## U.S. Army Garrison Fort Monmouth, New Jersey

## **Underground Storage Tank Closure Report**

Main Post – Building 906A Courier Ave.

NJDEP UST Registration No. 81533-146

February 2008

#### UNDERGROUND STORAGE TANK REPORT

#### MAIN POST -BUILDING 906A NJDEP UST REGISTRATION NO. 81533-146

#### 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

#### TABLE OF CONTENTS

EXE	CUTIV	VE SUMMARY	IV			
1.0	UND	DERGROUND STORAGE TANK SITE INVESTIGATION ACTIVITIES	1			
	1.1	Overview	1			
	1.2	Site Description	1			
		1.2.1 Geological/Hydrogeological Setting	1			
	1.3	Health and Safety	3			
2.0	SITE INVESTIGATION ACTIVITIES					
	2.1	Overview	4			
	2.2	Field Screening/Monitoring	4			
	2.3	Soil Sampling	5			
	2.4	Groundwater Sampling	5			
3.0	CON	ICLUSIONS AND RECOMMENDATIONS	6			
	3.1	Soil Sampling Results	6			
	3.2	Groundwater Sampling Results	6			
	3.3	Conclusions and Recommendations	6			

#### **TABLE OF CONTENTS (CONTINUED)**

#### **FIGURES**

Figure 2 Historical Site Location Map

Figure 3 Sampling Location Map

#### **TABLES**

Table 1	Summary of Laboratory Analysis
Table 2	Summary of Laboratory Analytical Results-Soil-TPH
Table 3	Summary of Laboratory Analytical Results-Soil-VOA
Table 4	Summary of Laboratory Analytical Results-Groundwater-VOA, SVOA

#### **APPENDICES**

Appendix A Certifications

Appendix B Soil and Groundwater Analytical Data Package

#### **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 26, 1990. The UST was located on the southwest side of Building 906A in the Main Post area of Fort Monmouth. UST No. 81533-146 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 4, 2006, a Geoprobe was utilized to collect soil samples 906AC, 906AE, 906AW and 906AC (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 four (4.0) 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. 81533-146, 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). Soil samples 906AC, 906AE and 906AW contained TPH concentrations of 5634 mg/kg, 6699 mg/kg and 195 mg/kg, respectively. Contingent VOA analysis was conducted on soil samples 906AC and 906AE in which there were no compounds detected above the NJDEP Residential Direct Contact Soil Cleanup Criteria.

#### 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 several compounds above the analytical method detection limits. However, all detected compounds were below the NJDEP Class II Groundwater Quality Criteria.

**No Further Action** is proposed in regard to the closure and site assessment of UST No. 81533-146 at Building 906A.

## 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. 81533-146, was closed at Building 906A 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. The UST was installed in 1954 and the removal was done on June 26, 1990. Archived documents including Removal Procedures, Site Assessment Compliance Statement, NJDEP Standard Reporting Form along with 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

Building 906A, Courier Ave., is located in the central portion (900 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 the UST at Building 906A. UST No. 81533-146 was located on the southwest side of Building 906A.

#### 1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 900 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.

Building 906A is located approximately 400 feet south 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 Building 906A is anticipated to be to the north.

#### 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) 532-6223

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 4, 2006, closure soil samples 906AC (shallow), 906AC (deep), 906AE and 906AW were collected from a total of three (3) locations along the tank centerline bottom of the UST. Groundwater was encountered at approximately four (4.0) 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 4, 2006, groundwater sample 906AC-GW was collected from soil borehole 906AC to assess the groundwater quality in the location of the tank. A temporary PVC 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 4, 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 4, 2006 from UST 81533-146 contained no concentrations of TPH above the NJDEP health based criterion of 10,000 mg/kg total organic contaminants. Soil samples 906AC, 906AE and 906AW contained TPH concentrations of 5634 mg/kg, 6699 mg/kg and 195 mg/kg, respectively. Contingent VOA analysis was conducted on soil samples 906AC and 906AE. The only compounds detected above the method detection limits were in sample 906AE. Detected were ethylbenzene at 0.6 mg/kg and total xylenes at 0.8 mg/kg, which are below the NJDEP Residential Direct Contact Soil Cleanup Criteria of 1,000 mg/kg and 410 mg/kg, respectively.

#### 3.2 GROUNDWATER SAMPLING RESULTS

One groundwater sample was collected via temporary PVC piezometer installed in soil borehole 906AC. There were two compounds detected above the method detection limits for the volatile organic analysis. Detected were ethylbenzene at 4.7 ug/L and total xylenes at 3.2 ug/L which are below the NJDEP Class II Groundwater Quality Criteria of 700 ug/L and No Limit Established, respectively. There were five compounds detected above the method detection limits for the semi-volatile organic analysis. Naphthalene was detected at 95.1 ug/L, which is below the regulatory level of No Limit Established. 2-Methyl-naphthalene was detected at 169.4 ug/L, which is below the regulatory level of No Limit Established. Phenanthrene was detected at 189.2 ug/L, which is below the regulatory level of No Limit Established. Pyrene was detected at 77.9 ug/L, which is below the regulatory level of 200 ug/L. Bis(2-Ethylhexyl)phthalate, a common laboratory contaminant, was detected at 13.8 ug/L which is below the regulatory level of 30 ug/L.

