U.S. Army Garrison

Fort Monmouth, New Jersey

Underground Storage Tank Closure Report

Main Post – (former) Building 701 Alexander Ave.

NJDEP UST Registration No. 81533-113

February 2008

UNDERGROUND STORAGE TANK REPORT

MAIN POST – (FORMER) BUILDING 701 NJDEP UST REGISTRATION NO. 81533-113

FEBRUARY 2008

PREPARED FOR:

U.S. ARMY GARRISON, FORT MONMOUTH, NJ
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PROJECT NO. 06-34950

PREPARED BY:

TECOM-VINNELL SERVICES, INC. P.O. BOX 60 FT. MONMOUTH, NJ 07703

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EXECUTIVE SUMMARY

UST Closure

A single wall steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) guidelines on June 18, 1990. The UST was located on the southwest side of (former) Building 701 in the Main Post area of Fort Monmouth. UST No. 81533-113 was a 1,000-gallon tank containing No. 2 heating oil.

Site Assessment

This site assessment was performed by TECOM-Vinnell Service (TVS) personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*.

During the time of UST removal, no closure soil samples were collected. Soil sampling was not required at the time. However, in order to confirm that the tank did not leak, this subsurface investigation was conducted. On January 27, 2006, a Geoprobe was utilized to collect soil samples 701W, 701C, 701E and 701C (groundwater) from a total of three (3) locations along the tank centerline bottom. All soil samples were analyzed for total petroleum hydrocarbons (TPH). Groundwater was encountered at approximately eight (8.0) feet below surface grade in the borings. A sample of it was collected and analyzed for volatile organic analysis (VOA) and semi-volatile organic analysis (SVOA).

Findings

The closure soil samples collected from the location associated with UST No. 81533-113, contained TPH concentrations below the NJDEP health based criterion of 10,000 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E and revisions dated February 3, 1994). All soil samples contained TPH concentrations of Not Detected.

Conclusions and Recommendations

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants are not present in the location of the UST. A groundwater sample, analyzed for volatile organic analysis and semi-volatile organic analysis, did contain one compound above the analytical method detection limits. Detected was Bis(2-Ethylhexyl)phthalate was detected at 13.8 ug/L which is above the regulatory level of 3 ug/L. However, this compound is a common laboratory contaminant.

No Further Action is proposed in regard to the closure and site assessment of UST No. 81533-113 at (former) Building 701.

1.0 UNDERGROUND STORAGE TANK CLOSURE SOIL SAMPLING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81533-113, was closed at (former) Building 701 located on the Main Post at the U.S. Army Garrison, Fort Monmouth, New Jersey. Refer to site location map on Figure 1. This report presents the results of soil and groundwater sampling analysis to confirm that the tank did not leak. The UST was a 1,000-gallon, single-wall steel tank containing No. 2 heating oil for residential use. The UST was installed in 1963 and the removal was done on June 18, 1990. An archived letter detailing the removal procedures, a copy of Site Assessment Compliance Statement, a historical photograph of (former) Building 701 and the NJDEP UST Site Investigation Report Form are included in Appendix A.

This UST Closure Report has been prepared by TVS to assist the U.S. Army Garrison DPW in complying with the NJDEP - Underground Storage Tanks regulations. The applicable NJDEP regulations at the date of closure were the *Closure of Underground Storage Tank Systems* (N.J.A.C. 7:14B-9 et seq. December, 1987 and revisions dated April 20, 2003).

This report was prepared using information required by the *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) (*Technical Requirements*). Section 1 of this UST Closure Report provides a summary of the UST site. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in Section 3 of this report.

1.2 SITE DESCRIPTION

(Former) Building 701, Alexander Ave., was located in the central portion (600 Area) of the Main Post of Fort Monmouth, as shown on Figure 1. A historical map, Figure 2, was used to determine the location of (former) Building 701. UST No. 81533-113 was located on the southeast side of (former) Building 701.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 600 Area. 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, sand and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

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

Local Geology

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

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

Hydrogeology

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

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

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

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

- 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 (e.g., streams, lakes)

Due to the fluvial nature of the overburden deposits (e.g., 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.

(Former) Building 701 was located approximately 450 feet north of Husky Brook, the nearest water body, which flows into Oceanport Creek and then into the Shrewsbury River. Based on the Main Post topography, the groundwater flow in the area of (former) Building 701 is anticipated to be to the south.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all site investigation activities. All areas which posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionizer detector: Thermo Instruments Organic Vapor Monitor (OVM) – Model #580-B. The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA. All work areas were properly vented to insure that there were no contaminants present in the breathing zone above permissible exposure limits (PEL's).

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 Fort Monmouth Environmental Testing Laboratory, a NJDEP-certified testing laboratory. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (1992). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation*, 7:26E-3.9 (December 17, 2002 and revisions dated February 3, 2003) which was the applicable regulation at the date of the investigation. All records of the Site Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Site Assessment Activities.

• Ft. Monmouth Directorate of Public Works-Environmental Division

Contact Person: Joseph Fallon Phone Number: (732) 532-7013

Subsurface Evaluator: Frank Accorsi

Employer: TECOM-Vinnell Services, Inc. (TVS)

Phone Number: (732) 532-5241 NJDEP License No.: 0010042

TVS - NJDEP License No.: US252302

Analytical Laboratory: Fort Monmouth Environmental Testing Laboratory

Contact Person: Jacqueline Hamer Phone Number: (732) 532-4359

NJDEP Laboratory Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening of the soils was performed by a NJDEP certified Subsurface Evaluator using an OVM and visual observations to identify potentially contaminated material of which none were found.

2.3 SOIL SAMPLING

On January 24, 2006, closure soil samples 701W, 701C and 701E were collected from a total of three (3) locations along the tank centerline bottom of the UST. Groundwater was encountered at approximately eight (8.0) feet below surface grade in the borings. All soil samples were analyzed for TPH. A soil sample location map is provided on Figure 3.

The site assessment was performed by TVS personnel in accordance with the NJDEP Technical Requirements for Site Remediation and the NJDEP Field Sampling Procedures Manual. A summary of sampling activities including parameters analyzed is provided on Table 1. The soil samples were collected into laboratory prepared glassware using properly decontaminated stainless steel trowels. After collection, the samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory for analysis.

2.4 GROUNDWATER SAMPLING

On January 24, 2006, groundwater sample 701C-GW was collected from soil borehole 701C to assess the groundwater quality in the location of the tank. A temporary piezometer was installed in the borehole for sample collection. The sample was collected into laboratory prepared glassware using a disposable teflon bailer. The sample was analyzed for volatile organic analysis (VOA) and semi-volatile organic analysis (SVOA).

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Closure soil samples were collected from a total of three locations on January 24, 2006 to evaluate soil conditions in the location of the UST. All samples were analyzed for TPH. The closure soil sample results were compared to the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix B.

Closure soil samples collected on January 24, 2006 from UST 81533-113 contained no concentrations of TPH above the method detection limits.

3.2 GROUNDWATER SAMPLING RESULTS

One groundwater sample was collected via temporary piezometer installed in soil borehole 701°C. There were no compounds detected above the method detection limits for the volatile organic analysis. There was one compound detected above the method detection limits for the semi-volatile organic analysis. Bis(2-Ethylhexyl)phthalate was detected at 13.8 ug/L which is above the regulatory level of 3 ug/L. However, this compound is a common laboratory contaminant.

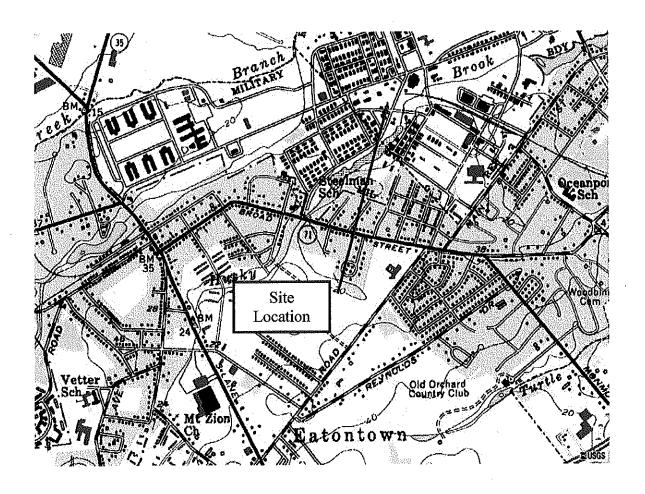
3.3 CONCLUSIONS AND RECOMMENDATIONS

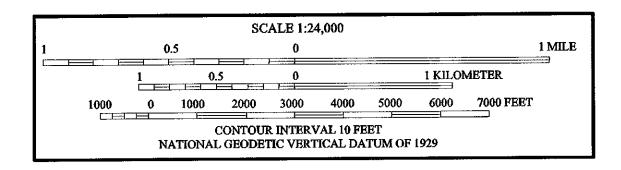
The analytical results for all soil samples collected from the UST closure assessment at UST No. 81533-113 were below the regulatory limits.

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion for total organic contaminants of 10,000 mg/kg are not present at the location of UST No. 81533-113.

No Further Action is proposed in regard to the closure and site assessment of UST No. 81533-113 at (former) Building 701.

FIGURES

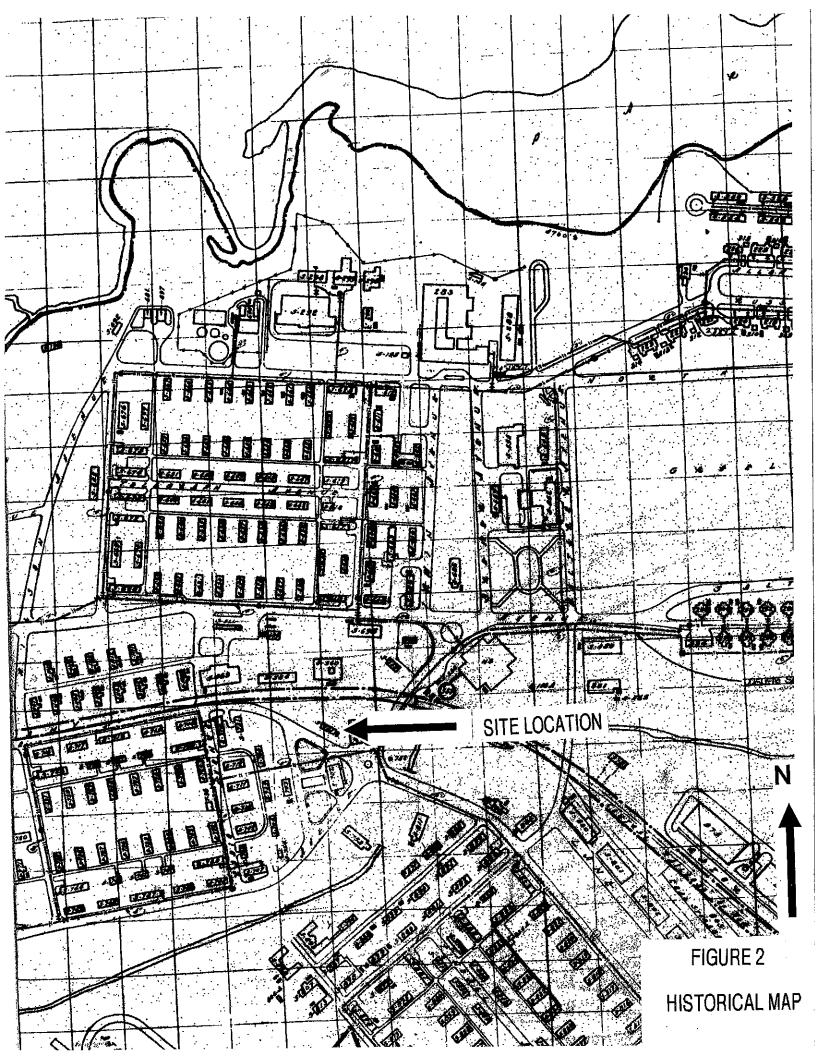


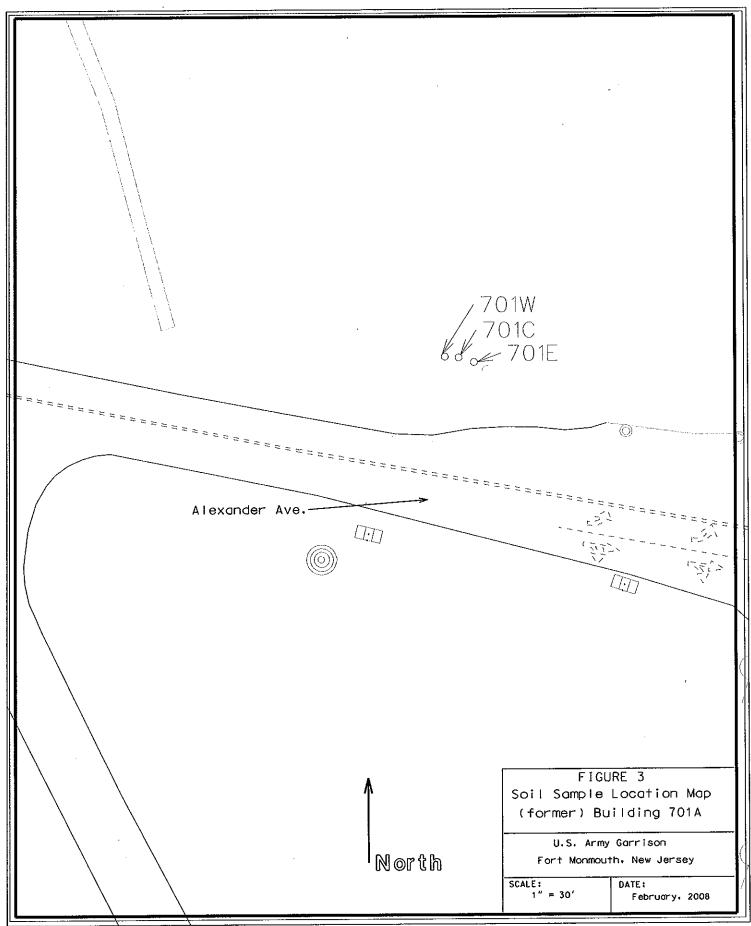


SOURCE: USGS 7½-MINUTE SERIES (TOPOGRAPHIC) LONG BRANCH QUADRANGLE, NEW JERSEY, 1981.

FIGURE 1

SITE LOCATION MAP (FORMER) BUILDING 701A UST NO. 81533-115 FT. MONMOUTH, NJ





TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS

FT. MONMOUTH, (former) BUILDING 701, UST No. 81533-113 24 January 2006

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
			\$400X(\$1X(\$1X(\$1)		
701W	6004801	24-Jan-06	SOIL	TPH	OQA-QAM-25
701C	6004802	24-Jan-06	SOIL	TPH	OQA-QAM-25
701E	6004804	24-Jan-06	SOIL	TPH	OQA-QAM-25
701Duplic.	6004803	24-Jan-06	SOIL	TPH	OQA-QAM-25
701C- Groundwater	6004805	24-Jan-06	AQUEOUS	VOA, SVOA	SW-846, EPA 625
Trip Blank	6004806	24-Jan-06	AQUEOUS	VOA	SW-846
Trip Blank	6004807	24-Jan-06	METHANOL	VOA	SW-846

ABBREVIATIONS:

TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25

VOA = Volatile Organic Analysis, EPA SW-846 Method 8260

SVOA = Semi-Volatile Organic Analysis in Water, EPA Method 625

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS-SOIL

FT. MONMOUTH, (former) BUILDING 701, UST No. 81533-113 24 January 2006

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULTS
			(in feet)		mg/kg
701W	6004801	WEST END UST	7.5 - 8.0	Soil	ND
701C	6004802	CENTER UST	7.5 - 8.0	Soil	ND
701E	6004804	EAST END UST	4.5 – 5.0	Soil	ND
701-Duplic.	6004803	CENTER END UST	7.5 - 8.0	Soil	ND

ABBREVIATIONS:

mg/kg = milligrams per kilogram = parts per million

ND = Compound Not Detected

NA = Compound Not Analyzed

*= Further Analyzed for Volatile Organic Compounds

Notes:

Gray shading indicates exceedance of NJDEP

health based criterion of 10,000 ppm total organic contaminants

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS-GROUNDWATER

FT. MONMOUTH, (former) BUILDING 701, UST No. 81533-113

24 January 2006

SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Bis(2-Ethylhexyl) phthalate
UNITS		ug/L
701C- Groundwater	6004805	13:83
NJDEP Criteria	Ground Water Quality Crireria	3.0

ABBREVIATIONS:

ug/L = Micrograms Per Liter = parts per billion

ND = Compound Not Detected

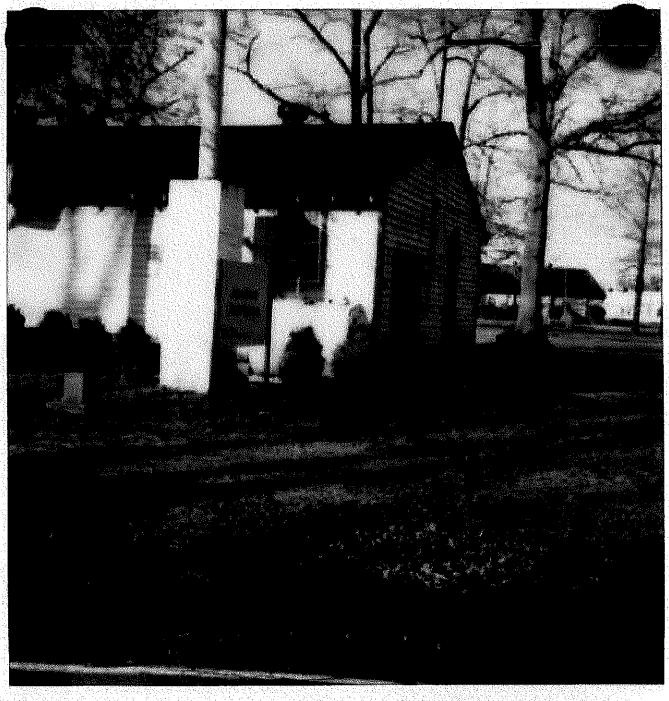
NA = Compound Not Analyzed

NLE = No Limit Established

Notes:

Gray shading indicates exceedance of NJDEP Class II Ground Water Quality Criteria

APPENDIX A CERTIFICATIONS



701 14192 1450 Rochhoveling # 81533-113 1000gas #Z Fuel Oil



Bly 701A

For State Use Only					
Date Rec'd.					
Auth	<u> </u>				
Routing					
UST NO.					

٠.,

State of New Jersey DEPARTMENT OF ENVIRONMENTAL PROTECTION DIVISION OF WATER RESOURCES

TRENTON, NEW JERSEY 00425 ATTN: BUST Program (609) 984-3156

STANI	OARD REPORTING FORM
Installation/Abandon/Rei	nove/Sale-Transfer/Substantial Modification
	ne — Use One Form Per Activity
WURKEL diseasons I miscoffing and aniers as abbu-	
Company name and address: (as it appears on registration questionnaire)	OEH Bldg. #167
The second secon	Fort Monmouth NJ 07703
Facility name and location: (if different from above)	U.S. army Fort Monmouth Main Past West
3. Contact person for this activity: Telephone Num	Mr. Joseph M. Fallon 1908, 532-6223
	as it appears in Question Number 12 on the Registration 88, 95, 104, 110, 113, 146, 148, 158, 4, 163 (14, 622, 676, 692, 7014, 906, 910, 1004, 1/03
•	# 0081533



STATE OF NEW JERSEY **DEPARTM** P OF ENVIRONMENTAL PROTECT Bureau of Underground Storage Tanks 👈 CN-029, Trenton, NJ 08625

Date Rec	d
Auth Routing	
0.	
rel no.	tour countries

SITE ASSESSMENT COMPLIANCE STATEMENT.

Supplement to the New Jersey Standard Reporting Form (Complete for ALL regulated UST abandonments or removals)

Within ninety (90) days of completing the UST closure of any State or Federally-regulated tank, the owner or operator must submit this completed form to the NJDEP Bureau of Underground Storage Tanks. If the facility is located in one of the counties listed on the back, a copy of this form must also be sent to the Health Agency indicated.

The owner or operator of any Federally-regulated tank must also comply with the following: conservation for applied hear;

te vytakuja. 40 CFR Part 280.72 Assessing the site at closure or change-in-service

"(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a

release."	person duntain
PACILITY U.S. Ormy Fort Monmouth 1081 008	1533 Tank No.
Check off the following items as appropriate for the site.	
The UST facility is only regulated by State law, ther a site assessment is not mandatory.	111/2 1118 150
The UST facility is regulated by Federal law and a si assessment was conducted.	te 163.
	1417 海飞沙特额
There was NO release from the UST system.	
There was a release from the UST system and it reported to the DEP Environmental Hotline (609-292-7	

The results of the site assessment are not to be submitted to the DEP or Health Agency unless requested to do so. The results are to be available for inspection at the UST facility.

