00	0	N.D.	mg/L
5) t C16	12.19	2038	0.117	mg/L
6) t C18	12.65	2132	0.108	mg/L
7) t C20	13.08	2259	0.126	mg/L
8) t C22	13.81	1055	0.057	mg/L
9) t C24	14.57	11238	0.623	mg/L
10) t C26	15.36	1140	0.067	mg/L
11) t C28	16.09	1949	0.126	mg/L
12) t C30	16.58	2989	0.201	mg/L
13) t C32	17.13	4230	0.312	mg/L
14) t C34	17.77	4283	0.360	mg/L
15) t C36	18.19	1053	0.121	mg/L
16) t C38	0.00	0	N.D.	mg/L
17) t C40	0.00	0	N.D.	mg/L
18) t c42	0.00	0	N.D.	mg/L
19) T Pristane	12.68	5843	0.314	mg/L
20) T Phytane	13.13	3506	0.182	mg/L
22) t TPHC - total	13.60	10324908	542.307	mg/L m

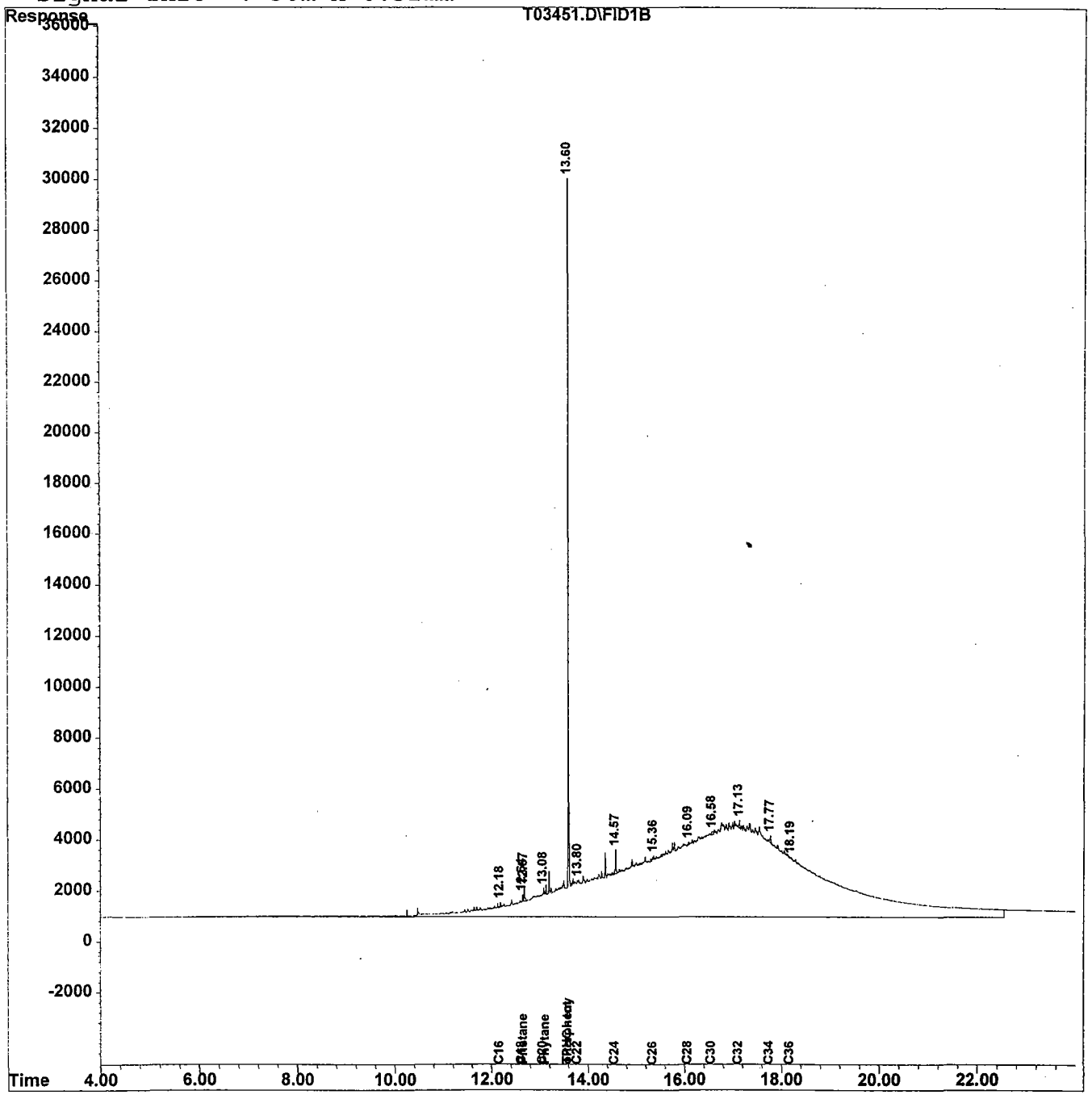
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971216\T03451.D Vial: 12
Acq On : 17 Dec 97 8:23 pm Operator: DEINHARDT
Sample : 3224.02 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 10:12 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPH18.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\971216\T03453.D Vial: 14
Acq On : 17 Dec 97 9:42 pm Operator: DEINHARDT
Sample : 3224.03 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:55 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Initial Calibration
DataAcq Meth : TPH18.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)	s o-terphenyl	13.60	250520	12.831	mg/L	
Spiked Amount	10.000	Recovery	=	128.31%		
	Target Compounds					
1)	t C8	0.00	0	N.D.	mg/L	
2)	t C10	0.00	0	N.D.	mg/L	
3)	t C12	0.00	0	N.D.	mg/L	
4)	t C14	11.19	1330	0.077	mg/L	
5)	t C16	12.19	4090	0.235	mg/L	
6)	t C18	12.65	4297	0.218	mg/L	
7)	t C20	13.08	3908	0.218	mg/L	
8)	t C22	13.90	3817	0.207	mg/L	
9)	t C24	14.65	2370	0.131	mg/L	
10)	t C26	15.34	1461	0.086	mg/L	
11)	t C28	15.98	1256	0.081	mg/L	
12)	t C30	16.51	1300	0.088	mg/L	
13)	t C32	17.13	2683	0.198	mg/L	
14)	t C34	17.77	4871	0.410	mg/L	
15)	t C36	18.20	1142	0.132	mg/L	
16)	t C38	0.00	0	N.D.	mg/L	
17)	t C40	0.00	0	N.D.	mg/L	
18)	t c42	0.00	0	N.D.	mg/L	
19)	T Pristane	12.68	7864	0.423	mg/L	
20)	T Phytane	13.13	6183	0.320	mg/L	
22)	t TPHC - total	13.60	14623760	768.101	mg/L	m

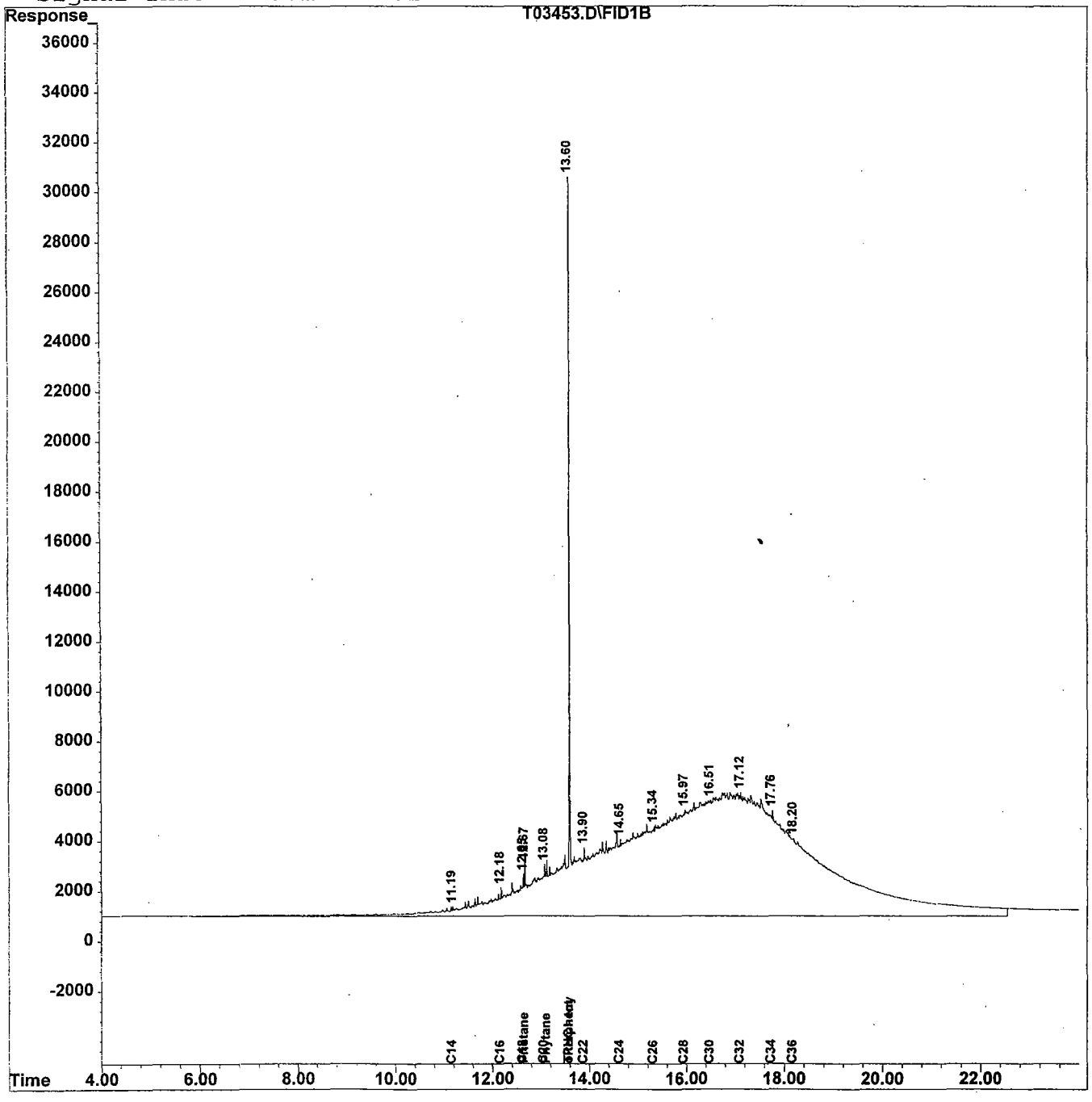
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971216\T03453.D Vial: 14
Acq On : 17 Dec 97 9:42 pm Operator: DEINHARDT
Sample : 3224.03 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:55 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPH18.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\971216\T03454.D Vial: 15
Acq On : 17 Dec 97 10:22 pm Operator: DEINHARDT
Sample : 3224.05 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:55 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Initial Calibration
DataAcq Meth : TPH18.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) s	o-terphenyl	13.60	249213	12.764	mg/L	
Spiked Amount	10.000	Recovery	=	127.64%		
	Target Compounds					
1) t	C8	0.00	0	N.D.	mg/L	
2) t	C10	0.00	0	N.D.	mg/L	
3) t	C12	0.00	0	N.D.	mg/L	
4) t	C14	0.00	0	N.D.	mg/L	
5) t	C16	12.19	1396	0.080	mg/L	
6) t	C18	12.65	2036	0.103	mg/L	
7) t	C20	13.09	3320	0.186	mg/L	
8) t	C22	13.90	4262	0.231	mg/L	
9) t	C24	14.65	2445	0.135	mg/L	
10) t	C26	15.34	1745	0.103	mg/L	
11) t	C28	15.98	1579	0.102	mg/L	
12) t	C30	16.57	1354	0.091	mg/L	
13) t	C32	17.13	1246	0.092	mg/L	
14) t	C34	17.73	1066	0.090	mg/L	
15) t	C36	18.04	1732	0.200	mg/L	
16) t	C38	18.82	1305	0.234	mg/L	
17) t	C40	0.00	0	N.D.	mg/L	
18) t	c42	0.00	0	N.D.	mg/L	
19) T	Pristane	12.68	6169	0.332	mg/L	
20) T	Phytane	13.13	5777	0.299	mg/L	
22) t	TPHC - total	13.60	4995311	262.374	mg/L	m

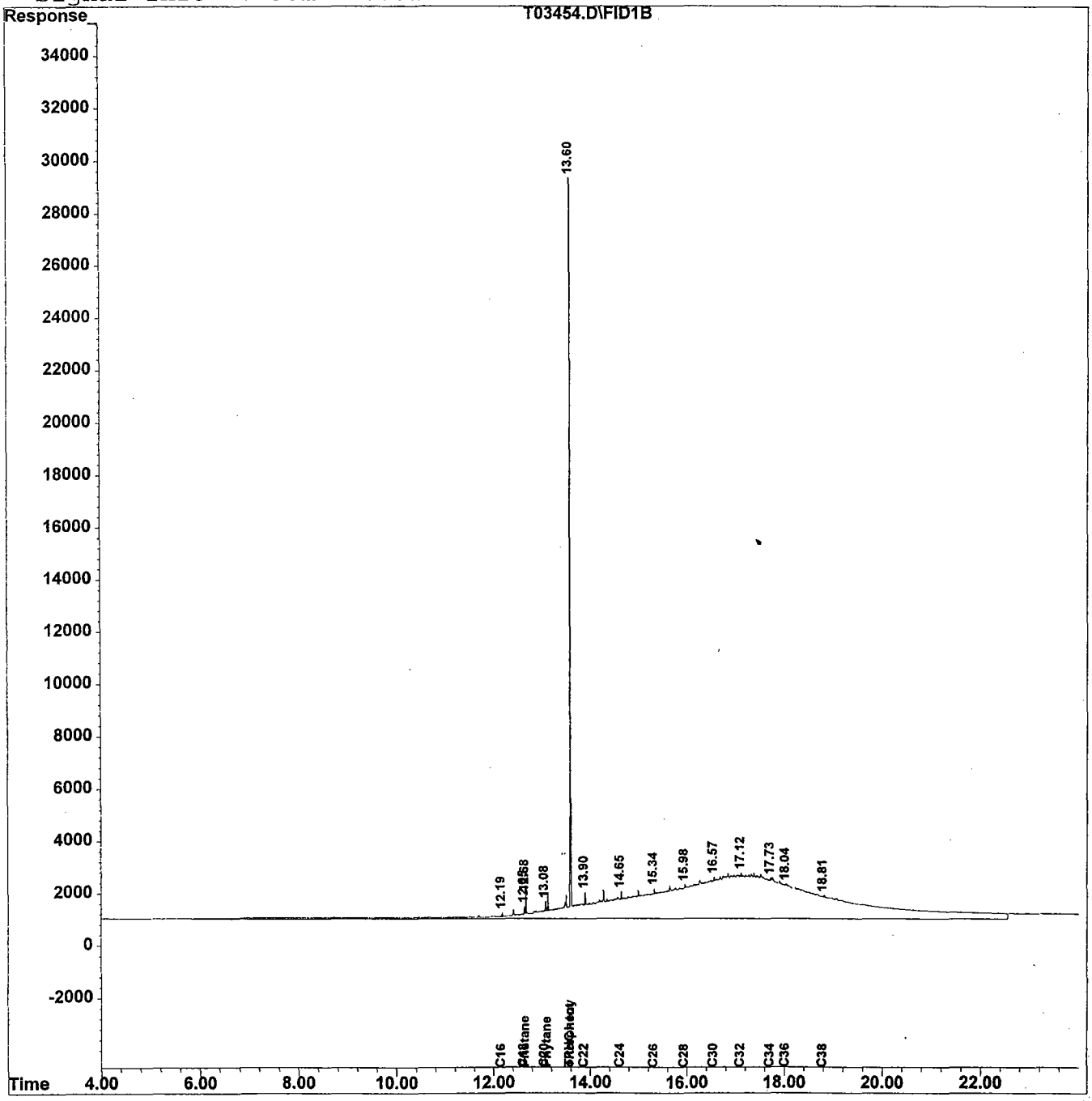
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971216\T03454.D Vial: 15
Acq On : 17 Dec 97 10:22 pm Operator: DEINHARDT
Sample : 3224.05 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:55 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPH18.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\971216\T03455.D Vial: 16
Acq On : 17 Dec 97 11:01 pm Operator: DEINHARDT
Sample : 3224.06 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:55 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Initial Calibration
DataAcq Meth : TPH18.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) s	o-terphenyl	13.60	254722	13.046	mg/L	
Spiked Amount	10.000	Recovery	=	130.46%		
	Target Compounds					
1) t	C8	0.00	0	N.D.	mg/L	
2) t	C10	0.00	0	N.D.	mg/L	
3) t	C12	0.00	0	N.D.	mg/L	
4) t	C14	0.00	0	N.D.	mg/L	
5) t	C16	12.19	8196	0.471	mg/L	
6) t	C18	12.65	14975	0.760	mg/L	
7) t	C20	13.08	26683	1.491	mg/L	
8) t	C22	13.90	31022	1.685	mg/L	
9) t	C24	14.65	10515	0.583	mg/L	
10) t	C26	15.34	3892	0.230	mg/L	
11) t	C28	15.98	1559	0.100	mg/L	
12) t	C30	16.69	1469	0.099	mg/L	
13) t	C32	0.00	0	N.D.	mg/L	
14) t	C34	0.00	0	N.D.	mg/L	
15) t	C36	18.04	1022	0.118	mg/L	
16) t	C38	0.00	0	N.D.	mg/L	
17) t	C40	0.00	0	N.D.	mg/L	
18) t	c42	0.00	0	N.D.	mg/L	
19) T	Pristane	12.68	42379	2.281	mg/L	
20) T	Phytane	13.13	41981	2.174	mg/L	
22) t	TPHC - total	13.60	5407048	284.001	mg/L	m

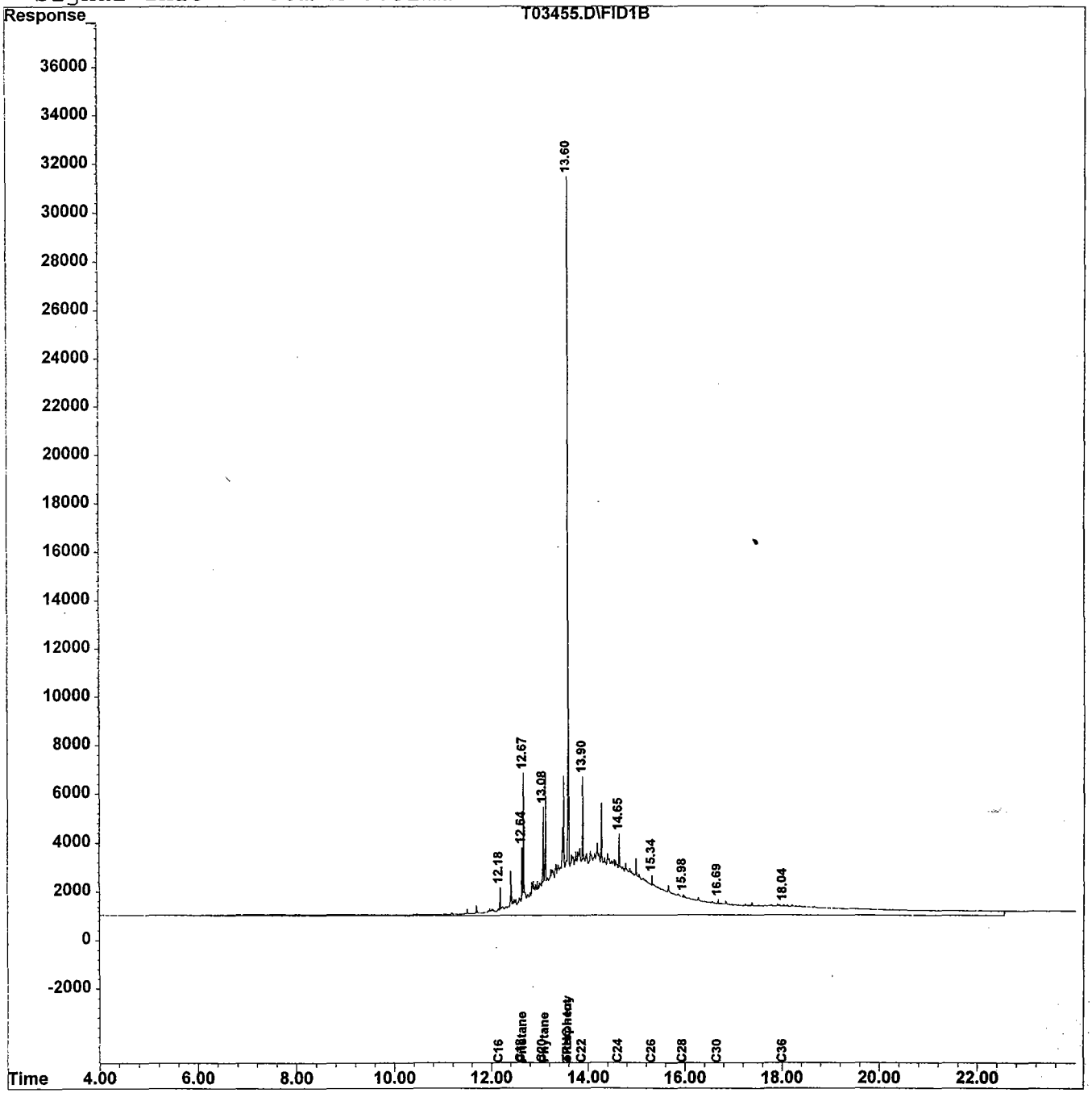
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971216\T03455.D Vial: 16
Acq On : 17 Dec 97 11:01 pm Operator: DEINHARDT
Sample : 3224.06 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:55 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPH18.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\971216\T03456.D Vial: 17
Acq On : 17 Dec 97 11:41 pm Operator: DEINHARDT
Sample : 3224.07 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:56 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Initial Calibration
DataAcq Meth : TPH18.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)	s o-terphenyl	13.60	244135	12.504	mg/L	
Spiked Amount	10.000	Recovery	=	125.04%		
	Target Compounds					
1)	t C8	0.00	0	N.D.	mg/L	
2)	t C10	0.00	0	N.D.	mg/L	
3)	t C12	0.00	0	N.D.	mg/L	
4)	t C14	0.00	0	N.D.	mg/L	
5)	t C16	0.00	0	N.D.	mg/L	
6)	t C18	0.00	0	N.D.	mg/L	
7)	t C20	13.19	3261	0.182	mg/L	
8)	t C22	0.00	0	N.D.	mg/L	
9)	t C24	14.57	4872	0.270	mg/L	
10)	t C26	0.00	0	N.D.	mg/L	
11)	t C28	15.79	2126	0.137	mg/L	
12)	t C30	16.69	4508	0.304	mg/L	
13)	t C32	17.03	1751	0.129	mg/L	
14)	t C34	17.79	1812	0.152	mg/L	
15)	t C36	18.22	1311	0.151	mg/L	
16)	t C38	19.07	1222	0.219	mg/L	
17)	t C40	0.00	0	N.D.	mg/L	
18)	t c42	0.00	0	N.D.	mg/L	
19)	T Pristane	0.00	0	N.D.	mg/L	
20)	T Phytane	13.19	3261	0.169	mg/L	
22)	t TPHC - total	13.60	1291364	67.828	mg/L	m

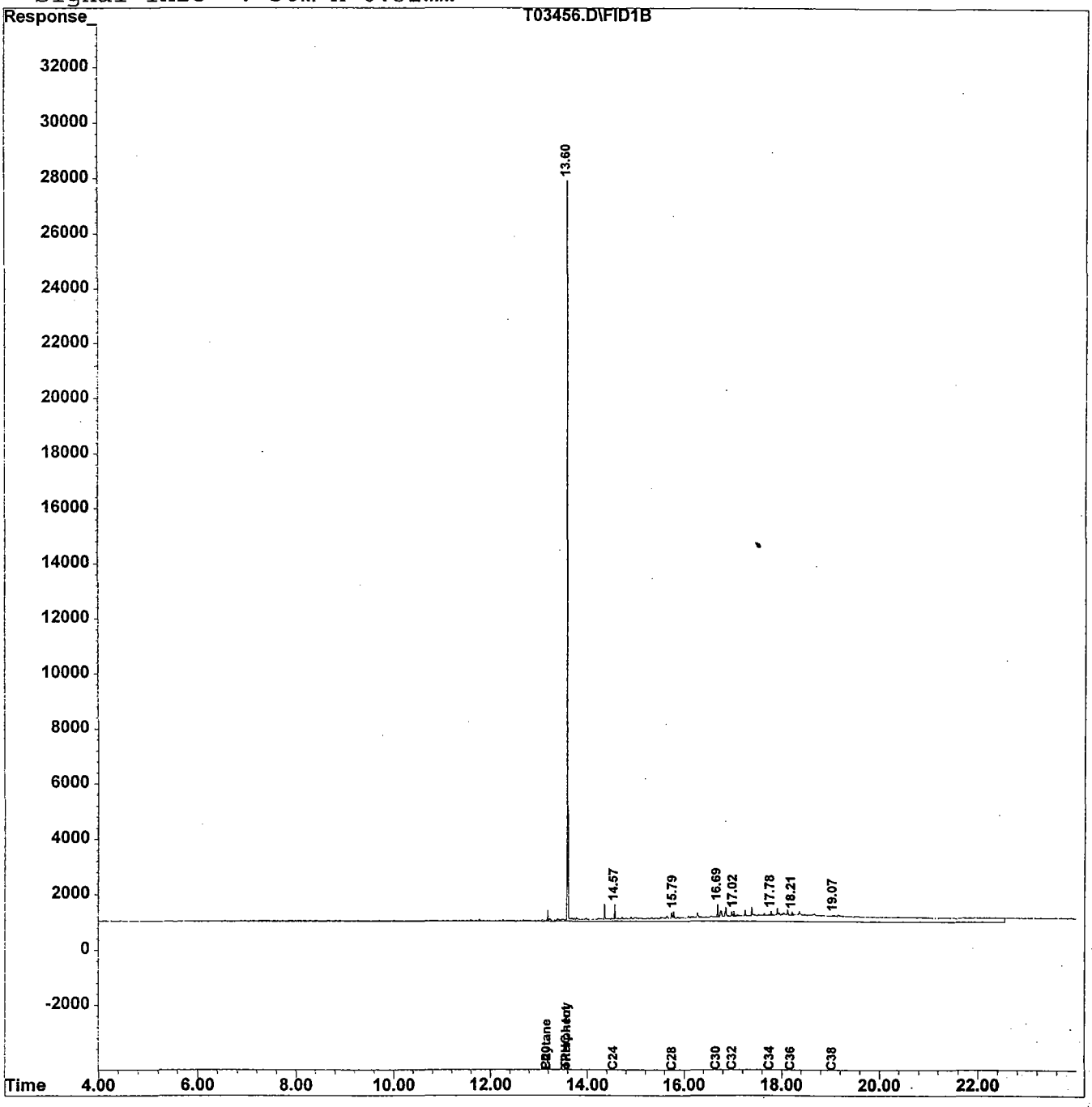
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971216\T03456.D Vial: 17
Acq On : 17 Dec 97 11:41 pm Operator: DEINHARDT
Sample : 3224.07 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:56 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPH18.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\971216\T03457.D Vial: 18
Acq On : 18 Dec 97 12:20 am Operator: DEINHARDT
Sample : 3224.08 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:56 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Initial Calibration
DataAcq Meth : TPH18.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) s	o-terphenyl	13.60	253250	12.971	mg/L	
Spiked Amount	10.000	Recovery	=	129.71%		
	Target Compounds					
1) t	C8	0.00	0	N.D.	mg/L	
2) t	C10	0.00	0	N.D.	mg/L	
3) t	C12	0.00	0	N.D.	mg/L	
4) t	C14	0.00	0	N.D.	mg/L	
5) t	C16	0.00	0	N.D.	mg/L	
6) t	C18	0.00	0	N.D.	mg/L	
7) t	C20	13.19	5226	0.292	mg/L	
8) t	C22	0.00	0	N.D.	mg/L	
9) t	C24	14.57	7497	0.415	mg/L	
10) t	C26	0.00	0	N.D.	mg/L	
11) t	C28	15.79	2607	0.168	mg/L	
12) t	C30	16.70	3227	0.218	mg/L	
13) t	C32	17.03	2161	0.159	mg/L	
14) t	C34	17.64	1297	0.109	mg/L	
15) t	C36	18.22	2551	0.294	mg/L	
16) t	C38	18.87	1056	0.190	mg/L	
17) t	C40	0.00	0	N.D.	mg/L	
18) t	c42	0.00	0	N.D.	mg/L	
19) T	Pristane	0.00	0	N.D.	mg/L	
20) T	Phytane	13.19	5226	0.271	mg/L	
22) t	TPHC - total	13.60	1712783	89.962	mg/L	m

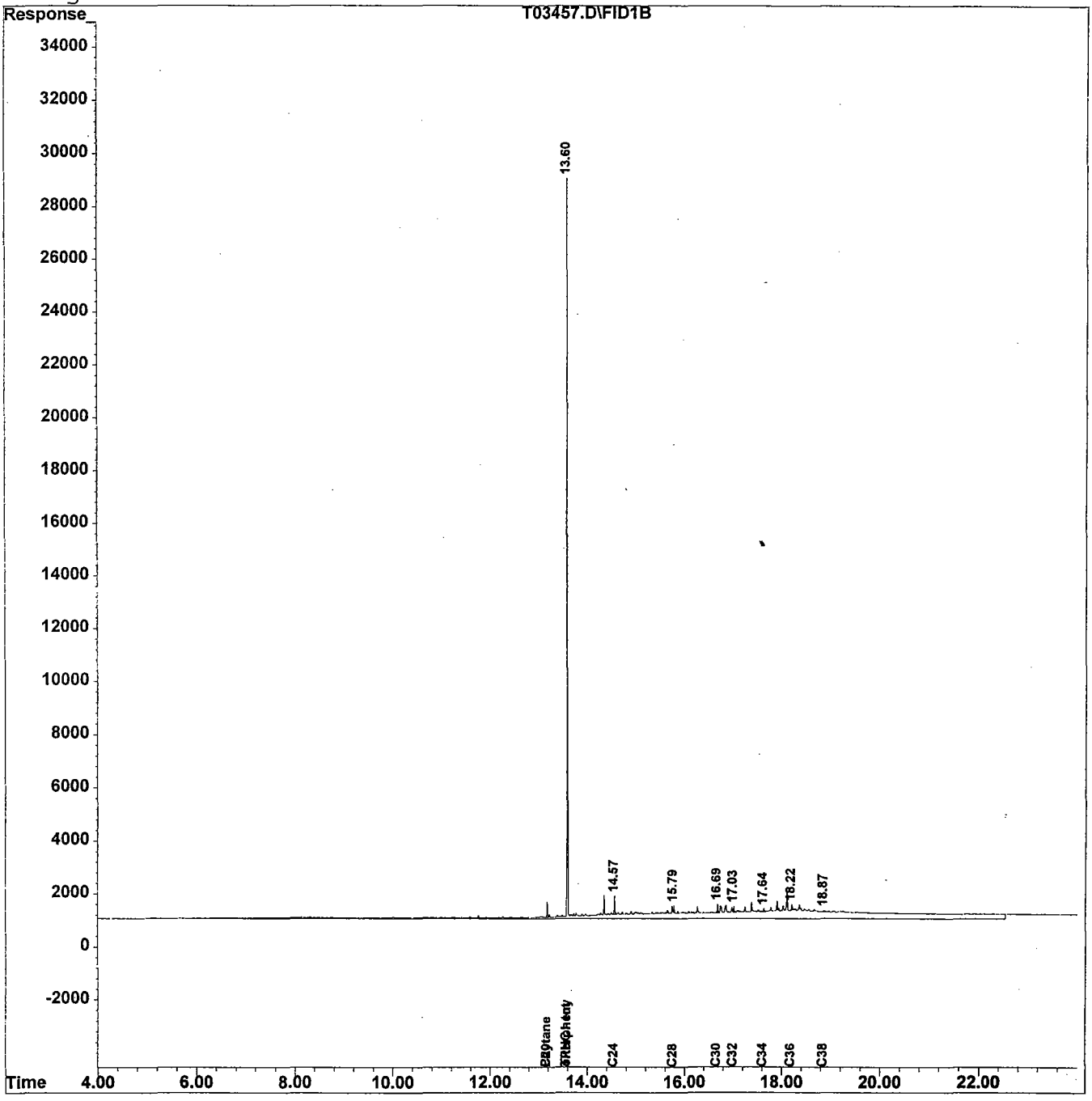
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971216\T03457.D Vial: 18
Acq On : 18 Dec 97 12:20 am Operator: DEINHARDT
Sample : 3224.08 Inst : FID/TCD
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Dec 19 13:56 1997 Quant Results File: TPH18.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH18.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Fri Aug 22 07:39:41 1997
Response via : Multiple Level Calibration
DataAcq Meth : TPH18.M

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



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

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

Laboratory Certification #13461

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

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

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

Lab ID #: 3224.01
Sample Received: 12/16/97
Sample Matrix: Soil

Site: Bldg. 1220
Ft. Monmouth, New Jersey

Field ID#: 1220-A

METALS RESULTS SUMMARY (mg/Kg)

Element	Date of Analysis	Result (mg/Kg)	MDL (mg/Kg)
Antimony	02/05/98	1.02	0.24
Arsenic	02/05/98	13.51	0.24
Beryllium	02/05/98	0.49	0.06
Cadmium	02/05/98	ND	0.06
Chromium	02/05/98	61.82	0.06
Copper	02/05/98	7.12	0.35
Lead	02/05/98	20.02	0.24
Mercury	12/30/97	0.06	0.02
Nickel	02/05/98	4.17	0.06
Selenium	02/05/98	0.67	0.35
Silver	02/05/98	ND	0.35
Thallium	02/05/98	ND	0.35
Zinc	02/05/98	3653.00	0.12

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Daniel K. Wright
Lab Manager

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

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

Lab ID #: 3224.02
Sample Received: 12/16/97
Sample Matrix: Soil

Site: Bldg. 1220
Ft. Monmouth, New Jersey

Field ID#: 1220-B

METALS RESULTS SUMMARY (mg/Kg)

Element	Date of Analysis	Result (mg/Kg)	MDL (mg/Kg)
Antimony	02/05/98	0.68	0.23
Arsenic	02/05/98	12.72	0.23
Beryllium	02/05/98	0.54	0.06
Cadmium	02/05/98	ND	0.06
Chromium	02/05/98	65.80	0.06
Copper	02/05/98	8.58	0.34
Lead	02/05/98	13.25	0.23
Mercury	12/30/97	0.08	0.03
Nickel	02/05/98	5.68	0.06
Selenium	02/05/98	ND	0.34
Silver	02/05/98	ND	0.34
Thallium	02/05/98	ND	0.34
Zinc	02/05/98	2601.00	0.11

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Daniel K. Wright
Lab Manager

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

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

Lab ID #: Method Blank
Sample Received: NA
Sample Matrix: Aqueous

Site: Bldg. 1220
Ft. Monmouth, New Jersey

Field ID#: NA

METALS RESULTS SUMMARY (mg/Kg)

Element	Date of Analysis	Result (mg/Kg)	MDL (mg/Kg)
Antimony	02/05/98	ND	0.25
Arsenic	02/05/98	ND	0.25
Beryllium	02/05/98	ND	0.06
Cadmium	02/05/98	ND	0.06
Chromium	02/05/98	ND	0.06
Copper	02/05/98	ND	0.37
Lead	02/05/98	ND	0.25
Mercury	12/30/97	0.04	0.03
Nickel	02/05/98	ND	0.06
Selenium	02/05/98	ND	0.37
Silver	02/05/98	ND	0.37
Thallium	02/05/98	ND	0.37
Zinc	02/05/98	ND	0.12

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Daniel K. Wright
Lab Manager

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

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

Lab ID #: 3224.03
Sample Received: 12/16/97
Sample Matrix: Soil

Site: Bldg. 1220
Ft. Monmouth, New Jersey

Field ID#: Dup.

METALS RESULTS SUMMARY (mg/Kg)

Element	Date of Analysis	Result (mg/Kg)	MDL (mg/Kg)
Antimony	02/05/98	0.76	0.25
Arsenic	02/05/98	11.93	0.25
Beryllium	02/05/98	0.42	0.06
Cadmium	02/05/98	ND	0.06
Chromium	02/05/98	46.90	0.06
Copper	02/05/98	7.22	0.37
Lead	02/05/98	24.08	0.25
Mercury	12/30/97	0.08	0.03
Nickel	02/05/98	4.79	0.06
Selenium	02/05/98	0.63	0.37
Silver	02/05/98	ND	0.37
Thallium	02/05/98	ND	0.37
Zinc	02/05/98	1896.00	0.12

ND = Not Detected, MDL = Method Detection Limit, NLE = No Limit Established

Daniel K. Wright
Lab Manager

APPENDIX E

GROUNDWATER ANALYTICAL DATA PACKAGE

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Semi-Volatiles - EPA Method 625
OMA
1220

Project # 3224
Date Rec. 12/16/98
Date Compl. 01/27/98
Released by:

Daniel K. Wright
Laboratory Director

PROJECT Dec 23 1997

Notebook No. 68

Continued From Page

Sample ID	WG (gm)	IV	FV	Solvent	Surr sound Acid/BN	Mis
S BLK 14	—	160 mL	10mL	DCM		1mL
3231.13 MSD	20.45					
3223.01	20.67					
↓ .02	20.19					
↓ .03	20.74					
3224.01	20.28					
↓ .02	20.71					
↓ .03	20.87					
3229.01	20.77					
3234.01	20.22					
3234.03	20.55					

DCM LOT # L30252

BN SV0102797.02

Acid SV0102797.01

Surr SV0120497.01

Continued on Page

Read and Understood By

Signed

12/23/97

Date

Signed

Date

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Sample ID: **SBLK 14**

Lab Name: FMETL Lab Code 13461

Project 930445 Case No.: 3224 SDG No _____ Location B1220

Matrix: (soil/water) SOIL Lab Sample ID: SBLK 14

Sample wt/vol: 20 (g/ml) G Lab File ID: BN0864.D

Level: (low/med) LOW Date Received: 12/16/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 03/04/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	500	U
62-75-9	N-nitroso-dimethylamine	500	U
62-53-3	Aniline	500	U
111-44-4	bis(2-Chloroethyl)ether	500	U
541-73-1	1,3-Dichlorobenzene	500	U
106-46-7	1,4-Dichlorobenzene	500	U
100-51-6	Benzyl alcohol	500	U
95-50-1	1,2-Dichlorobenzene	500	U
108-60-1	bis(2-chloroisopropyl)ether	500	U
621-64-7	n-Nitroso-di-n-propylamine	500	U
67-72-1	Hexachloroethane	500	U
98-95-3	Nitrobenzene	500	U
78-59-1	Isophorone	500	U
111-91-1	bis(2-Chloroethoxy)methane	500	U
120-82-1	1,2,4-Trichlorobenzene	500	U
91-20-3	Naphthalene	500	U
106-47-8	4-Chloroaniline	500	U
87-68-3	Hexachlorobutadiene	500	U
91-57-6	2-Methylnaphthalene	500	U
77-47-4	Hexachlorocyclopentadiene	500	U
91-58-7	2-Chloronaphthalene	500	U
88-74-4	2-Nitroaniline	500	U
131-11-3	Dimethylphthalate	500	U
208-96-8	Acenaphthylene	500	U
606-20-2	2,6-Dinitrotoluene	500	U
99-09-2	3-Nitroaniline	500	U
83-32-9	Acenaphthene	500	U
132-64-9	Dibenzofuran	500	U
121-14-2	2,4-Dinitrotoluene	500	U
84-66-2	Diethylphthalate	500	U
86-73-7	Fluorene	500	U
7005-72-3	4-Chlorophenyl-phenylether	500	U
100-01-6	4-Nitroaniline	500	U
86-30-6	n-Nitrosodiphenylamine	500	U
103-33-3	Azobenzene	500	U
101-55-3	4-Bromophenyl-phenylether	500	U
118-74-1	Hexachlorobenzene	500	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Sample ID: **SBLK 14**

Lab Name: FMETL Lab Code 13461

Project 930445 Case No.: 3224 SDG No _____ Location B1220

Matrix: (soil/water) SOIL Lab Sample ID: SBLK 14

Sample wt/vol: 20 (g/ml) G Lab File ID: BN0864.D

Level: (low/med) LOW Date Received: 12/16/98

% Moisture: 0 decanted:(Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 03/04/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
85-01-8	Phenanthrene	500	U
120-12-7	Anthracene	500	U
84-74-2	Di-n-butylphthalate	500	U
206-44-0	Fluoranthene	500	U
92-87-5	Benzidine	500	U
129-00-0	Pyrene	500	U
85-68-7	Butylbenzylphthalate	500	U
56-55-3	Benzo[a]anthracene	500	U
91-94-1	3,3'-Dichlorobenzidine	500	U
218-01-9	Chrysene	500	U
117-81-7	bis(2-Ethylhexyl)phthalate	500	U
117-84-0	Di-n-octylphthalate	500	U
205-99-2	Benzo[b]fluoranthene	500	U
207-08-9	Benzo[k]fluoranthene	500	U
50-32-8	Benzo[a]pyrene	500	U
193-39-5	Indeno[1,2,3-cd]pyrene	500	U
53-70-3	Dibenz[a,h]anthracene	500	U
191-24-2	Benzo[g,h,i]perylene	500	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Sample ID: **1220-A**

Lab Name: FMETL Lab Code 13461

Project 930445 Case No.: 3224 SDG No _____ Location B1220

Matrix: (soil/water) SOIL Lab Sample ID: 3224-01

Sample wt/vol: 20.28 (g/ml) G Lab File ID: BN0913.D

Level: (low/med) LOW Date Received: 12/16/98

% Moisture: 17.11 decanted:(Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/27/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	590	U
62-75-9	N-nitroso-dimethylamine	590	U
62-53-3	Aniline	590	U
111-44-4	bis(2-Chloroethyl)ether	590	U
541-73-1	1,3-Dichlorobenzene	590	U
106-46-7	1,4-Dichlorobenzene	590	U
100-51-6	Benzyl alcohol	590	U
95-50-1	1,2-Dichlorobenzene	590	U
108-60-1	bis(2-chloroisopropyl)ether	590	U
621-64-7	n-Nitroso-di-n-propylamine	590	U
67-72-1	Hexachloroethane	590	U
98-95-3	Nitrobenzene	590	U
78-59-1	Isophorone	590	U
111-91-1	bis(2-Chloroethoxy)methane	590	U
120-82-1	1,2,4-Trichlorobenzene	590	U
91-20-3	Naphthalene	590	U
106-47-8	4-Chloroaniline	590	U
87-68-3	Hexachlorobutadiene	590	U
91-57-6	2-Methylnaphthalene	590	U
77-47-4	Hexachlorocyclopentadiene	590	U
91-58-7	2-Chloronaphthalene	590	U
88-74-4	2-Nitroaniline	590	U
131-11-3	Dimethylphthalate	590	U
208-96-8	Acenaphthylene	590	U
606-20-2	2,6-Dinitrotoluene	590	U
99-09-2	3-Nitroaniline	590	U
83-32-9	Acenaphthene	590	U
132-64-9	Dibenzofuran	590	U
121-14-2	2,4-Dinitrotoluene	590	U
84-66-2	Diethylphthalate	590	U
86-73-7	Fluorene	590	U
7005-72-3	4-Chlorophenyl-phenylether	590	U
100-01-6	4-Nitroaniline	590	U
86-30-6	n-Nitrosodiphenylamine	590	U
103-33-3	Azobenzene	590	U
101-55-3	4-Bromophenyl-phenylether	590	U
118-74-1	Hexachlorobenzene	590	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

1220-A

Lab Name: FMETL Contract:

Cert. No. 13461 Case No.: 3224 Project N 98-000 SDG No.