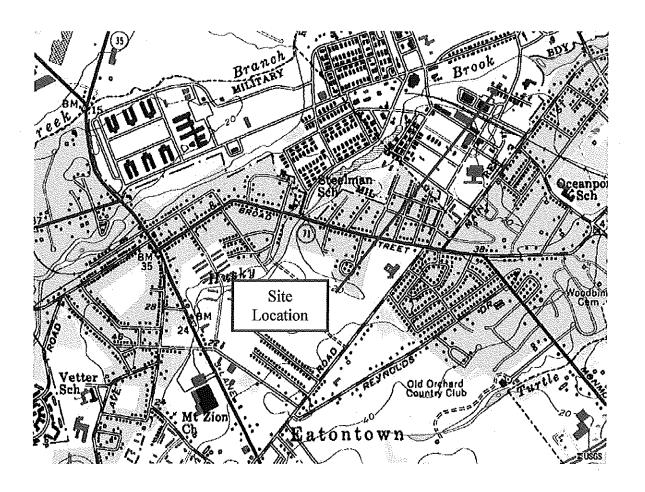
#### 3.3 CONCLUSIONS AND RECOMMENDATIONS

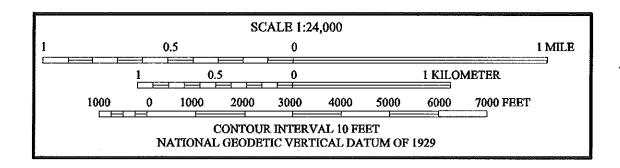
The analytical results for all soil and groundwater samples collected from the UST closure assessment at UST No. 81533-146 were below the regulatory limits.

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. 81533-146.

**No Further Action** is proposed in regard to the closure and site assessment of UST No. 81533-146 at Building 906A.

## **FIGURES**





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

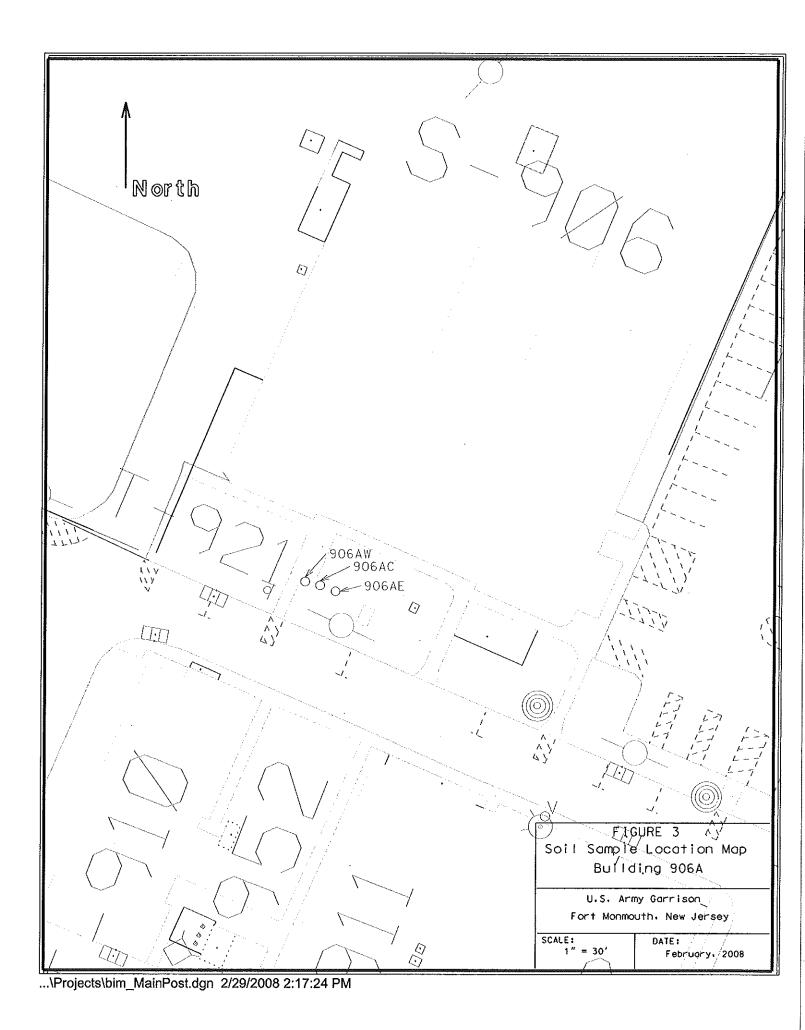
#### FIGURE 1

BUILDING 906 UST NO. 81533-146 FT. MONMOUTH, NJ



Photo Date 12/20/99 Pying Height 3000\* Foot Length of

Robinson Asheld Surveys, Inc. 43 January Res. 44 State Control Control



#### **SUMMARY OF LABORATORY ANALYSIS**

FT. MONMOUTH, BUILDING 906A, UST No. 81533-146 4 January 2006

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
906AC	6000701	4-Jan-06	SOIL	TPH	OQA-QAM-25
906AC	6000702	4-Jan-06	SOIL	TPH	OQA-QAM-25
906AE	6000704	4-Jan-06	SOIL	TPH	OQA-QAM-25
906AW	6000703	4-Jan-06	SOIL	TPH	OQA-QAM-25
906AC- Groundwater	6000705	4-Jan-06	AQUEOUS	VOA, SVOA	SW-846, EPA 625
Trip Blank	6004806	4-Jan-06	AQUEOUS	VOA	SW-846
Trip Blank	6004807	4-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

