United States Army
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 1102
Main Post-West Area

NJDEP UST Registration No. 81533-162

January 2002

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 1102

MAIN POST-WEST AREA
NJDEP UST REGISTRATION NO. 81533-162

JANUARY 2002

PREPARED FOR:

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

PREPARED BY:

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

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EXECUTIVE SUMMARY

UST Closure

In August 1994, a steel underground storage tank (UST) was closed by removal in accordance with New Jersey Department of Environmental Protection (NJDEP) closure procedures at the Main Post-West area of the U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, NJDEP Registration No. 0081533-162 (Fort Monmouth ID No. 1102), was located northwest of Building 1102. UST No. 0081533-162 was a 1,000-gallon #2 fuel oil UST.

Site Assessment

The site assessment was performed by U.S. Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual.* The sampling and laboratory analysis conducted for the site assessment was performed in accordance with Section 7:26E-2.1 of the *Technical Requirements for Site Remediation.* However, there are no field notes to indicate how much soil was removed or what the condition of the tank was at the time of removal. It is known however, that the tank was only 8 years old.

Post excavation soil samples were collected from the UST excavation at Building 1102 in June 2001. The soil samples did not contain TPH concentrations above the method detection limit.

Two groundwater samples were collected at Building 1102. On June 13, 2001 and September 8, 2001 groundwater at Building 1102 was collected and analyzed for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs+15), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOCs+15). All groundwater analytical results were below the method detection limit.

No further action for soil is proposed in regard to the closure and site assessment of UST No. 0081533-162 at Building 1102.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-162, was closed at Building 1102 at the Main Post-West area of U.S. Army Fort Monmouth, Fort Monmouth, New Jersey in August 1994. Refer to the site location map on Figure 1. The UST was a steel 1,000-gallon tank containing No. 2 fuel oil.

The decommissioning activities were conducted by DPW personnel who are registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 81533-162 proceeded under the approval of the NJDEP Bureau of Federal Case Management (NJDEP-BFCM).

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

1.2 SITE DESCRIPTION

Building 1102 is located in the Main Post-West area of the Fort Monmouth Army Base. UST No. 0081533-162 was located northwest of Building 1102. At the time of subsurface soil sampling, a new air conditioning unit and underground electric lines were in place at the former tank location. A site map is provided on Figure 2.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 1102. 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. More than 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and 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 1102 is located approximately 400 feet west of an unnamed stream, the nearest water body. Based on the Main Post topography, the groundwater flow in the area of Building 1102 is anticipated to be to the east.

1.3 HEALTH AND SAFETY

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

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- The contractor performing the closure prior to excavation activities identified all underground obstructions (utilities, etc.).

- 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

There are no field notes available to indicate specific activities performed at 1102 but as with all tank removals, the following procedures are standard. Prior to UST decommissioning activities, surficial soil is removed to expose the UST. The UST is purged to remove vapors prior to cutting. A manway is made in the UST to allow for proper cleaning. The UST is completely emptied of all liquids prior to removal from the ground. The UST iss cleaned prior to removal from the excavation in accordance with the NJDEP regulations. After the UST was removed from the excavation, it is staged on polyethylene sheeting and examined for holes.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported in compliance with all applicable regulations and laws to metal recyclers.

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and TPH analysis results from the post-excavation soil samples, contaminated soils are removed from the UST excavation. Any potentially contaminated soils were stockpiled separately from other excavated material and placed on and covered with polyethylene sheets. Any potentially contaminated soils were transported to the soil staging area. Soils that did not exhibit signs of contamination were used as backfill following the removal of the UST.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

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

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP Certified Sub-Surface Evaluator using an OVA and visual observations at the time of soil sampling.

2.3 SOIL SAMPLING

On June 13, 2001, five (5) post-excavation soil samples were collected from the location of the former UST excavation. One of the samples had to be collected outside the former UST excavation location because of the presence of new underground electrical lines. Each of these five samples was analyzed for total petroleum hydrocarbons (TPH) and total solids.

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

2.4 GROUNDWATER SAMPLING

On June 13, 2001 and September 8, 2001 groundwater from the location of the former UST at Building 1102 was collected and analyzed for volatile organic compounds calibrated for xylene plus 15 tentatively identified compounds (VOCs+15), and semivolatile organic compounds plus 15 tentatively identified compounds (SVOCs+15). 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

There were no detectable concentrations of TPH in soil samples collected from the former UST excavation on June 13, 2001.

3.2 GROUNDWATER SAMPLING RESULTS

There were no detectable VOC or SVOC compounds in the groundwater samples collected at the former UST at Building 1102 on June 13 or September 8, 2001.

3.3 CONCLUSIONS AND RECOMMENDATIONS

No further action for soil is proposed in regard to the closure and site assessment of UST No. 0081533-162 at Building 1102.

TABLES

TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING 1102, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters*	NJDEP Method
1102-1	6/13/01	6/18/01	Soil	Post-Excavation	TPH	OQA-QAM-025
1102-2	6/13/01	6/18/01	Soil	Post-Excavation	TPH	OQA-QAM-025
1102-3	6/13/01	6/18/01	Soil	Post-Excavation	TPH	OQA-QAM-025
1102-4	6/13/01	6/18/01	Soil	Post-Excavation	TPH	OQA-QAM-025
1102-5	6/13/01	6/18/01	Soil	Post-Excavation	TPH	OQA-QAM-025
1102	6/13/01	6/18/01	Groundwater	Geoprobe	VOC, SVOC	EPA 624, EPA 3510/625
1102GW	9/8/01	9/14/01	Groundwater	Geoprobe	VOC, SVOC	EPA 624, EPA 3510/625

Note:
* TPHC Total Petroleum Hydrocarbons
** Sample location was further remediated and resampled

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS
BUILDING 1102, MAIN POST-WEST AREA
FORT MONMOUTH, NEW JERSEY

Sample ID/ Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Parameters	Method Detection Limit (mg/kg)	Compound of Concern	Results (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
1102-1/8'	16187.03	6/13/01	6/18/01	Total Solid	--	--	86.84 %	--	--
				TPHC	178	yes	ND	10,000	Yes
1102-2/8'	16187.04	6/13/01	6/18/01	Total Solid	--	--	81.17 %	--	--
				TPHC	179	Yes	ND	10,000	No
1102-3/8'	16187.05	6/13/01	6/18/01	Total Solid	--	--	81.80 %	--	--
				TPHC	115	Yes	ND	10,000	No
1102-4/8'	16187.06	6/13/01	6/18/01	Total Solid	--	--	78.60 %	--	--
				TPHC	199	yes	ND	10,000	No
1102-5/8'	16187.07	6/13/01	6/18/01	Total Solid	--	--	80.61 %	--	--
				TPHC	195	yes	ND	10,000	No

Note:

* Total Solid results are expressed as a percentage.

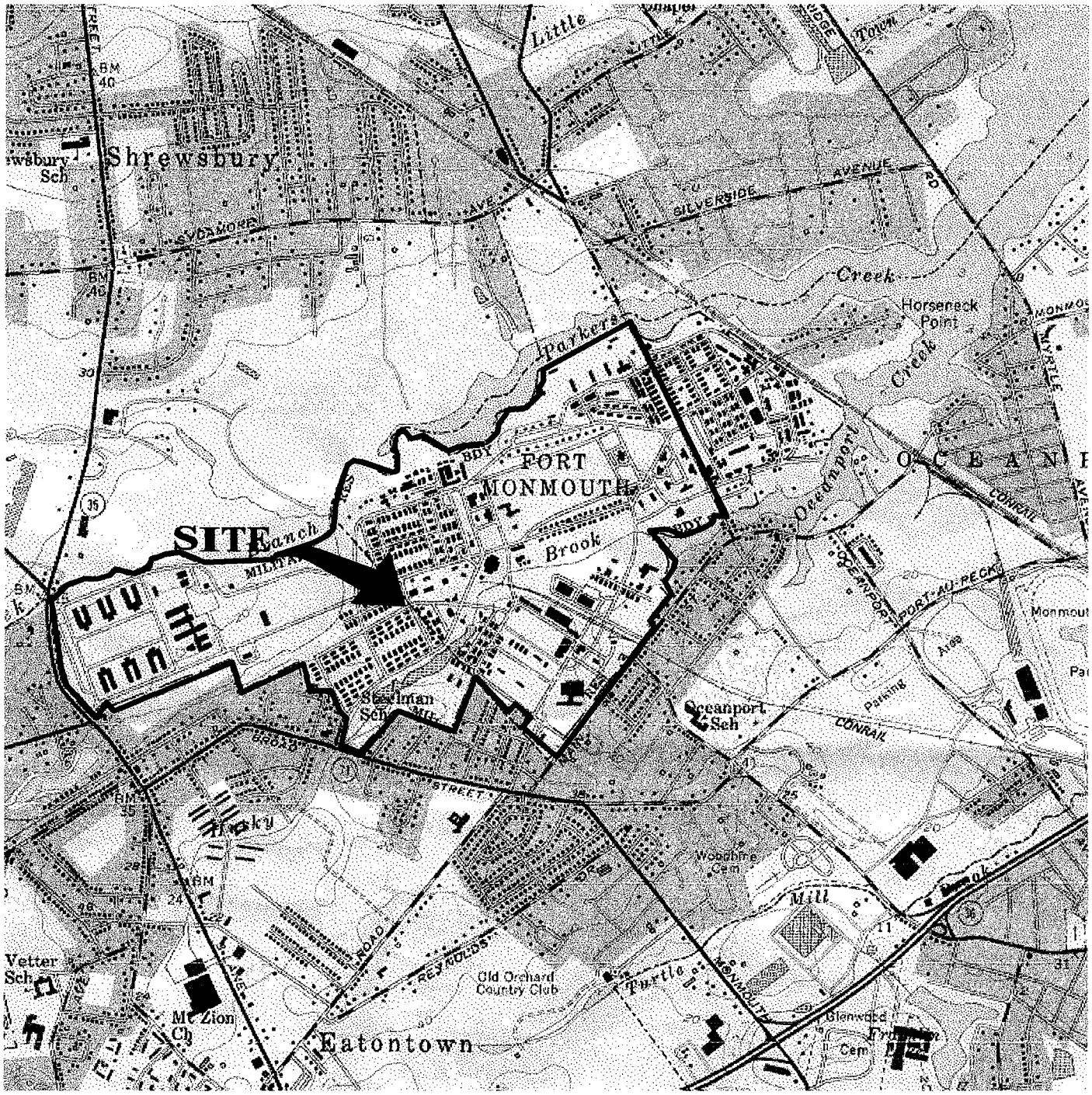
** NJDEP Residential Direct Contact soil cleanup criteria for total organics

*** Sample location was further remediated and resampled

ND Not detected above stated method detection limit

TPHC Total Petroleum Hydrocarbons

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

FIGURE 1

LOCATION MAP
Building 1102
Main-Post West
Fort Monmouth Army Base
Monmouth County, NJ

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

Scale; 1" = 2000'	Date: Jan. 2001

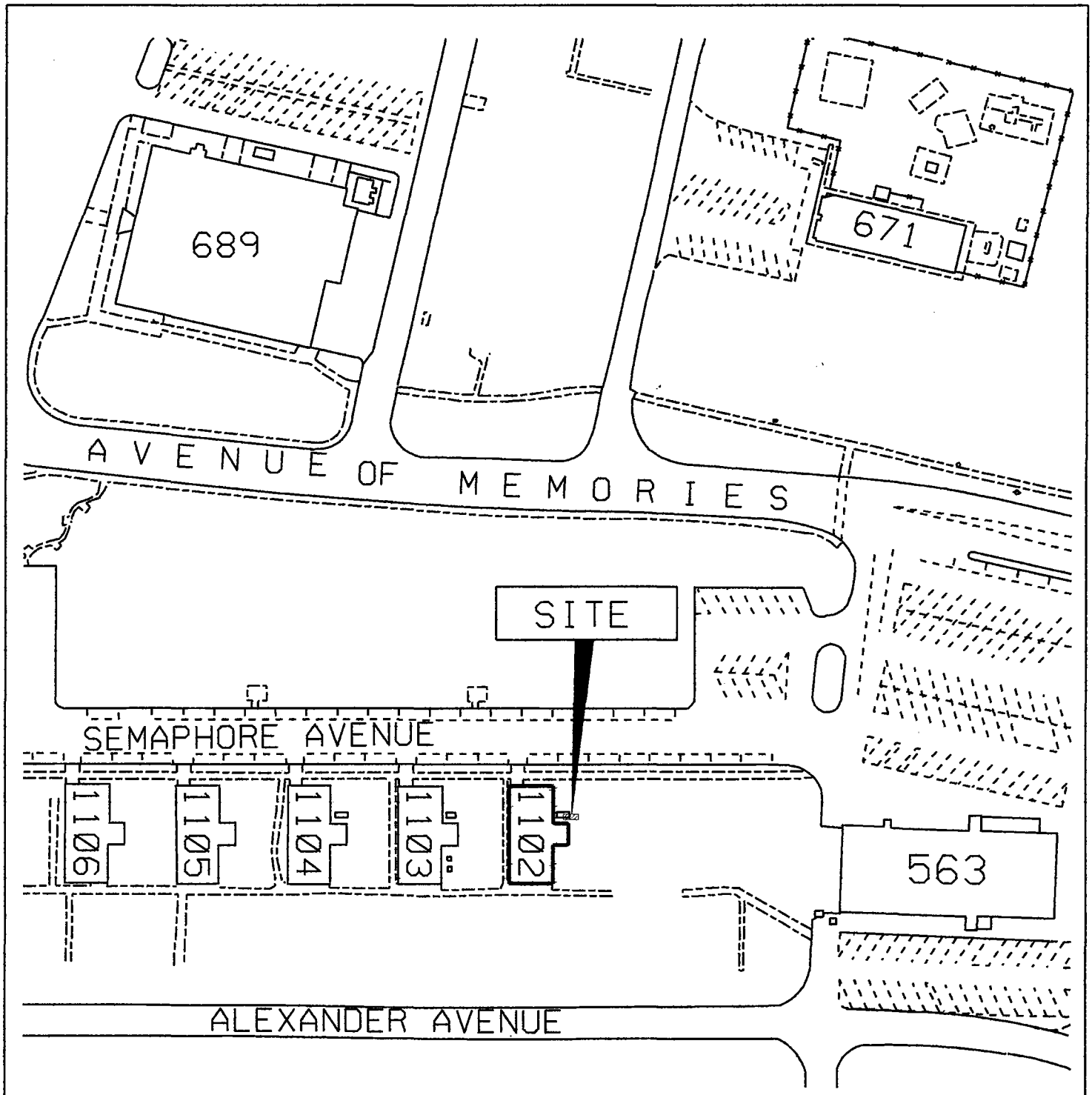
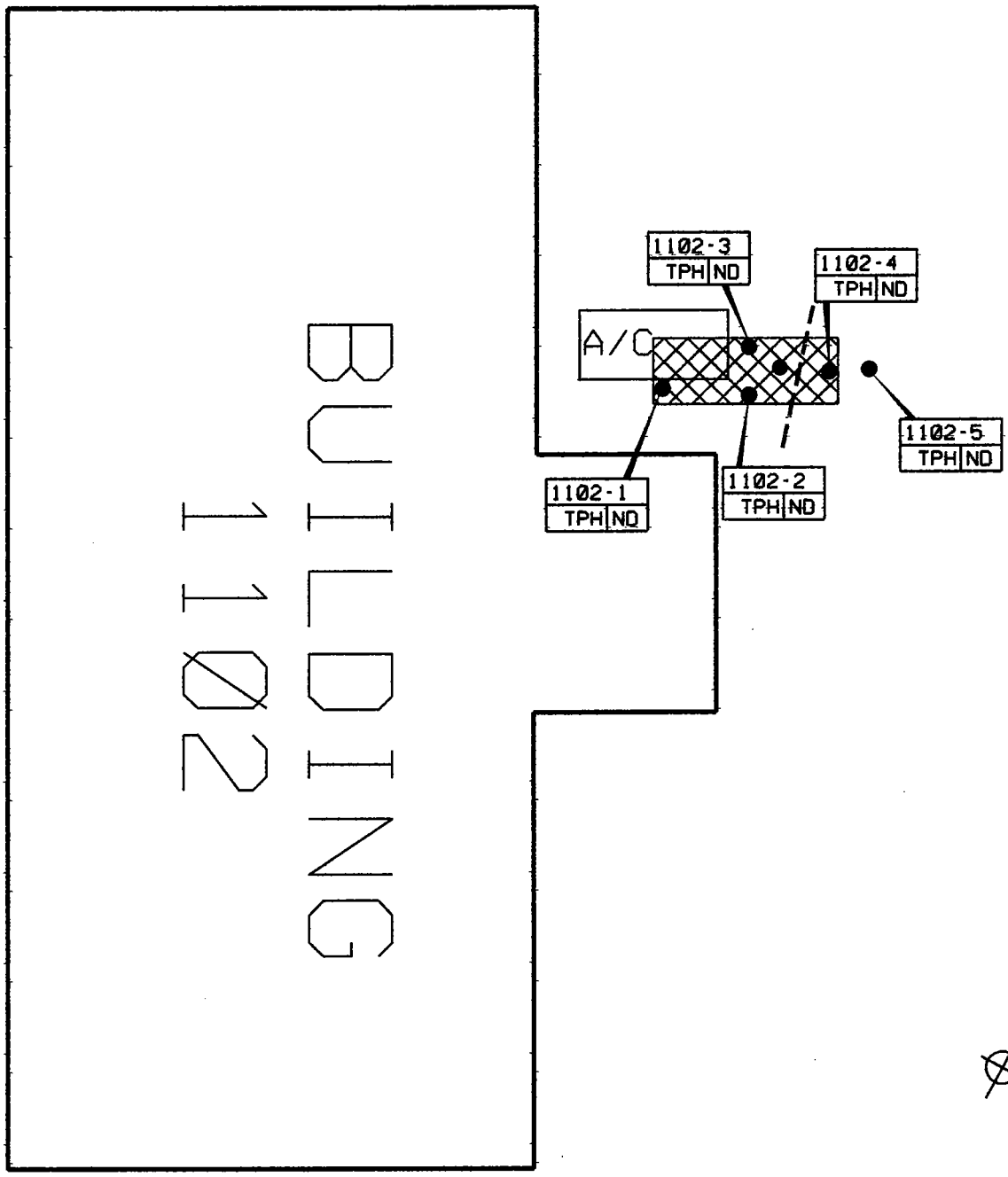


FIGURE 2
SITE MAP
BUILDING 1102
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

SCALE: 1"=100' | DATE: JAN 2002

1102 FIG2



LEGEND

- SOIL SAMPLE LOCATION (JUNE 13, 2001)
- GROUNDWATER SAMPLE LOCATION
- ELECTRICAL LINES
- LIMIT OF EXCAVATION (JULY 7, 1994)

NOTES:

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

FIGURE 3
SOIL SAMPLING LOCATION MAP
BUILDING 1102
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR
ENGINEERS, SCIENTISTS & PLANNERS
BRISTOL, PA.

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

1102 F104

APPENDIX A

NJDEP UST REPORT CERTIFICATION FORM

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

Site Remediation Program

UST Site/Remedial Investigation Report Certification Form

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

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

B. Owner (RP)'s Name: _____

Street Address: _____ City : _____

State: _____ Zip: _____ Telephone Number : _____

C. (Check as appropriate)

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

D. (Complete all that apply)

- Assigned Case Manager: Ian Curtis, Federal Case Manager
- UST Registration Number : 0081533-162
- Incident Report Number :
- Tank Closure Number: _____

E. Certification by the Subsurface Evaluator:

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

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

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

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

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

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

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

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

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

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

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

Signature: _____

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

APPENDIX B

WASTE MANIFEST

APPENDIX C

UST DISPOSAL CERTIFICATE

APPENDIX D

SOIL ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO# 01-0001

Bldg. 1102

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
T. B.	16187.01	Aqueous	13-Jun-01	06/13/01
F. B.	16187.02	Aqueous	13-Jun-01 09:30	06/13/01
1102-1 8'	16187.03	Soil	13-Jun-01 10:00	06/13/01
1102-2 8'	16187.04	Soil	13-Jun-01 10:15	06/13/01
1102-3 8'	16187.05	Soil	13-Jun-01 10:30	06/13/01
1102-4 8'	16187.06	Soil	13-Jun-01 10:45	06/13/01
1102-5 8'	16187.07	Soil	13-Jun-01 11:00	06/13/01
F.D. 8'	16187.08	Soil	13-Jun-01	06/13/01
1102 9'	16187.09	Aqueous	13-Jun-01 11:15	06/13/01

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

7-3-01

Daniel Wright/Date
Laboratory Director

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CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D. DESAI - JERSAR
Phone #: X2475
( )DERA (X)OMA ( )Other:_____
Project No: 01-0001
Location: BLDG. 1102
Samplers Name / Company: MARK LAURA - TVS - PWS07

Comments: Cal. #2 HNU O.K.

Lims Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+15	BN+15	TPHC	%SOLID				HNU	Remarks / Preservation Method
11018 1	T.B.	6-13-01	—	AQ.	2	X								HCL
2	F.B.		0930	~~SOIL~~ AQ.	3	X	X							HCL, C4°C
3	1102-1 8'		1000	SOIL	1			X	X				0 PPM	C4°C
4	4 -2 8'		1015		1			X	X				11	11
5	4 -3 8'		1030		1			X	X				11	11
6	4 -4 8'		1045		1			X	X				11	11
7	11 -5 8'		1100		1			X	X					11
8	F.D. 8'		—		1			X	X				—	11
9	1102 9'		1115	AQ.	3	X	X							HCL, C4°C

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	6-13-01 1130				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:

200000

print legibly

Coc.xls2/6/01

METHOD SUMMARY

Method Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

Method Summary

NJDEP Method OQA-QAM-025-10/97
Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.
Twenty-five milliliters (25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL-autosampler vial.
The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.
The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16187

Site: Bldg. 1102

	Date	Hold Time
Date Sampled	06/13/01	NA
Receipt/Refrigeration	06/13/01	NA
Extractions		
1. BN	06/15/01	7 days
2. TPHC	06/18/01	14 days
Analyses		
1. Volatile Organics	06/26/01	14 days
2. BN	06/26/01	40 days
3. TPHC	06/18/01	40 days

CONFORMANCE/ NON CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — yes
2. Retention times for chromatograms provided — yes
3. GC/MS Tune Specifications
   a. BFB Meet Criteria — yes
   b. DFTPP Meet Criteria — 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 — NO

   If not met, list those compounds and their recoveries, which fall outside the acceptable range:

   a. VOA Fraction _____
   b. B/N Fraction Terphenyl-d14 @ 30 in FB
   c. Acid Fraction NA

   If not met, were the calculations checked and the results qualified as "estimated"? _____

9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — yes
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction NA

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

Indicate
Yes, No, N/A

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

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

11. Extraction Holding Time Met — Yes

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:

Laboratory Manager: _____ Date: 7-5-01

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No, N/A
1.	Method Detection Limits provided.	Yes
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	No
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). MS & MSD low at 72% and 71%	No
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	Yes
5.	IR Spectra submitted for standards, blanks and samples.	NA
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	Yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	Yes

Additional comments: _____

Laboratory Manager _____ Date 7-5-01

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

Definition of Qualifiers

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

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

Data File	**VC006308.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**26-Jun-01**	Multiplier	**1**

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

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

Qualifiers

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

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 1941**

Lab Name: FMETL NJDEP#: 13461

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

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

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

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

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

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC006319.D**	Sample Name	**1618701**
Operator	**Skelton**	Field ID	**TB**
Date Aquired	**26-Jun-01**	Multiplier	**1**

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

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

Qualifiers

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

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **TB**

Lab Name: FMETL NJDEP#: 13461

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

Matrix: (soil/water) WATER Lab Sample ID: 1618701

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006319.D

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

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

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC006320.D**	Sample Name	**1618702**
Operator	**Skelton**	Field ID	**FB**
Date Aquired	**26-Jun-01**	Multiplier	**1**

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

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

Qualifiers

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

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **FB**

Lab Name: FMETL NJDEP#: 13461

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

Matrix: (soil/water) WATER Lab Sample ID: 1618702

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006320.D

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

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

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC006321.D**	Sample Name	**1618709**
Operator	**Skelton**	Field ID	**1102**
Date Aquired	**26-Jun-01**	Multiplier	**1**

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

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Qualifiers

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E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 1102

Lab Name: FMETL NJDEP#: 13461

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

Matrix: (soil/water) WATER Lab Sample ID: 1618709

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006321.D

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

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

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

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

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

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

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

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

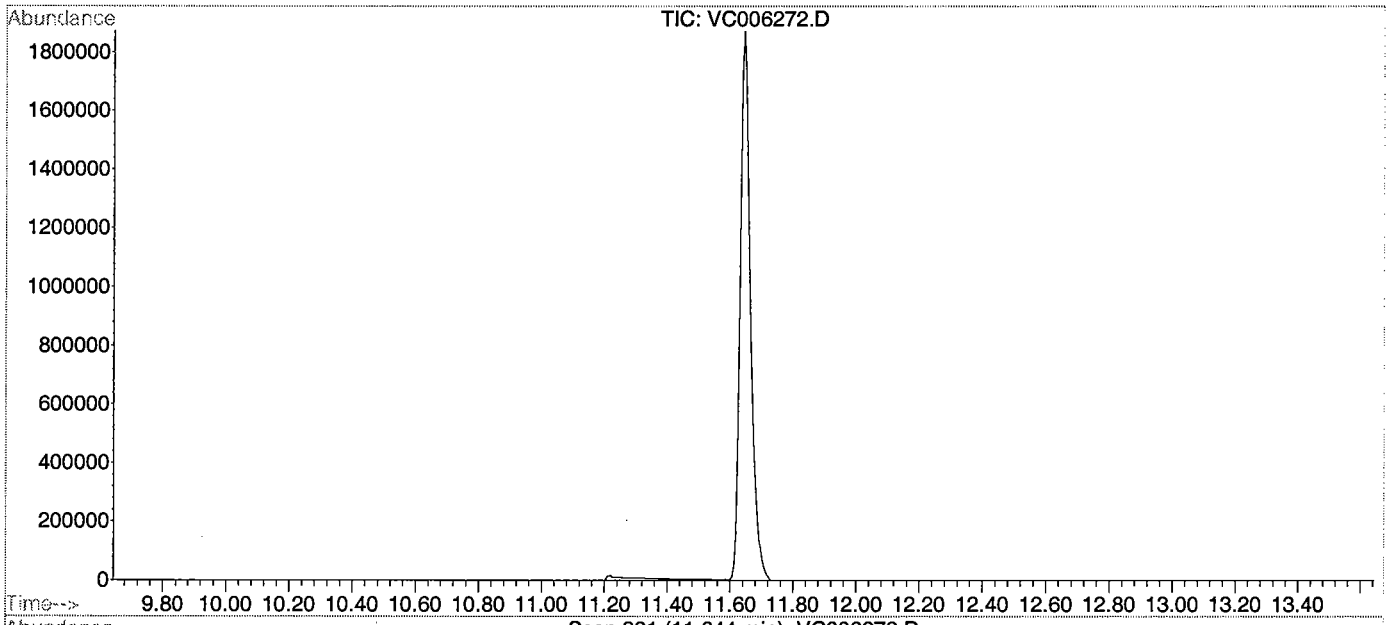
1-Value is % mass 174 2-Value is % mass 176

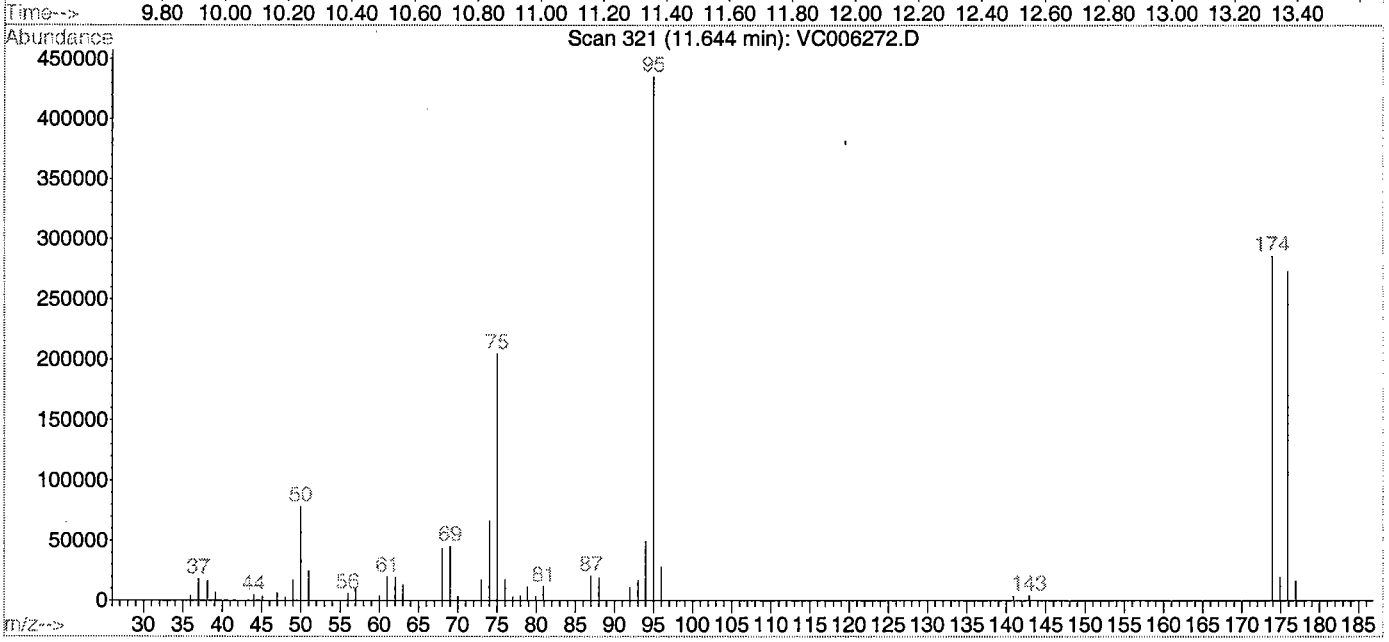
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

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

BFB

Data File : D:\HPCHEM\1\DATA\010625\VC006272.D Vial: 35
Acq On : 25 Jun 2001 8:34 am Operator: Skelton
Sample : BFB Tune Inst : GC/MS Ins
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP





Spectrum Information: Scan 321

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

VC006272.D M362445.M Thu Jun 28 10:13:54 2001

Response Factor Report GC/MS Ins

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

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

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

(#) = Out of Range

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

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

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

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

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

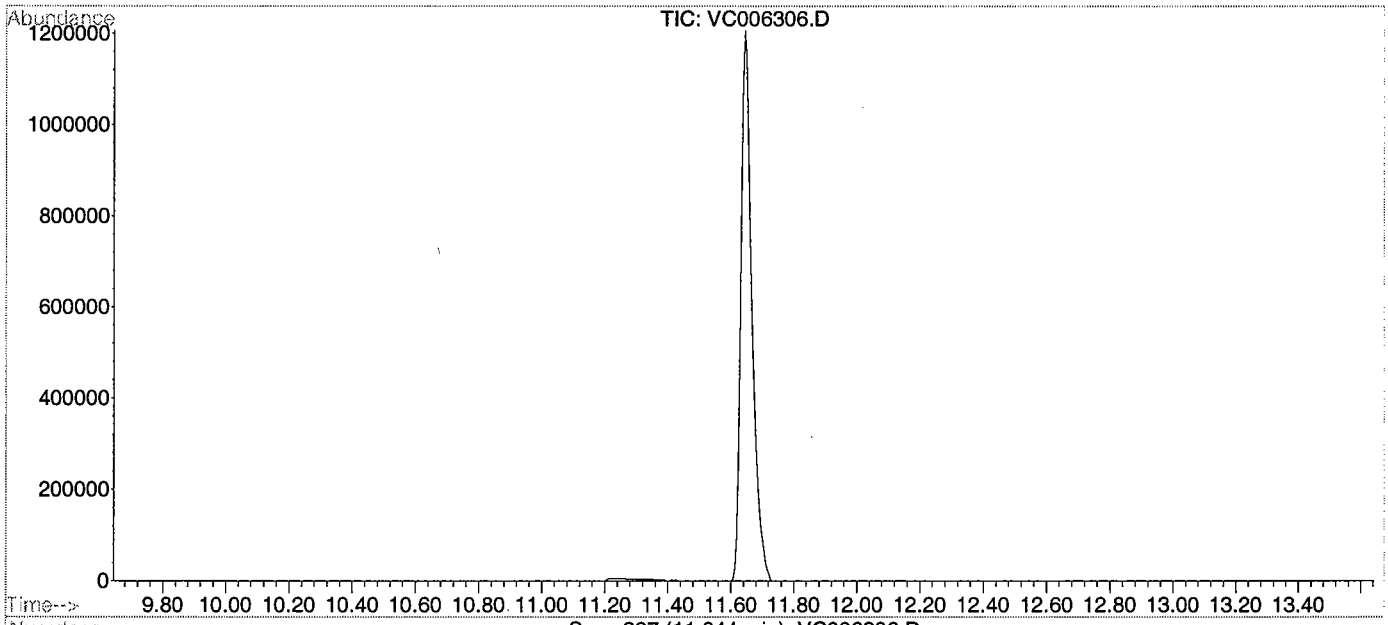
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.1
75	30.0 - 66.0% of mass 95	50.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	71.3
175	4.0 - 9.0% of mass 174	5.0 (7.1)1
176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