Matrix: (soil/water) SOIL Lab Sample ID: 3224-1

Sample wt/vol: 20.28 (g/ml) G Lab File ID: BN0913.D

Level: (low/med) LOW Date Received: 12/16/97

% Moisture: 17.11 decanted: (Y/N) N Date Analyzed: 01/27/98

Concentrated Extract Volume: 10000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Soil Aliquot Volume: 1 (uL)

GPC Cleanup: (Y/N) N pH: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Sample ID: **1220-B**

Lab Name: FMETL Lab Code 13461

Project 930445 Case No.: 3224 SDG No _____ Location B1220

Matrix: (soil/water) SOIL Lab Sample ID: 3224-02

Sample wt/vol: 20.71 (g/ml) G Lab File ID: BN0914.D

Level: (low/med) LOW Date Received: 12/16/98

% Moisture: 20.38 decanted:(Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/27/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	610	U
62-75-9	N-nitroso-dimethylamine	610	U
62-53-3	Aniline	610	U
111-44-4	bis(2-Chloroethyl)ether	610	U
541-73-1	1,3-Dichlorobenzene	610	U
106-46-7	1,4-Dichlorobenzene	610	U
100-51-6	Benzyl alcohol	610	U
95-50-1	1,2-Dichlorobenzene	610	U
108-60-1	bis(2-chloroisopropyl)ether	610	U
621-64-7	n-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
111-91-1	bis(2-Chloroethoxy)methane	610	U
120-82-1	1,2,4-Trichlorobenzene	610	U
91-20-3	Naphthalene	610	U
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
91-57-6	2-Methylnaphthalene	610	U
77-47-4	Hexachlorocyclopentadiene	610	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	610	U
131-11-3	Dimethylphthalate	610	U
208-96-8	Acenaphthylene	610	U
606-20-2	2,6-Dinitrotoluene	610	U
99-09-2	3-Nitroaniline	610	U
83-32-9	Acenaphthene	610	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
86-73-7	Fluorene	610	U
7005-72-3	4-Chlorophenyl-phenylether	610	U
100-01-6	4-Nitroaniline	610	U
86-30-6	n-Nitrosodiphenylamine	610	U
103-33-3	Azobenzene	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Sample ID: **1220-B**

Lab Name: FMETL Lab Code 13461

Project 930445 Case No.: 3224 SDG No _____ Location B1220

Matrix: (soil/water) SOIL Lab Sample ID: 3224-02

Sample wt/vol: 20.71 (g/ml) G Lab File ID: BN0914.D

Level: (low/med) LOW Date Received: 12/16/98

% Moisture: 20.38 decanted:(Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/27/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
85-01-8	Phenanthrene	610	U
120-12-7	Anthracene	610	U
84-74-2	Di-n-butylphthalate	79	J
206-44-0	Fluoranthene	610	U
92-87-5	Benzidine	610	U
129-00-0	Pyrene	610	U
85-68-7	Butylbenzylphthalate	610	U
56-55-3	Benzo[a]anthracene	610	U
91-94-1	3,3'-Dichlorobenzidine	610	U
218-01-9	Chrysene	610	U
117-81-7	bis(2-Ethylhexyl)phthalate	610	U
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo[b]fluoranthene	610	U
207-08-9	Benzo[k]fluoranthene	610	U
50-32-8	Benzo[a]pyrene	610	U
193-39-5	Indeno[1,2,3-cd]pyrene	610	U
53-70-3	Dibenz[a,h]anthracene	610	U
191-24-2	Benzo[g,h,i]perylene	610	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

1220-B

Lab Name: FMETL Contract:

Cert. No. 13461 Case No.: 3224 Project N 98-000 SDG No.

Matrix: (soil/water) SOIL Lab Sample ID: 3224-2

Sample wt/vol: 20.71 (g/ml) G Lab File ID: BN0914.D

Level: (low/med) LOW Date Received: 12/16/97

% Moisture: 20.38 decanted: (Y/N) N Date Analyzed: 01/27/98

Concentrated Extract Volume: 10000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Soil Aliquot Volume: 1 (uL)

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000504-44-9	Hexadecane, 2,6,11,15-tetrameth	17.52	5200	JN

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID.

TENTATIVELY IDENTIFIED COMPOUNDS

1220-DUP

Lab Name: FMETL Contract:

Cert. No. 13461 Case No.: 3224 Project N 98-000 SDG No.

Matrix: (soil/water) SOIL Lab Sample ID: 3224-3

Sample wt/vol: 20.87 (g/ml) G Lab File ID: BN0915.D

Level: (low/med) LOW Date Received: 12/16/97

% Moisture: 0 decanted: (Y/N) N Date Analyzed: 01/27/98

Concentrated Extract Volume: 10000 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Soil Aliquot Volume: 1 (uL)

GPC Cleanup: (Y/N) N pH: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\971230\BN0864.D Vial: 1
Acq On : 30 Dec 97 12:08 Operator: Skelton
Sample : SBLK14 Inst : GC/MS Ins
Misc : 12/23/97 Multiplr: 1.00
Quant Time: Dec 30 13:50 1997 Quant Results File: M62506.RES

Quant Method : C:\HPCHEM\1\METHODS\M62506.M
Title : BNA Calibration
Last Update : Tue Nov 25 08:39:20 1997
Response via : Initial Calibration
DataAcq Meth : M62506

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.10	152	1070856	40.00	ug/L	-0.10
19) Naphthalene-d8	10.92	136	3872636	40.00	ug/L	-0.12
34) Acenaphthene-d10	15.02	164	1886355	40.00	ug/L	-0.12
54) Phenanthrene-d10	18.42	188	2931984	40.00	ug/L	-0.12
66) Chrysene-d12	24.65	240	1841566	40.00	ug/L	-0.13
75) Perylene-d12	27.76	264	1337588	40.00	ug/L	-0.11
System Monitoring Compounds						
4) 2-Fluorophenol	5.69	112	343304	5.30	ug/L	-0.04
Surrogate Spike 50.000	Range 21 - 100		Recovery = 10.60%#			
6) Phenol-d6	7.71	99	404578	5.54	ug/L	-0.06
Surrogate Spike 50.000	Range 10 - 94		Recovery = 11.08%			
20) Nitrobenzene-d5	9.41	82	187153	4.50	ug/L	-0.10
Surrogate Spike 50.000	Range 35 - 114		Recovery = 9.00%#			
38) 2-Fluorobiphenyl	13.54	172	274860	5.37	ug/L	-0.13
Surrogate Spike 50.000	Range 43 - 116		Recovery = 10.74%#			
58) 2,4,6-Tribromophenol	16.89	330	52248	3.90	ug/L	-0.13
Surrogate Spike 50.000	Range 10 - 123		Recovery = 7.80%#			
69) p-Terphenyl-d14	22.33	244	239202	5.54	ug/L	-0.13
Surrogate Spike 50.000	Range 33 - 141		Recovery = 11.08%#			

Target Compounds Qvalue

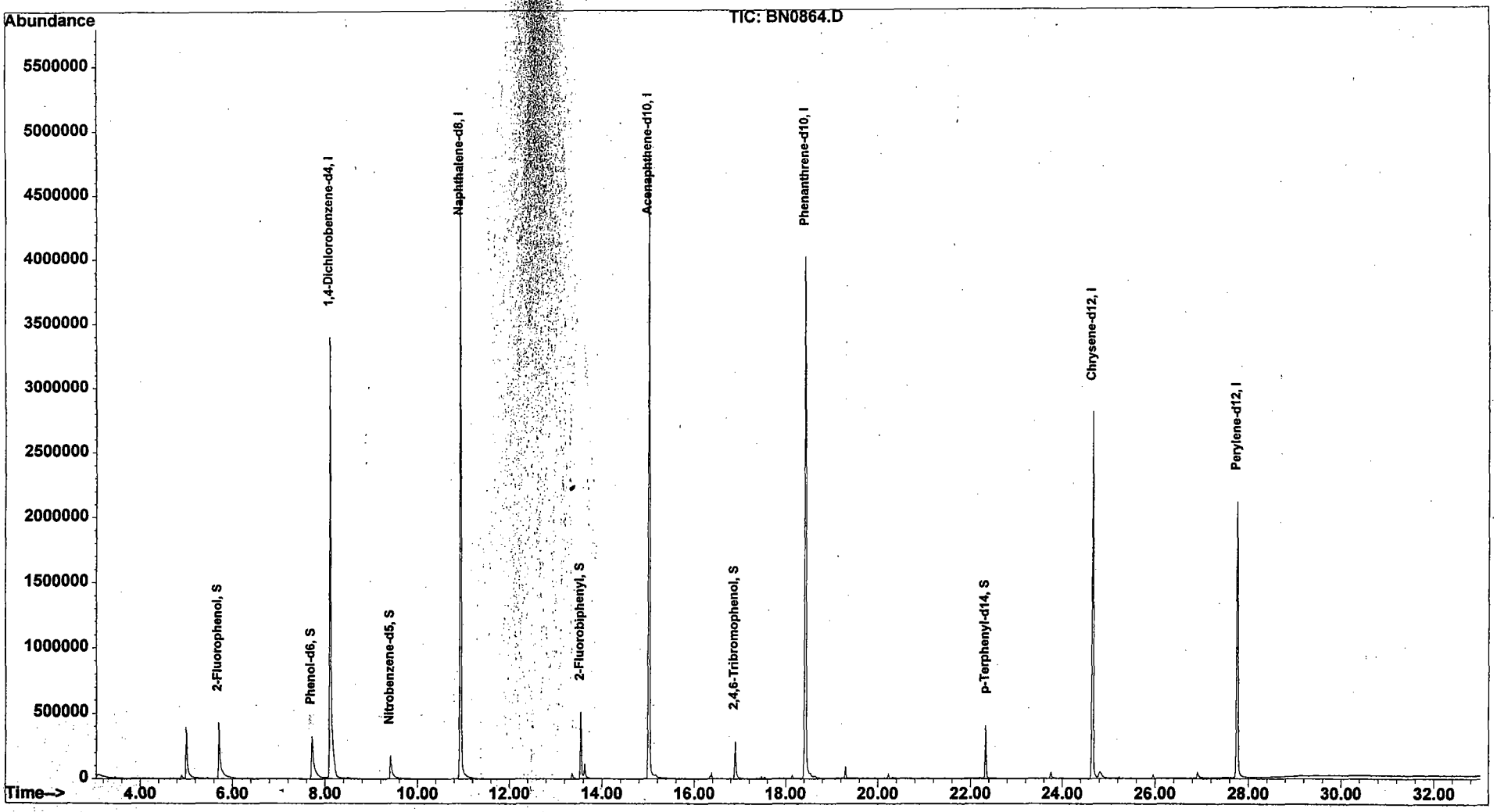
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971230\BN0864.D
Acq On : 30 Dec 97 12:08
Sample : SBLK14
Misc : 12/23/97
Quant Time: Dec 30 13:50 1997

Vial: 1
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: M62506.RES

Method : C:\HPCHEM\1\METHODS\M62506.M
Title : BNA Calibration
Last Update : Tue Nov 25 08:39:20 1997
Response via : Multiple Level Calibration



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Sample ID: **1220-DUP**

Lab Name: FMETL Lab Code 13461

Project 930445 Case No.: 3224 SDG No _____ Location B1220

Matrix: (soil/water) SOIL Lab Sample ID: 3224-03

Sample wt/vol: 20.87 (g/ml) G Lab File ID: BN0915.D

Level: (low/med) LOW Date Received: 12/16/98

% Moisture: 18.53 decanted:(Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/27/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
110-86-1	Pyridine	590	U
62-75-9	N-nitroso-dimethylamine	590	U
62-53-3	Aniline	590	U
111-44-4	bis(2-Chloroethyl)ether	590	U
541-73-1	1,3-Dichlorobenzene	590	U
106-46-7	1,4-Dichlorobenzene	590	U
100-51-6	Benzyl alcohol	590	U
95-50-1	1,2-Dichlorobenzene	590	U
108-60-1	bis(2-chloroisopropyl)ether	590	U
621-64-7	n-Nitroso-di-n-propylamine	590	U
67-72-1	Hexachloroethane	590	U
98-95-3	Nitrobenzene	590	U
78-59-1	Isophorone	590	U
111-91-1	bis(2-Chloroethoxy)methane	590	U
120-82-1	1,2,4-Trichlorobenzene	590	U
91-20-3	Naphthalene	590	U
106-47-8	4-Chloroaniline	590	U
87-68-3	Hexachlorobutadiene	590	U
91-57-6	2-Methylnaphthalene	590	U
77-47-4	Hexachlorocyclopentadiene	590	U
91-58-7	2-Chloronaphthalene	590	U
88-74-4	2-Nitroaniline	590	U
131-11-3	Dimethylphthalate	590	U
208-96-8	Acenaphthylene	590	U
606-20-2	2,6-Dinitrotoluene	590	U
99-09-2	3-Nitroaniline	590	U
83-32-9	Acenaphthene	590	U
132-64-9	Dibenzofuran	590	U
121-14-2	2,4-Dinitrotoluene	590	U
84-66-2	Diethylphthalate	590	U
86-73-7	Fluorene	590	U
7005-72-3	4-Chlorophenyl-phenylether	590	U
100-01-6	4-Nitroaniline	590	U
86-30-6	n-Nitrosodiphenylamine	590	U
103-33-3	Azobenzene	590	U
101-55-3	4-Bromophenyl-phenylether	590	U
118-74-1	Hexachlorobenzene	590	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Sample ID: **1220-DUP**

Lab Name: FMETL Lab Code 13461

Project 930445 Case No.: 3224 SDG No _____ Location B1220

Matrix: (soil/water) SOIL Lab Sample ID: 3224-03

Sample wt/vol: 20.87 (g/ml) G Lab File ID: BN0915.D

Level: (low/med) LOW Date Received: 12/16/98

% Moisture: 18.53 decanted:(Y/N) N Date Extracted: 12/23/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/27/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
85-01-8	Phenanthrene	590	U
120-12-7	Anthracene	590	U
84-74-2	Di-n-butylphthalate	85	J
206-44-0	Fluoranthene	590	U
92-87-5	Benzidine	590	U
129-00-0	Pyrene	590	U
85-68-7	Butylbenzylphthalate	590	U
56-55-3	Benzo[a]anthracene	590	U
91-94-1	3,3'-Dichlorobenzidine	590	U
218-01-9	Chrysene	590	U
117-81-7	bis(2-Ethylhexyl)phthalate	590	U
117-84-0	Di-n-octylphthalate	590	U
205-99-2	Benzo[b]fluoranthene	590	U
207-08-9	Benzo[k]fluoranthene	590	U
50-32-8	Benzo[a]pyrene	590	U
193-39-5	Indeno[1,2,3-cd]pyrene	590	U
53-70-3	Dibenz[a,h]anthracene	590	U
191-24-2	Benzo[g,h,i]perylene	590	U

Quantitation Report (QT/LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\980127\BN0914.D Vial: 13
Acq On : 27 Jan 98 19:40 Operator: Skelton
Sample : 3224-2 RE-RUN SOIL Inst : GC/MS Ins
Misc : 1220-B Multiplr: 1.00
Quant Time: Jan 27 20:13 1998 Quant Results File: M62507.RES

Quant Method : C:\HPCHEM\1\METHODS\M62507.M
Title : BNA Calibration
Last Update : Tue Jan 27 13:29:05 1998
Response via : Initial Calibration
DataAcq Meth : M62507

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.10	152	1178594	40.00	ug/L	0.00
19) Naphthalene-d8	10.92	136	4202466	40.00	ug/L	-0.02
34) Acenaphthene-d10	15.01	164	1936167	40.00	ug/L	-0.02
54) Phenanthrene-d10	18.42	188	2782974	40.00	ug/L	-0.02
66) Chrysene-d12	24.64	240	1582141	40.00	ug/L	-0.02
75) Perylene-d12	27.75	264	1111416	40.00	ug/L	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	5.69	112	514997	10.82	ug/L	0.01
Surrogate Spike 50.000	Range 21 - 100		Recovery = 21.64%			
6) Phenol-d6	7.70	99	680851	12.34	ug/L	-0.01
Surrogate Spike 50.000	Range 10 - 94		Recovery = 24.68%			
20) Nitrobenzene-d5	9.40	82	316262	6.45	ug/L	-0.02
Surrogate Spike 50.000	Range 35 - 114		Recovery = 12.90%#			
38) 2-Fluorobiphenyl	13.53	172	425541	7.53	ug/L	-0.04
Surrogate Spike 50.000	Range 43 - 116		Recovery = 15.06%#			
58) 2,4,6-Tribromophenol	16.88	330	73868	9.78	ug/L	-0.04
Surrogate Spike 50.000	Range 10 - 123		Recovery = 19.56%			
69) p-Terphenyl-d14	22.32	244	314950	8.95	ug/L	-0.02
Surrogate Spike 50.000	Range 33 - 141		Recovery = 17.90%#			
Target Compounds						Qvalue
64) Di-n-butylphthalate	20.21	149	127271	1.31	ug/L	# 65

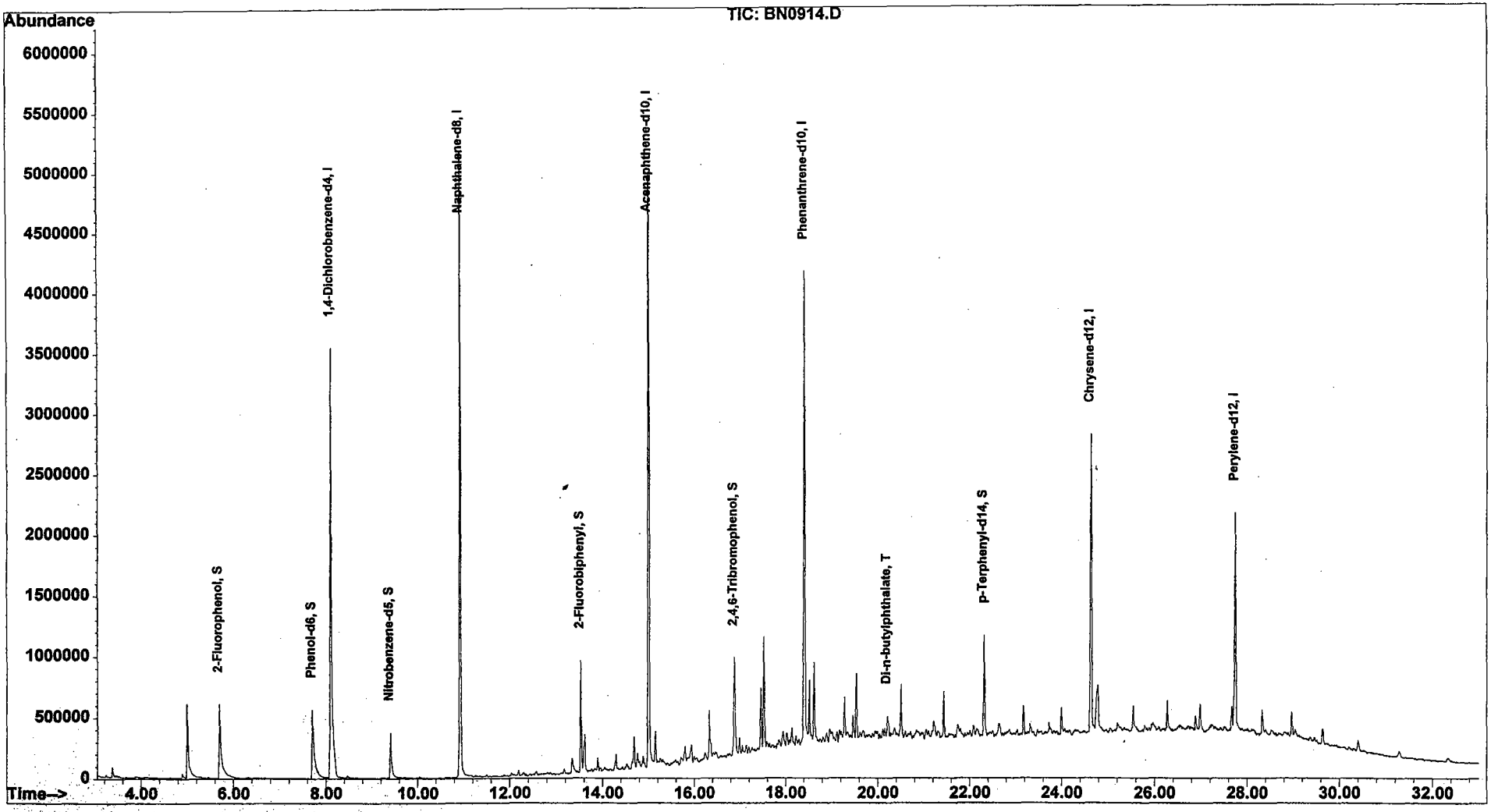
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980127\BN0914.D
Acq On : 27 Jan 98 19:40
Sample : 3224-2 RE-RUN SOIL
Misc : 1220-B
Quant Time: Jan 27 20:13 1998

Vial: 13
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: M62507.RES

Method : C:\HPCHEM\1\METHODS\M62507.M
Title : BNA Calibration
Last Update : Tue Jan 27 13:29:05 1998
Response via : Multiple Level Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\980127\BN0915.D Vial: 14
Acq On : 27 Jan 98 20:22 Operator: Skelton
Sample : 3224-3 RE-RUN SOIL Inst : GC/MS Ins
Misc : 1220-DUP Multiplr: 1.00
Quant Time: Jan 27 20:55 1998 Quant Results File: M62507.RES

Quant Method : C:\HPCHEM\1\METHODS\M62507.M
Title : BNA Calibration
Last Update : Tue Jan 27 13:29:05 1998
Response via : Initial Calibration
DataAcq Meth : M62507

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	8.09	152	1082572	40.00	ug/L	0.00
19) Naphthalene-d8	10.91	136	3927578	40.00	ug/L	-0.02
34) Acenaphthene-d10	15.01	164	1778838	40.00	ug/L	-0.01
54) Phenanthrene-d10	18.42	188	2573890	40.00	ug/L	-0.02
66) Chrysene-d12	24.63	240	1293941	40.00	ug/L	-0.03
75) Perylene-d12	27.74	264	876688	40.00	ug/L	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	5.69	112	395198	9.04	ug/L	0.02
Surrogate Spike 50.000	Range 21 - 100		Recovery = 18.08%#			
6) Phenol-d6	7.70	99	533778	10.53	ug/L	0.00
Surrogate Spike 50.000	Range 10 - 94		Recovery = 21.06%			
20) Nitrobenzene-d5	9.40	82	241897	5.28	ug/L	-0.02
Surrogate Spike 50.000	Range 35 - 114		Recovery = 10.56%#			
38) 2-Fluorobiphenyl	13.53	172	342221	6.59	ug/L	-0.04
Surrogate Spike 50.000	Range 43 - 116		Recovery = 13.18%#			
58) 2,4,6-Tribromophenol	16.88	330	55107	7.89	ug/L	-0.03
Surrogate Spike 50.000	Range 10 - 123		Recovery = 15.78%			
69) p-Terphenyl-d14	22.31	244	255104	8.86	ug/L	-0.03
Surrogate Spike 50.000	Range 33 - 141		Recovery = 17.72%#			
Target Compounds						Qvalue
64) Di-n-butylphthalate	20.21	149	129189	1.44	ug/L #	80

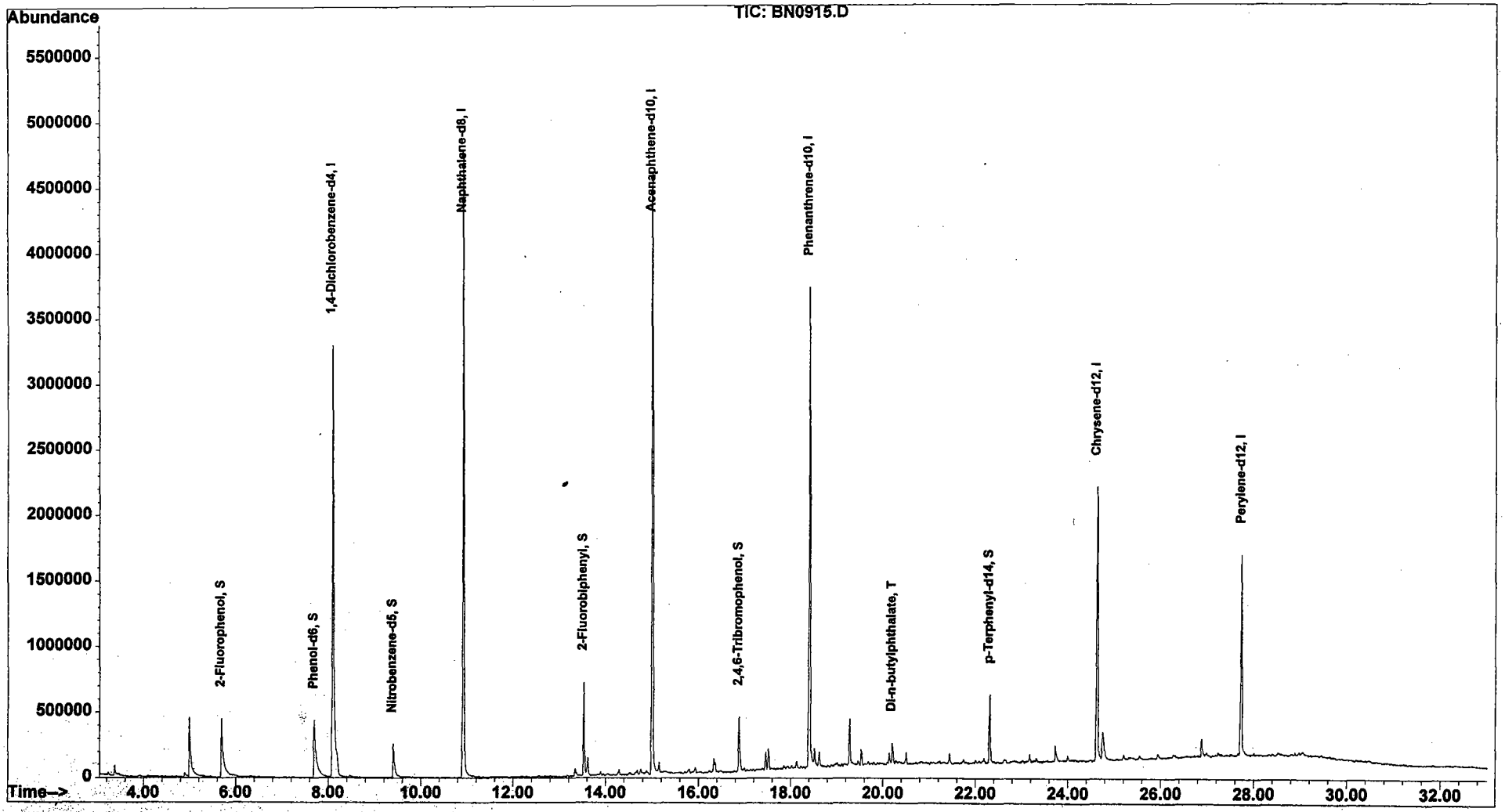
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\980127\BN0915.D
Acq On : 27 Jan 98 20:22
Sample : 3224-3 RE-RUN SOIL
Misc : 1220-DUP
Quant Time: Jan 27 20:55 1998

Vial: 14
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: M62507.RES

Method : C:\HPCHEM\1\METHODS\M62507.M
Title : BNA Calibration
Last Update : Tue Jan 27 13:29:05 1998
Response via : Multiple Level Calibration



US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Volatiles - EPA Method 8260
B.1220
98-0001

Project # 3224
Date Rec. 12/16/97
Date Compl. 12/22/97
Released by:

Daniel K. Wright
Laboratory Director

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DPW-ENV
Phone #:
( )DERA (X)OMA ( )Other:
Project No: ~~1220~~ 210 98-0220.1
Location: 1220
Samplers Name / Company : GARY DiMARTINIS-TUS

Analysis Parameters: TPHC; % SOLIDS; MUNSELL; VOA'S; BNA'S; PCB'S; PP METALS

Comments: * - SAMPLES KEPT BELOW 4°C.

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Remarks / Preservation Method
322A1 . 01	1220-A	12-16-97	1134	SOIL	2	CENTER LINE @ 5.5' *
02	B		1124			
03	DUP		—			FIELD DUPLICATE
04	TB		—	METHANOL	1	TRIP BLANK
05	C		1154	SOIL		PIPING RUN @ 0.5'
06	D		1156			
07	E		1158			
08	F		1200			

NOTE: OVA (HNU 2114) CALIBRATED W/ 95ppm CH4 + ZERO (0) AIR @ 1180 HRS ON 12-16-97 BY G. DiMARTINIS.

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	12-16-97 1577	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: DEDICATED SAMPLING TOOLS USED.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

VBLK10

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK10

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02665.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 0 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

VBLK10

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK10

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02665.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 0 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
95-50-1	1,2-Dichlorobenzene	750	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

VBLK10

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: VBLK10

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02665.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 0 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

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

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown hydrocarbon	12.17	4000	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-A

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.01

Sample wt/vol: 8.7 (g/ml) G Lab File ID: V02672.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 17.11 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2400	U
107131	Acrylonitrile	2400	U
75650	tert-Butyl alcohol	4500	U
1634044	Methyl-tert-Butyl ether	1000	U
108203	Di-isopropyl ether	700	U
	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	350	U
75-01-4	Vinyl Chloride	1000	U
74-83-9	Bromomethane	700	U
75-00-3	Chloroethane	1000	U
75-69-4	Trichlorofluoromethane	700	U
75-35-4	1,1-Dichloroethene	350	U
67-64-1	Acetone	700	U
75-15-0	Carbon Disulfide	350	U
75-09-2	Methylene Chloride	700	U
156-60-5	trans-1,2-Dichloroethene	700	U
75-35-3	1,1-Dichloroethane	350	U
108-05-4	Vinyl Acetate	1000	U
78-93-3	2-Butanone	1000	U
	cis-1,2-Dichloroethene	350	U
67-66-3	Chloroform	350	U
75-55-6	1,1,1-Trichloroethane	350	U
56-23-5	Carbon Tetrachloride	700	U
71-43-2	Benzene	350	U
107-06-2	1,2-Dichloroethane	700	U
79-01-6	Trichloroethene	350	U
78-87-5	1,2-Dichloropropane	350	U
75-27-4	Bromodichloromethane	350	U
110-75-8	2-Chloroethyl vinyl ether	700	U
10061-01-5	cis-1,3-Dichloropropene	350	U
108-10-1	4-Methyl-2-Pentanone	700	U
108-88-3	Toluene	350	U
10061-02-6	trans-1,3-Dichloropropene	700	U
79-00-5	1,1,2-Trichloroethane	700	U
127-18-4	Tetrachloroethene	350	U
591-78-6	2-Hexanone	700	U
126-48-1	Dibromochloromethane	700	U
108-90-7	Chlorobenzene	350	U
100-41-4	Ethylbenzene	700	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-A

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.01

Sample wt/vol: 8.7 (g/ml) G Lab File ID: V02672.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 17.11 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1000	U
1330-20-7	o-Xylene	700	U
100-42-5	Styrene	700	U
75-25-2	Bromoform	700	U
79-34-5	1,1,2,2-Tetrachloroethane	700	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

1220-A

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.01

Sample wt/vol: 8.7 (g/ml) G Lab File ID: V02672.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 17.11 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-B

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.02

Sample wt/vol: 9.1 (g/ml) G Lab File ID: V02673.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 20.38 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2400	U
107131	Acrylonitrile	2400	U
75650	tert-Butyl alcohol	4500	U
1634044	Methyl-tert-Butyl ether	1000	U
108203	Di-isopropyl ether	690	U
	Dichlorodifluoromethane	1400	U
74-87-3	Chloromethane	350	U
75-01-4	Vinyl Chloride	1000	U
74-83-9	Bromomethane	690	U
75-00-3	Chloroethane	1000	U
75-69-4	Trichlorofluoromethane	690	U
75-35-4	1,1-Dichloroethene	350	U
67-64-1	Acetone	690	U
75-15-0	Carbon Disulfide	350	U
75-09-2	Methylene Chloride	690	U
156-60-5	trans-1,2-Dichloroethene	690	U
75-35-3	1,1-Dichloroethane	350	U
108-05-4	Vinyl Acetate	1000	U
78-93-3	2-Butanone	1000	U
	cis-1,2-Dichloroethene	350	U
67-66-3	Chloroform	350	U
75-55-6	1,1,1-Trichloroethane	350	U
56-23-5	Carbon Tetrachloride	690	U
71-43-2	Benzene	350	U
107-06-2	1,2-Dichloroethane	690	U
79-01-6	Trichloroethene	350	U
78-87-5	1,2-Dichloropropane	350	U
75-27-4	Bromodichloromethane	350	U
110-75-8	2-Chloroethyl vinyl ether	690	U
10061-01-5	cis-1,3-Dichloropropene	350	U
108-10-1	4-Methyl-2-Pentanone	690	U
108-88-3	Toluene	350	U
10061-02-6	trans-1,3-Dichloropropene	690	U
79-00-5	1,1,2-Trichloroethane	690	U
127-18-4	Tetrachloroethene	350	U
591-78-6	2-Hexanone	690	U
126-48-1	Dibromochloromethane	690	U
108-90-7	Chlorobenzene	350	U
100-41-4	Ethylbenzene	690	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-B

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.02

Sample wt/vol: 9.1 (g/ml) G Lab File ID: V02673.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 20.38 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1000	U
1330-20-7	o-Xylene	690	U
100-42-5	Styrene	690	U
75-25-2	Bromoform	690	U
79-34-5	1,1,2,2-Tetrachloroethane	690	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

1220-B

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.02

Sample wt/vol: 9.1 (g/ml) G Lab File ID: V02673.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 20.38 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-DUP

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.03

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V02674.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 18.53 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	2300	U
107131	Acrylonitrile	2300	U
75650	tert-Butyl alcohol	4300	U
1634044	Methyl-tert-Butyl ether	980	U
108203	Di-isopropyl ether	660	U
	Dichlorodifluoromethane	1300	U
74-87-3	Chloromethane	330	U
75-01-4	Vinyl Chloride	980	U
74-83-9	Bromomethane	660	U
75-00-3	Chloroethane	980	U
75-69-4	Trichlorofluoromethane	660	U
75-35-4	1,1-Dichloroethene	330	U
67-64-1	Acetone	660	U
75-15-0	Carbon Disulfide	330	U
75-09-2	Methylene Chloride	660	U
156-60-5	trans-1,2-Dichloroethene	660	U
75-35-3	1,1-Dichloroethane	330	U
108-05-4	Vinyl Acetate	980	U
78-93-3	2-Butanone	980	U
	cis-1,2-Dichloroethene	330	U
67-66-3	Chloroform	330	U
75-55-6	1,1,1-Trichloroethane	330	U
56-23-5	Carbon Tetrachloride	660	U
71-43-2	Benzene	330	U
107-06-2	1,2-Dichloroethane	660	U
79-01-6	Trichloroethene	330	U
78-87-5	1,2-Dichloropropane	330	U
75-27-4	Bromodichloromethane	330	U
110-75-8	2-Chloroethyl vinyl ether	660	U
10061-01-5	cis-1,3-Dichloropropene	330	U
108-10-1	4-Methyl-2-Pentanone	660	U
108-88-3	Toluene	330	U
10061-02-6	trans-1,3-Dichloropropene	660	U
79-00-5	1,1,2-Trichloroethane	660	U
127-18-4	Tetrachloroethene	330	U
591-78-6	2-Hexanone	660	U
126-48-1	Dibromochloromethane	660	U
108-90-7	Chlorobenzene	330	U
100-41-4	Ethylbenzene	660	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-DUP

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.03

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V02674.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 18.53 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	980	U
1330-20-7	o-Xylene	660	U
100-42-5	Styrene	660	U
75-25-2	Bromoform	660	U
79-34-5	1,1,2,2-Tetrachloroethane	660	U
541-73-1	1,3-Dichlorobenzene	980	U
106-46-7	1,4-Dichlorobenzene	980	U
95-50-1	1,2-Dichlorobenzene	980	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

1220-DUP

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.03

Sample wt/vol: 9.4 (g/ml) G Lab File ID: V02674.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 18.53 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02675.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 0 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	1800	U
107131	Acrylonitrile	1800	U
75650	tert-Butyl alcohol	3200	U
1634044	Methyl-tert-Butyl ether	750	U
108203	Di-isopropyl ether	500	U
	Dichlorodifluoromethane	1000	U
74-87-3	Chloromethane	250	U
75-01-4	Vinyl Chloride	750	U
74-83-9	Bromomethane	500	U
75-00-3	Chloroethane	750	U
75-69-4	Trichlorofluoromethane	500	U
75-35-4	1,1-Dichloroethene	250	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	250	U
75-09-2	Methylene Chloride	500	U
156-60-5	trans-1,2-Dichloroethene	500	U
75-35-3	1,1-Dichloroethane	250	U
108-05-4	Vinyl Acetate	750	U
78-93-3	2-Butanone	750	U
	cis-1,2-Dichloroethene	250	U
67-66-3	Chloroform	250	U
75-55-6	1,1,1-Trichloroethane	250	U
56-23-5	Carbon Tetrachloride	500	U
71-43-2	Benzene	250	U
107-06-2	1,2-Dichloroethane	500	U
79-01-6	Trichloroethene	250	U
78-87-5	1,2-Dichloropropane	250	U
75-27-4	Bromodichloromethane	250	U
110-75-8	2-Chloroethyl vinyl ether	500	U
10061-01-5	cis-1,3-Dichloropropene	250	U
108-10-1	4-Methyl-2-Pentanone	500	U
108-88-3	Toluene	250	U
10061-02-6	trans-1,3-Dichloropropene	500	U
79-00-5	1,1,2-Trichloroethane	500	U
127-18-4	Tetrachloroethene	250	U
591-78-6	2-Hexanone	500	U
126-48-1	Dibromochloromethane	500	U
108-90-7	Chlorobenzene	250	U
100-41-4	Ethylbenzene	500	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

1220-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02675.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 0 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	750	U
1330-20-7	o-Xylene	500	U
100-42-5	Styrene	500	U
75-25-2	Bromoform	500	U
79-34-5	1,1,2,2-Tetrachloroethane	500	U
541-73-1	1,3-Dichlorobenzene	750	U
106-46-7	1,4-Dichlorobenzene	750	U
95-50-1	1,2-Dichlorobenzene	750	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

1220-TB

Lab Name: FMETL NJDEP # 13461

Project: 980001 Case No.: 3224 Location: 1220 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3224.04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: V02675.D

Level: (low/med) MED Date Received: 12/16/97

% Moisture: not dec. 0 Date Analyzed: 12/22/97

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 50 (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

Quantitation Report (QT/LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\971222\V02665.D Vial: 11
Acq On : 22 Dec 1997 14:47 Operator: Skelton
Sample : VBLK10 Inst : GC/MS Ins
Misc : VBLK10 Multiplr: 1.00
MS Integration Params: gases.p
Quant Time: Dec 30 10:33 1997 Quant Results File: M62426.RES

Quant Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration
DataAcq Meth : M62426

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.79	128	51347	30.00	ug/L	0.03
26) 1,4-Difluorobenzene	21.38	114	358469	30.00	ug/L	0.01
37) Chlorobenzene-d5	29.20	119	85476	30.00	ug/L	0.01
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	20.34	65	119809	31.95	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 106.50%			
35) Toluene-d8	25.37	98	354574	22.55	ug/L	0.01
Spiked Amount 30.000	Range 88 - 110		Recovery = 75.17%#			
49) Bromofluorobenzene	32.21	95	121889	24.96	ug/L	0.01
Spiked Amount 30.000	Range 86 - 115		Recovery = 83.20%#			

Target Compounds Qvalue

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

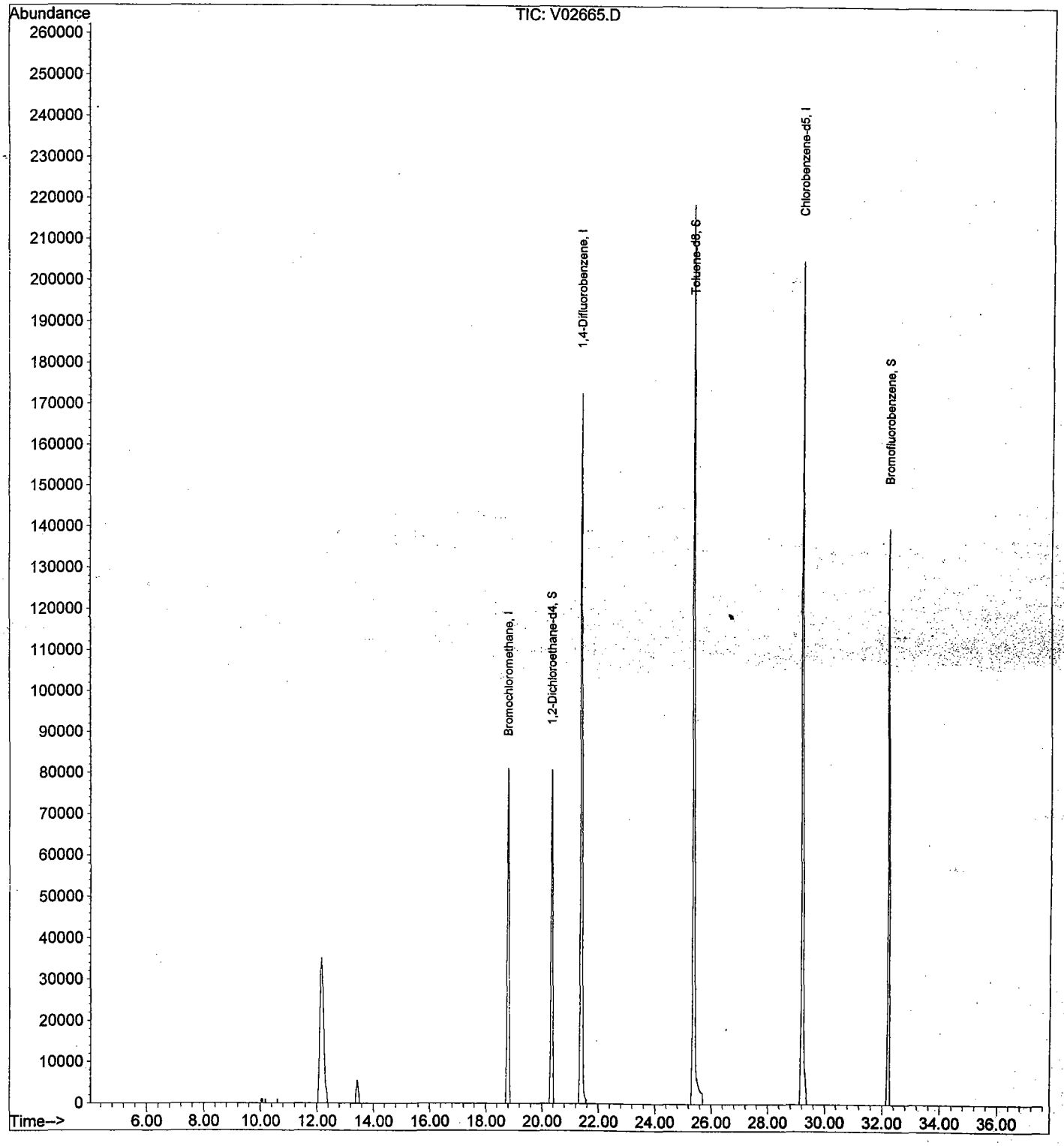
Quantitation Report

Data File : C:\HPCHEM\1\DATA\971222\V02665.D
Acq On : 22 Dec 1997 14:47
Sample : VBLK10
Misc : VBLK10
MS Integration Params: gases.p
Quant Time: Dec 30 10:33 1997