Questions can be directed to the	e Bureau at (609) 984-3156.
*** This registration form shall be signed by the highest ranking facility (7:14B-2.3 (a) 1). ***	22 NOV 1991
"I certify under penalty of law that the information provided in this document is true, accurate and complete, I am aware that there are significant civil and criminal penalties for submitting false, inaccurate or incomplete information, including fines and/or imprisonment. SACS-2,1/89	JAMES OTT teting Divertor teting Divertor tengineering and Housing
	(Title)



DEPARTMENT OF THE ARMY

Headquarters, U.S. Army Garrison Fort Monmouth Fort Monmouth, New Jersey 07703-5000



REPLY TO ATTENTION OF

Directorate of Engineering and Housing

2 2 NOV 1991

SUBJECT: Removal Procedure:

U.S. Army Fort Monmouth Main Post West Site Registration #0081533

Tank #58, 88, 95, 104, 110, 113, 146, 148, 158, 163

POC: Joseph M. Fallon (908) 532-6223

The remaining product inside each tank was removed for disposal by Lionetti Oil Recovery Co., Inc. Lionetti is a licensed hazardous waste transporter and treatment, storage, and disposal facility (USEPA ID #NJD084044064).

The top of each tank was excavated and cut open across the entire length of the tank. In addition, the inside of each tank was hand cleaned and thoroughly wiped down. The soil from the top of each excavation was visually inspected and analyzed using a HNU Model PI-101 photoionizer. No contamination was detected.

After each tank was cleaned, a visual inspection was made inside the tanks for signs of leakage. No corrision was found inside the tanks

Each tank was then removed from the ground and disposed of through a metal recycler. No contamination was discovered at the sites upon removing the tanks.

Each site was then backfilled with the excavated soil to close out the project.

Site Remediation Program UST Site Remedial Investigation Report
A. Facility Name: Building 701
Facility Street Address: 701 Nicodemus Ave.
Municipality: Oceanport County: Monmouth
Block: NA Lot(s): NA Telephone Number: 732-532-6223
B. Owner (RP)'s Name: U.S. Army Garrison-Dept. of Public Works
Street Address: 167 Riverside Ave. City: Ft. Monmouth
State: NJ Zip: 07703 Telephone Number: 732-532-6223
C. (Check as appropriate) D. (Complete all that apply) Assigned Case Manager:
☐ Site Investigation Report (SIR) \$500 Fee UST Registration Number: 81533-115 (7 digits)
□ Remedial Investigation Report (RIR) \$1000 Fee • Incident Report Number:
• Tank Closure Number C(N)9 C 9 (7 characters)
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: Frank Accorsi Signature: UST Cert. No.: 0010042
Firm: Tecom-Vinnell Services, Inc. Firm's UST Cert. Number: US252302
Firm Address: P.O. Box 60 City: Ft. Monmouth
State: NJ Zip: 07724 Telephone Number: 732-532-5241
(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 5 8: 10A-2 1 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): Title:
Signature:
Company Name:Date:

APPENDIX B

SOIL AND GROUNDWATER ANALYTICAL DATA PACKAGE

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-4359 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: BLDG. 701

Bldg. 701

	1 111 .			7 7 7
Field Sample Location	Laboratory	Matrix	Date and Time	Date Received
	Sample ID#		of Collection	
701W 7.5-8.0'	6004801	Soil	24-Jan-06 09:25	01/24/06
701C 7.5-8.0°	6004802	Soil	24-Jan-06 09:52	01/24/06
Duplicate	6004803	Soil	24-Jan-06 09:52	01/24/06
701E 4.5-5.0'	6004804	Soil	. 24-Jan-06 10:33	01/24/06
701C GW	6004805	Aqueous	24-Jan-06 11:08	01/24/06
Trip Blank	6004806	Aqueous	24-Jan-06	01/24/06
Trip Blank	6004807	Methanol	24-Jan-06	01/24/06

ANALYSIS:

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

3-6-06

Daniel Wright/Date
Laboratory Director

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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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: John Mc Carthy	Project No: 06-34880	Analysis P	arameters	Comments:	
Phone: # X 2 6224	Location: 170/	2			
()DERA ()OMA ()Other:	(Former UST)	1774 10+10 31V+1.			
Samplers Name / Company: George B	yee /TVS Sample	4 7 7 8			
LIMS/Work Order # Sample Location	Date Time Type bo	tles $\Gamma > 2$		Remarks / Preservation Method	
10048 Of 701W 75.80	1/24/06 0925 3011	$\mathcal{L}[X]$		4448	
102 701C 7.5-8.0	9 952 1	2 X		4449	
1 63 Dupe	0952	2 X		4450	
04.701E 4.5-5	1033	2 X		4451	
1 05 70/C GW	1108	1 X X			
UG TR: P	1 - Ag	2 X			
- VATRIP	4 -43 Agas	/		4447	
Refinquished by (signature): Date/Time: 19) 94 Soyce 1-240 Ma	Received by/(signature):	elinquished by (signature):	Date/Time: Received by	(signature):	
Relinquished by (signature): Date/Time:	Received by (signature):	elinquished by (signature):	Date/Time: Received by	/(signature):	
Remarks: VO+10 on 25% >1000 FPM TPH Turnaround time: (V)Standard 3 wks, ()Rush_Days, ()ASAP VerbalHrs.					

SAMPLE RECEIPT FORM

Date Received: 1-24-06	Work Order	ID#: <u>(20048</u>			
Site/Proj. Name Bldy 701/0	Cooler Temp	o (°C): 4.0°			
Received By: J. Varouni	A Sign:	leyer			
(Print name) Check the appropriate box					
1. Did the samples come in a coole 2. Were samples rec'd in good cone 3. Was the chain of custody filled o 4. Was the chain of custody signed 5. Did the labels agree with the cha 6. Were the correct containers/pres 7. Was a sufficient amount of samp 8. Were air bubbles present in VOA	r? dition? ut correctly and legibly? in the appropriate place? hin of custody? servatives used? de supplied?	yes no n/a yes no n/a yes no n/a			
9. Were samples received on ice?		☑ yes □ no			
10. Were analyze-immediately test	s perform within 15 minutes	□ yes□ no □ n/a			
Fill out the following table for each sample bottle					
Lims ID pH Preserv	ative Sample ID	pH Preservative			
Lims ID pH Preserv	ative Sample ID	pH Preservative			
Lims ID pH Preserv	ative Sample ID	pH Preservative			
Lims ID pH Preserv	vative Sample ID	pH Preservative			
Lims ID pH Preserv	vative Sample ID	pH Preservative			
Lims ID pH Preserv	vative Sample ID	pH Preservative			
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Lims ID pH Preserv	vative Sample ID	pH Preservative			
Lims ID pH Preserv	vative Sample ID	pH Preservative			
Lims ID pH Preserv	vative Sample ID	pH Preservative			
Lims ID pH Preserv	vative Sample ID	pH Preservative			
Lims ID pH Preserv	vative Sample ID	pH Preservative			
Lims ID pH Preserve Add Add Add Add Add Add Add Add Add Ad	vative Sample ID	pH Preservative			

Former UST 701 Sample Location GPS Positions

US State Plane 1983 New Jersey (NY East) 2900 NAD 1983 (Conus) Geoid 96 (Conus)

(In US Survey Feet)

Position	Northing (Y Coord.)	Easting (X Coord.)	
701E	538759.669	619026.435	
701C	538761.162	619021.418	
701W	538761.464	619016.865	

METHOD SUMMARY

Methodology 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 SW-846 Method 8260 Gas Chromatographic Determination of Volatiles in Methanol

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

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

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

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

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml 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 1-ml auto-sampler 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 moisture, sample weight and concentration.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 60048

Site: UST

Bldg. 701

	Date	Hold Time
Date Sampled	01/24/06	NA
Receipt/Refrigerati	on 01/24/06	NA
Extractions	· · · · · · · · · · · · · · · · · · ·	
1. BN 2. TPHC	01/27/06 01/26/06	7 days 14 days
Analyses		•
1. VOA 2. BN 3. TPHC	02/03/06 01/30/06 01/30/06	14 days 40 days 40 davs

CONFORMANCE/ NONCONFORMANCE SUMMARY

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		Indicate Yes, No, N/A
1,	Chromatograms labeled/Compounds identified	185
	(Field samples and method blanks)	100
2.	Retention times for chromatograms provided	405
3.	GC/MS Tune Specifications	
	a. BFB Meet Criteria	yes
	b. DFTPP Meet Criteria	T (PSS)
4.	GC/MS Tuning Frequency – Performed every 24 hours for 600	LIAC
	series and 12 hours for 8000 series	16.2
5.	GC/MS Calibration - Initial Calibration performed before sample	
	analysis and continuing calibration performed within 24 hours of	1 00
	sample analysis for 600 series and 12 hours for 8000 series	yes
6.	GC/MS Calibration requirements	
	a. Calibration Check Compounds Meet Criteria	<u>yes</u>
	b. System Performance Check Compounds Meet Criteria	<u>les</u>
7.	Blank Contamination - If yes, List compounds and concentrations in each blank:	_No_
	a. VOA Fraction	
	b. B/N Fraction	
	c. Acid Fraction <u>N</u>	
8.	Surrogate Recoveries Meet Criteria	- yes
	If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
	a. VOA Fraction	
	a. VOA Fraction b. B/N Fraction	
	c. Acid Fraction NA	
	If not met, were the calculations checked and the results qualified as "estimated"?	
0	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria	()(P)
9.	(If not met, list those compounds and their recoveries, which fall	
	outside the acceptable range)	
	a. VOA Fraction Values out see for M	
	b. B/N Fraction (on remornies for Benzicine)	
	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 (If not met, list those compounds, which fall outside the acceptable range)	yes
•	a. VOA Fraction	
	b. B/N Fraction	
	c. Acid Fraction NA	
11.	Extraction Holding Time Met	405
	If not met, list the number of days exceeded for each sample:	
12.	Analysis Holding Time Met	<u> yes</u>
	If not met, list the number of days exceeded for each sample:	
Add	itional Comments:	•
Lab	oratory Manager:	

TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

			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		<u></u>
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		yes
1.	Duplicate Results Summary Meet Criteria		-Hes
5.	IR Spectra submitted for standards, blanks and samples		_NA_
ó.	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)	•	<u>yes</u>
4ddit	ional comments:		
 Laboi	ratory Manager: Date:	3-6-0-6	

VOLATILE ORGANICS (AQUEOUS)

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

- U: The compound was analyzed for but not detected.
- B: Indicates that the compound was found in the associated method blank as well as in the sample.
- J: Indicates an estimated value. This flag is used:
 - (1) When the mass spec and retention time data indicate the presence of a compound however the result is less than the MDL but greater than zero.
 - (2) When estimating the concentration of a tentatively identified compound (TIC), where a 1:1 response is assumed.
- D: This flag is used to identify all compounds (target or TIC) that required a
- E: Indicates the compound's concentration exceeds the calibration range of the instrument for that specific analysis.
- N: This flag is only used for TICs. It indicates the presumptive evidence of a compound. For a generic characterization of a TIC, such as unknown hydrocarbon, the flag is not used.

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

Data File Operator

Date Acquired

VB021618.D

Skelton 3 Feb 2006 4:05 pm Sample Name

MB 03Feb2006 MB 03Feb2006

Sample Multiplier

Field ID

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.01 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	5	1.23 ug/L	5.00 ug/L	
75650	text-Butyl alcohol			not detected	100_	5.70 ug/L	10.00 ug/L	
1634044	Methyl-tert-Butyl other			not detected	70	0.21 ug/L	2.00 ug/L	Ţ <u>"</u>
108203	Di-isopropyl ether			not detected	20000	0.26 ug/L ·	2.00 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.20 ug/L	2.00 ug/L	
74-87-3	Chloromethane			not detected	rde	0.24 ug/L	2.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.23 ug/L	2.00 ug/L	
74-83-9	Bromomethane		-	not detected	10	0.26 ug/L	2.00 ug/L	
75-00-3	Chloroethane			not detected	nie	0.29 ug/L	2.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.23 ug/L	2.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.19 ug/L	2.00 ug/L	
67-64-1	Acetone			not detected	6000	0.36 ug/L	2.00 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.24 ug/L	2.00 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.21 ug/L	2.00 ug/L	
156-60-5	trans-1,2-Dichloroethene		<u> </u>	not detected	100	0.24 ug/L	2.00 ug/L	
75-34-3	1.1-Dichloroethane			not detected	50	0.24 ug/L	2.00 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	2.00 ug/L	
78-93-3	2-Butanone			not detected	300	0.26 ug/L	2.00 ug/L	
156-59-2	cis-1,2-Dichloroethene	·	···	not detected	70	0.20 ug/L	2.00 ug/L	
67-66-3	Chloroform			not detected	70	0.22 ug/L	2.00 ug/L	
71-55-6	1.1.1-Trichloroethane			not detected	30	0.20 ug/L	2.00 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.24 ug/L	2.00 ug/L	
71-43-2	Benzene			not detected	1 1	0.24 ug/L	2.00 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.23 ug/L	2.00 ug/L	
79-01-6	Trichloroethene			not detected	1	0.26 ug/L	2.00 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1 1	0.24 ug/L	2.00 ug/L	
75-27-4	Bromodichloromethane			not detected	- 	0.22 ug/L	2.00 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.23 ug/L	2.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.22 ug/L	2.00 ug/L	
			 	not detected	nie	0.35 ug/L	2.00 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	1000	0.26 ug/L	2.00 ug/L	
	Toluene			not detected	1	0.25 ug/L	2.00 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	3	0.28 ug/L	2.00 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	1 1	0.20 ug/L	2.00 ug/L	
127-18-4	Tetrachloroethene		· .	not detected	nle	0.43 ug/L	2.00 ug/L	
591-78-6	2-Hexanone			not detected	1	0.43 ug/L 0.22 ug/L	2.00 ug/L	
124-48-1	Dibromochloromethane			not detected	50	0.28 ug/L	2.00 ug/L	
108-90-7	Chlorobenzene		· · · · · · · · · · · · · · · · · · ·	not detected	700	0.28 dg/L 0.27 ug/L	2.00 ug/L	
100-41-4	Ethylbenzene			not detected		0.43 ug/L	4.00 ug/L	
1330-20-7	m+p-Xylenes				nle	0.43 ug/L	2.00 ug/L	
95-47-6	o-Xylene			not detected	nie	0.21 ug/L 0.21 ug/L	2.00 ag/L 2.00 ug/L	$\vdash \vdash \vdash$
100-42-5	Styrene		,	not detected	100	0.21 ug/L 0.27 ug/L	2.00 ug/L	<u> </u>
75-25-2	Bronioform		 	not detected	4			\vdash
79-34-5	1,1,2,2-Tetrachloroethaue		 	not detected	1 1	0.45 ug/L	2.00 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.36 ug/L	2.00 ug/L	·
106-46-7	1,4-Dichlorobenzene		 	not detected	75	0.35 ug/L	2.00 ug/L	
95-50-1	1,2-Dichlorobenzene		<u></u>	not detected	600	0.45 ug/L	2.00 ug/L	<u> </u>

^{*}Results between MDL and RL are estimated values

Quálifiers

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

R.L. = Reporting Limit

^{*}Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 07Nov2005

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

Lab Name:	FMETL			NJDEP	#: 13461		MB 03Fe	02006
Project:	06-3488	0 (Case No.: <u>600</u> -	48 Locat	tion: <u>701</u>	SD	G No.: <u>US</u> T	<u>-</u>
Matrix: (soil/	water)	WATER			Lab Sampl	eID: N	/IB 03Feb20	06
Sample wt/vo	ol:	5.0	(g/ml) <u>ML</u>		Lab File ID	: <u>v</u>	/B021618.D	
Level: (low/n	ned)	LOW		ļ	Date Recei	ved: 1	/23/2006	
% Moisture:	not dec.			I	Date Analy	zed: 2	/3/2006	
GC Column:	RTX50	2. ID:	0.25 (mm)		Dilution Fac	ctor: 1	.0	
Soil Extract \	/olume:		(uL)	9	Soil Aliquot	Volum	e:	(uL)
Number TICs	s found:	4		CONCENTR (ug/L or ug/K				
CAS NO.	, contract of	COMPO	DUND NAME		RT	EST.	. CONC.	Q

	•			
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	12.51	34	J
2.	unknown	20.58	4	J
3.	unknown	24.39	15	J
4.	unknown	25.77	. 5	J

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

Data File Operator

Date Acquired

VB021623.D

3 Feb 2006 7:24 pm

Skelton

lton

Sample Name

6004806

Field ID Sample Multiplier Trip Blank

C) CH	Command Norma	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Oualifiers
CAS# 107028	Compound Name Acrolein		Response	not detected	5	2.01 ug/L	5.00 ug/L	T
			 	not detected	5	1.23 ug/L	5.00 ug/L	†
107131	Acrylonitrile			not detected	100	5.70 ug/L	10.00 ug/L	1
75650	tert-Butyl alcohol		 	not detected	70	0.21 ug/L	2.00 ug/L	1
1634044	Methyl-tert-Butyl ether		-	not detected	20000	0.26 ug/L	2.00 ug/L	+
108203	Di-isopropyl ether			not detected not detected	1000	0.20 ug/L	2.00 ug/L	
75718	Dichlorodifluoromethane		 			0.24 ug/L	2.00 ug/L	+
74-87-3	Chloromethane	·········	ļ-	not detected	nle .	0.23 ug/L	2.00 ug/L 2.00 ug/L	+
75-01-4	Vinyl Chloride			not detected	1 1	0.26 ug/L	2.00 ug/L	+
74-83-9	Bromomethane		 	not detected	10	0.20 ug/L	2.00 ug/L 2.00 ug/L	 -
75-00-3	Chloroethane		ļļ	not detected	nle	0.29 ug/L	2.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000			+
75-35-4	1,1-Dichloroethene		ļ	not detected	1	0.19 ug/L	2.00 ug/L	
67-64-1	Acetone		·	not detected	6000	0.36 ug/L	2.00 ug/L	-
75-15-0	Carbon Disulfide		ļ	not detected	700	0.24 ug/L	2.00 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.21 ug/L	2.00 ug/L	4
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.24 ug/L	2.00 ug/L	+
75-34-3	1,1-Dichloroethane			not detected	50	0.24 ug/L	2.00 ug/L	ļ
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	2.00 ug/L	
78-93-3	2-Butanone			not detected	300	0.26 ug/L	2.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.20 ug/L	2.00 ug/L	<u> </u>
67-66-3	Chloroform		<u></u>	not detected	70	0.22 ug/L	2.00 ug/L	4
71-55-6	1,1,1-Trickloroethane			not detected	30	0.20 ug/L	2.00 ug/L	<u> </u>
56-23-5	Carbon Tetrachloride			not detected	1	0.24 ug/L	2.00 ug/L	
71-43-2	Велгене			not detected	1	0.24 ug/L	2.00 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.23 ug/L	2.00 ug/L	ļ
79-01-6	Trichloroethene			not detected	1	0.26 ug/L	2.00 ng/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.24 ug/L	2,00 ug/L	1
75-27-4	Bromodichloromethane			not detected	1	0.22 ug/L	2.00 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.23 ug/L	2.00 ug/L	1
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.22 ug/L	2.00 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.35 ug/L	2.00 ug/L	
108-88-3	Toluene			not detected	1000	0.26 ug/L	2.00 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.25 ug/L	2.00 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.28 tig/L	2.00 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.20 ug/L	2.00 ug/L	1
591-78-6	2-Hexanone			not detected	nle	0.43 ug/L	2.00 ug/L	
124-48-1	Dibromochloromethane			not detected	1	0.22 ug/L	2.00 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.28 ug/L	2.00 ug/L	
100-41-4	Ethylbenzene			поt detected	700	0.27 ug/L	2.00 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.43 ug/L	4.00 ug/L	
95-47-6	o-Xylene		<u> </u>	not detected	nle	0.21 ug/L	2.00 ug/L	
100-42-5	Styrene			not detected	100	0.21 ug/L	2.00 ug/L	
75-25-2	Bromoform			not detected	4	0.27 ug/L	2.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected		0.45 ug/L	2.00 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.36 ug/L	2.00 ug/L	
106-46-7	1,4-Dichlorobenzene		<u> </u>	not detected	75	0.35 ug/L	2.00 ug/L	
100-40-7	1,4-LACINOI OF GENERAL			not detected	600	0.45 μσ//	2.00 ug/L	1