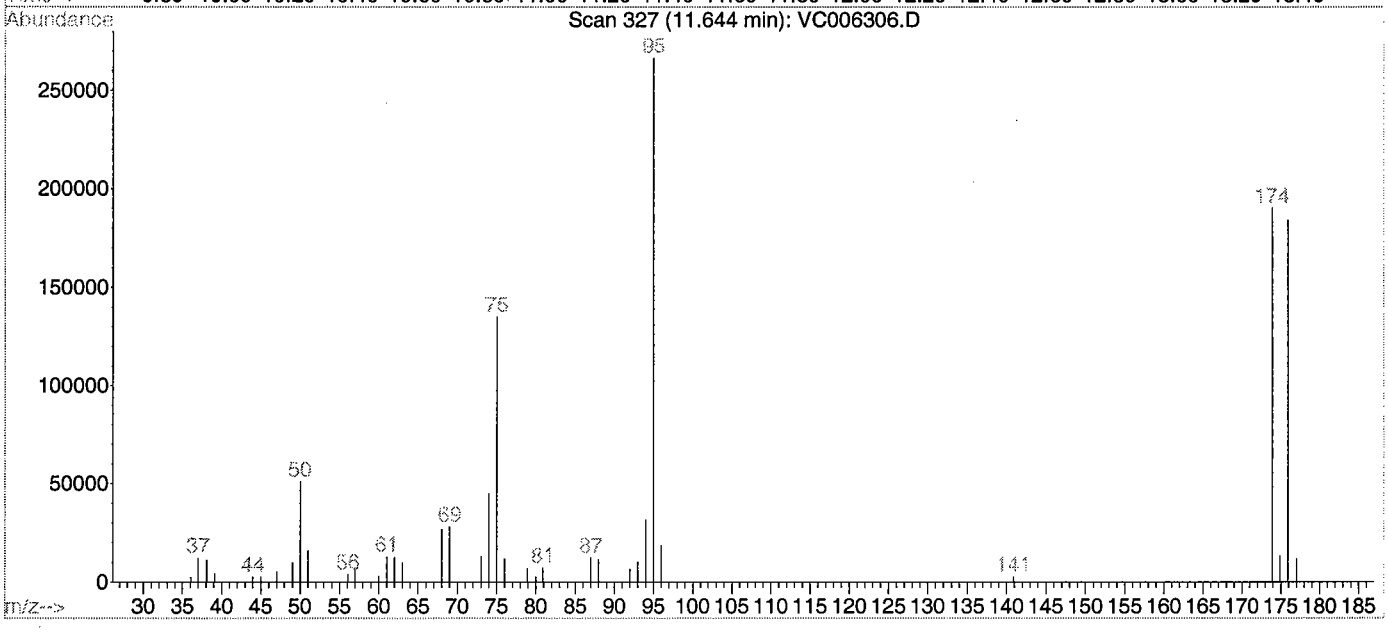
1-Value is % mass 174 2-Value is % mass 176

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

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020	VSTD020	VC006307.D	6/26/01	8:49
02	MB 1941	MB	VC006308.D	6/26/01	9:41
03	TB	1618501	VC006316.D	6/26/01	17:02
04	FB	1618502	VC006317.D	6/26/01	17:43
05	2235	1618503	VC006318.D	6/26/01	18:23
06	TB	1618701	VC006319.D	6/26/01	19:04
07	FB	1618702	VC006320.D	6/26/01	19:44
08	1102	1618709	VC006321.D	6/26/01	20:24
09	1942 MS	1618906 MS	VC006328.D	6/27/01	1:08
10	1943 MSD	1618906 MSD	VC006329.D	6/27/01	1:48

Data File : D:\HPCHEM\1\DATA\010626\VC006306.D Vial: 28
Acq On : 26 Jun 2001 7:54 am Operator: Skelton
Sample : BFB Tune Inst : GC/MS Ins
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362445.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP





Spectrum Information: Scan 327

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

Evaluate Continuing Calibration Report

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

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

Min. RRF : 0.025 Min. Rel. Area : 25% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

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

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

4A

FIELD ID:

MB 1941

VOLATILE METHOD BLANK SUMMARY

Lab Name: FMETL NJDEP#: 13461

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

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

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

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

Instrument ID: VoaInst#3

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

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

COMMENTS:

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

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

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 1941	101	98	85	0
02	TB	105	98	85	0
03	FB	105	98	86	0
04	2235	105	99	86	0
05	TB	105	98	75	0
06	FB	106	98	78	0
07	1102	105	99	78	0
08	1942 MS	104	99	93	0
09	1943 MSD	102	99	93	0

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

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

Data File	VC006328.D	Sample Name	1618906 MS
Date Aquired	27-Jun-01	Field ID	1618906 MS

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

D:\HPCHEM\Custrpt\Volatile\624ms00.crt

6/28/01 10:14 AM

000029

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

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

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

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

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

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

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	660402	16.69	4438734	19.41	1322604	27.25
	UPPER LIMIT	1320804	17.19	8877468	19.91	2645208	27.75
	LOWER LIMIT	330201	16.19	2219367	18.91	661302	26.75
	FIELD ID:						
01	MB 1941	609648	16.70	4003413	19.42	1177135	27.24
02	TB	598248	16.70	3976231	19.42	1188835	27.25
03	FB	590437	16.69	3944269	19.42	1176049	27.24
04	2235	584703	16.69	3903329	19.42	1167219	27.25
05	TB	585379	16.70	3899526	19.42	1161661	27.25
06	FB	582321	16.70	3881776	19.42	1153972	27.25
07	1102	578063	16.70	3833675	19.42	1146603	27.25
08	1942 MS	610086	16.70	4166862	19.42	1239772	27.26
09	1943 MSD	615294	16.69	4162244	19.42	1233035	27.25

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

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

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

Quantitation Report (QT Reviewed)

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

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

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

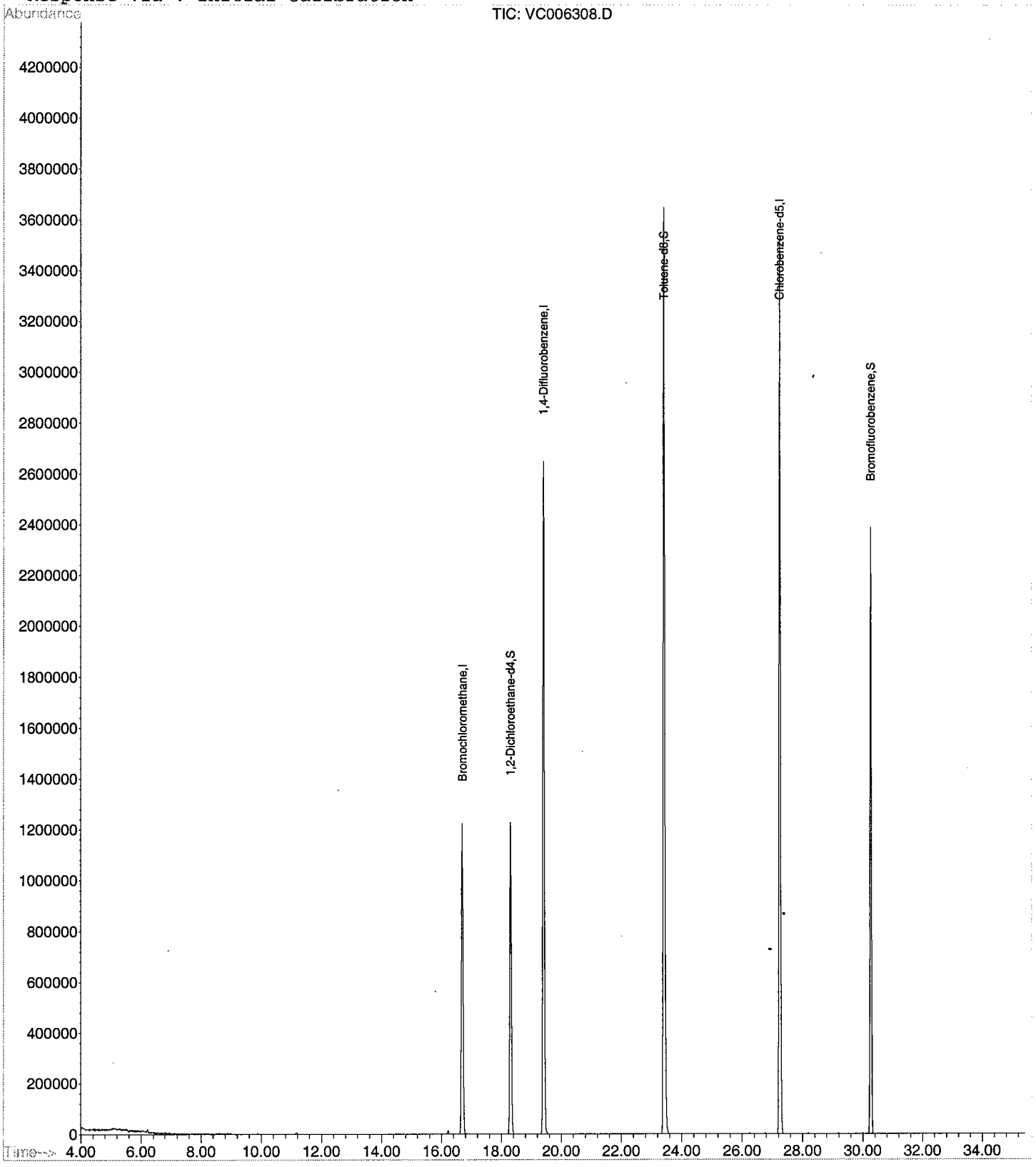
(#) = qualifier out of range (m) = manual integration
VC006308.D M362445.M Thu Jun 28 10:09:09 2001 Page 1

000032

Quantitation Report

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

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



000033

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010626\VC006319.D Vial: 4
Acq On : 26 Jun 2001 7:04 pm Operator: Skelton
Sample : 1618701 Inst : GC/MS Ins
Misc : TB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 19:39 2001 Quant Results File: M362445.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	585379	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	3899526	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1161661	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.31	65	1634759	31.47	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 104.90%			
35) Toluene-d8	23.43	98	4777406	29.35	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 97.83%			
49) Bromofluorobenzene	30.27	95	1384713	22.42	ug/L	0.02
Spiked Amount 30.000	Range 74 - 121		Recovery = 74.73%			

Target Compounds Qvalue

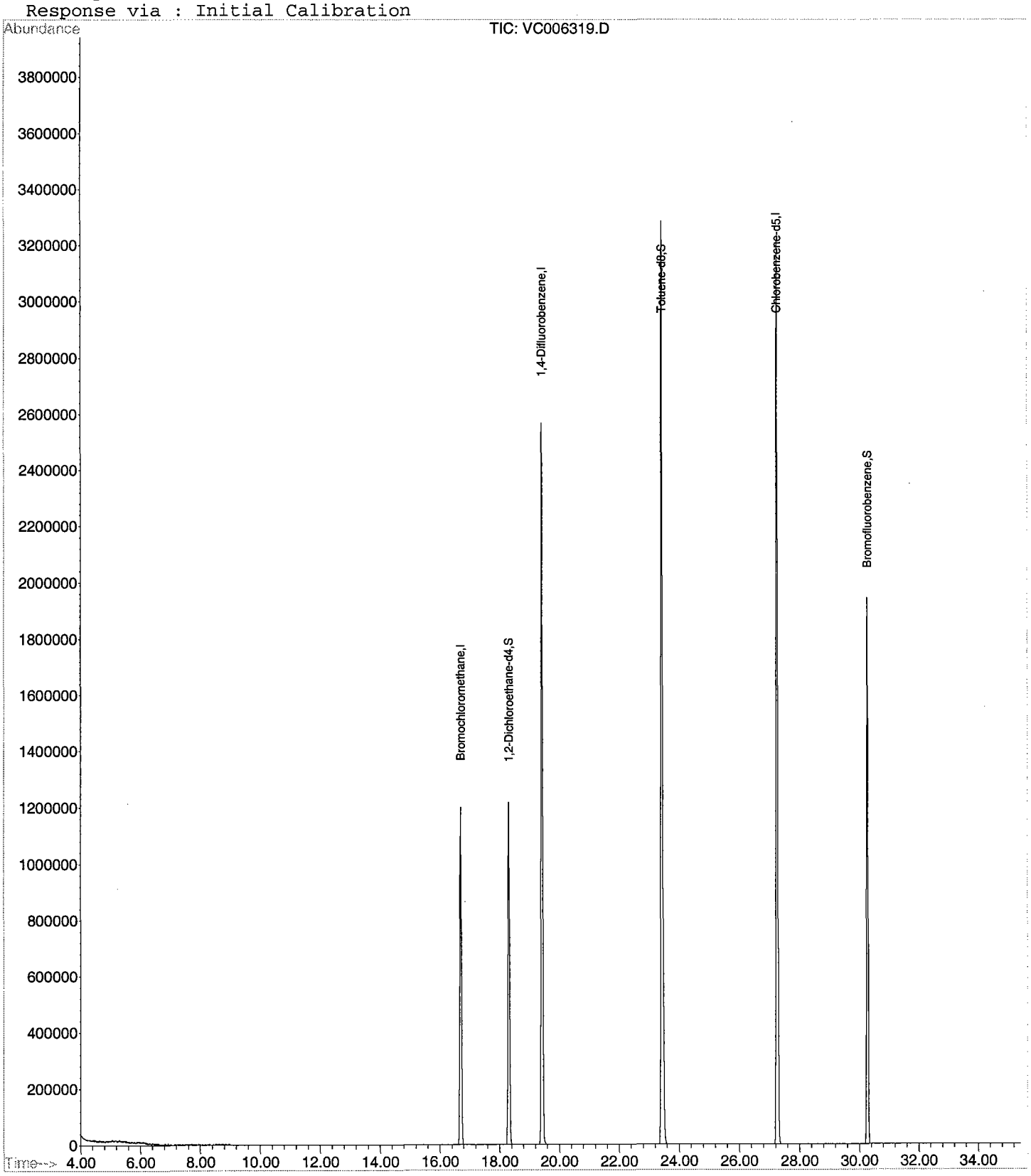
(#) = qualifier out of range (m) = manual integration

000034

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010626\VC006319.D Vial: 4
Acq On : 26 Jun 2001 7:04 pm Operator: Skelton
Sample : 1618701 Inst : GC/MS Ins
Misc : TB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 19:39 2001 Quant Results File: M362445.RES

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



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010626\VC006320.D Vial: 5
Acq On : 26 Jun 2001 7:44 pm Operator: Skelton
Sample : 1618702 Inst : GC/MS Ins
Misc : FB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 20:19 2001 Quant Results File: M362445.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	582321	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	3881776	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1153972	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	1645513	31.84	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 106.13%			
35) Toluene-d8	23.42	98	4770963	29.44	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 98.13%			
49) Bromofluorobenzene	30.27	95	1435792	23.41	ug/L	0.02
Spiked Amount 30.000	Range 74 - 121		Recovery = 78.03%			

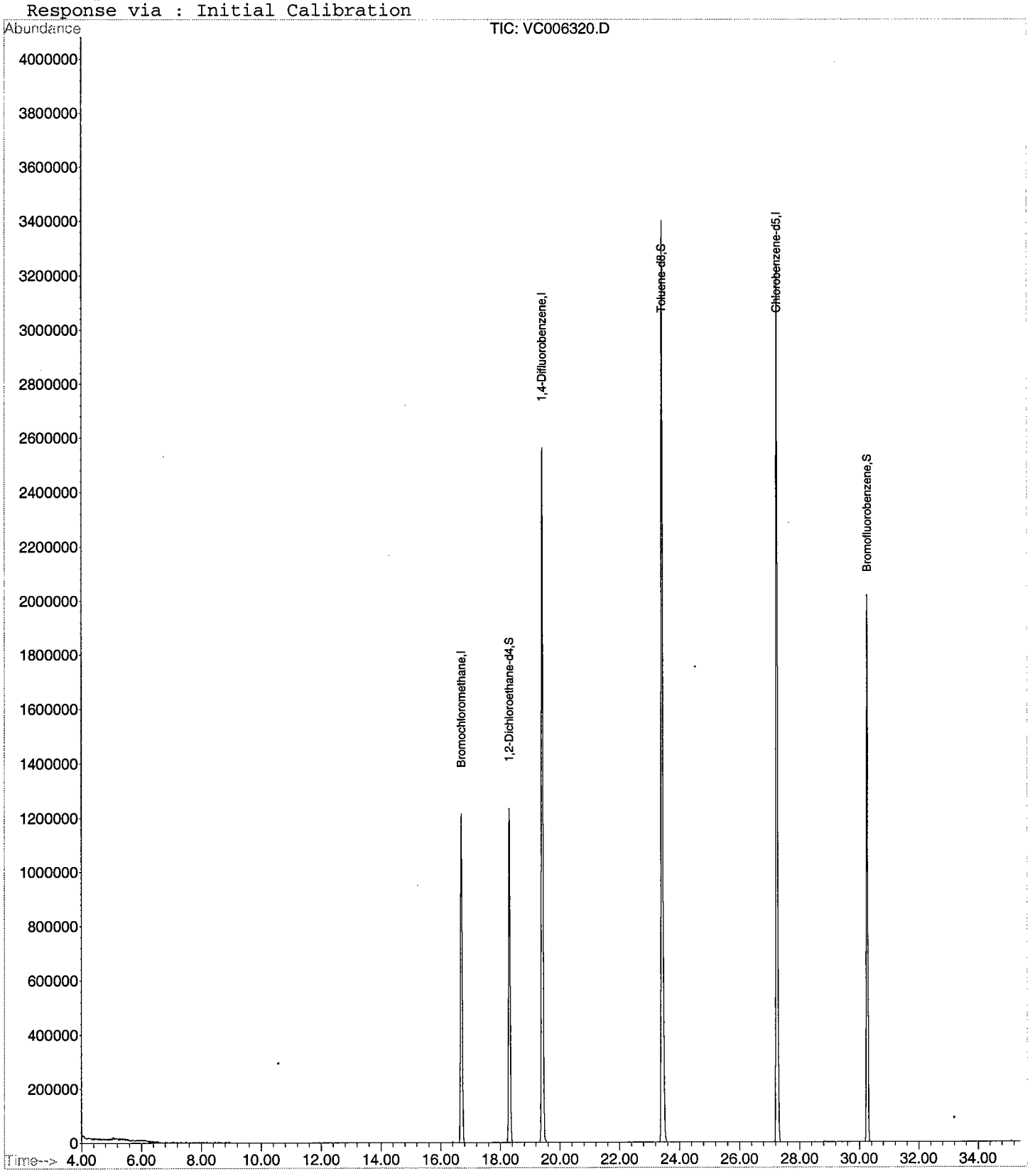
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010626\VC006320.D Vial: 5
Acq On : 26 Jun 2001 7:44 pm Operator: Skelton
Sample : 1618702 Inst : GC/MS Ins
Misc : FB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 20:19 2001 Quant Results File: M362445.RES

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



000037

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010626\VC006321.D Vial: 6
Acq On : 26 Jun 2001 8:24 pm Operator: Skelton
Sample : 1618709 Inst : GC/MS Ins
Misc : 1102 Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 21:00 2001 Quant Results File: M362445.RES

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

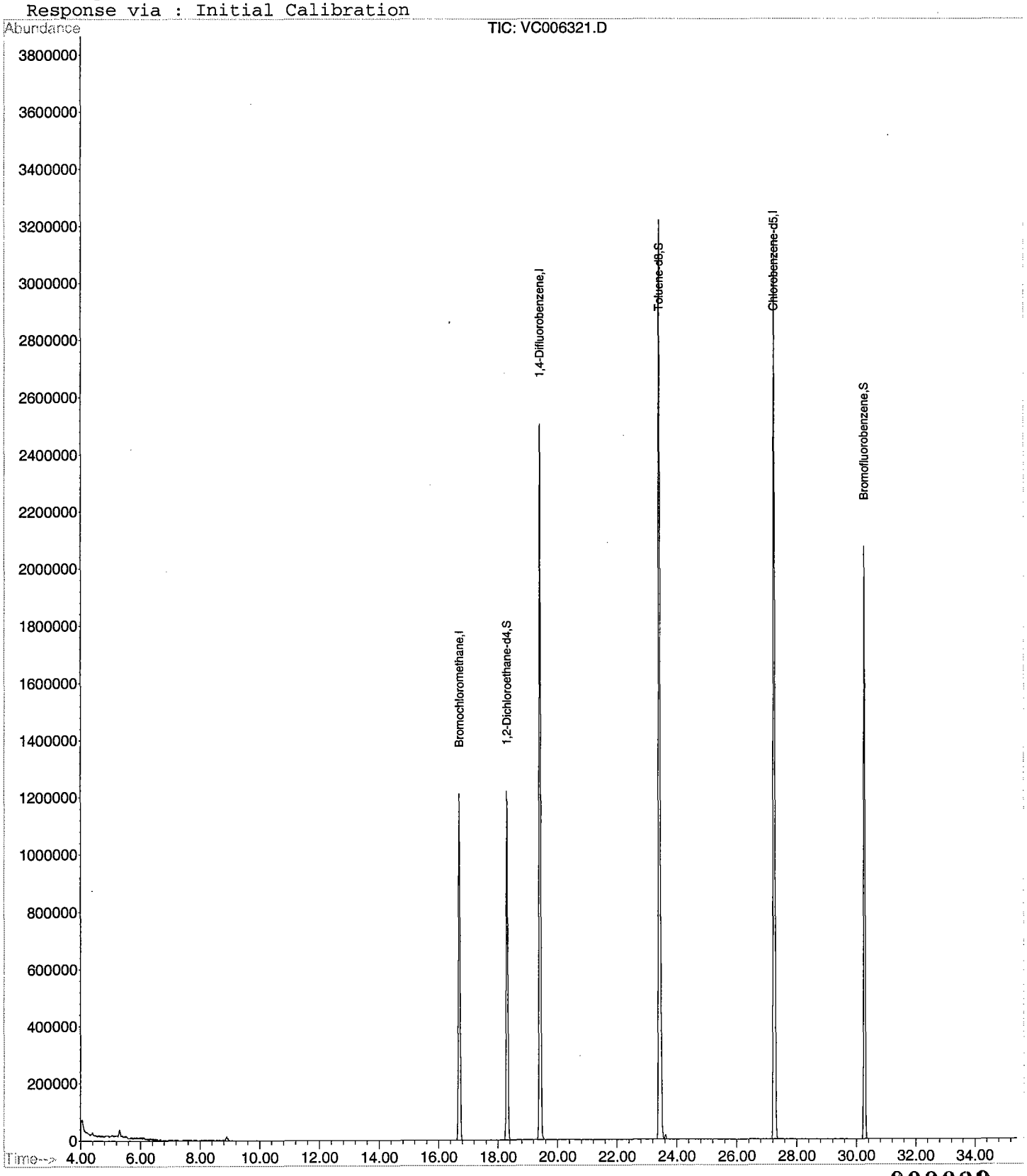
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	578063	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	3833675	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	1146603	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	1620860	31.60	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 105.33%			
35) Toluene-d8	23.43	98	4735867	29.59	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 98.63%			
49) Bromofluorobenzene	30.26	95	1427433	23.42	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 78.07%			
Target Compounds						Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010626\VC006321.D Vial: 6
Acq On : 26 Jun 2001 8:24 pm Operator: Skelton
Sample : 1618709 Inst : GC/MS Ins
Misc : 1102 Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Jun 26 21:00 2001 Quant Results File: M362445.RES

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



SEMI-
VOLATLES

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05515.D**	Sample Name	**MB 1900**
Operator	**Skelton**	Misc Info	**6/18/2001**
Date Acquired	**26-Jun-01**	Sample Multiplier	**1**

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

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05515.D**	Sample Name	**MB 1900**
Operator	**Skelton**	Misc Info	**6/18/2001**
Date Acquired	**26-Jun-01**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB 1900**

Lab Name: FMETL Lab Code 13461

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

Matrix: (soil/water) WATER

Sample wt/vol: 1000 (g/ml) ML

Level: (low/med) LOW

% Moisture: decanted: (Y/N) N

Concentrated Extract Volume: 1000 (uL)

Injection Volume: 1.0 (uL)

GPC Cleanup: (Y/N) N pH:

Lab Sample ID: MB 1900

Lab File ID: BNA05515.D

Date Received: 6/8/01

Date Extracted: 6/15/01

Date Analyzed: 6/26/01

Dilution Factor: 1.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05520.D**	Sample Name	**1618702**
Operator	**Skelton**	Misc Info	**FB**
Date Acquired	**26-Jun-01**	Sample Multiplier	**1**

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

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05520.D**	Sample Name	**1618702**
Operator	**Skelton**	Misc Info	**FB**
Date Acquired	**26-Jun-01**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **FB**

Lab Name: FMETL Lab Code 13461

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

Matrix: (soil/water) WATER Lab Sample ID: 1618702

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05520.D

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

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

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

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BNA05521.D**	Sample Name	**1618709**
Operator	**Skelton**	Misc Info	**1102**
Date Acquired	**26-Jun-01**	Sample Multiplier	**1**

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

Semi-Volatile Analysis Report
Page 2

Data File Name	**BNA05521.D**	Sample Name	**1618709**
Operator	**Skelton**	Misc Info	**1102**
Date Acquired	**26-Jun-01**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: 1102

Lab Name: FMETL Lab Code 13461

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

Matrix: (soil/water) WATER Lab Sample ID: 1618709

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA05521.D

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

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

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

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

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

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

Instrument ID: GC_BNA_2 DFTPP Injection Time: 8:44

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

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

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

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

Response Factor Report GC/MS Ins

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

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

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

(#) = Out of Range

Response Factor Report GC/MS Ins

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

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

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

(#) = Out of Range

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

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

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

Instrument ID: GC_BNA_2 DFTPP Injection Time: 8:12

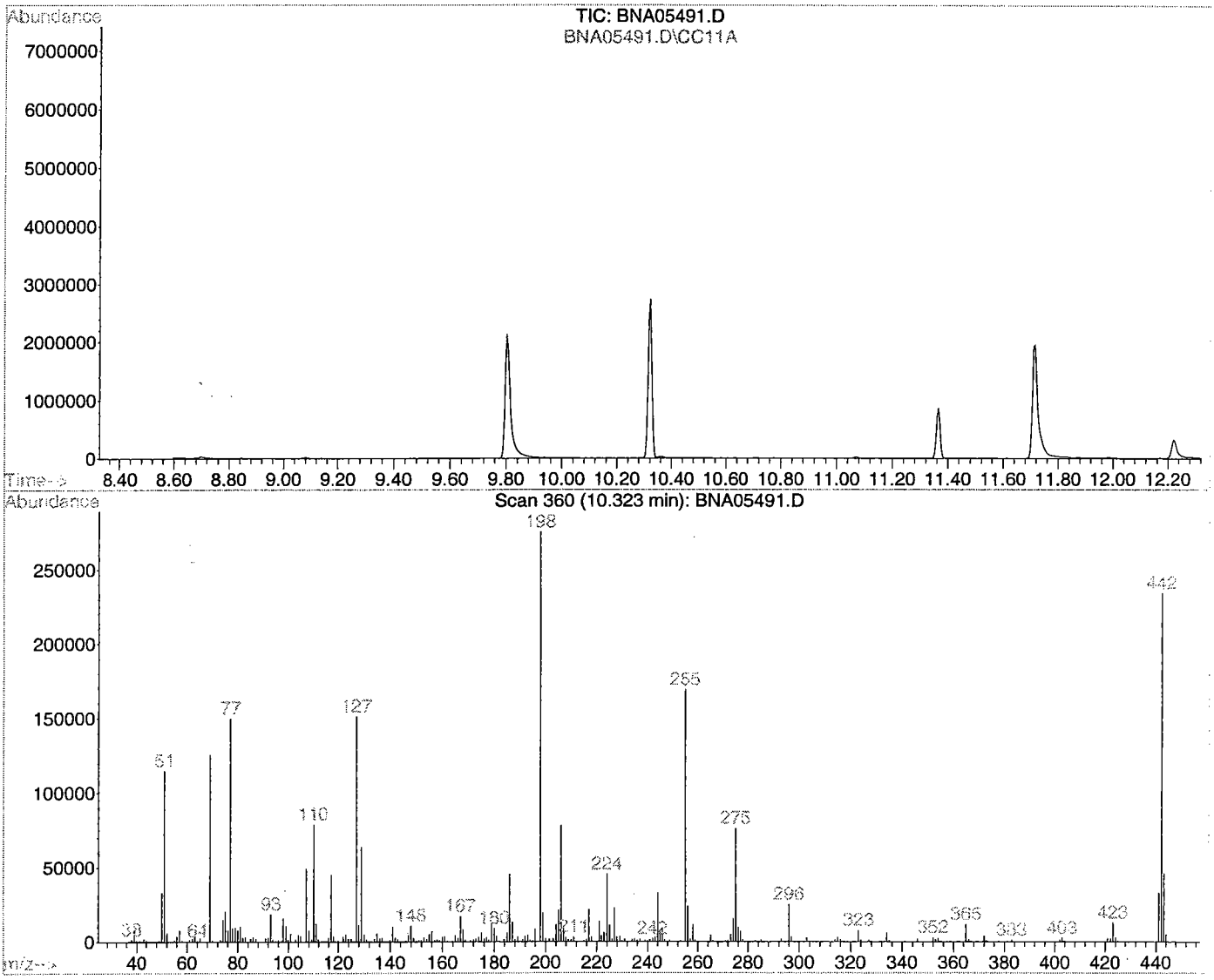
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	41.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	45.7
70	Less than 2.0% of mass 69	0.4 (0.8)1
127	25.0 - 75.0% of mass 198	54.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	27.6
365	Greater than 0.75% of mass 198	4.2
441	Present, but less than mass 443	11.9
442	40.0 - 110.0% of mass 198	84.9
443	15.0 - 24.0% of mass 442	16.7 (19.7)2

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

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	SSTD050	BNA05492.D	6/25/01	8:34
02	MB 1900	MB 1900	BNA05515.D	6/26/01	1:44
03	LCS 1901	LCS 1901	BNA05516.D	6/26/01	2:27
04	164	1617601	BNA05517.D	6/26/01	3:11
05	FB	1618502	BNA05518.D	6/26/01	3:54
06	2235	1618503	BNA05519.D	6/26/01	4:38
07	FB	1618702	BNA05520.D	6/26/01	5:21
08	1102	1618709	BNA05521.D	6/26/01	6:05

Data File : D:\DATA\010625\BNA05491.D Vial: 99
Acq On : 25 Jun 2001 8:12 am Operator: Skelton
Sample : DFTPP Tune Inst : GC/MS Ins
Misc : DFTPP Tune Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262546.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 360

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

Evaluate Continuing Calibration Report

Data File : D:\DATA\010625\BNA05492.D Vial: 100
Acq On : 25 Jun 2001 8:34 am Operator: Skelton
Sample : Sstd050 Inst : GC/MS Ins
Misc : Sstd050 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