Vial: 11
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: M62426.RES

Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\971222\V02672.D Vial: 7
Acq On : 22 Dec 1997 20:37 Operator: Skelton
Sample : 3224.01 Inst : GC/MS Ins
Misc : 1220-A Multiplr: 1.00
MS Integration Params: gases.p
Quant Time: Jan 7 15:36 1998 Quant Results File: M62426.RES

Quant Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration
DataAcq Meth : M62426

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.78	128	52497	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	21.37	114	358330	30.00	ug/L	0.00
37) Chlorobenzene-d5	29.19	119	82317	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	20.33	65	125472	32.73	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 109.10%			
35) Toluene-d8	25.36	98	344767	21.93	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 73.10%#			
49) Bromofluorobenzene	32.21	95	109376	23.26	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 77.53%#			

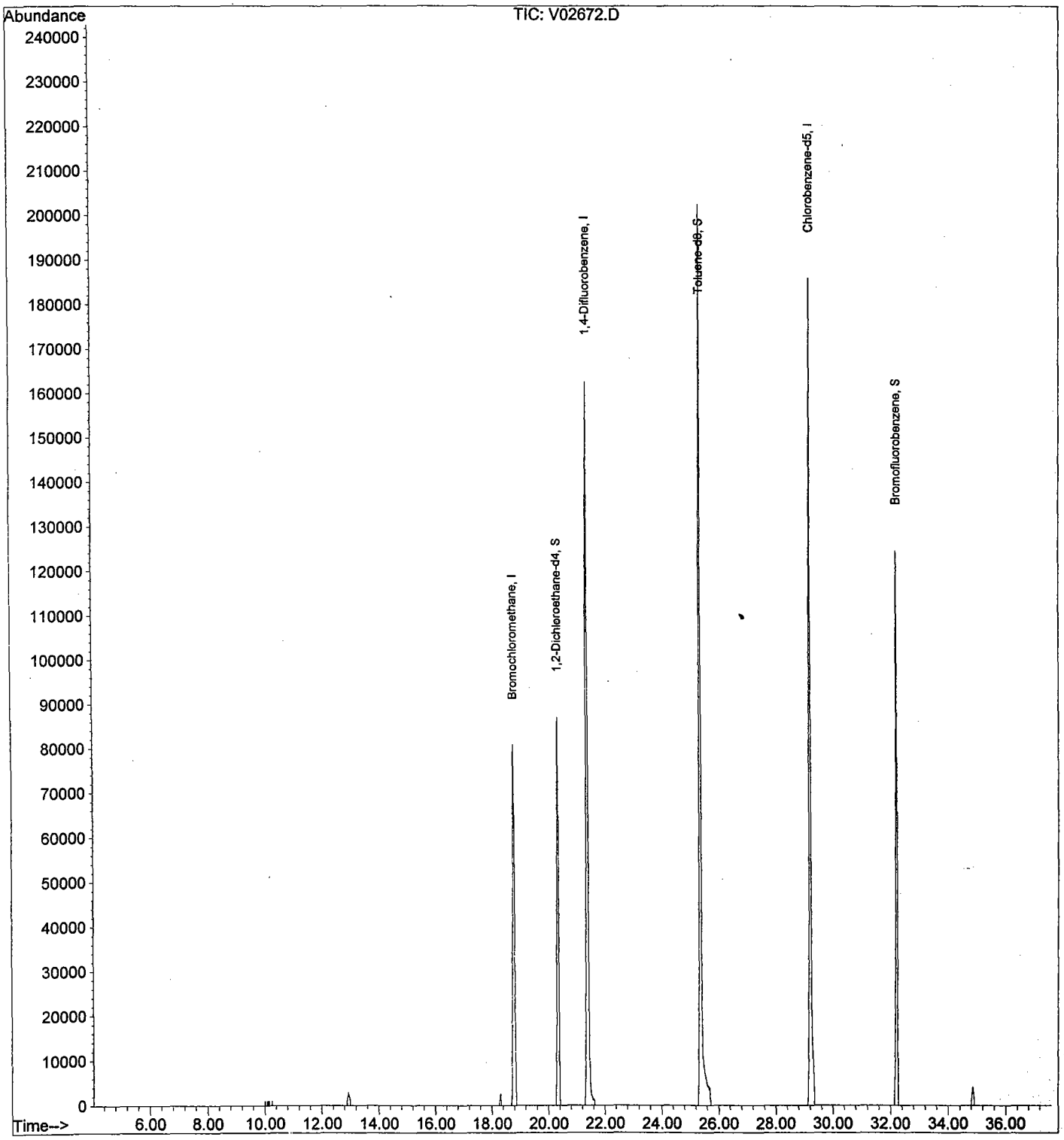
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971222\V02672.D Vial: 7
Acq On : 22 Dec 1997 20:37 Operator: Skelton
Sample : 3224.01 Inst : GC/MS Ins
Misc : 1220-A Multiplr: 1.00
MS Integration Params: gases.p
Quant Time: Jan 7 15:36 1998 Quant Results File: M62426.RES

Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\971222\V02673.D Vial: 8
Acq On : 22 Dec 1997 21:26 Operator: Skelton
Sample : 3224.02 Inst : GC/MS Ins
Misc : 1220-B Multiplr: 1.00
MS Integration Params: gases.p
Quant Time: Jan 7 15:37 1998 Quant Results File: M62426.RES

Quant Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration
DataAcq Meth : M62426

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.78	128	53305	30.00	ug/L	0.02
26) 1,4-Difluorobenzene	21.37	114	373120	30.00	ug/L	0.00
37) Chlorobenzene-d5	29.19	119	82055	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	20.33	65	228955	58.82	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 196.07%#			
35) Toluene-d8	25.36	98	692836	42.33	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 141.10%#			
49) Bromofluorobenzene	32.20	95	198195	42.27	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 140.90%#			

Target Compounds Qvalue

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

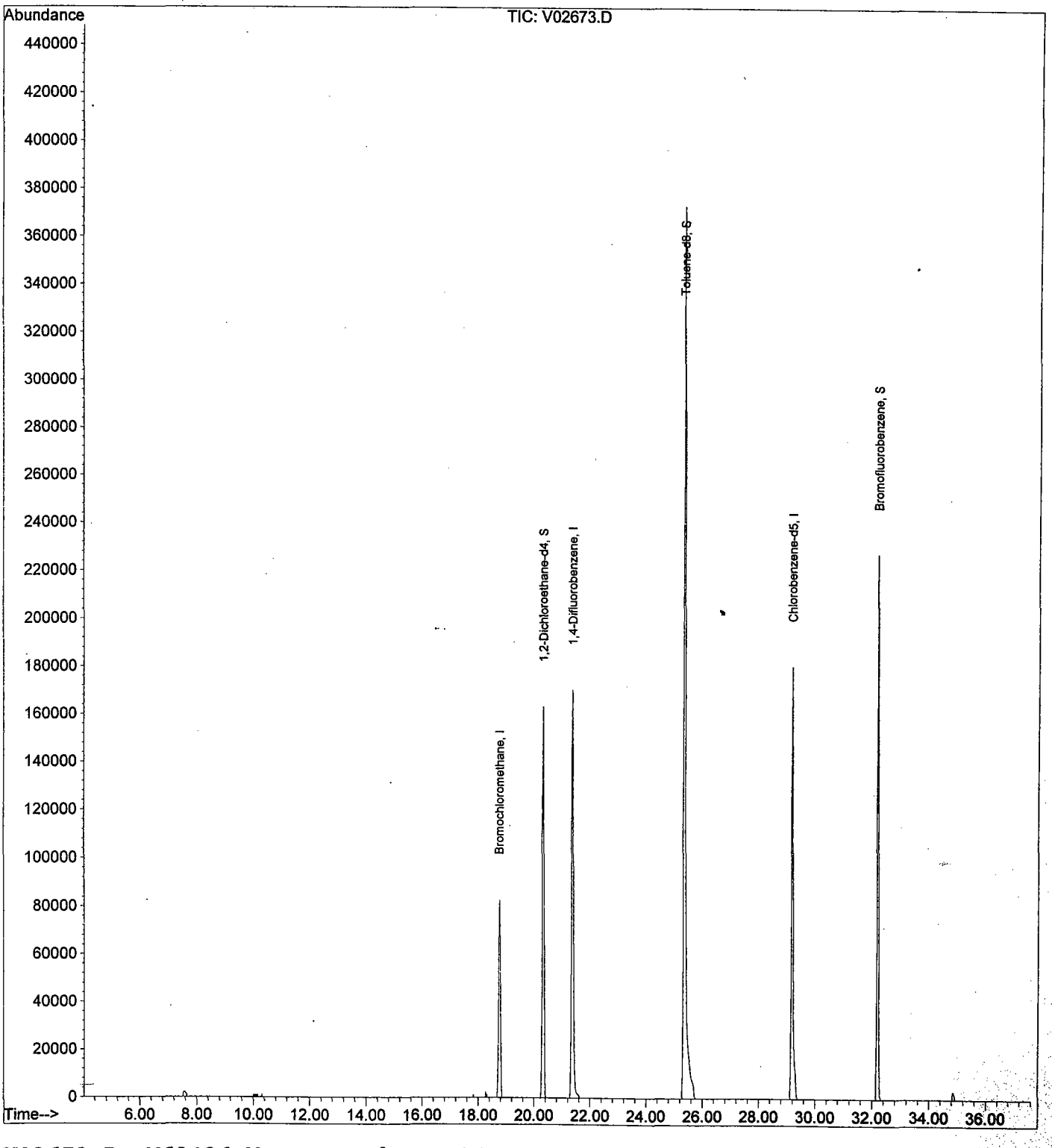
Quantitation Report

Data File : C:\HPCHEM\1\DATA\971222\V02673.D
Acq On : 22 Dec 1997 21:26
Sample : 3224.02
Misc : 1220-B
MS Integration Params: gases.p
Quant Time: Jan 7 15:37 1998

Vial: 8
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: M62426.RES

Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\971222\V02674.D Vial: 9
Acq On : 22 Dec 1997 22:15 Operator: Skelton
Sample : 3224.03 Inst : GC/MS Ins
Misc : 1220-DUP Multiplr: 1.00
MS Integration Params: gases.p
Quant Time: Jan 7 15:37 1998 Quant Results File: M62426.RES

Quant Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration
DataAcq Meth : M62426

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.79	128	50439	30.00	ug/L	0.02
26) 1,4-Difluorobenzene	21.38	114	338646	30.00	ug/L	0.00
37) Chlorobenzene-d5	29.20	119	71258	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	20.34	65	220368	59.83	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 199.43%#			
35) Toluene-d8	25.36	98	581672	39.15	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 130.50%#			
49) Bromofluorobenzene	32.20	95	172523	42.37	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 141.23%#			

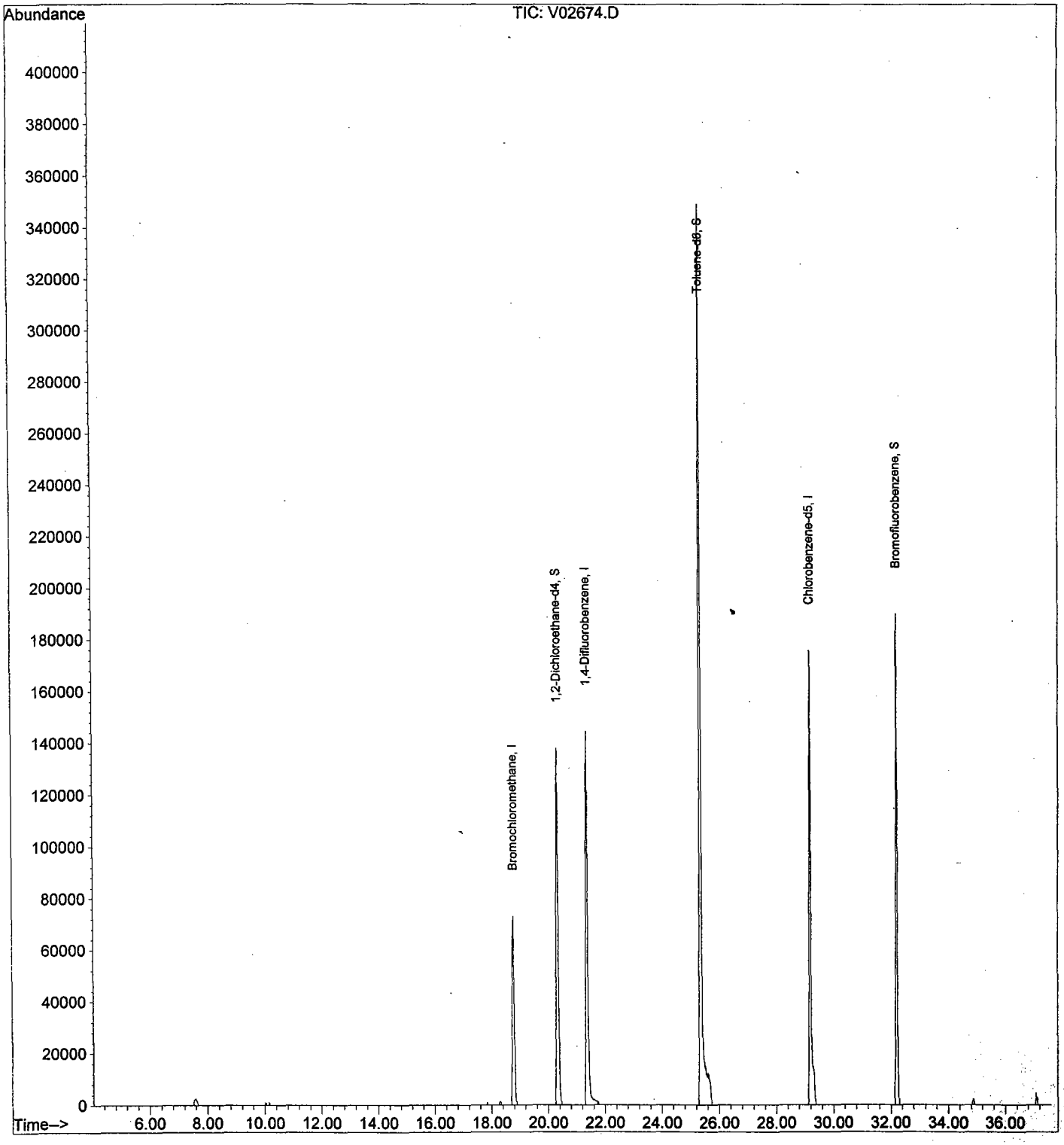
Target Compounds Qvalue

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\971222\V02674.D Vial: 9
Acq On : 22 Dec 1997 22:15 Operator: Skelton
Sample : 3224.03 Inst : GC/MS Ins
Misc : 1220-DUP Multiplr: 1.00
MS Integration Params: gases.p
Quant Time: Jan 7 15:37 1998 Quant Results File: M62426.RES

Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\971222\V02675.D Vial: 10
Acq On : 22 Dec 1997 23:04 Operator: Skelton
Sample : 3224.04 Inst : GC/MS Ins
Misc : 1220-TB Multiplr: 1.00
MS Integration Params: gases.p
Quant Time: Jan 7 15:38 1998 Quant Results File: M62426.RES

Quant Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration
DataAcq Meth : M62426

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.78	128	52592	30.00	ug/L	0.01
26) 1,4-Difluorobenzene	21.38	114	369892	30.00	ug/L	0.00
37) Chlorobenzene-d5	29.20	119	83923	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	20.33	65	232196	60.46	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 201.53%#			
35) Toluene-d8	25.36	98	722247	44.51	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 148.37%#			
49) Bromofluorobenzene	32.20	95	215690	44.98	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 149.93%#			

Target Compounds Qvalue

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

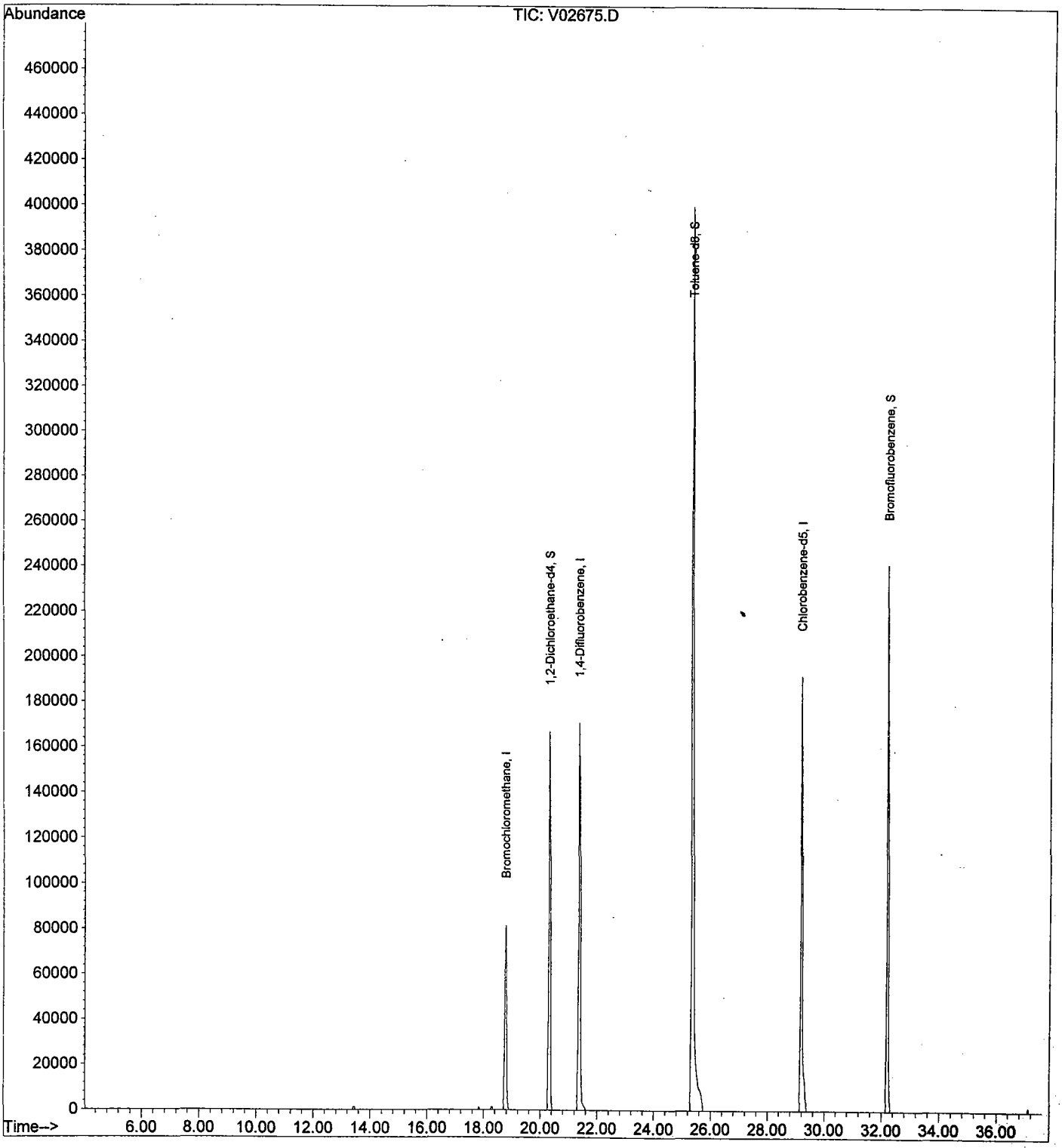
Quantitation Report

Data File : C:\HPCHEM\1\DATA\971222\V02675.D
Acq On : 22 Dec 1997 23:04
Sample : 3224.04
Misc : 1220-TB
MS Integration Params: gases.p
Quant Time: Jan 7 15:38 1998

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

Quant Results File: M62426.RES

Method : C:\HPCHEM\1\METHODS\M62426.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8240/TCLP
Last Update : Mon Nov 10 12:46:06 1997
Response via : Initial Calibration



APPENDIX F

GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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

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

BLDG. 1220

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Trip Blank	4107.01	Aqueous	03-Dec-98	12/03/98
Field Blank	4107.02	Aqueous	03-Dec-98 10:56	12/03/98
Bldg. 1220 B-1	4107.03	Aqueous	03-Dec-98 13:40	12/03/98
Bldg. 1220 B-1	4107.04	Aqueous	03-Dec-98 14:16	12/03/98
Bldg. 1220 B-2	4107.05	Aqueous	03-Dec-98 14:54	12/03/98
Bldg. 1220 B-2	4107.06	Aqueous	03-Dec-98 15:12	12/03/98
Field Dup.	4107.07	Aqueous	03-Dec-98	12/03/98

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

2-7-99
Daniel Wright/Date
Laboratory Director

Table of Contents

Post Remedial Groundwater Sampling at Former Underground Storage Tank Site [# 2 fuel oil]

FOR BLDG. # 1220- [B-2]

Ground Water Sampling with the use of a Passively Placed Narrow Diameter Point (PPNDP)

Objective:

To collect a representative groundwater sample utilizing a narrow diameter point [PPNDP] This is a small diameter [1-inch OD] screened casing passively placed in a borehole. The casing is of p.v.c. construction.

1. Methods

A. A solid push - rod (bull point) is used to create a narrow diameter hole to a depth below the water table. A piece of schedule 40 PVC screen with 0.010-inch slots and an end cap is placed to the bottom of the hole. Glues or adhesives are not used for joining the casing. Threaded PVC casing is used. No filter or gravel pack is used.

2. Installation

A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 22 feet. The water table was at 18 feet below ground surface.

B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 17 - 22 feet. Riser casing from 17 - +3 feet.

3. Purging

A. Three volumes of the standing water in the point were purged. The amount of water extracted was app. 0.123 gal. Three to five volumes are purged due to the potential for cross contamination of the screen from upper soil horizons. This was accomplished utilizing a peristaltic pump, and utilizing food grade tubing.

4. Sampling

A. Sampling methods, sample preservation requirements, sample handling times, decontamination procedure for field equipment, and frequency for field blanks, field duplicates and trip blanks conform to applicable industry methods such as those specified in the NJDEP "Field Sampling Procedures Manual" in effect as of the date on which sampling is performed. Any deviations from the methods in the "Field Sampling Procedures Manual" pursuant to N.J.A.C. 7:26E-1.6(c) has been approved by the person responsible for conducting the remediation.

All samples were preserved in the field immediately after collection and submitted to the laboratory as soon as possible and no later than 48 hours after sample collection.

The acquisition of samples and water level measurements were performed as recommended and described in the May 1992 edition of NJDEP Field Sampling Procedures Manual.

5. Quality Assurance/Quality Control

A. Decontamination

The associated equipment (bull point, riser pipe, etc.) was decontaminated between borings using the following procedure:

1. Remove all adherent soil material.
2. Wash with a laboratory grade glassware detergent.
3. Rinsed with potable water.
4. Rinse with distilled and deionized ASTM Type II water.

B. Field Blanks

1 Field blank was shared with bldg. 2700 CW-1 taken same day.

C. Sample bottles: Supplied by Environmental Sampling Supply, Oakland, Calif. The sample bottles are certified clean and are sealed upon delivery.

D. P.V.C. Screens: Supplied by Bedrock Enterprises, Forked River N.J.

Geoprobe Operator: Mark Laura
Employer: U.S. Army, Fort Monmouth
Phone Number: [732] 532-8990
NJDEP License #: J-1486

Mark Laura 12-2-98
Mark Laura / Date

METHODOLOGY SUMMARY

CONFORMANCE/ NON-CONFORMANCE SUMMARY

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4107 **Site:** Bldg 1220

	Date	Hold Time
Date Sampled	12/03/98	NA
Receipt/Refrigeration	12/03/98	NA
Extractions		
1. Base Neutrals	12/08/98	14 days
Analyses		
1. Volatile Organics	12/08,09/98	14 days
2. Base Neutrals	12/18,19/98	40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit
J : Compound identified below detection limit
B : Compound in both sample and blank
D : Results from dilution of sample
U : Compound searched for but not detected

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

Data File Nam	**vb02291.d**	Sample Name	**Vblk70**
Operator	**Skelton**	Field ID	**Vblk70**
Date Acquired	**8 Dec 98 7:00 pm**	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk70**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: Vblk70

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02291.D

Level: (low/med) LOW Date Received: 12/03/98

% Moisture: not dec. _____ Date Analyzed: 12/08/98

GC Column: HP5MS 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 #13461

Data File Nam	**vb02304.d**	Sample Name	**4107.01**
Operator	**Skelton**	Field ID	**Trip Blank**
Date Acquired	**9 Dec 98 4:41 am**	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Trip Blank

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4107.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02304.D

Level: (low/med) LOW Date Received: 12/03/98

% Moisture: not dec. _____ Date Analyzed: 12/09/98

GC Column: HP5MS 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 #13461

Data File Nam	**vb02305.d**	Sample Name	**4107.02**
Operator	**Skelton**	Field ID	**Field Blank**
Date Acquired	**9 Dec 98 5:25 am**	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Field Blank

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4107.02

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02305.D

Level: (low/med) LOW Date Received: 12/03/98

% Moisture: not dec. _____ Date Analyzed: 12/09/98

GC Column: HP5MS 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 #13461

Data File Nam	**vb02306.d**	Sample Name	**4107.03**
Operator	**Skelton**	Field ID	**Bldg1220B-1**
Date Acquired	**9 Dec 98 6:10 am**	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	10.50	121721	11.39 ug/L	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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Bldg. 1220B-1**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4107.03

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02306.D

Level: (low/med) LOW Date Received: 12/03/98

% Moisture: not dec. _____ Date Analyzed: 12/09/98

GC Column: HP5MS 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 #13461

Data File Nam	**vb02307.d**	Sample Name	**4107.05**
Operator	**Skelton**	Field ID	**Bldg1220B-2**
Date Acquired	**9 Dec 98 6:55 am**	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	8.55	3953481	39.87 ug/L	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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Bldg. 1220B-2**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4107.05

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02307.D

Level: (low/med) LOW Date Received: 12/03/98

% Moisture: not dec. _____ Date Analyzed: 12/09/98

GC Column: HP5MS 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 #13461

Data File Nam	**VB02308.D**	Sample Name	**4107.07**
Operator	**Skelton**	Field ID	**Field Dup**
Date Acquired	**9 Dec 98 7:39 am**	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	10.51	110013	10.80 ug/L	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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Field Dup

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4107.07

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02308.D

Level: (low/med) LOW Date Received: 12/03/98

% Moisture: not dec. _____ Date Analyzed: 12/09/98

GC Column: HP5MS 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 Project 98.932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Lab File ID: VB02284.D BFB Injection Date: 12/08/98

Instrument ID: GCMSVoa2 BFB Injection Time: 13:21

GC Column: HP5MS ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.8
75	30.0 - 66.0% of mass 95	50.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	85.6
175	4.0 - 9.0% of mass 174	7.0 (8.2)1
176	93.0 - 101.0% of mass 174	82.4 (96.3)1
177	5.0 - 9.0% of mass 176	5.8 (7.1)2

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

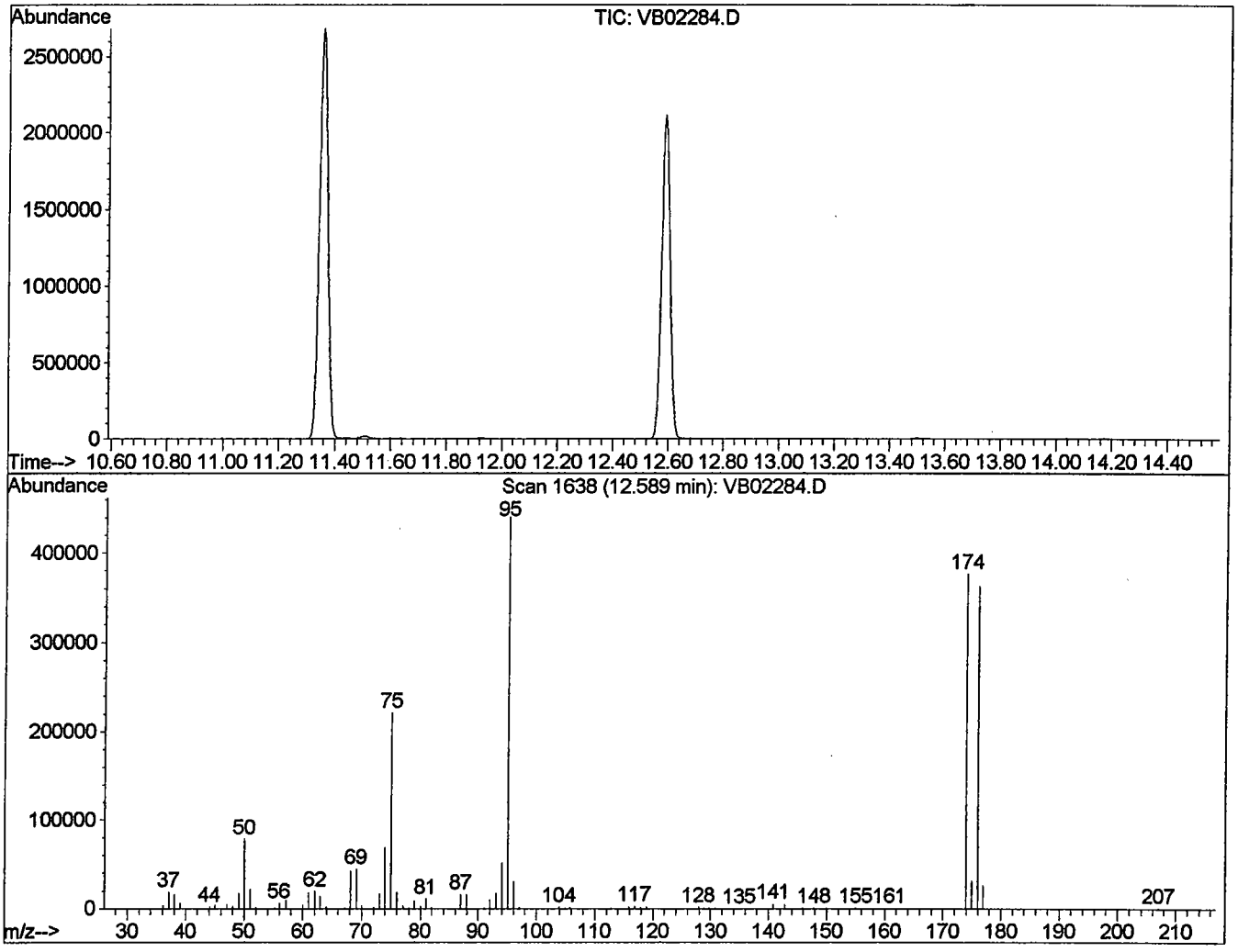
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	FIELD ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	20 PPB STD	VB02285.D	12/08/98	13:56
02	VSTD100	100 PPB STD	VB02286.D	12/08/98	15:16
03	VSTD050	50 PPB STD	VB02287.D	12/08/98	16:01
04	VSTD010	10 PPB STD	VB02288.D	12/08/98	16:45
05	VSTD005	5 PPB STD	VB02289.D	12/08/98	17:30
06	VBLK70	VBLK70	VB02291.D	12/08/98	19:00
07	4103.09MS	4103.09MS	VB02302.D	12/09/98	03:12
08	4103.09DUP	4103.09DUP	VB02303.D	12/09/98	03:56
09	TRIP BLANK	4107.01	VB02304.D	12/09/98	04:41
10	FIELD BLANK	4107.02	VB02305.D	12/09/98	05:25
11	BLDG. 1220B-1	4107.03	VB02306.D	12/09/98	06:10
12	BLDG. 1220B-2	4107.05	VB02307.D	12/09/98	06:55
13	FIELD DUP	4107.07	VB02308.D	12/09/98	07:39

BFB

Data File : C:\HPCHEM\1\DATA\981208\VB02284.D
Acq On : 8 Dec 98 1:21 pm
Sample : BFB Tune
Misc :
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\M62419.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

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



Spectrum Information: Scan 1638

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.8	78328	PASS
75	95	30	60	50.4	222016	PASS
95	95	100	100	100.0	440768	PASS
96	95	5	9	6.9	30552	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	85.6	377216	PASS
175	174	5	9	8.2	30992	PASS
176	174	95	101	96.3	363392	PASS
177	176	5	9	7.1	25664	PASS

VB02284.D M62419.M Mon Dec 21 10:30:35 1998

4A

VOLATILE METHOD BLANK SUMMARY

FIELD ID: **Vblk70**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Lab File ID: VB02291.D Lab Sample ID: Vblk70

Date Analyzed: 12/08/98 Time Analyzed: 19:00

GC Column: HP5MS ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: GCMSVoa2

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

	FIELD ID	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	4103.09MS	4103.09MS	VB02302.D	03:12
02	4103.09DUP	4103.09DUP	VB02303.D	03:56
03	TRIP BLANK	4107.01	VB02304.D	04:41
04	FIELD BLANK	4107.02	VB02305.D	05:25
05	BLDG. 1220B-1	4107.03	VB02306.D	06:10
06	BLDG. 1220B-2	4107.05	VB02307.D	06:55
07	FIELD DUP	4107.07	VB02308.D	07:39

COMMENTS

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M62420.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 08 15:56:08 1998
Response via : Initial Calibration

Calibration Files
50 =VB02287.D 5 =VB02289.D 10 =VB02288.D
20 =VB02285.D 100 =VB02286.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.365	0.311	0.335	0.318	0.347	0.335	6.56
3)	t	Acrylonitrile	0.734	0.635	0.694	0.654	0.664	0.676	5.73
4)	t	tert-Butyl alcohol	0.386	0.297	0.333	0.319	0.375	0.342	10.91
5)	t	Methyl-tert-Butyl eth	5.991	4.612	5.128	4.857	5.747	5.267	11.11
6)	t	Di-isopropyl ether	3.874	2.861	3.359	3.108	3.765	3.393	12.64
7)	T	Dichlorodifluorometha	2.009	1.730	1.663	2.403	2.017	1.964	14.91
8)	TP	Chloromethane	2.727	2.173	2.281	1.992	2.506	2.336	12.30
9)	TC	Vinyl Chloride	1.197	1.199	1.061	1.673	1.171	1.260	18.83
10)	T	Bromomethane	1.112	1.233	1.117	1.245	1.065	1.154	6.95
11)	T	Chloroethane	0.687	0.793	0.688	0.989	0.643	0.760	18.31
12)	T	Trichlorofluoromethan	3.179	3.391	3.329	3.662	2.721	3.257	10.65
13)	MC	1,1-Dichloroethene	3.088	2.714	2.901	2.862	2.908	2.895	4.61
14)	T	Acetone	0.599	0.608	0.588	0.513	0.574	0.576	6.55
15)	T	Carbon Disulfide	5.798	4.524	5.203	5.156	5.592	5.254	9.30
16)	T	Methylene Chloride	1.575	2.008	1.719	1.704	1.582	1.718	10.21
17)	T	trans-1,2-Dichloroeth	3.061	2.657	2.874	2.621	2.928	2.828	6.58
18)	TP	1,1-Dichloroethane	3.750	3.220	3.490	3.257	3.508	3.445	6.24
19)	T	Vinyl Acetate	4.645	3.672	4.056	3.749	4.370	4.098	10.04
20)	T	2-Butanone	0.960	0.836	0.858	0.779	0.945	0.876	8.67
21)	T	cis-1,2-Dichloroethen	3.083	2.614	2.865	2.640	2.905	2.821	6.94
22)	TC	Chloroform	3.924	3.621	3.786	3.466	3.697	3.699	4.65
23)	T	1,1,1-Trichloroethane	3.855	3.049	3.461	3.272	3.714	3.470	9.39
24)	T	Carbon Tetrachloride	3.174	2.308	2.644	2.734	3.145	2.801	13.00
25)	S	1,2-Dichloroethane-d4	2.484	2.354	2.380	2.318	2.544	2.416	3.91
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.169	1.199	1.234	1.133	0.959	1.139	9.39
28)	T	1,2-Dichloroethane	0.429	0.413	0.420	0.409	0.398	0.414	2.80
29)	TM	Trichloroethene	0.371	0.345	0.356	0.336	0.358	0.353	3.81
30)	TC	1,2-Dichloropropane	0.313	0.287	0.298	0.280	0.300	0.295	4.20
31)	T	Bromodichloromethane	0.406	0.332	0.360	0.376	0.389	0.373	7.59
32)	T	2-Chloroethyl vinyl e	0.176	0.130	0.157	0.153	0.164	0.156	10.91
33)	T	cis-1,3-Dichloroprope	0.505	0.409	0.450	0.455	0.474	0.458	7.65
34)	T	4-Methyl-2-Pentanone	0.108	0.082	0.097	0.098	0.104	0.098	10.38
35)	S	Toluene-d8	1.050	1.009	1.021	1.017	1.079	1.035	2.78

(#) = Out of Range

Method : C:\HPCHEM\1\METHODS\M62420.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 08 15:56:08 1998
Response via : Initial Calibration

Calibration Files
50 =VB02287.D 5 =VB02289.D 10 =VB02288.D
20 =VB02285.D 100 =VB02286.D

		Compound	50	5	10	20	100	Avg	%RSD
36)	TCM	Toluene	1.204	1.210	1.302	1.206	0.923	1.169	12.31
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.799	1.441	1.617	1.691	1.611	1.632	8.02
39)	T	1,1,2-Trichloroethane	1.073	1.038	1.064	1.049	0.979	1.041	3.58
40)	T	Tetrachloroethene	1.468	1.310	1.414	1.372	1.352	1.383	4.36
41)	T	2-Hexanone	0.644	0.513	0.577	0.605	0.610	0.590	8.31
42)	T	Dibromochloromethane	1.138	0.808	0.952	1.081	1.088	1.013	13.20
43)	TMP	Chlorobenzene	3.155	3.149	3.302	3.103	2.551	3.052	9.50
44)	TC	Ethylbenzene	4.653	5.179	5.327	4.982	3.270	4.682	17.70
45)	T	m+p-Xylenes	1.947	2.050	2.100	1.962	1.483	1.908	12.89
46)	T	o-Xylene	3.696	3.812	3.972	3.742	2.833	3.611	12.39
47)	T	Styrene	3.328	3.243	3.458	3.197	2.653	3.176	9.71
48)	TP	Bromoform	0.688	0.358	0.473	0.629	0.701	0.570	26.15
49)	S	Bromofluorobenzene	1.426	1.491	1.441	1.432	1.397	1.437	2.38
50)	TP	1,1,2,2-Tetrachloroet	1.213	1.096	1.163	1.186	1.118	1.155	4.15
51)	T	1,3-Dichlorobenzene	2.567	2.561	2.638	2.489	2.147	2.480	7.82
52)	T	1,4-Dichlorobenzene	2.651	2.621	2.753	2.615	2.198	2.568	8.33
53)	T	1,2-Dichlorobenzene	2.440	2.410	2.488	2.393	2.069	2.360	7.06

(#) = Out of Range

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

	FIELD ID	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	VBLK70	93	87	96	0
02	4103.09MS	100	88	93	0
03	4103.09DUP	100	87	97	0
04	TRIP BLANK	101	90	97	0
05	FIELD BLANK	99	88	97	0
06	BLDG. 1220B-1	102	89	97	0
07	BLDG. 1220B-2	103	89	97	0
08	FIELD DUP	104	89	97	0

QC LIMITS

SMC1	DCE	=	1,2-Dichloroethane-d4	(76-121)
SMC2	TOL	=	Toluene-d8	(80-118)
SMC3	BFB	=	Bromofluorobenzene	(86-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

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

Data File Nam **VB02302.D** Sample Name **4103.09ms**
Date Acquired **9 Dec 98 3:12 am**

CAS#	Compound Name			Amount Recovered	Percent Recovered
107028	Acrolein			116.40 ug/L	58.2
107131	Acrylonitrile			264.28 ug/L	132.1
75650	tert-Butyl alcohol			130.31 ug/L	130.3
1634044	Methyl-tert-Butyl ether			22.65 ug/L	113.2
108203	Di-isopropyl ether			10.54 ug/L	105.4
	Dichlorodifluoromethane			9.55 ug/L	47.7
74-87-3	Chloromethane			15.35 ug/L	76.7
75-01-4	Vinyl Chloride			12.46 ug/L	62.3
74-83-9	Bromomethane			16.90 ug/L	84.5
75-00-3	Chloroethane			13.93 ug/L	69.7
75-69-4	Trichlorofluoromethane			12.73 ug/L	63.6
75-35-4	1,1-Dichloroethene			15.75 ug/L	78.8
67-64-1	Acetone			26.45 ug/L	132.3
75-15-0	Carbon Disulfide			14.13 ug/L	70.7
75-09-2	Methylene Chloride			19.06 ug/L	95.3
156-60-5	trans-1,2-Dichloroethene			18.17 ug/L	90.8
75-35-3	1,1-Dichloroethane			19.68 ug/L	98.4
108-05-4	Vinyl Acetate			23.71 ug/L	118.5
78-93-3	2-Butanone			27.03 ug/L	135.1
	cis-1,2-Dichloroethene			20.11 ug/L	100.5
67-66-3	Chloroform			20.58 ug/L	102.9
75-55-6	1,1,1-Trichloroethane			16.83 ug/L	84.2
56-23-5	Carbon Tetrachloride			15.22 ug/L	76.1
71-43-2	Benzene			19.06 ug/L	95.3
107-06-2	1,2-Dichloroethane			22.64 ug/L	113.2
79-01-6	Trichloroethene			16.91 ug/L	84.5
78-87-5	1,2-Dichloropropane			20.23 ug/L	101.2
75-27-4	Bromodichloromethane			20.28 ug/L	101.4
110-75-8	2-Chloroethyl vinyl ether			23.21 ug/L	116.0
10061-01-5	cis-1,3-Dichloropropene			18.75 ug/L	93.8
108-10-1	4-Methyl-2-Pentanone			28.14 ug/L	140.7
108-88-3	Toluene			15.97 ug/L	79.8
10061-02-6	trans-1,3-Dichloropropen			21.93 ug/L	109.7
79-00-5	1,1,2-Trichloroethane			26.25 ug/L	131.3
127-18-4	Tetrachloroethene			15.59 ug/L	77.9
591-78-6	2-Hexanone			28.99 ug/L	144.9
126-48-1	Dibromochloromethane			24.27 ug/L	121.4
108-90-7	Chlorobenzene			17.07 ug/L	85.4
100-41-4	Ethylbenzene			15.32 ug/L	76.6
1330-20-7	m+p-Xylenes			29.95 ug/L	74.9
1330-20-7	o-Xylene			16.01 ug/L	80.1
100-42-5	Styrene			16.17 ug/L	80.8
75-25-2	Bromoform			23.39 ug/L	117.0
79-34-5	1,1,2,2-Tetrachloroethane			24.67 ug/L	123.4
541-73-1	1,3-Dichlorobenzene			15.34 ug/L	76.7
106-46-7	1,4-Dichlorobenzene			15.58 ug/L	77.9
95-50-1	1,2-Dichlorobenzene			16.56 ug/L	82.8