*Results between MDL and RL are estimated values

*Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 07Nov2005

Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

1,2-Dichlorobenzene

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

not detected

R.L. = Reporting Limit

2.00 ug/L

0.45 ug/L

95-50-1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

F.	E	_D	ID	:
				•

Lab Name:	FMETL			NJDEP:	#:	13461		Trip Bl	ank
Project:	06-3488	30 Ca	se No.: 6004	B Locat	ior	า: 701	SI	DG No.: <u>US</u> T	Γ
Matrix: (soil/v	water)	WATER	→	l	_at	o Sample	ID:	6004806	
Sample wt/vo	ol:	5.0	(g/ml) ML		.ab	File ID:		VB021623.D	
Level: (low/n	ned)	LOW	_	ſ	Dat	te Receiv	/ed:	1/23/2006	
% Moisture:	not dec.	<u></u>	<u> </u>	[Dat	te Analyz	ed:	2/3/2006	
GC Column:	RTX50	02. ID: <u>0.</u> :	25 (mm)	[Dilt	ution Fac	tor:	1.0	
Soil Extract V	/olume:		(uL)		Soi	l Aliquot	Volur	ne:	(uL)
Number TICs	s found:	0		CONCENTR. (ug/L or ug/K					
CAS NO		COMPOL	IND NAME			BT	ES	T. CONC.	o

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

Data File

Date Acquired

VB021626.D

3 Feb 2006 9:27 pm

Operator Skelton Sample Name

Field ID

701C-GW

Sample Mu

Artistics.	
ultiplier	

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.01 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	5	1.23 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected .	100	5.70 ug/L	10.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.21 ug/L	2.00 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.26 ug/L	2.00 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.20 ug/L	2.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.24 ug/L	2.00 ug/L	
75-01-4	Vinyl Chloride			not detected .	_1	0.23 ug/L	2.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.26 ug/L	2.00 ug/L	
75-00-3	Chloroethane			not detected	tile	0.29 ug/L	2.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.23 ug/L	2.00 ug/L	
75-35-4	1.1-Dichloroethene			not detected	1	0.19 ug/L	2.00 ug/L	
67-64-1	Acetone			not detected	6000	0.36 ug/L	2.00 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.24 ug/L	2.00 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.21 ug/L	2.00 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.24 ug/L	2.00 ug/L	
75-34-3	1.1-Dichloroethane			not detected	50	0.24 ug/L	2.00 ug/L	· '
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	2.00 ug/L	
78-93-3	2-Butanone			not detected	300	0.26 ug/L	2,00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.20 ug/L	2.00 ug/L	1
67-66-3	Chloroform			not detected	70	0.22 ug/L	2.00. ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.20 ug/L	2.00 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.24 ug/L	2.00 ug/L	
71-43-2	Benzene			not detected	1	0.24 ug/L	2.00 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.23 ug/L	2.00 ug/L	
79-01-6	Trichloroethene			not detected	1	0.26 ug/L	2.00 ug/L	
78-87-5	1,2-Dichleropropane			not detected	1	0.24 ug/L	2.00 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.22 ug/L	2.00 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.23 ug/L	2.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.22 ug/L	2.00 ug/L	
108-10-1	4-Methyl-2-Pentanone	·		not detected	nle	0.35 ug/L	2.00 ug/L	
108-88-3	Toluene			not detected	1000	0.26 ug/L	2.00 ug/L	
10061-02-6	trans-1,3-Dichloropropene	·		not detected	1	0.25 ug/L	2.00 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.28 ug/L	2.00 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.20 ug/L	2.00 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.43 ug/L	2.00 ug/L	
124-48-1	Dibromochloromethane			not detected	1	0.22 ug/L	2.00 ug/L	
108-90-7	Chlorobenzene		***********	лоt detected	50	0.28 ug/L	2.00 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.27 ug/L	2.00 ug/L	
1330-20-7	m+p-Xylenes			not detected	nie	0.43 ug/L	4.00 ug/L	
95-47-6	o-Xylene			not detected	nle	0.21 ug/L	2.00 ug/L	
100-42-5	Styrene			not detected	100	0.21 ug/L	2.00 ug/L	
75-25-2	Bromoform			not detected	4	0.27 ug/L	2.00 ug/L	
79-34-5				not detected	1	0.45 ug/L	2.00 ug/L	
	11 1 2 2 Tetrachlomethane							
7/1. ~ / 4 -	1,1,2,2-Tetrachloroethane				600	0.36 ug/L	2.00 ug/L	
541-73-1 106-46-7	1,1-2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene			not detected	600 75	0.36 ug/L 0.35 ug/L	2.00 ug/L 2.00 ug/L	

*Results between MDL and RL are estimated values

*Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 07Nov2005

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

R.L. = Reporting Limit

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD I	D:
---------	----

EST. CONC.

Q

RT

				•	701C-GW	
Lab Name:	FMETL			NJDEP#: 13461		
Project:	06-3488	<u> 80</u> C	Case No.: 60048	Location: <u>701</u> S	SDG No.: UST	
Matrix: (soil/v	water)	WATER		Lab Sample ID:	6004805	`
Sample wt/vo	ol:	5.0	(g/ml) ML	Lab File ID:	VB021626.D	
Level: (low/n	ned)	LOW		Date Received:	1/23/2006	
% Moisture: 1	not dec.	<u> </u>		Date Analyzed:	2/3/2006	
GC Column:	RTX50	02. ID: <u>(</u>	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:		(uL)	Soil Aliquot Volu	ıme:	(uL)
			C	ONCENTRATION UNITS:		
Number TICs	s found:	0	(u 	g/L or ug/Kģ) UG/L		

COMPOUND NAME

CAS NO.

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

 Lab Name:
 FMETL
 NJDEP#:
 13461

 Project:
 06-34880
 Case No.:
 60048
 Location:
 701
 SDG No.:
 UST

 Lab File ID:
 VB021610.D
 BFB Injection Date:
 2/3/2006

Instrument ID: GCMS#2 BFB Injection Time: 9:58

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

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	19.0
75	30.0 - 66.0% of mass 95	51.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	77.6
175	4.0 - 9.0% of mass 174	6.1 (7.9)1
176	93.0 - 101.0% of mass 174	76.2 (98.2)1
177	5.0 - 9.0% of mass 176	4.7 (6.2)2

1-Value is % mass 174

2-Value is % mass 176

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

		LAB	LAB	DATE	TIME
	FIELD ID:	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD050	VSTD050	VB021611.D	2/3/2006	10:39
02	VSTD020	VSTD020	VB021612.D	2/3/2006	11:21
03	VSTD010	VSTD010	VB021613.D	2/3/2006	12:03
04	VSTD005	VSTD005	VB021614.D	2/3/2006	12:45
05	VSTD002	VSTD002	VB021615.D	2/3/2006	13:27
06	MB 03FEB2006	MB 03FEB2006	VB021618.D	2/3/2006	16:05
07	TRIP BLANK	6004806	VB021623.D	2/3/2006	19:24
08	701C-GW	6004805	VB021626.D	2/3/2006	21:27

Vial: 1 Operator: Skelton

Multiplr: 1.00

Inst

: GC/MS Ins

Data File : C:\HPCHEM\1\DATA\060203\VB021610.D

: 3 Feb 2006 Acq On 9:58 am

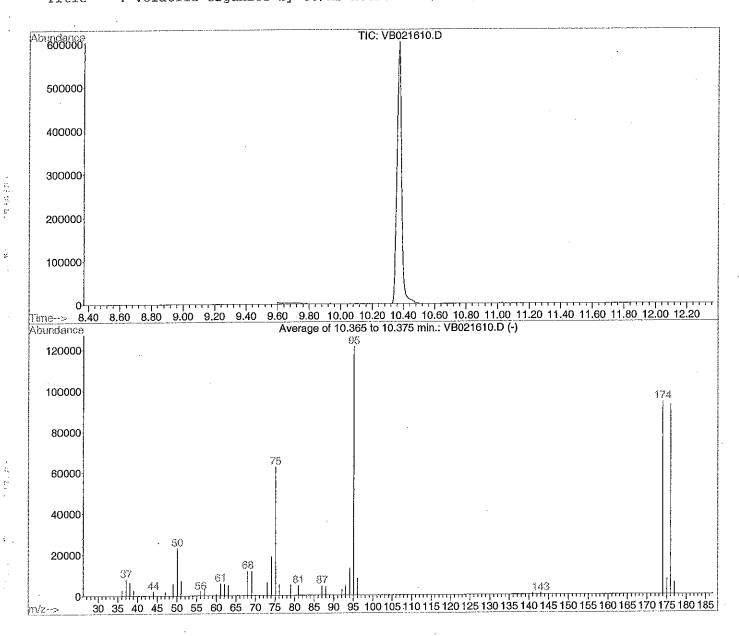
: BFB Tune Sample

: BFB Tune Misc

(#.

MS Integration Params: GAS10.P

: C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title



AutoFind: Scans 148, 149, 150; Background Corrected with Scan 139

Target	Rel. to	Lower	Upper	Rel.	Raw	Result	
Mass	Mass	Limit%	Limit%	Abn%	Abn	Pass/Fail	
50 75 95 96 173 174 175 176	95 95 95 95 174 95 174 174	15 30 100 5 0.00 50 5 95	40 60 100 9 2 100 9	19.0 51.6 100.0 6.8 0.0 77.6 7.9 98.2 6.2	23013 62523 121213 8188 0 94045 7387 92397 5736	PASS PASS PASS PASS PASS PASS PASS PASS	

: C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Feb 03 14:05:16 2006

Response via : Initial Calibration

Calibration Files

20 =VB021611.D =VB021612.D 10 =VB021613.D 50

2 =VB021615.D =VB021614.D

		Compound	50	20	10	5	2	Avg	%RSD
					_	d==			
1) 2)	1 tm	Bromochloromethane Acrolein	0.093	0.089	0.087	0.075	0.077	0.084	9.58
3)	tm	Acrylonitrile	0.796	0.793	0.784	0.701	0.695	0.754	6.81
4)	tm	tert-Butyl alcohol	0.096	0.102	0.109	0.095	0.091	0.099	6.81
5) 6)		Methyl-tert-Butyl eth Di-isopropyl ether	4 126 0 053	3.622	3.3/2	0.594	2.510 0.456	3.336 0.699	$18.18 \\ 26.90$
7)	tm Tm	Dichlorodifluorometha							8.15
8)	TPm	Chloromethane	2.216	2.224	2.139	2.055	2.102	2.147	3.40
9)		Vinyl Chloride	2.484			2.172			6.53
10) 11)	Tm	Bromomethane				1.874 1.702			$8.26 \\ 2.92$
12)	Tm Tm	Chloroethane Trichlorofluoromethan							2.88
13)	MC	1,1-Dichloroethene	3.292	3.161	2.869	2.674	2.525	2.904	11.08
14)	Tm	Acetone				0.589			30.11
15)	Tm Tm	Carbon Disulfide				5.518 2.419			9.34 1.65
16) 17)	Tm Tm	Methylene Chloride trans-1,2-Dichloroeth	3.139	3.000	2.767	2.549	2.325	2.770	11.11
18)	TPm	1,1-Dichloroethane	4.278	4.194	3.972	3.722	3.513	3.936	8.14
19)	Tm	Vinyl Acetate	1.217	1.119	1.032	0.916	0.756	1.008	17.78
20)	Tm	Vinyl Acetate 2-Butanone cis-1,2-Dichloroethen	0.601	3 101	0.564	0.489	0.441	0.534	12.50 13.03
21) 22)	Tm TCm	Chloroform							2.19
23)	Tm	1,1,1-Trichloroethane	3.414	3.119	2.903	2.620	2,131	2.837	17.28
24)	Tm	Carbon Tetrachloride	2.245	2.000	1.911	1.831	1.544	1.906	13.39
25)	S	1,2-Dichloroethane-d4	2.954	2.872	2.815	2.732	2.808	2.836	2.91
26)	I	1,4-Difluorobenzene						1 600	
27) 28)	TM Tm	Benzene 1,2-Dichloroethane				0.761		1.682	3.51 5.03
29)	TM	Trichloroethene				0.492			6.40
30)		1,2-Dichloropropane	0.426	0.441	0.428	0.419	0.361	0.415	7.53
31)	Tm	Bromodichloromethane				0.592			$4.66 \\ 5.34$
32) 33)	Tm Tm	2-Chloroethyl vinyl e cis-1,3-Dichloroprope	0.109	0.103	0.104	0.093	0.090	0.102	18.26
34)	Tm	4-Methyl-2-Pentanone	0.033	0.032	0.035	0.031	0.034	0.033#	
35)	S	Toluene-d8				0.579			6.45
36)	TCM	Toluene	0.777	0.738	0.768	0.697	0.712	0.739	4.67
37)	I								
38)		trans-1,3-Dichloropro 1,1,2-Trichloroethane	5.018	4.252	3.361	2.988	2.595	3.643	7.56
39) 40)	Tm Tm	Tetrachloroethene	2.971	2.945	2.742	2.690	2.351	2.740	
41)	Tm	2-Hexanone	0.407	0.450	0.492	0.465	0.581	0.479	13.54
42)		Dibromochloromethane	3.491			2.959			13.01
43)		Chlorobenzene				4.157			$5.04 \\ 23.71$
44) 45)		Ethylbenzene m+p-Xylenes				5.656 2,193			24.54
46)	Tm	o-Xylene				4.399			27.79
47)	Tm	Styrene				2.848			27.08
48)		Bromoform				1.189			5.42
49) 50)		Bromofluorobenzene 1,1,2,2-Tetrachloroet				1.676			27.68 4.19
51)	Tm	1,3-Dichlorobenzene	1.780	2.052	2.199	3.077	3.072	2.436	24.72
52)	Tm	1,4-Dichlorobenzene	2.403	2.683	2.583	3.570	3.233	2.894	16.87
53)		1,2-Dichlorobenzene				3.037			21.46
54)	Tm	Naphthalene	1.343	∠.5∠⊥	2.392	2.831	J.143	Z.440	27.88

VOLATILE METHOD BLANK SUMMARY

FIEL	DΙ	D:
------	----	----

MB 03Feb2006

Lab Name:

FMETL

NJDEP#: 13461

Project:

06-34880

Case No.: 60048

Location: 701

SDG No.: UST

Lab File ID:

VB021618.D

Lab Sample ID: MB 03Feb2006

Date Analyzed: 2/3/2006

Time Analyzed: 16:05

GC Column:

RTX502. ID: 0.25

(mm)

Heated Purge: (Y/N)

Ν

Instrument ID: GCMS#2

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

ſ	-	LAB	LAB	TIME
	FIELD ID:	SAMPLE ID	FILE ID	ANALYZED
01	TRIP BLANK	6004806	VB021623.D	19:24
02	701C-GW	6004805	VB021626.D	21:27

COMMENTS	j,
COMMENT	ο,

2A WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

 Lab Name:
 FMETL
 NJDEP#:
 13461

 Project:
 06-34880
 Case No.:
 60048
 Location:
 701
 SDG No.:
 UST

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 03FEB2006	89	1.02	111	0
02	TRIP BLANK	92	84	100	0
03	701C-GW	91	79	97	0

QC LIMITS

 SMC1
 DCE
 =
 1,2-Dichloroethane-d4
 (70-120)

 SMC2
 TOL
 =
 Toluene-d8
 (70-120)

 SMC3
 BFB
 =
 Bromofluorobenzene
 (70-120)

Column to be used to flag recovery values

D System Monitoring Compound diluted out

^{*} Values outside of contract required QC limits

Spike Recovery and RPD Summary Report - WATER

: C:\HPCHEM\1\METHODS\M2VO231.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Wed Feb 08 15:05:52 2006

Response via : Initial Calibration

Non-Spiked Sample: VB021645.D

Spike Spike Sample Duplicate Sample

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Acrolein	0.0	50	57	61	 114	121	6	20	59-137
Acrylonitrile	0.0	50	61	64	121	128#	5	20	68-127
tert-Butyl alcohol	0.0	100	109	121	109	121	11	20	17-167
Methyl-tert-Butyl et	0.0	10	13	14	132#	139#	5	20	74-116
Di-isopropyl ether	0.0	10	14	14	136#	141#	4	20	77-117
Dichlorodifluorometh	0.0	10	10	10	96	99	3	20	50-131
Chloromethane	1.4	10	11	12	92	108	17	20	65-123
Vinyl Chloride	0.0	10	13	13	131#	135#	3	20	63-125
Bromomethane	5.7	10	15	15	89	94	6	20	72-118
Chloroethane	0.0	10	4	4	38#	40#	4	20	64-127
Trichlorofluorometha		10	8	8	81	79	3	20	60-122
1,1-Dichloroethene	0.0	10	10	10	99	101	2	20	68-116
Acetone	0.0	10	9	9	91	93	1	20	2-148
Carbon Disulfide	0.0	10	9	10	94	96	2	20	69-117
Methylene Chloride	2.6	10	15	16	120#	131#	9	20	79-110
trans-1,2-Dichloroet	1	10	11	12	114#	123#	8	20	73-113
1,1-Dichloroethane	0.0	10	2	2	22#	25#	13	20	77-112
∜inyl Acetate	0.0	10	13	13	126	134#	6	20	52-127
2-Butanone	0.0	10	13	13	131	133	1	20	12-162
cis-1,2-Dichloroethe		10	12	12	116#	124#	6	20	74-114
Chloroform	0.0	10	10	12	103	119#	14	20	79-110
1,1,1-Trichloroethan	•	10	12	12	116#	121#	4	20	73-114
Čarbon Tetrachloride	1	10	11	11	109	113	4	20	69-115
Benzene	0.0	10	8	8	85	85	0	20	78-112
1,2-Dichloroethane	0.0	10	9	9	90	89	1	20	78-115
Trichloroethene	0.0	10	8	8	83	83	1	20	74-114
1,2-Dichloropropane	0.0	10	9	9	87	87	0	20	77-113
Bromodichloromethane		10	8	8	84	83	1	20	77-113
2-Chloroethyl vinyl	0.0	10	9	9	85	86	1	20	67-117
cis-1,3-Dichloroprop	1 :	10	8	8	85	84	1	20	75-116
4-Methyl-2-Pentanone		10	8	9	84	86	3	20	33-146
Toluene	0.0	10	9	9	87	87	1	20	80-113
trans-1,3-Dichloropr		10	9	9	86	85	0	20	75-117
1,1,2-Trichloroethan		10	9	9	92	92	0	20	78-116
Tetrachloroethene	0.0	10	8	8	83	82	2	20	73-115
2-Hexanone	0.0	10	8	9	83	85	3	20	30-147
Dibromochloromethane	1 2	10	9	8	86	84	$\tilde{2}$	20	77-115
Chlorobenzene	0.0	10	9	9	87	86	$\bar{2}$	20	78-112
Ethylbenzene	0.0	10	8	8	84	83	2	20	77-113
m+p-Xylenes	0.0	20	17	17	86	84	- 3	20	76-115
o-Xylene	0.0	10	9	9	91	88	3	20	74-118
Styrene	0.0	10	9	8	87	85	2	20	77-116
Bromoform	0.0	10	8	8	84	83	1	20	72-116
1,1,2,2-Tetrachloroe		10	9	9	90	89	2	20	73-120
1,3-Dichlorobenzene	0.0	10	9	9	88	88	õ	20	75-114
1,4-Dichlorobenzene	0.0	10	9	9	89	89	Ö	20	75-116
1,2-Dichlorobenzene	0.0	10	9	. 9	89	89	0	20	76-115
Naphthalene	0.1	10	6	7	60#	72	19	20	70-120
Naphrenarene	1 0.7 1	TO 1	υj	′	0011	/ 4			.0 1201

^{# -} Fails Limit Check

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

NJDEP#: 13461 **FMETL** Lab Name: Location: 701 Case No.: 60048 SDG No.: UST Project: 06-34880 Date Analyzed: 2/3/2006 Lab File ID (Standard): VB021613.D Time Analyzed: 12:03 Instrument ID: GCMS#2 Ν Heated Purge: (Y/N) ID: 0.25 GC Column: RTX502.2 (mm)

}		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA_#	RT #
12 HOUF	STD	369432	16.44	1565703	19.65	151289	25.67
UPPER L	.IMIT	738864	16.94	3131406	20.15	302578	26.17
LOWER	LIMIT	184716	15.94	782852	19.15	75645	25.17
FIELD	ID:						
)1 MB 03FEB	2006	367651	16.43	1570584	19.65	196839	25.66
2 TRIP BLAN	VK	350040	16.43	1159908	19.65	101570	25.66
3 701C-GW		343469	16.43	1190664	19.64	99241	25.66

IS1 BCM = BromochloromethaneIS2 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

(QT/LSC Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\060203\VB021618.D

Vial: 2 Operator: Skelton Acq On : 3 Feb 2006 4:05 pm Inst : GC/MS Ins : MB 03Feb2006 : MB 03Feb2006 Sample

Multiplr: 1.00 Misc

MS Integration Params: GAS10.P

Quant Time: Feb 28 13:18 2006 Quant Results File: M2VO230.RES

Quant Method: C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Feb 03 14:05:16 2006