#### SUMMARY OF LABORATORY ANALYTICAL RESULTS-SOIL

FT. MONMOUTH, BUILDING 906A, UST No. 81533-146 4 January 2006

#### TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY	SAMPLE LOCATION	SAMPLE	MATRIX	ТРН
	SAMPLE ID		DEPTH		RESULTS
			(in feet)		mg/kg
906AC	6000701	CENTER UST	3.5 – 4.0	Soil	693
906AC	6000702	CENTER UST	6.0 - 6.5	Soil	5635*
906AE	6000704	EAST END UST	3.5 – 4.0	Soil	6699*
906AW	6000705	WEST END UST	6.0 – 6.5	Soil	195

#### ABBREVIATIONS:

mg/kg = milligrams per kilogram = parts per million

ND = Compound Not Detected

NA = Compound Not Analyzed

#### Notes:

Gray shading indicates exceedance of NJDEP

health based criterion of 10,000 ppm total organic contaminants

<sup>\*=</sup> Further Analyzed for Volatile Organic Compounds

#### **SUMMARY OF LABORATORY ANALYTICAL RESULTS-SOIL**

FT. MONMOUTH, BUILDING 906A, UST No. 81533-146 4 January 2006

#### **VOLATILE ORGANIC COMPOUNDS**

SAMPLE ID	LAB SAMPLE ID	Benzene	Toluene	Ethylbenzene	Xylenes (total)
UNITS		mg/kg	mg/kg	mg/kg	mg/kg
906AC	6000702	ND	ND	ND	ND
906AE	6000703	ND	ND	0.6	0.8
Trip Blank		ND	ND	ND	ND
NJDEP Criteria	Residential	1	1,000	1,000	410

#### ABBREVIATIONS:

mg/kg = milligrams per kilogram = parts per million (ppm)

ND = Compound Not Detected

NA = Compound Not Analyzed

#### Notes

Gray shading indicates exceedance of NJDEP Residential Direct Contact Soil Cleanup Criteria

#### SUMMARY OF LABORATORY ANALYTICAL RESULTS-GROUNDWATER

FT. MONMOUTH, BUILDING 906A, UST No. 81533-146

4 January 2006

#### **VOLATILE ORGANIC COMPOUNDS**

SAMPLE ID	LAB SAMPLE ID	Benzene	Ethyl- benzene	Toluene	Total Xylenes
	UNITS	ug/L	ug/L	ug/L	ug/L
906AC- Groundwater	6000705	ND	4.7	ND	3.2
Trip Blank		ND	ND	ND	ND
NJDEP Criteria	Ground Water Quality Crireria	1	700	1000	NLE

#### **SEMI-VOLATILE ORGANIC COMPOUNDS**

SAMPLE ID	LAB SAMPLE ID	Naphtha- lene	2-Methyl- naphthalene	Phenan- threne	Pyrene	Bis(2Ethylhexyl) phthalate
UNITS		ug/L	ug/L	ug/L	ug/L	ug/L
906AC- Groundwater	6000705	95.1	169.4	189.2	77.9	3.2
NJDEP Criteria	Ground Water Quality Crireria	NLE	NLE	NLE	200	30

#### 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



Bldy 906

For State Use Only					
)					
Ďate Rec'd.					
Auth					
Routing	naro a matamana 19 fanos atr				
UST NO.					

	Sin	te of New	Jersey	•
DEPARTM	ENT OF	ENVIRON	MENTAL	PF

iswer questions 1 ti	Circ (More that prough 5 and other	n one tank of the as applicable	O REPORTING FORM  for the:  Sale-Transfer/Substantial Modification  Use One Form Per Activity  can be listed per tank activity)  DEH Bldg #167
Company name a appears on regist	Circ (More that prough 5 and other and address: (as it	n one tank of the as applicable	Sale-Transfer/Substantial Modification  Use One Form Per Activity  can be listed per tank activity)  Sale-Transfer/Substantial Modification  Use One Form Per Activity
Company name a appears on regist	Circ (More that prough 5 and other and address: (as it	n one tank one as as applicable	Use One Form Per Activity  Can be listed per tank activity)  Can be listed per tank activity)  Can be listed per tank activity)
Company name a appears on regist	More that prough 5 and other and address: (as it	n one tank of the one as applicable	can be listed per tank activity) and allowers are allowers and allowers are allowers and allower
Company name a appears on regist	More that prough 5 and other and address: (as it	n one tank of the one as applicable	can be listed per tank activity) and allowers are allowers and allowers are allowers and allower
tiple to company assume a company of the	nd address: (as it		0.71 0.11 0.02 0.00 0.00
A STATE OF THE STA	and the same and a second state of the same of the same of		
and the second s		The state of the s	Oth SELFM-EH
			Fort Monmouth NJ 0770:
			11 5 0 5 1 00 J
Facility name and (if different from a		-	Main Past Wast
<del></del>			
			The Salar Control of the Control of
Contact person for		٠.	Mr. Joseph M. Fallon
. •	Teleph	one Number:	(908) 532-6223