Aqueous Duplicate Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File Nam **VB02303.D** Sample Name **4103.09dup**
Date Acquired **9 Dec 98 3:56 am**

CAS#	Compound Name			Amount Recovered
107028	Acrolein			not detected
107131	Acrylonitrile			not detected
75650	tert-Butyl alcohol			not detected
1634044	Methyl-tert-Butyl ether			not detected
108203	Di-isopropyl ether			not detected
	Dichlorodifluoromethane			not detected
74-87-3	Chloromethane			not detected
75-01-4	Vinyl Chloride			not detected
74-83-9	Bromomethane			not detected
75-00-3	Chloroethane			not detected
75-69-4	Trichlorofluoromethane			not detected
75-35-4	1,1-Dichloroethene			not detected
67-64-1	Acetone			not detected
75-15-0	Carbon Disulfide			not detected
75-09-2	Methylene Chloride			not detected
156-60-5	trans-1,2-Dichloroethene			not detected
75-35-3	1,1-Dichloroethane			not detected
108-05-4	Vinyl Acetate			not detected
78-93-3	2-Butanone			not detected
	cis-1,2-Dichloroethene			not detected
67-66-3	Chloroform			not detected
75-55-6	1,1,1-Trichloroethane			not detected
56-23-5	Carbon Tetrachloride			not detected
71-43-2	Benzene			not detected
107-06-2	1,2-Dichloroethane			not detected
79-01-6	Trichloroethene			not detected
78-87-5	1,2-Dichloropropane			not detected
75-27-4	Bromodichloromethane			not detected
110-75-8	2-Chloroethyl vinyl ether			not detected
10061-01-5	cis-1,3-Dichloropropene			not detected
108-10-1	4-Methyl-2-Pentanone			not detected
108-88-3	Toluene			not detected
10061-02-6	trans-1,3-Dichloropropen			not detected
79-00-5	1,1,2-Trichloroethane			not detected
127-18-4	Tetrachloroethene			not detected
591-78-6	2-Hexanone			not detected
126-48-1	Dibromochloromethane			not detected
108-90-7	Chlorobenzene			not detected
100-41-4	Ethylbenzene			not detected
1330-20-7	m+p-Xylenes			not detected
1330-20-7	o-Xylene			not detected
100-42-5	Styrene			not detected
75-25-2	Bromoform			not detected
79-34-5	1,1,2,2-Tetrachloroethane			not detected
541-73-1	1,3-Dichlorobenzene			not detected
106-46-7	1,4-Dichlorobenzene			not detected
95-50-1	1,2-Dichlorobenzene			not detected

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Project 98.932

NJDEP# 13461 Case No.: 4107 SDG No _____ Location UST

Lab File ID (Standard): VB02285.D Date Analyzed: 12/08/98

Instrument ID: GCMSVoa2 Time Analyzed: 13:56

GC Column: HP5MS ID: 0.25 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	963805	18.17	6453150	20.79	1678021	28.62
	UPPER LIMIT	1927610	17.67	12906300	20.29	3356042	28.12
	LOWER LIMIT	481903	18.67	3226575	21.29	839011	29.12
	FIELD ID						
01	VBLK70	1007157	18.16	6194944	20.79	1630687	28.62
02	4103.09MS	889333	18.17	5930218	20.79	1548785	28.62
03	4103.09DUP	878760	18.16	5695138	20.79	1479152	28.61
04	TRIP BLANK	844378	18.16	5277312	20.79	1449385	28.62
05	FIELD BLANK	867911	18.16	5471600	20.79	1432322	28.62
06	BLDG. 1220B-1	847266	18.16	5362771	20.79	1423356	28.62
07	BLDG. 1220B-2	826169	18.16	5206108	20.79	1403483	28.62
08	FIELD DUP	807302	18.16	5230820	20.79	1392229	28.62

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 (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981208\VB02291.D Vial: 6
Acq On : 8 Dec 98 7:00 pm Operator: Skelton
Sample : Vblk70 Inst : GC/MS Ins
Misc : Vblk70 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Dec 8 19:37 1998 Quant Results File: M62419.RES

Quant Method : C:\HPCHEM\1\METHODS\M62419.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration
DataAcq Meth : M62419

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.16	128	1007157	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	20.79	114	6194944	30.00	ug/L	0.01
37) Chlorobenzene-d5	28.62	119	1630687	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	19.72	65	2241555	27.79	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 92.63%			
35) Toluene-d8	24.79	98	6206145	26.24	ug/L	0.01
Spiked Amount 30.000	Range 88 - 110		Recovery = 87.47%#			
49) Bromofluorobenzene	31.64	95	2445388	28.76	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 95.87%			

Target Compounds Qvalue

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

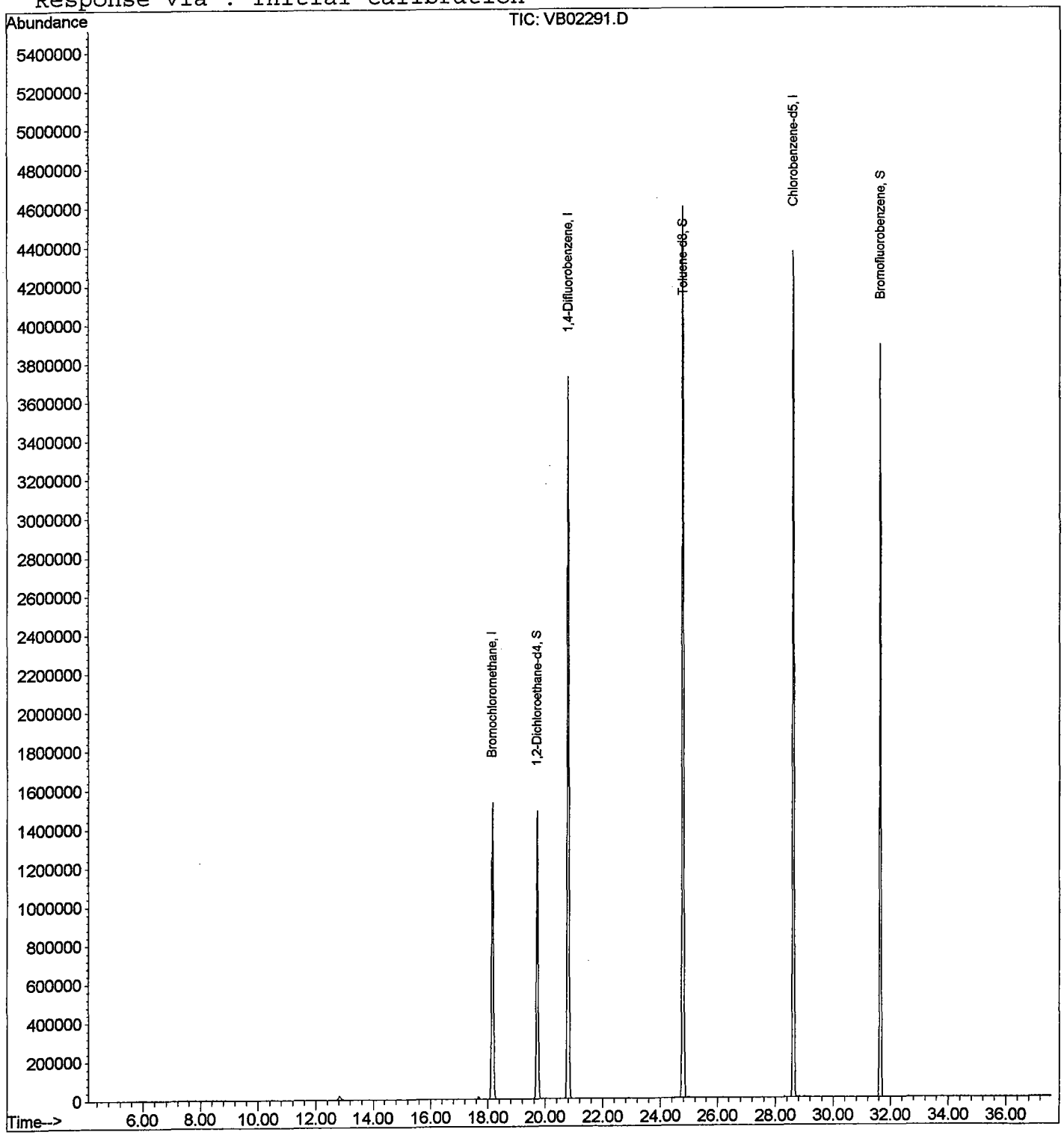
Quantitation Report

Data File : C:\HPCHEM\1\DATA\981208\VB02291.D
Acq On : 8 Dec 98 7:00 pm
Sample : Vblk70
Misc : Vblk70
MS Integration Params: RTEINT.P
Quant Time: Dec 8 19:37 1998

Vial: 6
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: M62419.RES

Method : C:\HPCHEM\1\METHODS\M62420.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 08 15:56:08 1998
Response via : Initial Calibration



1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **1220B-2**

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 4107.06

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02405.D

Level: (low/med) LOW Date Received: 12/3/98

% Moisture: decanted: (Y/N) N Date Extracted: 12/8/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/18/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000301-02-0	9-Octadecenamide, (Z)-	26.54	9	JN

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN02406.D**	Sample Name	**4107.07**
Operator	**Skelton**	Misc Info	**Field Dup**
Date Acquired	**18-Dec-98**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	5.00	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.94	ug/L	
62-53-3	Aniline			not detected	NLE	0.15	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.48	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.23	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.18	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.16	ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	0.61	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.33	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.46	ug/L	
78-59-1	Isophorone			not detected	100	0.35	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.46	ug/L	
65-85-0	Benzoic Acid			not detected	NLE	0.26	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.25	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.25	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.19	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.38	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.16	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.50	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.32	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.21	ug/L	
131-11-3	Dimethylphthalate	14.64	14268	1.63 ug/L	7000	0.18	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.19	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.31	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.26	ug/L	
83-32-9	Acenaphthene			not detected	400	0.26	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.32	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.36	ug/L	
84-66-2	Diethylphthalate			not detected	5000	0.82	ug/L	
86-73-7	Fluorene			not detected	300	0.29	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.31	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.90	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	0.23	ug/L	
103-33-3	Azobenzene			not detected	NLE	0.80	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.55	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	0.82	ug/L	
85-01-8	Phenanthrene			not detected	NLE	0.18	ug/L	
120-12-7	Anthracene			not detected	2000	0.19	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	0.23	ug/L	
206-44-0	Fluoranthene			not detected	300	0.41	ug/L	
92-87-5	Benzidine			not detected	50	1.45	ug/L	
129-00-0	Pyrene			not detected	200	0.32	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.47	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	0.22	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.46	ug/L	
218-01-9	Chrysene			not detected	20	0.20	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.51	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	0.82	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	0.37	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	0.32	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	0.31	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	0.79	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	0.28	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.40	ug/L	

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field ID: **Field Dup**

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 4107.07

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN02406.D

Level: (low/med) LOW Date Received: 12/3/98

% Moisture: decanted: (Y/N) N Date Extracted: 12/8/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/18/98

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 Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID: BN02340.D DFTPP Injection Date: 12/15/98

Instrument ID: SVoa#1 DFTPP Injection Time: 15:49

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	37.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	58.9
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	41.7
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	6.5
275	10.0 - 30.0% of mass 198	17.3
365	Greater than 0.75% of mass 198	1.9
441	Present, but less than mass 443	6.4
442	40.0 - 110.0% of mass 198	41.0
443	15.0 - 24.0% of mass 442	7.8 (19.0)2

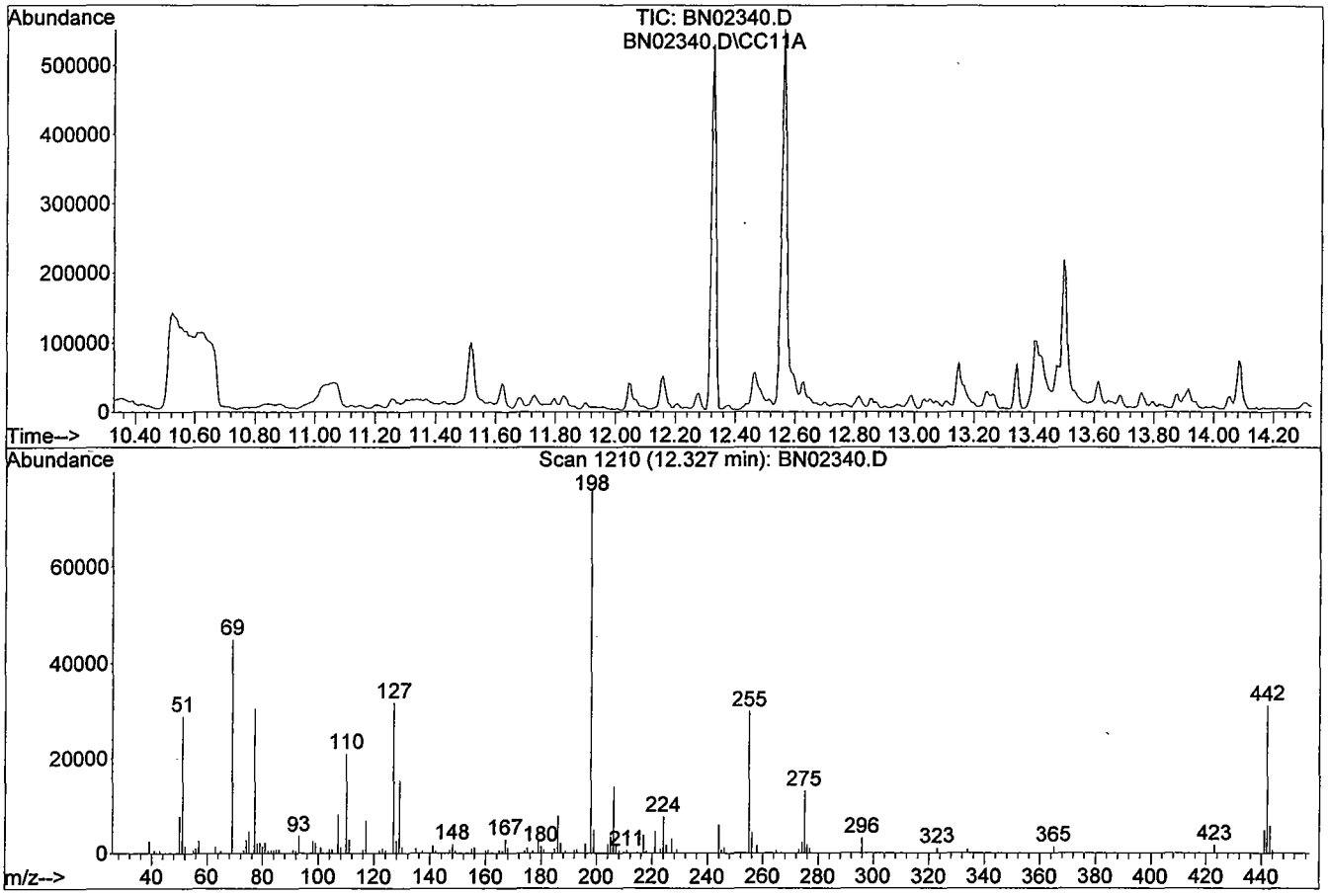
1-Value is % mass 69 2-Value is % mass 442

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 STD	BN02341.D	12/15/98	16:13
02	SSTD080	80 PPM STD	BN02342.D	12/15/98	16:58
03	SSTD050	50 PPM STD	BN02343.D	12/15/98	17:43
04	SSTD020	20 PPM STD	BN02344.D	12/15/98	18:28
05	SSTD010	10 PPM STD	BN02345.D	12/15/98	19:13

DFTPP

Data File : C:\HPCHEM\1\DATA\981215\BN02340.D Vial: 1
Acq On : 15 Dec 1998 3:49 pm Operator: Skelton
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 1210

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.9	28912	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	58.9	44912	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	41.7	31784	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	76192	PASS
199	198	5	9	6.5	4946	PASS
275	198	10	30	17.3	13163	PASS
365	198	1	100	1.9	1432	PASS
441	443	1	99	82.9	4911	PASS
442	198	40	100	41.0	31216	PASS
443	442	17	23	19.0	5921	PASS

BN02340.D M62519.M Wed Jan 20 14:31:11 1999

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID: BN02371.D DFTPP Injection Date: 12/17/98

Instrument ID: SVoa#1 DFTPP Injection Time: 8:56

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	38.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	58.7
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	43.7
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	6.4
275	10.0 - 30.0% of mass 198	17.5
365	Greater than 0.75% of mass 198	1.9
441	Present, but less than mass 443	6.4
442	40.0 - 110.0% of mass 198	41.4
443	15.0 - 24.0% of mass 442	8.1 (19.5)2

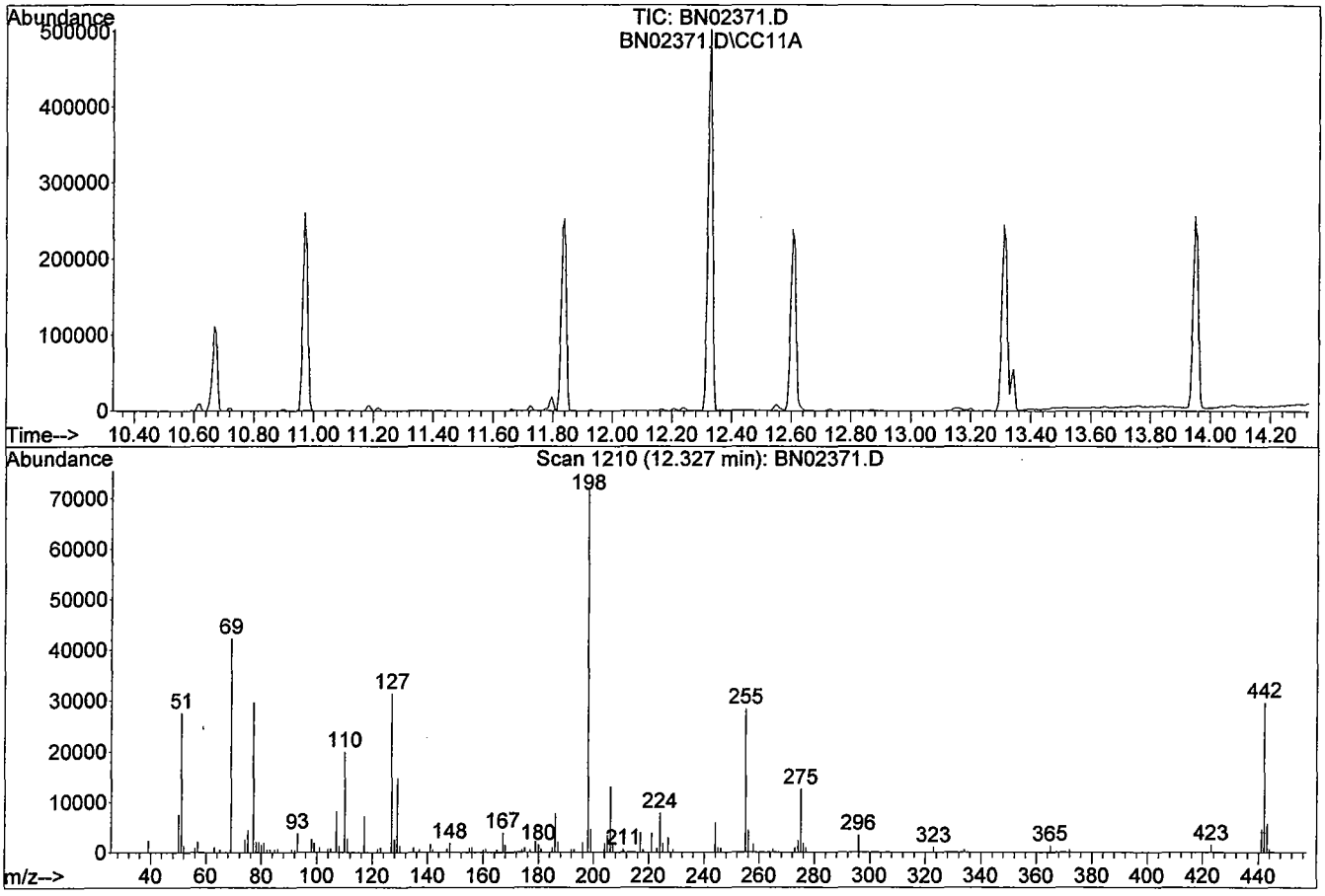
1-Value is % mass 69 2-Value is % mass 442

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	DAILY CAL	BN02372.D	12/17/98	9:20
02	FIELD BLANK	4107.02	BN02403.D	12/18/98	6:03
03	1220B-1	4107.04	BN02404.D	12/18/98	6:43
04	1220B-2	4107.06	BN02405.D	12/18/98	7:23
05	FIELD DUP	4107.07	BN02406.D	12/18/98	8:03

DFTPP

Data File : C:\HPCHEM\1\DATA\981217\BN02371.D Vial: 99
Acq On : 17 Dec 1998 8:56 am Operator: Skelton
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 1210

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	38.4	27648	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	58.7	42256	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	43.7	31416	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	71928	PASS
199	198	5	9	6.4	4592	PASS
275	198	10	30	17.5	12605	PASS
365	198	1	100	1.9	1335	PASS
441	443	1	99	79.5	4614	PASS
442	198	40	100	41.4	29784	PASS
443	442	17	23	19.5	5803	PASS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID: BN02407.D DFTPP Injection Date: 12/18/98

Instrument ID: SVoa#1 DFTPP Injection Time: 13:31

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	35.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	56.9
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	41.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	18.3
365	Greater than 0.75% of mass 198	2.1
441	Present, but less than mass 443	8.0
442	40.0 - 110.0% of mass 198	51.1
443	15.0 - 24.0% of mass 442	10.4 (20.3)2

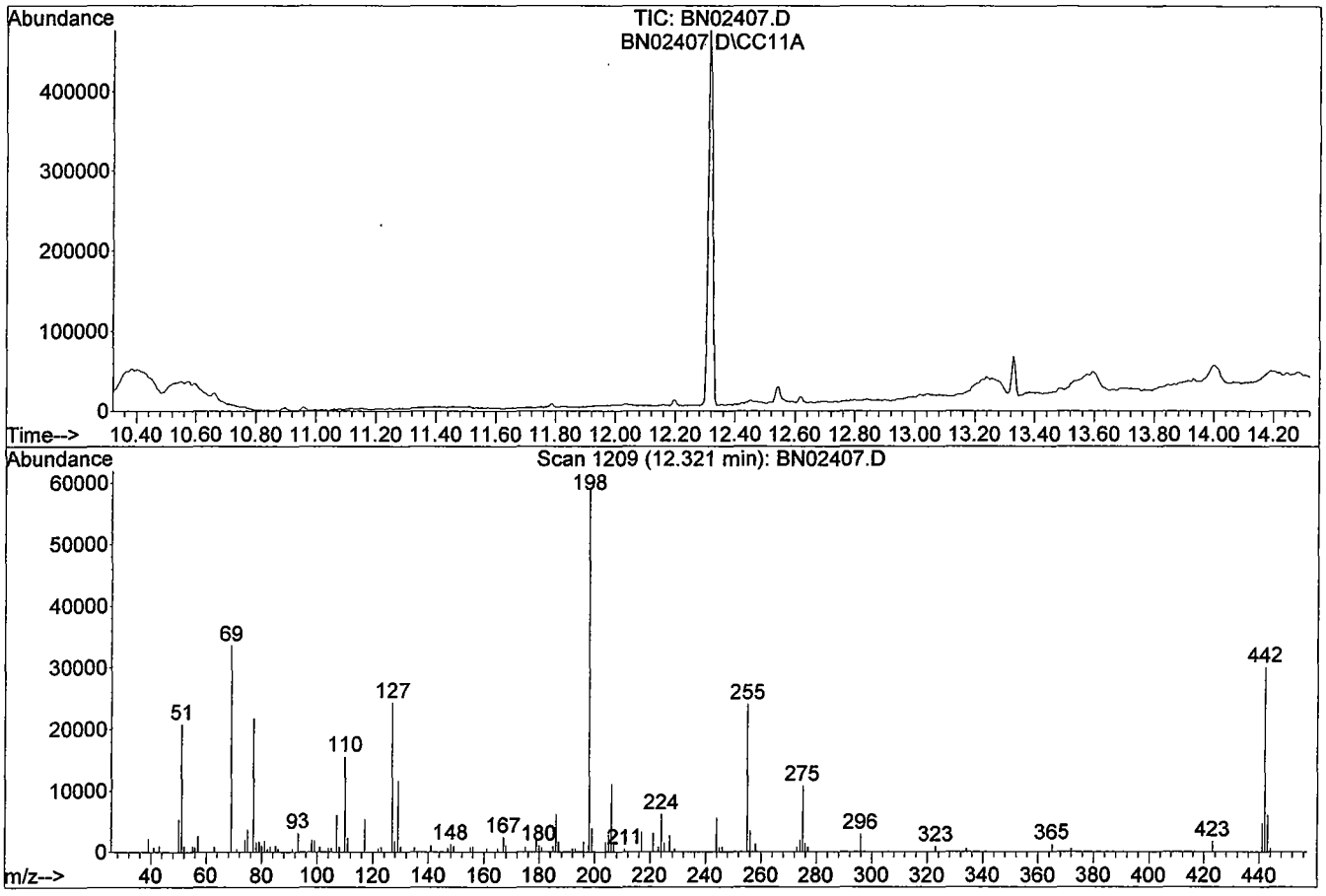
1-Value is % mass 69 2-Value is % mass 442

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

	Field ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	DAILY CAL	BN02408.D	12/18/98	13:55
02	SBLK177	SBLK177	BN02424.D	12/19/98	0:42
03	SBLK177MS	SBLK177MS	BN02425.D	12/19/98	1:22

DFTPP

Data File : C:\HPCHEM\1\DATA\981218\BN02407.D Vial: 99
Acq On : 18 Dec 1998 1:31 pm Operator: Skelton
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 1209

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	35.2	20808	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	56.9	33584	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	41.3	24384	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	59040	PASS
199	198	5	9	6.6	3879	PASS
275	198	10	30	18.3	10824	PASS
365	198	1	100	2.1	1256	PASS
441	443	1	99	77.6	4744	PASS
442	198	40	100	51.1	30152	PASS
443	442	17	23	20.3	6113	PASS

4B

Field ID:

SEMIVOLATILE METHOD BLANK SUMMARY

Sblk177

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID: BN02424.D Lab Sample ID: Sblk177

Instrument ID: GC/MS Ins Date Extracted: 12/8/98

Matrix: (soil/water) WATER Date Analyzed: 12/19/98

Level: (low/med) LOW Time Analyzed: 0:42

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

	Field ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	FIELD BLANK	4107.02	BN02403.D	12/18/98
02	1220B-1	4107.04	BN02404.D	12/18/98
03	1220B-2	4107.06	BN02405.D	12/18/98
04	FIELD DUP	4107.07	BN02406.D	12/18/98
05	SBLK177MS	SBLK177MS	BN02425.D	12/19/98

COMMENTS:

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration

Calibration Files
10 =BN02345.D 20 =BN02344.D 50 =BN02343.D
80 =BN02342.D 120 =BN02341.D

		Compound	10	20	50	80	120	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	----------ISTD----------						
2)	T	Pyridine	1.635	1.413	1.720	1.610	1.929	1.661	11.26
3)	T	N-nitroso-dimethylami	0.993	0.934	0.925	0.903	0.927	0.936	3.61
4)	S	2-Fluorophenol	1.171	1.189	1.274	1.311	1.422	1.274	7.96
5)	T	Aniline	2.045	2.037	1.890	1.980	2.170	2.024	5.06
6)	S	Phenol-d6	1.329	1.332	1.320	1.259	1.225	1.293	3.73
7)	TCM	Phenol	1.657	1.639	1.565	1.417	1.283	1.512	10.52#
8)	T	bis(2-Chloroethyl)eth	1.504	1.487	1.438	1.385	1.323	1.428	5.24
9)	TM	2-Chlorophenol	1.262	1.247	1.190	1.123	1.090	1.182	6.37
10)	T	1,3-Dichlorobenzene	1.353	1.342	1.360	1.335	1.404	1.359	1.98
11)	TCM	1,4-Dichlorobenzene	1.442	1.426	1.423	1.396	1.415	1.420	1.17#
12)	T	Benzyl alcohol	0.850	0.870	0.899	0.890	0.913	0.884	2.81
13)	T	1,2-Dichlorobenzene	1.325	1.319	1.252	1.170	1.113	1.236	7.51
14)	T	2-Methylphenol	1.163	1.165	1.089	1.022	0.957	1.079	8.35
15)	T	bis(2-chloroisopropyl	2.339	2.308	2.160	2.056	2.009	2.174	6.77
16)	T	4-Methylphenol	1.128	1.120	1.072	1.000	0.943	1.053	7.59
17)	TM	n-Nitroso-di-n-propyl	0.196	0.196	0.194	0.189	0.192	0.193	1.62
18)	T	Hexachloroethane	0.590	0.601	0.609	0.602	0.606	0.602	1.22
19)	I	Naphthalene-d8	----------ISTD----------						
20)	S	Nitrobenzene-d5	0.397	0.400	0.393	0.379	0.370	0.388	3.35
21)	T	Nitrobenzene	0.401	0.400	0.385	0.354	0.334	0.375	7.93
22)	T	Isophorone	0.851	0.846	0.800	0.786	0.803	0.817	3.61
23)	TC	2-Nitrophenol	0.216	0.220	0.224	0.219	0.211	0.218	2.21#
24)	T	2,4-Dimethylphenol	0.335	0.323	0.310	0.292	0.287	0.310	6.48
25)	T	bis(2-Chloroethoxy)me	0.510	0.490	0.450	0.421	0.406	0.455	9.70
26)	TC	2,4-Dichlorophenol	0.264	0.264	0.265	0.252	0.238	0.257	4.64#
27)	T	Benzoic Acid	0.220	0.248	0.256	0.260	0.272	0.251	7.82
28)	TM	1,2,4-Trichlorobenzen	0.302	0.293	0.279	0.263	0.247	0.277	8.04
29)	T	Naphthalene	1.018	0.961	0.823	0.696	0.633	0.826	20.01
30)	T	4-Chloroaniline	0.438	0.426	0.389	0.405	0.417	0.415	4.55
31)	TC	Hexachlorobutadiene	0.154	0.154	0.142	0.125	0.108	0.136	14.73#
32)	TCM	4-Chloro-3-methylphen	0.280	0.278	0.258	0.241	0.219	0.255	10.05#
33)	T	2-Methylnaphthalene	0.649	0.625	0.521	0.471	0.418	0.537	18.41
34)	I	Acenaphthene-d10	----------ISTD----------						
35)	T	Hexachlorocyclopentad	0.217	0.237	0.256	0.242	0.236	0.237	5.84
36)	TC	2,4,6-Trichlorophenol	0.376	0.376	0.350	0.315	0.297	0.343	10.47#
37)	T	2,4,5-Trichlorophenol	0.431	0.426	0.394	0.350	0.317	0.383	12.80
38)	S	2-Fluorobiphenyl	1.384	1.289	1.105	0.931	0.843	1.110	20.65
39)	T	2-Chloronaphthalene	1.146	1.107	0.985	0.858	0.785	0.976	15.91
40)	T	2-Nitroaniline	0.561	0.566	0.556	0.534	0.522	0.548	3.41
41)	T	Dimethylphthalate	1.506	1.436	1.323	1.197	1.155	1.323	11.35

(#) = Out of Range

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration

Calibration Files
10 =BN02345.D 20 =BN02344.D 50 =BN02343.D
80 =BN02342.D 120 =BN02341.D

		Compound	10	20	50	80	120	Avg	%RSD
42)	TM	Acenaphthylene	1.928	1.836	1.588	1.355	1.224	1.586	19.00
43)	T	2,6-Dinitrotoluene	0.208	0.204	0.264	0.257	0.247	0.236	11.84
44)	T	3-Nitroaniline	0.561	0.566	0.556	0.534	0.522	0.548	3.41
45)	TC	Acenaphthene	1.142	1.058	0.915	0.778	0.718	0.922	19.51#
46)	T	2,4-Dinitrophenol	0.138	0.168	0.202	0.205	0.211	0.185	16.98
47)	T	Dibenzofuran	1.640	1.581	1.376	1.175	1.084	1.371	17.75
48)	TM	4-Nitrophenol	0.300	0.313	0.333	0.305	0.300	0.310	4.51
49)	TM	2,4-Dinitrotoluene	0.486	0.486	0.466	0.443	0.430	0.462	5.45
50)	T	Diethylphthalate	1.537	1.426	1.201	1.036	0.961	1.232	20.01
51)	T	Fluorene	1.222	1.165	0.994	0.847	0.766	0.999	19.69
52)	T	4-Chlorophenyl-phenyl	0.555	0.504	0.414	0.348	0.316	0.427	23.74
53)	T	4-Nitroaniline	0.367	0.339	0.271	0.222	0.176	0.275	28.80
54)	I	Phenanthrene-d10	----------ISTD----------						
55)	T	4,6-Dinitro-2-methylp	0.135	0.101	0.160	0.153	0.145	0.139	16.53
56)	TC	n-Nitrosodiphenylamin	0.366	0.334	0.354	0.267	0.219	0.308	20.33#
57)	T	Azobenzene	0.939	1.040	0.778	0.669	0.586	0.802	23.35
58)	S	2,4,6-Tribromophenol	0.103	0.100	0.093	0.083	0.075	0.091	12.86
59)	T	4-Bromophenyl-phenyle	0.213	0.202	0.177	0.146	0.132	0.174	20.04
60)	T	Hexachlorobenzene	0.263	0.249	0.210	0.174	0.159	0.211	21.43
61)	TCM	Pentachlorophenol	0.146	0.150	0.142	0.129	0.127	0.139	7.31#
62)	T	Phenanthrene	1.070	0.977	0.793	0.673	0.621	0.827	23.31
63)	T	Anthracene	1.120	1.028	0.823	0.699	0.640	0.862	24.03
64)	T	Di-n-butylphthalate	1.849	1.691	1.390	1.150	1.065	1.429	23.65
65)	TC	Fluoranthene	1.115	1.023	0.852	0.719	0.655	0.873	22.38#
66)	I	Chrysene-d12	----------ISTD----------						
67)	T	Benzidine	0.009	0.011	0.011	0.010	0.010	0.010#	6.68
68)	TM	Pyrene	1.422	1.337	1.117	0.986	0.956	1.164	17.89
69)	S	p-Terphenyl-d14	0.980	0.944	0.805	0.708	0.671	0.822	16.75
70)	T	Butylbenzylphthalate	0.987	0.981	0.894	0.839	0.825	0.905	8.46
71)	T	Benzo[a]anthracene	1.184	1.169	1.090	0.989	0.943	1.075	9.96
72)	T	3,3'-Dichlorobenzidin	0.330	0.271	0.230	0.218	0.208	0.252	19.78
73)	T	Chrysene	0.787	0.768	0.692	0.613	0.558	0.684	14.36
74)	T	bis(2-Ethylhexyl)phth	1.395	1.351	1.166	1.031	0.996	1.188	15.27
75)	I	Perylene-d12	----------ISTD----------						
76)	TC	Di-n-octylphthalate	2.273	2.213	1.830	1.551	1.422	1.858	20.56#
77)	T	Benzo[b]fluoranthene	1.078	1.046	1.032	1.105	1.101	1.073	3.03
78)	T	Benzo[k]fluoranthene	1.019	1.000	0.803	0.774	0.732	0.866	15.47
79)	TC	Benzo[a]pyrene	0.974	0.955	0.889	0.823	0.788	0.886	9.12#
80)	T	Indeno[1,2,3-cd]pyren	0.795	0.825	0.805	0.817	0.876	0.824	3.81
81)	T	Dibenz[a,h]anthracene	0.488	0.502	0.518	0.480	0.440	0.486	6.04
82)	T	Benzo[g,h,i]perylene	0.967	0.992	0.944	0.910	0.889	0.940	4.45

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981217\BN02372.D Vial: 100
Acq On : 17 Dec 1998 9:20 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 50 ppb std Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	62	0.00
2	T	Pyridine	1.661	1.695	-2.0	61	0.00
3	T	N-nitroso-dimethylamine	0.936	1.049	-12.1	70	0.00
4	S	2-Fluorophenol	1.274	1.262	0.9	61	0.00
5	T	Aniline	2.024	2.100	-3.8	69	0.00
6	S	Phenol-d6	1.293	1.303	-0.8	61	0.00
7	TCM	Phenol	1.512	1.514	-0.1	60	0.00
8	T	bis(2-Chloroethyl)ether	1.428	1.371	4.0	59	0.00
9	TM	2-Chlorophenol	1.182	1.166	1.4	61	0.00
10	T	1,3-Dichlorobenzene	1.359	1.322	2.7	60	0.00
11	TCM	1,4-Dichlorobenzene	1.420	1.376	3.1	60	0.00
12	T	Benzyl alcohol	0.884	0.887	-0.3	61	0.00
13	T	1,2-Dichlorobenzene	1.236	1.220	1.3	60	0.00
14	T	2-Methylphenol	1.079	1.067	1.1	61	0.00
15	T	bis(2-chloroisopropyl)ether	2.174	2.166	0.4	62	0.00
16	T	4-Methylphenol	1.053	1.079	-2.5	62	0.00
17	TM	n-Nitroso-di-n-propylamine	0.193	0.211	-9.3	67	0.00
18	T	Hexachloroethane	0.602	0.590	2.0	60	0.00
19	I	Naphthalene-d8	1.000	1.000	0.0	62	0.00
20	S	Nitrobenzene-d5	0.388	0.393	-1.3	62	0.00
21	T	Nitrobenzene	0.375	0.384	-2.4	62	0.00
22	T	Isophorone	0.817	0.795	2.7	62	0.00
23	TC	2-Nitrophenol	0.218	0.216	0.9	60	0.00
24	T	2,4-Dimethylphenol	0.310	0.306	1.3	61	0.00
25	T	bis(2-Chloroethoxy)methane	0.455	0.448	1.5	62	0.00
26	TC	2,4-Dichlorophenol	0.257	0.253	1.6	59	0.00
27	T	Benzoic Acid	0.251	0.246	2.0	59	0.00
28	TM	1,2,4-Trichlorobenzene	0.277	0.271	2.2	60	0.00
29	T	Naphthalene	0.826	0.791	4.2	60	0.00
30	T	4-Chloroaniline	0.415	0.426	-2.7	68	0.00
31	TC	Hexachlorobutadiene	0.136	0.135	0.7	59	0.00
32	TCM	4-Chloro-3-methylphenol	0.255	0.255	0.0	61	0.00
33	T	2-Methylnaphthalene	0.537	0.509	5.2	61	0.00
34	I	Acenaphthene-d10	1.000	1.000	0.0	62	0.00
35	T	Hexachlorocyclopentadiene	0.237	0.277	-16.9	67	0.00
36	TC	2,4,6-Trichlorophenol	0.343	0.343	0.0	61	0.00
37	T	2,4,5-Trichlorophenol	0.383	0.387	-1.0	61	0.00
38	S	2-Fluorobiphenyl	1.110	1.063	4.2	60	0.00
39	T	2-Chloronaphthalene	0.976	0.955	2.2	60	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981217\BN02372.D Vial: 100
Acq On : 17 Dec 1998 9:20 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 50 ppb std Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	2-Nitroaniline	0.548	0.544	0.7	61	0.00
41	T	Dimethylphthalate	1.323	1.277	3.5	60	0.00
42	TM	Acenaphthylene	1.586	1.542	2.8	60	0.00
43	T	2,6-Dinitrotoluene	0.236	0.181	23.3	43#	0.00
44	T	3-Nitroaniline	0.548	0.544	0.7	61	0.00
45	TC	Acenaphthene	0.922	0.870	5.6	59	0.00
46	T	2,4-Dinitrophenol	0.185	0.198	-7.0	61	0.00
47	T	Dibenzofuran	1.371	1.300	5.2	59	0.00
48	TM	4-Nitrophenol	0.310	0.333	-7.4	62	0.02
49	TM	2,4-Dinitrotoluene	0.462	0.458	0.9	61	0.00
50	T	Diethylphthalate	1.232	1.164	5.5	60	0.00
51	T	Fluorene	0.999	0.963	3.6	60	0.00
52	T	4-Chlorophenyl-phenylether	0.427	0.400	6.3	60	0.00
53	T	4-Nitroaniline	0.275	0.331	-20.4	76	0.00
54	I	Phenanthrene-d10	1.000	1.000	0.0	62	0.00
55	T	4,6-Dinitro-2-methylphenol	0.139	0.157	-12.9	61	0.00
56	TC	n-Nitrosodiphenylamine	0.308	0.353	-14.6	62	0.00
57	T	Azobenzene	0.802	0.790	1.5	63	0.00
58	S	2,4,6-Tribromophenol	0.091	0.094	-3.3	62	0.00
59	T	4-Bromophenyl-phenylether	0.174	0.165	5.2	58	0.00
60	T	Hexachlorobenzene	0.211	0.200	5.2	59	0.00
61	TCM	Pentachlorophenol	0.139	0.138	0.7	60	0.00
62	T	Phenanthrene	0.827	0.789	4.6	61	0.00
63	T	Anthracene	0.862	0.800	7.2	60	0.00
64	T	Di-n-butylphthalate	1.429	1.319	7.7	58	0.00
65	TC	Fluoranthene	0.873	0.800	8.4	58	0.00
66	I	Chrysene-d12	1.000	1.000	0.0	59	0.00
67	T	Benzidine	0.010	0.010#	0.0	58	0.00
68	TM	Pyrene	1.164	1.112	4.5	59	0.00
69	S	p-Terphenyl-d14	0.822	0.785	4.5	58	0.00
70	T	Butylbenzylphthalate	0.905	0.891	1.5	59	0.00
71	T	Benzo[a]anthracene	1.075	1.065	0.9	58	0.00
72	T	3,3'-Dichlorobenzidine	0.252	0.283	-12.3	73	0.00
73	T	Chrysene	0.684	0.662	3.2	56	0.00
74	T	bis(2-Ethylhexyl)phthalate	1.188	1.178	0.8	60	0.00
75	I	Perylene-d12	1.000	1.000	0.0	57	0.00
76	TC	Di-n-octylphthalate	1.858	1.877	-1.0	58	0.00
77	T	Benzo[b]fluoranthene	1.073	1.007	6.2	55	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981217\BN02372.D Vial: 100
Acq On : 17 Dec 1998 9:20 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 50 ppb std Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
78	T	Benzo[k]fluoranthene	0.866	0.804	7.2	57	0.00
79	TC	Benzo[a]pyrene	0.886	0.859	3.0	55	0.00
80	T	Indeno[1,2,3-cd]pyrene	0.824	0.762	7.5	54	0.00
81	T	Dibenz[a,h]anthracene	0.486	0.487	-0.2	53	0.00
82	T	Benzo[g,h,i]perylene	0.940	0.900	4.3	54	0.00