Response via : Initial Calibration DataAcq Meth : M2VO230

Internal Standards	R.Т.	QIon	Response	Conc U	nits Dev(M	lin)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.43 19.65 25.66		367651 1570584 196839	30.00 30.00 30.00	ug/L 0	0.01
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000	18.48 Range 70				ug/L -0 89.27%	.01
35) Toluene-d8	22.58	98	982316	30.66	ug/L -0	.01
Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 70 28.00 Range 70	- 120 95 - 120	Recove: 302007 Recove:	33.35	102.20% ug/L 0 111.17%	.00
					01	

Target Compounds

11

Qvalue

Quantitation Report

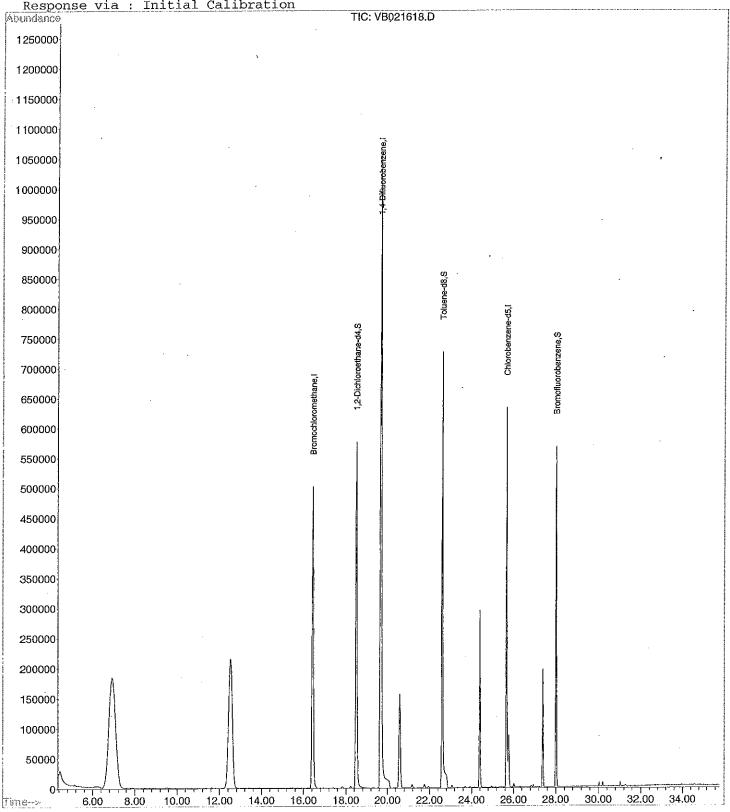
Data File : C:\HPCHEM\1\DATA\060203\VB021618.D

Vial: 2 Operator: Skelton : 3 Feb 2006 Acq On 4:05 pm : MB 03Feb2006 Inst : GC/MS Ins Sample : MB 03Feb2006 Multiplr: 1.00 Misc

MS Integration Params: GAS10.P Quant Time: Feb 28 13:18 2006

Quant Results File: M2VO230.RES

: C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Feb 03 14:05:16 2006 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\060203\VB021623.D

Vial: 7 Acq On : 3 Feb 2006 7:24 pm Operator: Skelton Sample : 6004806 Misc : Trip Blank Inst : GC/MS Ins

Multiplr: 1.00

MS Integration Params: GAS10.P Quant Time: Feb 3 20:00 2006

Quant Results File: M2VO230.RES

Quant Method : C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Feb 03 14:05:16 2006

Response via : Initial Calibration DataAcq Meth : M2VO230

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.43 19.65 25.66	128 114 119	350040 1159908 101570	30.00 30.00 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000	18.48 Range 70	65 - 120	910876 Recove	27.53 rv =	
35) Toluene-d8	22.58	98	592658	25.05	
49) Bromofluorobenzene	28.00	- 120 95	Recove 140443	30.06	ug/L 0.00
Spiked Amount 30.000	Range 70	- 120	Recove	ry =	100.20%

Target Compounds

Qvalue

Quantitation Report

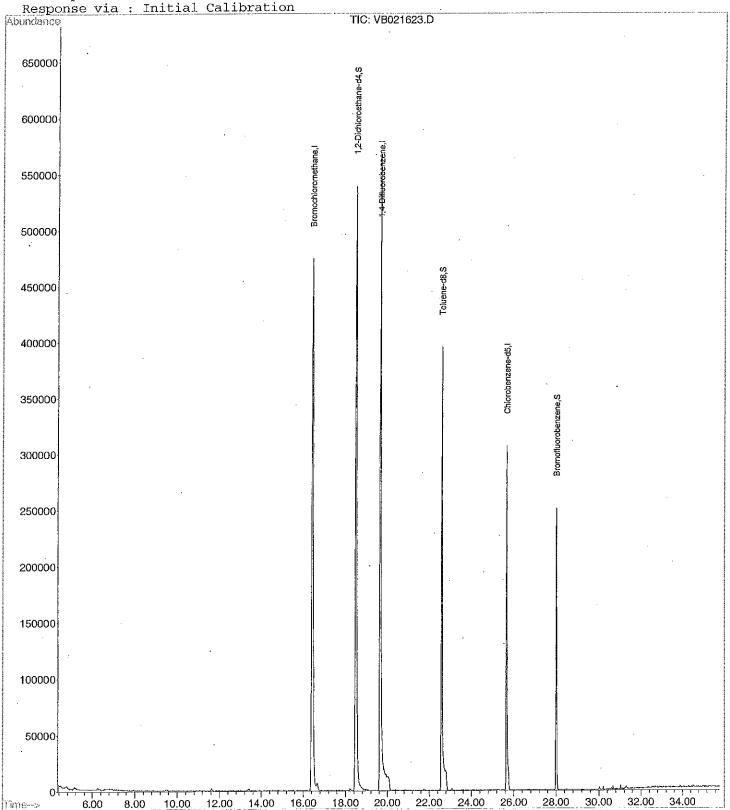
Data File : C:\HPCHEM\1\DATA\060203\VB021623.D

Vial: 7 : 3 Feb 2006 Operator: Skelton Acq On 7:24 pm: 6004806 Inst : GC/MS Ins Sample Multiplr: 1.00 Misc : Trip Blank

MS Integration Params: GAS10.P

Quant Results File: M2VO230.RES Quant Time: Feb 3 20:00 2006

: C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Feb 03 14:05:16 2006



(QT Reviewed) Quantitation Report

Data File : $C:\HPCHEM\1\DATA\060203\VB021626.D$

Vial: 10 Operator: Skelton Acq On : 3 Feb 2006 9:27 pm Inst : GC/MS Ins Sample

: 6004805 : 701C-GW Multiplr: 1.00 Misc

MS Integration Params: GAS10.P Quant Results File: M2VO230.RES Quant Time: Feb 3 22:03 2006

Quant Method : C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Feb 03 14:05:16 2006

Response via : Initial Calibration DataAcq Meth : M2VO230

Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev(Min)	
1) Bromochlorome	16.43	128	343469	30.00			
26) 1,4-Difluorobe		19.64	114	1190664	30.00	_	
37) Chlorobenzene	-d5	25.66	119	99241	30.00	ug/L	-0.01
System Monitoring (25) 1,2-Dichloroed Spiked Amount 35) Toluene-d8 Spiked Amount		18.48 Range 70 22.58 Range 70	65 - 120 98 - 120	885231 Recove 576650 Recove	27.26 ery = 23.74 ery =	90. ug/L	87% -0.01
49) Bromofluorober		27.99	95	133119	29.16		
Spiked Amount	30.000	Range 70		Recove		<u> </u>	
Target Compounds				•		-	Qvalue

Quantitation Report

Data File : C:\HPCHEM\1\DATA\060203\VB021626.D

: 3 Feb 2006 9:27 pm Acq On

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

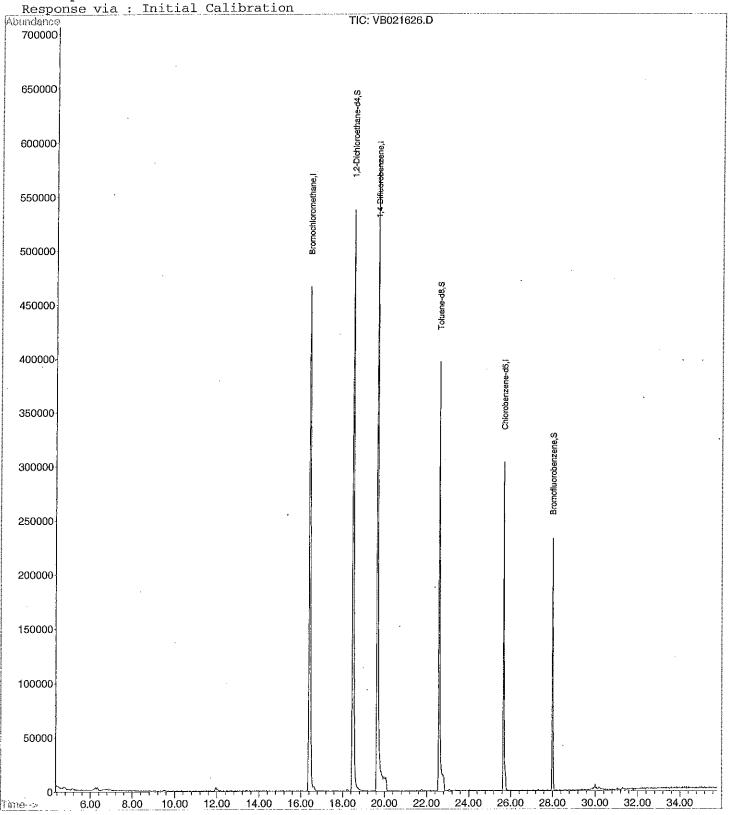
: 6004805 Sample Misc : 701C-GW

Method

Quant Results File: M2VO230.RES

MS Integration Params: GAS10.P Quant Time: Feb 3 22:03 2006

: C:\HPCHEM\1\METHODS\M2VO230.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Feb 03 14:05:16 2006



SEMI-VOLATILE ORGANICS

Semi-Volatile Analysis Report

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

Data File Name BNA11471.D

Sample Name

MB-012706-01

Operator

BPatel

Misc Info

MB-012706-01

Date Acquired

30-Jan-06

Sample Multiplier 1

Regulatory Level

CAS#	Name	R.T.	Response	Result	Level (ug/L)*	MDL	RL	Qualifiers
110-86-1	Pyridine	T		not detected	NLE	1.13	10.00 ug/L	
62-75-9	N-nitroso-dimethylamine	1		not detected	0.8	0.60	10.00 ug/L	
62-53-3	Aniline	i i		not detected	6	2.38	10.00 ug/L	
111-44-4	bis(2-Chloroethyl)ether	1		not detected	7	0.71	10.00 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.02	10.00 ug/L	
106-46-7	1.4-Dichlorobenzene			not detected	75	0.99	10.00 ug/L	
100-51-6	Benzyl alcohol			not detected	2000	0.66	10.00 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96	10.00 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.88	10.00 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	10	0.76	10.00 ug/L	
67-72-1	Hexachloroethane			not detected	7	0.96	10.00 ug/L	
98-95-3	Nitrobenzene			not detected	6	0.86	10.00 ug/L	
78-59-1	Isophorone			not detected	40	0.76	10.00 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	0.79	10.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene		•	not detected	9	0.89	10.00 ug/L	
91-20-3	Naphthalene			not detected	300	0.76	10.00 ug/L	
106-47-8	4-Chloroaniline			not detected	30	1.37	10.00 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	0.99	10.00 ug/L	
91-57-6	2-Methylnaphthalene	l		not detected	NLE	1.01	10.00 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	40	0.92	10.00 ug/L	
91-58-7	2-Chloronaphthalene			not detected	600	0.72	10.00 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.77	10.00 ug/L	
131-11-3	Dimethylphthalate			not detected	NLE	0.78	10.00 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.67	10.00 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	10	0.71	10.00 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.18	10.00 ug/L	·
83-32-9	Acenaphthene			not detected	400	0.73	10.00 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	0.69	10.00 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	0.81	10.00 ug/L	
84-66-2	Diethylphthalate			not detected	6000	0.96	10.00 ug/L	
86-73-7	Fluorene			not detected	300	0.71	10.00 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.73	10.00 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.11	10.00 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	10	0.62	10.00 ug/L	
.103-33-3	Azobenzene			not detected	NLE	0.72	10.00 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.92	10.00 ug/L	
118-74-1	Hexachlorobenzene			not detected	0.02	0.95	10.00 ug/L	
85-01-8	Phenanthrene			not detected	NLE	0.81	10.00 ug/L	
120-12-7	Anthracene			not detected	2000	0.76	10.00 ug/L	
84-74-2	Di-n-butylphthalate	<u> </u>		not detected	700	0.92	10.00 ug/L	
206-44-0	Fluoranthene			not detected	300	0.82	10.00 ug/L	

Page 1 of 2

Semi-Volatile Analysis Report Page 2

Data File Name

BNA11471.D

Sample Name

MB-012706-01

Operator

BPatel

Misc Info

MB-012706-01

Date Acquired 30-Jan-06

Sample Multiplier 1

Regulatory Level

CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL	RL	Qualifiers
92-87-5	Benzidine			not detected	20	0.98	10.00 ug/L	
129-00-0	Pyrene			not detected	200	0.79	10.00 ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	0.86	10.00 ug/L	
56-55-3	Benzo[a]anthracene			not detected	0.1	0.82	10.00 ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	30	1.31	10.00 ug/L	
218-01-9	Chrysene			not detected	5	0.77	10.00 ug/L	<u> </u>
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	3	1.28	10.00 ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.02	10.00 ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	0.2	0.98	10.00 ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	0.5	0.92	10.00 ug/L	
50-32-8	Benzo[a]pyrene			not detected	0.1	0.71	10.00 ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	0.2	0.76	10.00 ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	0.3	0.76	10.00 ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.80	10.00 ug/L	<u> </u>

^{*} 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

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MB-012706-01

Lab Name:	FMETL				L	.ab Cod	de <u>13</u>	3461		1310-012	
Project:	06-3488	30	Case No.:	60048		Locat	ion: [701	S	DG No.:	
Matrix: (soil/	water)	WATE	3			L	ab S	ample	ID:	MB-012706	01
Sample wt/vo	ol:	1000	(g/ml)	ML		L	.ab Fi	ile ID:		BNA11471.I)
Level: (low/r	ned)	LOW				[Date F	Receiv	ed:	1/24/2006	
% Moisture:			lecanted: (\	//N)	N	[Date E	Extract	ed:	1/27/2006	
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/30/2006											
Injection Volu	ume: 1.0)(uL)			٠ [Dilutio	n Fact	or:	1.0	<u>-</u>
GPC Cleanu	p: (Y/N)	N	pH:								-
					C	ONCE	VTRA	TION	JNI	ΓS:	
Number TICs	s found:	0			(u	ıg/L or u	ig/Kg)	JG/I		
CAS NUME	BER	COMP	OUND NAM	ИЕ			R	T	ES	T. CONC.	Q

Semi-Volatile Analysis Report

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

Response

Data File Name

BNA11478.D

Sample Name

6004805

Operator

CAS#

BPatel

Name

Misc Info

701C-GW

Date Acquired 30-Jan-06 Sample Multiplier 1

Result

Regulatory Level (ug/L)* MDL Qualifiers

110-86-1	Pyridine		not detected	NLE	1.13	10.00 ug/L	
62-75-9	N-nitroso-dimethylamine		not detected	0.8	0.60	10.00 ug/L	
62-53-3	Aniline		not detected	6	2.38	10.00 ug/L	
111-44-4	bis(2-Chloroethyl)ether		not detected	7	0.71	10.00 ug/L	
541-73-1	1,3-Dichlorobenzene		not detected	600	1.02	10.00 ug/L	
106-46-7	1,4-Dichlorobenzene		not detected	75	0.99	10.00 ug/L	
100-51-6	Benzyl alcohol		not detected	2000	0.66	10.00 ug/L	
95-50-1	1,2-Dichlorobenzene		not detected	600	0.96	10.00 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether		not detected	300	0.88	10.00 ug/L	
621-64-7	n-Nitroso-di-n-propylamine		not detected	10	0.76	10.00 ug/L	
67-72-1	Hexachloroethane		not detected	7	0.96	10.00 ug/L	
98-95-3	Nitrobenzene		not detected	6	0.86	10.00 ug/L	
78-59-1	Isophorone		not detected	40	0.76	10.00 ug/L	
111-91-1	bis(2-Chloroethoxy)methane	<u></u>	not detected	NLE	0.79	10.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene	<u> </u>	not detected	9	0.89	10.00 ug/L	
91-20-3	Naphthalene		not detected	300	0.76	10.00 ug/L	
106-47-8	4-Chloroaniline		not detected	30	1.37	10.00 ug/L	
87-68-3	Hexachlorobutadiene		not detected	11	0.99	10.00 ug/L	
91-57-6	2-Methylnaphthalene		not detected	NLE	1.01	10.00 ug/L	
77-47-4	Hexachlorocyclopentadiene		not detected	40	0.92	10.00 ug/L	
91-58-7	2-Chloronaphthalene		not detected	600	0.72	10.00 ug/L	
88-74-4	2-Nitroaniline		not detected	NLE	0.77	10.00 ug/L	
131-11-3	Dimethylphthalate		not detected	NLE	0.78	10.00 ug/L	
208-96-8	Acenaphthylene		not detected	NLE	0.67	10.00 ug/L	
606-20-2	2,6-Dinitrotoluene		not detected	10	0.71	10.00 ug/L	
99-09-2	3-Nitroaniline		not detected	NLE	1.18	10.00 ug/L	
83-32-9	Acenaphthene	<u> </u>	not detected	400	0.73	10.00 ug/L	· · · · · · · · ·
132-64-9	Dibenzofuran		not detected	NLE	0.69	10.00 ug/L	
121-14-2	2,4-Dinitrotoluene	<u> </u>	not detected	10	0.81	10.00 ng/L	
84-66-2	Diethylphthalate		not detected	6000	0.96	10.00 ug/L	
86-73-7	Fluorene		not detected	300	0.71	10.00 ug/L	
7005-72-3	4-Chlorophenyl-phenylether	ļ	not detected	NLE	0.73	10.00 ug/L	
100-01-6	4-Nitroaniline		not detected	NLE	1.11	10.00 ug/L	
86-30-6	n-Nitrosodiphenylamine		not detected	10	0.62	10.00 ug/L	
103-33-3	Azobenzene		not detected	NLE	0.72	10.00 ug/L	
101-55-3	4-Bromophenyl-phenylether		not detected	NLE	0.92	10.00 ug/L	
118-74-1	Hexachlorobenzene		not detected	0.02	0.95	10.00 ug/L	
85-01-8	Phenanthrene	L	not detected	NLE	0.81	10.00 ug/L	
120-12-7	Anthracene		not detected	2000	0.76	10.00 ug/L	
84-74-2	Di-n-butylphthalate		not detected	700	0.92	10.00 ug/L	
206-44-0	Fluoranthene		not detected	300	0.82	10.00 ug/L	

Page 1 of 2

Semi-Volatile Analysis Report Page 2

Data File Name

BNA11478.D

Sample Name

6004805

Operator Date Acquired BPatel 30-Jan-06 Misc Info

701C-GW

Sample Multiplier

_1:... 1

Regulatory Level

CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL	RL	Qualifiers
92-87-5	Benzidine			not detected	20	0.98	10.00 ug/.	L
129-00-0	Pyrene			not detected	200	0.79	10.00 ug/	Ĺ
85-68-7	Butylbenzylphthalate			not detected	100	0.86	10.00 ug/	<u>.</u>
56-55-3	Benzo[a]anthracene			not detected	0.1	0.82	10.00 ug/	L
91-94-1	3,3'-Dichlorobenzidine			not detected	30	1.31	10.00 ug/	<u>L</u>
218-01-9	Chrysene			not detected	5	0.77	10.00 ug/l	<u> </u>
117-81-7	bis(2-Ethylhexyl)phthalate	27.68	624296	13.83 ug/L	3	1.28	10.00 ug/	<u> </u>
117-84-0	Di-n-octylphthalate			not detected	100	1.02	10.00 ug/	
205-99-2	Benzo[b]fluoranthene			not detected	0.2	0.98	10.00 ug/	
207-08-9	Benzo[k]fluoranthene			not detected	0.5	0.92	10.00 ug/	,
50-32-8	Benzo[a]pyrene			not detected	0.1	0.71	10.00 ug/	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	0.2	0.76	10.00 ug/	
53-70-3	Dibenz[a,h]anthracene			not detected	0.3	0.76	10.00 ug/	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	0.80	10.00 ug/	