283A, 614, 622, 676, 692, 701A, 906 910, 1004, 1103

# 0081533 5. Registration Number (if known): UST - \_

j

as Southern Superior Control of		tiniga ne ilikar seni		
· · · · · · · · · · · · · · · · · · ·	The state of the s			
6. FOR TRANSFER OF OW	NERSHIP:	en e		
New Company Name _				
New Facility Name	The second secon		Mayo	1
Const. Sec. 2	સ્થાપ્ય ૧	27.25.0	THE REAL PROPERTY.	the state of the s
Address	in the second	- 1991 7 1922 7 12 27		The Angelow Control of the Control o
New owner/operator (p	Test ( ) and )		The sense and this	
Larry and special traces			0075-98 <b>6 (600</b>	A STATE OF THE STA
Signature	2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	22.50.700	A STATE OF THE STA	
7. For ABANDONMENT or		and the second second second second	Ramon ustana incentional description de la company de la c	छ । १ पन १ पन्ने का व १ एक्क्षुं राज्यकार वृद्धान्य स्थानके क्रिकेट स्थान प्रकार स्थान स्थान
a. Describe the propo	sed procedure in detail	on an attached she	MAGRAYO (**)	
b. Specify the product	makini ser ka sa sa sa sa	la l	ating William	
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	相等 <b>即</b> 的作为他们。22	- CONTRACTOR	90
c. Date abandoned or d. Is Site Assessm	ent Compliance St	tatement being c	omileted? (VES) son	NO Form MIST be
For SUBSTANTIAL MOD	comple	eted and returne	d within 90 days o	f tank closure. (per
The state of the s		Control Marine		ra i kanalan wakazi ka
on an attached shee	tor the modification at	nd, in detail, the prop	osed procedure to be us	Criminade demographic in 1971
b. Specify the product i	presently stored in the	tank	(自体的状态)	to nothing the analysis.
	o be stored in the tank	AHA		
C. Opecity the product t	o be stored in the tank			
For NEW OR REPLACEM	ENT INSTALLATIONS	to the property of the second	•	
		. A 1 :	_	
a. Attach the specificati		ing an inggrand the state of th	<b>S.</b>	Allera Service Services
b. Specify the product (	s) to be stored in the te	ink:		is similarly from sports
TE: All appropriate	and applicable p	ermits licenses	and certificates	from any local, state
and/or federal a	agency must be ob	tained separatel	ly from this notifi	cation as required by
the above stated	-	CERTIFICATION	•	•
** This registration form sha cility. (7:14B-2.3 (a) 1). ***	li be signed by the high	hest renking individue	al at the facility with over	all responsibility for that
certify under penalty of law t	hat the information pro	vided in this documer	nt is true, accurate and co	mplete. I am aware that
ere are significant civil and ond of the significant civil and of the sign	criminal penalties for si	ubmitting talse, inacc	urate or incomplete info	mation, including fines
1	an AA			
	Mies Ott	·		
anie (print or type):	JAMES OTT Acting Director			
ile:	Dir, Engineering and	d Housing Date:	22 NOV 1991	

 ${}^{\alpha}{}^{\alpha}_{CG_{\alpha}}$ 



## DEPARTM OF ENVIRONMENTAL PROTECT: Bureau of Underground Storage Tanks CN-029, Trenton, NJ 08625

Date R	æd
Auth_	
Routing	
UST NO.	Application tount,
., us ·	

SITE ASSESSMENT COMPLIANCE STATEMENT

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

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:

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. In 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."

releas	e. wasser ferencia, compared to the contract the contract to t	general dangeres
PACILI	TX U.S. Ormy Fort Monmouth DBT 0081	533 Tank N
	off the following items as appropriate for the site. The UST facility is only regulated by State law, ther	58, 88, 95,
Collection - Australia de Calendaria de Cale	a site assessment is not mandatory.	(146)148, 15
	The UST facility is regulated by Federal law and a si assessment was conducted.	
The re	sults of the site assessment indicate:	that the law object to
	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 D	The results of the site assessment are not to be so EP or Bealth Agency unless requested to do so. The	ubmitted to results are

Questions can be directed to the Bureau at (609) 984-3156.

*** This registration form shall be signed by the highest ranking facility (7:14B-2.3 (a) 1). ***	20.110
"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	IAMES OTT  teting Discreter must be sure of the sure o
	(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

22 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.

## **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. 906A

Bldg. 906A

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
906A C 3.5-4.0'	6000701	Soil	04-Jan-06 13:44	01/04/06
906A C 6.0-6.5'	6000702	Soil	04-Jan-06 13:54	01/04/06
906A E 3.5-4.0'	6000703	Soil	04-Jan-06 14:18	01/04/06
906A W 6.0-6.5'	6000704	Soil	04-Jan-06 14:35	01/04/06
906A C	6000705	Aqueous	04-Jan-06 15:02	01/04/06

#### **ANALYSIS:**

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

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.

## **Table of Contents**

Section	Page No.
Chain of Custody	1-5
Method Summary	6-8
Laboratory Chronicle	9-10
Conformance/Non-Conformance Summary	11-14
Volatile Organics (Aqueous) Qualifier Codes Results Summary Calibration Summary Method Blank Summary Surrogate Results Summary MS/MSD Results Summary Internal Standard Summary Raw Sample Data	15 16 17-22 23-26 27-28 29-30 31 32-33 34-39
Volatile Organics (Soil) Results Summary Calibration Summary Method Blank Summary Surrogate Results Summary MS/MSD Results Summary Internal Standard Summary Raw Sample Data	40 41-52 53-55 56 57 58 59 60-67
Semi-volatile Organics Results Summary Calibration Summary Method Blank Summary Surrogate Results Summary MS/MSD Results Summary Internal Standard Summary Raw Sample Data	68 69-76 77-84 85 86 87-88 89-90 91-96
Total Petroleum Hydrocarbons Result Summary Calibration Summary Surrogate Results Summary MS/MSD Results Summary Raw Sample Data	97 98 99-103 104 105-106 107-116
Laboratory Deliverable Checklist	117
Laboratory Authentication Statement	118