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981218\BN02408.D Vial: 100
Acq On : 18 Dec 1998 1:55 pm Operator: Skelton
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\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	59	-0.01
2	T	Pyridine	1.661	1.757	-5.8	60	0.00
3	T	N-nitroso-dimethylamine	0.936	1.024	-9.4	65	-0.01
4	S	2-Fluorophenol	1.274	1.280	-0.5	59	0.00
5	T	Aniline	2.024	2.136	-5.5	67	-0.01
6	S	Phenol-d6	1.293	1.323	-2.3	59	0.00
7	TCM	Phenol	1.512	1.528	-1.1	58	0.00
8	T	bis(2-Chloroethyl)ether	1.428	1.370	4.1	56	-0.01
9	TM	2-Chlorophenol	1.182	1.156	2.2	57	0.00
10	T	1,3-Dichlorobenzene	1.359	1.335	1.8	58	-0.01
11	TCM	1,4-Dichlorobenzene	1.420	1.397	1.6	58	-0.01
12	T	Benzyl alcohol	0.884	0.898	-1.6	59	0.00
13	T	1,2-Dichlorobenzene	1.236	1.227	0.7	58	-0.02
14	T	2-Methylphenol	1.079	1.091	-1.1	59	0.00
15	T	bis(2-chloroisopropyl)ether	2.174	2.251	-3.5	61	-0.01
16	T	4-Methylphenol	1.053	1.091	-3.6	60	0.00
17	TM	n-Nitroso-di-n-propylamine	0.193	0.209	-8.3	63	-0.01
18	T	Hexachloroethane	0.602	0.612	-1.7	59	-0.02
19	I	Naphthalene-d8	1.000	1.000	0.0	59	-0.01
20	S	Nitrobenzene-d5	0.388	0.395	-1.8	60	-0.01
21	T	Nitrobenzene	0.375	0.386	-2.9	59	-0.01
22	T	Isophorone	0.817	0.798	2.3	59	0.00
23	TC	2-Nitrophenol	0.218	0.220	-0.9	58	-0.01
24	T	2,4-Dimethylphenol	0.310	0.306	1.3	58	0.00
25	T	bis(2-Chloroethoxy)methane	0.455	0.449	1.3	59	-0.01
26	TC	2,4-Dichlorophenol	0.257	0.254	1.2	57	0.00
27	T	Benzoic Acid	0.251	0.245	2.4	57	-0.01
28	TM	1,2,4-Trichlorobenzene	0.277	0.273	1.4	58	-0.01
29	T	Naphthalene	0.826	0.794	3.9	57	-0.01
30	T	4-Chloroaniline	0.415	0.430	-3.6	65	0.00
31	TC	Hexachlorobutadiene	0.136	0.138	-1.5	58	-0.02
32	TCM	4-Chloro-3-methylphenol	0.255	0.257	-0.8	59	0.00
33	T	2-Methylnaphthalene	0.537	0.515	4.1	59	-0.01
34	I	Acenaphthene-d10	1.000	1.000	0.0	60	-0.01
35	T	Hexachlorocyclopentadiene	0.237	0.291	-22.8	68	-0.01
36	TC	2,4,6-Trichlorophenol	0.343	0.347	-1.2	59	0.00
37	T	2,4,5-Trichlorophenol	0.383	0.392	-2.3	59	0.00
38	S	2-Fluorobiphenyl	1.110	1.079	2.8	58	-0.01
39	T	2-Chloronaphthalene	0.976	0.978	-0.2	59	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981218\BN02408.D Vial: 100
Acq On : 18 Dec 1998 1:55 pm Operator: Skelton
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\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	2-Nitroaniline	0.548	0.555	-1.3	59	-0.01
41	T	Dimethylphthalate	1.323	1.291	2.4	58	-0.01
42	TM	Acenaphthylene	1.586	1.569	1.1	59	-0.01
43	T	2,6-Dinitrotoluene	0.236	0.278	-17.8	63	-0.01
44	T	3-Nitroaniline	0.548	0.555	-1.3	59	-0.01
45	TC	Acenaphthene	0.922	0.884	4.1	58	-0.01
46	T	2,4-Dinitrophenol	0.185	0.215	-16.2	63	0.00
47	T	Dibenzofuran	1.371	1.374	-0.2	60	-0.01
48	TM	4-Nitrophenol	0.310	0.343	-10.6	61	0.01
49	TM	2,4-Dinitrotoluene	0.462	0.473	-2.4	60	-0.01
50	T	Diethylphthalate	1.232	1.213	1.5	60	-0.01
51	T	Fluorene	0.999	0.984	1.5	59	-0.01
52	T	4-Chlorophenyl-phenylether	0.427	0.415	2.8	60	-0.01
53	T	4-Nitroaniline	0.275	0.353	-28.4	78	0.01
54	I	Phenanthrene-d10	1.000	1.000	0.0	61	-0.01
55	T	4,6-Dinitro-2-methylphenol	0.139	0.165	-18.7	63	0.00
56	TC	n-Nitrosodiphenylamine	0.308	0.345	-12.0	59	-0.01
57	T	Azobenzene	0.802	0.767	4.4	60	-0.01
58	S	2,4,6-Tribromophenol	0.091	0.096	-5.5	63	-0.01
59	T	4-Bromophenyl-phenylether	0.174	0.167	4.0	57	-0.02
60	T	Hexachlorobenzene	0.211	0.206	2.4	60	-0.01
61	TCM	Pentachlorophenol	0.139	0.143	-2.9	61	0.00
62	T	Phenanthrene	0.827	0.782	5.4	60	-0.01
63	T	Anthracene	0.862	0.819	5.0	60	-0.02
64	T	Di-n-butylphthalate	1.429	1.345	5.9	59	-0.01
65	TC	Fluoranthene	0.873	0.813	6.9	58	-0.01
66	I	Chrysene-d12	1.000	1.000	0.0	59	-0.01
67	T	Benzidine	0.010	0.011#	-10.0	59	-0.02
68	TM	Pyrene	1.164	1.091	6.3	58	-0.01
69	S	p-Terphenyl-d14	0.822	0.800	2.7	59	-0.02
70	T	Butylbenzylphthalate	0.905	0.884	2.3	58	-0.02
71	T	Benzo[a]anthracene	1.075	1.056	1.8	57	-0.01
72	T	3,3'-Dichlorobenzidine	0.252	0.255	-1.2	65	-0.01
73	T	Chrysene	0.684	0.659	3.7	56	-0.01
74	T	bis(2-Ethylhexyl)phthalate	1.188	1.158	2.5	59	-0.02
75	I	Perylene-d12	1.000	1.000	0.0	55	-0.01
76	TC	Di-n-octylphthalate	1.858	1.984	-6.8	60	-0.01
77	T	Benzo[b]fluoranthene	1.073	1.054	1.8	56	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981218\BN02408.D Vial: 100
Acq On : 18 Dec 1998 1:55 pm Operator: Skelton
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\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
78	T	Benzo[k]fluoranthene	0.866	0.825	4.7	57	-0.01
79	TC	Benzo[a]pyrene	0.886	0.887	-0.1	55	-0.01
80	T	Indeno[1,2,3-cd]pyrene	0.824	0.747	9.3	51	-0.01
81	T	Dibenz[a,h]anthracene	0.486	0.485	0.2	52	-0.01
82	T	Benzo[g,h,i]perylene	0.940	0.911	3.1	53	-0.01

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

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No: _____

	Field ID:	S1 NBZ #	S2 2FP #	S3 TPL #	TOT OUT
01	FIELD BLANK	90	82	75	0
02	1220B-1	78	71	76	0
03	1220B-2	70	68	77	0
04	FIELD DUP	76	71	80	0
05	SBLK177	79	72	81	0
06	SBLK177MS	88	84	90	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 **BN02425.D** Sample Name **Sblk177ms**

Date Acquired **19-Dec-98**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		10.92 ug/L	54.62
62-75-9	N-nitroso-dimethylamine		8.24 ug/L	41.21
62-53-3	Aniline		15.72 ug/L	78.59
111-44-4	bis(2-Chloroethyl)ether		19.37 ug/L	96.86
541-73-1	1,3-Dichlorobenzene		17.16 ug/L	85.80
106-46-7	1,4-Dichlorobenzene		17.18 ug/L	85.89
100-51-6	Benzyl alcohol		11.16 ug/L	55.78
95-50-1	1,2-Dichlorobenzene		19.07 ug/L	95.35
108-60-1	bis(2-chloroisopropyl)ether		20.57 ug/L	102.87
621-64-7	n-Nitroso-di-n-propylamine		19.51 ug/L	97.53
67-72-1	Hexachloroethane		15.99 ug/L	79.96
98-95-3	Nitrobenzene		19.64 ug/L	98.20
78-59-1	Isophorone		18.61 ug/L	93.04
111-91-1	bis(2-Chloroethoxy)methane		20.62 ug/L	103.12
120-82-1	1,2,4-Trichlorobenzene		19.78 ug/L	98.89
91-20-3	Naphthalene		21.45 ug/L	107.26
106-47-8	4-Chloroaniline		18.75 ug/L	93.75
87-68-3	Hexachlorobutadiene		20.55 ug/L	102.74
91-57-6	2-Methylnaphthalene		20.65 ug/L	103.24
77-47-4	Hexachlorocyclopentadiene		7.75 ug/L	38.73
91-58-7	2-Chloronaphthalene		21.56 ug/L	107.78
88-74-4	2-Nitroaniline		19.01 ug/L	95.05
131-11-3	Dimethylphthalate		9.47 ug/L	47.33
208-96-8	Acenaphthylene		21.55 ug/L	107.74
606-20-2	2,6-Dinitrotoluene		16.41 ug/L	82.06
99-09-2	3-Nitroaniline		19.01 ug/L	95.05
83-32-9	Acenaphthene		21.35 ug/L	106.75
132-64-9	Dibenzofuran		20.95 ug/L	104.75
121-14-2	2,4-Dinitrotoluene		19.67 ug/L	98.34
84-66-2	Diethylphthalate		18.03 ug/L	90.14
86-73-7	Fluorene		21.92 ug/L	109.59
7005-72-3	4-Chlorophenyl-phenylether		23.01 ug/L	115.06
100-01-6	4-Nitroaniline		29.33 ug/L	146.67
86-30-6	n-Nitrosodiphenylamine		32.62 ug/L	163.10
103-33-3	Azobenzene		26.24 ug/L	131.22
101-55-3	4-Bromophenyl-phenylether		23.12 ug/L	115.62
118-74-1	Hexachlorobenzene		17.53 ug/L	87.63
85-01-8	Phenanthrene		23.61 ug/L	118.03
120-12-7	Anthracene		23.59 ug/L	117.95
84-74-2	Di-n-butylphthalate		24.01 ug/L	120.06
206-44-0	Fluoranthene		23.74 ug/L	118.68
92-87-5	Benzidine		50.36 ug/L	251.82
129-00-0	Pyrene		24.06 ug/L	120.28
85-68-7	Butylbenzylphthalate		22.54 ug/L	112.70
56-55-3	Benzo[a]anthracene		22.16 ug/L	110.82
91-94-1	3,3'-Dichlorobenzidine		36.87 ug/L	184.33
218-01-9	Chrysene		22.45 ug/L	112.25
117-81-7	bis(2-Ethylhexyl)phthalate		24.26 ug/L	121.29
117-84-0	Di-n-octylphthalate		29.86 ug/L	149.30
205-99-2	Benzo[b]fluoranthene		21.18 ug/L	105.90
207-08-9	Benzo[k]fluoranthene		25.35 ug/L	126.77
50-32-8	Benzo[a]pyrene		21.69 ug/L	108.46
193-39-5	Indeno[1,2,3-cd]pyrene		13.13 ug/L	65.63
53-70-3	Dibenz[a,h]anthracene		13.54 ug/L	67.70
191-24-2	Benzo[g,h,i]perylene		9.77 ug/L	48.86

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID (Standard): BN02372.D Date Analyzed: 12/17/98

Instrument ID: SVoa#1 Time Analyzed: 9:20

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	158721	7.78	543534	10.61	269619	14.70
	UPPER LIMIT	317442	8.28	1087068	11.11	539238	15.20
	LOWER LIMIT	79361	7.28	271767	10.11	134810	14.20
	Field ID:						
01	FIELD BLANK	186720	7.78	593322	10.60	287213	14.70
02	1220B-1	184264	7.78	578682	10.60	287493	14.69
03	1220B-2	163064	7.77	533714	10.60	253350	14.69
04	FIELD DUP	167372	7.78	545111	10.60	265194	14.69

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 Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID (Standard): BN02372.D Date Analyzed: 12/17/98

Instrument ID: SVoa#1 Time Analyzed: 09:20

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	431743	18.10	296658	24.33	312452	27.45
	UPPER LIMIT	863486	17.60	593316	23.83	624904	26.95
	LOWER LIMIT	215872	18.60	148329	24.83	156226	27.95
	EPA SAMPLE NO.						
01	FIELD BLANK	441351	18.09	352643	24.32	299895	27.42
02	1220B-1	426953	18.09	337508	24.32	284299	27.42
03	1220B-2	385386	18.09	298978	24.31	247996	27.42
04	FIELD DUP	402600	18.09	314448	24.31	263605	27.42

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 Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID (Standard): BN02408.D Date Analyzed: 12/18/98

Instrument ID: SVoa#1 Time Analyzed: 13:55

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	151299	7.77	520382	10.60	258473	14.69
	UPPER LIMIT	302598	8.27	1040764	11.10	516946	15.19
	LOWER LIMIT	75650	7.27	260191	10.10	129237	14.19
	Field ID:						
01	SBLK177	149468	7.77	489531	10.59	240322	14.67
02	SBLK177MS	145210	7.77	484811	10.59	235607	14.68

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 Cod 13461

Project: 98-0932 Case No.: 4107 Location: UST SDG No:

Lab File ID (Standard): BN02408.D Date Analyzed: 12/18/98

Instrument ID: SVoa#1 Time Analyzed: 13:55

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	425072	18.09	296546	24.32	303378	27.43
	UPPER LIMIT	850144	17.59	593092	23.82	606756	26.93
	LOWER LIMIT	212536	18.59	148273	24.82	151689	27.93
	EPA SAMPLE NO.						
01	SBLK177	362652	18.07	279297	24.29	245317	27.39
02	SBLK177MS	360854	18.08	267294	24.29	236104	27.39

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 : C:\HPCHEM\1\DATA\981218\BN02424.D Vial: 16
Acq On : 19 Dec 98 12:42 am Operator: Skelton
Sample : Sblk177 Inst : GC/MS Ins
Misc : Sblk177 A 981208 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:16 1998 Quant Results File: M62519.RES

Quant Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration
DataAcq Meth : M62519

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	149468	40.00	ug/L	-0.02
19) Naphthalene-d8	10.59	136	489531	40.00	ug/L	-0.03
34) Acenaphthene-d10	14.67	164	240322	40.00	ug/L	-0.03
54) Phenanthrene-d10	18.07	188	362652	40.00	ug/L	-0.03
66) Chrysene-d12	24.29	240	279297	40.00	ug/L	-0.04
75) Perylene-d12	27.39	264	245317	40.00	ug/L	-0.05
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	9.08	82	186339	39.25	ug/L	-0.03
Spiked Amount 50.000	Range 35 - 114		Recovery = 78.50%			
38) 2-Fluorobiphenyl	13.21	172	240845	36.11	ug/L	-0.03
Spiked Amount 50.000	Range 43 - 116		Recovery = 72.22%			
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	21.98	244	231257	40.31	ug/L	-0.03
Spiked Amount 50.000	Range 33 - 141		Recovery = 80.62%			

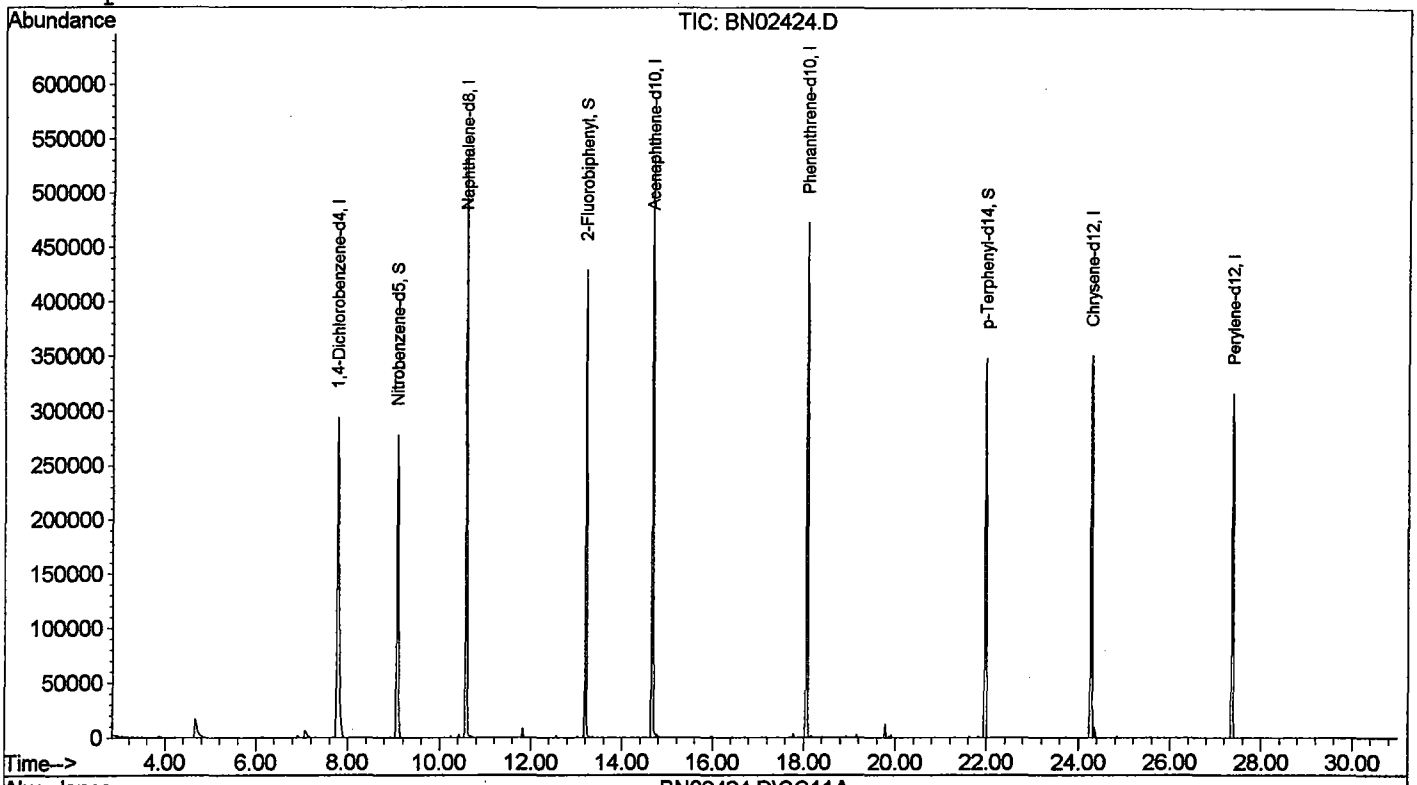
Target Compounds Qvalue

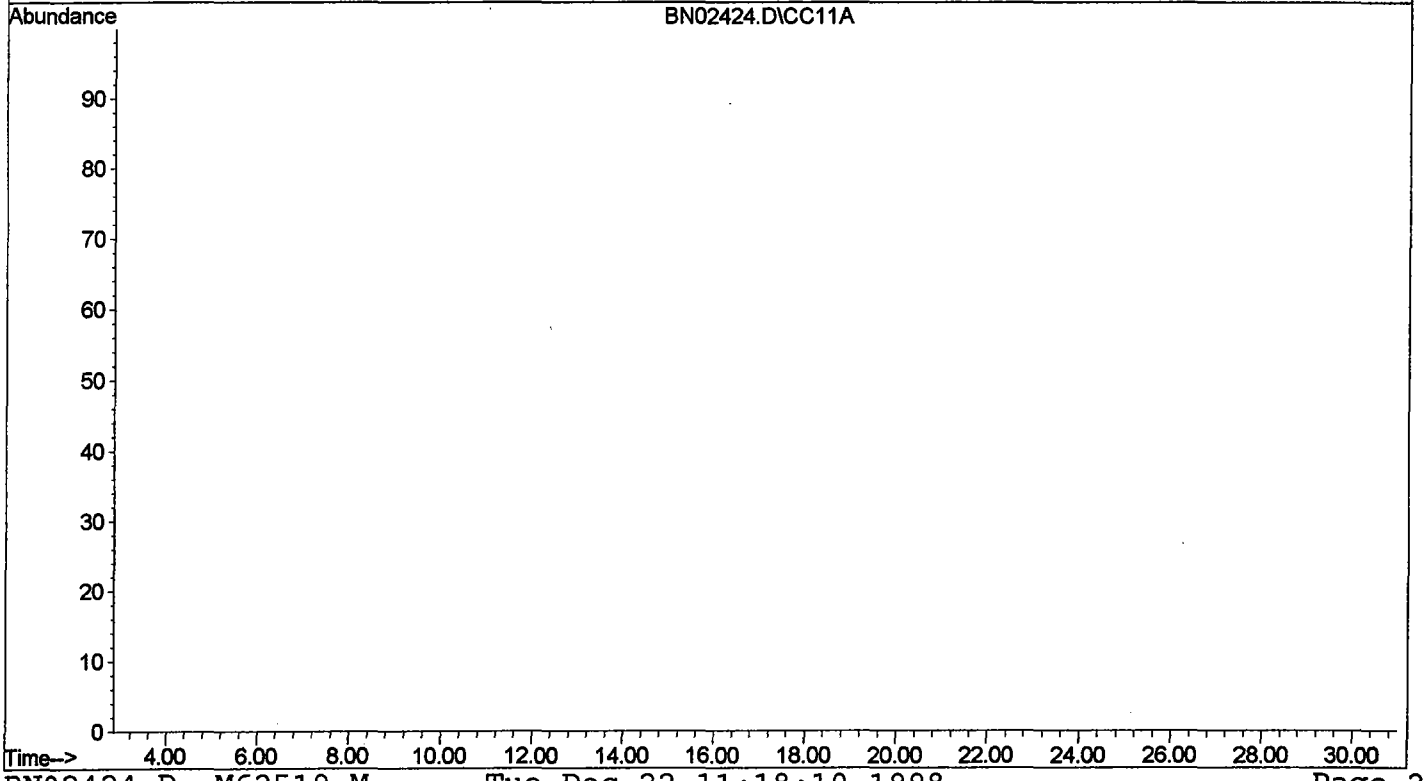
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981218\BN02424.D Vial: 16
Acq On : 19 Dec 98 12:42 am Operator: Skelton
Sample : Sblk177 Inst : GC/MS Ins
Misc : Sblk177 A 981208 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:16 1998 Quant Results File: M62519.RES

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration





083

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981217\BN02403.D Vial: 31
Acq On : 18 Dec 98 6:03 am Operator: Skelton
Sample : 4107.02 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:09 1998 Quant Results File: M62519.RES

Quant Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration
DataAcq Meth : M62519

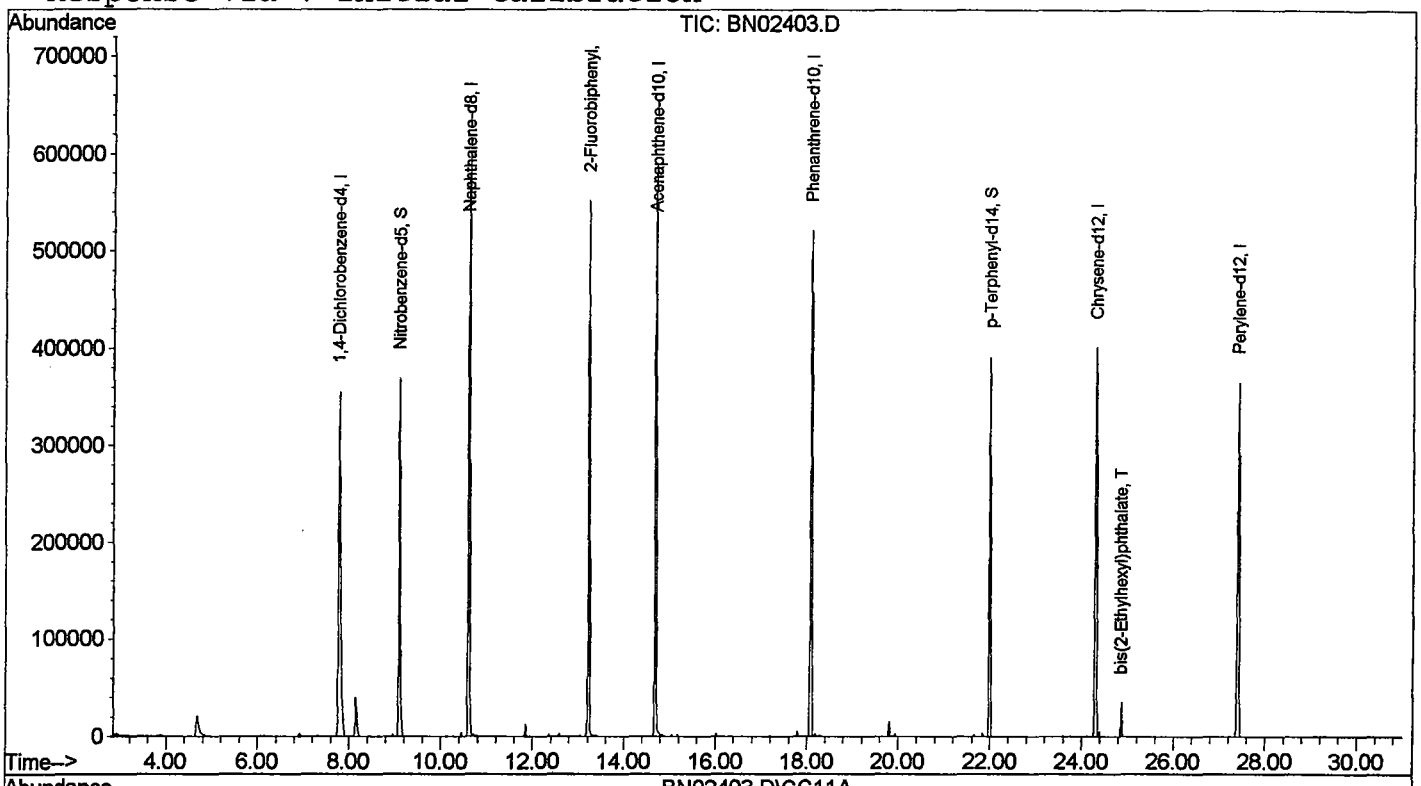
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.78	152	186720	40.00	ug/L	0.00
19) Naphthalene-d8	10.60	136	593322	40.00	ug/L	-0.01
34) Acenaphthene-d10	14.70	164	287213	40.00	ug/L	0.00
54) Phenanthrene-d10	18.09	188	441351	40.00	ug/L	0.00
66) Chrysene-d12	24.32	240	352643	40.00	ug/L	-0.01
75) Perylene-d12	27.42	264	299895	40.00	ug/L	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery = 0.00%#			
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery = 0.00%#			
20) Nitrobenzene-d5	9.09	82	257460	44.75	ug/L	-0.01
Spiked Amount 50.000	Range 35 - 114		Recovery = 89.50%			
38) 2-Fluorobiphenyl	13.22	172	324882	40.76	ug/L	-0.01
Spiked Amount 50.000	Range 43 - 116		Recovery = 81.52%			
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	22.00	244	272422	37.61	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 75.22%			
Target Compounds						Qvalue
74) bis(2-Ethylhexyl)phthalate	24.87	149	19748	1.89	ug/L	99

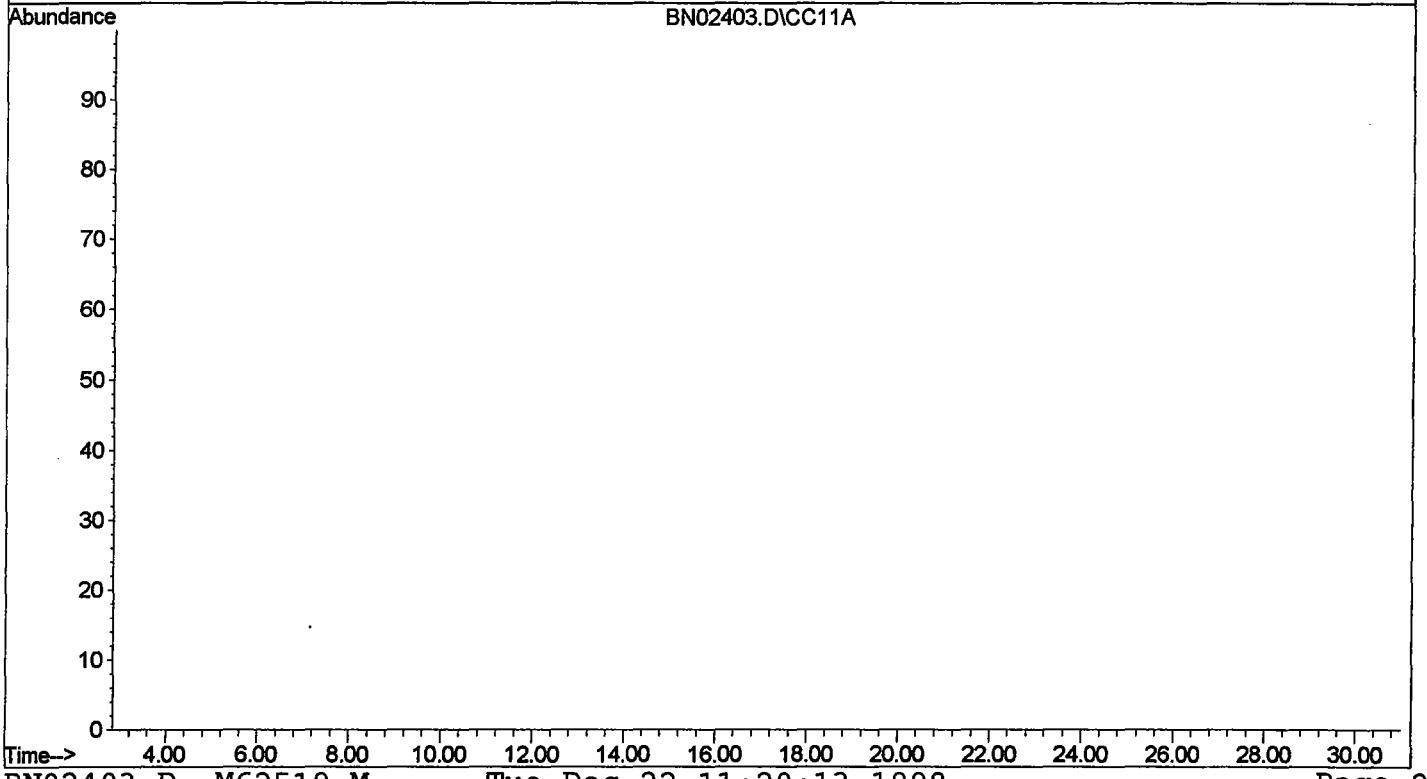
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981217\BN02403.D Vial: 31
Acq On : 18 Dec 98 6:03 am Operator: Skelton
Sample : 4107.02 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:09 1998 Quant Results File: M62519.RES

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981217\BN02404.D Vial: 32
Acq On : 18 Dec 98 6:43 am Operator: Skelton
Sample : 4107.04 Inst : GC/MS Ins
Misc : Bldg1220B-1 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:11 1998 Quant Results File: M62519.RES

Quant Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration
DataAcq Meth : M62519

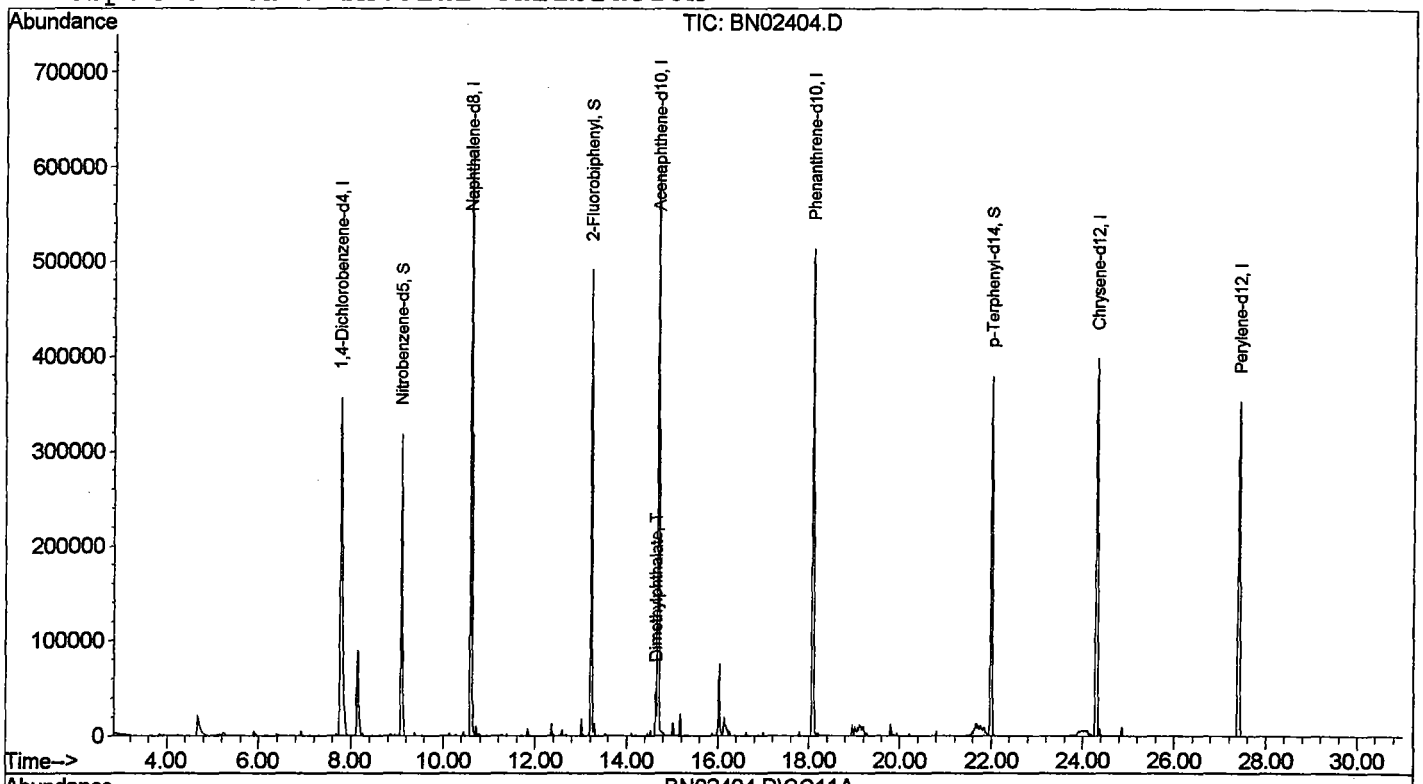
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.78	152	184264	40.00	ug/L	0.00
19) Naphthalene-d8	10.60	136	578682	40.00	ug/L	-0.01
34) Acenaphthene-d10	14.69	164	287493	40.00	ug/L	0.00
54) Phenanthrene-d10	18.09	188	426953	40.00	ug/L	0.00
66) Chrysene-d12	24.32	240	337508	40.00	ug/L	-0.01
75) Perylene-d12	27.42	264	284299	40.00	ug/L	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery = 0.00%#			
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery = 0.00%#			
20) Nitrobenzene-d5	9.09	82	218013	38.85	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery = 77.70%			
38) 2-Fluorobiphenyl	13.23	172	284597	35.67	ug/L	-0.01
Spiked Amount 50.000	Range 43 - 116		Recovery = 71.34%			
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	22.00	244	261900	37.77	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 75.54%			
Target Compounds						Qvalue
41) Dimethylphthalate	14.64	163	17199m	1.81	ug/L	75

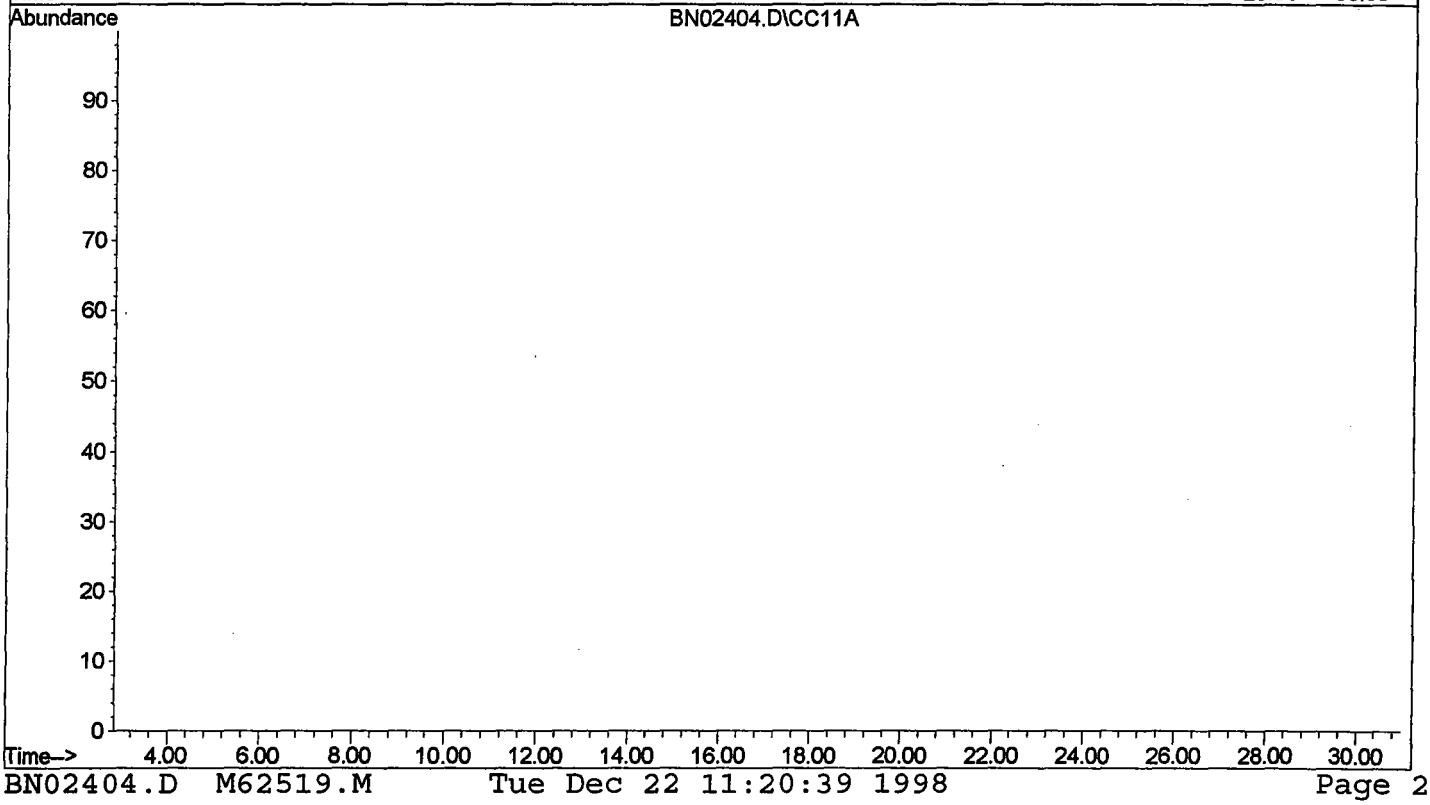
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981217\BN02404.D Vial: 32
Acq On : 18 Dec 98 6:43 am Operator: Skelton
Sample : 4107.04 Inst : GC/MS Ins
Misc : Bldg1220B-1 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:11 1998 Quant Results File: M62519.RES

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration





087

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981217\BN02405.D Vial: 33
Acq On : 18 Dec 98 7:23 am Operator: Skelton
Sample : 4107.06 Inst : GC/MS Ins
Misc : Bldg1220B-2 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:13 1998 Quant Results File: M62519.RES

Quant Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration
DataAcq Meth : M62519