^{*} 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

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPLE	NO
EPA	SAMPLE	ИО

Lab Name:	FMETL			ĺ	Lab Co	de 13	3461		7010-0	7 V V
Project:	06-3488	0 (Case No.: 60048		Loca	tion: _	701	S	DG No.:	
Matrix: (soil/y	water)	WATER	<u>l</u>			Lab S	ample	ID:	6004805	
Sample wt/vo	ol:	1000	(g/ml) ML			Lab Fi	ile ID:		BNA11478.D	 .
Level: (low/r	ned)	LOW				Date F	Receive	ed:	1/24/2006	<u> </u>
% Moisture:		d	ecanted: (Y/N)	N		Date E	Extract	ed:	1/27/2006	
Concentrated	d Extract	Volume:	1000 (uL)			Date A	Analyze	ed:	1/30/2006	
Injection Volu	ume: <u>1.0</u>) (uL)				Dilutio	n Fact	or:	1.0	
GPC Cleanu	p: (Y/N)	N	pH:							
				C	ONCE	NTRA	TION I	ואנ	ΓS:	
Number TICs	s found:	0		(t	ıg/L or	ug/Kg) !	JG/I		
CAS NUME	REB	COMP	OUND NAME			R	T.	ES	T. CONC.	Q

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

 Lab Name:
 FMETL
 Lab Code
 13461

 Project:
 06-34880
 Case No.:
 60048
 Location:
 701
 SDG No.:

 Lab File ID:
 BNA11332.D
 DFTPP Injection Date:
 11/3/2005

 Instrument ID:
 GC_BNA_2
 DFTPP Injection Time:
 9:33

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
51	30.0 - 80.0% of mass 198	46.2
68	Less than 2.0% of mass 69	0.9 (1.8)1
69	Mass 69 Relative abundance	51.6
70	Less than 2.0% of mass 69	0.4 (0.7)1
127	25.0 - 75.0% of mass 198	51.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	22.3
365	Greater than 0.75% of mass 198	2.1
441	Present, but less than mass 443	10.9
442	40.0 - 110.0% of mass 198	64.7
443	15.0 - 24.0% of mass 442	13.9 (21.6)2

1-Value is % mass 69

2-Value is % mass 442

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

	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	SSTD120	SSTD120	BNA11333.D	11/3/2005	9:57
02	SSTD010	SSTD010	BNA11334.D	11/3/2005	10:40
03	SSTD050	SSTD050	BNA11335.D	11/3/2005	11:24
04	SSTD020	SSTD020	BNA11336.D	11/3/2005	12:08
05	SSTD080	SSTD080	BNA11337.D	11/3/2005	12:51

Data File : C:\HPCHEM\1\DATA\051103\BNA11332.D

Vial: 99

Acq On : 3 Nov 2005 Sample : DFTPP Tune 9:33 am

Operator: BPatel
Inst : GC/MS Ins

Misc : S

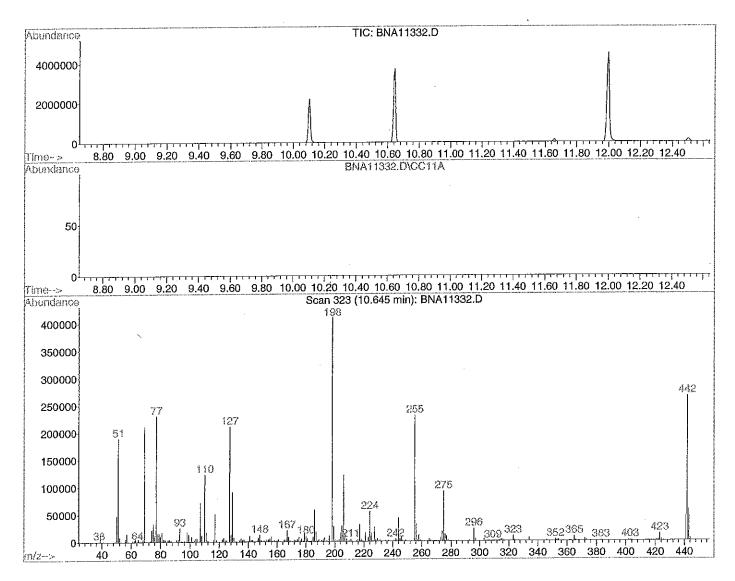
: SV080105.01

Multiplr: 1.00
GC Integration Params: rteint2.p

MS Integration Params: ODD.P GC Integration Paramethod : C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)

Title

: BNA Calibration



Spectrum Information: Scan 323

Target	Rel. to	Lower	Upper	Rel.	Raw	Result	
Mass	Mass	Limit%	Limit%	Abn%	Abn	Pass/Fail	
51 68 69 70 127 197 198 199 275 365	198 69 198 69 198 198 198 198 198	30 0.00 0.00 0.00 40 0.00 100 5 10	60 2 100 2 60 1 100 9 30	46.2 1.8 51.6 0.7 51.4 0.0 100.0 6.5 22.3 2.1	189312 3845 211392 1460 210752 0 409984 26680 91280 8485	PASS PASS PASS PASS PASS PASS PASS PASS	-
441	443	1	99	77.9	44552	PASS	
442	198	40	100	64.7	265088	PASS	
443	442	17	23	21.6	57184	PASS	

Method : C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)

Title : BNA Calibration

Last Update : Thu Nov 03 13:40:19 2005

Response via : Initial Calibration

Calibration Files

120 =BNA11333.D 80 =BNA11337.D 50 =BNA11335.D

20 =BNA11336.D 10 =BNA11334.D

		Compound	120	80	50	20	10	Avg	%RSD
						amp			
· 1) 2)	$_{\mathbf{T}}^{\mathbf{I}}$	1,4-Dichlorobenzene-d Pyridine	1.621	1.540	1.525	1.532	1.462	1.536	3.69
3)	\mathbf{T}	N-nitroso-dimethylami	0.882	0.832	0.827	0.831	0.748	0.824	5.85
4)	S	2-Fluorophenol					1.189 2.223		3.88 2.70
5) 6)	T S	Aniline Phenol-d6	1.800	1.730	1.751	1.730	1.667	1.736	2.76
7)		Phenol	2.014	1.926	1.946	1.973	1.886	1.949	2.48
8)	T	bis(2-Chloroethyl)eth	1.410	1.377	1.399	1.388 1.307	1.340 1.266	$\frac{1.383}{1.302}$	1.93 1.98
9) 10)	TM	2-Chlorophenol 1,3-Dichlorobenzene		1.297 1.489					1.75
11)		1,4-Dichlorobenzene	1.572	1.558	1.566	1.560	1.519		1.34
12)	T	Benzyl alcohol	1.025	0.988	1.010	0.991	0.921 1.367	0.987	$\frac{4.06}{2.21}$
13) 14)	T T	1,2-Dichlorobenzene 2-Methylphenol					1.315		1.61
15)	$\dot{f T}$	bis(2-chloroisopropyl	1.710	1.681	1.728	1.744	1.624	1.697	2.79
16)	Τ.	4-Methylphenol					1.338		$\frac{2.87}{1.27}$
17) 18)	TPM T	n-Nitroso-di-n-propyl Hexachloroethane	0.246	0.240	0.244	0.248	0.243	0.244	2.36
	_							•	
19)	I S	Naphthalene-d8 Nitrobenzene-d5					0.571	0 583	1.31
20) 21)	T	Nitrobenzene					0.554		0.56
22)	\mathbf{T}	Isophorone					0.946		0.75
23)	TC	2-Nitrophenol 2,4-Dimethylphenol					0.184 0.473		2.89 0.62
24) 25)	$egin{array}{c} T \ T \end{array}$	bis(2-Chloroethoxy)me					0.494		0.71
26)	TC	2,4-Dichlorophenol	0.329	0.327	0.326	0.316	0.312	0.322	2.28
27)	T	Benzoic Acid					0.092		$44.17 \\ 0.57$
28) 29)	$^{ m TM}$	1,2,4-Trichlorobenzen Naphthalene	1.058	1.079	1.089	1.084	1.088	1.080	1.16
30)	Ť	4-Chloroaniline	0.444	0.442	0.457	0.450	0.455	0.449	1.44
31)	TC	Hexachlorobutadiene					0.215		0.83
32) 33)	TCM T	4-Chloro-3-methylphen 2-Methylnaphthalene	0.419	0.421	0.429	0.419	0.399	0.417	2.62 0.76
	_								
34) 35)	I TP	Acenaphthene-d10 Hexachlorocyclopentad						0 348	13.56
36)	TC	2,4,6-Trichlorophenol	0.404	0.396	0.399	0.389	0.376	0.393	2.73
37)	\mathbf{T}	2,4,5-Trichlorophenol	0.434	0.427	0.427	0.405	0.402	0.419	3.42
38)	S	2-Fluorobiphenyl					$1.300 \\ 1.148$		$0.54 \\ 0.71$
39) .40)	Т Т	2-Chloronaphthalene 2-Nitroaniline		0.378	0.380	0.369	0.362	0.373	1.98
41)	$\tilde{ ext{T}}$	Dimethylphthalate	1.340	1.356	1.372	1.367	1.353	1.358	0.92
42)	T	Acenaphthylene					1.821		0.59
43) 44)		2,6-Dinitrotoluene 3-Nitroaniline					0.291 0.307		$\frac{3.32}{1.20}$
		Acenaphthene					1.109		0.79
46)		2,4-Dinitrophenol	0.203	0.195	0.181	0.140	0.089	0.162	29.31
47)		Dibenzofuran					1.623		0.57
48) 49)		4-Nitrophenol 2,4-Dinitrotoluene					$0.356 \\ 0.419$		6.27 3.99
50)		Diethylphthalate					1.408		1.35
51)	Т	Fluorene	1.361	1.376	1.377	1.343	1.344	1.360	1.21
52)		4-Chlorophenyl-phenyl 4-Nitroaniline	0.659	0.653	0.643	0.651	0.648	0.651 0.312	0.87 1.68
53)									
54)	I	Phenanthrene-d10			IS	STD			

^{(#) =} Out of Range M262593.M

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)

Title : BNA Calibration

Last Update : Thu Nov 03 13:40:19 2005

Response via : Initial Calibration

Calibration Files

120 =BNA11333.D 80 =BNA11337.D 50 =BNA11335.D

20 =BNA11336.D 10 =BNA11334.D

		Compound	120	80	50	20	10	Avg	%RSD
55) 56) 57) 58) 59) 60) 61) 62) 63) 64)	T TC T S T TCM T T T	4,6-Dinitro-2-methylp n-Nitrosodiphenylamin Azobenzene 2,4,6-Tribromophenol 4-Bromophenyl-phenyle Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Di-n-butylphthalate Fluoranthene	0.566 0.999 0.102 0.228 0.242 0.139 1.189 1.150 1.277	0.559 0.995 0.099 0.224 0.239 0.128 1.179 1.135 1.285	0.562 1.018 0.098 0.218 0.230 0.115 1.183 1.153	0.554 1.041 0.096 0.216 0.230 0.095 1.198 1.167 1.363	0.556 1.023 0.090 0.208 0.224 0.069 1.201 1.151	0.559 1.015 0.097 0.219 0.233 0.109 1.190 1.151 1.322	18.54 0.88 1.88 4.74 3.39 3.17 25.56 0.79 1.00 3.07 0.36
66) 67) 68) 69) 70) 71) 72) 73)	I TM S T T	Chrysene-d12 Benzidine Pyrene p-Terphenyl-d14 Butylbenzylphthalate Benzo[a]anthracene 3,3'-Dichlorobenzidin Chrysene bis(2-Ethylhexyl)phth	0.471 1.214 0.860 0.596 1.291 0.484 1.065	0.473 1.225 0.844 0.597 1.252 0.436 1.072	0.501 1.246 0.838 0.608 1.226 0.427 1.051	0.583 1.253 0.830 0.611 1.195 0.435 1.056	0.691 1.259 0.836 0.608 1.201	1.239 0.841 0.604 1.233 0.450 1.060	17.27 1.54 1.34 1.17 3.19 5.57 0.79 1.00
75) 76) 77) 78) 79) 80) 81) 82)	TC T T TC T T T	Perylene-d12 Di-n-octylphthalate Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Indeno[1,2,3-cd]pyren Dibenz[a,h]anthracene Benzo[g,h,i]perylene	2.119 1.794 1.790 1.607	2.089 1.751 1.725 1.564 1.714 1.410	2.119 1.681 1.710 1.524	2.064 1.624 1.648 1.474 1.580 1.275	2,028 1.623	1.695 1.696 1.523	1.87 4.51 4.17 4.31 5.73 6.99 4.84

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

 Lab Name:
 FMETL
 Lab Code
 13461

 Project:
 06-34880
 Case No.:
 60048
 Location:
 701
 SDG No.:

 Lab File ID:
 BNA11467.D
 DFTPP Injection Date:
 1/30/2006

 Instrument ID:
 GC_BNA_2
 DFTPP Injection Time:
 8:08

		% REL/	ATIVE
m/e	ION ABUNDANCE CRITERIA	ABUND	ANCE
51	30.0 - 80.0% of mass 198	49.3	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 Relative abundance	57.3	
70	Less than 2.0% of mass 69	0.3	(0.6)1
127	25.0 - 75.0% of mass 198	54.8	
197	Less than 1.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	6.4	
275	10.0 - 30.0% of mass 198	21.8	-
365	Greater than 0.75% of mass 198	2.2	
441	Present, but less than mass 443	8.5	
442	40.0 - 110.0% of mass 198	56.0	
443	15.0 - 24.0% of mass 442	12.0	(21.4)2

¹⁻Value is % mass 69

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

	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	SSTD050	SSTD050	BNA11468.D	1/30/2006	9:26
02	MB-012706-01	MB-012706-01	BNA11471.D	1/30/2006	11:50
03	701C-GW	6004805	BNA11478.D	1/30/2006	17:16

²⁻Value is % mass 442

Data File : C:\HPCHEM\1\DATA\060130\BNA11467.D

Vial: 99

Acq On : 30 Jan 2006 Sample : DFTPP Tune

06 8:08 am

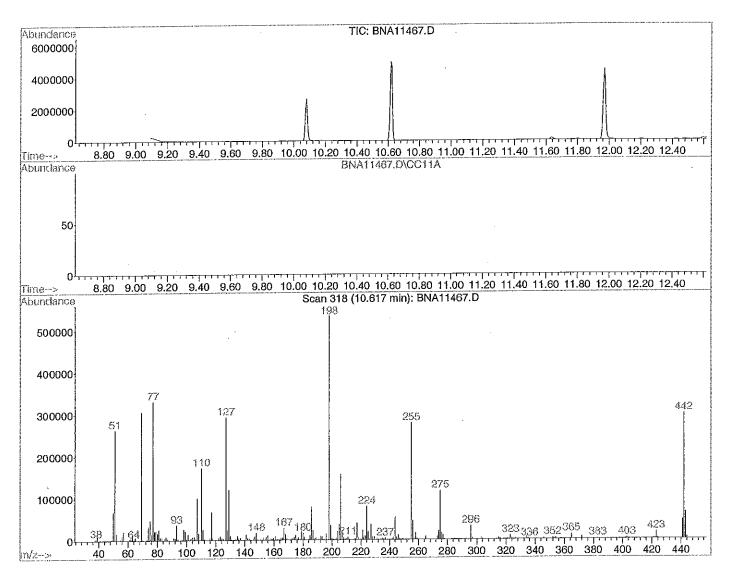
Operator: BPatel
Inst : GC/MS Ins

Misc : SV080105.01

Multiplr: 1.00 GC Integration Params: rteint2.p

MS Integration Params: ODD.P GC Integration Paramethod : C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)

Title : BNA Calibration



Spectrum Information: Scan 318

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
Mass	Mass	Limit%	Limit%	Abn%	Abn	Pass/Fail
51 68 69 70 127 197 198 199 275 365 441 442 443	198 69 198 69 198 198 198 198 198 443 198 442	30 0.00 0.00 0.00 40 0.00 100 5 10 1 40	60 2 100 2 60 1 100 9 30 100 99 100 23	49.3 0.0 57.3 0.6 54.8 0.0 100.0 6.4 21.8 21.8 21.1 56.0 21.4	263168 0 306432 1867 292928 0 534336 34176 116264 11755 45512 299072 64024	PASS PASS PASS PASS PASS PASS PASS PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\060130\BNA11468.D Vial: 100 Acq On : 30 Jan 2006 9:26 am Operator: BPatel : GC/MS Ins Inst : Sstd050 Sample Multiplr: 1.00 Misc : SV013006.01 GC Integration Params: rteint2.p MS Integration Params: ODD.P

: C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator) Method

Title : BNA Calibration
Last Update : Thu Nov 03 13:40:19 2005 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	144	-0.04
$\stackrel{-}{2}$ $\stackrel{-}{\mathrm{T}}$	Pyridine	1.536	1.525	0.7		0.00
3 T	N-nitroso-dimethylamine	0.824	0.808	1.9		0.00
4. S	2-Fluorophenol	1.255	1.268	-1.0	142	0.00
5 Т	Aniline	2.308	2.128	7.8	132	-0.02
6 S	Phenol-d6	1.736	1.644	5.3	135	-0.01
7 TCM	Phenol	1.949	1.882	3.4	139	-0.01
8 T	bis(2-Chloroethyl)ether	1.383	1.363	1.4	140	-0.02
9 TM	2-Chlorophenol	1.302	1.291	0.8	142	-0.02
10 T	1,3-Dichlorobenzene	1.501	1.500	0.1	$\frac{143}{141}$	-0.03 -0.03
11 TCM	1,4-Dichlorobenzene	1.555	1.537	1.2 3.4	135	-0.03
12 T	Benzyl alcohol	0.987 1.418	0.953 1.405	0.9		-0.02
13 T	1,2-Dichlorobenzene	1.342	1.281	4.5	135	-0.01
14 T	2-Methylphenol bis(2-chloroisopropyl)ether	1.697	1.640	3.4		-0.03
15 T 16 T	4-Methylphenol	1.402	1.340	4.4		-0.02
10 TPM	n-Nitroso-di-n-propylamine	0.244	0.235	3.7	138	-0.03
18 T	Hexachloroethane	0.639	0.629	1.6	138	-0.04
10 1	nonacit of degrees				400	0.00
19 I	Naphthalene-d8	1.000	1.000	0.0	139	-0.03
20 S	Nitrobenzene-d5	0.583	0.555	4.8	130	-0.03
21 T	Nitrobenzene	0.559	0.540	3.4		-0.03 -0.03
22 T	Isophorone	0.942	0.911	3.3 -3.6	133 141	-0.03
23 TC	2-Nitrophenol	0.194 0.473	$0.201 \\ 0.460$	$\frac{-3.0}{2.7}$	134	-0.03
24 T	2,4-Dimethylphenol bis(2-Chloroethoxy)methane	0.473 0.497	0.485	2.4	136	-0.03
25 T	2,4-Dichlorophenol	0.322	0.329	-2.1	140	-0.02
26 TC 27 T	Benzoic Acid	0.212	0.258	-21.7	161	0.00
28 TM	1,2,4-Trichlorobenzene	0.356	0.373	-4.8	145	-0.03
20 T	Naphthalene	1.080	1.064	1.5	135	-0.04
30 T	4-Chloroaniline	0.449	0.406	9.6	123	-0.03
31 TC	Hexachlorobutadiene	0.217	0.232	-6.9	148	-0.03
32 TCM	4-Chloro-3-methylphenol	0.417	0.406	2.6	131	-0.01
33 T	2-Methylnaphthalene	0.700	0.696	0.6	136	-0.03
34 I	Acenaphthene-d10	1.000	1.000	0.0	138	-0.03
35 TP	Hexachlorocyclopentadiene	0.348	0.357	-2.6	134	-0.04
36 TC	2,4,6-Trichlorophenol	0.393	0.404	-2.8	140	-0.03
37 Т	2,4,5-Trichlorophenol	0.419	0.421	-0.5	136	-0.01
38 S	2-Fluorobiphenyl	1.303	1.303	0.0	137	-0.03
39 T	2-Chloronaphthalene	1.138	1.146	-0.7	138	-0.03
40 T	2-Nitroaniline	0.373	0.373	0.0	135	-0.03
41 T	Dimethylphthalate	1.358	1.346		135	-0.03
42 T.	Acenaphthylene	1.819	1.765	3.0	133	-0.03
43 T	2,6-Dinitrotoluene	0.308	0.315	-2.3	138	-0.03
44 T	3-Nitroaniline	0.310	0.270	12.9	118 136	-0.02 -0.03
45 TCM	Acenaphthene	$1.110 \\ 0.162$	1.086 0.177	2.2 -9.3	135	-0.03
46 TP	2,4-Dinitrophenol	1.625	1.589	2.2	134	-0.03
47 T	Dibenzofuran 4-Nitrophenol	0.395	0.392	0.8	132	0.00
48 TMP 49 TM	2,4-Dinitrotoluene	0.333	0.332	0.9	132	-0.03
49 TM 50 T	Diethylphthalate	1.422	1.379	3.0	132	-0.03
50 T	Fluorene	1.360	1.324	2.6	133	-0.03
52 T	4-Chlorophenyl-phenylether	0.651	0.661	-1.5	142	-0.03