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

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	52	-0.05
2	T	Pyridine	1.435	1.220	15.0	45#	-0.02
3	T	N-nitroso-dimethylamine	0.750	0.640	14.7	45#	-0.02
4	S	2-Fluorophenol	1.137	1.104	2.9	51	0.04
5	T	Aniline	1.852	1.907	-3.0	53	-0.03
6	S	Phenol-d6	1.434	1.477	-3.0	54	0.04
7	TCM	Phenol	1.658	1.443	13.0	45#	0.04
8	T	bis(2-Chloroethyl)ether	1.201	1.180	1.7	52	-0.04
9	TM	2-Chlorophenol	1.170	1.219	-4.2	54	0.00
10	T	1,3-Dichlorobenzene	1.276	1.395	-9.3	57	-0.05
11	TCM	1,4-Dichlorobenzene	1.304	1.451	-11.3	58	-0.05
12	T	Benzyl alcohol	0.762	0.798	-4.7	54	-0.02
13	T	1,2-Dichlorobenzene	1.194	1.341	-12.3	59	-0.05
14	T	2-Methylphenol	1.077	1.165	-8.2	56	0.02
15	T	bis(2-chloroisopropyl)ether	1.235	1.121	9.2	48#	-0.05
16	T	4-Methylphenol	1.126	1.222	-8.5	56	0.02
17	TPM	n-Nitroso-di-n-propylamine	0.191	0.210	-9.9	56	-0.04
18	T	Hexachloroethane	0.498	0.605	-21.5	63	-0.05
19	I	Naphthalene-d8	1.000	1.000	0.0	59	-0.05
20	S	Nitrobenzene-d5	0.402	0.423	-5.2	62	-0.04
21	T	Nitrobenzene	0.403	0.414	-2.7	61	-0.04
22	T	Isophorone	0.676	0.691	-2.2	61	-0.04
23	TC	2-Nitrophenol	0.184	0.177	3.8	56	-0.04
24	T	2,4-Dimethylphenol	0.339	0.366	-8.0	64	0.00
25	T	bis(2-Chloroethoxy)methane	0.399	0.374	6.3	55	-0.05
26	TC	2,4-Dichlorophenol	0.235	0.238	-1.3	56	0.00
27	T	Benzoic Acid	0.226	0.179	20.8	48#	0.02
28	TM	1,2,4-Trichlorobenzene	0.287	0.309	-7.7	63	-0.05
29	T	Naphthalene	0.942	0.994	-5.5	62	-0.05
30	T	4-Chloroaniline	0.379	0.338	10.8	51	-0.03
31	TC	Hexachlorobutadiene	0.159	0.197	-23.9	73	-0.05
32	TCM	4-Chloro-3-methylphenol	0.289	0.313	-8.3	63	0.02
33	T	2-Methylnaphthalene	0.612	0.664	-8.5	64	-0.05
34	I	Acenaphthene-d10	1.000	1.000	0.0	66	-0.05
35	TP	Hexachlorocyclopentadiene	0.230	0.222	3.5	58	-0.05
36	TC	2,4,6-Trichlorophenol	0.314	0.328	-4.5	68	-0.03
37	T	2,4,5-Trichlorophenol	0.332	0.341	-2.7	65	0.02
38	S	2-Fluorobiphenyl	1.113	1.177	-5.8	69	-0.05
39	T	2-Chloronaphthalene	0.961	0.968	-0.7	66	-0.05
40	T	2-Nitroaniline	0.363	0.333	8.3	59	-0.03
41	T	Dimethylphthalate	1.097	1.171	-6.7	70	-0.05
42	T	Acenaphthylene	1.553	1.645	-5.9	69	-0.05
43	T	2,6-Dinitrotoluene	0.281	0.333	-18.5	77	-0.05
44	T	3-Nitroaniline	0.280	0.279	0.4	64	-0.02
45	TCM	Acenaphthene	0.980	1.017	-3.8	68	-0.05
46	TP	2,4-Dinitrophenol	0.149	0.142	4.7	58	-0.03
47	T	Dibenzofuran	1.326	1.380	-4.1	68	-0.05
48	TMP	4-Nitrophenol	0.205	0.193	5.9	64	0.10
49	TM	2,4-Dinitrotoluene	0.359	0.363	-1.1	66	-0.04
50	T	Diethylphthalate	1.113	1.256	-12.8	74	-0.05
51	T	Fluorene	1.107	1.178	-6.4	70	-0.05
52	T	4-Chlorophenyl-phenylether	0.529	0.584	-10.4	72	-0.05
53	T	4-Nitroaniline	0.290	0.260	10.3	59	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010625\BNA05492.D Vial: 100
Acq On : 25 Jun 2001 8:34 am Operator: Skelton
Sample : Sstd050 Inst : GC/MS Ins
Misc : Sstd050 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

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

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	I	Phenanthrene-d10	1.000	1.000	0.0	76	-0.05
55	T	4,6-Dinitro-2-methylphenol	0.133	0.115	13.5	64	-0.04
56	TC	n-Nitrosodiphenylamine	0.473	0.426	9.9	69	-0.05
57	T	Azobenzene	0.812	0.751	7.5	70	-0.05
58	S	2,4,6-Tribromophenol	0.090	0.088	2.2	74	-0.04
59	T	4-Bromophenyl-phenylether	0.182	0.174	4.4	73	-0.05
60	T	Hexachlorobenzene	0.196	0.191	2.6	76	-0.05
61	TCM	Pentachlorophenol	0.116	0.105	9.5	66	-0.03
62	T	Phenanthrene	0.973	0.915	6.0	72	-0.05
63	T	Anthracene	0.989	0.925	6.5	71	-0.05
64	T	Di-n-butylphthalate	1.096	1.084	1.1	75	-0.05
65	TC	Fluoranthene	1.019	0.998	2.1	75	-0.05
66	I	Chrysene-d12	1.000	1.000	0.0	91	-0.06
67	T	Benzidine	0.396	0.317	19.9	73	-0.04
68	TM	Pyrene	1.159	0.959	17.3	75	-0.06
69	S	p-Terphenyl-d14	0.797	0.701	12.0	80	-0.05
70	T	Butylbenzylphthalate	0.569	0.488	14.2	77	-0.05
71	T	Benzo[a]anthracene	1.092	0.961	12.0	80	-0.06
72	T	3,3'-Dichlorobenzidine	0.354	0.375	-5.9	96	-0.05
73	T	Chrysene	1.037	0.913	12.0	80	-0.06
74	T	bis(2-Ethylhexyl)phthalate	0.779	0.681	12.6	78	-0.06
75	I	Perylene-d12	1.000	1.000	0.0	80	-0.06
76	TC	Di-n-octylphthalate	1.345	1.373	-2.1	78	-0.07
77	T	Benzo[b]fluoranthene	1.114	1.073	3.7	76	-0.06
78	T	Benzo[k]fluoranthene	1.115	1.106	0.8	79	-0.06
79	TC	Benzo[a]pyrene	1.073	1.024	4.6	76	-0.06
80	T	Indeno[1,2,3-cd]pyrene	1.086	0.958	11.8	70	-0.09
81	T	Dibenz[a,h]anthracene	1.104	0.967	12.4	69	-0.09
82	T	Benzo[g,h,i]perylene	1.096	0.891	18.7	65	-0.10

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Field Id: **MB 1900**

Lab Name: FMETL Lab Code 13461

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

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

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

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

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

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

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

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

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

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

QC LIMITS

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA05516.D** Sample Name **LCS 1901**

Date Acquired **26-Jun-01**

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

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

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

Date Acquired **12-Jun-01**

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

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

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

Date Acquired **12-Jun-01**

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

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

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

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

Instrument ID: GC_BNA_2 Time Analyzed: 8:34

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

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

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

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

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

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

Instrument ID: GC_BNA_2 Time Analyzed: 08:34

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\010625\BNA05515.D Vial: 35
Acq On : 26 Jun 2001 1:44 am Operator: Skelton
Sample : MB 1900 Inst : GC/MS Ins
Misc : 6/18/2001 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 2:19 2001 Quant Results File: M262546.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.08	152	457167	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1791808	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1036373	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	1921708	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	1937110	40.00	ug/L	-0.07
75) Perylene-d12	30.49	264	1399062	40.00	ug/L	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	7.41	112	536209	41.25	ug/L	0.05
Spiked Amount 100.000	Range 21 - 100		Recovery = 41.25%			
6) Phenol-d6	9.51	99	357612	21.82	ug/L	0.08
Spiked Amount 100.000	Range 10 - 94		Recovery = 21.82%			
20) Nitrobenzene-d5	11.41	82	480936	26.73	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery = 53.46%			
38) 2-Fluorobiphenyl	15.64	172	891367	30.91	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery = 61.82%			
58) 2,4,6-Tribromophenol	19.19	330	273826	63.22	ug/L	-0.04
Spiked Amount 100.000	Range 10 - 123		Recovery = 63.22%			
69) p-Terphenyl-d14	24.77	244	1231766	31.93	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery = 63.86%			

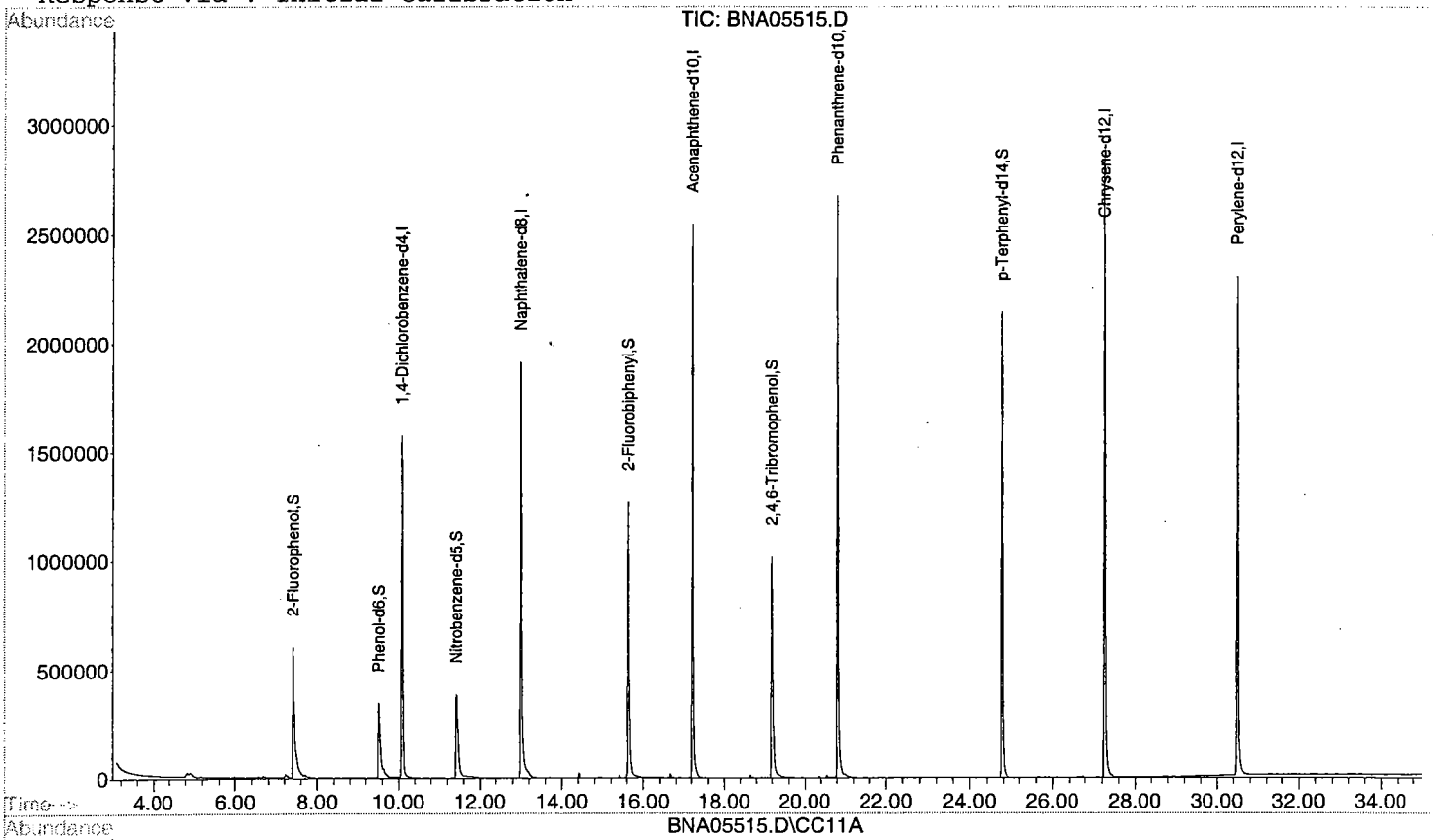
Target Compounds Qvalue

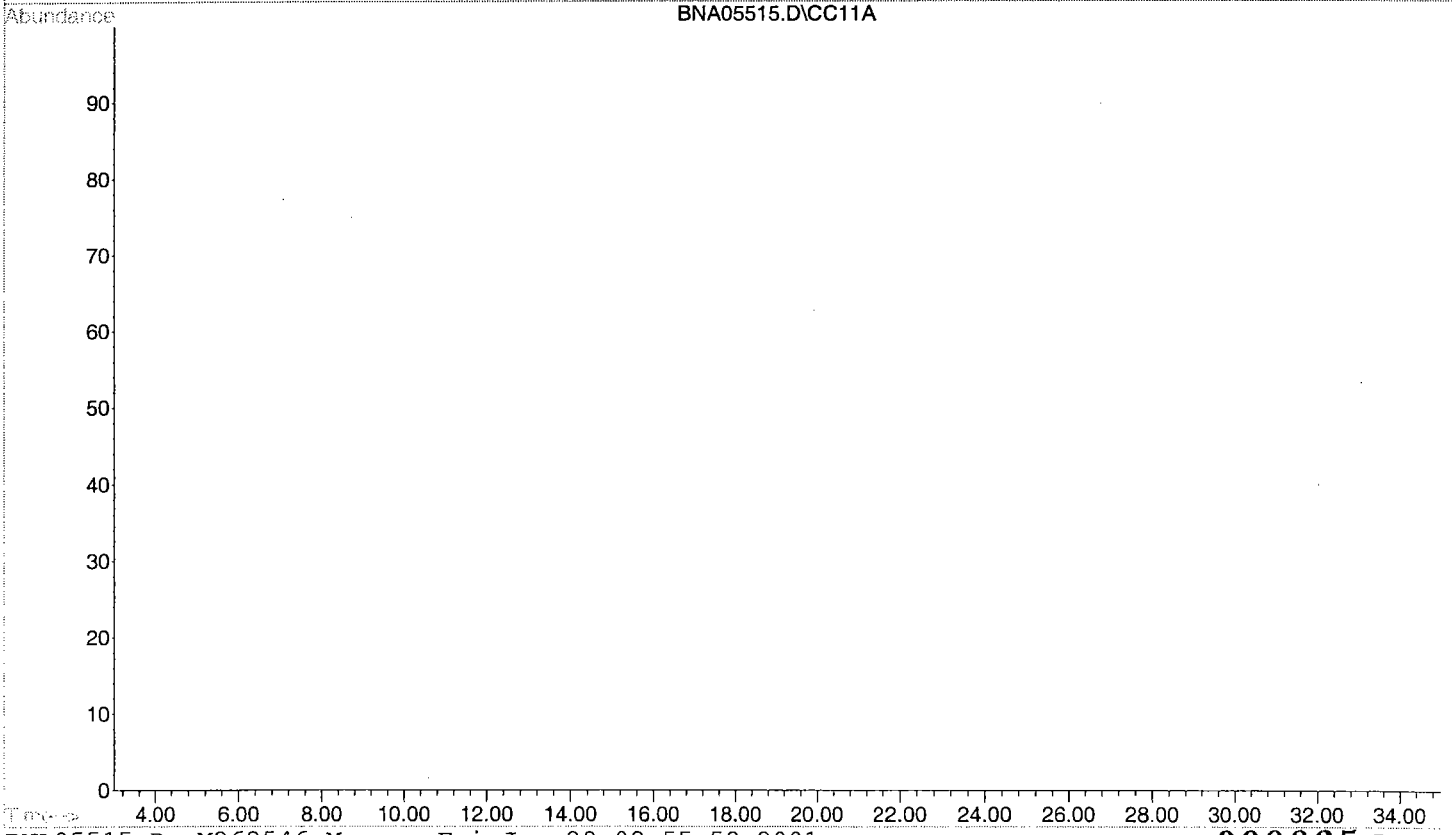
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\DATA\010625\BNA05515.D Vial: 35
Acq On : 26 Jun 2001 1:44 am Operator: Skelton
Sample : MB 1900 Inst : GC/MS Ins
Misc : 6/18/2001 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 2:19 2001 Quant Results File: M262546.RES

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





Quantitation Report (QT Reviewed)

Data File : D:\DATA\010625\BNA05520.D Vial: 40
Acq On : 26 Jun 2001 5:21 am Operator: Skelton
Sample : 1618702 Inst : GC/MS Ins
Misc : FB Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 5:56 2001 Quant Results File: M262546.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.08	152	441101	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1647300	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	985747	40.00	ug/L	-0.06
54) Phenanthrene-d10	20.82	188	1847638	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	1898851	40.00	ug/L	-0.07
75) Perylene-d12	30.49	264	1378140	40.00	ug/L	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.43	82	437635	26.45	ug/L	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	52.90%		
38) 2-Fluorobiphenyl	15.64	172	860520	31.37	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery =	62.74%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.77	244	559951	14.81	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery =	29.62%#		

Target Compounds Qvalue

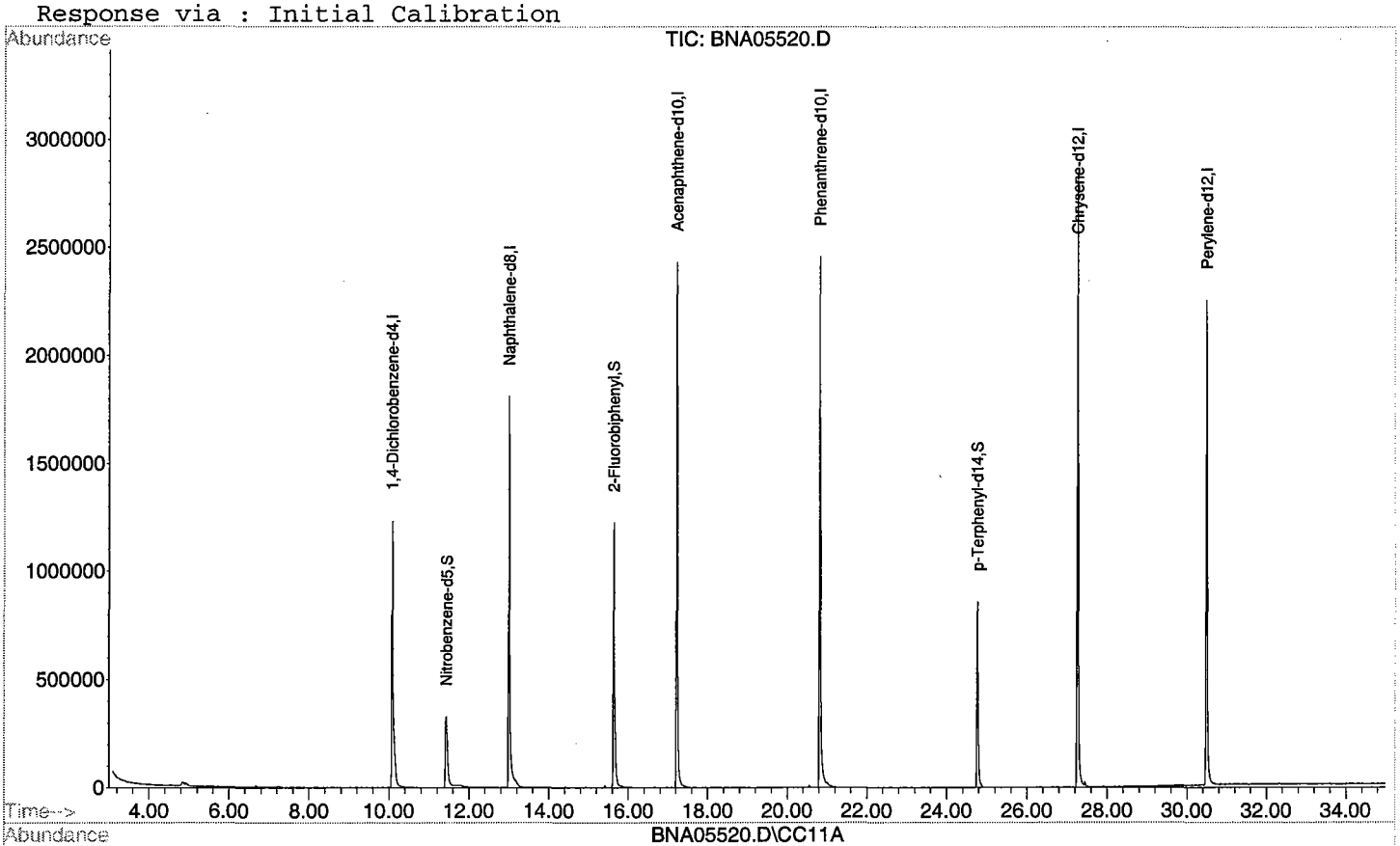
(#) = qualifier out of range (m) = manual integration

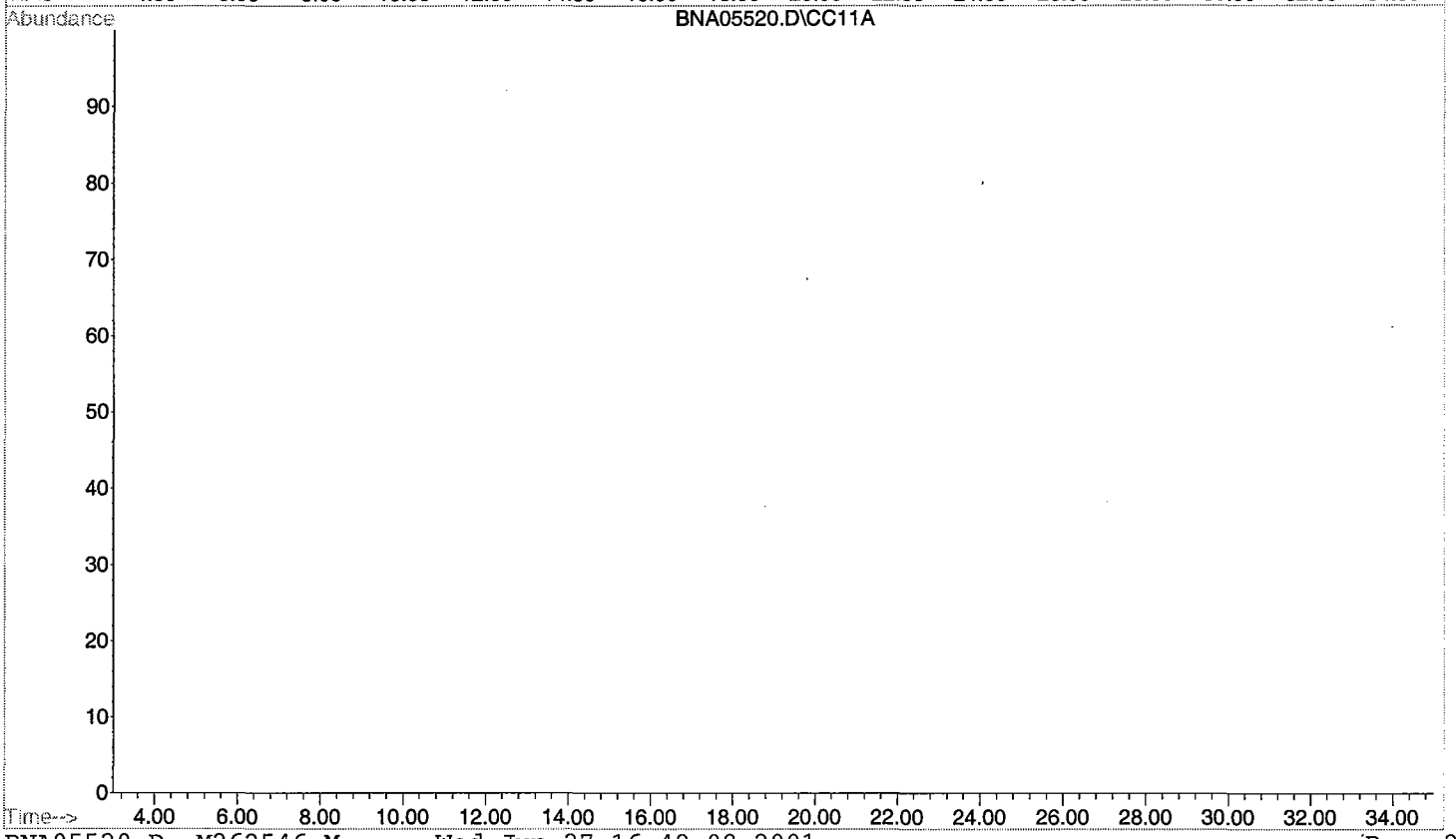
Quantitation Report

Data File : D:\DATA\010625\BNA05520.D
Acq On : 26 Jun 2001 5:21 am
Sample : 1618702
Misc : FB
MS Integration Params: RTEINT.P
Quant Time: Jun 26 5:56 2001

Vial: 40
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

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





Quantitation Report (QT Reviewed)

Data File : D:\DATA\010625\BNA05521.D Vial: 41
Acq On : 26 Jun 2001 6:05 am Operator: Skelton
Sample : 1618709 Inst : GC/MS Ins
Misc : 1102 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Jun 26 6:40 2001 Quant Results File: M262546.RES

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

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.08	152	474649	40.00	ug/L	-0.04
19) Naphthalene-d8	13.00	136	1871975	40.00	ug/L	-0.05
34) Acenaphthene-d10	17.23	164	1087714	40.00	ug/L	-0.05
54) Phenanthrene-d10	20.82	188	2050428	40.00	ug/L	-0.06
66) Chrysene-d12	27.27	240	2074896	40.00	ug/L	-0.07
75) Perylene-d12	30.50	264	1524804	40.00	ug/L	-0.07
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.41	82	485214	25.81	ug/L	-0.02
Spiked Amount 50.000	Range 35 - 114		Recovery =	51.62%		
38) 2-Fluorobiphenyl	15.64	172	959052	31.69	ug/L	-0.05
Spiked Amount 50.000	Range 43 - 116		Recovery =	63.38%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.76	244	810397	19.61	ug/L	-0.06
Spiked Amount 50.000	Range 33 - 141		Recovery =	39.22%		
Target Compounds						Qvalue
50) Diethylphthalate	18.45	149	39555	1.31	ug/L	97

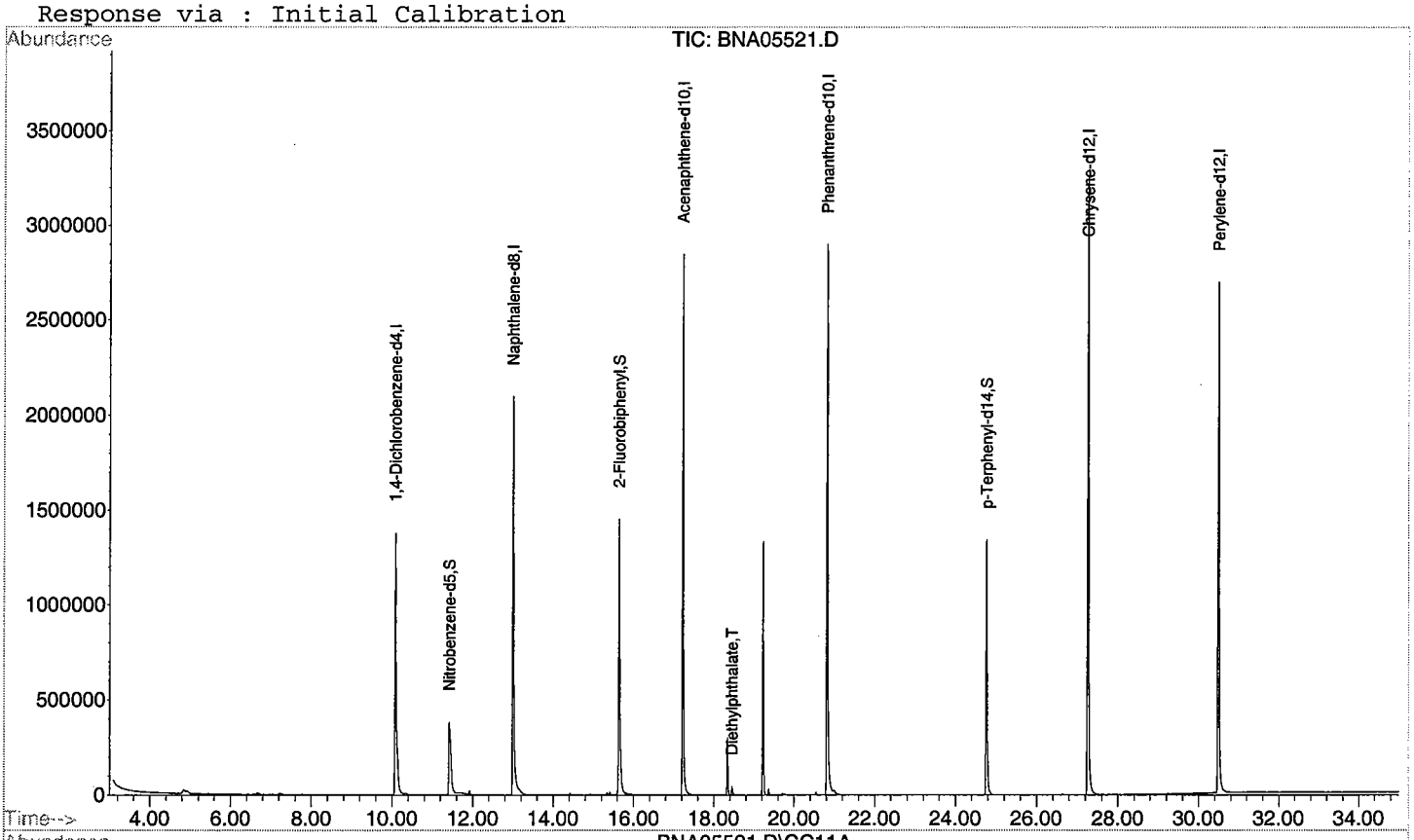
(#) = qualifier out of range (m) = manual integration