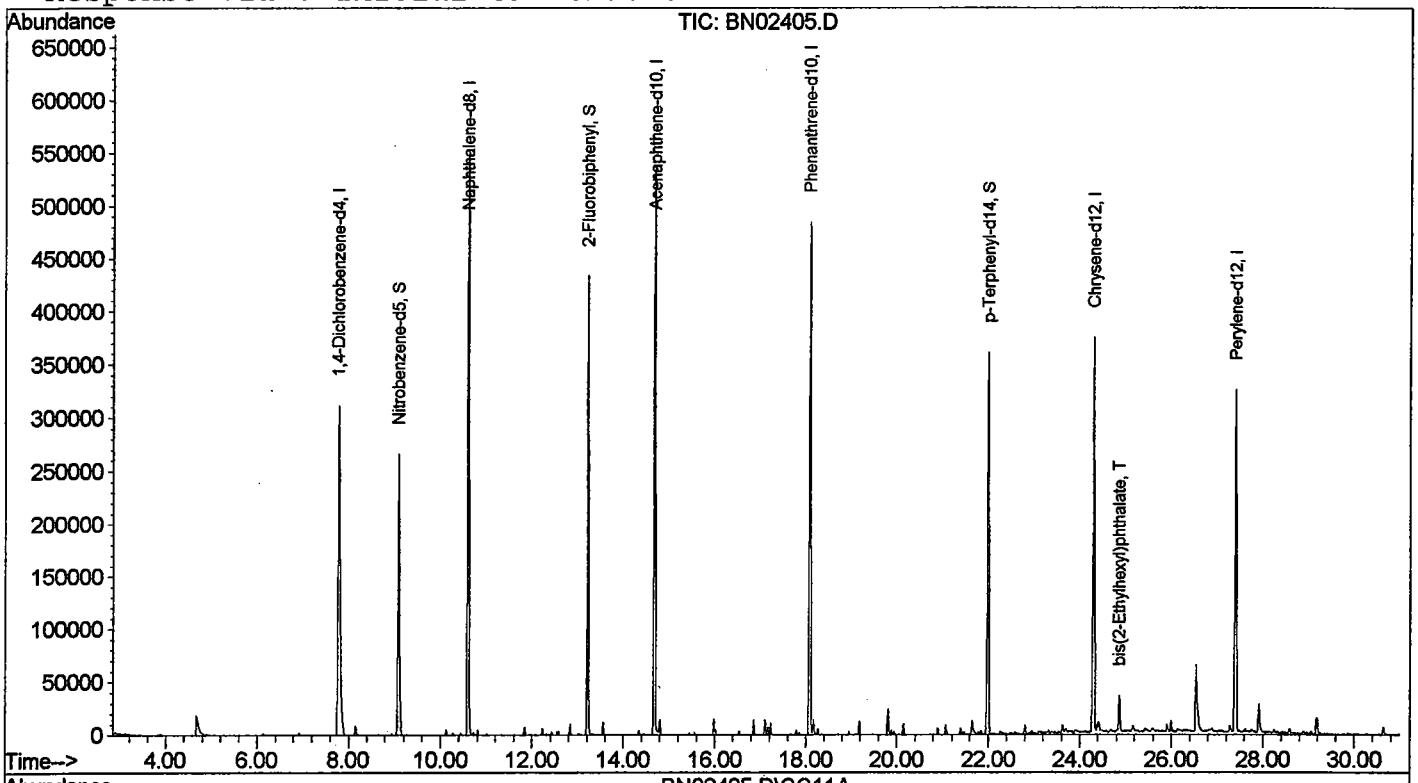
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.77	152	163064	40.00	ug/L	-0.01
19) Naphthalene-d8	10.60	136	533714	40.00	ug/L	-0.02
34) Acenaphthene-d10	14.69	164	253350	40.00	ug/L	-0.01
54) Phenanthrene-d10	18.09	188	385386	40.00	ug/L	-0.01
66) Chrysene-d12	24.31	240	298978	40.00	ug/L	-0.02
75) Perylene-d12	27.42	264	247996	40.00	ug/L	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery = 0.00%#			
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery = 0.00%#			
20) Nitrobenzene-d5	9.09	82	182286	35.22	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery = 70.44%			
38) 2-Fluorobiphenyl	13.22	172	240321	34.18	ug/L	-0.02
Spiked Amount 50.000	Range 43 - 116		Recovery = 68.36%			
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	22.00	244	235363	38.32	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 76.64%			
Target Compounds						Qvalue
74) bis(2-Ethylhexyl)phthalate	24.86	149	18327	2.06	ug/L	99

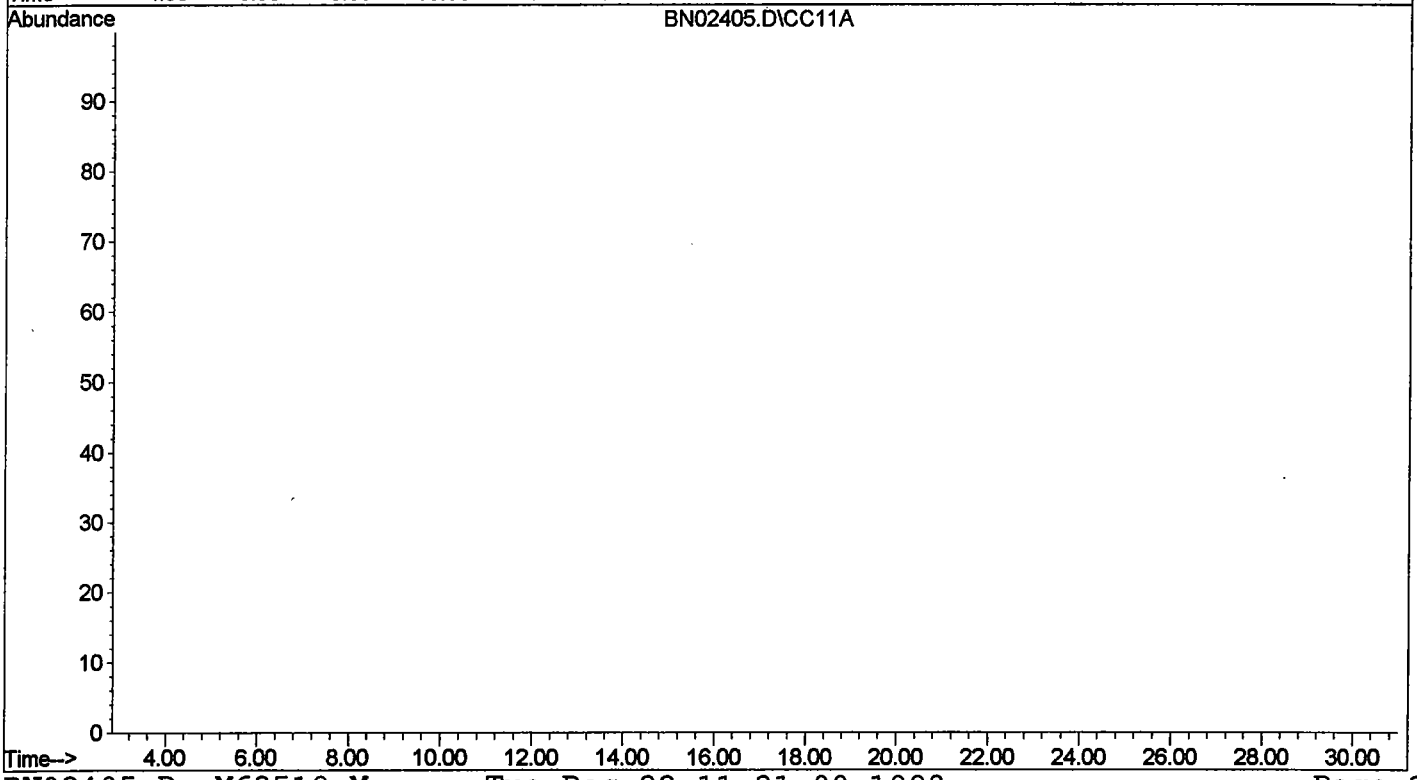
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981217\BN02405.D Vial: 33
Acq On : 18 Dec 98 7:23 am Operator: Skelton
Sample : 4107.06 Inst : GC/MS Ins
Misc : Bldg1220B-2 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:13 1998 Quant Results File: M62519.RES

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981217\BN02406.D Vial: 34
Acq On : 18 Dec 98 8:03 am Operator: Skelton
Sample : 4107.07 Inst : GC/MS Ins
Misc : Field Dup Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:14 1998 Quant Results File: M62519.RES

Quant Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration
DataAcq Meth : M62519

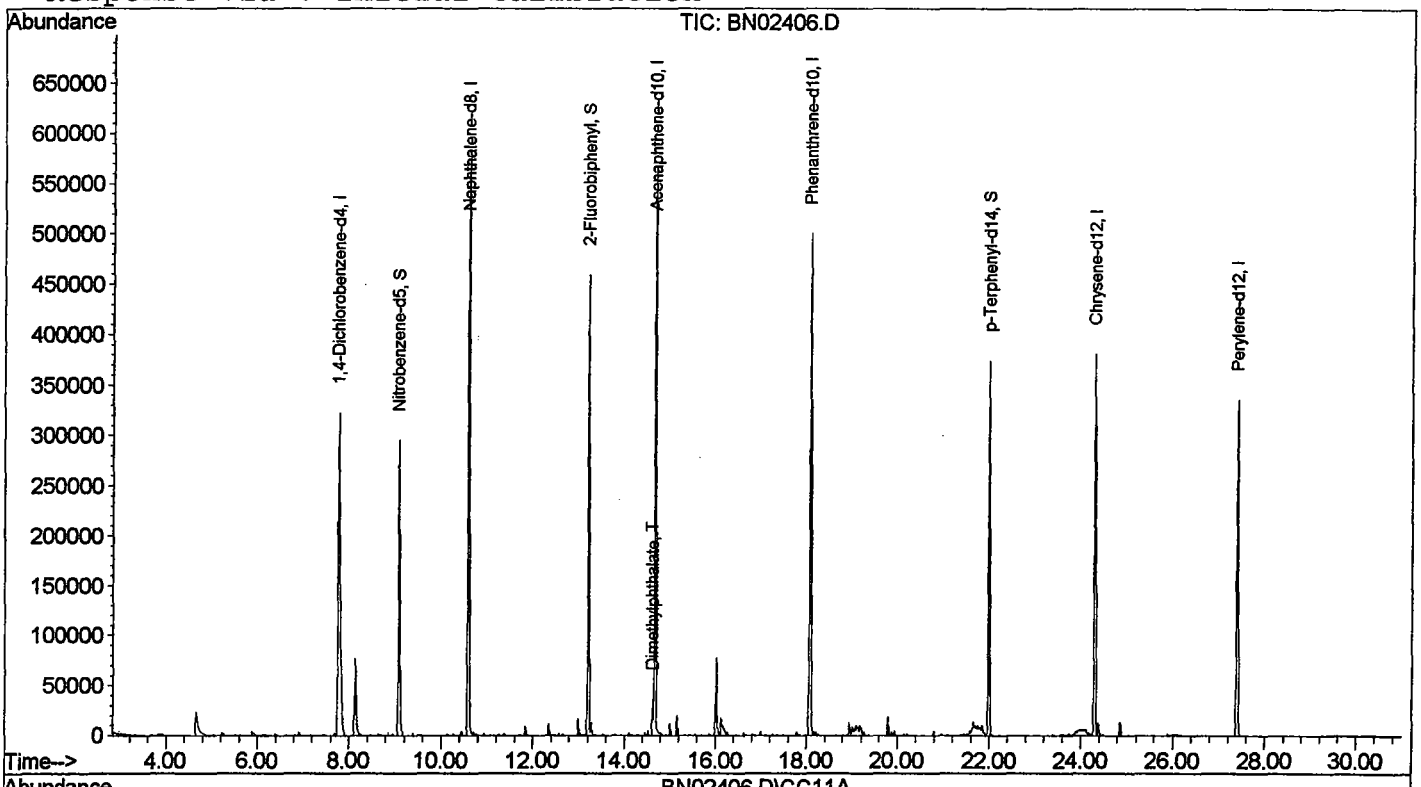
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.78	152	167372	40.00	ug/L	0.00
19) Naphthalene-d8	10.60	136	545111	40.00	ug/L	-0.01
34) Acenaphthene-d10	14.69	164	265194	40.00	ug/L	0.00
54) Phenanthrene-d10	18.09	188	402600	40.00	ug/L	0.00
66) Chrysene-d12	24.31	240	314448	40.00	ug/L	-0.02
75) Perylene-d12	27.42	264	263605	40.00	ug/L	-0.03
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery = 0.00%#			
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery = 0.00%#			
20) Nitrobenzene-d5	9.09	82	199713	37.78	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery = 75.56%			
38) 2-Fluorobiphenyl	13.22	172	262624	35.68	ug/L	-0.01
Spiked Amount 50.000	Range 43 - 116		Recovery = 71.36%			
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	22.00	244	257644	39.89	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 79.78%			
Target Compounds						Qvalue
41) Dimethylphthalate	14.64	163	14268	1.63	ug/L #	78

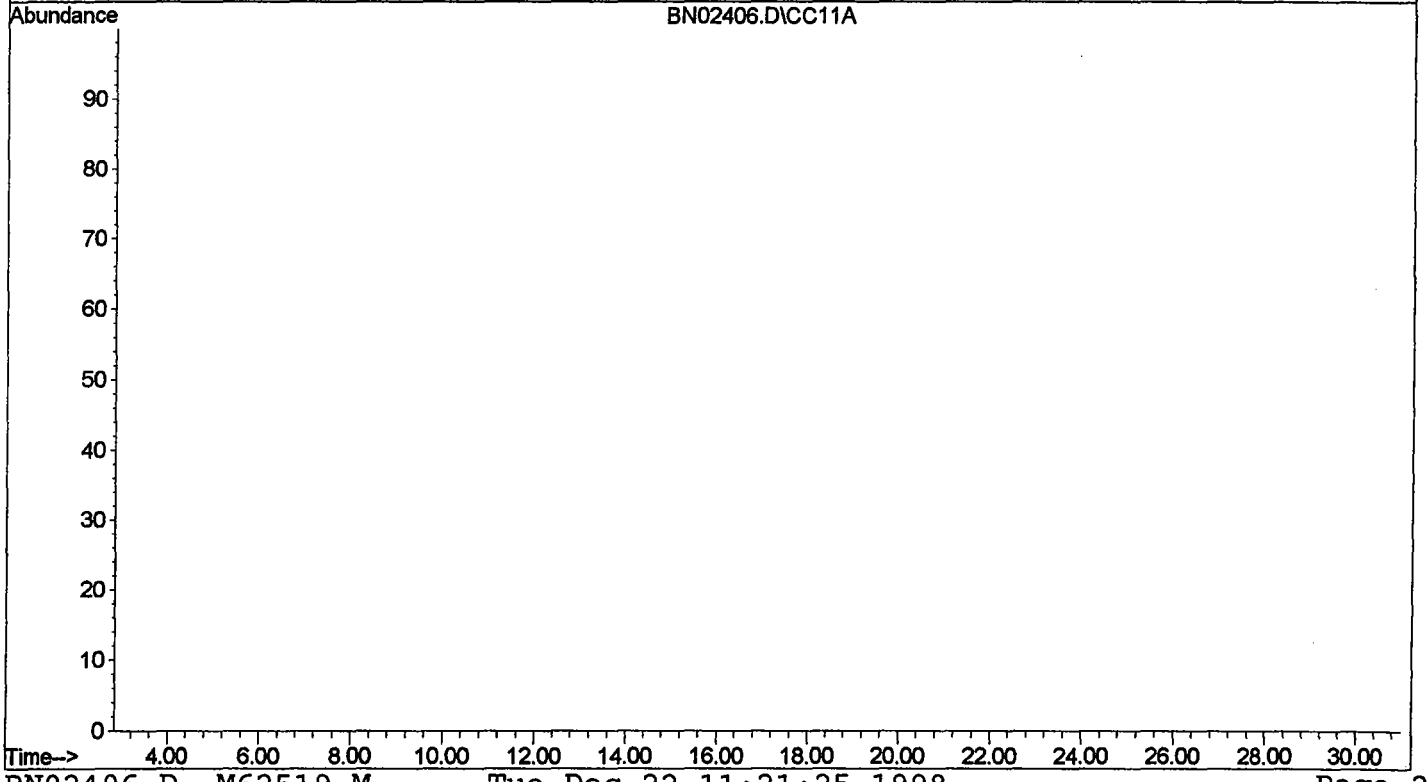
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981217\BN02406.D Vial: 34
Acq On : 18 Dec 98 8:03 am Operator: Skelton
Sample : 4107.07 Inst : GC/MS Ins
Misc : Field Dup Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Dec 22 11:14 1998 Quant Results File: M62519.RES

Method : C:\HPCHEM\1\METHODS\M62519.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 16 09:17:25 1998
Response via : Initial Calibration





LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
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 _____

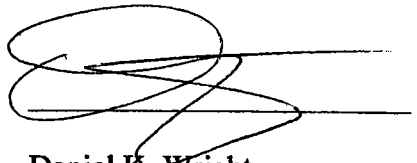
Date 2/7/99

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)532-3484
WET-CHEM - METALS - ORGANICS - FIELD SAMPLING
NJDEP LABORATORY CERTIFICATION # 13461

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

BLDG. 1220

Field Location No. & Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Trip Blank	4035.01	Aqueous	06-Nov-98	11/06/98
Field Blank	4035.02	Aqueous	06-Nov-98 09:29	11/06/98
Bldg. 1220 B-1 16'-19'	4035.05	Aqueous	06-Nov-98 13:30	11/06/98
Bldg. 1220 B-1 16'-19'	4035.06	Aqueous	06-Nov-98 14:15	11/06/98
Bldg. 1220 B-2 18'-21'	4035.07	Aqueous	06-Nov-98 13:50	11/06/98
Bldg. 1220 B-2 18'-21'	4035.08	Aqueous	06-Nov-98 14:30	11/06/98

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

12-8-98
Daniel Wright/Date
Laboratory Director

ENCLOSURE:
CHAIN OF CUSTODY
FIELD DOCUMENTATION
RESULTS

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)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: CHRIS APPLEBY / VERSAR
Phone #: 126224
( )DERA (✓)OMA ( )Other: MAC IV

Project No:
Location: BLDG. 2700-CW-1-PIT, BLDG. 2504 + BLDG. 1220

Samplers Name / Company : MARK HAUNA TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	VOA + 15	BN + 15							Comments: Remarks / Preservation Method
4035. 1	TRIP BLANK	11-6-98	–	AQ.	2	X								HCL
2	FIELD BLANK	"	0929	"	3	X	X							HCL/<4°C
3	2700-CW-1-PIT – 8.5'/11.5'	"	0953	"	2	X								SAMPLES FOR CHRS. APPLEBY [HCL] + JOSEPH FALCON
4	BLDG. 2504 – 8.9'-11.9'	"	1100	"	3	X	X							HCL/<4°C
5	BLDG. 1220-B-1 – 16-19'	"	1330	"	2	X								HCL
6	" " -B-1 – "	"	1415	"	1		X							<4°C
7	BLDG. 1220-B-2 – 16-19'/18-21'	"	1350	"	2	X								HCL
8	BLDG. 1220-B-2- "	"	1430	"	1		X							<4°C
9	FIELD DUP.	"	–	"	3	X	X							HCL/<4°C
(MS/MSD)														

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	11-6-98 1515	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: (_)Full, (✓)Reduced, (_)Standard, (_)Screen / non-certified
Turnaround time: (✓)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

20000

print legibly

coc.XLS10/19/98

FIELD DOCUMENTATION

Post Remedial Groundwater Sampling at Former Underground Storage Tank Site [# 2 fuel oil]

FOR BLDG. # 1220- [B-1]

Ground Water Sampling with the use of a Passively Placed Narrow Diameter Point (PPNDP)

Objective:

To collect a representative groundwater sample utilizing a narrow diameter point [PPNDP] This is a small diameter [1-inch OD] screened casing passively placed in a borehole. The casing is of p.v.c. construction.

1. Methods

A. A solid push - rod (bull point) is used to create a narrow diameter hole to a depth below the water table. A piece of schedule 40 PVC screen with 0.010-inch slots and an end cap is placed to the bottom of the hole. Glues or adhesives are not used for joining the casing. Threaded PVC casing is used. No filter or gravel pack is used.

2. Installation

A. Using a Geoprobe, a borehole was advanced with a pre-probe with a diameter slightly larger than the casing. The hole was made to a depth of 20 feet. The water table was at 16 feet below ground surface.

B. The screened section of PVC was placed into the borehole so the screened section was across the ground water table from 14 - 19 feet. Riser casing from 14 -+1 feet.

3. Purging

A. Three volumes of the standing water in the point were purged. The amount of water extracted was app. 0.123 gal. Three to five volumes are purged due to the potential for cross contamination of the screen from upper soil horizons. This was accomplished utilizing a peristaltic pump, and utilizing food grade tubing.

4. Sampling

A. Sampling methods, sample preservation requirements, sample handling times, decontamination procedure for field equipment, and frequency for field blanks, field duplicates and trip blanks conform to applicable industry methods such as those specified in the NJDEP "Field Sampling Procedures Manual" in effect as of the date on which sampling is performed.. Any deviations from the methods in the "Field Sampling Procedures Manual" pursuant to N.J.A.C. 7:26E-1.6(c) has been approved by the person responsible for conducting the remediation.

All samples were preserved in the field immediately after collection and submitted to the laboratory as soon as possible and no later than 48 hours after sample collection.

The acquisition of samples and water level measurements were performed as recommended and described in the May 1992 edition of NJDEP Field Sampling Procedures Manual.

5. Quality Assurance/Quality Control

A. Decontamination

The associated equipment (bull point, riser pipe, etc.) was decontaminated between borings using the following procedure:

1. Remove all adherent soil material.
2. Wash with a laboratory grade glassware detergent.
3. Rinsed with potable water.
4. Rinse with distilled and deionized ASTM Type II water.

B. Field Blanks

1 Field blank was shared with bldg. 2700 CW-1 taken same day.

C. Sample bottles: Supplied by Environmental Sampling Supply, Oakland, Calif. The sample bottles are certified clean and are sealed upon delivery.

D. P.V.C. Screens: Supplied by Bedrock Enterprises, Forked River N.J.

Geoprobe Operator: Mark Laura
Employer: U.S. Army, Fort Monmouth
Phone Number: [732] 532-8990
NJDEP License #: J-1486

Mark Laura 12-2-98
Mark Laura / Date

METHODOLOGY SUMMARY

CONFORMANCE/ NON-CONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

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

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 4035 **Site:** Bldg. 1220

	Date	Hold Time
Date Sampled	11/06/98	NA
Receipt/Refrigeration	11/06/98	NA
Extractions		
1. Base Neutrals	11/10/98	14 days
Analyses		
1. Volatile Organics	11/10,11/98	14 days
2. Base Neutrals	11/18,19/98	40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

Definition of Qualifiers

MDL : Method Detection Limit
J : Compound identified below detection limit
B : Compound in both sample and blank
D : Results from dilution of sample
U : Compound searched for but not detected

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

Data File Nam	VB02067.D	Sample Name	VBLK64
Operator	Skelton	Field ID	VBLK64
Date Acquired	10 Nov 98 3:32 pm	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Vblk64**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4035 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: VBLK64

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02067.D

Level: (low/med) LOW Date Received: 11/06/98

% Moisture: not dec. _____ Date Analyzed: 11/10/98

GC Column: HP5MS 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 #13461

Data File Nam	**vb02079.d**	Sample Name	**4035.01**
Operator	**Skelton**	Field ID	**Trip Blank**
Date Acquired	**11 Nov 98 12:38 am**	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4035 SDG No _____ Location UST

Matrix: (soil/water) WATER Lab Sample ID: 4035.01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB02079.D

Level: (low/med) LOW Date Received: 11/06/98

% Moisture: not dec. _____ Date Analyzed: 11/11/98

GC Column: HP5MS 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 #13461

Data File Nam	vb02080.d	Sample Name	4035.02
Operator	Skelton	Field ID	Field Blank
Date Acquired	11 Nov 98 1:23 am	Sample 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	nle	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
	Dichlorodifluoromethan			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	
75-35-3	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	
	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 ethe			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-Dichloroprope			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-Tetrachloroethan			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

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

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981116\VB02094.D Vial: 1
Acq On : 16 Nov 98 10:24 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 20 pp std Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Multiple Level Calibration

Min. RRF : 0.100 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	115	0.00
2	t	Acrolein	0.222	0.200	9.9	125	-0.01
3	t	Acrylonitrile	0.478	0.463	3.1	131	0.00
4	t	tert-Butyl alcohol	0.214	0.185	13.6	126	0.03
5	t	Methyl-tert-Butyl ether	4.128	3.523	14.7	119	0.00
6	t	Di-isopropyl ether	2.709	2.300	15.1	117	0.00
7	T	Dichlorodifluoromethane	2.483	2.503	-0.8	108	0.00
8	TP	Chloromethane	2.207	2.342	-6.1	118	0.00
9	TC	Vinyl Chloride	1.875	1.794	4.3	106	0.00
10	T	Bromomethane	1.206	1.029	14.7	99	-0.03
11	T	Chloroethane	1.162	0.968	16.7	96	0.00
12	T	Trichlorofluoromethane	3.600	3.603	-0.1	111	0.00
13	MC	1,1-Dichloroethene	2.588	2.396	7.4	127	0.00
14	T	Acetone	0.378	0.363	4.0	142	-0.03
15	T	Carbon Disulfide	5.041	4.850	3.8	127	0.00
16	T	Methylene Chloride	1.680	1.644	2.1	131	0.00
17	T	trans-1,2-Dichloroethene	2.323	2.129	8.4	125	0.00
18	TP	1,1-Dichloroethane	2.942	2.679	8.9	125	0.00
19	T	Vinyl Acetate	3.008	2.830	5.9	132	0.00
20	T	2-Butanone	0.553	0.517	6.5	132	0.00
21	T	cis-1,2-Dichloroethene	2.349	2.145	8.7	126	0.00
22	TC	Chloroform	3.093	2.779	10.2	122	0.00
23	T	1,1,1-Trichloroethane	2.902	2.666	8.1	126	0.00
24	T	Carbon Tetrachloride	2.325	2.176	6.4	128	0.00
25	S	1,2-Dichloroethane-d4	2.403	2.141	10.9	104	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	113	0.00
27	TM	Benzene	1.009	0.996	1.3	126	0.00
28	T	1,2-Dichloroethane	0.363	0.339	6.6	122	0.00
29	TM	Trichloroethene	0.291	0.283	2.7	130	0.00
30	TC	1,2-Dichloropropane	0.254	0.240	5.5	125	0.00
31	T	Bromodichloromethane	0.333	0.323	3.0	126	0.00
32	T	2-Chloroethyl vinyl ether	0.111	0.133	-19.8	162	0.00
33	T	cis-1,3-Dichloropropene	0.394	0.384	2.5	129	0.00
34	T	4-Methyl-2-Pentanone	0.066	0.068#	-3.0	138	0.00
35	S	Toluene-d8	1.145	1.078	5.9	105	0.00
36	TCM	Toluene	1.113	1.100	1.2	123	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	111	0.00
38	T	trans-1,3-Dichloropropene	1.272	1.257	1.2	129	0.00
39	T	1,1,2-Trichloroethane	0.748	0.733	2.0	131	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981116\VB02094.D Vial: 1
Acq On : 16 Nov 98 10:24 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 20 pp std Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Multiple Level Calibration

Min. RRF : 0.100 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)
40	T	Tetrachloroethene	1.057	1.050	0.7	129	0.00
41	T	2-Hexanone	0.393	0.385	2.0	132	0.00
42	T	Dibromochloromethane	0.765	0.801	-4.7	138	0.00
43	TMP	Chlorobenzene	2.669	2.620	1.8	124	0.00
44	TC	Ethylbenzene	4.406	4.377	0.7	120	0.00
45	T	m+p-Xylenes	1.765	1.797	-1.8	126	0.00
46	T	o-Xylene	3.374	3.425	-1.5	125	0.00
47	T	Styrene	2.955	2.972	-0.6	126	0.00
48	TP	Bromoform	0.417	0.467	-12.0	150	0.00
49	S	Bromofluorobenzene	1.564	1.478	5.5	105	0.00
50	TP	1,1,2,2-Tetrachloroethane	0.858	0.840	2.1	128	0.00
51	T	1,3-Dichlorobenzene	2.141	2.187	-2.1	130	0.00
52	T	1,4-Dichlorobenzene	2.204	2.255	-2.3	130	0.00
53	T	1,2-Dichlorobenzene	2.018	2.031	-0.6	128	0.00

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

Aqueous Duplicate Report
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

Data File Nam **VB02091.D** Sample Name **4036.04dup**
Date Acquired **11 Nov 98 9:39 am**

CAS#	Compound Name			Amount Recovered
107028	Acrolein			not detected
107131	Acrylonitrile			not detected
75650	tert-Butyl alcohol			not detected
1634044	Methyl-tert-Butyl ether			not detected
108203	Di-isopropyl ether			not detected
	Dichlorodifluoromethane			not detected
74-87-3	Chloromethane			not detected
75-01-4	Vinyl Chloride			not detected
74-83-9	Bromomethane			not detected
75-00-3	Chloroethane			not detected
75-69-4	Trichlorofluoromethane			not detected
75-35-4	1,1-Dichloroethene			not detected
67-64-1	Acetone			not detected
75-15-0	Carbon Disulfide			not detected
75-09-2	Methylene Chloride			not detected
156-60-5	trans-1,2-Dichloroethene			not detected
75-35-3	1,1-Dichloroethane			not detected
108-05-4	Vinyl Acetate			not detected
78-93-3	2-Butanone			not detected
	cis-1,2-Dichloroethene			not detected
67-66-3	Chloroform			not detected
75-55-6	1,1,1-Trichloroethane			not detected
56-23-5	Carbon Tetrachloride			not detected
71-43-2	Benzene			2.66 ug/L
107-06-2	1,2-Dichloroethane			not detected
79-01-6	Trichloroethene			not detected
78-87-5	1,2-Dichloropropane			not detected
75-27-4	Bromodichloromethane			not detected
110-75-8	2-Chloroethyl vinyl ether			not detected
10061-01-5	cis-1,3-Dichloropropene			not detected
108-10-1	4-Methyl-2-Pentanone			not detected
108-88-3	Toluene			not detected
10061-02-6	trans-1,3-Dichloropropen			not detected
79-00-5	1,1,2-Trichloroethane			not detected
127-18-4	Tetrachloroethene			not detected
591-78-6	2-Hexanone			not detected
126-48-1	Dibromochloromethane			not detected
108-90-7	Chlorobenzene			43.98 ug/L
100-41-4	Ethylbenzene			not detected
1330-20-7	m+p-Xylenes			not detected
1330-20-7	o-Xylene			not detected
100-42-5	Styrene			not detected
75-25-2	Bromoform			not detected
79-34-5	1,1,2,2-Tetrachloroethane			not detected
541-73-1	1,3-Dichlorobenzene			1.37 ug/L
106-46-7	1,4-Dichlorobenzene			3.18 ug/L
95-50-1	1,2-Dichlorobenzene			not detected

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4035 SDG No _____ Location UST

Lab File ID (Standard): VB02062.D Date Analyzed: 11/10/98

Instrument ID: GCMSVoa2 Time Analyzed: 11:19

GC Column: HP5MS ID: 0.25 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	667289	18.16	4390254	20.78	1278898	28.62
	UPPER LIMIT	1334578	17.66	8780508	20.28	2557796	28.12
	LOWER LIMIT	333645	18.66	2195127	21.28	639449	29.12
	FIELD ID						
01	VBLK64	692842	18.16	4593549	20.79	1304937	28.62
02	TRIP BLANK	583239	18.15	3952907	20.79	1146779	28.62
03	FIELD BLANK	580227	18.16	3967188	20.79	1140107	28.62
04	2700-CW-1-PIT	586100	18.16	3969891	20.79	1136925	28.62
05	BLDG2504	573028	18.16	3895989	20.79	1129514	28.62
06	BLDG1220-B-1	578464	18.16	3889386	20.79	1128782	28.62
07	BLDG1220-B-2	578507	18.16	3910764	20.79	1128783	28.62
08	FIELD DUP	573293	18.16	3889299	20.79	1133071	28.62

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Project 980932

NJDEP# 13461 Case No.: 4035 SDG No _____ Location UST

Lab File ID (Standard): VB02094.D Date Analyzed: 11/16/98

Instrument ID: GCMSVoa2 Time Analyzed: 10:24

GC Column: HP5MS ID: 0.25 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	770371	18.16	4942678	20.78	1419053	28.61
	UPPER LIMIT	1540742	17.66	9885356	20.28	2838106	28.11
	LOWER LIMIT	385186	18.66	2471339	21.28	709527	29.11
	FIELD ID						
01	VBLK65	776159	18.16	4968972	20.79	1409581	28.62
02	2700-CW-1-PIT	855226	18.16	5506177	20.79	1595095	28.62

IS1 BCM = Bromochloromethane

IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\981110\VB02067.D Vial: 1
Acq On : 10 Nov 98 3:32 pm Operator: Skelton
Sample : VBLK64 Inst : GC/MS Ins
Misc : VBLK64 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 11:20 1998 Quant Results File: M62418.RES

Quant Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration
DataAcq Meth : M62418

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.16	128	692842	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	20.79	114	4593549	30.00	ug/L	0.00
37) Chlorobenzene-d5	28.62	119	1304937	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	19.72	65	1720056	30.99	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 103.30%			
35) Toluene-d8	24.78	98	5172615	29.49	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 98.30%			
49) Bromofluorobenzene	31.64	95	2000611	29.40	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 98.00%			

Target Compounds Qvalue

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

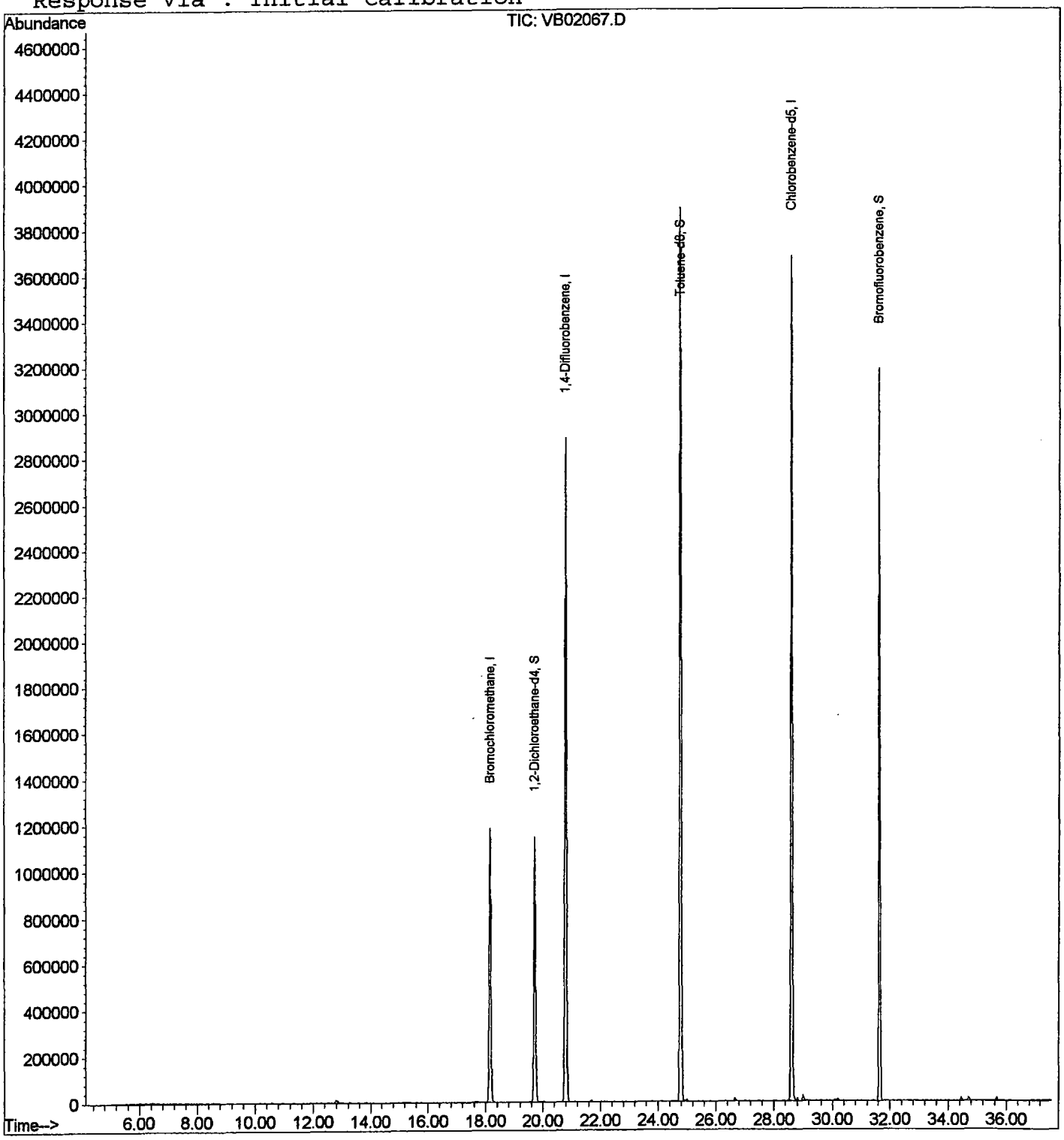
Quantitation Report

Data File : C:\HPCHEM\1\DATA\981110\VB02067.D
Acq On : 10 Nov 98 3:32 pm
Sample : VBLK64
Misc : VBLK64
MS Integration Params: RTEINT.P
Quant Time: Nov 16 11:20 1998

Vial: 1
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: M62418.RES

Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981110\VB02079.D Vial: 13
Acq On : 11 Nov 98 12:38 am Operator: Skelton
Sample : 4035.01 Inst : GC/MS Ins
Misc : Trip Blank Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 1:15 1998 Quant Results File: M62418.RES

Quant Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration
DataAcq Meth : M62418

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.15	128	583239	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	20.79	114	3952907	30.00	ug/L	0.00
37) Chlorobenzene-d5	28.62	119	1146779	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	19.72	65	1543317	33.04	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 110.13%			
35) Toluene-d8	24.79	98	4595721	30.45	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 101.50%			
49) Bromofluorobenzene	31.64	95	1809606	30.26	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 100.87%			
Target Compounds						Qvalue

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

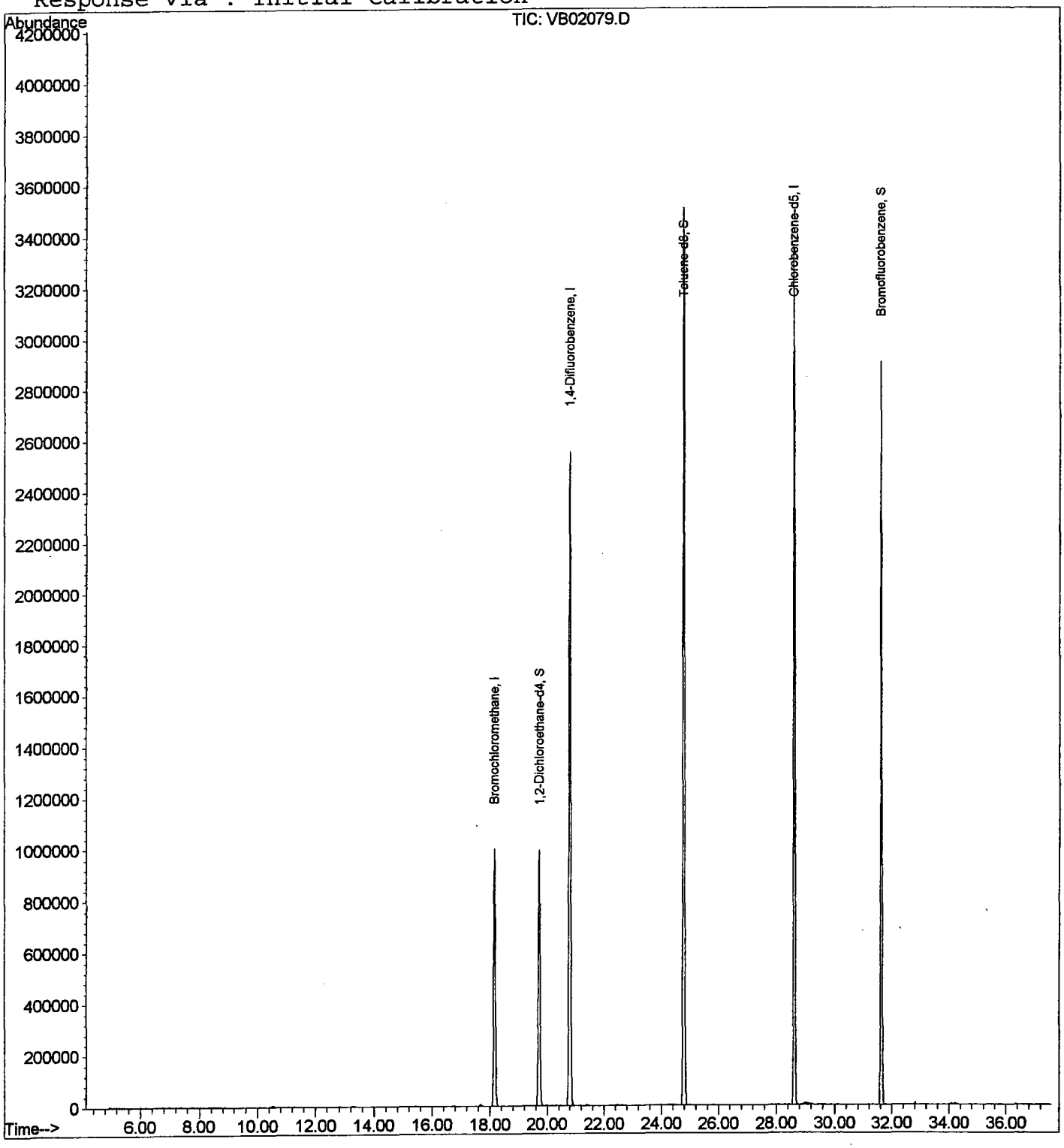
Quantitation Report

Data File : C:\HPCHEM\1\DATA\981110\VB02079.D
Acq On : 11 Nov 98 12:38 am
Sample : 4035.01
Misc : Trip Blank
MS Integration Params: RTEINT.P
Quant Time: Nov 11 1:15 1998

Vial: 13
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: M62418.RES

Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration



000044

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981110\VB02080.D Vial: 14
Acq On : 11 Nov 98 1:23 am Operator: Skelton
Sample : 4035.02 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 2:01 1998 Quant Results File: M62418.RES

Quant Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration
DataAcq Meth : M62418

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.16	128	580227	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	20.79	114	3967188	30.00	ug/L	0.01
37) Chlorobenzene-d5	28.62	119	1140107	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	19.72	65	1562530	33.62	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 112.07%			
35) Toluene-d8	24.79	98	4546349	30.02	ug/L	0.01
Spiked Amount 30.000	Range 88 - 110		Recovery = 100.07%			
49) Bromofluorobenzene	31.64	95	1787409	30.07	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 100.23%			