## 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 M. Carthy	Project No:	06-31	18 80				Anal	ysis P	aram	eters			Comments:	
Phone: X2 6224	Location: C	706A		٦.			$\lambda_{a}$							
( )DERA ( )OMA ( )Other:	(For	mer US	ST)			177	3							
Samplers Name / Company: George B	CETVS		Sample	#	d	70	BN+15							
LIMS/Work Order # Sample Location	Date	Time	Туре	bottles	$\mathcal{P}$		Ø						Remarks / Prese	rvation Method
60007 0/ 906AC 3.5-4.0	1/4/06	13 44	Soil	2	X				,				4397	across anater
02906AC 6.0-6.5		1354		<u>2</u> _	Х								4398	Stained
Q3 906AE 35-40		1418		2	X	-							4399	Across Water
04906AW 6.0-6.5		1435	1	2	X								4400	water.
- 05 906AC		1502	AR	3		X	Х							
			16											
				Ì									<u> </u>	
														·
			1.										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· · · · · · · · · · · · · · · · · · ·
··											•			
			1											
	1													
													<del></del>	
		<u></u>								}				
Refluquished by (signature): Date/Time:	Received by	(disma(ura))		Palin	iahad	by (sig			Data	/TP:	n .	7.1		
Leorge Boyco 4-06 1100		'n / .	111	Keink	inistica	oy (sig	naunc)	•	Date	Time:	Recer	ved by	(signature);	
Relinquished by (signature): Date/Time:	Tryeceived by	(signature):		Reimo	quisnea	by (sig	nature)	:	Date.	Time:	Recei	ved by	(signature):	·
Day ( ) Pull ( ) Pull ( ) Start ( )		(/			Ī.,	. 1.	(à +	10.	20 1	50%	> //	00 1	DON TO	<i>I</i> /
Report Type: ()Full, ()Reduced, ()Standard, ()Screen		<del>-</del>			Rema	rks:	1	,	0 : A	-5 po	- 11		PAM TP.	
Turnaround time: ( Standard 3 wks, ( )Rush Days,	_ASAP Vert	oalHrs.	·		<u> </u>	> nai	red		K19	$\omega$	,Th	<u>(03</u>	95 #1120	Ø(,

### SAMPLE RECEIPT FORM

Date Received:	12	4-00	. Work Order	ID#: _	OULUT			
Site/Proj. Name	: <u>Blo</u>	ly/ 906A C	T Cooler Temp	(°C):	3.0°			
Received By: (Print name)	V1	LECHIA	Sign:	W	year			
		Check the app	ropriate box	A	/			
1. Did the sample				Z yes	s□ no □ n/a			
2. Were samples rec'd in good condition? ☐ yes ☐ no								
		tody filled out correc		2 yes	i □ no			
		tody signed in the ap	,	yes yes				
	_	with the chain of cus	•	☑ yes	_			
		talners/preservative	<b>-</b>		:∐ no			
		unt of sample supplie	ed?		no			
	-	sent in VOA vials?			☑no □n/a			
9. Were samples				•	□ no			
10. Were analyze	-imine	diately tests perform	ı witnin 15 minutes i	∟ yesı	⊔ noj⊿rn/a			
Fill out the following table for each sample bottle								
Lims ID	рН	Preservative	Sample ID	рH	Preservative			
	ļ	,						
				-				
				-				
Comments:								
Comments:								
Comments:								
Comments:								

## **Change of Chain of Custody**

<ol> <li>Was suffici</li> <li>Are sample</li> </ol>	rime:  priect containers and/or preservative ent amount of sample sent for the test within holding time for new analy ange documented in the receipt logical contents.	tests indicated? Yes No Yes No No					
Sample	New	Sample	New				
ID#	Analysis	ID#	Analysis				
505000)	VOAT 15	}	·				
03							
Alsor	in Methanal T	B 6000	0606				
· · · · · · · · · · · · · · · · · · ·							
	·						
		ſ					
		,					
		:					
	-	-	•				
	-						
		· I	•				
Comments:							
***************************************							
			<u> </u>				
•		· · · · · · · · · · · · · · · · · · ·					

#### Former UST 906A 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.)
906A E	539090.168	621094.799
906A C	539088.953	621099.520
906A W	539087.046	621104.447

## 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: 60007

Site: UST

Bldg. 906A

	Date	Hold Time	
Date Sampled	01/04/06	NA	
Receipt/Refrigeration	01/04/06	NA	
Extractions			
1. BN 2. TPHC	01/09/06 01/06/06	7 days 14 days	
Analyses			
1. VOA 2. BN 3. TPHC	01/11,17/06 01/17/06 01/07/06	14 days 40 days 40 days	