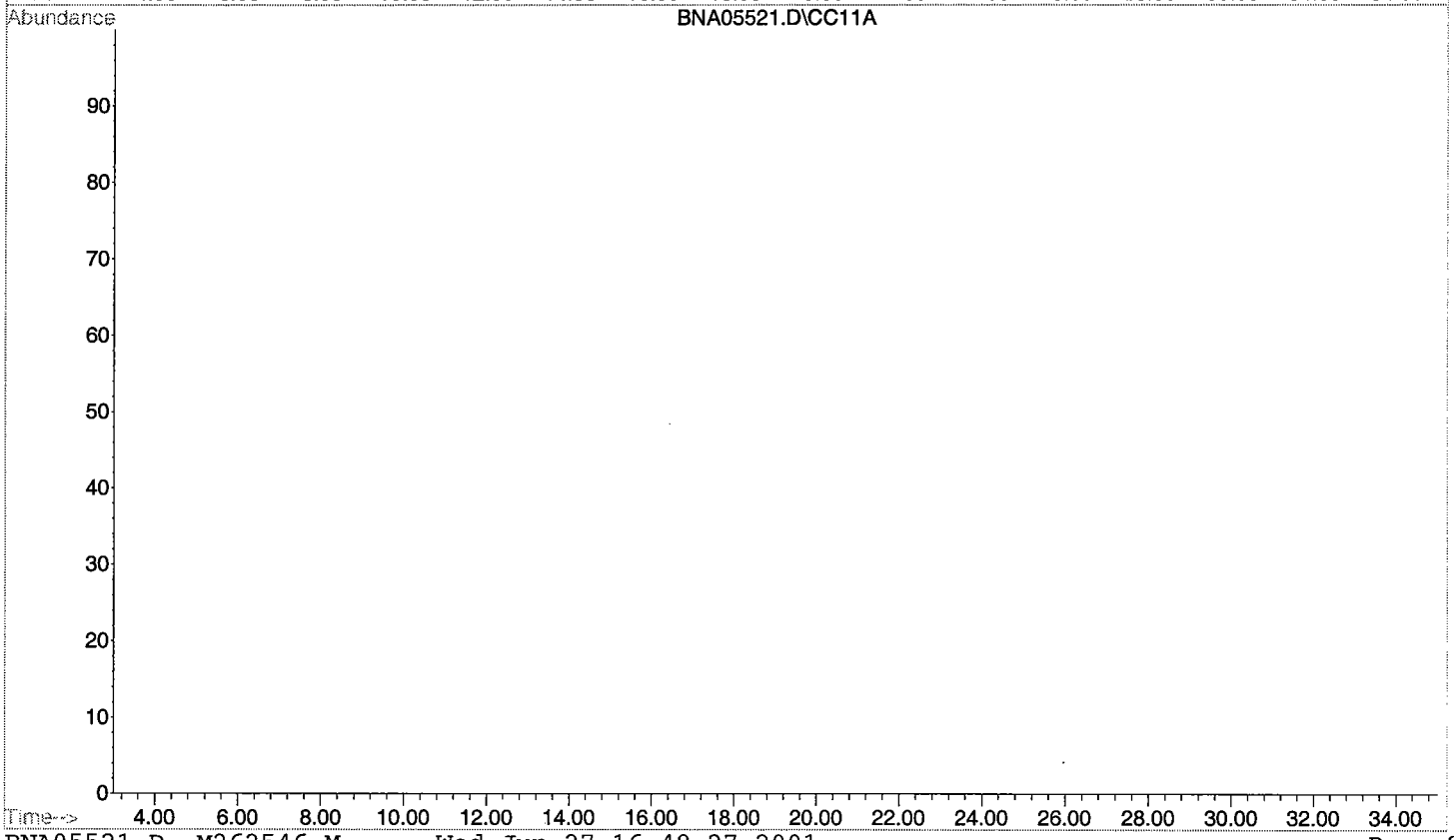
Quantitation Report

Data File : D:\DATA\010625\BNA05521.D
Acq On : 26 Jun 2001 6:05 am
Sample : 1618709
Misc : 1102
MS Integration Params: RTEINT.P
Quant Time: Jun 26 6:40 2001

Vial: 41
Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00
GC Integration Params: rteint2.p
Quant Results File: M262546.RES

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





TPHC

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

Client :	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project # :**	16187
		Location :	Bldg1102
		UST Reg. # :	

Analysis :	OQA-QAM-025	**Date Received :**	13-Jun-01
Matrix :	Soil	**Date Extracted :**	18-Jun-01
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	18-Jun-01
Injection Volume :	1uL	**Analyst :**	Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1618703	1102-1	**1.00**	15.24	86.84	178	**ND**
1618704	1102-2	**1.00**	16.18	81.17	179	**ND**
1618705	1102-3	**1.00**	25.09	81.80	115	**ND**
1618706	1102-4	**1.00**	15.06	78.60	199	**ND**
1618707	1102-5	**1.00**	14.97	80.61	195	**ND**
1618708	FD	**1.00**	15.17	86.06	180	**ND**
METHOD BLANK	MB-1908	**1.00**	15.00	100.00	157	**ND**
METHOD BLANK	MB-1916	**1.00**	15.00	100.00	157	**ND**

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001

Calibration Files
200 =T013081.D 100 =T013082.D 50 =T013083.D
20 =T013084.D 10 =T013085.D 5 =T013086.D

		Compound	200	100	50	20	10	5	Avg		%RSD
1)	tC	C8	1.912	1.920	1.914	1.819	1.721	1.757	1.840	E4	4.77
2)	tC	C10	2.206	2.226	2.156	2.028	1.927	1.695	2.040	E4	9.98
3)	TC	C12	2.391	2.417	2.394	2.381	2.223	2.409	2.369	E4	3.07
4)	tC	C14	2.493	2.539	2.492	2.549	2.413	2.329	2.469	E4	3.40
5)	tC	C16	2.548	2.602	2.579	2.636	2.546	2.661	2.595	E4	1.80
6)	tC	C18	2.392	2.552	2.432	2.589	2.265	2.006	2.373	E4	9.02
7)	tC	C20	2.635	2.690	2.665	2.686	2.541	2.481	2.616	E4	3.29
8)	tC	C22	2.732	2.789	2.780	2.854	2.780	2.936	2.812	E4	2.57
9)	tC	C24	2.768	2.823	2.815	2.880	2.813	2.937	2.839	E4	2.11
10)	tC	C26	2.782	2.839	2.833	2.897	2.847	2.994	2.865	E4	2.55
11)	tC	C28	2.794	2.848	2.838	2.893	2.814	2.915	2.851	E4	1.62
12)	tC	C30	2.919	2.955	2.943	2.962	2.874	2.936	2.931	E4	1.08
13)	tC	C32	2.850	2.890	2.883	2.903	2.817	2.903	2.874	E4	1.19
14)	tC	C34	2.789	2.828	2.812	2.813	2.715	2.809	2.794	E4	1.47
15)	tC	C36	2.452	2.495	2.473	2.456	2.332	2.367	2.429	E4	2.66
16)	tC	C38	1.830	1.876	1.848	1.812	1.674	1.677	1.786	E4	4.96
17)	tC	C40	1.131	1.166	1.131	1.087	0.970	0.980	1.077	E4	7.75
18)	tC	c42	7.582	7.846	7.431	6.759	5.911	5.538	6.845	E3	13.82
19)	TC	Pristane	2.657	2.671	2.668	2.845	2.911	3.125	2.813	E4	6.63
20)	TC	Phytane	2.707	2.788	2.793	2.935	2.958	3.170	2.892	E4	5.75
21)	sC	o-terphenyl	2.962	3.020	3.012	3.096	3.040	3.165	3.049	E4	2.35
22)	tC	TPHC - total	2.746	2.758	2.861	3.048	3.223	3.872	3.085	E4	13.84

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010618\T013088.D Vial: 100
Acq On : 18 Jun 2001 8:39 am Operator: Skelton
Sample : Tstd050s Inst : GC/MS Ins
Misc : Tstd050s Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.405	19.704 E3	-7.1	103	0.00
2	tC	C10	20.397	22.886 E3	-12.2	106	0.00
3	TC	C12	23.689	25.256 E3	-6.6	106	0.00
4	tC	C14	24.693	26.603 E3	-7.7	107	0.00
5	tC	C16	25.954	27.551 E3	-6.2	107	0.00
6	tC	C18	23.728	27.995 E3	-18.0	115	0.00
7	tC	C20	26.164	27.957 E3	-6.9	105	0.00
8	tC	C22	28.117	29.801 E3	-6.0	107	0.00
9	tC	C24	28.392	30.106 E3	-6.0	107	0.00
10	tC	C26	28.655	30.295 E3	-5.7	107	0.00
11	tC	C28	28.505	30.328 E3	-6.4	107	0.00
12	tC	C30	29.314	31.378 E3	-7.0	107	0.00
13	tC	C32	28.742	30.632 E3	-6.6	106	0.00
14	tC	C34	27.943	30.101 E3	-7.7	107	0.00
15	tC	C36	24.291	27.115 E3	-11.6	110	0.00
16	tC	C38	17.862	20.730 E3	-16.1	112	0.00
17	tC	C40	10.774	12.641 E3	-17.3	112	0.00
18	tC	c42	6.845	7.942 E3	-16.0	107	0.00
19	TC	Pristane	28.129	29.623 E3	-5.3	111	0.00
20	TC	Phytane	28.918	29.829 E3	-3.2	107	0.00
21	sC	o-terphenyl	30.493	32.073 E3	-5.2	106	0.00
22	tC	TPHC - total	30.846	30.813 E3	0.1	108	-1.22#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010618\T013121.D Vial: 33
Acq On : 19 Jun 2001 8:07 am Operator: Skelton
Sample : Tstd050s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.405	19.365 E3	-5.2	101	0.01
2	tC	C10	20.397	23.028 E3	-12.9	107	0.00
3	TC	C12	23.689	25.154 E3	-6.2	105	0.00
4	tC	C14	24.693	26.498 E3	-7.3	106	0.00
5	tC	C16	25.954	27.400 E3	-5.6	106	0.00
6	tC	C18	23.728	27.676 E3	-16.6	114	0.00
7	tC	C20	26.164	28.217 E3	-7.8	106	0.00
8	tC	C22	28.117	29.382 E3	-4.5	106	0.00
9	tC	C24	28.392	29.724 E3	-4.7	106	0.00
10	tC	C26	28.655	29.810 E3	-4.0	105	0.00
11	tC	C28	28.505	29.725 E3	-4.3	105	0.00
12	tC	C30	29.314	30.686 E3	-4.7	104	0.00
13	tC	C32	28.742	29.980 E3	-4.3	104	0.00
14	tC	C34	27.943	29.540 E3	-5.7	105	0.00
15	tC	C36	24.291	27.026 E3	-11.3	109	0.00
16	tC	C38	17.862	21.635 E3	-21.1	117	0.00
17	tC	C40	10.774	14.395 E3	-33.6#	127	0.00
18	tC	c42	6.845	10.445 E3	-52.6#	141	0.00
19	TC	Pristane	28.129	29.406 E3	-4.5	110	0.00
20	TC	Phytane	28.918	29.816 E3	-3.1	107	0.00
21	sC	o-terphenyl	30.493	31.959 E3	-4.8	106	0.00
22	tC	TPHC - total	30.846	30.534 E3	1.0	107	-0.27

(#) = Out of Range SPCC's out = 0 CCC's out = 2
T013121.D TPH87.M Wed Jun 20 15:10:37 2001

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010618\T013129.D Vial: 33
Acq On : 19 Jun 2001 12:32 pm Operator: Skelton
Sample : Tstd050s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)
1	tC	C8	18.405	19.725	E3	-7.2	103	-0.01
2	tC	C10	20.397	24.264	E3	-19.0	113	0.00
3	TC	C12	23.689	26.793	E3	-13.1	112	0.00
4	tC	C14	24.693	27.843	E3	-12.8	112	0.00
5	tC	C16	25.954	28.539	E3	-10.0	111	0.00
6	tC	C18	23.728	26.580	E3	-12.0	109	0.00
7	tC	C20	26.164	29.644	E3	-13.3	111	0.00
8	tC	C22	28.117	30.711	E3	-9.2	110	0.00
9	tC	C24	28.392	31.125	E3	-9.6	111	0.00
10	tC	C26	28.655	31.322	E3	-9.3	111	0.00
11	tC	C28	28.505	31.216	E3	-9.5	110	0.00
12	tC	C30	29.314	32.289	E3	-10.1	110	0.00
13	tC	C32	28.742	31.594	E3	-9.9	110	0.00
14	tC	C34	27.943	31.099	E3	-11.3	111	0.00
15	tC	C36	24.291	28.417	E3	-17.0	115	0.00
16	tC	C38	17.862	22.701	E3	-27.1#	123	0.00
17	tC	C40	10.774	15.114	E3	-40.3#	134	0.00
18	tC	c42	6.845	10.910	E3	-59.4#	147	0.01
19	TC	Pristane	28.129	30.375	E3	-8.0	114	0.00
20	TC	Phytane	28.918	31.130	E3	-7.6	111	0.00
21	sC	o-terphenyl	30.493	33.448	E3	-9.7	111	0.00
22	tC	TPHC - total	30.846	32.828	E3	-6.4	115	-0.27

(#) = Out of Range SPCC's out = 0 CCC's out = 3

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

Client :	U.S. Army	**Project # :**	16187
	DPW. SELFM-PW-EV	**Location :**	Bldg1102
	Bldg. 173	**UST Reg. # :**	
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	13-Jun-01
Matrix:	Soil	**Date Extracted :**	18-Jun-01
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	18-Jun-01
Injection Volume :	1uL	**Analyst :**	Skelton

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1618703			10.00	14.71	**147.14**
1618704			10.00	7.35	**73.51**
1618705			10.00	7.17	**71.65**
1618706			10.00	7.61	**76.07**
1618707			10.00	14.80	**147.98**
1618708			10.00	7.14	**71.39**
METHOD BLANK	MB-1908		10.00	7.76	**77.64**
METHOD BLANK	MB-1916		10.00	7.69	**76.91**

Surrogate Added : **o-Terphenyl**

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

Client :	U.S. Army	**Project # :**	16187
	DPW. SELFM-PW-EV	**Location :**	Bldg1102
	Bldg. 173	**UST Reg. # :**	
	Ft. Monmouth, NJ 07703		
Analysis:	OQA-QAM-025	**Date Received :**	13-Jun-01
Matrix:	Soil	**Date Extracted :**	18-Jun-01
Inst. ID.	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	18-Jun-01
Injection Volume :	1uL	**Analyst :**	Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
MS-1918	1000	0.00	719.32	71.93	75-125
MSD-1919	1000	0.00	707.01	70.70	75-125
			RPD	**1.73**	**20.00**

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010618\T013089.D Vial: 1
Acq On : 18 Jun 2001 2:25 pm Operator: Skelton
Sample : MB 1908s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 15:28 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Initial Calibration
DataAcq Meth : TPH87.M

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

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	236761	7.764 mg/L m
Spiked Amount 10.000	Range 8 - 13	Recovery =	77.64%#
Target Compounds			

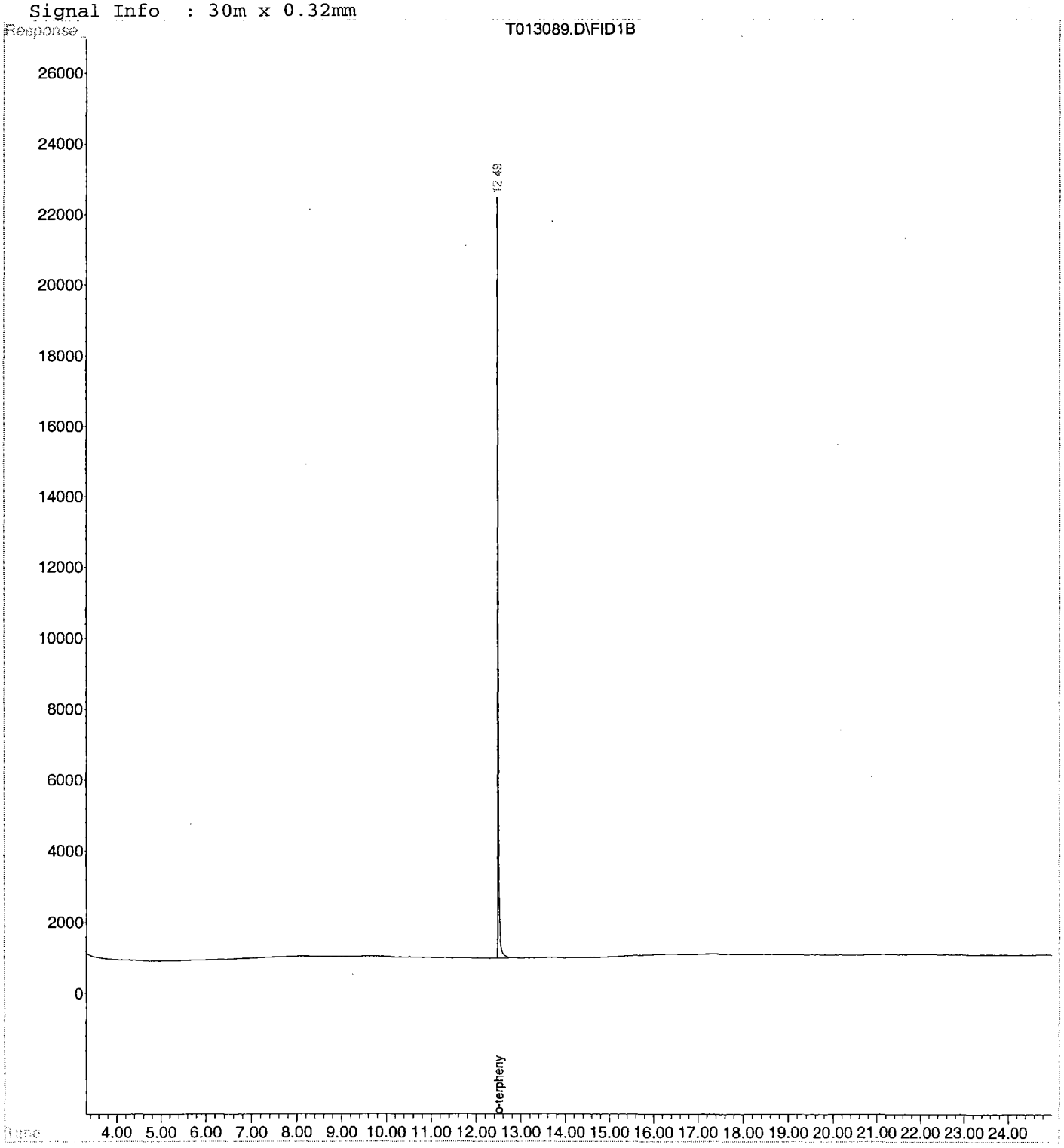
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010618\T013089.D Vial: 1
Acq On : 18 Jun 2001 2:25 pm Operator: Skelton
Sample : MB 1908s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 15:28 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH87.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\010618\T013112.D Vial: 24
Acq On : 19 Jun 2001 3:09 am Operator: Skelton
Sample : 1618703s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Initial Calibration
DataAcq Meth : TPH87.M

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

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	448668	14.714 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	147.14%#
Target Compounds			

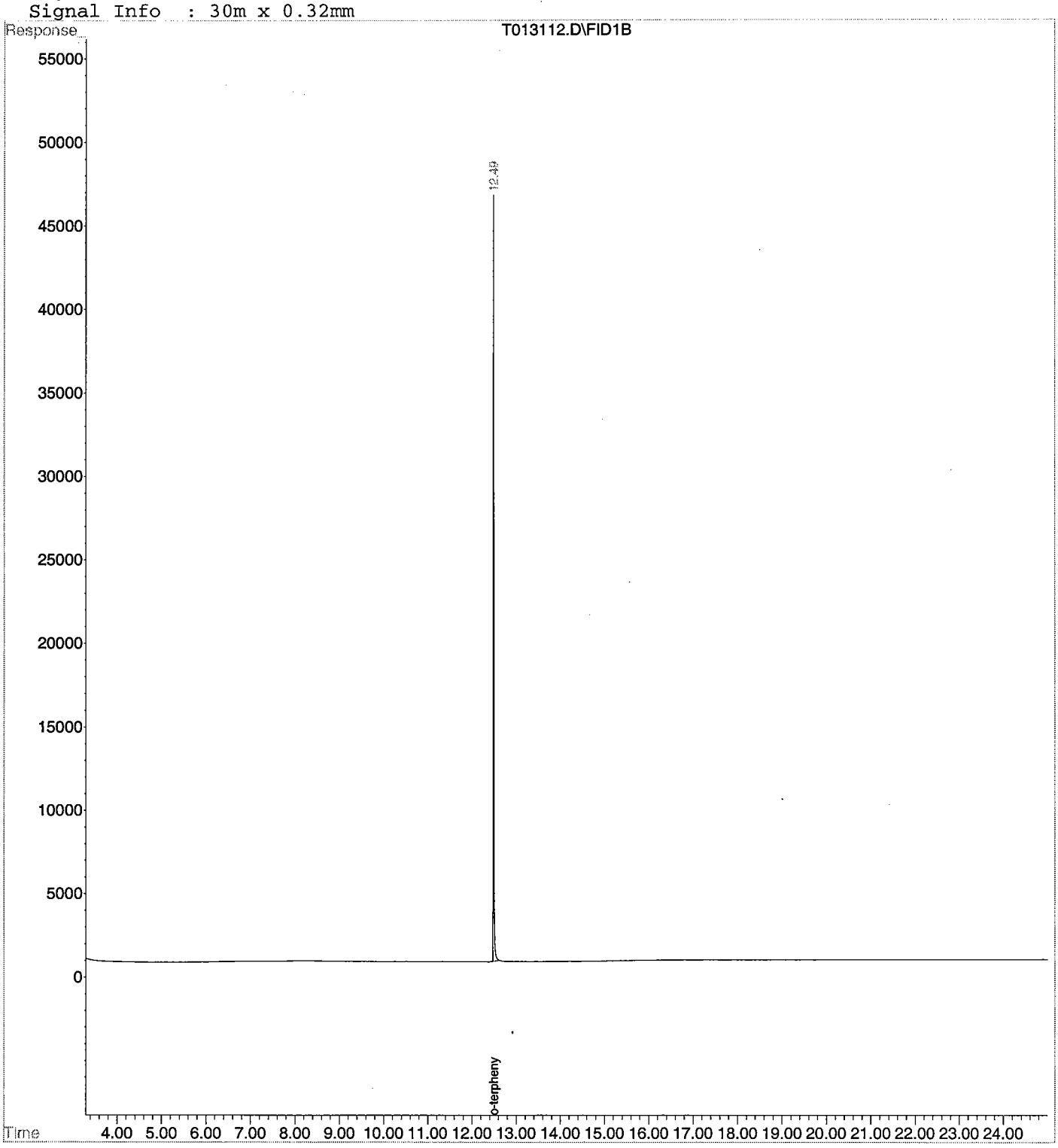
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010618\T013112.D Vial: 24
Acq On : 19 Jun 2001 3:09 am Operator: Skelton
Sample : 1618703s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH87.M

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



000081

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010618\T013113.D Vial: 25
Acq On : 19 Jun 2001 3:42 am Operator: Skelton
Sample : 1618704s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Initial Calibration
DataAcq Meth : TPH87.M

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

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	224142	7.351 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	73.51%#
Target Compounds			

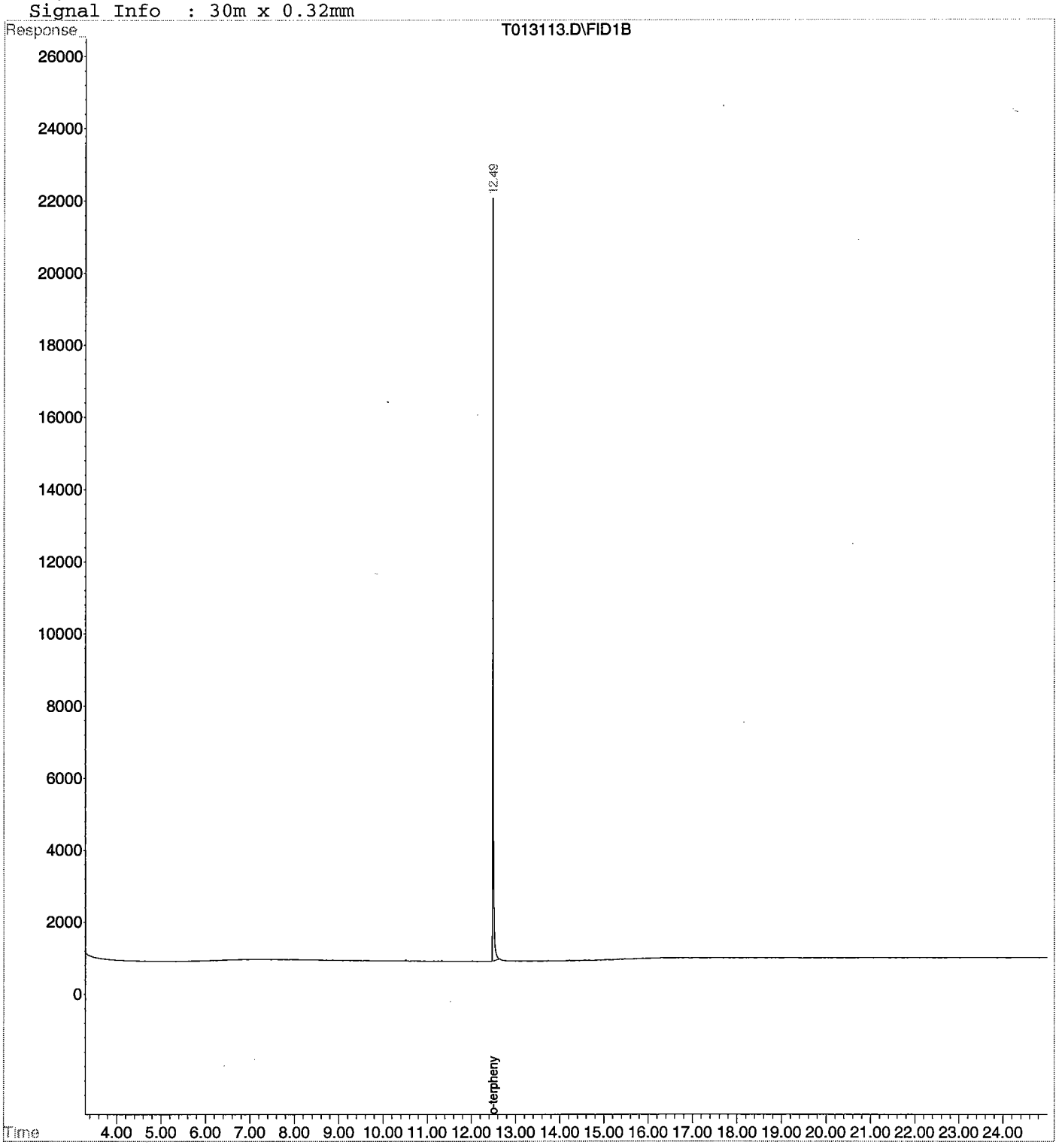
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010618\T013113.D Vial: 25
Acq On : 19 Jun 2001 3:42 am Operator: Skelton
Sample : 1618704s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH87.M

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



000083

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010618\T013114.D Vial: 26
Acq On : 19 Jun 2001 4:15 am Operator: Skelton
Sample : 1618705s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Initial Calibration
DataAcq Meth : TPH87.M

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

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	218485	7.165 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	71.65%#
Target Compounds			

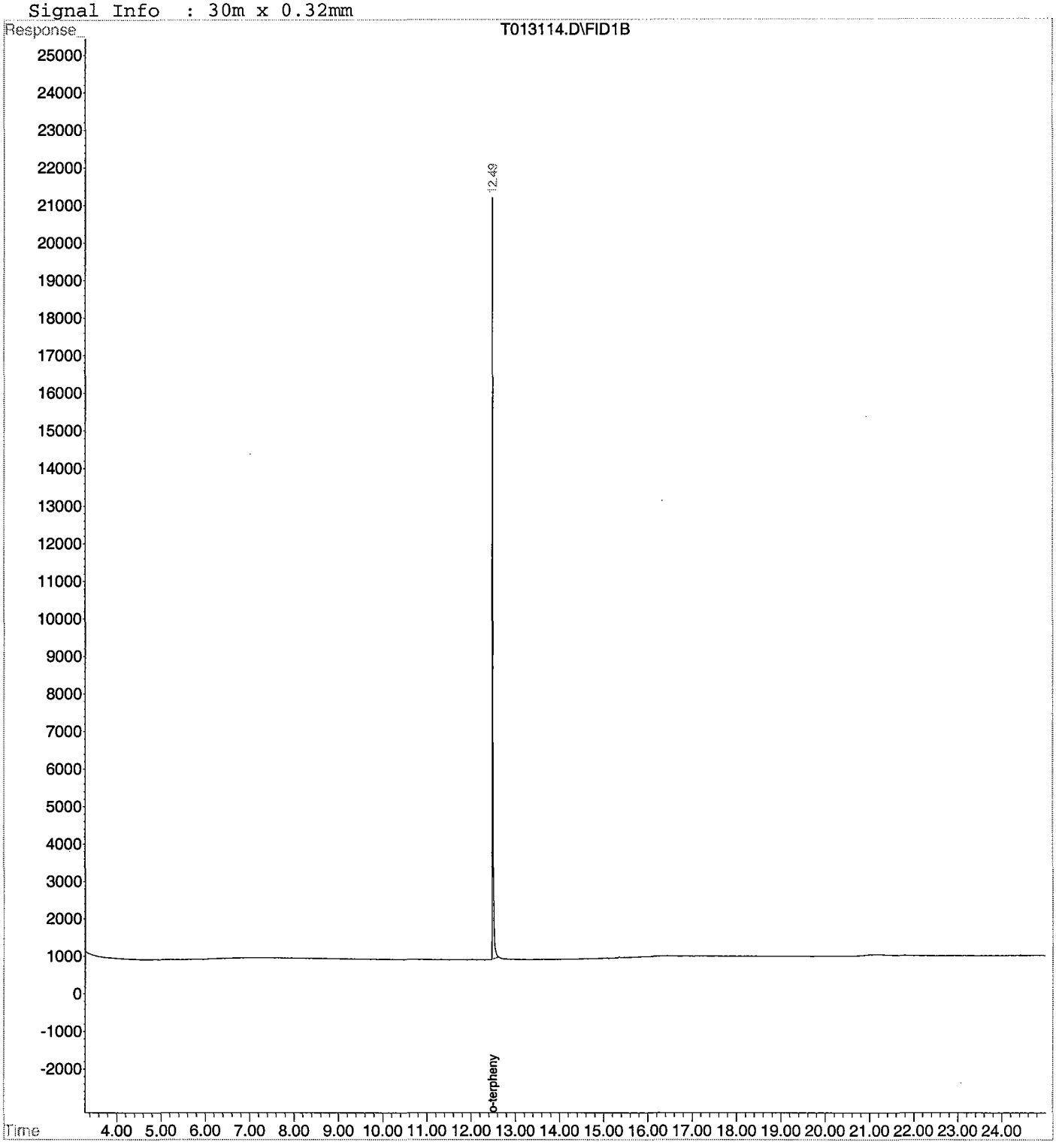
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010618\T013114.D Vial: 26
Acq On : 19 Jun 2001 4:15 am Operator: Skelton
Sample : 1618705s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH87.M

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



000085

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010618\T013115.D Vial: 27
Acq On : 19 Jun 2001 4:48 am Operator: Skelton
Sample : 1618706s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Initial Calibration
DataAcq Meth : TPH87.M

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

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	231958	7.607 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	76.07%#
Target Compounds			