Target Compounds Qvalue

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

000045

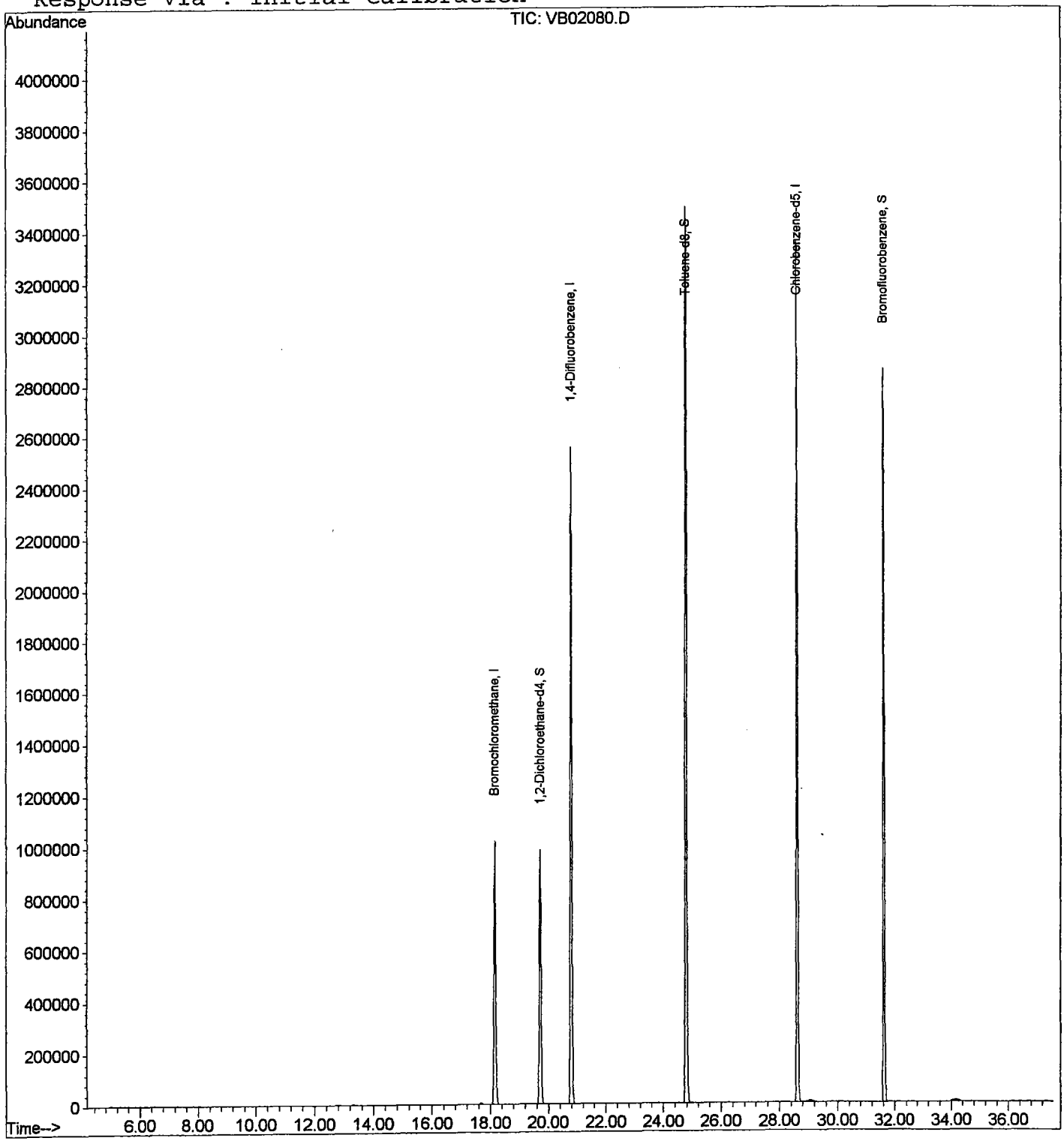
Quantitation Report

Data File : C:\HPCHEM\1\DATA\981110\VB02080.D
Acq On : 11 Nov 98 1:23 am
Sample : 4035.02
Misc : Field Blank
MS Integration Params: RTEINT.P
Quant Time: Nov 11 2:01 1998

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

Quant Results File: M62418.RES

Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981110\VB02083.D Vial: 17
Acq On : 11 Nov 98 3:39 am Operator: Skelton
Sample : 4035.05 Inst : GC/MS Ins
Misc : Bldg 1220-B-1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 4:17 1998 Quant Results File: M62418.RES

Quant Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration
DataAcq Meth : M62418

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.16	128	578464	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	20.79	114	3889386	30.00	ug/L	0.00
37) Chlorobenzene-d5	28.62	119	1128782	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	19.72	65	1530246	33.03	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 110.10%			
35) Toluene-d8	24.79	98	4505670	30.34	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 101.13%			
49) Bromofluorobenzene	31.64	95	1756451	29.84	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 99.47%			

Target Compounds Qvalue

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

000047

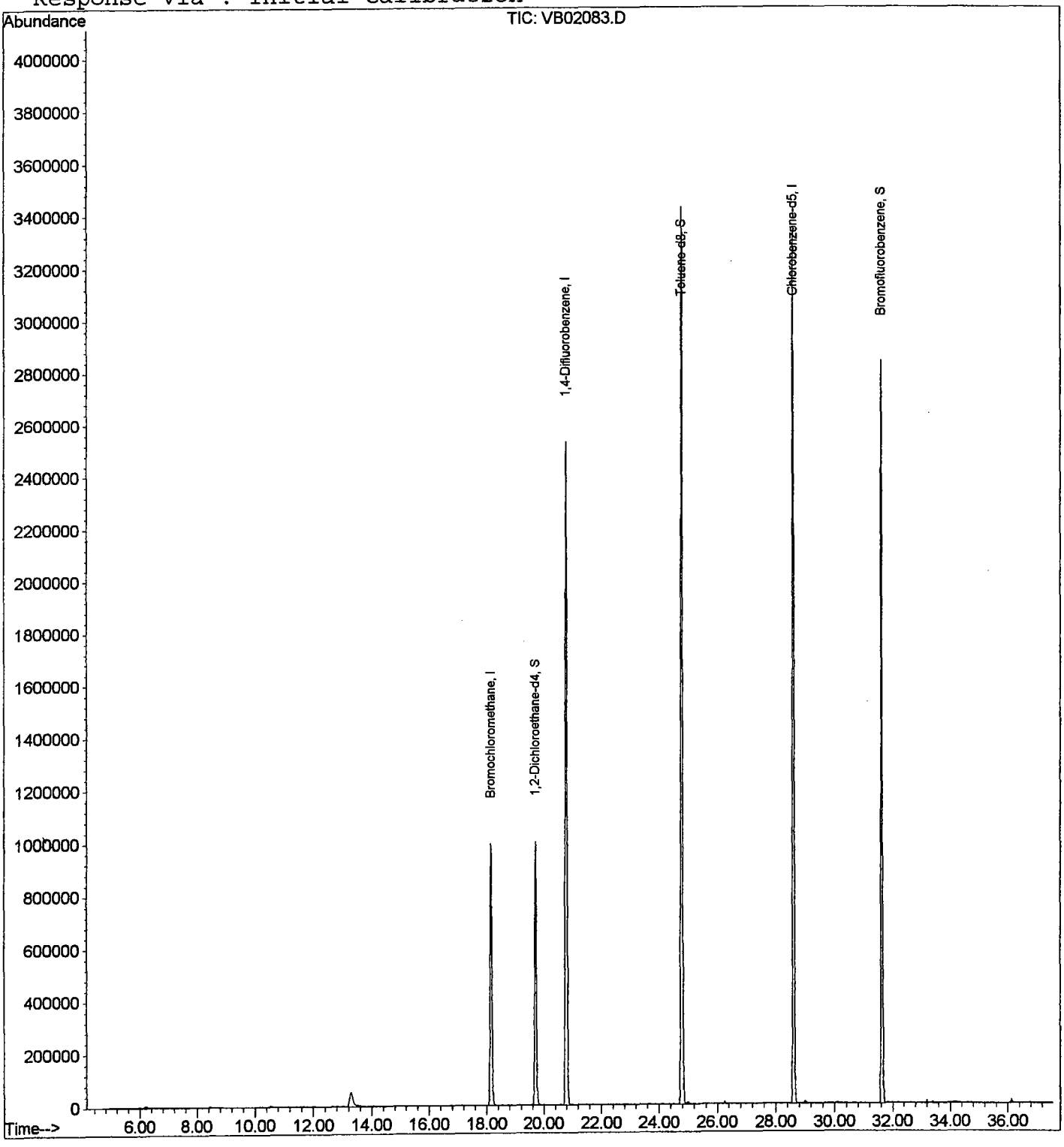
Quantitation Report

Data File : C:\HPCHEM\1\DATA\981110\VB02083.D
Acq On : 11 Nov 98 3:39 am
Sample : 4035.05
Misc : Bldg 1220-B-1
MS Integration Params: RTEINT.P
Quant Time: Nov 11 4:17 1998

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

Quant Results File: M62418.RES

Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration



000048

Quantitation Report (QT/LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\981110\VB02084.D Vial: 18
Acq On : 11 Nov 98 4:25 am Operator: Skelton
Sample : 4035.07 Inst : GC/MS Ins
Misc : Bldg 1220-B-2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 30 14:43 1998 Quant Results File: M62418.RES

Quant Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration
DataAcq Meth : M62418

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	18.16	128	578507	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	20.79	114	3910764	30.00	ug/L	0.00
37) Chlorobenzene-d5	28.62	119	1128783	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	19.72	65	1559715	33.66	ug/L	0.00
Spiked Amount 30.000	Range 76 - 114		Recovery = 112.20%			
35) Toluene-d8	24.78	98	4490979	30.08	ug/L	0.00
Spiked Amount 30.000	Range 88 - 110		Recovery = 100.27%			
49) Bromofluorobenzene	31.64	95	1755104	29.82	ug/L	0.00
Spiked Amount 30.000	Range 86 - 115		Recovery = 99.40%			
Target Compounds						Qvalue
12) Trichlorofluoromethane	8.54	101	590725	8.51	ug/L	100
14) Acetone	10.51	43	54498m	7.47	ug/L	93

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

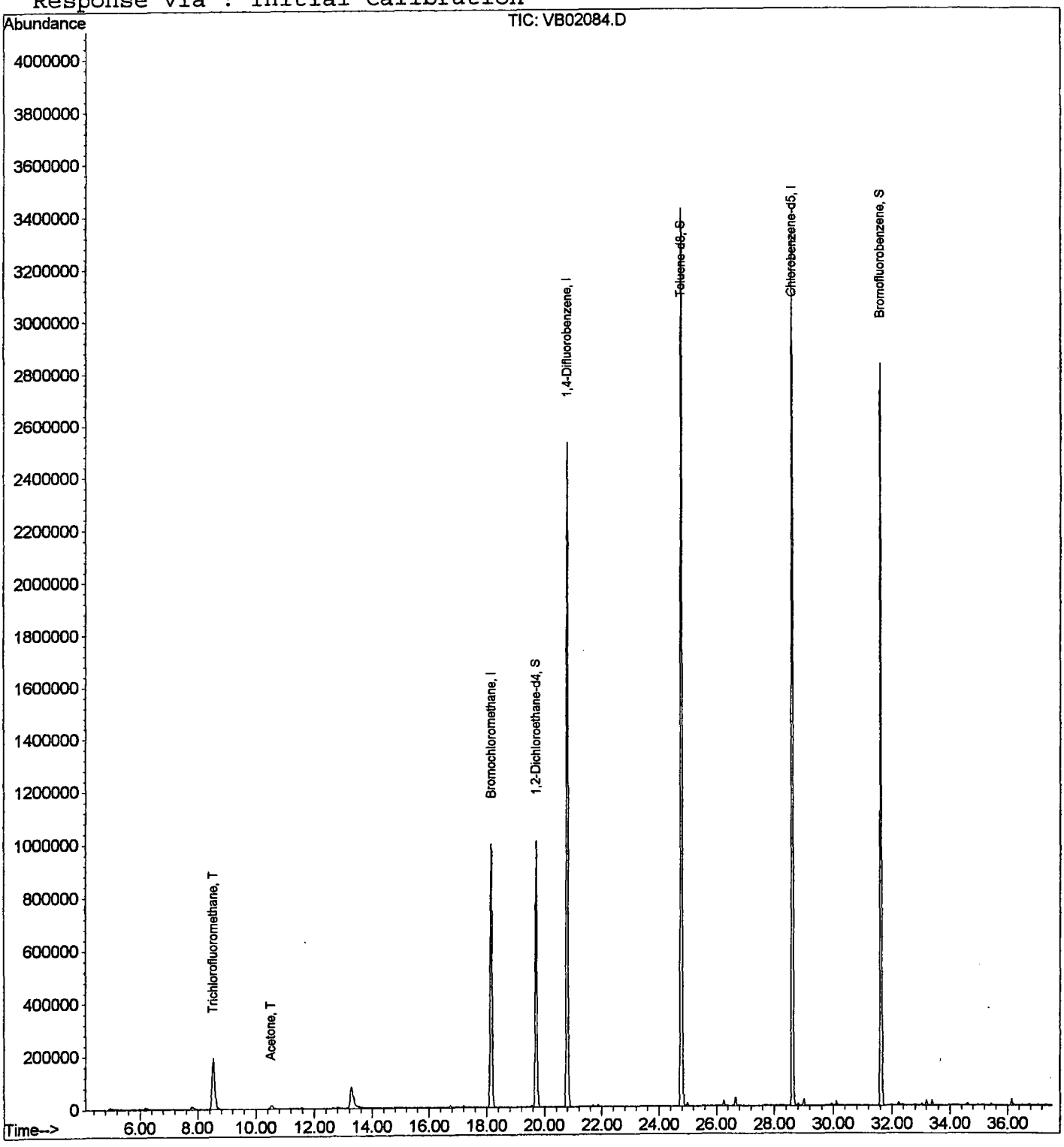
Quantitation Report

Data File : C:\HPCHEM\1\DATA\981110\VB02084.D
Acq On : 11 Nov 98 4:25 am
Sample : 4035.07
Misc : Bldg 1220-B-2
MS Integration Params: RTEINT.P
Quant Time: Nov 30 14:43 1998

Vial: 18
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: M62418.RES

Method : C:\HPCHEM\1\METHODS\M62418.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 10 13:48:43 1998
Response via : Initial Calibration



BASE NEUTRALS

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

Data File Name	**bna01289.d**	Sample Name	**Sblk162**
Operator	**Skelton**	Misc Info	**Sblk162 A 981110**
Date Acquired	**18 Nov 1998 10:48 pm**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64	ug/L	
62-53-3	Aniline			not detected	NLE	2.90	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.09	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44	ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22	ug/L	
67-72-1	Hexachloroethane			not detected	10	2.59	ug/L	
98-95-3	Nitrobenzene			not detected	10	2.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58	ug/L	
91-20-3	Naphthalene			not detected	NLE	3.03	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	2.55	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.64	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.59	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	2.15	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.62	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.74	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	2.35	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.62	ug/L	
83-32-9	Acenaphthene			not detected	400	1.98	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	2.13	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**bna01289.d**	Sample Name	**Sblk162**
Operator	**Skelton**	Misc Info	**Sblk162 A 981110**
Date Acquired	**18 Nov 1998 10:48 pm**	Sample Multiplier	**1**

121-14-2	2,4-Dinitrotoluene			not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.68	ug/L	
86-73-7	Fluorene			not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.73	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.88	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.67	ug/L	
120-12-7	Anthracene			not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.83	ug/L	
206-44-0	Fluoranthene			not detected	300	1.85	ug/L	
92-87-5	Benzidine			not detected	50	4.11	ug/L	
129-00-0	Pyrene			not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.28	ug/L	
218-01-9	Chrysene			not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.57	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.36	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.22	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	3.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.13	ug/L	

Qualifiers

E = Value exceded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Sblk162

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Sblk162

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01289.D

Level: (low/med) LOW Date Received: 11/06/98

% Moisture: decanted: (Y/N) N Date Extracted: 11/10/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/18/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000301-02-0	9-Octadecenamide, (Z)-	23.23	23	JN
2.	unknown	26.39	48	J

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

Data File Name	**bna01291.d**	Sample Name	**4035.02**
Operator	**Skelton**	Misc Info	**Field Blank**
Date Acquired	**19 Nov 1998 12:11 am**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64	ug/L	
62-53-3	Aniline			not detected	NLE	2.90	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.09	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44	ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22	ug/L	
67-72-1	Hexachloroethane			not detected	10	2.59	ug/L	
98-95-3	Nitrobenzene			not detected	10	2.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58	ug/L	
91-20-3	Naphthalene			not detected	NLE	3.03	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	2.55	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.64	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.59	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	2.15	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.62	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.74	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	2.35	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.62	ug/L	
83-32-9	Acenaphthene			not detected	400	1.98	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	2.13	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**bna01291.d**	Sample Name	**4035.02**
Operator	**Skelton**	Misc Info	**Field Blank**
Date Acquired	**19 Nov 1998 12:11 am**	Sample Multiplier	**1**

121-14-2	2,4-Dinitrotoluene			not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.68	ug/L	
86-73-7	Fluorene			not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.73	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.88	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.67	ug/L	
120-12-7	Anthracene			not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.83	ug/L	
206-44-0	Fluoranthene			not detected	300	1.85	ug/L	
92-87-5	Benzidine			not detected	50	4.11	ug/L	
129-00-0	Pyrene			not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.28	ug/L	
218-01-9	Chrysene			not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.57	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.36	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.22	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	3.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.13	ug/L	

Qualifiers

E = Value exceeded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Field Blank

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4035.02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01291.D

Level: (low/med) LOW Date Received: 11/06/98

% Moisture: decanted: (Y/N) N Date Extracted: 11/10/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/19/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000301-02-0	9-Octadecenamide, (Z)-	23.24	27	JN
2.	unknown	26.40	62	J

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

Data File Name	**bna01293.d**	Sample Name	**4035.06**
Operator	**Skelton**	Misc Info	**Bldg 1220 B-1**
Date Acquired	**19 Nov 1998 1:35 am**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64	ug/L	
62-53-3	Aniline			not detected	NLE	2.90	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.09	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44	ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22	ug/L	
67-72-1	Hexachloroethane			not detected	10	2.59	ug/L	
98-95-3	Nitrobenzene			not detected	10	2.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58	ug/L	
91-20-3	Naphthalene			not detected	NLE	3.03	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	2.55	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.64	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.59	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	2.15	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.62	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.74	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	2.35	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.62	ug/L	
83-32-9	Acenaphthene			not detected	400	1.98	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	2.13	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**bna01293.d**	Sample Name	**4035.06**
Operator	**Skelton**	Misc Info	**Bldg 1220 B-1**
Date Acquired	**19 Nov 1998 1:35 am**	Sample Multiplier	**1**

121-14-2	2,4-Dinitrotoluene			not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.68	ug/L	
86-73-7	Fluorene			not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.73	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.88	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.67	ug/L	
120-12-7	Anthracene			not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.83	ug/L	
206-44-0	Fluoranthene			not detected	300	1.85	ug/L	
92-87-5	Benzidine			not detected	50	4.11	ug/L	
129-00-0	Pyrene			not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.28	ug/L	
218-01-9	Chrysene			not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.57	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.36	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.22	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	3.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.13	ug/L	

Qualifiers

E = Value exceeded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Bldg1220B-1

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4035.06

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01293.D

Level: (low/med) LOW Date Received: 11/06/98

% Moisture: decanted: (Y/N) N Date Extracted: 11/10/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/19/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	23.23	19	J
2.	unknown	26.39	47	J

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

Data File Name	**bna01294.d**	Sample Name	**4035.08**
Operator	**Skelton**	Misc Info	**Bldg 1220 B-2**
Date Acquired	**19 Nov 1998 2:16 am**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	GW Criteria	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	2.52	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	2.64	ug/L	
62-53-3	Aniline			not detected	NLE	2.90	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	2.45	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	2.65	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	2.50	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.09	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	2.44	ug/L	
108-60-1	bis(2-chloroisopropyl)ether			not detected	300	2.96	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	2.22	ug/L	
67-72-1	Hexachloroethane			not detected	10	2.59	ug/L	
98-95-3	Nitrobenzene			not detected	10	2.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.54	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.58	ug/L	
91-20-3	Naphthalene			not detected	NLE	3.03	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	2.55	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.64	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	2.49	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.59	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	2.15	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.62	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.74	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	2.35	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.54	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.62	ug/L	
83-32-9	Acenaphthene			not detected	400	1.98	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	2.13	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**bna01294.d**	Sample Name	**4035.08**
Operator	**Skelton**	Misc Info	**Bldg 1220 B-2**
Date Acquired	**19 Nov 1998 2:16 am**	Sample Multiplier	**1**

121-14-2	2,4-Dinitrotoluene			not detected	10	1.22	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.68	ug/L	
86-73-7	Fluorene			not detected	300	1.93	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.53	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.70	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.73	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.92	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.54	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.88	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.67	ug/L	
120-12-7	Anthracene			not detected	2000	1.79	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.83	ug/L	
206-44-0	Fluoranthene			not detected	300	1.85	ug/L	
92-87-5	Benzidine			not detected	50	4.11	ug/L	
129-00-0	Pyrene			not detected	200	1.02	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.15	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.57	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	2.28	ug/L	
218-01-9	Chrysene			not detected	20	2.32	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.29	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.30	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.31	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.57	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.36	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.22	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	3.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.13	ug/L	

Qualifiers

E = Value exceeded linear range

D = Value from dilution

B = Compound in related blank

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET FIELD ID

TENTATIVELY IDENTIFIED COMPOUNDS

Bldg1220B-2

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 4035.08

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA01294.D

Level: (low/med) LOW Date Received: 11/06/98

% Moisture: decanted: (Y/N) N Date Extracted: 11/10/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/19/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000301-02-0	9-Octadecenamide, (Z)-	23.23	20	JN
2.	unknown	26.39	41	J

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Lab File ID: BNA00800.D DFTPP Injection Date: 10/01/98

Instrument ID: BNA#2 DFTPP Injection Time: 15:16

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	35.8
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	0.3 (0.7)1
127	25.0 - 75.0% of mass 198	51.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	23.6
365	Greater than 0.75% of mass 198	3.2
441	Present, but less than mass 443	12.3
442	40.0 - 110.0% of mass 198	81.5
443	15.0 - 24.0% of mass 442	16.3 (20.0)2

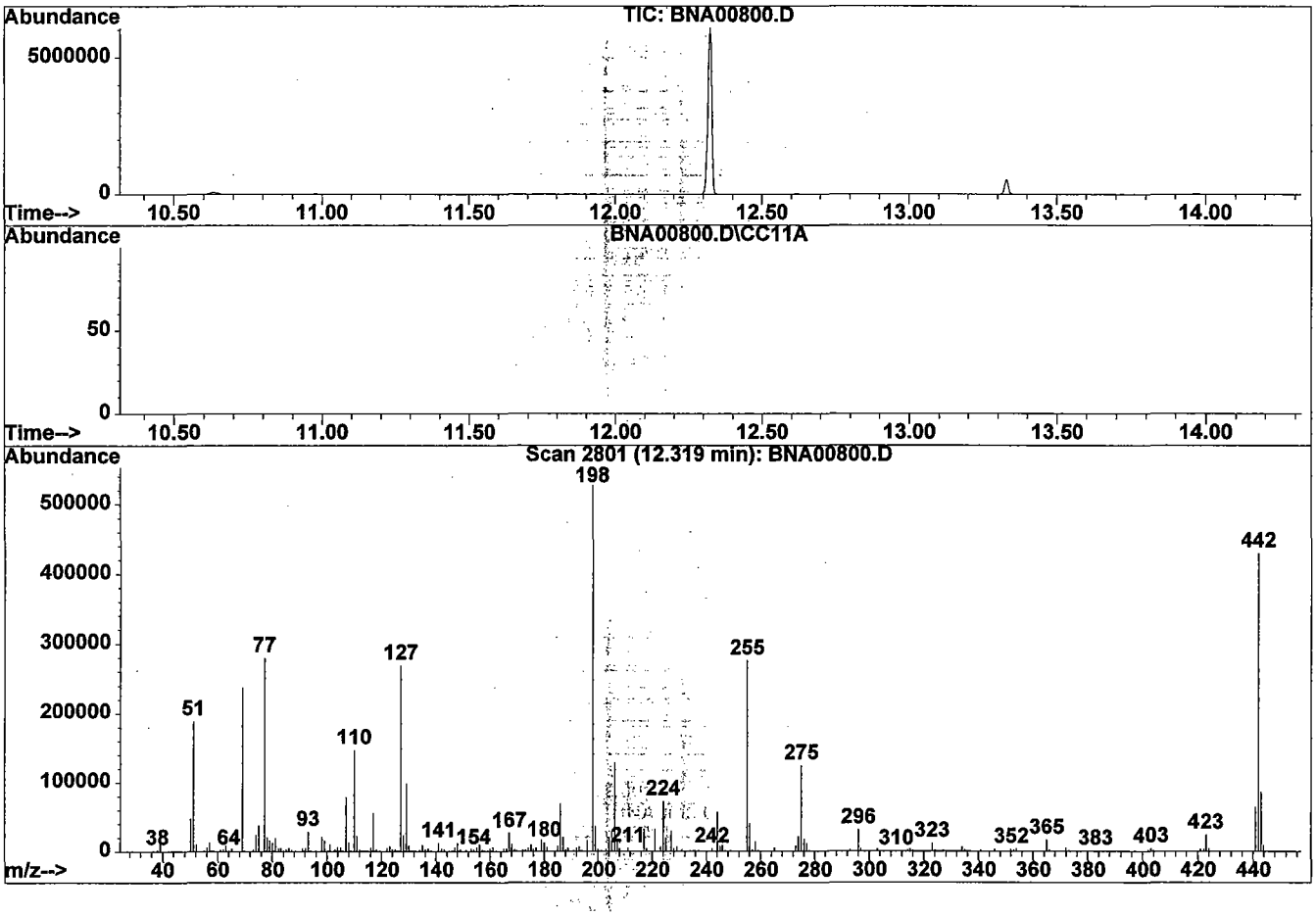
1-Value is % mass 69 2-Value is % mass 442

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 STD	BNA00801.D	10/01/98	15:45
02	SSTD080	80 PPM STD	BNA00802.D	10/01/98	16:30
03	SSTD050	50 PPM STD	BNA00803.D	10/01/98	17:14
04	SSTD020	20 PPM STD	BNA00804.D	10/01/98	17:59
05	SSTD010	10 PPM STD	BNA00805.D	10/01/98	18:42

DFTPP

Data File : C:\HPCHEM\1\DATA\981001\BNA00800.D Vial: 100
Acq On : 1 Oct 1998 3:16 pm Operator: Skelton
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: 2fp.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 2801

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	35.8	188672	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.0	236992	PASS
70	69	0.00	2	0.7	1583	PASS
127	198	40	60	51.0	268800	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	526912	PASS
199	198	5	9	6.9	36352	PASS
275	198	10	30	23.6	124328	PASS
365	198	1	100	3.2	16952	PASS
441	443	0.01	100	75.2	64720	PASS
442	198	40	100	81.5	429568	PASS
443	442	17	23	20.0	86104	PASS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Lab File ID: BNA01271.D DFTPP Injection Date: 11/18/98

Instrument ID: BNA#2 DFTPP Injection Time: 09:55

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	49.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	55.1
70	Less than 2.0% of mass 69	0.2 (0.4)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	6.7
275	10.0 - 30.0% of mass 198	25.2
365	Greater than 0.75% of mass 198	3.7
441	Present, but less than mass 443	10.6
442	40.0 - 110.0% of mass 198	74.6
443	15.0 - 24.0% of mass 442	14.4 (19.3)2

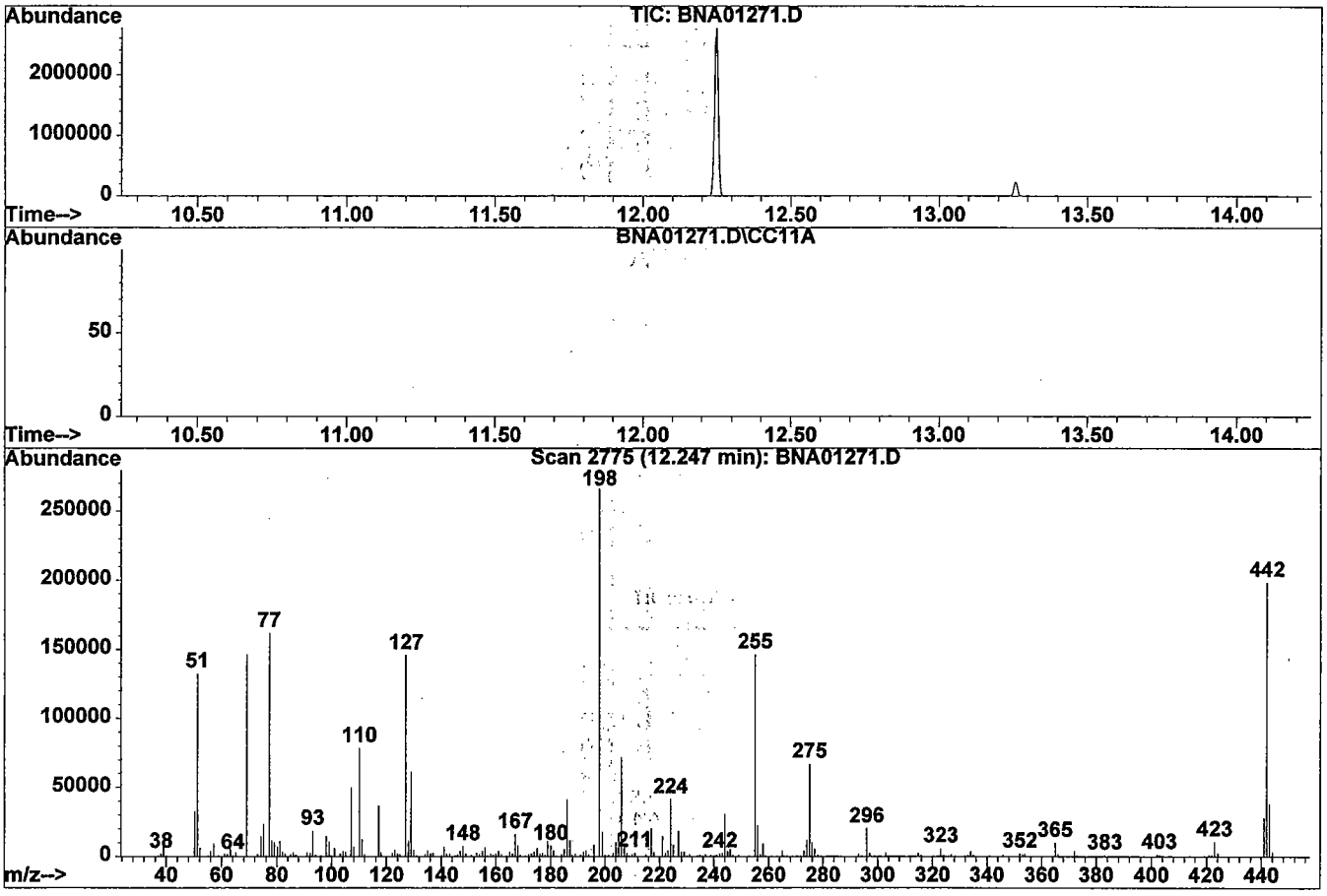
1-Value is % mass 69 2-Value is % mass 442

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

	FIELD ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	DAILY CAL	BNA01272.D	11/18/98	10:20
02	SBLK162	SBLK162	BNA01289.D	11/18/98	22:48
03	SBLK162MS	SBLK162MS	BNA01290.D	11/18/98	23:30
04	FIELD BLANK	4035.02	BNA01291.D	11/19/98	00:11
05	BLDG2504	4035.04	BNA01292.D	11/19/98	00:53
06	BLDG1220B-1	4035.06	BNA01293.D	11/19/98	01:35
07	BLDG1220B-2	4035.08	BNA01294.D	11/19/98	02:16
08	FIELD DUP	4035.09	BNA01295.D	11/19/98	02:58

DFTPP

Data File : C:\HPCHEM\1\DATA\981118\BNA01271.D Vial: 29
Acq On : 18 Nov 1998 9:55 am Operator: Skelton
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: 2fp.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 2775

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.8	132480	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	55.1	146560	PASS
70	69	0.00	2	0.4	607	PASS
127	198	40	60	54.8	145664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	266048	PASS
199	198	5	9	6.7	17800	PASS
275	198	10	30	25.2	67016	PASS
365	198	1	100	3.7	9799	PASS
441	443	0.01	100	73.6	28192	PASS
442	198	40	100	74.6	198528	PASS
443	442	17	23	19.3	38312	PASS

4B

SEMIVOLATILE METHOD BLANK SUMMARY

FIELD ID

Sblk162

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Lab File ID: BNA01289.D Lab Sample ID: Sblk162

Instrument ID: GC/MS Ins Date Extracted: 11/10/98

Matrix: (soil/water) WATER Date Analyzed: 11/18/98

Level: (low/med) LOW Time Analyzed: 22:48

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

	FIELD ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SBLK162MS	SBLK162MS	BNA01290.D	11/18/98
02	FIELD BLANK	4035.02	BNA01291.D	11/19/98
03	BLDG2504	4035.04	BNA01292.D	11/19/98
04	BLDG1220B-1	4035.06	BNA01293.D	11/19/98
05	BLDG1220B-2	4035.08	BNA01294.D	11/19/98
06	FIELD DUP	4035.09	BNA01295.D	11/19/98

COMMENTS:

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 02 21:31:31 1998
Response via : Initial Calibration

Calibration Files
10 =BNA00805.D 20 =BNA00804.D 50 =BNA00803.D
80 =BNA00802.D 120 =BNA00801.D

		Compound	10	20	50	80	120	Avg	%RSD
42)	T	Acenaphthylene	1.722	1.780	1.637	1.589	1.442	1.634	7.99
43)	T	2,6-Dinitrotoluene	0.279	0.296	0.284	0.281	0.268	0.282	3.57
44)	T	3-Nitroaniline	0.375	0.406	0.393	0.402	0.386	0.392	3.16
45)	TCM	Acenaphthene	1.086	1.117	1.052	1.051	0.985	1.058	4.63
46)	TP	2,4-Dinitrophenol	0.095	0.129	0.157	0.170	0.170	0.144	22.42
47)	T	Dibenzofuran	1.531	1.604	1.503	1.474	1.366	1.496	5.83
48)	TMP	4-Nitrophenol	0.228	0.254	0.259	0.268	0.260	0.254	6.07
49)	TM	2,4-Dinitrotoluene	0.395	0.423	0.410	0.419	0.400	0.409	2.87
50)	T	Diethylphthalate	1.399	1.424	1.307	1.286	1.186	1.320	7.22
51)	T	Fluorene	1.317	1.371	1.297	1.287	1.213	1.297	4.40
52)	T	4-Chlorophenyl-phenyl	0.626	0.658	0.637	0.652	0.624	0.640	2.42
53)	T	4-Nitroaniline	0.287	0.297	0.245	0.251	0.251	0.266	9.00
54)	I	Phenanthrene-d10	----------ISTD----------						
55)	T	4,6-Dinitro-2-methylp	0.105	0.126	0.134	0.142	0.142	0.130	11.83
56)	TC	n-Nitrosodiphenylamin	0.524	0.542	0.508	0.502	0.469	0.509	5.37
57)	T	Azobenzene	0.910	0.934	0.841	0.842	0.763	0.858	7.84
58)	S	2,4,6-Tribromophenol	0.092	0.099	0.103	0.111	0.114	0.104	8.58
59)	T	4-Bromophenyl-phenyle	0.192	0.207	0.204	0.213	0.211	0.205	4.03
60)	T	Hexachlorobenzene	0.181	0.190	0.191	0.200	0.201	0.193	4.29
61)	TCM	Pentachlorophenol	0.114	0.131	0.138	0.150	0.150	0.137	11.07
62)	T	Phenanthrene	1.024	1.058	0.970	0.951	0.885	0.978	6.83
63)	T	Anthracene	1.024	1.097	1.001	0.977	0.895	0.999	7.34
64)	T	Di-n-butylphthalate	1.278	1.313	1.174	1.116	0.996	1.176	10.87
65)	TC	Fluoranthene	1.103	1.153	1.063	1.049	0.980	1.070	6.01
66)	I	Chrysene-d12	----------ISTD----------						
67)	T	Benzidine	0.015	0.015	0.014	0.013	0.013	0.014#	7.09
68)	TM	Pyrene	1.293	1.337	1.237	1.223	1.150	1.248	5.70
69)	S	p-Terphenyl-d14	0.889	0.938	0.909	0.925	0.884	0.909	2.53
70)	T	Butylbenzylphthalate	0.668	0.693	0.653	0.646	0.608	0.653	4.78
71)	T	Benzo[a]anthracene	1.166	1.234	1.199	1.211	1.155	1.193	2.72
72)	T	3,3'-Dichlorobenzidin	0.369	0.369	0.347	0.369	0.377	0.366	3.04
73)	T	Chrysene	0.761	0.806	0.789	0.817	0.794	0.793	2.67
74)	T	bis(2-Ethylhexyl)phth	0.884	0.925	0.881	0.872	0.806	0.873	4.93
75)	I	Perylene-d12	----------ISTD----------						
76)	TC	Di-n-octylphthalate	1.552	1.675	1.547	1.473	1.288	1.507	9.43
77)	T	Benzo[b]fluoranthene	1.102	1.199	1.210	1.494	1.608	1.323	16.38
78)	T	Benzo[k]fluoranthene	1.089	1.166	1.129	0.944	0.744	1.014	17.06
79)	TC	Benzo[a]pyrene	1.007	1.091	1.089	1.143	1.103	1.086	4.55
80)	T	Indeno[1,2,3-cd]pyren	0.861	0.949	0.991	1.072	0.686	0.912	16.17
81)	T	Dibenz[a,h]anthracene	0.463	0.520	0.593	0.653	0.660	0.578	14.76
82)	T	Benzo[g,h,i]perylene	0.941	1.025	1.033	1.100	1.070	1.034	5.79

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981118\BNA01272.D Vial: 30
Acq On : 18 Nov 1998 10:20 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
MS Integration Params: 2fp.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 02 21:31:31 1998
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	54	-0.10
2	T	Pyridine	1.982	1.828	7.8	49#	-0.10
3	T	N-nitroso-dimethylamine	1.333	1.282	3.8	51	-0.10
4	S	2-Fluorophenol	1.532	1.438	6.1	49#	-0.08
5	T	Aniline	2.347	2.193	6.6	51	-0.09
6	S	Phenol-d6	2.098	2.100	-0.1	54	-0.07
7	TCM	Phenol	2.064	2.093	-1.4	54	-0.07
8	T	bis(2-Chloroethyl)ether	1.772	1.766	0.3	51	-0.10
9	TM	2-Chlorophenol	1.470	1.369	6.9	50#	-0.09
10	T	1,3-Dichlorobenzene	1.467	1.365	7.0	51	-0.10
11	TCM	1,4-Dichlorobenzene	1.742	1.621	6.9	49#	-0.10
12	T	Benzyl alcohol	0.977	0.929	4.9	50#	-0.09
13	T	1,2-Dichlorobenzene	1.538	1.479	3.8	52	-0.10
14	T	2-Methylphenol	1.448	1.380	4.7	52	-0.08
15	T	bis(2-chloroisopropyl)ether	1.856	2.198	-18.4	64	-0.10
16	T	4-Methylphenol	1.423	1.336	6.1	51	-0.08
17	TPM	n-Nitroso-di-n-propylamine	0.256	0.248	3.1	52	-0.09
18	T	Hexachloroethane	0.628	0.664	-5.7	56	-0.10
19	I	Naphthalene-d8	1.000	1.000	0.0	59	-0.10
20	S	Nitrobenzene-d5	0.477	0.474	0.6	59	-0.10
21	T	Nitrobenzene	0.467	0.479	-2.6	61	-0.10
22	T	Isophorone	0.867	0.861	0.7	59	-0.10
23	TC	2-Nitrophenol	0.206	0.174	15.5	49#	-0.10
24	T	2,4-Dimethylphenol	0.436	0.414	5.0	56	-0.09
25	T	bis(2-Chloroethoxy)methane	0.498	0.456	8.4	54	-0.10
26	TC	2,4-Dichlorophenol	0.311	0.285	8.4	53	-0.09
27	T	Benzoic Acid	0.297	0.256	13.8	48#	-0.09
28	TM	1,2,4-Trichlorobenzene	0.339	0.317	6.5	55	-0.10
29	T	Naphthalene	1.050	1.015	3.3	57	-0.10
30	T	4-Chloroaniline	0.449	0.341	24.1	46#	-0.09
31	TC	Hexachlorobutadiene	0.198	0.199	-0.5	59	-0.10
32	TCM	4-Chloro-3-methylphenol	0.379	0.414	-9.2	65	-0.08
33	T	2-Methylnaphthalene	0.715	0.746	-4.3	60	-0.11
34	I	Acenaphthene-d10	1.000	1.000	0.0	63	-0.10
35	TP	Hexachlorocyclopentadiene	0.218	0.279	-28.0#	76	-0.10
36	TC	2,4,6-Trichlorophenol	0.366	0.335	8.5	57	-0.10
37	T	2,4,5-Trichlorophenol	0.390	0.351	10.0	56	-0.09
38	S	2-Fluorobiphenyl	1.229	1.185	3.6	60	-0.10
39	T	2-Chloronaphthalene	1.047	0.982	6.2	59	-0.11

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981118\BNA01272.D Vial: 30
Acq On : 18 Nov 1998 10:20 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
MS Integration Params: 2fp.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 02 21:31:31 1998
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)
40	T	2-Nitroaniline	0.392	0.336	14.3	54	-0.10
41	T	Dimethylphthalate	1.265	1.142	9.7	57	-0.10
42	T	Acenaphthylene	1.634	1.591	2.6	61	-0.11
43	T	2,6-Dinitrotoluene	0.282	0.340	-20.6	75	-0.10
44	T	3-Nitroaniline	0.392	0.336	14.3	54	-0.10
45	TCM	Acenaphthene	1.058	1.011	4.4	60	-0.11
46	TP	2,4-Dinitrophenol	0.144	0.126	12.5	50	-0.10
47	T	Dibenzofuran	1.496	1.418	5.2	59	-0.11
48	TMP	4-Nitrophenol	0.254	0.221	13.0	54	-0.07
49	TM	2,4-Dinitrotoluene	0.409	0.390	4.6	60	-0.10
50	T	Diethylphthalate	1.320	1.251	5.2	60	-0.10
51	T	Fluorene	1.297	1.270	2.1	61	-0.11
52	T	4-Chlorophenyl-phenylether	0.640	0.604	5.6	59	-0.11
53	T	4-Nitroaniline	0.266	0.145	45.5#	37#	-0.11
54	I	Phenanthrene-d10	1.000	1.000	0.0	62	-0.11
55	T	4,6-Dinitro-2-methylphenol	0.130	0.110	15.4	51	-0.11
56	TC	n-Nitrosodiphenylamine	0.509	0.501	1.6	61	-0.11
57	T	Azobenzene	0.858	0.927	-8.0	69	-0.11
58	S	2,4,6-Tribromophenol	0.104	0.099	4.8	60	-0.11
59	T	4-Bromophenyl-phenylether	0.205	0.194	5.4	59	-0.11
60	T	Hexachlorobenzene	0.193	0.221	-14.5	72	-0.11
61	TCM	Pentachlorophenol	0.137	0.120	12.4	54	-0.10
62	T	Phenanthrene	0.978	0.964	1.4	62	-0.11
63	T	Anthracene	0.999	0.967	3.2	60	-0.11
64	T	Di-n-butylphthalate	1.176	1.128	4.1	60	-0.11
65	TC	Fluoranthene	1.070	1.025	4.2	60	-0.11
66	I	Chrysene-d12	1.000	1.000	0.0	64	-0.12
67	T	Benzidine	0.014	0.015#	-7.1	69	-0.11
68	TM	Pyrene	1.248	1.191	4.6	61	-0.12
69	S	p-Terphenyl-d14	0.909	0.844	7.2	59	-0.12
70	T	Butylbenzylphthalate	0.653	0.587	10.1	57	-0.12
71	T	Benzo[a]anthracene	1.193	1.112	6.8	59	-0.12
72	T	3,3'-Dichlorobenzidine	0.366	0.124	66.1#	23#	-0.12
73	T	Chrysene	0.793	0.675	14.9	54	-0.12
74	T	bis(2-Ethylhexyl)phthalate	0.873	0.787	9.9	57	-0.12
75	I	Perylene-d12	1.000	1.000	0.0	60	-0.12
76	TC	Di-n-octylphthalate	1.507	1.507	0.0	58	-0.12
77	T	Benzo[b]fluoranthene	1.323	1.116	15.6	55	-0.13