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\060130\BNA11468.D Vial: 100 Operator: BPatel Acq On : 30 Jan 2006 9:26 am Inst : GC/MS Ins Sample : Sstd050 Misc : SV013006.01 Multiplr: 1.00

MS Integration Params: ODD.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)
Title : BNA Calibration

Last Update : Thu Nov 03 13:40:19 2005 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)
53	 T	4-Nitroaniline	0.312	0.243	22.1	105	-0.03
54		Phenanthrene-d10	1.000	1.000	0.0	132	-0.03
	T	4,6-Dinitro-2-methylphenol	0.145	0.159	-9.7	136	-0.03
	TC	n-Nitrosodiphenylamine	0.559	0.556	0.5	131	-0.03
	T	Azobenzene	1.015	0.975	3.9	127	-0.03
	Ŝ	2,4,6-Tribromophenol	0.097	0.105	-8.2	141	-0.03
	$\overline{\mathbf{T}}$	4-Bromophenyl-phenylether	0.219	0.226	-3.2	137	-0.04
	T'	Hexachlorobenzene	0.233	0.242	-3.9	139	-0.03
61		Pentachlorophenol	0.109	0.129	-18.3	147	-0.02
	\mathbf{T}	Phenanthrene	1.190	1.167	1.9	130	-0.03
	${f T}$	Anthracene	1.151	1.130	1.8	129	-0.03
	\mathbf{T}	Di-n-butylphthalate	1.322	1.253	5.2	125	-0.03
65 '	TC	Fluoranthene	1.235	1.164	5.7	124	-0.03
66	I	Chrysene-d12	1.000	1.000	0.0	124	-0.04
67.		Benzidine	0.544	0.515	5.3	128	-0.03
	TM	Pyrene	1.239	1.240	-0.1	124	-0.03
	S	p-Terphenyl-d14	0.841	0.863	-2.6	128	-0.03
70		Butylbenzylphthalate	0.604	0.592	2.0	121	-0.03
	${f T}$	Benzo[a]anthracene	1.233	1.222	0.9	124	-0.04
	${f T}$	3,3'-Dichlorobenzidine	0.450	0.532	-18.2	155	-0.03
73 ′	Т	Chrysene	1.060	1.047	1.2	124	-0.03
74	${f T}$	bis(2-Ethylhexyl)phthalate	0.765	0.724	5.4	117	-0.03
75	I	Perylene-d12	1.000	1.000	0.0	121	-0.04
76 '	TC	Di-n-octylphthalate	2.084	1.924	7.7	110	-0.03
	\mathbf{T}	Benzo[b] fluoranthene	1.695	1.700	-0.3	122	-0.03
78 '	\mathbf{T}	Benzo[k] fluoranthene	1.696	1.662	2.0	117	-0.03
79 9	TC	Benzo[a]pyrene	1.523	1.488	2.3	118	-0.03
80 5	\mathbf{T}	Indeno[1,2,3-cd]pyrene	1.645	1.575	4.3	115	-0.06
81 5		Dibenz[a,h]anthracene	1.347	1.275	5.3	114	-0.06
82 5	\mathbf{T}	Benzo[g,h,i]perylene	1.334	1.255	5.9	112	-0.06

4B

SEMIVOLATILE METHOD BLANK SUMMARY

	\sim	N A COL	_	NIO.
EPA	SA	MPL	Ŀ.	NU.

Lab Name:	FMETL		Lab Code 13461	MB-012706-01
Project:	06-3488	0 Case No.: 60048	Location: 701 SD	G No.:
Lab File ID:	BNA	11471.D	Lab Sample ID:	MB-012706-01
Instrument II	D:	GC/MS Ins	Date Extracted: 1	1/27/2006
Matrix: (soil/v	water)	WATER	Date Analyzed: 1	/30/2006
Level: (low/n	ned)	LOW	Time Analyzed:	1:50

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

	EPA	LAB	LAB	DATE
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	701C-GW	6004805	BNA11478.D	1/30/2006

COMMENTS:			
	_ ··		
-			

2C WATER SEMIVOLATILE SURROGATE RECOVERY

 Lab Name:
 FMETL
 Lab Code
 13461

 Project:
 06-34880
 Case No.:
 60048
 Location:
 701
 SDG No.:

	EPA	S1	S2	S3	TOT
	SAMPLE NO.	NBZ #	2FP #	TPL #	OUT
01	MB-012706-01	63	69	87	0
02	701C-GW	72	79	. 64	0

QC LIMITS

S1	NBZ	= .	Nitrobenzene-d5	(40-110)
	2FP	=	2-Fluorobiphenyl	(50-110)
S 3	TPL	=	p-Terphenyl-d14	(50-135)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

Semi-Volatile MS/MSD Recovery Report U.S. Army, Fort Monmouth Environmental Laboratory NJDEP Certification #13461

MS Lab ID: 6004508MS

MS Sample ID:

886 RW#3MS

MSD Lab ID:

6004508MSD

MSD Sample ID:

886 RW#3MSD

Matrix:

Aqueous

Sample File ID:

BNA11473.D

Date Extracted:

01/25/06

MS File ID:

BNA11474.D

Date Analyzed:

01/30/06

MSD File ID:

BNA11475.D

Compound Name	MS % Rec.	MSD % Rec.	% RPD	RPD Limits	Lower Control Limits	Upper Control Limits	Qualifier
Pyridine	27.6	29.3	5.8	30.0	5	58	
N-nitroso-dimethylamine	39.9	45.7	13.6	30.0	25	110	
Aniline	47.9	40.6	16.5	30.0	4	90	
Phenol	32.1	30.8	4.3	30.0	10	115	
bis(2-Chloroethyl)ether	74.1	77.5	4.4	30.0	35	110	
2-Chlorophenol	72.7	74.9	3.0	30.0	35	105	
1,3-Dichlorobenzene	65.3	75.8	15.0	30.0	30	100	
1,4-Dichlorobenzene	65.8	75.7	14.0	30.0	30	100	
Benzyl alcohol	60.8	62.4	2.6	30.0	30	110	
1,2-Dichlorobenzene	68.6	76.7	11.2	30.0	35	100	
2-Methylphenol	64.4	64.8	0.5	30.0	40	110	
bis(2-chloroisopropyl)ether	77.6	83.5	7.3	30.0	25	130	
4-Methylphenol	58.8	56.5	4.1	30.0	30	110	
n-Nitroso-di-n-propylamine	77.1	79.1	2.6	30.0	35	130	
Hexachloroethane	62.8	72.5	14.4	30.0	30	95	
Nitrobenzene	73.4	75.6	3.0	30.0	45	110	
Isophorone	76.5	77.0	0.7	30.0	50	110	
2-Nitrophenol	73.7	76.0	3.1	30.0	40	115	
2,4-Dimethylphenol	72.2	73.0	1.1	30.0	30	110	
bis(2-Chloroethoxy)methane	74.7	74.7	0.0	30.0	45	105	
2,4-Dichlorophenol	75.0	76.3	1.7	30.0	50	105	
Benzoic Acid	24.2	22.3	8.2	30.0	0	125	
1,2,4-Trichlorobenzene	74.6	79.2	6.0	30.0	35	105	
Naphthalene	74.7	78.1	4.5	30.0	40	100	
4-Chloroaniline	57.9	48.6	17.5	30.0	15	110	
Hexachlorobutadiene	75.1	79.4	5.5	30.0	25	105	
4-Chloro-3-methylphenol	73.3	73.7	0.6	30.0	45	110	
2-Methylnaphthalene	75.8	77.2	1.8	30.0	45	105	
Hexachlorocyclopentadiene	45.2	45.8	1.4	30.0	5	67	
2,4,6-Trichlorophenol	80.5	82.6	2.6	30.0	50	115	
2,4,5-Trichlorophenol	81.4	80.5	1.1	30.0	50	110	
2-Chloronaphthalene	83.3	83.5	0.2	30.0	50	105	
2-Nitroaniline	80.3	79.6	0.9	30.0	50	115	
Dimethylphthalate	85.3	84.5	0.9	30.0	25	125	
Acenaphthylene	76.6	77.7	1.5	30.0	50	105	
2,6-Dinitrotoluene	81.2	80.3	1.1	30.0	50	115	
3-Nitroaniline	65.9	58.7	11.6	30.0	20	125	
Acenaphthene	78.0	79.6	2.0	30.0	45	110	

Page 1 of 2

Semi-Volatile MS/MSD Recovery Report U.S. Army, Fort Monmouth Environmental Laboratory **NJDEP Certification #13461**

MS Lab ID:

6004508MS

MS Sample ID:

6004508MS

MSD Lab ID:

6004508MSD

MSD Sample ID:

6004508MSD

Matrix:

Aqueous

Sample File ID:

BNA11473.D

Date Extracted:

01/25/06

MS File ID:

BNA11474.D

Date Analyzed:

01/30/06

MSD File ID:

BNA11475.D

Compound Name	MS % Rec.	MSD % Rec.	% RPD	RPD Limits	Lower Control Limits	Upper Control Limits	Qualifier	
2,4-Dinitrophenol	62.9	61.4	2.4	30.0	15	140		T
Dibenzofuran	77.7	79.2	1.9	30.0	55	105		
4-Nitrophenol	37.6	3.5	165.9	30.0	0	125		Λ
2,4-Dinitrotoluene	79.5	81 <i>.</i> 7	2.8	30.0	50	120		1
Diethylphthalate	82.1	83.3	1.4	30.0	40	120		
Fluorene	79.1	80.4	1.7	30.0	50	110		
4-Chlorophenyl-phenylether	80.4	84.0	4.4	30.0	50	110		
4-Nitroaniline	68.2	69.4	1.7	30.0	35	120		
4,6-Dinitro-2-methylphenol	71.8	71.2	0.8	30.0	40	130		
n-Nitrosodiphenylamine	73.9	73.9	0.1	30.0	50	110		
Azobenzene	74.1	74.6	0.7	30.0	58	102		
4-Bromophenyl-phenylether	75.7	78.2	3.2	30.0	50	115		
Hexachlorobenzene	72.9	73.7	1.1	30.0	50	110		
Pentachlorophenol	81.8	80.7	1.4	30.0	40 -	115		
Phenanthrene	73.4	74.6	1.6	30.0	50	115		
Anthracene	74.7	76.1	1.8	30.0	55	110		
Di-n-butylphthalate	79.1	79.9	1.1	30.0	55	115		
Fluoranthene	73.7	73.3	0.6	30.0	55	115		
3enzidine	1.0	0.5	60.0	30.0	5	100	** **	· ^
Pyrene .	86.6	88.9	2.7	30.0	50	130		
Butylbenzylphthalate	87.2	88.1	1.1	30.0	45	115		
Benzo[a]anthracene	80.7	81.3	0.7	30.0	55	110		
3,3'-Dichlorobenzidine	55.1	51.8	6.2	30.0	20	110		
Chrysene	82.6	83.7	1.3	30.0	55	110		
pis(2-Ethylhexyl)phthalate	87.3	88.3	1.1	30.0	40	125		
Di-n-octylphthalate	65.8	67.0	1.9	30.0	35	135	i	
Benzo[b]fluoranthene	60.4	61.4	1.6	30.0	45	120		
Benzo[k]fluoranthene	61.0	60.8	0.4	30.0	45	125		
Benzo[a]pyrene	60.1	61.0	1.6	30.0	55	110	,	
ndeno[1,2,3-cd]pyrene	57.9	58.4	0.9	30.0	45	125		
Dibenz[a,h]anthracene	58.3	58.2	0.1	30.0	40	125		
Benzo[g,h,i]perylene	60.0	59.4	1.0	30.0	40	125		

Page 2 of 2

Qualifiers:

% Recovery is Outside QC Limits

% RPD is Outside QC Limits

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:	FMETL_		_ Lab Code	13461		_
Project:	06-34880	Case No.: 60048	Location:	701	SDG N	o.:
Lab File ID (Standard):	BNA11468.D		Date An	alyzed:	1/30/2006
Instrument II	D: GC_BNA	_2		Time An	alyzed:	9:26

	IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
12 HOUR STD	785226	10.36	2657684	13.29	1674549	17.50
UPPER LIMIT	1570452	10.86	5315368	13.79	3349098	18.00
LOWER LIMIT	392613	9.86	1328842	12.79	837275	17.00
EPA SAMPLE NO.						
1 MB-012706-01	706266	10.36	2593985	13.29	1563725	17.50
2 701C-GW	736773	10.36	2706715	13.28	1624916	17.49

IS1 DCB = 1,4-Dichlorobenzene-d4

IS2 NAP = Naphthalene-d8

IS3 ANE = Acenaphthene-d10

IS4 PNE = Phenanthrene-d10

IS5 CYS = Chrysene-d12

IS6 PRL = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

^{*} Values outside of contract required QC limits

8C SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

 Lab Name:
 FMETL
 Lab Code
 13461

 Project:
 06-34880
 Case No.:
 60048
 Location:
 701
 SDG No.:

 Lab File ID (Standard):
 BNA11468.D
 Date Analyzed:
 01/30/06

 Instrument ID:
 GC_BNA_2
 Time Analyzed:
 09:26

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2728970	21.09	2562483	27.51	1497487	30.70
	UPPER LIMIT	5457940	20.59	5124966	27.01	2994974	30.20
	LOWER LIMIT	1364485	21.59	1281242	28.01	748744	31.20
	EPA SAMPLE NO.						
01	MB-012706-01	2848236	21.08	2533615	27.49	2077860	30.70
02	701C-GW	2911181	21.08	2362091	27.49	2019105	30.70

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

Data File : C:\HPCHEM\1\DATA\060130\BNA11471.D

Vial: 3 Acq On : 30 Jan 2006 11:50 am Sample : MB-012706-01 Misc : MB-012706-01 Operator: BPatel Inst : GC/MS Ins Multiplr: 1.00

Multiplr: 1.00

MS Integration Params: ODD.P GC Integration Params: rteint2.p

Quant Time: Jan 30 12:26 2006 Quant Results File: M262593.1 Quant Results File: M262593.RES

Quant Method: C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)

: BNA Calibration

Last Update : Thu Nov 03 13:40:19 2005

Response via: Initial Calibration

DataAcq Meth: M262593

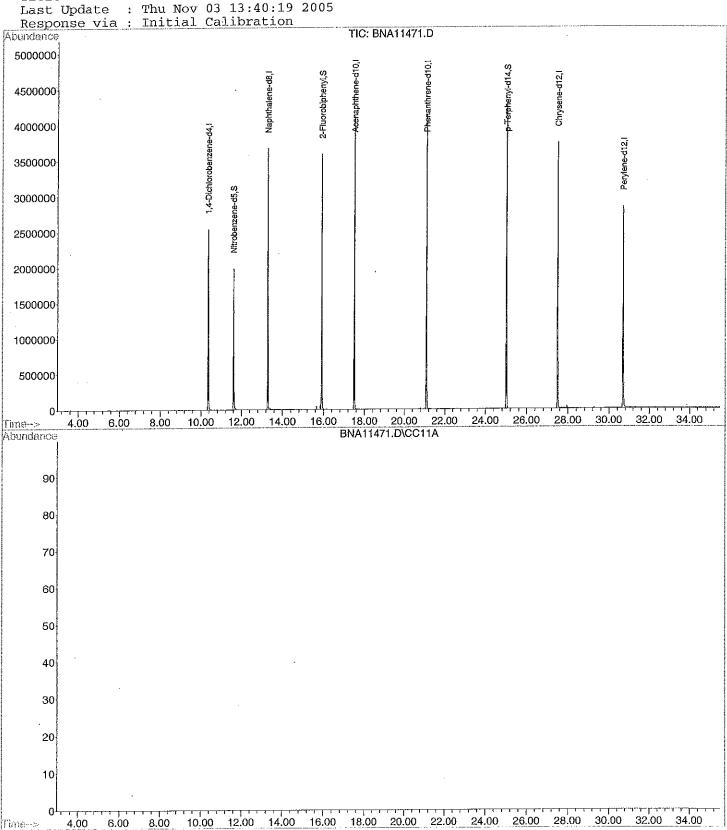
•						
Internal Standards	R.T.	QIon	Response	Conc U	nits :	Dev(Min)
1) 1,4-Dichlorobenzene-d4	10,36	152	706266	40.00	ug/L	-0.04
19) Naphthalene-d8	13.29		2593985	40.00	ug/L	-0.04
34) Acenaphthene-d10	17.50	164	1563725	40.00	ug/L	-0.04
54) Phenanthrene-d10	21.08	188	2848236	40.00	ug/L	-0.05
66) Chrysene-d12	27.49	240	2533615	40.00	ug/L	-0.05
75) Perylene-d12	30.70	264	2077860	40.00	ug/L	-0.05
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/L	
Spiked Amount 100.000	Range 20					
6) Phenol-d6 Spiked Amount 100.000	0.00		0			
Spiked Amount 100.000	Range 10					
20) Nitrobenzene-d5	11.62					
Spiked Amount 50.000	Range 40					
38) 2-Fluorobiphenyl	15.91					
Spiked Amount 50.000	Range 50	- 110	Recove	ry =	68.7	78%
58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
Spiked Amount 100.000	Range 40	- 125	Recove	ry =	0.0	00%#
69) p-Terphenyl-d14	25.01					
Spiked Amount 50.000	Range 50	- 135	Recove	ry =	87.3	30%
Target Compounds						Qvalue

Quantitation Report

MS Integration Params: ODD.P GC Integration Params: rteint2.p
Quant Time: Jan 30 12:26 2006 Quant Results File: M262593.RES

Method : C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)

Title : BNA Calibration
Last Update : Thu Nov 03 13:40:19 2005



(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\060130\BNA11478.D

Vial: 10 Acq On : 30 Jan 2006 Sample : 6004805 Operator: BPatel 5:16 pm Inst : GC/MS Ins

Multiplr: 1.00 Misc : 701C-GW

GC Integration Params: rteint2.p MS Integration Params: ODD.P Quant Time: Feb 1 12:58 2006 Quant Results File: M262593.RES

Quant Method: C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator)

Title : BNA Calibration
Last Update : Thu Nov 03 13:40:19 2005
Response via : Initial Calibration

DataAcq Meth : M262593

_					
Internal Standards	R.T.	QIon	Response	Conc U	nits Dev(Min)
1) 1,4-Dichlorobenzene-d4	10.36	152	736773	40.00	ug/L -0.04
19) Naphthalene-d8	13.28	136	2706715	40.00	ug/L -0.04
34) Acenaphthene-d10	17.49	164	1624916	40.00	ug/L -0.04
54) Phenanthrene-d10	21.08	188	2911181	40.00	ug/L -0.04
66) Chrysene-d12	27.49	240	2362091		ug/L -0.05
75) Perylene-d12	30.70		2019105		
/5) Icigicale all					3,
System Monitoring Compounds					
4) 2-Fluorophenol	0.00	112	0	0.00	\mathtt{ug}/\mathtt{L}
Spiked Amount 100.000			Recove:		
6) Phenol-d6			0		
Spiked Amount 100.000			Recove		
20) Nitrobenzene-d5	11.61				ug/L -0.04
Spiked Amount 50.000	Range 40				72.20%
38) 2-Fluorobiphenyl					ug/L = -0.04
Spiked Amount 50.000			Recove		<u> </u>
58) 2,4,6-Tribromophenol		330	0	0.00	11a/I
Spiked Amount 100.000	Range 40				
					ug/L -0.04
Spiked Amount 50.000			Recover		•
Spiked Amount 50.000	Range 50	_ 1733	recover	г.у —	04.400
Target Compounds					Qvalue
74) bis(2-Ethylhexyl)phthala	ate 27.68	149	624296	13.83	
it bill a continuous i bronch	200 27.00				