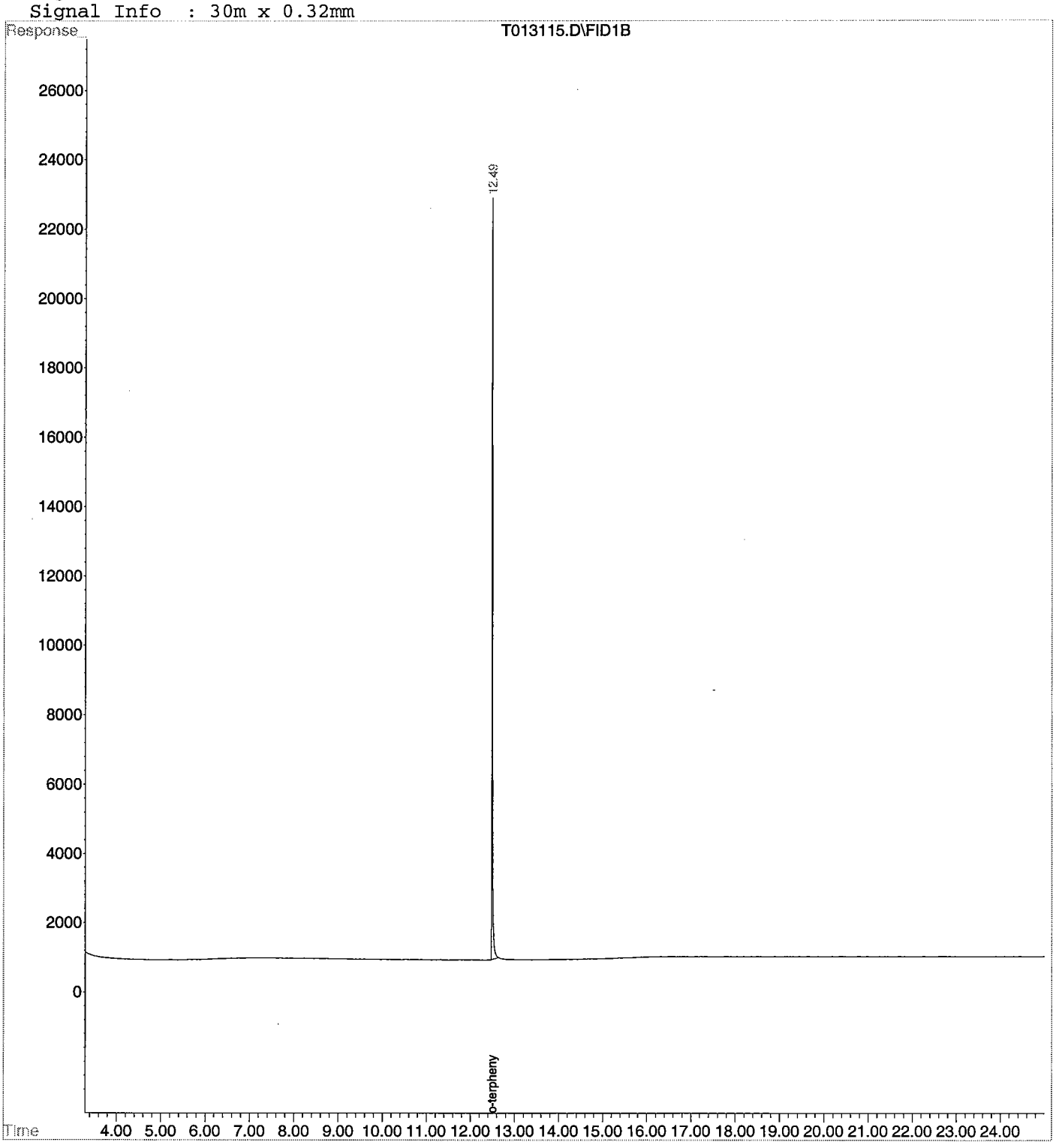
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010618\T013115.D Vial: 27
Acq On : 19 Jun 2001 4:48 am Operator: Skelton
Sample : 1618706s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH87.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\010618\T013116.D Vial: 28
Acq On : 19 Jun 2001 5:21 am Operator: Skelton
Sample : 1618707s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Initial Calibration
DataAcq Meth : TPH87.M

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

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	451222	14.798 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery = 147.98%#	
Target Compounds			

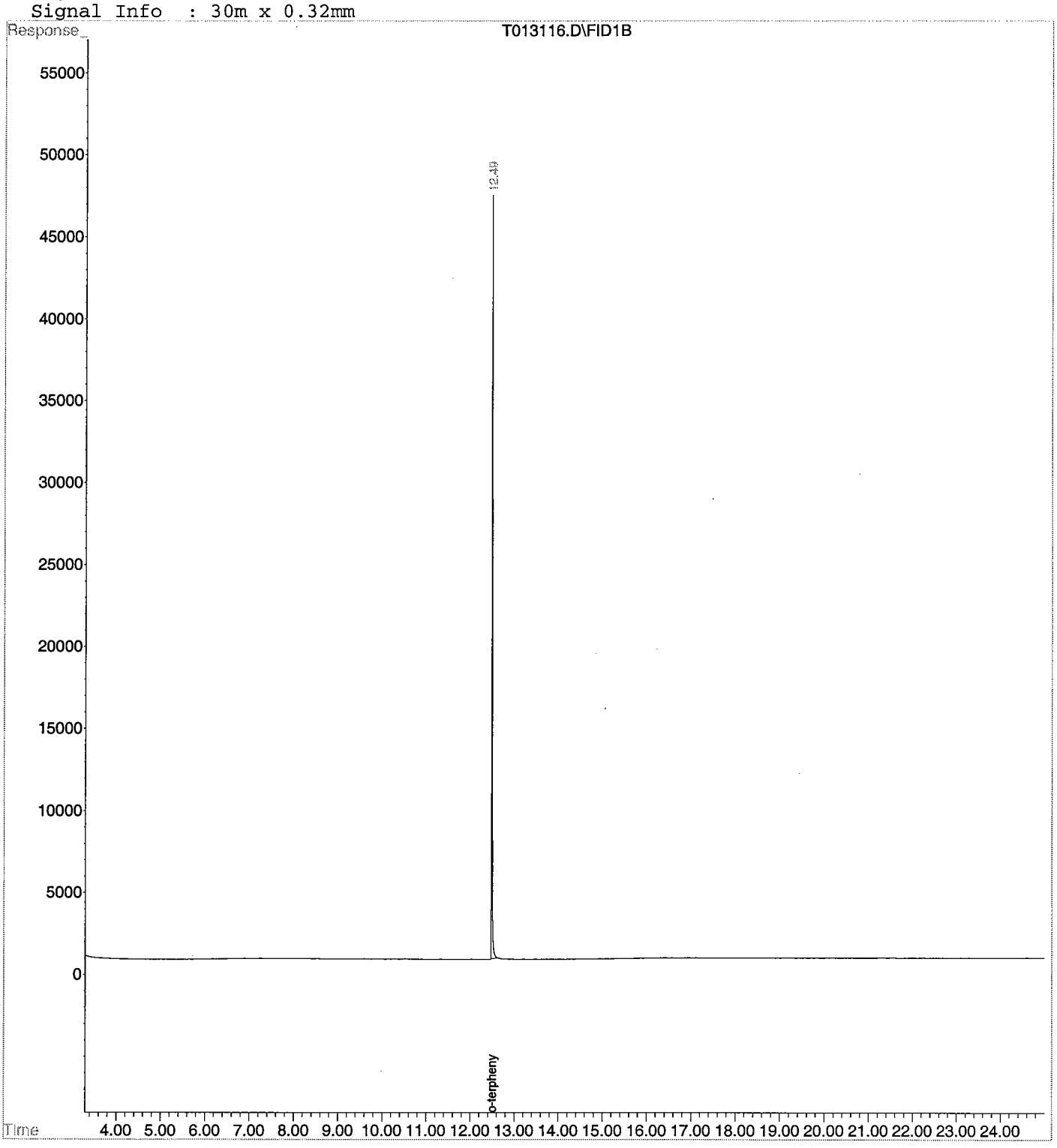
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010618\T013116.D Vial: 28
Acq On : 19 Jun 2001 5:21 am Operator: Skelton
Sample : 1618707s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH87.M

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



000089

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010618\T013117.D Vial: 29
Acq On : 19 Jun 2001 5:55 am Operator: Skelton
Sample : 1618708s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Initial Calibration
DataAcq Meth : TPH87.M

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

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
21) sC o-terphenyl	12.49	217677	7.139 mg/L
Spiked Amount 10.000	Range 8 - 13	Recovery =	71.39%#
Target Compounds			

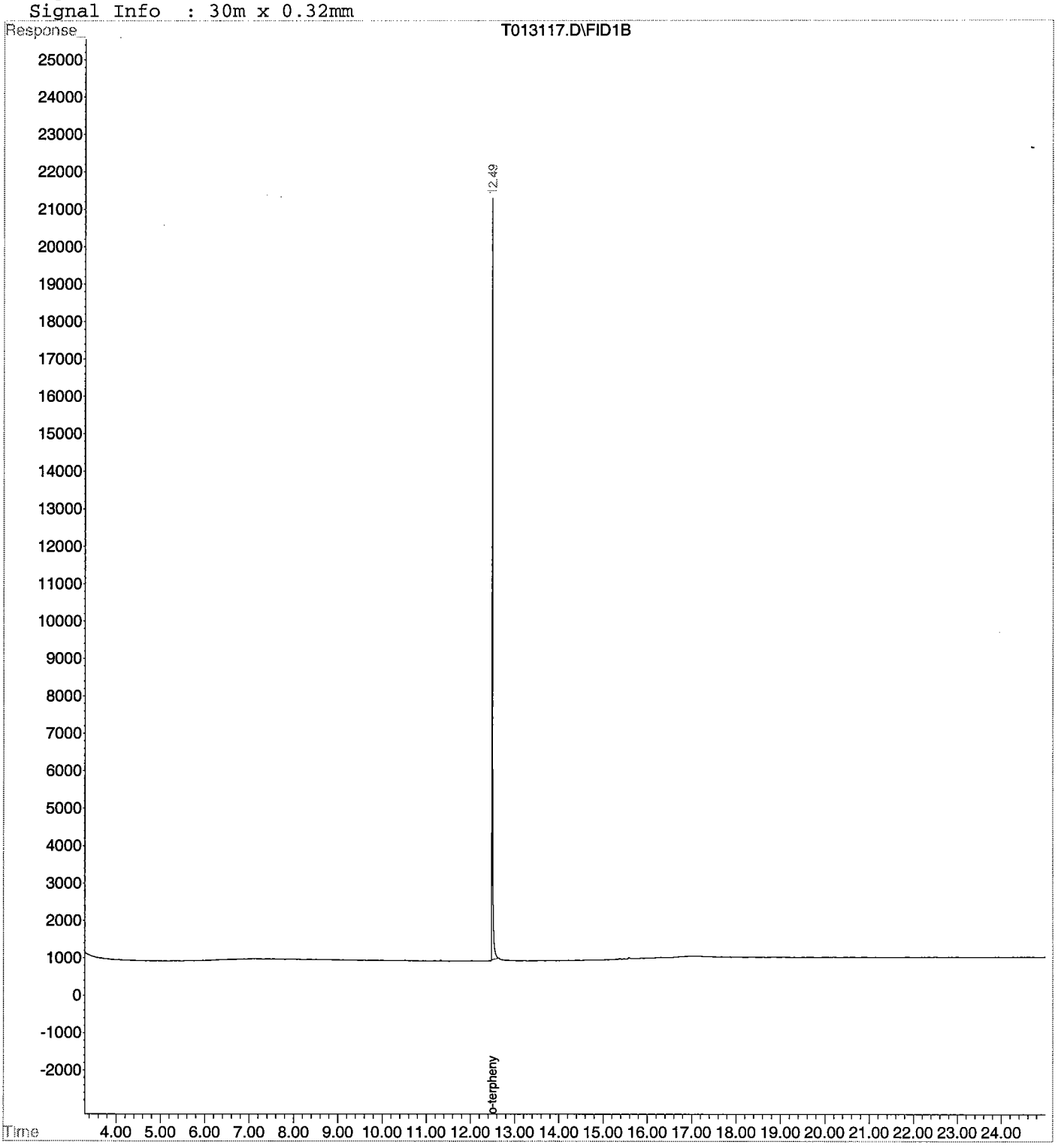
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010618\T013117.D Vial: 29
Acq On : 19 Jun 2001 5:55 am Operator: Skelton
Sample : 1618708s Inst : GC/MS Ins
Misc : Multiplr: 1.00
IntFile : TPHCINT.E
Quant Time: Jun 19 7:53 2001 Quant Results File: TPH87.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH87.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Jun 18 09:16:27 2001
Response via : Multiple Level Calibration
DataAcq Meth : TPH87.M

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



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

Date 7/9/01

Laboratory Certification #13461

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

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

APPENDIX E

GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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

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

Bldg. 1102

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
1102 GW	1642101	Aqueous	08-Sept-01 06:47	09/08/01

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

9-24-01

Daniel Wright/Date
Laboratory Director

Table of Contents

CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: W. Leasl
Phone #: X2475
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Bldg 1102
UST 1st Rnd

Samplers Name / Company: Corey McCormack, TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: +Xylene VOTLS	Analysis Parameters: BN +15	Analysis Parameters	Analysis Parameters	Analysis Parameters	Analysis Parameters	Analysis Parameters	Analysis Parameters	Comments: Remarks / Preservation Method
16421 01	1102 GW	9/8/01	0647	AQ	3	✓	✓							HCL/4°C resample since missed 2nd Rnd COM

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Corey McConach	9/8/01 0800				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: Shares trip/FB/Dupe

print legibly

Coc.xls8/14/01

000002

METHOD SUMMARY

Method Summary

EPA Method 624
Gas Chromatographic Determination of Volatiles in Water

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

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

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

CONFORMANCE-
NON-
CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

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: — yes
   a. VOA Fraction Chloroform 3.34 ug/L
   b. B/N Fraction Diethylphthalate 1.60 ug/L
   c. Acid Fraction NA
8. Surrogate Recoveries Meet Criteria — yes

   If not met, list those compounds and their recoveries, which fall outside the acceptable range:
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction NA

   If not met, were the calculations checked and the results qualified as "estimated"? _____
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — yes
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction NA

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

Indicate
Yes, No, N/A

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

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

11. Extraction Holding Time Met — YES

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

12. Analysis Holding Time Met — YES

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

Additional Comments:

Laboratory Manager: _____ Date: 9-24-01

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16421 Site: Bldg. 1102

	Date	Hold Time
Date Sampled	09/08/01	NA
Receipt/Refrigeration	09/08/01	NA
Extractions		
1. BN	09/14/01	7 days
Analyses		
1. VOA	09/13,14/01	14 days
2. BN	09/14/01	40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

Definition of Qualifiers

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

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

Data File	**VC006954.D**	Sample Name	**MB**
Operator	**Skelton**	Field ID	**MB**
Date Aquired	**13-Sep-01**	Multiplier	**1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifier
107028	Acrolein			not detected	50	1.85 ug/L	
107131	Acrylonitrile			not detected	50	2.78 ug/L	
75650	tert-Butyl alcohol			not detected	nle	8.52 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.16 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.25 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	1.68 ug/L	
74-87-3	Chloromethane			not detected	30	1.16 ug/L	
75-01-4	Vinyl Chloride			not detected	5	1.06 ug/L	
74-83-9	Bromomethane			not detected	10	1.10 ug/L	
75-00-3	Chloroethane			not detected	nle	1.01 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.24 ug/L	
67-64-1	Acetone			not detected	700	1.36 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.46 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.24 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.16 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.12 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.78 ug/L	
78-93-3	2-Butanone			not detected	300	0.62 ug/L	
156594	cis-1,2-Dichloroethene			not detected	10	0.17 ug/L	
67-66-3	Chloroform	16.23	144062	3.34 ug/L	6	0.30 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.23 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.47 ug/L	
71-43-2	Benzene			not detected	1	0.23 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.18 ug/L	
79-01-6	Trichloroethene			not detected	1	0.23 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.40 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.55 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.65 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.69 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.59 ug/L	
108-88-3	Toluene			not detected	1000	0.37 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.87 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.48 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.32 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.71 ug/L	
126-48-1	Dibromochloromethane			not detected	10	0.86 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.39 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.65 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	1.14 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.62 ug/L	
100-42-5	Styrene			not detected	100	0.56 ug/L	
75-25-2	Bromoform			not detected	4	0.70 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.47 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.55 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.57 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.64 ug/L	

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

Qualifiers

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

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

9/19/01 10:41 AM

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB**

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16421 Location: 1102G SDG No.:

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006954.D

Level: (low/med) LOW Date Received: 9/8/01

% Moisture: not dec. Date Analyzed: 9/13/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	**VC006980.D**	Sample Name	**1642101**
Operator	**Skelton**	Field ID	**1102GW**
Date Aquired	**14-Sep-01**	Multiplier	**1**

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

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

Qualifiers

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

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

9/19/01 10:42 AM

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **1102GW**

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16421 Location: 1102G SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1642101

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC006980.D

Level: (low/med) LOW Date Received: 9/8/01

% Moisture: not dec. Date Analyzed: 9/14/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16421 Location: 1102G SDG No.:

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

Instrument ID: VoaInst#3 BFB Injection Time: 10:29

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

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

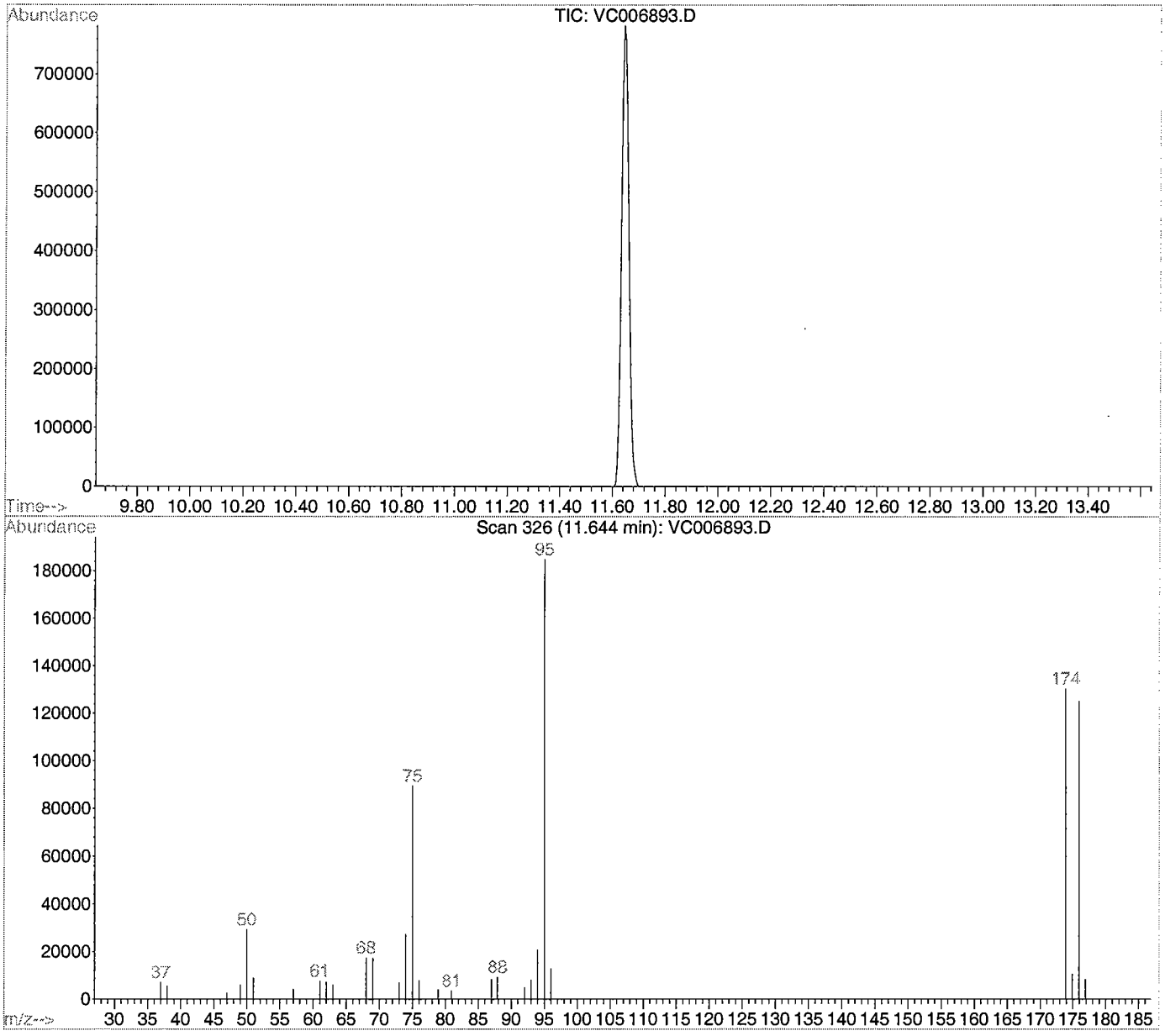
1-Value is % mass 174 2-Value is % mass 176

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

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

BFB

Data File : D:\HPCHEM\1\DATA\010831\VC006893.D Vial: 4
Acq On : 31 Aug 2001 10:29 am Operator: Skelton
Sample : BFB Tune Inst : GC/MS Ins
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 326

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	29320	PASS
75	95	30	60	48.4	89528	PASS
95	95	100	100	100.0	184896	PASS
96	95	5	9	6.9	12781	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.6	130600	PASS
175	174	5	9	8.0	10467	PASS
176	174	95	101	95.9	125288	PASS
177	176	5	9	6.7	8401	PASS

VC006893.D M362449.M Wed Sep 19 10:46:33 2001

Response Factor Report GC/MS Ins

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Sep 13 13:48:20 2001
Response via : Initial Calibration

Calibration Files
50 =VC006895.D 5 =VC006898.D 10 =VC006897.D
20 =VC006896.D 100 =VC006894.D

		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	t	Acrolein	0.233	0.199	0.223	0.201	0.098	0.191	28.30
3)	t	Acrylonitrile	1.057	0.953	1.035	0.852	0.979	0.975	8.25
4)	t	tert-Butyl alcohol	0.116	0.046	0.087	0.073	0.087	0.082	31.16
5)	t	Methyl-tert-Butyl eth	5.609	4.635	4.932	4.291	5.560	5.006	11.50
6)	t	Di-isopropyl ether	1.796	1.161	1.428	1.351	1.800	1.508	18.75
7)	T	Dichlorodifluorometha	3.985	3.825	3.776	3.236	3.631	3.691	7.69
8)	TP	Chloromethane	3.396	3.353	3.399	2.702	3.019	3.174	9.69
9)	TC	Vinyl Chloride	2.757	3.182	2.985	2.438	2.621	2.797	10.50
10)	T	Bromomethane	1.701	1.648	1.697	1.410	1.539	1.599	7.76
11)	T	Chloroethane	1.763	1.725	1.701	1.464	1.733	1.677	7.23
12)	T	Trichlorofluoromethan	3.885	4.050	3.905	3.303	3.803	3.789	7.55
13)	MC	1,1-Dichloroethene	3.182	2.768	2.981	2.536	3.170	2.927	9.43
14)	T	Acetone	0.563	0.638	0.650	0.444	0.550	0.569	14.53
15)	T	Carbon Disulfide	7.685	7.422	7.464	6.323	7.457	7.270	7.43
16)	T	Methylene Chloride	2.325	2.446	2.335	1.942	2.257	2.261	8.45
17)	T	trans-1,2-Dichloroeth	3.000	2.816	2.826	2.430	2.978	2.810	8.14
18)	TP	1,1-Dichloroethane	3.961	3.821	3.818	3.247	3.893	3.748	7.63
19)	T	Vinyl Acetate	4.058	2.770	3.319	2.936	4.087	3.434	17.94
20)	T	2-Butanone	0.723	0.358	0.583	0.482	0.730	0.575	27.72
21)	T	cis-1,2-Dichloroethen	2.937	2.449	2.667	2.265	2.912	2.646	11.02
22)	TC	Chloroform	3.720	3.783	3.740	3.084	3.641	3.594	8.06
23)	T	1,1,1-Trichloroethane	3.066	2.870	2.910	2.483	3.043	2.874	8.15
24)	T	Carbon Tetrachloride	2.705	2.517	2.589	2.163	2.671	2.529	8.59
25)	S	1,2-Dichloroethane-d4	2.311	2.384	2.348	2.335	2.293	2.334	1.50
26)	I	1,4-Difluorobenzene	----------ISTD----------						
27)	TM	Benzene	1.385	1.348	1.378	1.151	1.324	1.317	7.29
28)	T	1,2-Dichloroethane	0.403	0.400	0.405	0.332	0.394	0.387	7.97
29)	TM	Trichloroethene	0.321	0.294	0.307	0.259	0.314	0.299	8.18
30)	TC	1,2-Dichloropropane	0.333	0.308	0.322	0.269	0.328	0.312	8.24
31)	T	Bromodichloromethane	0.405	0.380	0.391	0.329	0.402	0.381	8.08
32)	T	2-Chloroethyl vinyl e	0.114	0.100	0.108	0.093	0.112	0.105	8.34
33)	T	cis-1,3-Dichloroprope	0.523	0.389	0.448	0.393	0.523	0.455	14.54
34)	T	4-Methyl-2-Pentanone	0.104	0.046	0.079	0.072	0.102	0.080	29.68
35)	S	Toluene-d8	1.182	1.191	1.190	1.186	1.183	1.187	0.35
36)	TCM	Toluene	1.393	1.360	1.387	1.158	1.313	1.322	7.35
37)	I	Chlorobenzene-d5	----------ISTD----------						
38)	T	trans-1,3-Dichloropro	1.873	1.424	1.574	1.380	1.851	1.620	14.30
39)	T	1,1,2-Trichloroethane	1.154	1.121	1.132	0.943	1.094	1.089	7.75
40)	T	Tetrachloroethene	1.172	1.111	1.124	0.940	1.127	1.095	8.18
41)	T	2-Hexanone	0.526	0.283	0.389	0.352	0.523	0.415	25.81
42)	T	Dibromochloromethane	1.097	0.963	0.993	0.835	1.076	0.993	10.52
43)	TMP	Chlorobenzene	3.416	3.466	3.452	2.845	3.236	3.283	7.97
44)	TC	Ethylbenzene	6.017	5.714	5.928	4.970	5.549	5.636	7.35
45)	T	m+p-Xylenes	2.311	2.221	2.279	1.912	2.174	2.179	7.26
46)	T	o-Xylene	4.369	3.370	3.876	3.435	4.177	3.845	11.48
47)	T	Styrene	3.872	3.250	3.593	3.077	3.723	3.503	9.44
48)	TP	Bromoform	0.725	0.560	0.618	0.535	0.719	0.632	13.90
49)	S	Bromofluorobenzene	1.686	1.637	1.645	1.663	1.720	1.670	2.01
50)	TP	1,1,2,2-Tetrachloroet	1.508	1.479	1.509	1.236	1.423	1.431	8.01
51)	T	1,3-Dichlorobenzene	2.488	2.099	2.238	1.968	2.427	2.244	9.72
52)	T	1,4-Dichlorobenzene	2.588	2.254	2.416	2.121	2.527	2.381	8.10
53)	T	1,2-Dichlorobenzene	2.384	2.171	2.261	1.937	2.320	2.215	7.85

(#) = Out of Range

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16421 Location: 1102G SDG No.: _____

Lab File ID: VC006952.D BFB Injection Date: 9/13/01

Instrument ID: VoaInst#3 BFB Injection Time: 12:10

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	15.3
75	30.0 - 66.0% of mass 95	47.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	72.6
175	4.0 - 9.0% of mass 174	5.2 (7.2)1
176	93.0 - 101.0% of mass 174	70.6 (97.3)1
177	5.0 - 9.0% of mass 176	4.3 (6.1)2

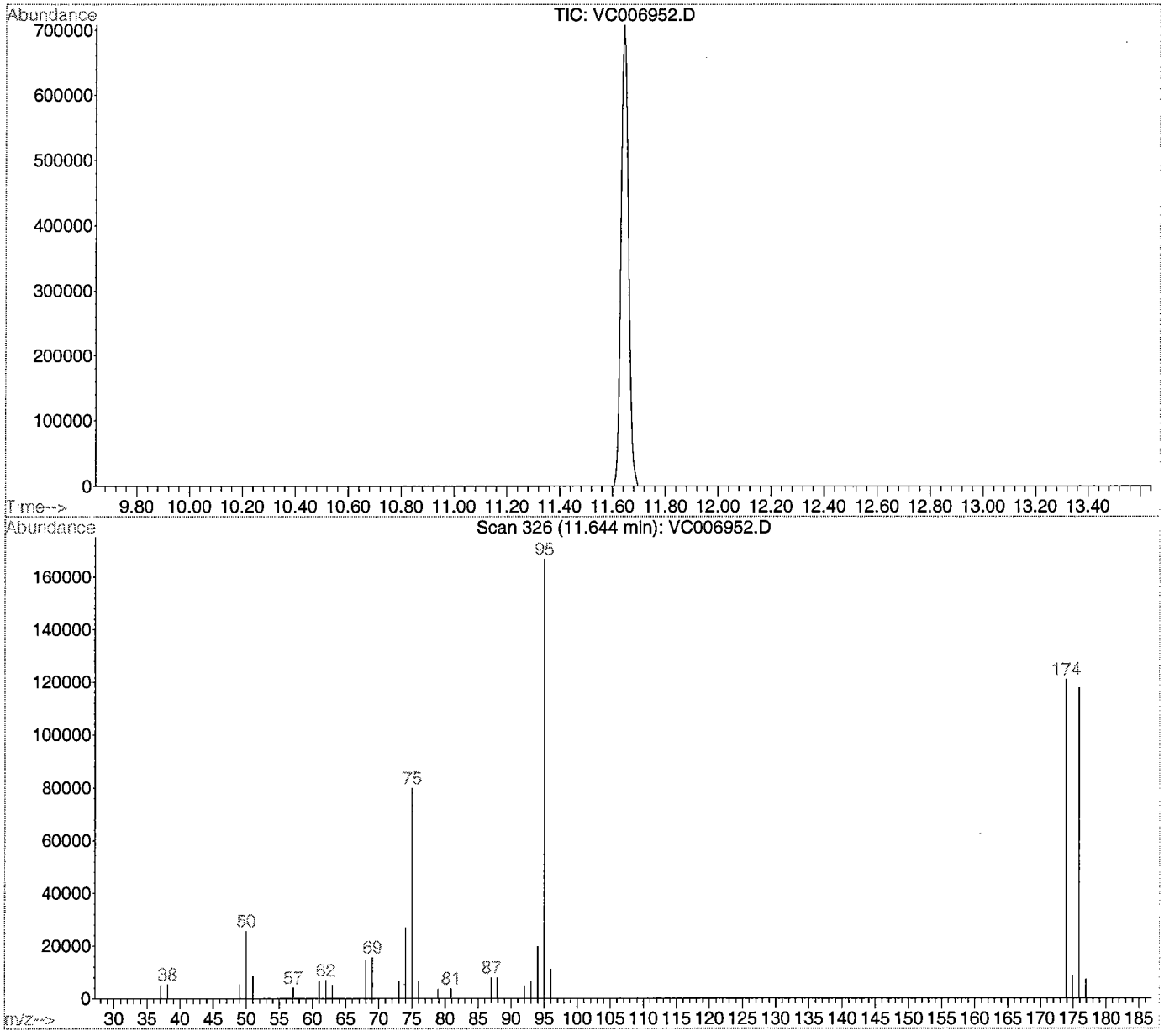
1-Value is % mass 174 2-Value is % mass 176

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	VSTD020	VC006953.D	9/13/01	13:03
02	MB	MB	VC006954.D	9/13/01	13:55
03	1641914MS	1641914MS	VC006978.D	9/14/01	6:29
04	1641914MSD	1641914MSD	VC006979.D	9/14/01	7:10
05	1102GW	1642101	VC006980.D	9/14/01	7:50

BFB

Data File : D:\HPCHEM\1\DATA\010913\VC006952.D Vial: 3
Acq On : 13 Sep 2001 12:10 pm Operator: Skelton
Sample : BFB Tune Inst : GC/MS Ins
Misc : BFB Tune Multiplr: 1.00
MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 326

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	25584	PASS
75	95	30	60	47.9	79824	PASS
95	95	100	100	100.0	166784	PASS
96	95	5	9	6.6	11048	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	72.6	121008	PASS
175	174	5	9	7.2	8653	PASS
176	174	95	101	97.3	117728	PASS
177	176	5	9	6.1	7228	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\010913\VC006953.D Vial: 3
Acq On : 13 Sep 2001 1:03 pm Operator: Skelton
Sample : Vstd020 Inst : GC/MS Ins
Misc : Vstd020 Multiplr: 1.00
MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Sep 13 13:48:20 2001
Response via : Multiple Level Calibration