# CONFORMANCE/ NONCONFORMANCE SUMMARY

# GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		Indicate Yes, No, N/
1.	Chromatograms labeled/Compounds identified (Field samples and method blanks)	yes
2.	Retention times for chromatograms provided	yes_
3.	GC/MS Tune Specifications	
	<ul><li>a. BFB Meet Criteria</li><li>b. DFTPP Meet Criteria</li></ul>	yes yes
1.	GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	405
5.	GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	yes
ő.	GC/MS Calibration requirements	
	<ul> <li>a. Calibration Check Compounds Meet Criteria</li> <li>b. System Performance Check Compounds Meet Criteria</li> </ul>	yes yes
7.	Blank Contamination - If yes, List compounds and concentrations in each blank:	NO
	a. VOA Fraction b. B/N Fraction c. Acid Fraction	
3.	Surrogate Recoveries Meet Criteria	<u> 00</u>
	If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
	a. VOA Fraction b. B/N Fraction All low in dilution c. Acid Fraction	
	If not met, were the calculations checked and the results qualified as "estimated"?	<u>yes</u>
).	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	
	a. VOA Fraction <u>Na phthalene M5+M5D law</u> b. B/N Fraction <u>Benerhase M5D law RPD high</u> c. Acid Fraction  VALOUS out on Soil VOA See form	

#### 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	<del></del>
	c. Acid Fraction	
11.	Extraction Holding Time Met	yes
	If not met, list the number of days exceeded for each sample:	
12.	Analysis Holding Time Met  If not met, list the number of days exceeded for each sample:	<u> yes</u>
Add	itional Comments:	
•		nder-region (
Labo	oratory Manager: Date: 1-27 -	<u>) €</u>

#### TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

		Indicate Yes, No, N/A
1.	Method Detection Limits Provided	405
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank	NO
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)	yes
1.	Duplicate Results Summary Meet Criteria	yes
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)	yes
Addit	ional comments:	
-1	ratory Manager: 2 Date: 1-27-06	
Jado)	ratory Manager: Date: 1-27-06	_

# 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 dilution.
- 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 VB021318.D

Skelton

11 Jan 2006 8:48 pm

Sample Name Field ID MB 11Jan2006 MB 11Jan2006

Sample Multiplier

IVII

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifier.
107028	Acrolein			not detected	5	2.01 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected		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 tig/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	nle	0.29 ug/L	2.00 ug/L	<del>                                     </del>
75-69-4	Trichlorofluoromethane			not detected	2000	0.23 ug/L	2.00 ug/L	<del> </del>
75-35-4	1,1-Dichloroethens			not detected	1	0.19 ug/L	2.00 ug/L	
67-64-1	Acetone	<del></del>		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		<del> </del>	not detected	3	0.24 ug/L	2.00 ug/L	<del></del>
156-60-5	trans-1.2-Dichloroethene			not detected	100	0.24 ug/L	2.00 ug/L	<del>- '</del>
75-34-3	1.1-Dichloroethane		<del></del>	not detected				
108-05-4	Vinyl Acetate				50	0.24 ug/L	2.00 ug/L	
78-93-3	2-Butanone			not detected	7000	0.20 ug/L	2.00 ug/L	
156-59-2			<del> </del>	not detected	300	0.26 ug/L	2.00 ug/L	
67-66-3	cis-1,2-Dichloroethene		-	not detected	70	0.20 ug/L	2.00 ug/L	
	Chloroform		<del>                                     </del>	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 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		ļ	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	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	nlé	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			not 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	nle	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		1	лоt 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	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			not detected	600	0.35 ug/L 0.45 ug/L	2.00 ug/L 2.00 ug/L	

<sup>\*</sup>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

Lab Name:	FMETL			NJDEP	#: 13461		MB 11Jai	n2006
Project:	063488	O Cas	se No.: 60007	Loca	tion: 906A	SE	G No.: UST	
Matrix: (soil/v	water)	WATER	-		Lab Sample	— ∍ ID: <u> </u> l	MB 11Jan20	06
Sample wt/vo	ol:	5.0	(g/ml) ML		Lab File ID:	,	VB021318.D	
Level: (low/n	ned)	LOW ·	-		Date Recei	ved:	1/4/2006	
% Moisture:	not dec.				Date Analy:	zed:	1/11/2006	
GC Column:	RTX50	02. ID: 0.2	25 (mm)		Dilution Fac	tor:	1.0	
Soil Extract \	/olume:		_ (uL)	;	Soil Aliquot	Volun	ne:	(uL)
Number TiCs	s found:	1		CONCENTR ug/L or ug/k				
CAS NO.		COMPOU	ND NAME		RT	EST	T. CONC.	Q
1. 000079	9-20-9	Acetic acid	methyl ester		12.47	1	4	JN