Quantitation Report

Data File : C:\HPCHEM\1\DATA\060130\BNA11478.D Acq On

Vial: 10 Operator: BPatel : 30 Jan 2006 5:16 pm : GC/MS Ins : 6004805 Inst

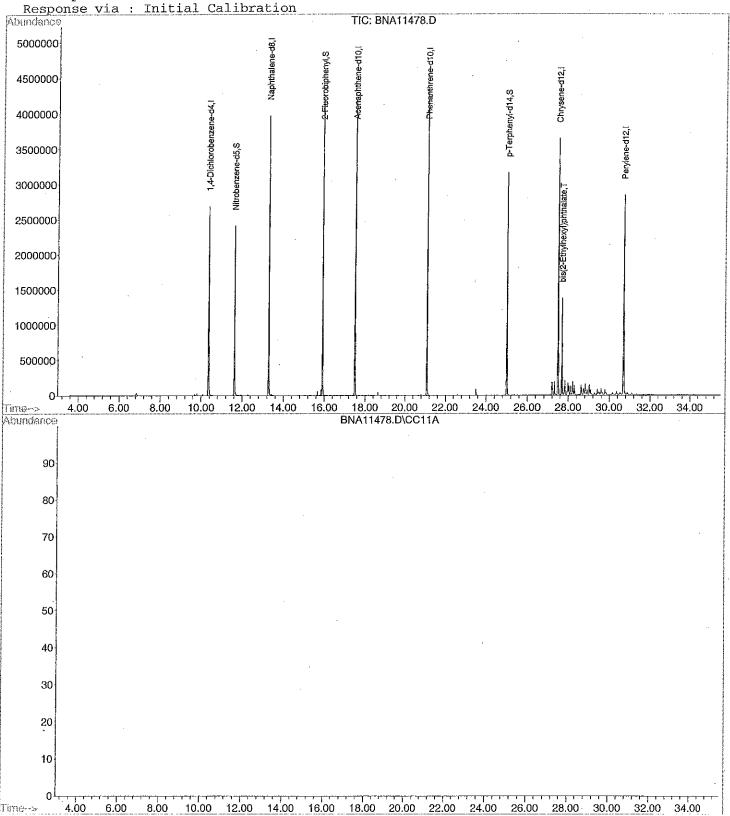
Sample : 701C-GW Multiplr: 1.00 Misc

GC Integration Params: rteint2.p Quant Results File: M262593.RES MS Integration Params: ODD.P Quant Time: Feb 1 12:58 2006

: C:\HPCHEM\1\METHODS\M262593.M (RTE Integrator) Method

: BNA Calibration Title

Last Update : Thu Nov 03 13:40:19 2005



TPHC

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

Client:

U.S. Army

Project #:

60048

DPW. SELFM-PW-EV

Location:

701

Bldg. 173

UST Reg. #:

06-34880

Ft. Monmouth, NJ 07703

Analysis :

OQA-QAM-025

Date Received:

24-Jan-06

Matrix:

Date Extracted:

26-Jan-06

Inst. ID. :

Soil

Extraction Method:

Shake

RTX-5, 0.32mm ID, 30M

Analysis Complete:

30-Jan-06

Column Type:

GC TPHC INST. #1

Analyst:

B.Patel

Injection Volume:

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL	TPHC Result (mg/kg)
6004801	701W	1.00	15.06	75.70	84	439	ND
6004802	701C	1.00	15.18	78.82	80	418	ND
6004803	Dupe.	1.00	15.02	78.18	82	426	ND
6004804	701E	1.00	15.23	83.96	75	391	ND
METHOD BLANK	MB-012606-01	1.00	15.00	100.00	64	333	ND

ND = Not Detected

MDL = Method Detection Limit

RL = Reporting Limits

Note: The TPHC result between the MDL and RL are considered an estimated value

Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method
Last Update : Tue Oct 25 07:55:20 2005

	5	bration Files =T018084.D 10 =T018085.D 100		3086.D 3083.D		≓!	r01808°	7.D		
		Compound	5	10	20	50	100	Avg		%RSD
-1 2 3 4 4 5 6 7 8 9 10 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0) T T T T T T T T T T T T T T T T T T T	C8 C10 C12 C14 C16 C18 C20 C22 C24 C26 C28 C30 C32 C34 C36 C38 C40 C42 Pristane Phytane TPHC (Manual Integrat	2.862 2.861 2.865 2.927 2.795 2.897 2.992 3.026 3.216 3.078 3.118 3.976 3.976 3.976 2.977 2.826 2.977 4.144	2.806 2.790 2.809 2.880 2.759 2.846 2.936 2.980 3.070 3.037 3.044 3.097 3.287 3.287 2.953 2.953 2.988 3.652	2.878 2.853 2.889 2.956 2.843 2.928 3.055 3.115 3.149 3.224 3.095 3.041 2.869 3.046 3.499	2.839 2.839 2.875 2.945 2.922 3.003 3.044 3.106 3.175 3.144 3.147 3.183 3.119 4.2931 3.094 2.931 3.008 3.390	2.794 2.805 2.845 2.915 2.828 2.970 3.066 3.135 3.116 3.150 3.056 2.755 2.956 3.275	2.857 2.925 2.814 2.897 2.982 3.022 3.110 3.076 3.130 3.150 3.364 3.080 3.080 3.080 3.093 2.831 2.930 3.592	EEEEEEEEEEEEEEEEEEEEEEEEEEEEE	1.26 1.09 1.08 1.00 1.31 1.12 1.00 2.08 0.88 1.23 1.20 1.90 10.28 0.87 1.93 2.01 1.26 2.16 9.42
22 23 24) S	TPHC (Total) Chlorobenzene (SURR.) O-Terphenyl (SURR.)	1.947	2.014	2.104	2.103	2.064	2.046	E4	3.42 3.26 1.08

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\060126\T018273.D

Vial: 1 Operator: Skelton Acq On : 26 Jan 2006 1:24 pm : GC/MS Ins Inst : Tstd050s Sample Multiplr: 1.00

: TP012606.01 Misc

IntFile : EVENTSBP.E

: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator) Method

Title : GC TPH Method
Last Update : Tue Oct 25 07:55:20 2005 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 T	C8	27.037	23.406 E3	13.4	88	0.00
2 T	C10	28.359	24.775 E3	12.6	87	0.00
3 T	C12	28.295	24.781 E3	12.4	87	0.00
4 T	C14	28.566	25.030 E3	12.4	87	0.00
$\bar{5}$ \bar{T}	C16	29.246	25.500 E3	12.8	87	0.00
6 T	C18	28.143	24.537 E3	12.8	86	0.00
7 T	C20	28.970	25.143 E3	13.2	86	0.00
8 T	C22	29.821	25.715 E3	13.8	86	0.00
9 T	C24	30.220	25.897 E3	14.3	85	0.00
10 T	C26	31.097	26.097 E3	16.1	84	0.00
11 T	C28	30.765	26.108 E3	15.1	84	0.00
12 T	C30	31,300	26.498 E3	15.3	83	0.00
13 T	C32	31.022	26.208 E3	15.5	83	0.00
14 T	C34	31.496	25.965 E3	17.6	83	0.00
15 Т	C36	33.639	26.316 E3	21.8	83	0.00
16 T	C38	30.799	25.189 E3	18.2	81	-0.01
17 T	C40 .	30.077	24.034 E3	20.1	78	-0.02
18 T	C42	28.308	21.092 E3	25.5#		-0.04
19 T	Pristane	29.297	25.558 E3	12.8	87	0.00
20 T	Phytane	30.249	26.059 E3	13.9	87	0.00
21 T	TPHC (Manual Integration)	35.921	28.781 E3	19.9	85	0.00
22 H	TPHC (Total)	30.816	25.395 E3	17.6	83	0.00
23 S	Chlorobenzene (SURR.)	20.465	18.207 E3	11.0	87	0.00
24 S	O-Terphenyl (SURR.)	33.111	29.038 E3	12.3	87	0.00

Vial: 1

Data File : C:\HPCHEM\1\DATA\060126\T018273.D

Operator: Skelton : 26 Jan 2006 1:24 pm : GC/MS Ins : Tstd050s Inst Sample

Multiplr: 1.00 Misc : TP012606.01

IntFile : EVENTSBP.E

Quant Time: Jan 26 13:53 2006 Quant Results File: TPHC003.RES

Quant Method: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

: GC TPH Method Title

Last Update : Tue Oct 25 07:55:20 2005

Response via: Initial Calibration

DataAcq Meth: TPHC003.M

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 23) S Chlorobenzene (SURR.) Spiked Amount 10.000 24) S O-Terphenyl (SURR.) Spiked Amount 10.000	5.71 Reco 13.00 Reco	910334 overy = 1451897 overy =	43.920 mg/L 439.20% 43.941 mg/L 439.41%	
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration)	4.75 7.73 9.36 10.54 11.54 12.00 12.44 13.25 14.00 14.68 15.32 15.95 16.67 17.58 18.80 20.48 22.88 26.29 12.03 12.49 13.00	1238764 1239029 1251519 1275016 1226863 1257126 1285756 1294835 1304855 1305418 1324920 1310377 1298244 1315798 1259466	43.682 mg/L	

(QT Reviewed)

Quantitation Report

Mon Jan 30 09:48:23 2006

TPHC003.M T018273.D

000065

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\060126\T018284.D

Vial: 12 Operator: Skelton : 26 Jan 2006 8:15 pm Inst : GC/MS Ins : Tstd050 Sample Multiplr: 1.00

Misc : TP012606.01 IntFile : EVENTSBP.E

Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Tue Oct 25 07:55:20 2005
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 T	C8	27.037	25.306 E3	6.4	95	0.00
2 T	C10	28.359	26.879 E3	5.2	95	0.00
3 T	C12	28.295	27.046 E3	4.4	95	0.00
4 T	C14	28.566	27.430 E3	4.0	95	0.00
5 T	C16	29.246	27.981 E3	4.3	95	0.00
6 T	C18	28.143	26.958 E3	4.2	95	0.00
7 T	C20	28.970	27.639 E3	4.6	95	0.00
8 T	C22	29.821	28.351 E3	4.9	94	0.00
9 T	C24	30.220	28.627 E3	5.3	94	0.00
10 T	C26	31.097	28.849 E3	7.2	93	0.00
11 T	C28	30.765	28.838 E3	6.3	93	0.00
12 Т	C30 .	31.300	29.292 E3	6.4	92	0.00
13 T	C32	31.022	28.941 E3	6.7	92	0.00
14 T	C34	31.496	28.753 E3	8.7	91	0.00
15 T	C36	33.639	29.255 E3	13.0	92	0.00
16 T	C38	30.799	28.425 E3	7.7	91	-0.01
17 T	C40	30.077	27.849 E3	7.4	90	-0.02
18 T	C42	28.308	25.777 E3	8.9	89	-0.04
19 Т	Pristane	29.297	27.924 E3	4.7	95	0.00
20 T	Phytane	30.249	28.519 E3	5.7	95	0.00
21 T	TPHC (Manual Integration)	35.921	31.814 E3	11.4	94	0.00
22 H	TPHC (Total)	30.816	28.160 E3	8.6	92	0.00
23 S	Chlorobenzene (SURR.)	20.465	19.728 E3	3.6	94	0.00
24 S	O-Terphenyl (SURR.)	33.111	31.756 E3	4.1	95	0.00

Data File : C:\HPCHEM\1\DATA\060126\T018284.D

Vial: 12 Acq On : 26 Jan 2006 8:15 pm Sample : Tstd050 Operator: Skelton Inst : GC/MS Ins Sample Multiplr: 1.00

Misc : TP012606.01 IntFile : EVENTSBP.E

Quant Time: Jan 30 9:35 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method
Last Update : Tue Oct 25 07:55:20 2005
Response via : Initial Calibration
DataAcq Meth : TPHC003.M

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 23) S Chlorobenzene (SURR.) Spiked Amount 10.000 24) S O-Terphenyl (SURR.) Spiked Amount 10.000	13.00	overy =	48.071 mg/L	
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration) 22) H TPHC (Total)	4.76 7.74 9.36 10.54 11.54 12.00 12.44 13.25 14.68 15.32 15.32 15.67 17.58 18.80 20.48 22.87 26.29 12.03 12.49 13.00 12.00	1265312 1343927 1352290 1371496 1399063 1347908 1381953 1417528 1431340 1442452 1441915 1464616 1447057 1437671 1462746 1421253 1392453 1288867 1396198 1425957 31813671 28160200	47.390 mg/L 47.793 mg/L 48.012 mg/L 47.838 mg/L 47.895 mg/L 47.702 mg/L 47.534 mg/L 47.365 mg/L 46.385 mg/L 46.869 mg/L 46.793 mg/L 46.646 mg/L 45.646 mg/L 45.646 mg/L 45.646 mg/L 45.646 mg/L 47.140 mg/L 47.140 mg/L 885.656 mg/L m	

Data File : C:\HPCHEM\1\DATA\060126\T018284.D

Acq On : 26 Jan 2006 8:15 pm Sample : Tstd050 Vial: 12

Operator: Skelton Inst : GC/MS Ins

Misc : TP012606.01 IntFile : EVENTSBP.E

21.35

P012606.01 Multiplr: 1.00

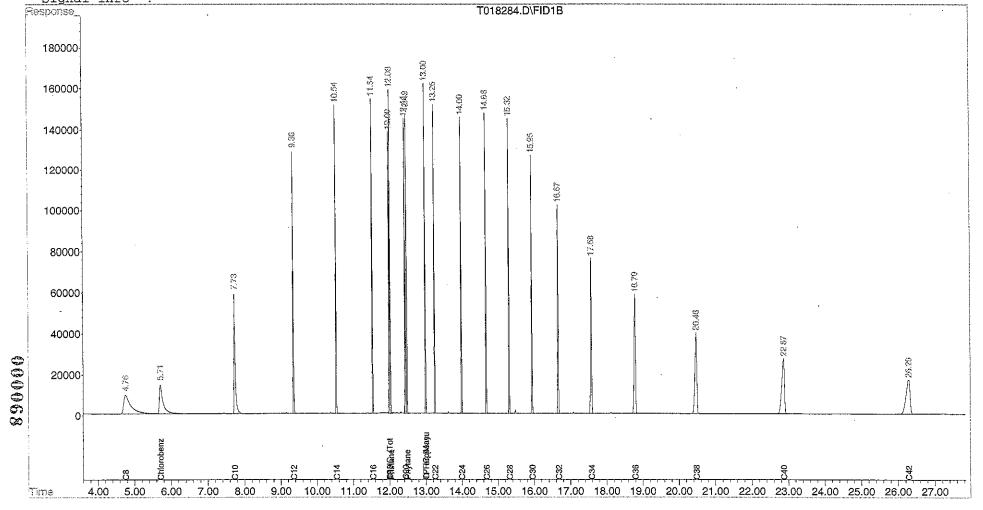
Ouant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Quant Time: Jan 30 9:35 2006 Quant Results File: TPHC003.RES

Title : GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005 Response via : Multiple Level Calibration

DataAcq Meth : TPHC003.M



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\060126\T018295.D

Vial: 23

Operator: Skelton Inst : GC/MS Ins Acq On : 27 Jan 2006 2:58 am : Tstd050 Sample Multiplr: 1.00

: TP012606.01 Misc IntFile : EVENTSBP.E

: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator) : GC TPH Method Method

Title

Last Update : Tue Oct 25 07:55:20 2005 Response via : Multiple Level Calibration

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

Max. RRF Dev: 25% Max. Rel. Area: 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 T	C8 ·	27.037	25.533 E3	5.6	96	0.00
2 T	C10	28.359	27.169 E3	4.2	96	0.00
$\bar{3}$ $\bar{\mathbf{T}}$	C12	28.295	27.316 E3	3.5	96	0.00
4 T	C14	28.566	27.658 E3	3.2	96	0.00
5 T	C16	29.246	28.222 E3	3.5	96	0.00
6 T	C18	28.143	27.215 E3	3.3	96	0.00
7 T	C20	28.970	27.931 E3	3.6	96	0.00
ST	C22	29.821	28.740 E3	3.6	96	0.00
o T	C24	30.220	29.012 E3	4.0	95	0.00
10 T	C26	31.097	29.379 E3	5.5	95	0.00
11 T	C28	30.765	29.310 E3	4.7	94	0.00
12 T	C30	31.300	29.715 E3	5.1	94	0.00
13 T	C32	31.022	29.471 E3	5.0	94	0.00
14 T	C34	31.496	29.409 E3	6.6	93	-0.01
15 Т	C36	33.639	29.822 E3	11.3	94	-0.01
16 T	C38	30.799	29.016 E3	5.8	93	-0.02
17 T	C40	30.077	28.371 E3	5.7	92	-0.03
18 T	C42	28.308	26.194 E3	7.5	90	-0.05
19 Т	Pristane	29.297	28.213 E3	3.7	96	0.00
20 T	Phytane	30.249	28.930 E3	4.4	96	0.00
21 T	TPHC (Manual Integration)	35.921	32.224 E3	10.3	95	0.00
22 H	TPHC (Total)	30.816	28.634 E3	7.1	94	0.00
23 S	Chlorobenzene (SURR.)	20.465	19.877 E3	2.9	95	0.00
24 S	O-Terphenyl (SURR.)	33.111	32.112 E3	3.0	96	0.00

Data File : C:\HPCHEM\1\DATA\060126\T018295.D

Vial: 23 Operator: Skelton
Inst : GC/MS Ins Acq On : 27 Jan 2006 2:58 am : Tstd050 Sample

Multiplr: 1.00 : TP012606.01 Misc

IntFile : EVENTSBP.E

Quant Time: Jan 30 9:39 2006 Quant Results File: TPHC003.RES

Quant Method: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method
Last Update : Tue Oct 25 07:55:20 2005
Response via : Initial Calibration

DataAcq Meth : TPHC003.M

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 23) S Chlorobenzene (SURR.) Spiked Amount 10.000 24) S O-Terphenyl (SURR.) Spiked Amount 10.000	5.71 Rec 13.00 Rec	993844 overy = 1605593 overy =	47.952 mg/L 479.52% 48.611 mg/L 486.11%	
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane	4.76 7.73 9.36 10.54 11.54 12.00 12.44 13.25 14.00 14.68 15.32 15.95 16.67 17.58 18.79 20.48 22.86 26.27 12.03	1382896 1411085 1360739 1396527 1436996 1450585 1468959 1465509 1485751 1473574 1470468 1491103 1450801 1418530 1309676 1410675	47.903 mg/L 48.270 mg/L 48.411 mg/L 48.249 mg/L 48.351 mg/L 48.205 mg/L 48.187 mg/L 48.001 mg/L 47.237 mg/L 47.636 mg/L 47.468 mg/L 47.501 mg/L 46.688 mg/L 47.106 mg/L 47.106 mg/L 47.106 mg/L 47.106 mg/L 47.164 mg/L 48.151 mg/L	
20) T Phytane 21) T TPHC (Manual Integration) 22) H TPHC (Total)	12.49 13.00 12.00	1446498 32224261 28633837		m

Quantitation Report

Vial: 23

(QT Reviewed)

Data File: C:\HPCHEM\1\DATA\060126\T018295.D

Acq On : 27 Jan 2006 2:58 am

Operator: Skelton
Inst : GC/MS Ins

Sample : Tstd050 Misc : TP012606.01

1.

Multiplr: 1.00

Intfile : EVENTSBP.E

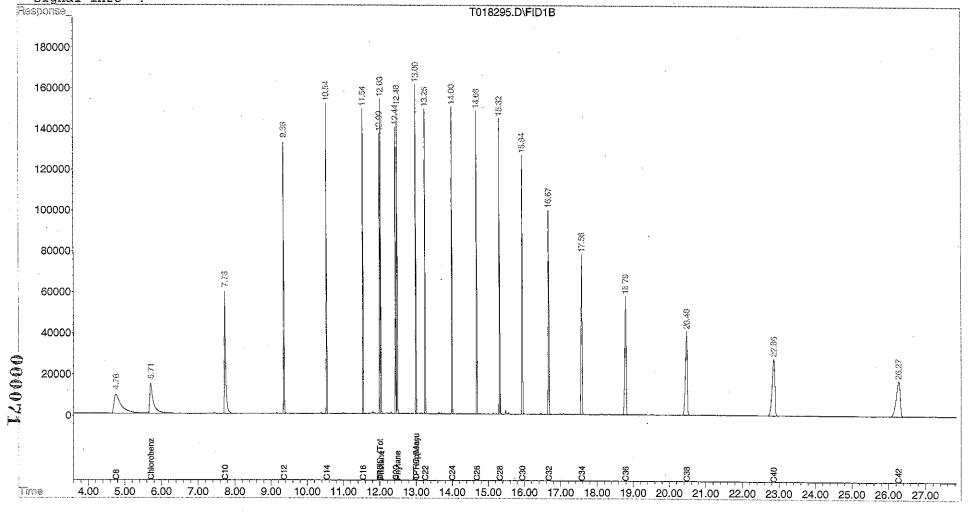
Quant Time: Jan 30 9:39 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005 Response via : Multiple Level Calibration

DataAcq Meth : TPHC003.M



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

Client:

U.S. Army

Project #:

60048

DPW. SELFM-PW-EV

Location:

701

Bldg. 173

UST Reg. #:

06-34880

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

24-Jan-06

Matrix:

Soil

Date Extracted :

26-Jan-06

Inst. ID.

.GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

30-Jan-06

Injection Volume:

1uL

Analyst:

B.Patel

Lab ID	Surrogate Added (ppm)	Chlorobenzene Recovered (ppm)	Chlorobenzene % Recovery	O-Terphenyl Recovered (ppm)	O-Terphenyl % Recovery
6004801	10	9.42	94.2	9.38	93.8
6004802	10	8.81	88.1	8.72	87.2
6004803	10	8.71	87.1	8.89	88.9
6004804	10	9.64	96.4	9.61	96.1
					-
				·	
			-		
.,					
METHOD BLANK	10	8.37	83.7	8.38.	83.8

SURROGATE STANDARDS		Lower Control Limits	Upper Control Limits	
Chlorobenzene	QC Limits	60	130	
O-Terphenyl	QC Limits	62	133	

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

Client:

U.S. Army

Project #:

60048

DPW. SELFM-PW-EV

Location :

701

Bldg. 173

UST Reg. #:

06-34880

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received :

24-Jan-06

Matrix:

Soil

Date Extracted :

2-7 0411 00

Inst. ID.

GC TPHC INST. #1

Extraction Method:

26-Jan-06 Shake

Column Type :

RTX-5, 0.32mm ID, 30M

Analysis Complete:

30-Jan-06

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)		QC Limits %
6004201MS	1000	0.21	763.37	76.32	55 - 129
6004201MSD	1000	0.21	820.65	82.04	55 - 129

RPD	7.23	20.00

NC = Not Calculated due to values are over the calibration range.

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

Client:

U.S. Army

Project #:

60048

DPW. SELFM-PW-EV

Location:

701

Bldg. 173

UST Reg. #:

06-34880

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

24-Jan-06

Matrix:

Soil

Date Extracted:

Inst. ID.

GC TPHC INST. #1

Extraction Method:

26-Jan-06 Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

30-Jan-06

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-012606-01	26-Jan-06	1000	832.70	83.27	55 - 129

Data File : C:\HPCHEM\1\DATA\060126\T018274.D

Vial: 2 Operator: Skelton Acq On : 26 Jan 2006 2:02 pm Inst : GC/MS Ins Sample : MB-012606-01 Multiplr: 1.00

: Soil Misc

IntFile : EVENTSBP.E Quant Time: Jan 26 14:45 2006 Quant Results File: TPHC003.RES

Quant Method: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

: GC TPH Method Title

Last Update : Tue Oct 25 07:55:20 2005

Response via : Initial Calibration

DataAcq Meth : TPHC003.M

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 23) S Chlorobenzene (SURR.) Spiked Amount 10.000 24) S O-Terphenyl (SURR.) Spiked Amount 10.000	12.99	very =	8.368 mg/L 83.68% 8.375 mg/L 83.75%	
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration) 22) H TPHC (Total)	0.00 0.00 0.00 0.00 0.00 0.00 12.99f 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0 0 0 281419 0 0 0 0 0 0 0 0 0	N.D. mg/L	d

Quantitation Report (QT Reviewed)

Vial: 2

Data File : C:\HPCHEM\1\DATA\060126\T018274.D

Acq On : 26 Jan 2006 2:02 pm

Operator: Skelton : MB-012606-01 Inst : GC/MS Ins

Quar.

Misc : Soil Multiplr: 1.00

: EVENTSBP.E IntFile

Quant Time: Jan 26 14:45 2006 Quant Results File: TPHC003.RES

Quant Method: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method

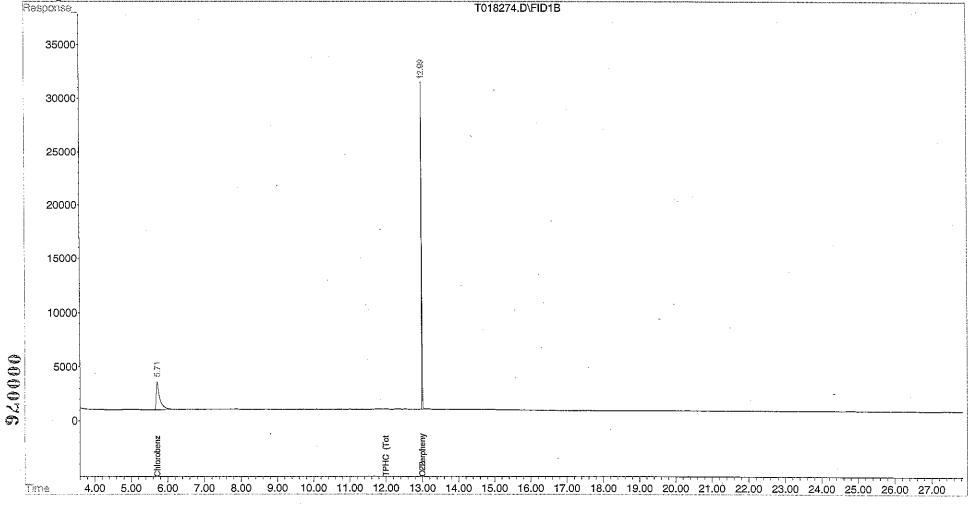
Last Update : Tue Oct 25 07:55:20 2005 Response via: Multiple Level Calibration

DataAcq Meth : TPHC003.M

Volume Inj. : Signal Phase : Signal Info :

57 55

Sample



Vial: 14

Data File : C:\HPCHEM\1\DATA\060126\T018286.D

Operator: Skelton Acq On : 26 Jan 2006 9:29 pm Inst : GC/MS Ins Sample : 6004801s

Multiplr: 1.00 Misc

IntFile : EVENTSBP.E

Quant Time: Jan 30 9:36 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method
Last Update : Tue Oct 25 07:55:20 2005
Response via : Initial Calibration
DataAcq Meth : TPHC003.M

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 23) S Chlorobenzene (SURR.) Spiked Amount 10.000 24) S O-Terphenyl (SURR.) Spiked Amount 10.000	12.99	very =	9.424 mg/L 94.24% 9.379 mg/L 93.79%	
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24	0.00 7.80 0.00 10.56 11.81f 12.06 12.51 13.13 14.22	0 1077 0 1118 2673 255 2538 2149 2430	N.D. mg/L 0.038 mg/L N.D. mg/L 0.039 mg/L 0.091 mg/L 0.009 mg/L 0.088 mg/L 0.072 mg/L	
10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration) 22) H TPHC (Total)	14.69 15.13 15.99 16.45 17.59 19.23f 20.35 0.00 0.00 12.06 12.51 0.00 12.00	2404 2834 3101 2866 2557 1780 1748 0 0 255 2538 0 45850	0.077 mg/L 0.092 mg/L 0.099 mg/L 0.092 mg/L 0.081 mg/L 0.053 mg/L 0.057 mg/L N.D. mg/L N.D. mg/L 0.009 mg/L 0.084 mg/L N.D. mg/L 1.488 mg/L	đ

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\060126\T018286.D

Acq On : 26 Jan 2006 9:29 pm

in great

Operator: Skelton Inst : GC/MS Ins

Vial: 14

Sample Misc

: 6004801s Multiplr: 1.00

IntFile : EVENTSBP.E

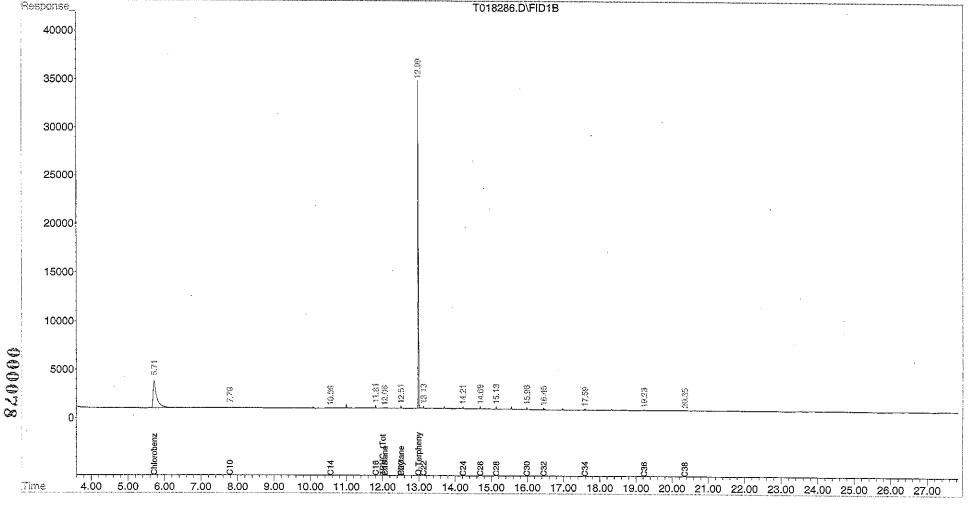
Quant Time: Jan 30 9:36 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005 Response via : Multiple Level Calibration

DataAcq Meth : TPHC003.M



Data File : C:\HPCHEM\1\DATA\060126\T018287.D

Vial: 15 Operator: Skelton Acq On : 26 Jan 2006 10:06 pm Inst : GC/MS Ins Sample : 6004802s Multiplr: 1.00 Misc

IntFile : EVENTSBP.E

Quant Time: Jan 30 9:36 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005

Response via : Initial Calibration

DataAcq Meth : TPHC003.M

Compound	к.т.	Response	Conc Units	 -
System Monitoring Compounds 23) S Chlorobenzene (SURR.) Spiked Amount 10.000 24) S O-Terphenyl (SURR.) Spiked Amount 10.000	12.99	verv =	8.806 mg/L 88.06% 8.716 mg/L 87.16%	
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration) 22) H TPHC (Total)	0.00 0.00 0.00 0.00 11.81f 11.81 12.51 13.13 14.22 14.69 15.13 15.99 16.45 17.59 19.23f 20.35 0.00 0.00 11.81 12.51 0.00 12.00	0 0 0 4059 4059 3300 2745 2115 2359 2713 2907 2821 2163 1639 1385 0 0 4059 3300 0 41339	N.D. mg/L N.D. mg/L N.D. mg/L N.D. mg/L 0.139 mg/L 0.144 mg/L 0.114 mg/L 0.092 mg/L 0.070 mg/L 0.076 mg/L 0.088 mg/L 0.093 mg/L 0.091 mg/L 0.069 mg/L 0.049 mg/L 0.045 mg/L N.D. mg/L N.D. mg/L N.D. mg/L 0.139 mg/L 0.139 mg/L 0.139 mg/L 0.139 mg/L	_

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\060126\T018287.D

Acq On : 26 Jan 2006 10:06 pm

Operator: Skelton
Inst : GC/MS Ins

Sample : 6004802s

Multiplr: 1.00

Vial: 15

Misc :

Murcipii: 1.

IntFile : EVENTSBP.E

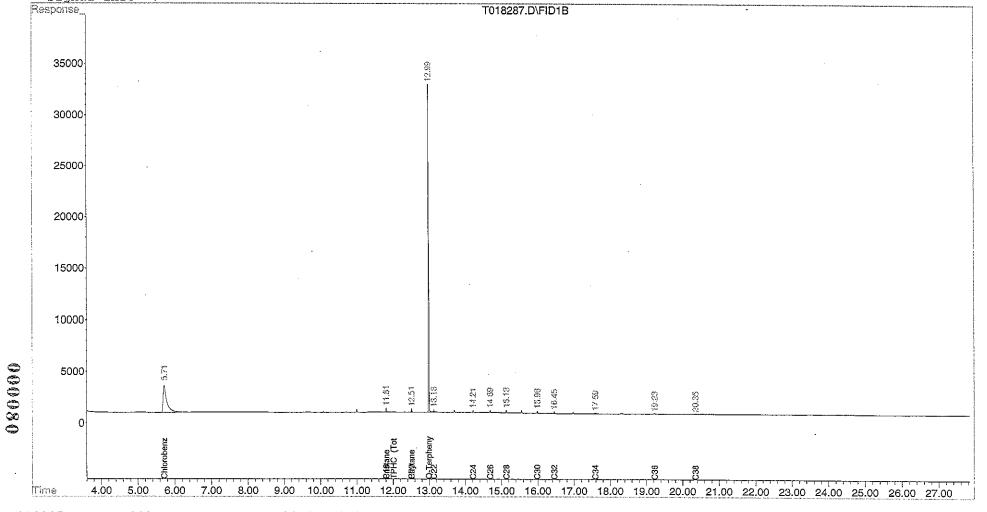
Quant Time: Jan 30 9:36 2006 Quant Results File: TPHC003.RES

Quant Method: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005
Response via : Multiple Level Calibration

DataAcq Meth : TPHC003.M



Vial: 16

Data File : C:\HPCHEM\1\DATA\060126\T018288.D Acq On : 26 Jan 2006 10:42 pm Sample : 6004803s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc : IntFile : EVENTSBP.E

Quant Time: Jan 30 9:37 2006 Quant Results File: TPHC003.RES

Quant Method: C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

: GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005

Response via : Initial Calibration

DataAcq Meth : TPHC003.M

Volume Inj. : Signal Phase : Signal Info :

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 23) S Chlorobenzene (SURR.)	5.71	181002	8.706 mg/L	
Spiked Amount 10.000	Reco	very =	87.06%	
24) S O-Terphenyl (SURR.)	12.99	298433	$8.892~{ m mg/L}$	
Spiked Amount 10.000		very =	88.92%	
Target Compounds			•	
1) T C8	0.00	0	$N.D.\ mg/L$	
2) T C10	0.00	0	$N.D.\ mg/L$	
3) T C12	0.00	0	$N.D.\ mg/L$	ı
4) T C14	0.00	. 0	$N.D.\ mg/L$	
5) T C16	11.81f	322	$0.011~{ m mg/L}$	
6) T C18	11.81	322	$0.011~{ m mg/L}$	
7) T C20	0.00	0	$N.\dot{D}.$ mg/L	
8) T C22	13.13	384	$0.013~\mathrm{mg/L}$	
9) T C24	0.00	0	N.D. mg/L	
10) T C26	0.00	0	N.D. mg/L	
11) T C28	0.00	0	$N.D.\ mg/L$	
12) T C30	0.00	0	$N.D.\ mg/L$	
13) T C32	0.00	0	$N.D.\ mg/L$	
14) T C34	0.00	0	N.D. mg/L	
15) Т С36	0.00	0	N.D. mg/L	
16) T C38	0.00	0	N.D. mg/L	
17) T C40	0.00	0	N.D. mg/L	
18) T C42	0.00	0	$N.D.\ mg/L$	
19) T Pristane	11.81	322	0.011 mg/L	
20) T Phytane	0.00	0	$N.D.\ mg/L$	
21) T TPHC (Manual Integration)	0.00	0	N.D. mg/L o	£
22) H TPHC (Total)	12.00	2198	0.071 mg/L	

1 (

Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\060126\T018288.D

100 T

Acg On : 26 Jan 2006 10:42 pm

Operator: Skelton Inst : GC/MS Ins

Vial: 16

: 6004803s Sample

Multiplr: 1.00

Misc

IntFile : EVENTSBP.E

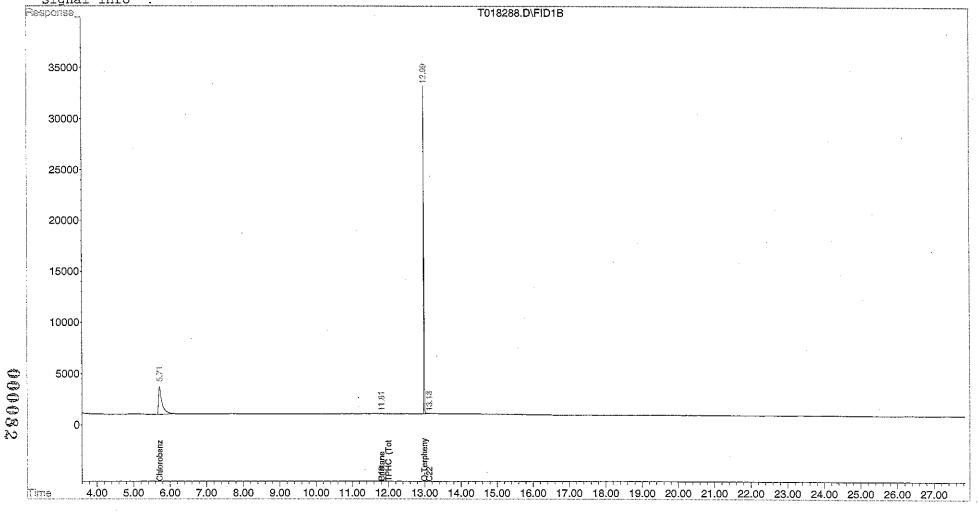
Quant Time: Jan 30 9:37 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005 Response via : Multiple Level Calibration

DataAcq Meth : TPHC003.M



Vial: 17

Data File : C:\HPCHEM\1\DATA\060126\T018289.D

Operator: Skelton Acq On : 26 Jan 2006 11:19 pm : 6004804s Inst : GC/MS Ins Sample Multiplr: 1.00

Misc IntFile

: EVENTSBP.E

Quant Time: Jan 30 9:37 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method
Last Update : Tue Oct 25 07:55:20 2005
Response via : Initial Calibration
DataAcq Meth : TPHC003.M

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds		22222	0 630	
23) S Chlorobenzene (SURR.)	5.71	200320	9.638 mg/L	
Spiked Amount 10.000		overy =	96.38%	
24) S O-Terphenyl (SURR.)	12.99		9.614 mg/L	
Spiked Amount 10.000	Rece	overy =	96.14%	
Target Compounds				
1) T C8	0.00	0	$N.D.\ mg/L$	
2) T C10	0.00	0	$N.D.\ mg/L$	
3) T C12	0.00	0	$N.D.\ mg/L$	
4) T C14	0.00	. 0	N.D. mg/L	
5) T C16	0.00	0	$N.D.\ mg/L$	
6) T C18	0.00	0	$N.D.\ mg/L$	
7) T C20	0.00	0	$N.D.\ mg/L$	
8) T C22	13.13	293	$0.010~{ m mg/L}$	
9) T C24	0.00	0	$N.D.\ mg/L$	
10) T C26	0.00	0	$N.D.\ mg/L$	
11) T C28	0.00	0	$N.D.\ mg/L$	
12) T C30	0.00	0	$N.D.\ mg/L$	
13) T C32	0.00	0	$N.D.\ mg/L$	
14) T C34	0.00	0	$N.D.\ mg/L$	
15) T C36	19.22f	2102	$0.062~{ m mg/L}$	
16) T C38	0.00	0	$N.D.\ mg/L$	
17) T C40	0.00	0	$N.D.\ mg/L$	
18) T C42	0.00	0	$N.D.\ mg/L$	
19) T Pristane	0.00	0	$N.D.\ mg/L$	
20) T Phytane	0.00	0	$N.D.\ mg/L$	
21) T TPHC (Manual Integration)	0.00	0	$N.D.\ mg/L$	d
22) H TPHC (Total)	12.00	3395	0.110 mg/L	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\060126\T018289.D

Acq On : 26 Jan 2006 11:19 pm

004804s

Sample : Misc :

: 6004804s

Operator: Skelton Inst : GC/MS Ins

Vial: 17

Multiplr: 1.00

IntFile : EVENTSBP.E

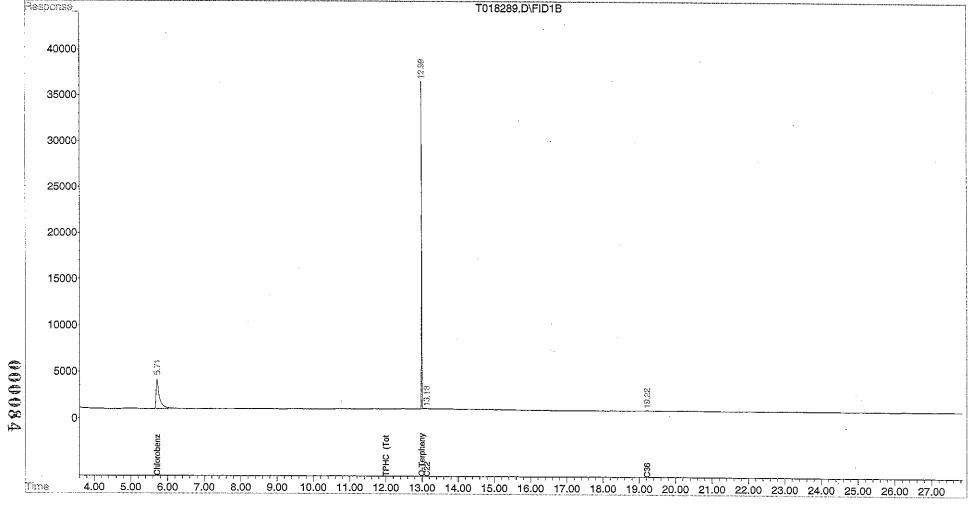
Quant Time: Jan 30 9:37 2006 Quant Results File: TPHC003.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC003.M (Chemstation Integrator)

Title : GC TPH Method

Last Update : Tue Oct 25 07:55:20 2005 Response via : Multiple Level Calibration

DataAcq Meth : TPHC003.M



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 data packages will be returned or held without review until the data package is completed.

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

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

Laboratory Manager or Environmental Consultant's Signature Date: 3 /6 /06

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