Min. RRF : 0.025 Min. Rel. Area : 25% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	93	0.00
2	t	Acrolein	0.191	0.080	58.1#	37	0.00
3	t	Acrylonitrile	0.975	1.016	-4.2	111	0.00
4	t	tert-Butyl alcohol	0.082	0.100	-22.0	128	0.00
5	t	Methyl-tert-Butyl ether	5.006	4.762	4.9	103	0.00
6	t	Di-isopropyl ether	1.508	1.484	1.6	102	0.00
7	T	Dichlorodifluoromethane	3.691	3.363	8.9	97	0.00
8	TP	Chloromethane	3.174	3.068	3.3	106	0.00
9	TC	Vinyl Chloride	2.797	2.679	4.2	102	0.00
10	T	Bromomethane	1.599	1.623	-1.5	107	0.00
11	T	Chloroethane	1.677	1.635	2.5	104	0.00
12	T	Trichlorofluoromethane	3.789	3.761	0.7	106	0.00
13	MC	1,1-Dichloroethene	2.927	2.811	4.0	103	0.00
14	T	Acetone	0.569	0.766	-34.6#	161	0.00
15	T	Carbon Disulfide	7.270	7.050	3.0	104	0.00
16	T	Methylene Chloride	2.261	2.208	2.3	106	0.00
17	T	trans-1,2-Dichloroethene	2.810	2.756	1.9	106	0.00
18	TP	1,1-Dichloroethane	3.748	3.754	-0.2	108	0.00
19	T	Vinyl Acetate	3.434	3.359	2.2	107	0.00
20	T	2-Butanone	0.575	0.714	-24.2	138	0.00
21	T	cis-1,2-Dichloroethene	2.646	2.626	0.8	108	0.00
22	TC	Chloroform	3.594	3.660	-1.8	111	0.00
23	T	1,1,1-Trichloroethane	2.874	2.921	-1.6	110	0.00
24	T	Carbon Tetrachloride	2.529	2.594	-2.6	112	0.00
25	S	1,2-Dichloroethane-d4	2.334	2.207	5.4	88	0.00
26	I	1,4-Difluorobenzene	1.000	1.000	0.0	92	0.00
27	TM	Benzene	1.317	1.366	-3.7	109	0.00
28	T	1,2-Dichloroethane	0.387	0.400	-3.4	111	0.00
29	TM	Trichloroethene	0.299	0.299	0.0	106	0.00
30	TC	1,2-Dichloropropane	0.312	0.318	-1.9	109	0.00
31	T	Bromodichloromethane	0.381	0.400	-5.0	112	0.00
32	T	2-Chloroethyl vinyl ether	0.105	0.111	-5.7	110	0.00
33	T	cis-1,3-Dichloropropene	0.455	0.483	-6.2	113	0.00
34	T	4-Methyl-2-Pentanone	0.080	0.090	-12.5	115	0.00
35	S	Toluene-d8	1.187	1.121	5.6	87	0.00
36	TCM	Toluene	1.322	1.403	-6.1	111	0.00
37	I	Chlorobenzene-d5	1.000	1.000	0.0	92	0.00
38	T	trans-1,3-Dichloropropene	1.620	1.717	-6.0	114	0.00
39	T	1,1,2-Trichloroethane	1.089	1.157	-6.2	113	0.00
40	T	Tetrachloroethene	1.095	1.122	-2.5	110	0.00
41	T	2-Hexanone	0.415	0.516	-24.3	135	0.00
42	T	Dibromochloromethane	0.993	1.048	-5.5	115	0.00
43	TMP	Chlorobenzene	3.283	3.442	-4.8	111	0.00
44	TC	Ethylbenzene	5.636	6.011	-6.7	111	0.00
45	T	m+p-Xylenes	2.179	2.275	-4.4	109	0.00
46	T	o-Xylene	3.845	4.080	-6.1	109	0.00
47	T	Styrene	3.503	3.649	-4.2	109	0.00
48	TP	Bromoform	0.632	0.694	-9.8	119	0.00
49	S	Bromofluorobenzene	1.670	1.618	3.1	89	0.00
50	TP	1,1,2,2-Tetrachloroethane	1.431	1.541	-7.7	115	0.00
51	T	1,3-Dichlorobenzene	2.244	2.307	-2.8	108	0.00
52	T	1,4-Dichlorobenzene	2.381	2.479	-4.1	107	0.00
53	T	1,2-Dichlorobenzene	2.215	2.333	-5.3	111	0.00

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

4A

FIELD ID:

VOLATILE METHOD BLANK SUMMARY

MB

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16421 Location: 1102G SDG No.:

Lab File ID: VC006954.D Lab Sample ID: MB

Date Analyzed: 9/13/01 Time Analyzed: 13:55

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

Instrument ID: VoaInst#3

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

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	1641914MS	1641914MS	VC006978.D	6:29
02	1641914MSD	1641914MSD	VC006979.D	7:10
03	1102GW	1642101	VC006980.D	7:50

COMMENTS:

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16421 Location: 1102G SDG No.: _____

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB	96	92	89	0
02	1641914MS	100	97	97	0
03	1641914MSD	101	95	96	0
04	1102GW	101	95	87	0

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

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

Data File	**VC006978.D**	Sample Name	**1641914MS**
Date Aquired	**14-Sep-01**	Field ID	**812MW14 MS**

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	49.86 ug/L	24.93
Acrylonitrile	200	199.81 ug/L	99.90
tert-Butyl alcohol	200	181.88 ug/L	90.94
Methyl-tert-Butyl ether	20	17.67 ug/L	88.36
Di-isopropyl ether	20	17.45 ug/L	87.27
Dichlorodifluoromethane	20	14.70 ug/L	73.52
Chloromethane	20	16.74 ug/L	83.68
Vinyl Chloride	20	17.32 ug/L	86.60
Bromomethane	20	14.58 ug/L	72.88
Chloroethane	20	17.64 ug/L	88.19
Trichlorofluoromethane	20	18.39 ug/L	91.93
1,1-Dichloroethene	20	17.62 ug/L	88.11
Acetone	20	17.97 ug/L	89.83
Carbon Disulfide	20	17.50 ug/L	87.51
Methylene Chloride	20	18.06 ug/L	90.29
trans-1,2-Dichloroethene	20	18.34 ug/L	91.71
1,1-Dichloroethane	20	18.52 ug/L	92.59
Vinyl Acetate	20	17.69 ug/L	88.45
2-Butanone	20	19.46 ug/L	97.30
cis-1,2-Dichloroethene	20	18.61 ug/L	93.06
Chloroform	20	18.97 ug/L	94.85
1,1,1-Trichloroethane	20	18.80 ug/L	94.01
Carbon Tetrachloride	20	18.93 ug/L	94.65
Benzene	20	19.18 ug/L	95.92
1,2-Dichloroethane	20	20.31 ug/L	101.53
Trichloroethene	20	17.92 ug/L	89.61
1,2-Dichloropropane	20	18.91 ug/L	94.54
Bromodichloromethane	20	19.53 ug/L	97.66
2-Chloroethyl vinyl ether	20	19.83 ug/L	99.14
cis-1,3-Dichloropropene	20	18.10 ug/L	90.48
4-Methyl-2-Pentanone	20	21.56 ug/L	107.80
Toluene	20	19.42 ug/L	97.10
trans-1,3-Dichloropropene	20	18.17 ug/L	90.83
1,1,2-Trichloroethane	20	19.40 ug/L	97.02
Tetrachloroethene	20	18.54 ug/L	92.69
2-Hexanone	20	21.69 ug/L	108.45
Dibromochloromethane	20	19.07 ug/L	95.34
Chlorobenzene	20	18.99 ug/L	94.96
Ethylbenzene	20	19.51 ug/L	97.53
m+p-Xylenes	40	37.85 ug/L	94.63
o-Xylene	20	19.18 ug/L	95.92
Styrene	20	18.98 ug/L	94.92
Bromoform	20	19.03 ug/L	95.16
1,1,2,2-Tetrachloroethane	20	20.32 ug/L	101.58
1,3-Dichlorobenzene	20	18.30 ug/L	91.51
1,4-Dichlorobenzene	20	18.60 ug/L	93.00
1,2-Dichlorobenzene	20	18.80 ug/L	94.02

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

Data File	**VC006979.D**	Sample Name	**1641914MSD**
Date Aquired	**14-Sep-01**	Field ID	**812MW14 MSD**

CAS#	Amount Added ug/L	Result ug/L	Percent Recovery
Acrolein	200	80.96 ug/L	40.48
Acrylonitrile	200	201.11 ug/L	100.56
tert-Butyl alcohol	200	191.22 ug/L	95.61
Methyl-tert-Butyl ether	20	17.64 ug/L	88.18
Di-isopropyl ether	20	17.38 ug/L	86.88
Dichlorodifluoromethane	20	14.59 ug/L	72.94
Chloromethane	20	16.70 ug/L	83.48
Vinyl Chloride	20	17.28 ug/L	86.39
Bromomethane	20	15.38 ug/L	76.92
Chloroethane	20	17.66 ug/L	88.31
Trichlorofluoromethane	20	18.08 ug/L	90.41
1,1-Dichloroethene	20	17.50 ug/L	87.50
Acetone	20	18.65 ug/L	93.24
Carbon Disulfide	20	17.36 ug/L	86.81
Methylene Chloride	20	17.62 ug/L	88.08
trans-1,2-Dichloroethene	20	17.95 ug/L	89.76
1,1-Dichloroethane	20	18.33 ug/L	91.63
Vinyl Acetate	20	16.43 ug/L	82.14
2-Butanone	20	20.12 ug/L	100.60
cis-1,2-Dichloroethene	20	18.09 ug/L	90.45
Chloroform	20	18.54 ug/L	92.70
1,1,1-Trichloroethane	20	18.20 ug/L	91.01
Carbon Tetrachloride	20	18.39 ug/L	91.94
Benzene	20	18.52 ug/L	92.60
1,2-Dichloroethane	20	19.63 ug/L	98.16
Trichloroethene	20	17.60 ug/L	88.02
1,2-Dichloropropane	20	18.31 ug/L	91.53
Bromodichloromethane	20	18.88 ug/L	94.41
2-Chloroethyl vinyl ether	20	19.10 ug/L	95.52
cis-1,3-Dichloropropene	20	17.40 ug/L	87.02
4-Methyl-2-Pentanone	20	21.72 ug/L	108.59
Toluene	20	18.80 ug/L	93.98
trans-1,3-Dichloropropene	20	17.90 ug/L	89.51
1,1,2-Trichloroethane	20	19.08 ug/L	95.40
Tetrachloroethene	20	17.85 ug/L	89.26
2-Hexanone	20	21.12 ug/L	105.60
Dibromochloromethane	20	18.53 ug/L	92.65
Chlorobenzene	20	18.47 ug/L	92.36
Ethylbenzene	20	18.91 ug/L	94.56
m+p-Xylenes	40	36.45 ug/L	91.13
o-Xylene	20	18.58 ug/L	92.89
Styrene	20	18.20 ug/L	91.01
Bromoform	20	18.79 ug/L	93.96
1,1,2,2-Tetrachloroethane	20	19.98 ug/L	99.89
1,3-Dichlorobenzene	20	17.56 ug/L	87.81
1,4-Dichlorobenzene	20	17.85 ug/L	89.26
1,2-Dichlorobenzene	20	17.98 ug/L	89.88

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: LTM Case No.: 16421 Location: 1102G SDG No.:

Lab File ID (Standard): VC006953.D Date Analyzed: 9/13/01

Instrument ID: VoaInst#3 Time Analyzed: 13:03

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	398625	16.70	2673218	19.42	706336	27.24
	UPPER LIMIT	797250	17.20	5346436	19.92	1412672	27.74
	LOWER LIMIT	199313	16.20	1336609	18.92	353168	26.74
	FIELD ID:						
01	MB	359633	16.70	2372005	19.42	613449	27.25
02	1641914MS	380943	16.70	2544107	19.42	674017	27.24
03	1641914MSD	387291	16.70	2606913	19.42	686720	27.25
04	1102GW	376328	16.70	2436870	19.42	651284	27.25

IS1 BCM = Bromochloromethane

IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010913\VC006954.D Vial: 3
Acq On : 13 Sep 2001 1:55 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Sep 13 14:31 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Sep 13 13:48:20 2001
Response via : Initial Calibration
DataAcq Meth : M362449

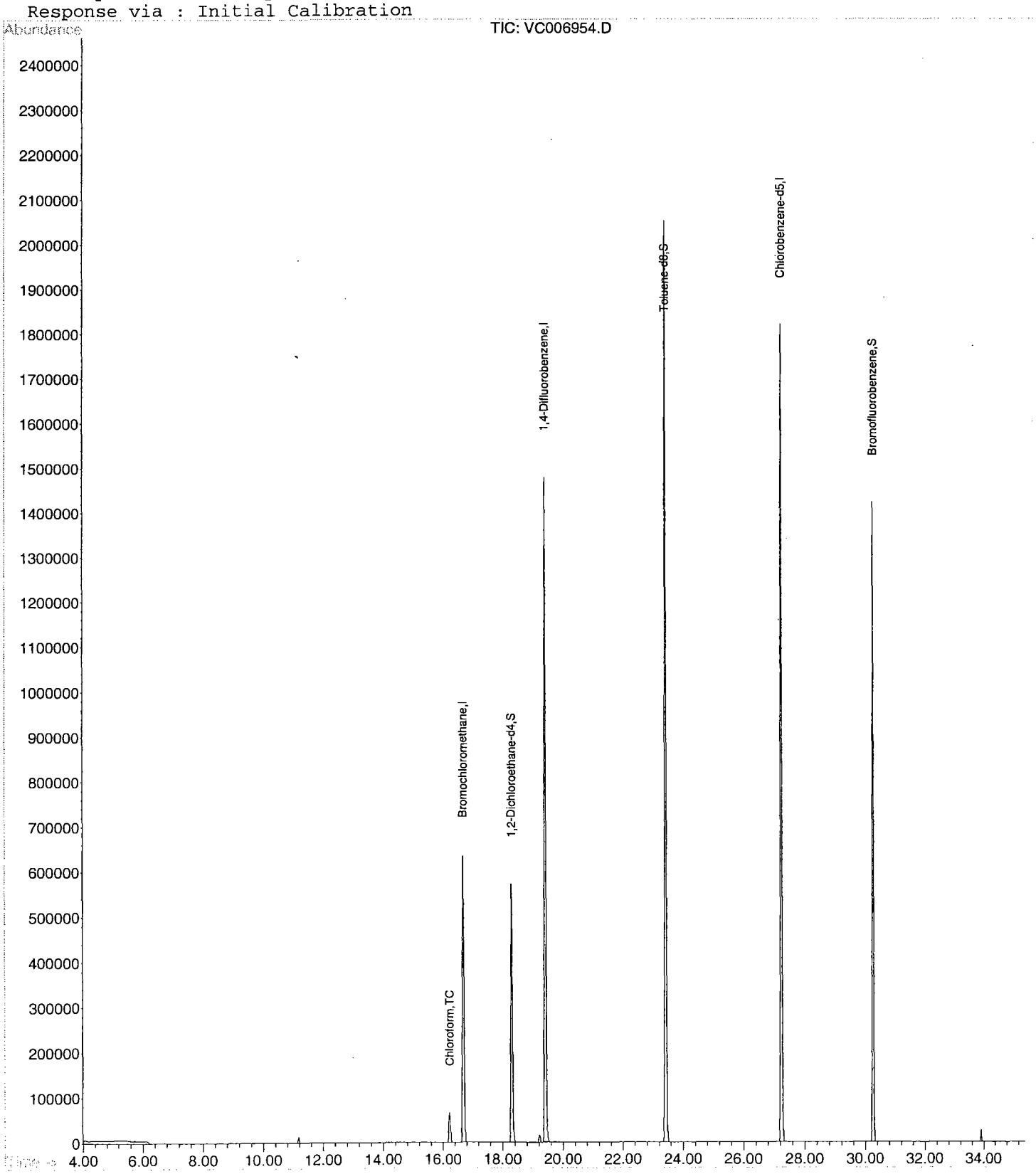
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	359633	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2372005	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	613449	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	807943	28.87	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 96.23%			
35) Toluene-d8	23.42	98	2590225	27.61	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 92.03%			
49) Bromofluorobenzene	30.25	95	907226	26.57	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 88.57%			
Target Compounds						Qvalue
22) Chloroform	16.23	83	144062	3.34	ug/L	99

(#) = qualifier out of range (m) = manual integration
VC006954.D M362449.M Wed Sep 19 10:11:14 2001

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010913\VC006954.D Vial: 3
Acq On : 13 Sep 2001 1:55 pm Operator: Skelton
Sample : MB Inst : GC/MS Ins
Misc : MB Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Sep 13 14:31 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Sep 13 13:48:20 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\010913\VC006980.D Vial: 26
Acq On : 14 Sep 2001 7:50 am Operator: Skelton
Sample : 1642101 Inst : GC/MS Ins
Misc : 1102GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Sep 14 8:26 2001 Quant Results File: M362449.RES

Quant Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Sep 13 13:48:20 2001
Response via : Initial Calibration
DataAcq Meth : M362449

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	16.70	128	376328	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.42	114	2436870	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	651284	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	889447	30.37	ug/L	0.00
Spiked Amount 30.000	Range 70 - 121		Recovery = 101.23%			
35) Toluene-d8	23.42	98	2739047	28.42	ug/L	0.00
Spiked Amount 30.000	Range 81 - 117		Recovery = 94.73%			
49) Bromofluorobenzene	30.25	95	946550	26.11	ug/L	0.00
Spiked Amount 30.000	Range 74 - 121		Recovery = 87.03%			

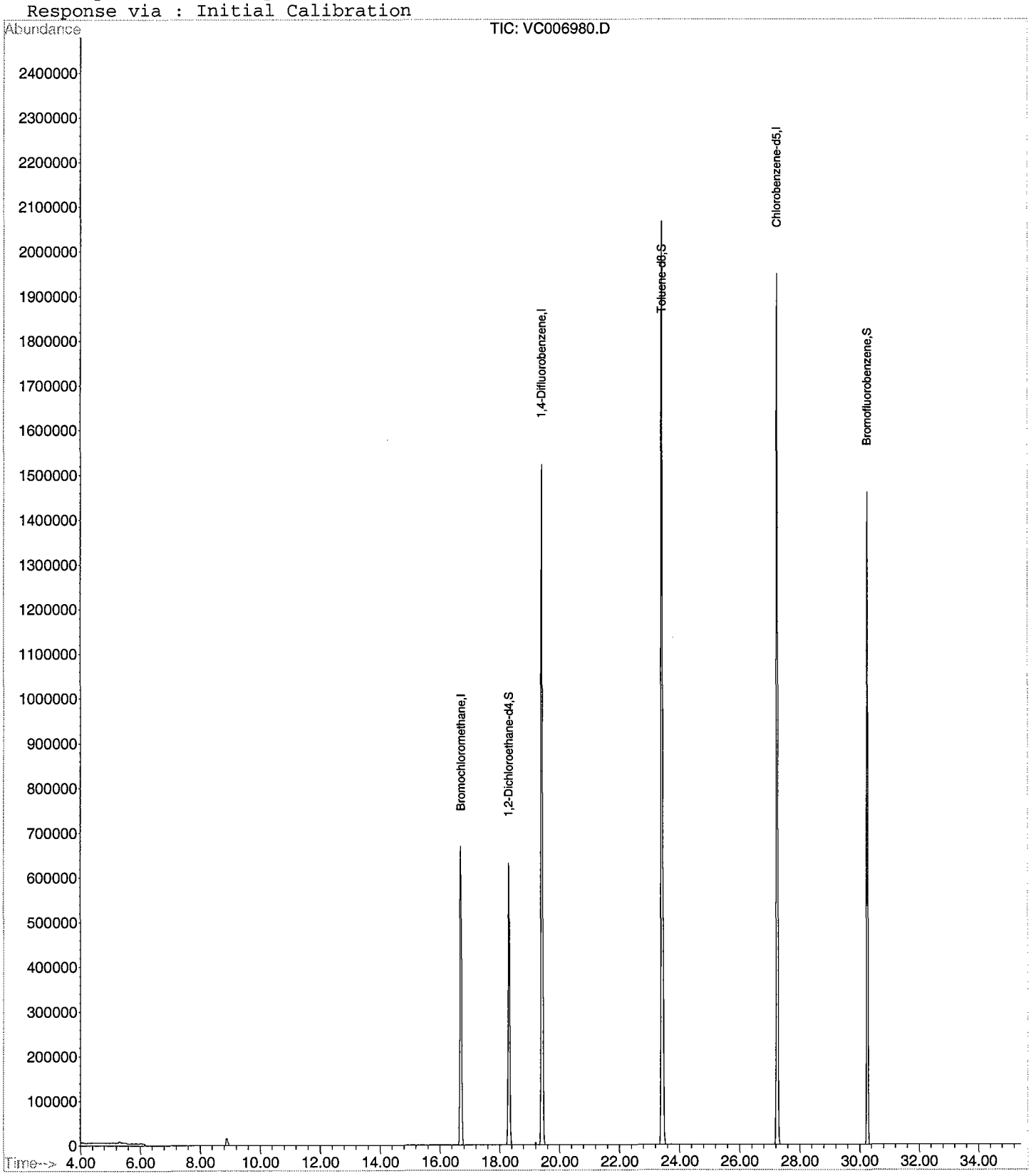
Target Compounds Qvalue

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\010913\VC006980.D Vial: 26
Acq On : 14 Sep 2001 7:50 am Operator: Skelton
Sample : 1642101 Inst : GC/MS Ins
Misc : 1102GW Multiplr: 1.00
MS Integration Params: ACETONE.P
Quant Time: Sep 14 8:26 2001 Quant Results File: M362449.RES

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Sep 13 13:48:20 2001
Response via : Initial Calibration



BASE NEUTRAL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN05165.D**	Sample Name	**MB**
Operator	**B.Patel**	Misc Info	**MB-010914**
Date Acquired	**14-Sep-01**	Sample Multiplier	**1**

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	1.54	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.69	ug/L	
62-53-3	Aniline			not detected	NLE	1.85	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.63	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.62	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.58	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	0.62	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.65	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.57	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.64	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.34	ug/L	
98-95-3	Nitrobenzene			not detected	10	0.51	ug/L	
78-59-1	Isophorone			not detected	100	0.45	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.48	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	0.54	ug/L	
91-20-3	Naphthalene			not detected	NLE	0.72	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	1.78	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.43	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	0.55	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	0.76	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	0.53	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.04	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.04	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.70	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.92	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.93	ug/L	
83-32-9	Acenaphthene			not detected	400	0.62	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.73	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.41	ug/L	
84-66-2	Diethylphthalate	18.50	40128	1.60 ug/L	5000	1.54	ug/L	
86-73-7	Fluorene			not detected	300	0.98	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.86	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	2.96	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.44	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.00	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.28	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.73	ug/L	
120-12-7	Anthracene			not detected	2000	1.85	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.49	ug/L	
206-44-0	Fluoranthene			not detected	300	1.48	ug/L	

Semi-Volatile Analysis Report
Page 2

Data File Name	**BN05165.D**	Sample Name	**MB**
Operator	**B.Patel**	Misc Info	**MB-010914**
Date Acquired	**14-Sep-01**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MB-010914

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB-010914

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN05165.D

Level: (low/med) LOW Date Received: 9/8/01

% Moisture: _____ decanted: (Y/N) N Date Extracted: 9/14/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/14/01

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.	unknown	6.80	5	J

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**BN05170.D**	Sample Name	**1642101**
Operator	**B.Patel**	Misc Info	**1102GW**
Date Acquired	**14-Sep-01**	Sample Multiplier	**1**

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

Semi-Volatile Analysis Report
Page 2

Data File Name	**BN05170.D**	Sample Name	**1642101**
Operator	**B.Patel**	Misc Info	**1102GW**
Date Acquired	**14-Sep-01**	Sample Multiplier	**1**

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

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

Qualifiers

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

1102 GW

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1642101

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BN05170.D

Level: (low/med) LOW Date Received: 9/8/01

% Moisture: decanted: (Y/N) N Date Extracted: 9/14/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 9/14/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.: _____

Lab File ID: BN05122.D DFTPP Injection Date: 9/6/01

Instrument ID: GC_BNA_1 DFTPP Injection Time: 9:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	56.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	72.0
70	Less than 2.0% of mass 69	0.3 (0.4)1
127	25.0 - 75.0% of mass 198	50.3
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	6.7
275	10.0 - 30.0% of mass 198	17.1
365	Greater than 0.75% of mass 198	2.0
441	Present, but less than mass 443	7.0
442	40.0 - 110.0% of mass 198	44.9
443	15.0 - 24.0% of mass 442	8.7 (19.3)2

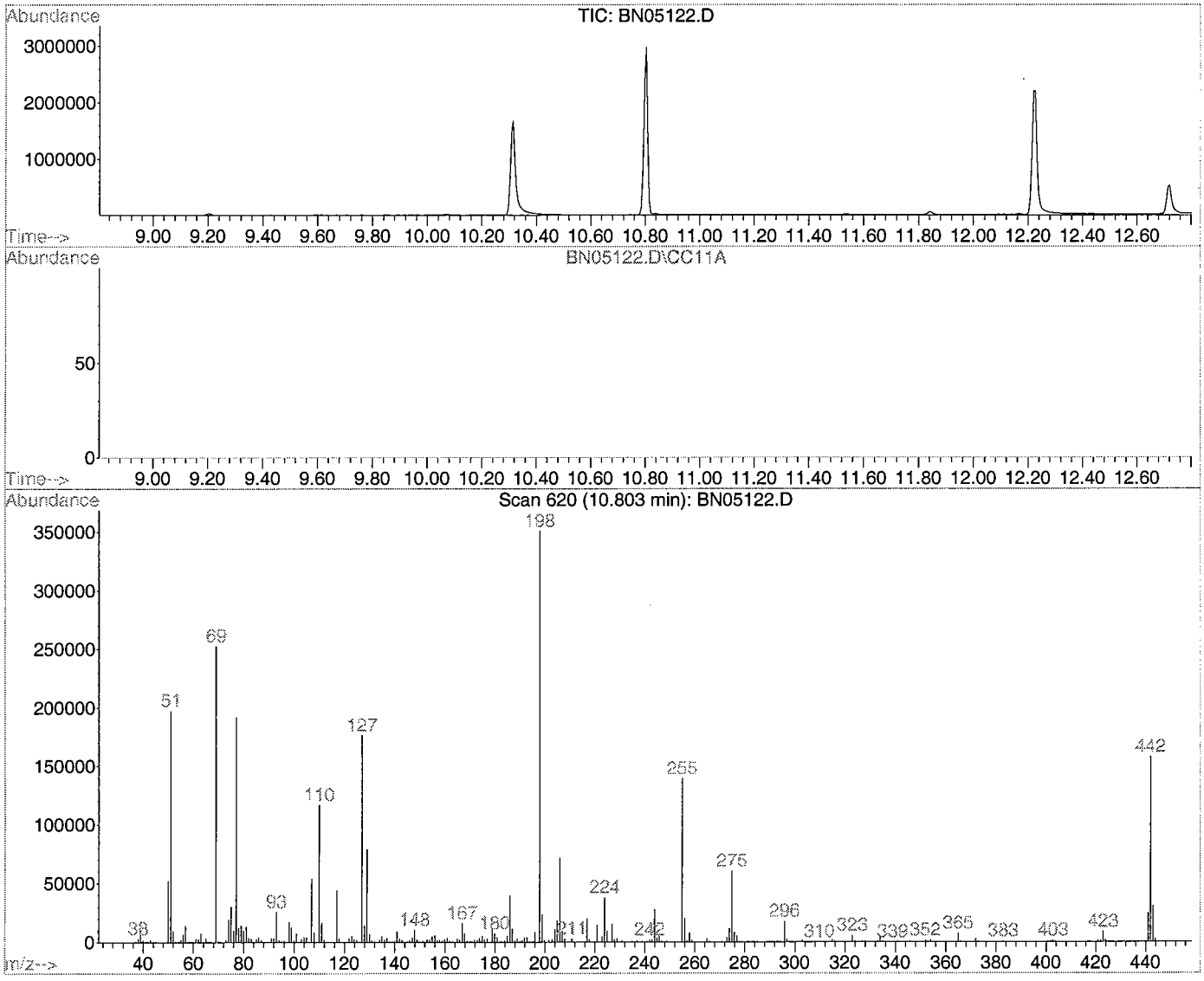
1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD120	SSTD120	BN05123.D	9/6/01	9:26
02	SSTD010	SSTD010	BN05124.D	9/6/01	10:10
03	SSTD050	SSTD050	BN05125.D	9/6/01	10:55
04	SSTD020	SSTD020	BN05126.D	9/6/01	11:39
05	SSTD080	SSTD080	BN05127.D	9/6/01	12:23

DFTPP

Data File : C:\HPCHEM\1\DATA\010906\BN05122.D Vial: 99
Acq On : 6 Sep 2001 9:02 am Operator: B.Patel
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50 NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 620

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	56.3	197504	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	72.0	252544	PASS
70	69	0.00	2	0.4	965	PASS
127	198	40	60	50.3	176512	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	350912	PASS
199	198	5	9	6.7	23544	PASS
275	198	10	30	17.1	60064	PASS
365	198	1	100	2.0	7186	PASS
441	443	1	99	80.8	24544	PASS
442	198	40	100	44.9	157632	PASS
443	442	17	23	19.3	30384	PASS

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
Response via : Initial Calibration

Calibration Files
120 =BN05123.D 80 =BN05127.D 50 =BN05125.D
20 =BN05126.D 10 =BN05124.D

		Compound	120	80	50	20	10	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	----------ISTD----------						
2)	T	Pyridine	1.850	1.929	1.906	1.903	1.932	1.904	1.73
3)	T	N-nitroso-dimethylami	1.306	1.334	1.334	1.234	1.272	1.296	3.33
4)	S	2-Fluorophenol	1.670	1.723	1.730	1.677	1.748	1.709	1.99
5)	T	Aniline	2.217	2.449	2.556	2.485	2.623	2.466	6.28
6)	S	Phenol-d6	1.987	2.115	2.178	2.109	2.208	2.119	4.02
7)	TCM	Phenol	1.904	2.161	2.302	2.297	2.382	2.209	8.52
8)	T	bis(2-Chloroethyl)eth	1.915	2.027	2.097	2.104	2.185	2.066	4.89
9)	TM	2-Chlorophenol	1.450	1.498	1.529	1.473	1.562	1.502	2.95
10)	T	1,3-Dichlorobenzene	1.432	1.507	1.538	1.542	1.633	1.530	4.73
11)	TCM	1,4-Dichlorobenzene	1.437	1.526	1.566	1.562	1.639	1.546	4.75
12)	T	Benzyl alcohol	0.807	0.888	0.930	0.922	0.935	0.896	5.93
13)	T	1,2-Dichlorobenzene	1.207	1.344	1.418	1.476	1.565	1.402	9.69
14)	T	2-Methylphenol	1.358	1.451	1.536	1.487	1.608	1.488	6.28
15)	T	bis(2-chloroisopropyl	2.970	3.190	3.304	3.311	3.554	3.266	6.49
16)	T	4-Methylphenol	1.254	1.428	1.508	1.522	1.612	1.465	9.19
17)	TM	n-Nitroso-di-n-propyl	0.208	0.230	0.235	0.232	0.256	0.232	7.43
18)	T	Hexachloroethane	0.732	0.768	0.803	0.789	0.830	0.785	4.69
19)	I	Naphthalene-d8	----------ISTD----------						
20)	S	Nitrobenzene-d5	0.489	0.498	0.513	0.507	0.519	0.505	2.35
21)	T	Nitrobenzene	0.478	0.496	0.513	0.513	0.527	0.505	3.71
22)	T	Isophorone	0.852	0.873	0.877	0.874	0.913	0.878	2.52
23)	TC	2-Nitrophenol	0.221	0.223	0.232	0.220	0.223	0.224	2.13
24)	T	2,4-Dimethylphenol	0.388	0.398	0.420	0.413	0.428	0.409	3.97
25)	T	bis(2-Chloroethoxy)me	0.589	0.621	0.653	0.663	0.703	0.646	6.68
26)	TC	2,4-Dichlorophenol	0.272	0.285	0.292	0.281	0.293	0.285	3.05
27)	T	Benzoic Acid	0.295	0.321	0.304	0.251	0.314	0.297	9.24
28)	TM	1,2,4-Trichlorobenzen	0.285	0.297	0.307	0.311	0.326	0.305	5.11
29)	T	Naphthalene	0.962	1.027	1.066	1.090	1.159	1.061	6.90
30)	T	4-Chloroaniline	0.417	0.442	0.451	0.445	0.440	0.439	2.94
31)	TC	Hexachlorobutadiene	0.150	0.158	0.160	0.161	0.170	0.160	4.48
32)	TCM	4-Chloro-3-methylphen	0.327	0.343	0.354	0.340	0.356	0.344	3.40
33)	T	2-Methylnaphthalene	0.538	0.580	0.609	0.611	0.646	0.597	6.80
34)	I	Acenaphthene-d10	----------ISTD----------						
35)	T	Hexachlorocyclopentad	0.367	0.379	0.383	0.344	0.308	0.356	8.67
36)	TC	2,4,6-Trichlorophenol	0.426	0.425	0.439	0.423	0.435	0.430	1.68
37)	T	2,4,5-Trichlorophenol	0.492	0.500	0.508	0.470	0.468	0.488	3.67
38)	S	2-Fluorobiphenyl	1.341	1.379	1.462	1.479	1.546	1.441	5.67
39)	T	2-Chloronaphthalene	1.222	1.249	1.299	1.320	1.368	1.292	4.46
40)	T	2-Nitroaniline	0.567	0.565	0.569	0.543	0.565	0.562	1.89
41)	T	Dimethylphthalate	1.689	1.730	1.812	1.843	1.928	1.800	5.22
42)	T	Acenaphthylene	1.804	1.902	2.066	2.196	2.273	2.048	9.58
43)	T	2,6-Dinitrotoluene	0.296	0.344	0.358	0.410	0.401	0.362	12.72
44)	T	3-Nitroaniline	0.434	0.436	0.444	0.419	0.417	0.430	2.69
45)	TCM	Acenaphthene	1.181	1.200	1.264	1.281	1.374	1.260	6.06
46)	T	2,4-Dinitrophenol	0.250	0.247	0.230	0.167	0.151	0.209	22.20
47)	T	Dibenzofuran	1.524	1.625	1.713	1.754	1.855	1.694	7.44
48)	TM	4-Nitrophenol	0.318	0.345	0.335	0.238	0.278	0.303	14.57
49)	TM	2,4-Dinitrotoluene	0.496	0.495	0.498	0.488	0.510	0.497	1.56
50)	T	Diethylphthalate	1.775	1.872	1.945	2.039	2.188	1.964	8.07
51)	T	Fluorene	1.216	1.302	1.365	1.388	1.460	1.346	6.84
52)	T	4-Chlorophenyl-phenyl	0.644	0.683	0.723	0.721	0.752	0.705	5.93
53)	T	4-Nitroaniline	0.407	0.404	0.409	0.404	0.423	0.409	1.89
54)	I	Phenanthrene-d10	----------ISTD----------						