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

Data File Operator

Date Acquired

VB021320.D

Skelton

11 Jan 2006 10:10 pm

Sample Name Field ID

6000606 Trip Blank

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifier
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	T
108203	Di-isopropyl ether			not detected	20000	0.26 ug/L	2.00 ug/L	
75718	Dichlorodifluoromethane			not detected	0001	0.20 ug/L	2.00 ug/L	
74-87-3	Chloromethane			not detected	pla	0.24 ug/L	2.00 ug/L	
75-01-4	Vinyl Chloride			not detected	I	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	nle	0.29 ug/L	2.00 ug/L	
75-69-4	Trichlorofluoromethane			· not detected	2000	0.23 ug/L	2.00 ug/L	<del>                                     </del>
75-35-4	1,1-Dichloroethene			not detected	1	0.19 ug/L	2.00 ug/L	<del> </del>
67-64-1	Acetone			not detected	6000	0.36 ug/L	2.00 ug/L	<del>                                     </del>
75-15-0	Carbon Disulfide			not detected	700	0.24 ug/L	2.00 ug/L	<del>                                     </del>
75-09-2	Methylene Chloride	-		not detected	3	0.21 ug/L	2.00 ug/L	<b></b>
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.24 ug/L	2.00 ug/L	<del> </del>
75-34-3	1.1-Dichloroethane			not detected	50	0.24 ug/L	2.00 ug/L	<del> </del>
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	2.00 ug/L	<del> </del>
78-93-3	2-Butanone			not detected	300	0.26 ug/L	2.00 ug/L	<del></del>
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	0.20 ug/L 0.22 ug/L	2.00 ug/L 2.00 ug/L	<del> </del>
71-55-6	I, I, I-Trichloroethane		<del>                                     </del>	not detected	30	0.20 ug/L	2.00 ug/L 2.00 ug/L	<del></del>
56-23-5	Carbon Tetrachloride	<del>*************************************</del>		not detected		0.24 ug/L		
71-43-2	Benzene			not detected	1	0.24 ug/L	2.00 ug/L	ļ
107-06-2	1,2-Dichloroethane		<del> </del>		1 1		2.00 ug/L	<del></del>
79-01-6		,	<u> </u>	not detected		0.23 ug/L	2.00 ug/L	
78-87-5	Trichloroethene			not detected	1	0.26 ug/L	2.00 ug/L	
75-27-4	1,2-Dichloropropane			not detected	1 1	0.24 ug/L	2.00 ug/L	<u> </u>
110-75-8	Bromodichloromethane	<del>-,-,</del> -		not detected	1	0.22 ug/L	2.00 ug/L	
	2-Chloroethyl vinyl ether	······································		not detected	nle	0.23 ug/L	2.00 ug/L	<u> </u>
10061-01-5	cis-1,3-Dichloropropene			not detected	1 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		I	not detected	1000	0.26 ug/L	2.00 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1 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		ļ	not detected		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		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			not 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	_ <del></del>		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	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			not detected	600	0.45 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

FIEL	D ID
------	------

Lab Name:	FMETL			NJDEP	#: 13461		Trip B	lank
Project:	063488	0 Cas	se No.: 60006	 Loca	tion: 637	SD	G No.: US	T
Matrix: (soil/v	water)	WATER			Lab Sampl	e ID: 6	000606	
Sample wt/vo	ol:	5.0	(g/ml) ML		Lab File ID	: \_	/B021320.D	)
Level: (low/n	ned)	LOW	-	!	Date Recei	ved: 1	/4/2006	
% Moisture: r	not dec.			1	Date Analy	zed: <u>1</u>	/11/2006	
GC Column:	RTX50	02. ID: <u>0.2</u>	25_ (mm)	I	Dilution Fac	ctor: 1	.0	
Soil Extract V	/olume:		_ (uL)		Soil Aliquot	Volum	e:	· (uL)
Number TICs	s found:	. 1		ONCENTR lg/L or ug/K				
CAS NO.		COMPOU			RT	EST	CONC.	Q
1 000070	3.20 O L	Acotic cold	mandles it and an	f	40 47	1		l •s.z [

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

Data File Operator Date Acquired VB021321.D

Skelton

11 Jan 2006 10:51 pm

Sample Name Field ID

6000705 906AC

Sample Multiplier

1

_	CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
L	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	<u> </u>
_	75650	tert-Butyl alcohol			not detected	100	5.70 ug/L	10.00 ug/L	
$\perp$	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	
$\perp$	75-01-4	Vinyl Chloride			not detected	1	0.23 ug/L	2.00 ug/L	
$\perp$	74-83-9	Bromomethane			not detected	10	0.26 ug/L	2.00 ug/L	1
L	75-00-3	Chloroethane .			not detected	nle	0.29 ug/L	2.00 ug/L	
· L	75-69-4	Trichlorofluoromethane			not detected	2000	0.23 ug/L	2.00 ug/L	<b></b>
L	75-35-4	1,1-Dichloroethene			not detected	1	0.19 ug/L	2.00 ug/L	<u> </u>
	67-64-1	Acetone			not detected	6000	0.36 ug/L	2.00 ug/L	
L	75-15-0	Carbon Disulfide			not detected	700	0.24 ug/L	2.00 ug/L	
- 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	<del> </del>
	108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	2.00 ug/L	<del> </del>
Į.	78-93-3	2-Butanone		T	not detected	300	0.26 ug/L	2.00 ug/L	
1	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	1
	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	
Г	71-43-2	Benzene			not detected	1	0.24 ug/L	2.00 ug/L	
Г	107-06-2	1,2-Dichloroethane			not detected	2	0.23 ug/L	2.00 ug/L	
Г	79-01-6	Trichloroethene			not detected		0.26 ug/L	2.00 ug/L	
	78-87-5	1,2-Dichloropropane			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	nie	0.22 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	<u> </u>
	108-88-3	Toluene			not detected	1000	0.26 ug/L	2.00 ug/L	
<u> </u>	10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.25 ug/L 0.25 ug/L	2.00 ug/L	ļ
-	79-00-5	1,1,2-Trichloroethane			not detected	3	0.23 ug/L	2.00 ug/L	
-	127-18-4	Tetrachloroethene			not detected		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	I I	0.43 ug/L	2.00 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	25.72	865653	4.71 ug/L	700	0.27 ug/L	2.00 ug/L	
	1330-20-7	m+p-Xylenes	26.01	70702	1.05 ug/L	nie	0.43 ug/L	4.00 ug/L	
-	95-47-6	о-Хујеве	26.84	299933	2.16 ug/L	nle	0.43 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	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		<del> </del>	not detected	600	0.33 ug/L 0.45 ug/L	2.00 ug/L 2.00 ug/L	