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\981118\BNA01272.D Vial: 30
Acq On : 18 Nov 1998 10:20 am Operator: Skelton
Sample : Daily Cal Inst : GC/MS Ins
Misc : 50 ppm std Multiplr: 1.00
MS Integration Params: 2fp.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Wed Dec 02 21:31:31 1998
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)
78	T	Benzo[k]fluoranthene	1.014	1.098	-8.3	58	-0.12
79	TC	Benzo[a]pyrene	1.086	1.004	7.6	55	-0.12
80	T	Indeno[1,2,3-cd]pyrene	0.912	0.837	8.2	50	-0.13
81	T	Dibenz[a,h]anthracene	0.578	0.537	7.1	54	-0.13
82	T	Benzo[g,h,i]perylene	1.034	0.811	21.6	47#	-0.15

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

	FIELD ID	S1 NBZ #	S2 2FP #	S3 TPL #	TOT OUT
01	SBLK162	81	77	101	0
02	SBLK162MS	84	80	102	0
03	FIELD BLANK	82	79	100	0
04	BLDG2504	85	80	102	0
05	BLDG1220B-1	77	77	103	0
06	BLDG1220B-2	65	63	86	0
07	FIELD DUP	80	77	95	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 **BNA01290.D** Sample Name **Sblk162ms**

Date Acquired **18 Nov 1998 11:30 pm**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		6.28 ug/L	31.42
62-75-9	N-nitroso-dimethylamine		5.90 ug/L	29.50
62-53-3	Aniline		13.70 ug/L	68.52
111-44-4	bis(2-Chloroethyl)ether		14.91 ug/L	74.53
541-73-1	1,3-Dichlorobenzene		15.15 ug/L	75.75
106-46-7	1,4-Dichlorobenzene		15.65 ug/L	78.26
100-51-6	Benzyl alcohol		8.98 ug/L	44.88
95-50-1	1,2-Dichlorobenzene		15.09 ug/L	75.47
108-60-1	bis(2-chloroisopropyl)ether		21.71 ug/L	108.53
621-64-7	n-Nitroso-di-n-propylamine		17.10 ug/L	85.49
67-72-1	Hexachloroethane		13.81 ug/L	69.03
98-95-3	Nitrobenzene		17.86 ug/L	89.32
111-91-1	bis(2-Chloroethoxy)methane		15.18 ug/L	75.91
120-82-1	1,2,4-Trichlorobenzene		14.45 ug/L	72.24
91-20-3	Naphthalene		15.21 ug/L	76.07
106-47-8	4-Chloroaniline		14.08 ug/L	70.38
87-68-3	Hexachlorobutadiene		15.17 ug/L	75.87
91-57-6	2-Methylnaphthalene		16.00 ug/L	80.02
77-47-4	Hexachlorocyclopentadiene		2.84 ug/L	14.22
91-58-7	2-Chloronaphthalene		15.90 ug/L	79.50
88-74-4	2-Nitroaniline		15.36 ug/L	76.81
131-11-3	Dimethylphthalate		13.02 ug/L	65.12
208-96-8	Acenaphthylene		16.67 ug/L	83.35
606-20-2	2,6-Dinitrotoluene		15.55 ug/L	77.77
99-09-2	3-Nitroaniline		15.36 ug/L	76.81
83-32-9	Acenaphthene		16.54 ug/L	82.71
132-64-9	Dibenzofuran		16.10 ug/L	80.48
121-14-2	2,4-Dinitrotoluene		15.82 ug/L	79.10
84-66-2	Diethylphthalate		16.96 ug/L	84.78
86-73-7	Fluorene		16.77 ug/L	83.85
7005-72-3	4-Chlorophenyl-phenylether		16.37 ug/L	81.86
100-01-6	4-Nitroaniline		17.13 ug/L	85.64
86-30-6	n-Nitrosodiphenylamine		18.78 ug/L	93.91
103-33-3	Azobenzene		22.78 ug/L	113.92
101-55-3	4-Bromophenyl-phenylether		17.37 ug/L	86.86
118-74-1	Hexachlorobenzene		17.56 ug/L	87.78
85-01-8	Phenanthrene		18.61 ug/L	93.03
120-12-7	Anthracene		18.29 ug/L	91.45
84-74-2	Di-n-butylphthalate		18.98 ug/L	94.89
206-44-0	Fluoranthene		18.20 ug/L	90.99
92-87-5	Benzidine		66.69 ug/L	333.43
129-00-0	Pyrene		19.70 ug/L	98.51
85-68-7	Butylbenzylphthalate		18.47 ug/L	92.34
56-55-3	Benzo[a]anthracene		16.67 ug/L	83.33
91-94-1	3,3'-Dichlorobenzidine		18.87 ug/L	94.33
218-01-9	Chrysene		15.22 ug/L	76.11
117-81-7	bis(2-Ethylhexyl)phthalate		18.56 ug/L	92.78
117-84-0	Di-n-octylphthalate		21.59 ug/L	107.95
205-99-2	Benzo[b]fluoranthene		14.81 ug/L	74.06
207-08-9	Benzo[k]fluoranthene		18.51 ug/L	92.54
50-32-8	Benzo[a]pyrene		15.48 ug/L	77.42
193-39-5	Indeno[1,2,3-cd]pyrene		9.51 ug/L	47.54
53-70-3	Dibenz[a,h]anthracene		11.18 ug/L	55.89
191-24-2	Benzo[g,h,i]perylene		9.35 ug/L	46.73

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project 980932 Case No.: 4035 Location UST SDG No.:

Lab File ID (Standard): BNA01272.D Date Analyzed: 11/18/98

Instrument ID: BNA#2 Time Analyzed: 10:20

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	413781	7.55	1763620	10.38	1245002	14.48
	UPPER LIMIT	827562	7.05	3527240	9.88	2490004	13.98
	LOWER LIMIT	206891	8.05	881810	10.88	622501	14.98
	FIELD ID						
01	SBLK162	326536	7.54	1563445	10.37	1036967	14.47
02	SBLK162MS	337491	7.55	1531712	10.37	1014849	14.47
03	FIELD BLANK	373536	7.55	1693025	10.37	1132777	14.47
04	BLDG2504	362982	7.54	1659980	10.37	1099262	14.47
05	BLDG1220B-1	351453	7.54	1577840	10.37	1047099	14.47
06	BLDG1220B-2	352680	7.54	1584883	10.37	1027687	14.47
07	FIELD DUP	377469	7.55	1726175	10.37	1135391	14.47

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 980932 Case No.: 4035 Location UST SDG No.:

Lab File ID (Standard): BNA01272.D Date Analyzed: 11/18/98

Instrument ID: BNA#2 Time Analyzed: 10:20

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2259827	17.88	1983737	24.12	1744589	27.23
	UPPER LIMIT	4519654	17.38	3967474	23.62	3489178	26.73
	LOWER LIMIT	1129914	18.38	991869	24.62	872295	27.73
	EPA SAMPLE NO.						
01	SBLK162	1684941	17.87	1271999	24.10	1068537	27.21
02	SBLK162MS	1667628	17.87	1311943	24.11	1092258	27.21
03	FIELD BLANK	1856685	17.87	1499189	24.10	1220695	27.21
04	BLDG2504	1748529	17.87	1420071	24.10	1153631	27.21
05	BLDG1220B-1	1694496	17.87	1253936	24.10	1026381	27.21
06	BLDG1220B-2	1698288	17.87	1280397	24.10	1034993	27.21
07	FIELD DUP	1835950	17.87	1475673	24.10	1182032	27.21

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 (LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\981118\BNA01289.D Vial: 17
Acq On : 18 Nov 1998 10:48 pm Operator: Skelton
Sample : Sblk162 Inst : GC/MS Ins
Misc : Sblk162 A 981110 Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 18 23:20 1998 Quant Results File: M262506.RES

Quant Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Fri Oct 02 14:12:05 1998
Response via : Initial Calibration
DataAcq Meth : M262506

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.54	152	326536	40.00	ug/L	-0.10
19) Naphthalene-d8	10.37	136	1563445	40.00	ug/L	-0.12
34) Acenaphthene-d10	14.47	164	1036967	40.00	ug/L	-0.11
54) Phenanthrene-d10	17.87	188	1684941	40.00	ug/L	-0.12
66) Chrysene-d12	24.10	240	1271999	40.00	ug/L	-0.14
75) Perylene-d12	27.21	264	1068537	40.00	ug/L	-0.15
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	8.85	82	757147	40.59	ug/L	-0.11
Spiked Amount 50.000	Range 35 - 114		Recovery = 81.18%			
38) 2-Fluorobiphenyl	13.01	172	1229121	38.56	ug/L	-0.12
Spiked Amount 50.000	Range 43 - 116		Recovery = 77.12%			
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	21.80	244	1458037	50.44	ug/L	-0.12
Spiked Amount 50.000	Range 33 - 141		Recovery = 100.88%			

Target Compounds Qvalue

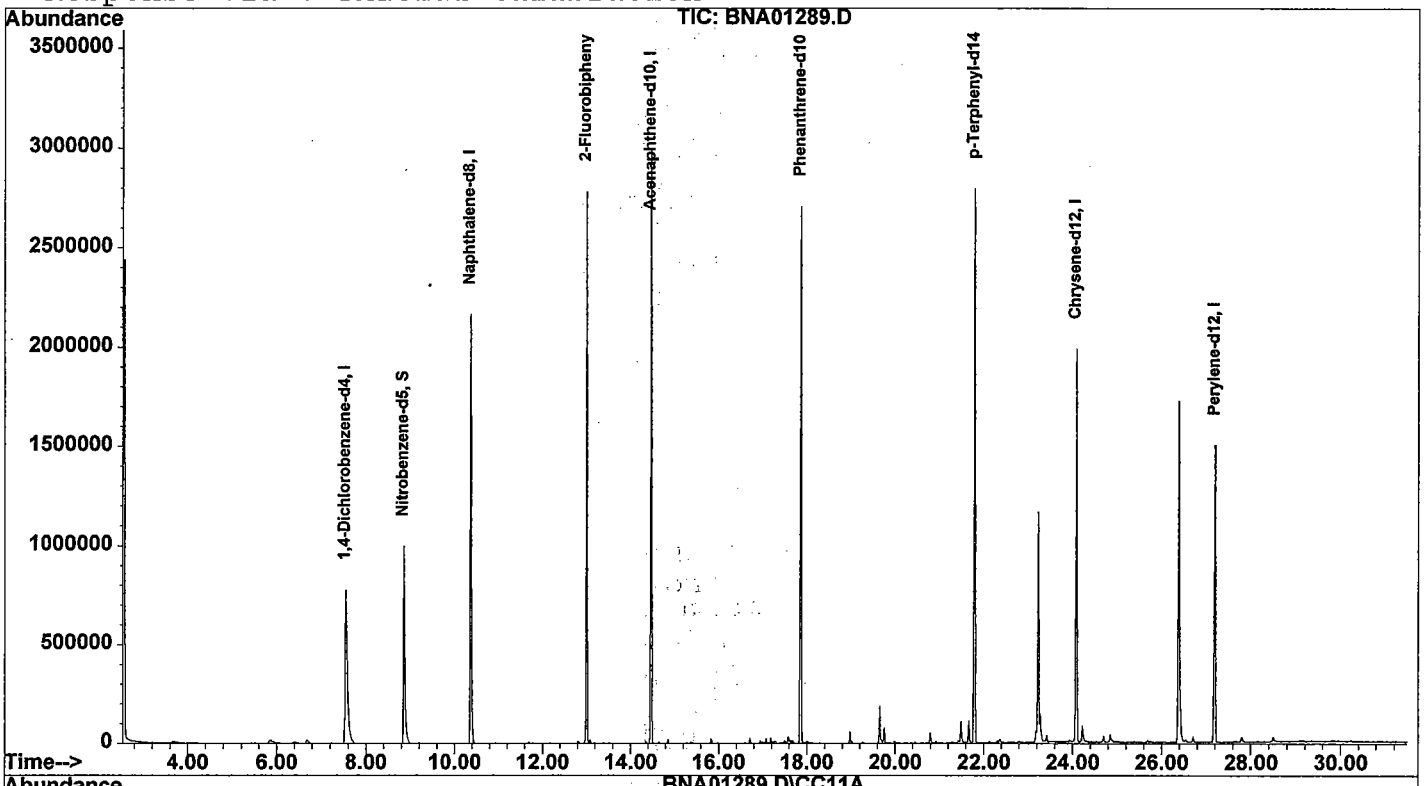
(#) = qualifier out of range (m) = manual integration

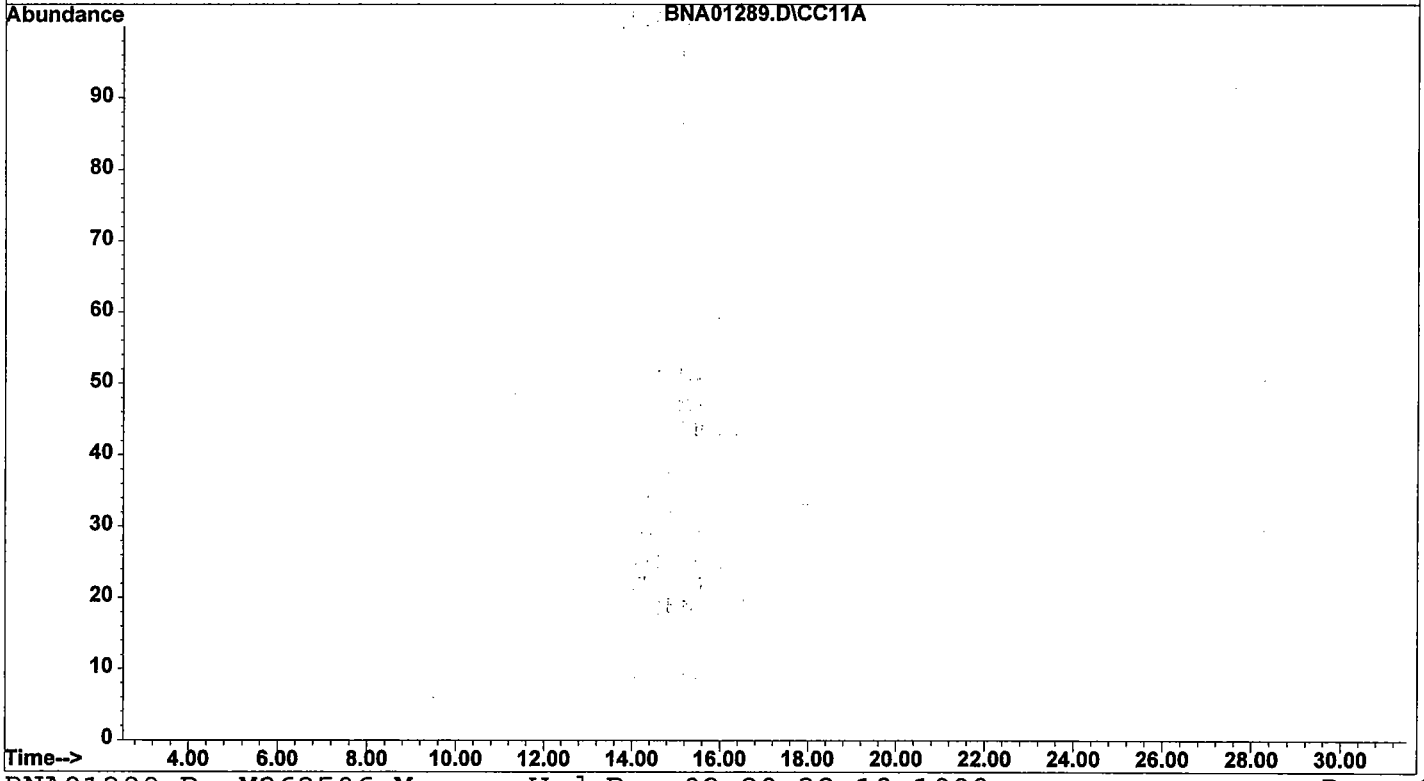
000078

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981118\BNA01289.D Vial: 17
Acq On : 18 Nov 1998 10:48 pm Operator: Skelton
Sample : Sblk162 Inst : GC/MS Ins
Misc : Sblk162 A 981110 Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 18 23:20 1998 Quant Results File: M262506.RES

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Mon Nov 30 08:32:02 1998
Response via : Initial Calibration





000079

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981118\BNA01291.D Vial: 19
Acq On : 19 Nov 1998 12:11 am Operator: Skelton
Sample : 4035.02 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 19 0:43 1998 Quant Results File: M262506.RES

Quant Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Fri Oct 02 14:12:05 1998
Response via : Initial Calibration
DataAcq Meth : M262506

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.55	152	373536	40.00	ug/L	-0.10
19) Naphthalene-d8	10.37	136	1693025	40.00	ug/L	-0.12
34) Acenaphthene-d10	14.47	164	1132777	40.00	ug/L	-0.12
54) Phenanthrene-d10	17.87	188	1856685	40.00	ug/L	-0.12
66) Chrysene-d12	24.10	240	1499189	40.00	ug/L	-0.14
75) Perylene-d12	27.21	264	1220695	40.00	ug/L	-0.14
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	8.85	82	823532	40.77	ug/L	-0.12
Spiked Amount 50.000	Range 35 - 114		Recovery =	81.54%		
38) 2-Fluorobiphenyl	13.01	172	1371724	39.40	ug/L	-0.12
Spiked Amount 50.000	Range 43 - 116		Recovery =	78.80%		
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	21.80	244	1704878	50.04	ug/L	-0.12
Spiked Amount 50.000	Range 33 - 141		Recovery =	100.08%		

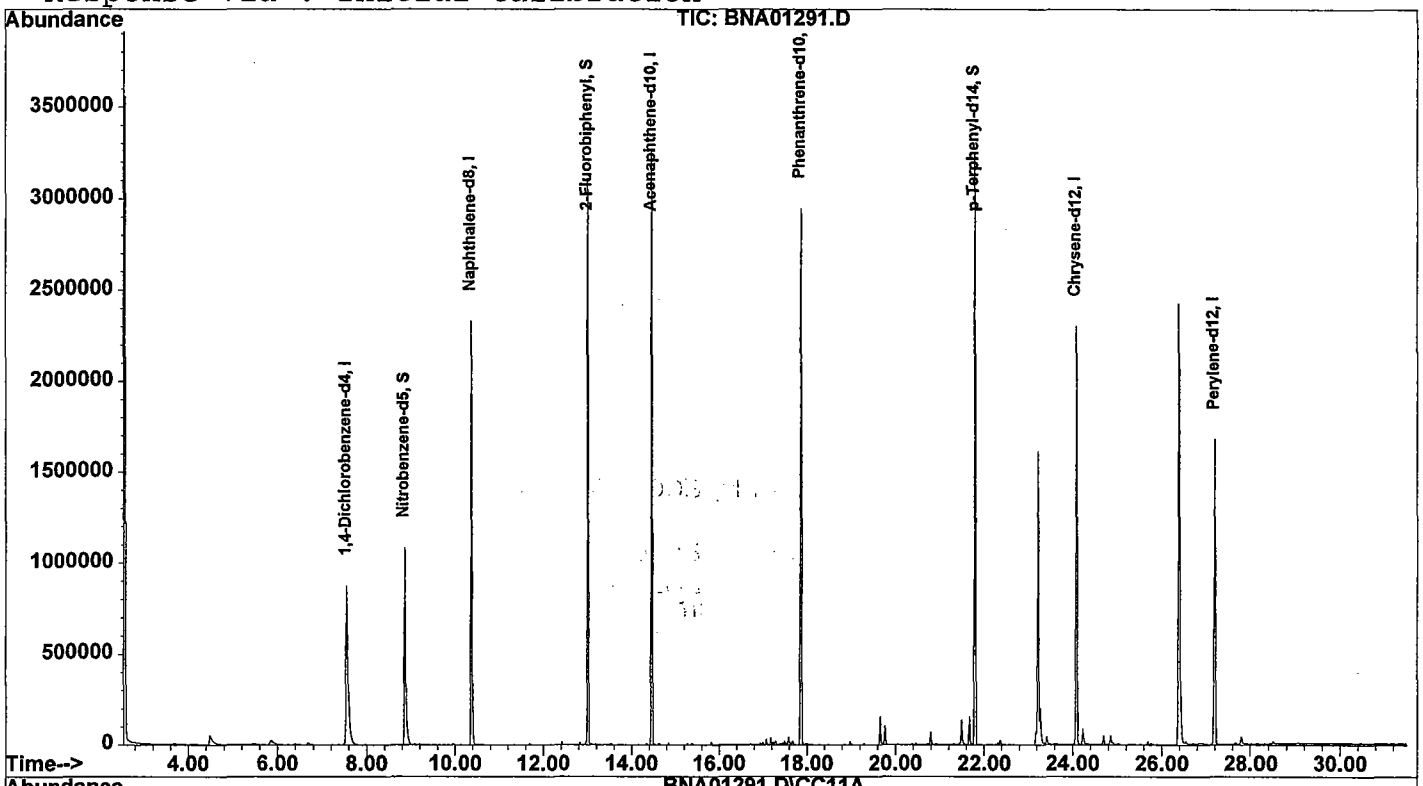
Target Compounds Qvalue

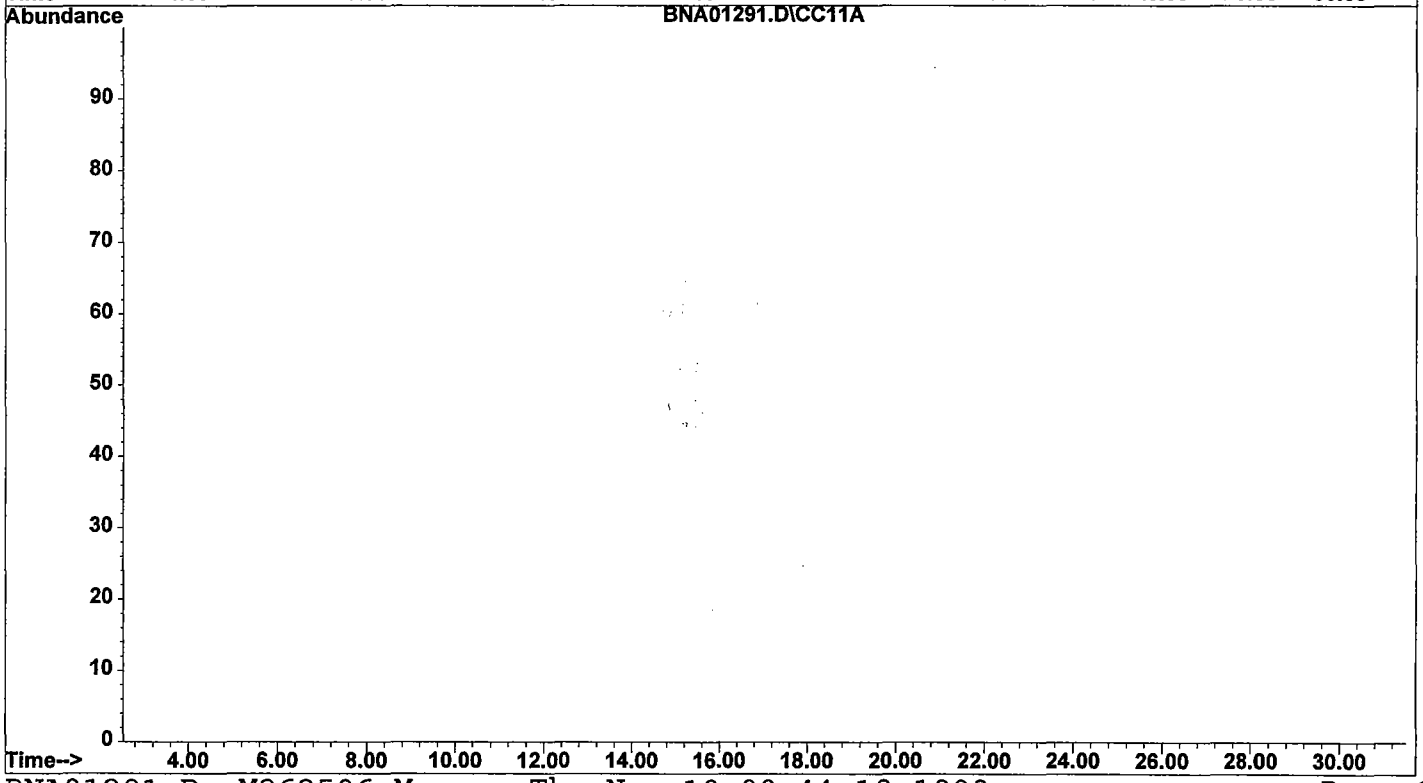
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981118\BNA01291.D Vial: 19
Acq On : 19 Nov 1998 12:11 am Operator: Skelton
Sample : 4035.02 Inst : GC/MS Ins
Misc : Field Blank Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 19 0:43 1998 Quant Results File: M262506.RES

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Fri Oct 02 14:12:05 1998
Response via : Initial Calibration





000081

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981118\BNA01293.D Vial: 21
Acq On : 19 Nov 1998 1:35 am Operator: Skelton
Sample : 4035.06 Inst : GC/MS Ins
Misc : Bldg 1220 B-1 Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 19 2:07 1998 Quant Results File: M262506.RES

Quant Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Fri Oct 02 14:12:05 1998
Response via : Initial Calibration
DataAcq Meth : M262506

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.54	152	351453	40.00	ug/L	-0.10
19) Naphthalene-d8	10.37	136	1577840	40.00	ug/L	-0.12
34) Acenaphthene-d10	14.47	164	1047099	40.00	ug/L	-0.11
54) Phenanthrene-d10	17.87	188	1694496	40.00	ug/L	-0.12
66) Chrysene-d12	24.10	240	1253936	40.00	ug/L	-0.14
75) Perylene-d12	27.21	264	1026381	40.00	ug/L	-0.14
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	8.85	82	724964	38.51	ug/L	-0.11
Spiked Amount 50.000	Range 35 - 114		Recovery =	77.02%		
38) 2-Fluorobiphenyl	13.01	172	1242547	38.61	ug/L	-0.12
Spiked Amount 50.000	Range 43 - 116		Recovery =	77.22%		
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	21.80	244	1468755	51.54	ug/L	-0.12
Spiked Amount 50.000	Range 33 - 141		Recovery =	103.08%		

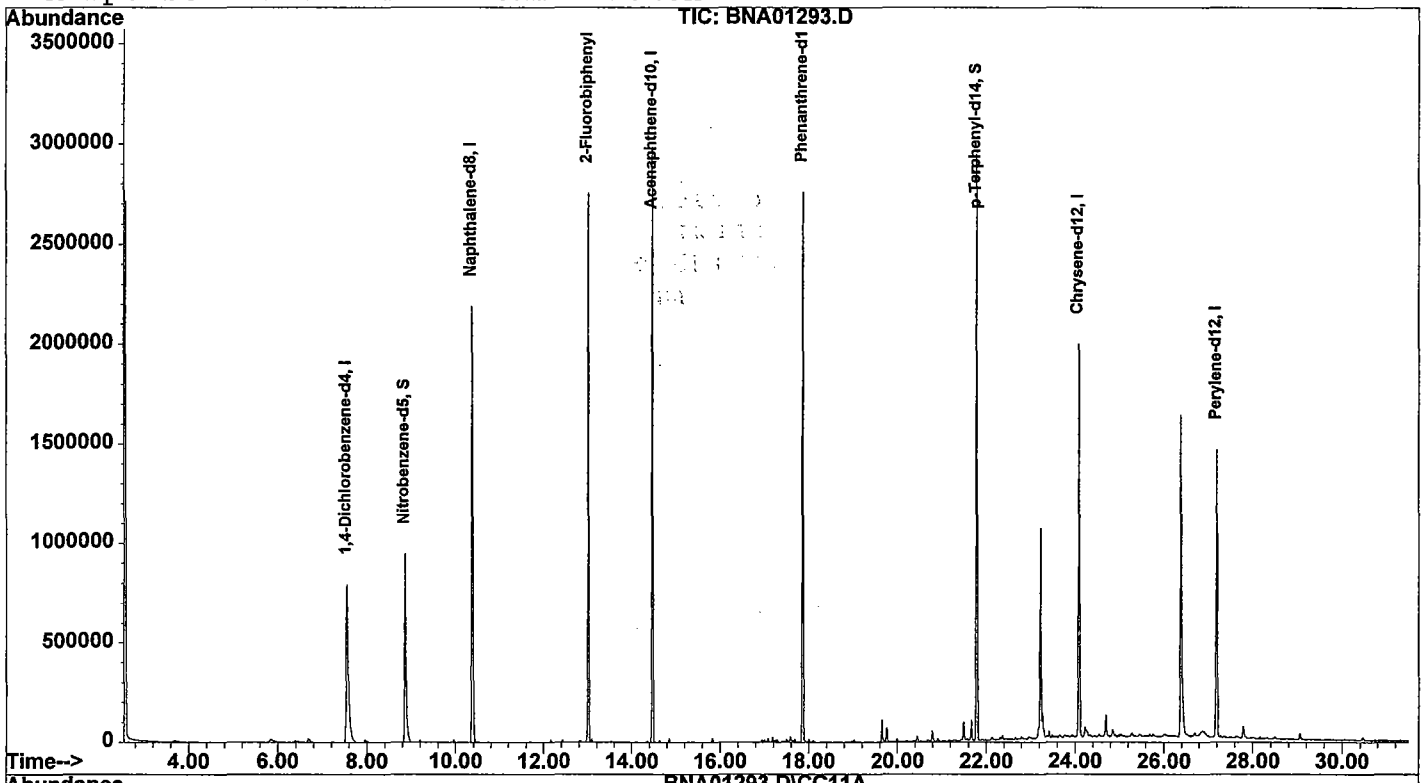
Target Compounds Qvalue

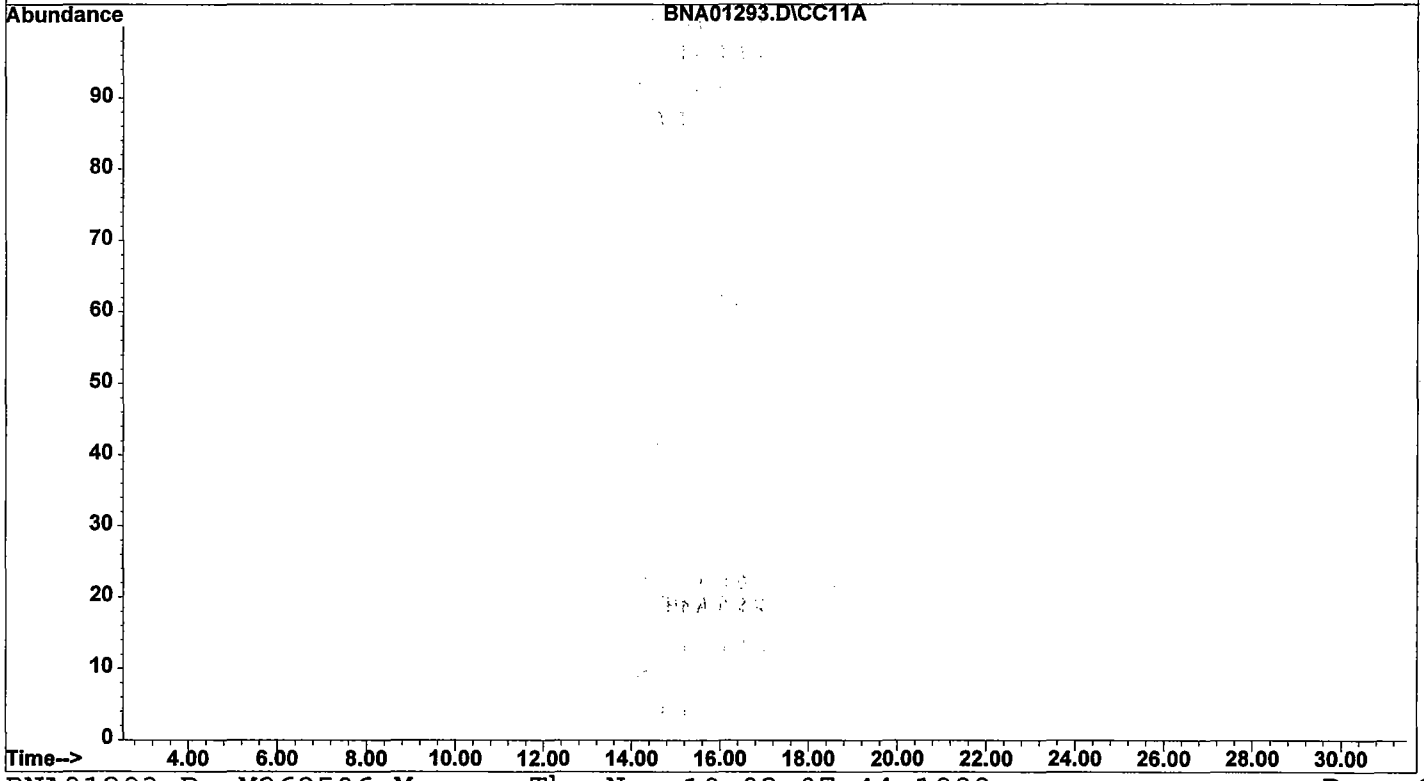
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981118\BNA01293.D Vial: 21
Acq On : 19 Nov 1998 1:35 am Operator: Skelton
Sample : 4035.06 Inst : GC/MS Ins
Misc : Bldg 1220 B-1 Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 19 2:07 1998 Quant Results File: M262506.RES

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Fri Oct 02 14:12:05 1998
Response via : Initial Calibration





000083

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\981118\BNA01294.D Vial: 22
Acq On : 19 Nov 1998 2:16 am Operator: Skelton
Sample : 4035.08 Inst : GC/MS Ins
Misc : Bldg 1220 B-2 Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 19 2:48 1998 Quant Results File: M262506.RES

Quant Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Fri Oct 02 14:12:05 1998
Response via : Initial Calibration
DataAcq Meth : M262506

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.54	152	352680	40.00	ug/L	-0.10
19) Naphthalene-d8	10.37	136	1584883	40.00	ug/L	-0.12
34) Acenaphthene-d10	14.47	164	1027687	40.00	ug/L	-0.11
54) Phenanthrene-d10	17.87	188	1698288	40.00	ug/L	-0.12
66) Chrysene-d12	24.10	240	1280397	40.00	ug/L	-0.14
75) Perylene-d12	27.21	264	1034993	40.00	ug/L	-0.14
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	8.86	82	610008	32.26	ug/L	-0.11
Spiked Amount 50.000	Range 35 - 114		Recovery =	64.52%		
38) 2-Fluorobiphenyl	13.01	172	992105	31.41	ug/L	-0.12
Spiked Amount 50.000	Range 43 - 116		Recovery =	62.82%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	21.80	244	1244616	42.77	ug/L	-0.12
Spiked Amount 50.000	Range 33 - 141		Recovery =	85.54%		

Target Compounds Qvalue

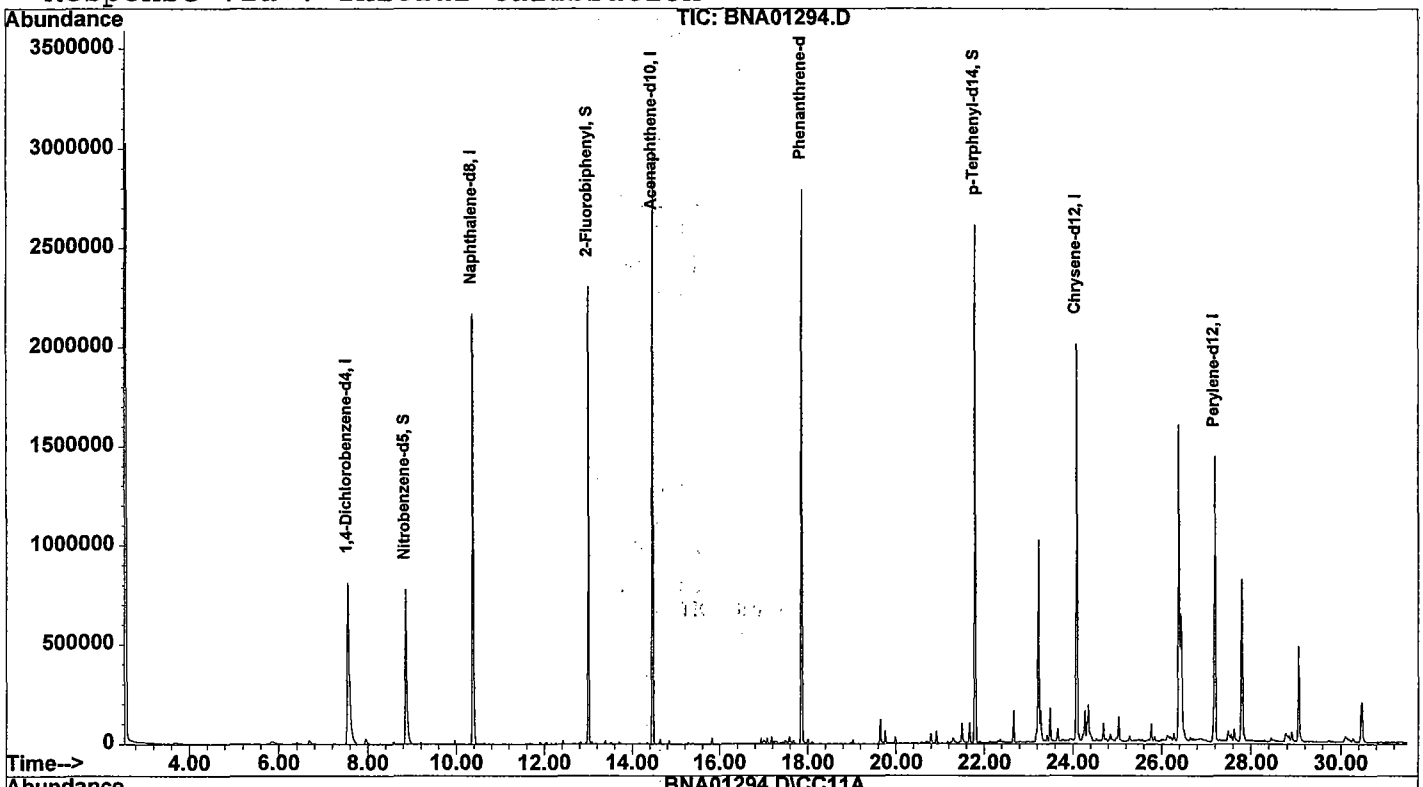
(#) = qualifier out of range (m) = manual integration

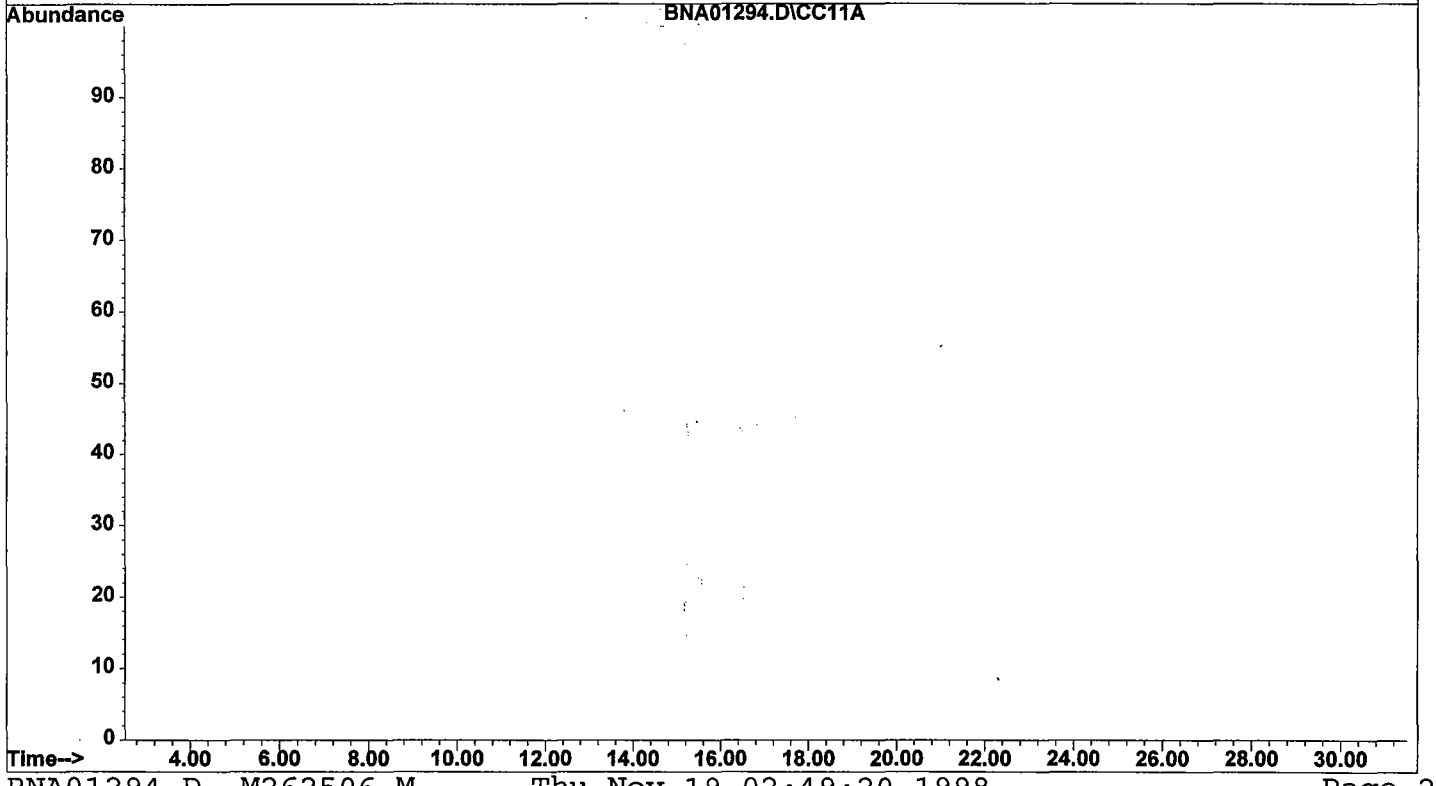
000084

Quantitation Report

Data File : C:\HPCHEM\1\DATA\981118\BNA01294.D Vial: 22
Acq On : 19 Nov 1998 2:16 am Operator: Skelton
Sample : 4035.08 Inst : GC/MS Ins
Misc : Bldg 1220 B-2 Multiplr: 1.00
MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Nov 19 2:48 1998 Quant Results File: M262506.RES

Method : C:\HPCHEM\1\METHODS\M262506.M (RTE Integrator)
Title : BNA Calibration
Last Update : Fri Oct 02 14:12:05 1998
Response via : Initial Calibration





000085

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 _____

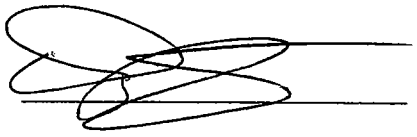
Date 12/8/94

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