#) = Out of Range

Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
Response via : Initial Calibration

Calibration Files
120 =BN05123.D 80 =BN05127.D 50 =BN05125.D
20 =BN05126.D 10 =BN05124.D

		Compound	120	80	50	20	10	Avg	%RSD
55)	T	4,6-Dinitro-2-methylp	0.187	0.185	0.187	0.166	0.151	0.175	9.26
56)	TC	n-Nitrosodiphenylamin	0.628	0.650	0.694	0.683	0.726	0.676	5.66
57)	T	Azobenzene	1.247	1.293	1.371	1.392	1.474	1.355	6.54
58)	S	2,4,6-Tribromophenol	0.130	0.129	0.130	0.124	0.129	0.128	2.20
59)	T	4-Bromophenyl-phenyle	0.231	0.236	0.243	0.244	0.254	0.241	3.63
60)	T	Hexachlorobenzene	0.228	0.228	0.234	0.234	0.249	0.234	3.67
61)	TCM	Pentachlorophenol	0.142	0.142	0.142	0.118	0.123	0.134	9.01
62)	T	Phenanthrene	1.047	1.108	1.142	1.164	1.280	1.148	7.48
63)	T	Anthracene	1.095	1.095	1.150	1.191	1.258	1.158	5.96
64)	T	Di-n-butylphthalate	1.779	1.901	1.953	1.975	2.154	1.952	6.96
65)	TC	Fluoranthene	1.018	1.065	1.113	1.115	1.209	1.104	6.43
66)	I	Chrysene-d12	----------ISTD----------						
67)	T	Benzidine	0.764	0.703	0.688	0.626	0.809	0.718	9.87
68)	TM	Pyrene	1.730	1.695	1.690	1.617	1.744	1.695	2.91
69)	S	p-Terphenyl-d14	0.962	0.975	0.958	0.920	0.978	0.959	2.44
70)	T	Butylbenzylphthalate	1.327	1.301	1.304	1.218	1.232	1.276	3.76
71)	T	Benzo[a]anthracene	1.314	1.319	1.297	1.228	1.376	1.307	4.08
72)	T	3,3'-Dichlorobenzidin	0.592	0.576	0.582	0.569	0.631	0.590	4.18
73)	T	Chrysene	1.292	1.237	1.258	1.181	1.280	1.250	3.51
74)	T	bis(2-Ethylhexyl)phth	1.734	1.718	1.726	1.585	1.632	1.679	3.97
75)	I	Perylene-d12	----------ISTD----------						
76)	TC	Di-n-octylphthalate	3.984	4.172	4.126	4.018	4.217	4.103	2.43
77)	T	Benzo[b]fluoranthene	1.626	1.680	1.664	1.617	1.687	1.655	1.90
78)	T	Benzo[k]fluoranthene	1.567	1.618	1.644	1.613	1.732	1.635	3.74
79)	TC	Benzo[a]pyrene	1.534	1.566	1.580	1.525	1.640	1.569	2.91
80)	T	Indeno[1,2,3-cd]pyren	1.471	1.480	1.414	1.265	1.343	1.395	6.50
81)	T	Dibenz[a,h]anthracene	1.113	1.087	1.027	0.951	1.008	1.037	6.24
82)	T	Benzo[g,h,i]perylene	1.438	1.415	1.341	1.246	1.292	1.347	6.01

#) = Out of Range

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.:

Lab File ID: BN05157.D DFTPP Injection Date: 9/14/01

Instrument ID: GC_BNA_1 DFTPP Injection Time: 11:26

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	51.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	65.4
70	Less than 2.0% of mass 69	0.4 (0.6)1
127	25.0 - 75.0% of mass 198	48.1
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	19.1
365	Greater than 0.75% of mass 198	2.5
441	Present, but less than mass 443	8.7
442	40.0 - 110.0% of mass 198	56.8
443	15.0 - 24.0% of mass 442	10.6 (18.6)2

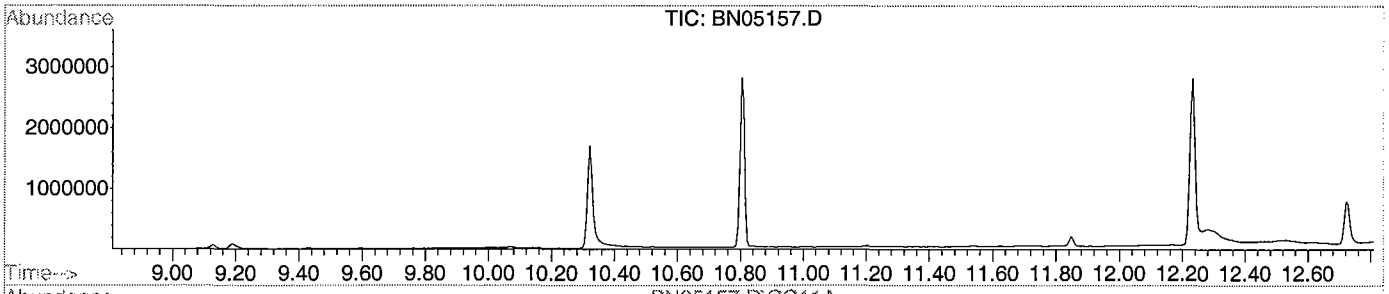
1-Value is % mass 69 2-Value is % mass 442

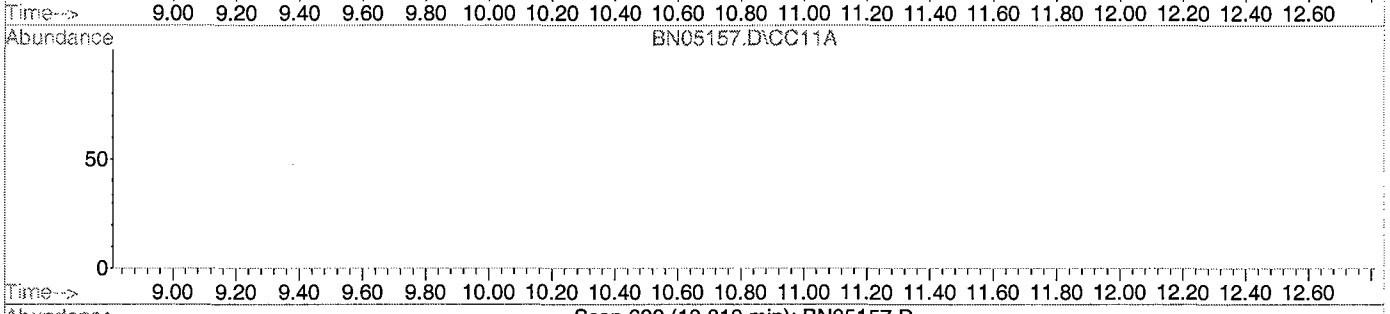
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

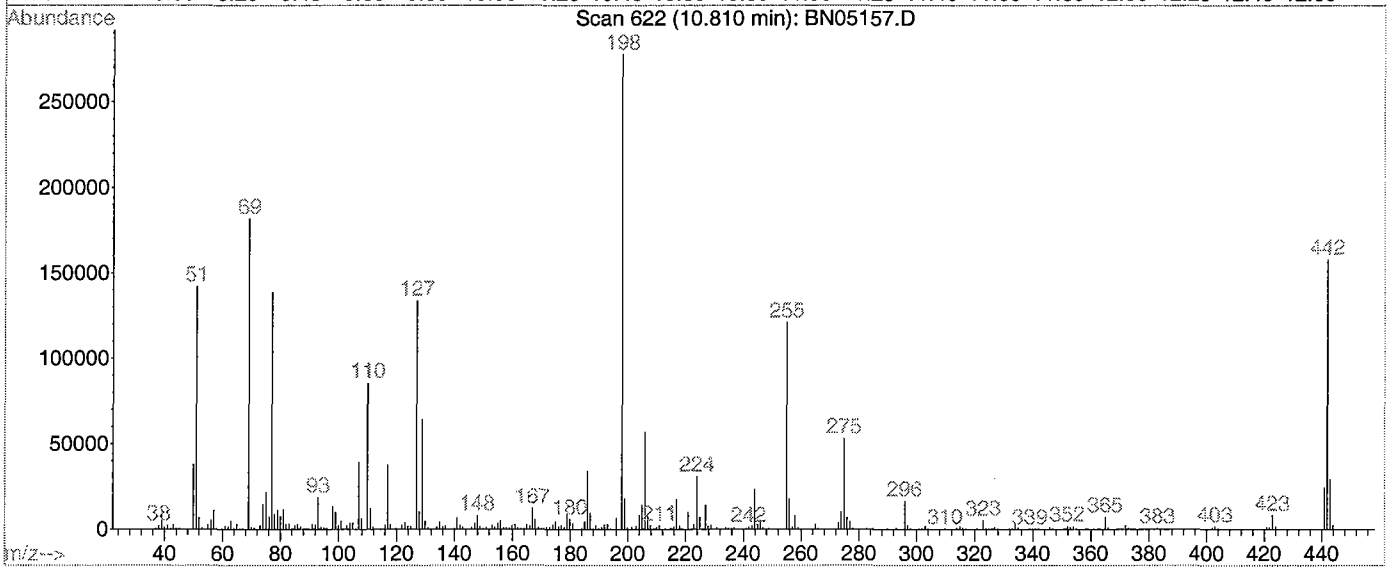
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	SSTD050	BN05158.D	9/14/01	11:51
02	MB-010914	MB-010914	BN05165.D	9/14/01	17:34
03	1102 GW	1642101	BN05170.D	9/14/01	21:19

DFTPP

Data File : C:\HPCHEM\1\DATA\010914\BN05157.D Vial: 99
Acq On : 14 Sep 2001 11:26 am Operator: B.Patel
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50 NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration







Spectrum Information: Scan 622

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.1	142080	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	65.4	181824	PASS
70	69	0.00	2	0.6	1083	PASS
127	198	40	60	48.1	133760	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	277888	PASS
199	198	5	9	6.5	18040	PASS
275	198	10	30	19.1	53024	PASS
365	198	1	100	2.5	6968	PASS
441	443	1	99	82.4	24232	PASS
442	198	40	100	56.8	157824	PASS
443	442	17	23	18.6	29416	PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010914\BN05158.D Vial: 100
Acq On : 14 Sep 2001 11:51 am Operator: B.Patel
Sample : Sstd050 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\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
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	74	0.00
2	T	Pyridine	1.904	1.615	15.2	63	0.01
3	T	N-nitroso-dimethylamine	1.296	1.158	10.6	65	0.00
4	S	2-Fluorophenol	1.709	1.654	3.2	71	0.02
5	T	Aniline	2.466	2.427	1.6	71	0.01
6	S	Phenol-d6	2.119	2.193	-3.5	75	0.03
7	TCM	Phenol	2.209	2.221	-0.5	72	0.02
8	T	bis(2-Chloroethyl)ether	2.066	2.073	-0.3	74	0.00
9	TM	2-Chlorophenol	1.502	1.501	0.1	73	0.02
10	T	1,3-Dichlorobenzene	1.530	1.558	-1.8	75	0.00
11	TCM	1,4-Dichlorobenzene	1.546	1.585	-2.5	75	0.00
12	T	Benzyl alcohol	0.896	0.966	-7.8	77	0.01
13	T	1,2-Dichlorobenzene	1.402	1.448	-3.3	76	0.00
14	T	2-Methylphenol	1.488	1.545	-3.8	75	0.02
15	T	bis(2-chloroisopropyl)ether	3.266	3.342	-2.3	75	0.00
16	T	4-Methylphenol	1.465	1.555	-6.1	77	0.02
17	TM	n-Nitroso-di-n-propylamine	0.232	0.248	-6.9	78	0.00
18	T	Hexachloroethane	0.785	0.816	-3.9	76	0.00
19	I	Naphthalene-d8	1.000	1.000	0.0	75	0.00
20	S	Nitrobenzene-d5	0.505	0.530	-5.0	78	0.00
21	T	Nitrobenzene	0.505	0.525	-4.0	77	0.00
22	T	Isophorone	0.878	0.909	-3.5	78	0.00
23	TC	2-Nitrophenol	0.224	0.231	-3.1	75	0.00
24	T	2,4-Dimethylphenol	0.409	0.421	-2.9	75	0.02
25	T	bis(2-Chloroethoxy)methane	0.646	0.678	-5.0	78	0.00
26	TC	2,4-Dichlorophenol	0.285	0.299	-4.9	77	0.02
27	T	Benzoic Acid	0.297	0.224	24.6	55	-0.01
28	TM	1,2,4-Trichlorobenzene	0.305	0.321	-5.2	79	0.00
29	T	Naphthalene	1.061	1.113	-4.9	79	0.00
30	T	4-Chloroaniline	0.439	0.417	5.0	69	0.00
31	TC	Hexachlorobutadiene	0.160	0.171	-6.9	80	0.00
32	TCM	4-Chloro-3-methylphenol	0.344	0.367	-6.7	78	0.03
33	T	2-Methylnaphthalene	0.597	0.620	-3.9	77	0.00
34	I	Acenaphthene-d10	1.000	1.000	0.0	81	0.00
35	T	Hexachlorocyclopentadiene	0.356	0.353	0.8	74	0.00
36	TC	2,4,6-Trichlorophenol	0.430	0.426	0.9	78	0.01
37	T	2,4,5-Trichlorophenol	0.488	0.486	0.4	77	0.03
38	S	2-Fluorobiphenyl	1.441	1.419	1.5	78	0.00
39	T	2-Chloronaphthalene	1.292	1.286	0.5	80	0.00
40	T	2-Nitroaniline	0.562	0.555	1.2	79	0.01
41	T	Dimethylphthalate	1.800	1.775	1.4	79	0.00
42	T	Acenaphthylene	2.048	2.069	-1.0	81	0.00
43	T	2,6-Dinitrotoluene	0.362	0.374	-3.3	84	0.00
44	T	3-Nitroaniline	0.430	0.396	7.9	72	0.01
45	TCM	Acenaphthene	1.260	1.247	1.0	80	0.00
46	T	2,4-Dinitrophenol	0.209	0.219	-4.8	77	0.01
47	T	Dibenzofuran	1.694	1.710	-0.9	81	0.00
48	TM	4-Nitrophenol	0.303	0.255	15.8	61	0.06
49	TM	2,4-Dinitrotoluene	0.497	0.500	-0.6	81	0.00
50	T	Diethylphthalate	1.964	2.047	-4.2	85	0.00
51	T	Fluorene	1.346	1.336	0.7	79	0.00
52	T	4-Chlorophenyl-phenylether	0.705	0.711	-0.9	79	0.00
53	T	4-Nitroaniline	0.409	0.395	3.4	78	0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010914\BN05158.D Vial: 100
Acq On : 14 Sep 2001 11:51 am Operator: B.Patel
Sample : Sstd050 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\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
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)
54	I	Phenanthrene-d10	1.000	1.000	0.0	79	0.00
55	T	4,6-Dinitro-2-methylphenol	0.175	0.183	-4.6	77	0.01
56	TC	n-Nitrosodiphenylamine	0.676	0.691	-2.2	78	0.01
57	T	Azobenzene	1.355	1.392	-2.7	80	0.00
58	S	2,4,6-Tribromophenol	0.128	0.133	-3.9	80	0.00
59	T	4-Bromophenyl-phenylether	0.241	0.248	-2.9	81	0.00
60	T	Hexachlorobenzene	0.234	0.235	-0.4	79	0.00
61	TCM	Pentachlorophenol	0.134	0.125	6.7	69	0.02
62	T	Phenanthrene	1.148	1.166	-1.6	81	0.00
63	T	Anthracene	1.158	1.176	-1.6	81	0.01
64	T	Di-n-butylphthalate	1.952	2.064	-5.7	83	0.01
65	TC	Fluoranthene	1.104	1.099	0.5	78	0.01
66	I	Chrysene-d12	1.000	1.000	0.0	76	0.01
67	T	Benzidine	0.718	0.624	13.1	69	0.00
68	TM	Pyrene	1.695	1.720	-1.5	77	0.01
69	S	p-Terphenyl-d14	0.959	0.957	0.2	76	0.00
70	T	Butylbenzylphthalate	1.276	1.335	-4.6	78	0.00
71	T	Benzo[a]anthracene	1.307	1.225	6.3	72	0.01
72	T	3,3'-Dichlorobenzidine	0.590	0.574	2.7	75	0.02
73	T	Chrysene	1.250	1.148	8.2	69	0.01
74	T	bis(2-Ethylhexyl)phthalate	1.679	1.781	-6.1	78	0.00
75	I	Perylene-d12	1.000	1.000	0.0	73	0.01
76	TC	Di-n-octylphthalate	4.103	4.388	-6.9	78	0.01
77	T	Benzo[b]fluoranthene	1.655	1.612	2.6	71	0.01
78	T	Benzo[k]fluoranthene	1.635	1.634	0.1	73	0.00
79	TC	Benzo[a]pyrene	1.569	1.552	1.1	72	0.01
80	T	Indeno[1,2,3-cd]pyrene	1.395	1.569	-12.5	81	0.02
81	T	Dibenz[a,h]anthracene	1.037	1.096	-5.7	78	0.02
82	T	Benzo[g,h,i]perylene	1.347	1.417	-5.2	77	0.02

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.:

Lab File ID: BNA06045.D DFTPP Injection Date: 9/7/01

Instrument ID: GC_BNA_2 DFTPP Injection Time: 13:43

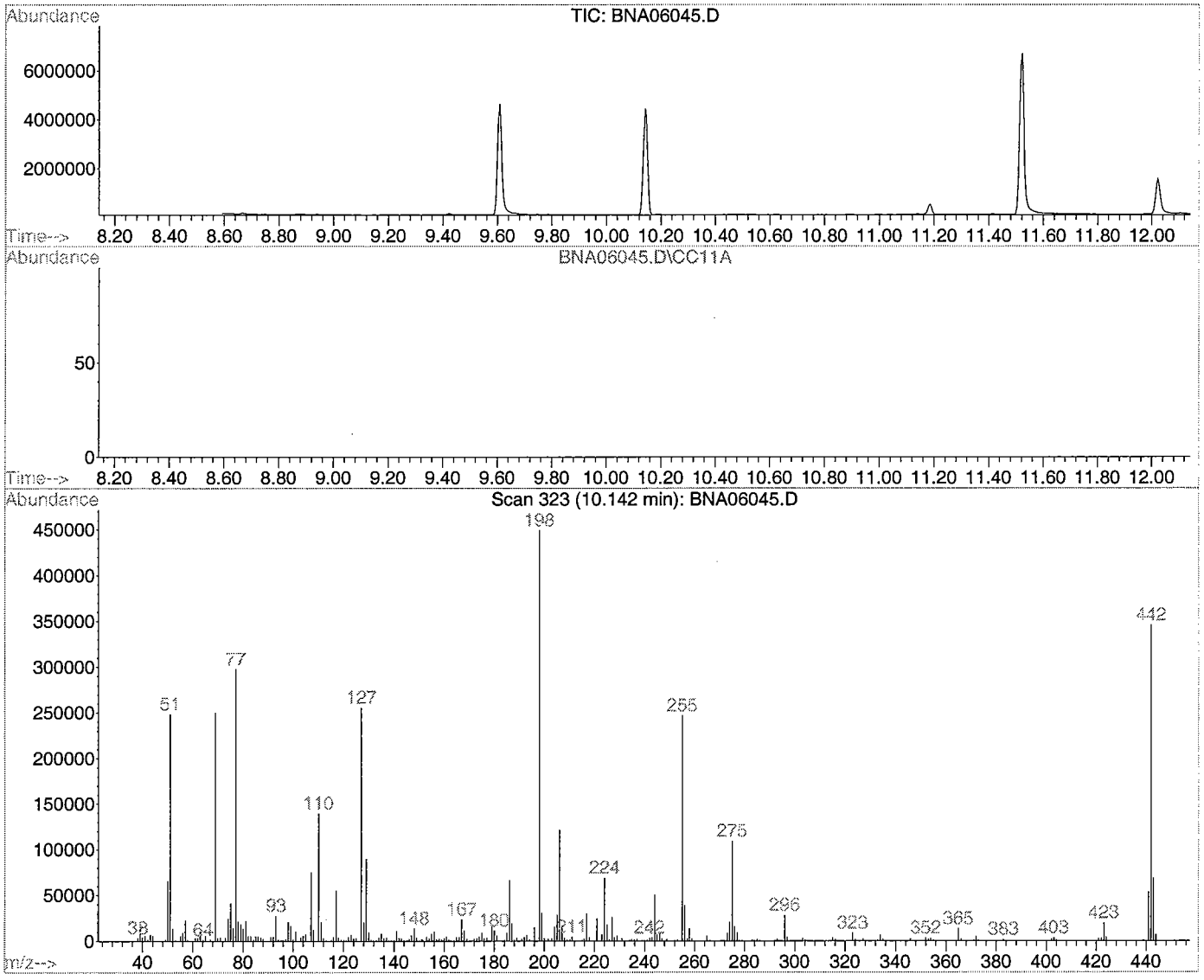
m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	55.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	55.5
70	Less than 2.0% of mass 69	0.7 (1.3)1
127	25.0 - 75.0% of mass 198	56.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	24.2
365	Greater than 0.75% of mass 198	3.0
441	Present, but less than mass 443	11.8
442	40.0 - 110.0% of mass 198	76.8
443	15.0 - 24.0% of mass 442	15.2 (19.7)2

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

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

	Field Id:	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	SSTD050	BNA06046.D	9/7/01	14:08
02	1640704MS	1640704MS	BNA06053.D	9/7/01	20:27
03	1640704MSD	1640704MSD	BNA06054.D	9/7/01	21:10

Data File : D:\DATA\010907\BNA06045.D Vial: 99
Acq On : 7 Sep 2001 1:43 pm Operator: B.Patel
Sample : DFTPP TUNE Inst : GC/MS Ins
Misc : 50 NG/2UL Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Method : C:\HPCHEM\1\METHODS\M262547.M (RTE Integrator)
Title : BNA Calibration



Spectrum Information: Scan 323

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	55.3	248448	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	55.5	249664	PASS
70	69	0.00	2	1.3	3369	PASS
127	198	40	60	56.8	255360	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	449472	PASS
199	198	5	9	6.9	30848	PASS
275	198	10	30	24.2	108952	PASS
365	198	1	100	3.0	13313	PASS
441	443	1	99	78.1	53240	PASS
442	198	40	100	76.8	345344	PASS
443	442	17	23	19.7	68200	PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\010907\BNA06046.D Vial: 100
Acq On : 7 Sep 2001 2:08 pm Operator: B.Patel
Sample : Sstd050 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\M262550.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:38:29 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	103	-0.01
2	T	Pyridine	1.920	1.967	-2.4	105	-0.03
3	T	N-nitroso-dimethylamine	1.196	1.233	-3.1	103	-0.02
4	S	2-Fluorophenol	1.530	1.563	-2.2	103	-0.01
5	T	Aniline	2.496	2.471	1.0	101	-0.01
6	S	Phenol-d6	1.921	1.919	0.1	102	-0.01
7	TCM	Phenol	1.990	1.977	0.7	103	0.00
8	T	bis(2-Chloroethyl)ether	1.957	1.958	-0.1	102	-0.01
9	TM	2-Chlorophenol	1.440	1.435	0.3	102	-0.01
10	T	1,3-Dichlorobenzene	1.572	1.567	0.3	102	-0.01
11	TCM	1,4-Dichlorobenzene	1.584	1.577	0.4	102	-0.01
12	T	Benzyl alcohol	0.935	0.963	-3.0	101	-0.01
13	T	1,2-Dichlorobenzene	1.478	1.470	0.5	103	-0.01
14	T	2-Methylphenol	1.466	1.463	0.2	101	0.00
15	T	bis(2-chloroisopropyl)ether	2.038	2.006	1.6	101	-0.01
16	T	4-Methylphenol	1.525	1.517	0.5	100	0.00
17	TPM	n-Nitroso-di-n-propylamine	0.291	0.288	1.0	101	0.00
18	T	Hexachloroethane	0.661	0.668	-1.1	103	-0.01
19	I	Naphthalene-d8	1.000	1.000	0.0	101	-0.01
20	S	Nitrobenzene-d5	0.493	0.498	-1.0	102	-0.01
21	T	Nitrobenzene	0.506	0.520	-2.8	103	-0.01
22	T	Isophorone	0.833	0.821	1.4	101	0.00
23	TC	2-Nitrophenol	0.205	0.209	-2.0	101	-0.01
24	T	2,4-Dimethylphenol	0.407	0.412	-1.2	102	-0.01
25	T	bis(2-Chloroethoxy)methane	0.598	0.599	-0.2	101	0.00
26	TC	2,4-Dichlorophenol	0.302	0.304	-0.7	100	-0.01
27	T	Benzoic Acid	0.302	0.311	-3.0	102	0.00
28	TM	1,2,4-Trichlorobenzene	0.327	0.327	0.0	102	0.00
29	T	Naphthalene	1.057	1.070	-1.2	101	0.00
30	T	4-Chloroaniline	0.441	0.435	1.4	98	0.00
31	TC	Hexachlorobutadiene	0.188	0.189	-0.5	102	-0.01
32	TCM	4-Chloro-3-methylphenol	0.354	0.359	-1.4	101	-0.01
33	T	2-Methylnaphthalene	0.661	0.660	0.2	101	0.00
34	I	Acenaphthene-d10	1.000	1.000	0.0	101	0.00
35	TP	Hexachlorocyclopentadiene	0.373	0.395	-5.9	103	-0.01
36	TC	2,4,6-Trichlorophenol	0.401	0.405	-1.0	102	-0.01
37	T	2,4,5-Trichlorophenol	0.456	0.470	-3.1	100	-0.01
38	S	2-Fluorobiphenyl	1.328	1.327	0.1	101	0.00
39	T	2-Chloronaphthalene	1.234	1.234	0.0	101	0.00
40	T	2-Nitroaniline	0.453	0.463	-2.2	101	0.00
41	T	Dimethylphthalate	1.644	1.623	1.3	100	0.00
42	T	Acenaphthylene	1.925	1.924	0.1	101	-0.01
43	T	2,6-Dinitrotoluene	0.401	0.406	-1.2	103	-0.01
44	T	3-Nitroaniline	0.361	0.357	1.1	100	0.00
45	TCM	Acenaphthene	1.193	1.179	1.2	100	-0.01
46	TP	2,4-Dinitrophenol	0.192	0.202	-5.2	98	0.00
47	T	Dibenzofuran	1.628	1.611	1.0	100	-0.01
48	TMP	4-Nitrophenol	0.342	0.316	7.6	100	0.00
49	TM	2,4-Dinitrotoluene	0.461	0.461	0.0	102	0.00
50	T	Diethylphthalate	1.650	1.765	-7.0	109	0.00
51	T	Fluorene	1.382	1.369	0.9	101	-0.01
52	T	4-Chlorophenyl-phenylether	0.777	0.767	1.3	100	0.00
53	T	4-Nitroaniline	0.348	0.345	0.9	99	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\DATA\010907\BNA06046.D Vial: 100
Acq On : 7 Sep 2001 2:08 pm Operator: B.Patel
Sample : Sstd050 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\M262550.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:38:29 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00
55	T	4,6-Dinitro-2-methylphenol	0.163	0.166	-1.8	98	0.00
56	TC	n-Nitrosodiphenylamine	0.693	0.697	-0.6	100	0.00
57	T	Azobenzene	1.107	1.102	0.5	101	0.00
58	S	2,4,6-Tribromophenol	0.123	0.124	-0.8	100	0.00
59	T	4-Bromophenyl-phenylether	0.273	0.273	0.0	100	-0.01
60	T	Hexachlorobenzene	0.236	0.236	0.0	100	-0.01
61	TCM	Pentachlorophenol	0.135	0.146	-8.1	104	0.00
62	T	Phenanthrene	1.170	1.173	-0.3	100	0.00
63	T	Anthracene	1.198	1.210	-1.0	101	0.00
64	T	Di-n-butylphthalate	1.565	1.581	-1.0	100	0.00
65	TC	Fluoranthene	1.225	1.236	-0.9	101	0.00
66	I	Chrysene-d12	1.000	1.000	0.0	99	0.00
67	T	Benzidine	0.645	0.528	18.1	88	0.00
68	TM	Pyrene	1.355	1.366	-0.8	100	0.00
69	S	p-Terphenyl-d14	0.959	0.965	-0.6	100	0.00
70	T	Butylbenzylphthalate	0.804	0.740	8.0	90	0.00
71	T	Benzo[a]anthracene	1.322	1.330	-0.6	100	0.00
72	T	3,3'-Dichlorobenzidine	0.574	0.556	3.1	99	-0.01
73	T	Chrysene	1.255	1.264	-0.7	100	0.00
74	T	bis(2-Ethylhexyl)phthalate	1.079	1.049	2.8	95	0.00
75	I	Perylene-d12	1.000	1.000	0.0	98	0.00
76	TC	Di-n-octylphthalate	2.237	2.269	-1.4	97	0.00
77	T	Benzo[b]fluoranthene	1.607	1.632	-1.6	101	0.00
78	T	Benzo[k]fluoranthene	1.588	1.586	0.1	97	0.00
79	TC	Benzo[a]pyrene	1.553	1.553	0.0	99	0.00
80	T	Indeno[1,2,3-cd]pyrene	1.583	1.590	-0.4	98	-0.01
81	T	Dibenz[a,h]anthracene	1.208	1.216	-0.7	99	-0.01
82	T	Benzo[g,h,i]perylene	1.518	1.527	-0.6	99	0.00

4B

EPA SAMPLE NO.

SEMIVOLATILE METHOD BLANK SUMMARY

MB-010914

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.:

Lab File ID: BN05165.D Lab Sample ID: MB-010914

Instrument ID: GC/MS Ins Date Extracted: 9/14/01

Matrix: (soil/water) WATER Date Analyzed: 9/14/01

Level: (low/med) LOW Time Analyzed: 17:34

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	1102 GW	1642101	BN05170.D	9/14/01

COMMENTS:

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.: _____

	EPA SAMPLE NO.	S1 NBZ #	S2 2FP #	S3 TPL #	TOT OUT
01	MB-010914	71	68	64	0
02	1102 GW	68	66	34 *	1

QC LIMITS

S1	NBZ	=	Nitrobenzene-d5	(42-106)
S2	2FP	=	2-Fluorobiphenyl	(10-118)
S3	TPL	=	p-Terphenyl-d14	(43-142)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.: _____

	Field Id:	S1 2FP #	S2 PHL #	S3 NBZ #	S4 2FP #	S5 TBP #	S6 TPL #	TOT OUT
01	1640704MS	36	24	61	63	64	65	0
02	1640704MSD	36	24	65	66	68	68	0

QC LIMITS

S1	2FP	=	2-Fluorophenol	(24-71)
S2	PHL	=	Phenol-d6	(10-126)
S3	NBZ	=	Nitrobenzene-d5	(42-106)
S4	2FP	=	2-Fluorobiphenyl	(10-118)
S5	TBP	=	2,4,6-Tribromophenol	(50-117)
S6	TPL	=	p-Terphenyl-d14	(43-142)

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 **BNA06053.D** Sample Name **1640704MS**

Date Acquired **7-Sep-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		7.25 ug/L	36.26
62-75-9	N-nitroso-dimethylamine		6.23 ug/L	31.17
62-53-3	Aniline		5.82 ug/L	29.09
111-44-4	bis(2-Chloroethyl)ether		9.65 ug/L	48.25
541-73-1	1,3-Dichlorobenzene		10.72 ug/L	53.58
106-46-7	1,4-Dichlorobenzene		10.73 ug/L	53.63
100-51-6	Benzyl alcohol		11.18 ug/L	55.91
95-50-1	1,2-Dichlorobenzene		11.07 ug/L	55.37
39638-32-9	bis(2-chloroisopropyl)ether		13.18 ug/L	65.88
621-64-7	n-Nitroso-di-n-propylamine		10.10 ug/L	50.49
67-72-1	Hexachloroethane		10.71 ug/L	53.56
98-95-3	Nitrobenzene		12.40 ug/L	61.99
78-59-1	Isophorone		13.04 ug/L	65.20
111-91-1	bis(2-Chloroethoxy)methane		10.37 ug/L	51.87
120-82-1	1,2,4-Trichlorobenzene		11.44 ug/L	57.22
91-20-3	Naphthalene		12.39 ug/L	61.96
106-47-8	4-Chloroaniline		10.41 ug/L	52.03
87-68-3	Hexachlorobutadiene		11.30 ug/L	56.50
91-57-6	2-Methylnaphthalene		13.25 ug/L	66.23
77-47-4	Hexachlorocyclopentadiene		7.63 ug/L	38.14
91-58-7	2-Chloronaphthalene		12.64 ug/L	63.20
88-74-4	2-Nitroaniline		12.84 ug/L	64.18
131-11-3	Dimethylphthalate		11.31 ug/L	56.53
208-96-8	Acenaphthylene		12.52 ug/L	62.62
606-20-2	2,6-Dinitrotoluene		13.27 ug/L	66.34
99-09-2	3-Nitroaniline		11.29 ug/L	56.47
83-32-9	Acenaphthene		13.05 ug/L	65.24
132-64-9	Dibenzofuran		13.90 ug/L	69.48
121-14-2	2,4-Dinitrotoluene		12.95 ug/L	64.73
84-66-2	Diethylphthalate		12.76 ug/L	63.78
86-73-7	Fluorene		13.31 ug/L	66.55
7005-72-3	4-Chlorophenyl-phenylether		10.84 ug/L	54.21
100-01-6	4-Nitroaniline		11.51 ug/L	57.53
86-30-6	n-Nitrosodiphenylamine		11.56 ug/L	57.81
103-33-3	Azobenzene		13.16 ug/L	65.82
101-55-3	4-Bromophenyl-phenylether		11.15 ug/L	55.77
118-74-1	Hexachlorobenzene		13.25 ug/L	66.27
85-01-8	Phenanthrene		14.33 ug/L	71.67
120-12-7	Anthracene		13.96 ug/L	69.79
84-74-2	Di-n-butylphthalate		12.94 ug/L	64.70
206-44-0	Fluoranthene		14.74 ug/L	73.70
129-00-0	Pyrene		15.04 ug/L	75.18
85-68-7	Butylbenzylphthalate		12.02 ug/L	60.10
56-55-3	Benzo[a]anthracene		14.65 ug/L	73.24
218-01-9	Chrysene		12.24 ug/L	61.19
117-81-7	bis(2-Ethylhexyl)phthalate		12.13 ug/L	60.63
117-84-0	Di-n-octylphthalate		12.22 ug/L	61.09
205-99-2	Benzo[b]fluoranthene		14.22 ug/L	71.12
207-08-9	Benzo[k]fluoranthene		14.82 ug/L	74.09
50-32-8	Benzo[a]pyrene		13.75 ug/L	68.73
193-39-5	Indeno[1,2,3-cd]pyrene		15.68 ug/L	78.38
53-70-3	Dibenz[a,h]anthracene		17.46 ug/L	87.28
191-24-2	Benzo[g,h,i]perylene		14.00 ug/L	69.99

Base Neutral Spike Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name **BNA06054.D** Sample Name **1640704MSD**

Date Acquired **7-Sep-01**

CAS#	Name		Amount Recovered	Percent Recovered
110-86-1	Pyridine		7.06 ug/L	35.30
62-75-9	N-nitroso-dimethylamine		6.61 ug/L	33.04
62-53-3	Aniline		6.20 ug/L	30.99
111-44-4	bis(2-Chloroethyl)ether		10.40 ug/L	51.99
541-73-1	1,3-Dichlorobenzene		11.96 ug/L	59.82
106-46-7	1,4-Dichlorobenzene		11.85 ug/L	59.27
100-51-6	Benzyl alcohol		11.55 ug/L	57.74
95-50-1	1,2-Dichlorobenzene		12.11 ug/L	60.57
39638-32-9	bis(2-chloroisopropyl)ether		14.44 ug/L	72.18
621-64-7	n-Nitroso-di-n-propylamine		10.74 ug/L	53.68
67-72-1	Hexachloroethane		11.69 ug/L	58.47
98-95-3	Nitrobenzene		13.28 ug/L	66.39
78-59-1	Isophorone		14.05 ug/L	70.25
111-91-1	bis(2-Chloroethoxy)methane		11.21 ug/L	56.07
120-82-1	1,2,4-Trichlorobenzene		12.42 ug/L	62.09
91-20-3	Naphthalene		13.43 ug/L	67.17
106-47-8	4-Chloroaniline		11.34 ug/L	56.69
87-68-3	Hexachlorobutadiene		12.13 ug/L	60.63
91-57-6	2-Methylnaphthalene		14.47 ug/L	72.33
77-47-4	Hexachlorocyclopentadiene		8.90 ug/L	44.51
91-58-7	2-Chloronaphthalene		13.65 ug/L	68.25
88-74-4	2-Nitroaniline		14.24 ug/L	71.18
131-11-3	Dimethylphthalate		12.27 ug/L	61.33
208-96-8	Acenaphthylene		13.81 ug/L	69.05
606-20-2	2,6-Dinitrotoluene		14.52 ug/L	72.59
99-09-2	3-Nitroaniline		12.62 ug/L	63.09
83-32-9	Acenaphthene		14.03 ug/L	70.13
132-64-9	Dibenzofuran		14.96 ug/L	74.82
121-14-2	2,4-Dinitrotoluene		14.39 ug/L	71.96
84-66-2	Diethylphthalate		13.50 ug/L	67.49
86-73-7	Fluorene		14.50 ug/L	72.49
7005-72-3	4-Chlorophenyl-phenylether		11.98 ug/L	59.89
100-01-6	4-Nitroaniline		11.48 ug/L	57.39
86-30-6	n-Nitrosodiphenylamine		12.60 ug/L	63.01
103-33-3	Azobenzene		14.27 ug/L	71.35
101-55-3	4-Bromophenyl-phenylether		11.91 ug/L	59.54
118-74-1	Hexachlorobenzene		14.23 ug/L	71.16
85-01-8	Phenanthrene		15.32 ug/L	76.61
120-12-7	Anthracene		15.16 ug/L	75.81
84-74-2	Di-n-butylphthalate		13.78 ug/L	68.89
206-44-0	Fluoranthene		15.44 ug/L	77.22
129-00-0	Pyrene		15.81 ug/L	79.06
85-68-7	Butylbenzylphthalate		12.65 ug/L	63.27
56-55-3	Benzo[a]anthracene		15.39 ug/L	76.95
218-01-9	Chrysene		12.85 ug/L	64.27
117-81-7	bis(2-Ethylhexyl)phthalate		12.79 ug/L	63.95
117-84-0	Di-n-octylphthalate		12.79 ug/L	63.94
205-99-2	Benzo[b]fluoranthene		14.81 ug/L	74.03
207-08-9	Benzo[k]fluoranthene		15.28 ug/L	76.39
50-32-8	Benzo[a]pyrene		14.43 ug/L	72.13
193-39-5	Indeno[1,2,3-cd]pyrene		16.31 ug/L	81.57
53-70-3	Dibenz[a,h]anthracene		18.10 ug/L	90.52
191-24-2	Benzo[g,h,i]perylene		14.53 ug/L	72.67

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.:

Lab File ID (Standard): BN05158.D Date Analyzed: 9/14/01

Instrument ID: GC_BNA_1 Time Analyzed: 11:51

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	282873	10.20	1023771	13.11	472221	17.32
	UPPER LIMIT	565746	10.70	2047542	13.61	944442	17.82
	LOWER LIMIT	141437	9.70	511886	12.61	236111	16.82
	EPA SAMPLE NO.						
01	MB-010914	301952	10.20	1124194	13.12	510832	17.32
02	1102 GW	303079	10.20	1129357	13.11	491599	17.32

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

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

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.: _____

Lab File ID (Standard): BN05158.D Date Analyzed: 09/14/01

Instrument ID: GC_BNA_1 Time Analyzed: 11:51

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	726247	20.89	460269	27.31	311861	30.52
	UPPER LIMIT	1452494	20.39	920538	26.81	623722	30.02
	LOWER LIMIT	363124	21.39	230135	27.81	155931	31.02
	EPA SAMPLE NO.						
01	MB-010914	785054	20.89	543793	27.30	371063	30.52
02	1102 GW	769452	20.89	518705	27.30	364271	30.52

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

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

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

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.:

Lab File ID (Standard): BNA06046.D Date Analyzed: 9/7/01

Instrument ID: GC_BNA_2 Time Analyzed: 14:08

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	1047479	9.79	3828605	12.72	2037825	16.95
	UPPER LIMIT	2094958	10.29	7657210	13.22	4075650	17.45
	LOWER LIMIT	523740	9.29	1914303	12.22	1018913	16.45
	Field Id:						
01	1640704MS	1141505	9.79	4133883	12.72	2224425	16.94
02	1640704MSD	1167982	9.79	4254397	12.72	2290352	16.94

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

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

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16421 Location: Bl.1102 SDG No.:

Lab File ID (Standard): BNA06046.D Date Analyzed: 09/07/01

Instrument ID: GC_BNA_2 Time Analyzed: 14:08

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	3321906	20.53	3000011	26.97	2363520	30.19
	UPPER LIMIT	6643812	20.03	6000022	26.47	4727040	29.69
	LOWER LIMIT	1660953	21.03	1500006	27.47	1181760	30.69
	EPA SAMPLE NO.						
01	1640704MS	3596685	20.53	3367499	26.96	2611009	30.18
02	1640704MSD	3720310	20.53	3475079	26.96	2716110	30.18

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/LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\010914\BN05165.D Vial: 7
Acq On : 14 Sep 2001 5:34 pm Operator: B.Patel
Sample : MB Inst : GC/MS Ins
Misc : MB-010914 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Sep 14 18:09 2001 Quant Results File: M62551.RES

Quant Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
Response via : Initial Calibration
DataAcq Meth : M62551

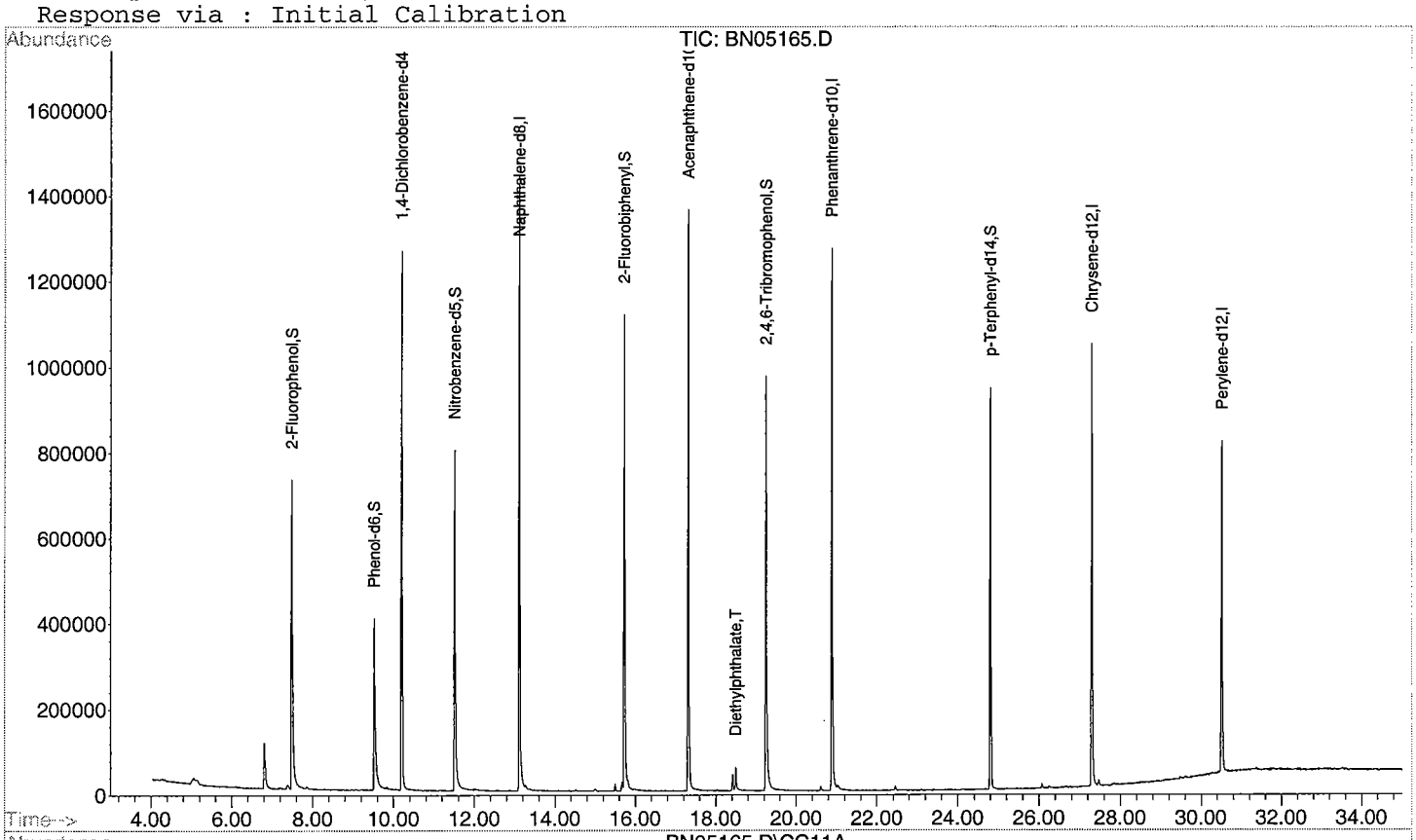
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.20	152	301952	40.00	ug/L	0.00
19) Naphthalene-d8	13.12	136	1124194	40.00	ug/L	0.00
34) Acenaphthene-d10	17.32	164	510832	40.00	ug/L	0.00
54) Phenanthrene-d10	20.89	188	785054	40.00	ug/L	0.00
66) Chrysene-d12	27.30	240	543793	40.00	ug/L	0.00
75) Perylene-d12	30.52	264	371063	40.00	ug/L	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	7.49	112	447877	34.71	ug/L	0.03
Spiked Amount 100.000	Range 21 - 100		Recovery = 34.71%			
6) Phenol-d6	9.52	99	323375	20.21	ug/L	0.03
Spiked Amount 100.000	Range 10 - 94		Recovery = 20.21%			
20) Nitrobenzene-d5	11.51	82	505526	35.60	ug/L	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery = 71.20%			
38) 2-Fluorobiphenyl	15.73	172	622617	33.82	ug/L	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 67.64%			
58) 2,4,6-Tribromophenol	19.26	330	178533	70.83	ug/L	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 70.83%			
69) p-Terphenyl-d14	24.81	244	414443	31.80	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 63.60%			
Target Compounds						Qvalue
50) Diethylphthalate	18.50	149	40128	1.60	ug/L	97

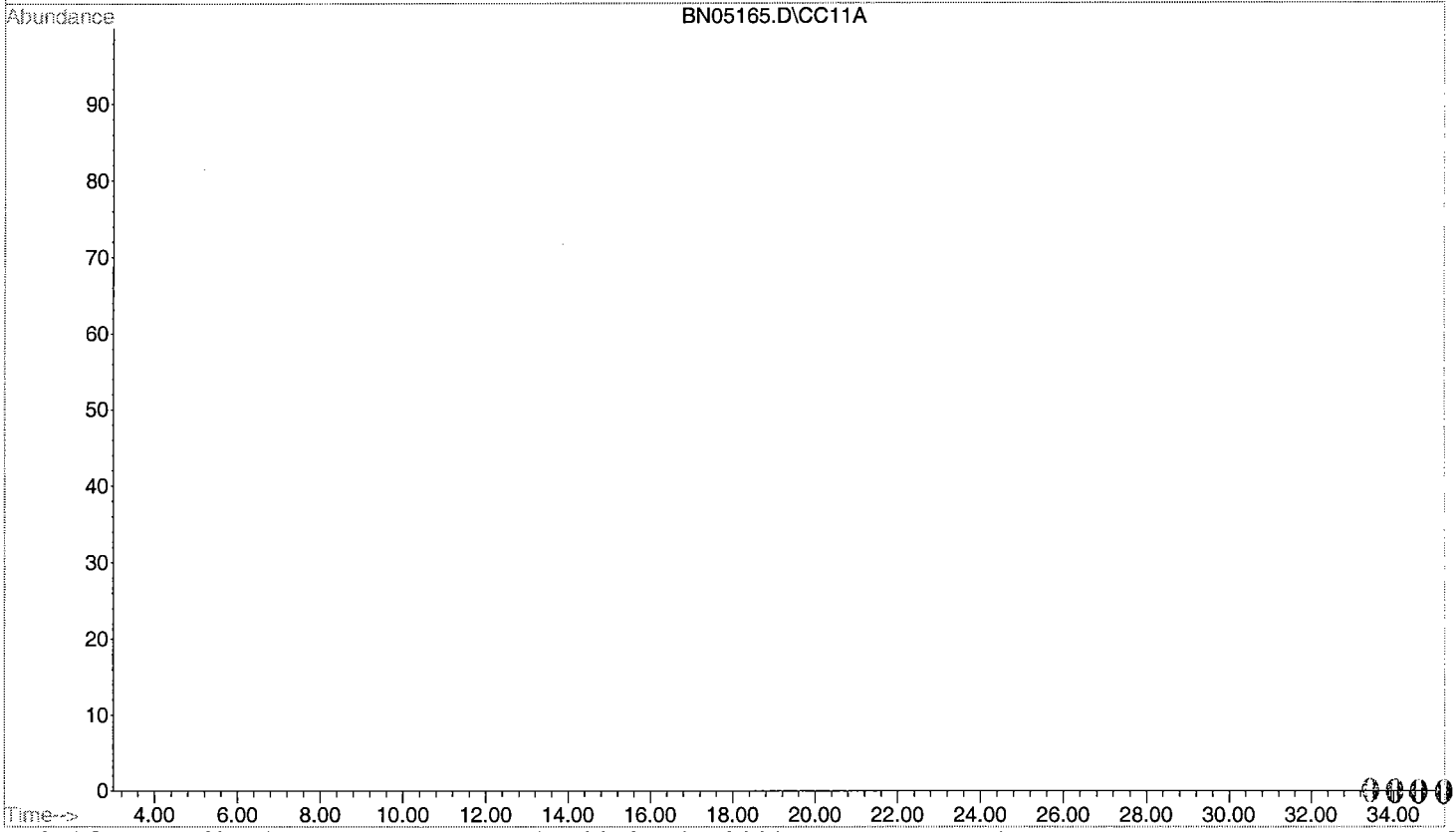
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010914\BN05165.D Vial: 7
Acq On : 14 Sep 2001 5:34 pm Operator: B.Patel
Sample : MB Inst : GC/MS Ins
Misc : MB-010914 Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Sep 14 18:09 2001 Quant Results File: M62551.RES

Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
Response via : Initial Calibration





000060

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010914\BN05170.D Vial: 12
Acq On : 14 Sep 2001 9:19 pm Operator: B.Patel
Sample : 1642101 Inst : GC/MS Ins
Misc : 1102GW Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Sep 14 21:54 2001 Quant Results File: M62551.RES

Quant Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
Response via : Initial Calibration
DataAcq Meth : M62551

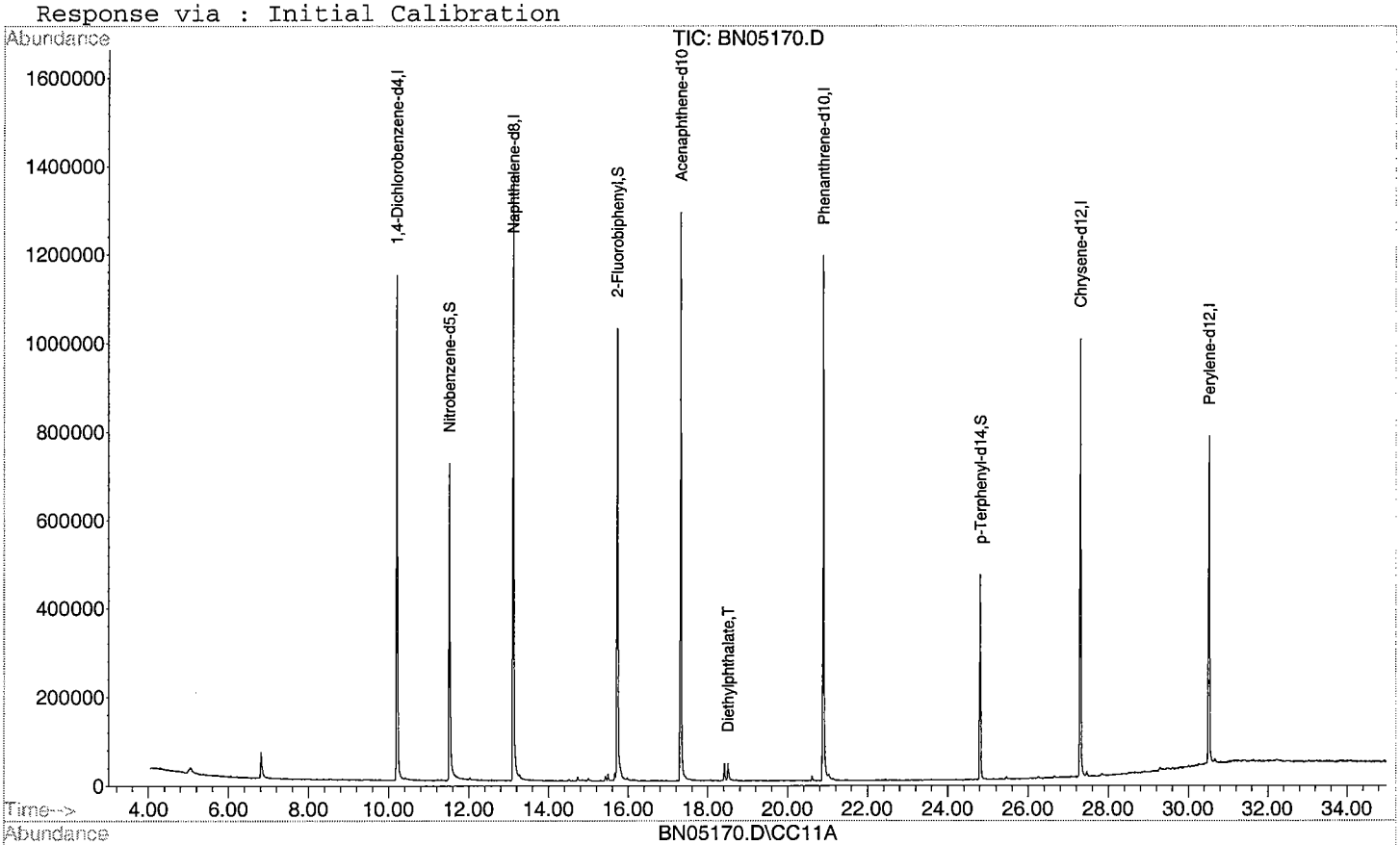
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.20	152	303079	40.00	ug/L	0.00
19) Naphthalene-d8	13.11	136	1129357	40.00	ug/L	0.00
34) Acenaphthene-d10	17.32	164	491599	40.00	ug/L	0.00
54) Phenanthrene-d10	20.89	188	769452	40.00	ug/L	0.00
66) Chrysene-d12	27.30	240	518705	40.00	ug/L	0.00
75) Perylene-d12	30.52	264	364271	40.00	ug/L	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 21 - 100		Recovery =	0.00%#		
6) Phenol-d6	0.00	99	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 94		Recovery =	0.00%#		
20) Nitrobenzene-d5	11.51	82	484399	33.96	ug/L	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	67.92%		
38) 2-Fluorobiphenyl	15.73	172	580079	32.75	ug/L	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	65.50%		
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 10 - 123		Recovery =	0.00%#		
69) p-Terphenyl-d14	24.81	244	211400	17.01	ug/L	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	34.02%		
Target Compounds						Qvalue
50) Diethylphthalate	18.51	149	31255	1.30	ug/L	98

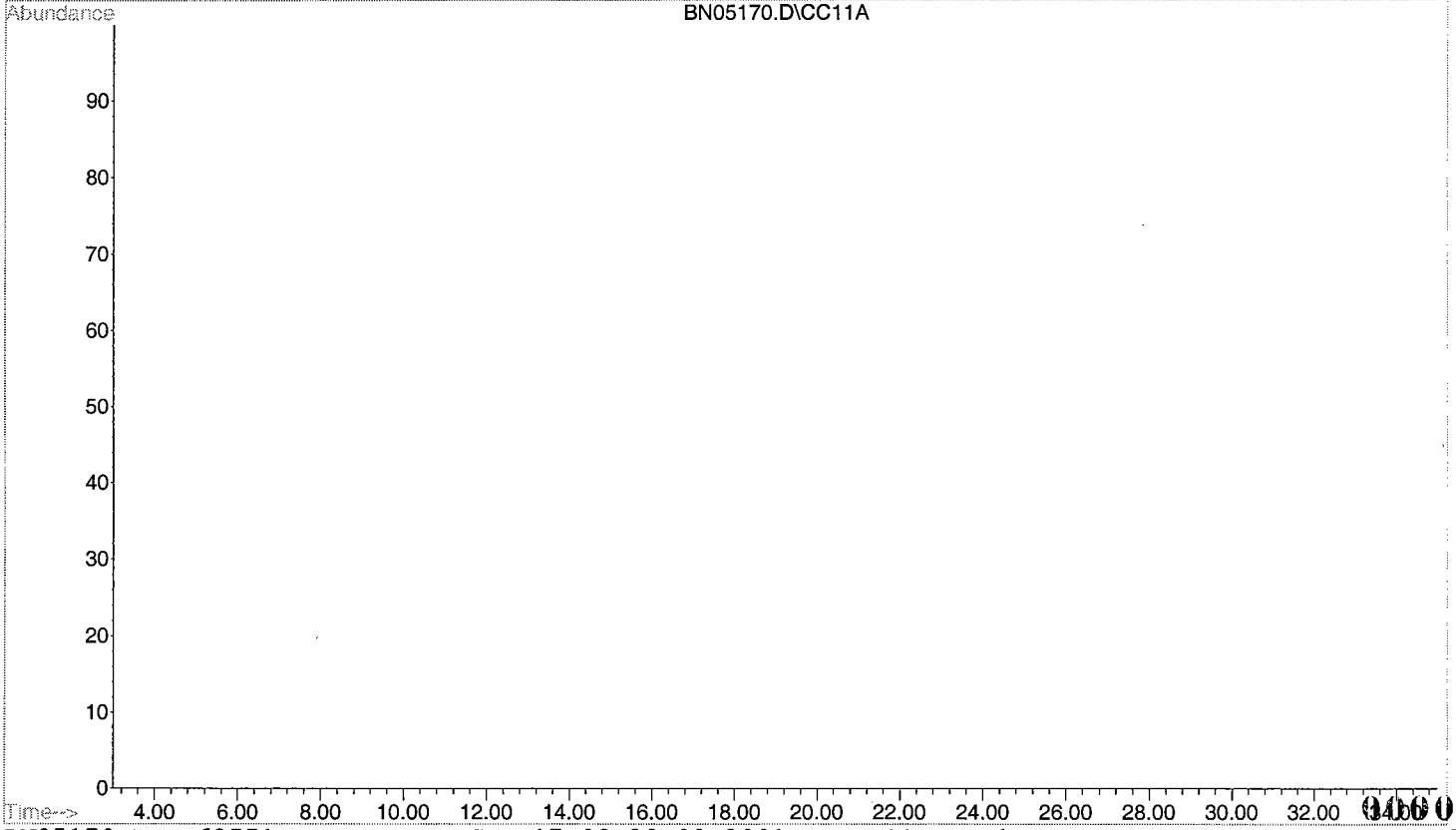
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010914\BN05170.D Vial: 12
Acq On : 14 Sep 2001 9:19 pm Operator: B.Patel
Sample : 1642101 Inst : GC/MS Ins
Misc : 1102GW Multiplr: 1.00
MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
Quant Time: Sep 14 21:54 2001 Quant Results File: M62551.RES

Method : C:\HPCHEM\1\METHODS\M62551.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Sep 06 13:07:36 2001
Response via : Initial Calibration





LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

Date 9/24/01

Laboratory Certification #13461

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

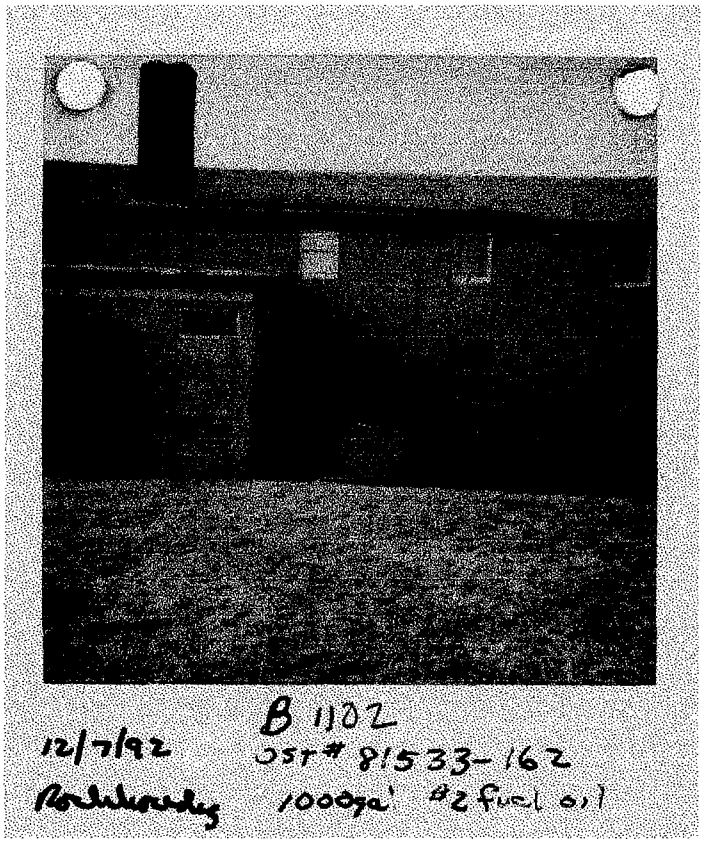
Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

APPENDIX F

PHOTOGRAPHS



DECEMBER 7, 1992

PHOTOGRAPHIC LOG

UST NO. 81533-162

Building 1102
Main Post-West
Fort Monmouth

VERSAR
Engineers, Managers, Scientists & Planners
Bristol. PA