<sup>\*</sup>Results between MDL and RL are estimated values

#### Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

Page 1 of 1

PQL = Practical Quantitation Limit

MDL = Method Detection Limit

NLE = No Limit Established

R.T. = Retention Time

R.L. = Reporting Limit

<sup>\*</sup>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	906AC	
Project:	0634880		ase No.: 60006	Location: 637 SI	DG No.: UST	
Matrix: (soil/v	water)	WATER		Lab Sample ID:	6000705	
Sample wt/vo	ol:	5.0	(g/ml) ML	Lab File ID:	VB021321.D	
_evel: (low/n	ned)	LOW		Date Received:	1/4/2006	-
% Moisture: ı	not dec.			Date Analyzed:	1/11/2006	_
GC Column:	RTX5	02. ID: <u>0</u>	).25_ (mm)	Dilution Factor:	1.0	_
Soil Extract V	'olume: (uL)		(uL)	Soil Aliquot Volur	ne:	(uL
				NCENTRATION UNITS:		

(ug/L or ug/Kg)	UG/L

Number TICs found:	10 (ug/L or ug/kg) UG/L				
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q	
1. 000526-73-8	Benzene, 1,2,3-trimethyl-	29.36	39	JN	
2. 000496-11-7	Indane	30.51	77	JN	
3. 000933-98-2	Benzene, 1-ethyl-2,3-dimethyl-	31.14	15	JN	
4. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	31.32	25	JN	
5. 000767-58-8	Indan, 1-methyl-	31.59	29	JN	
6. 000095-93 <b>-</b> 2	Benzene, 1,2,4,5-tetramethyl-	32.12	13	JN	
7. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	32,23	23	JN	
8. 000824-22-6	1H-Indene, 2,3-dihydro-4-methyl-	32.69	20	JN	
9. 002039-89-6	Benzene, 2-ethenyl-1,4-dimethyl-	33.09	67	JN	
10 000119-64-2	Nanhthalana 1 2 2 4 totrahudra	22.40	40	INI	

# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name: **FMETL** NJDEP#: 13461 Project: 0634880 Case No.: 60006 SDG No.: UST Location: 637 Lab File ID: VB021310.D BFB Injection Date: 1/11/2006 Instrument ID: GCMS#2 BFB Injection Time: 15:23 GC Column: RTX502.2 ID: 0.25 Heated Purge: (Y/N) (mm)

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	22.0
75	30.0 - 66.0% of mass 95	56.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 ( 0.0)1
174	50.0 - 120.0% of mass 95	73.1
175	4.0 - 9.0% of mass 174	5.4 ( 7.4)1
176	93.0 - 101.0% of mass 174	71.0 ( 97.2)1
177	5.0 - 9.0% of mass 176	4.7 ( 6.7)2

<sup>1-</sup>Value is % mass 174

2-Value is % mass 176

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

ĺ		LAB	LAB	DATE	TIME
	FIELD ID:	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01[	VSTD010	VSTD010	VB021311.D	1/11/2006	16:01
02	VSTD005	VSTD005	VB021312.D	1/11/2006	16:42
03	VSTD002	VSTD002	VB021313.D	1/11/2006	17:23
04	VSTD050	VSTD050	VB021314.D	1/11/2006	18:04
05	VSTD020	VSTD020	VB021315.D	1/11/2006	18:45
06	MB 11JAN2006	MB 11JAN2006	VB021318.D	1/11/2006	20:48
07	637C	6000605	VB021319.D	1/11/2006	21:29
08	TRIP BLANK	6000606	VB021320.D	1/11/2006	22:10

# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name: **FMETL** NJDEP#: 13461 Project: 0634880 Case No.: 60007 Location: 906A SDG No.: UST Lab File ID: VB021310.D BFB Injection Date: 1/11/2006 Instrument ID: GCMS#2 BFB Injection Time: 15:23 GC Column: RTX502.2 ID: 0.25 (mm) Heated Purge: (Y/N) Ν

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	22.0
75	30.0 - 66.0% of mass 95	56.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 ( 0.0)1
174	50.0 - 120.0% of mass 95	73.1
175	4.0 - 9.0% of mass 174	5.4 ( 7.4)1
176	93.0 - 101.0% of mass 174	71.0 ( 97.2)1
177	5.0 - 9.0% of mass 176	4.7 ( 6.7)2

<sup>1-</sup>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	VSTD010	VSTD010	VB021311.D	1/11/2006	16:01
02	VSTD005	VSTD005	VB021312.D	1/11/2006	16:42
03	VSTD002	VSTD002	VB021313.D	1/11/2006	17:23
04	VSTD050	VSTD050	VB021314.D	1/11/2006	18:04
05	VSTD020	VSTD020	VB021315.D	1/11/2006	18:45
06	MB 11JAN2006	MB 11JAN2006	VB021318.D	1/11/2006	20:48
07	906AC	6000705	VB021321.D	1/11/2006	22:51

Data File : C:\HPCHEM\1\DATA\060111\VB021310.D

: 11 Jan 2006 Acq On

3:23 pm

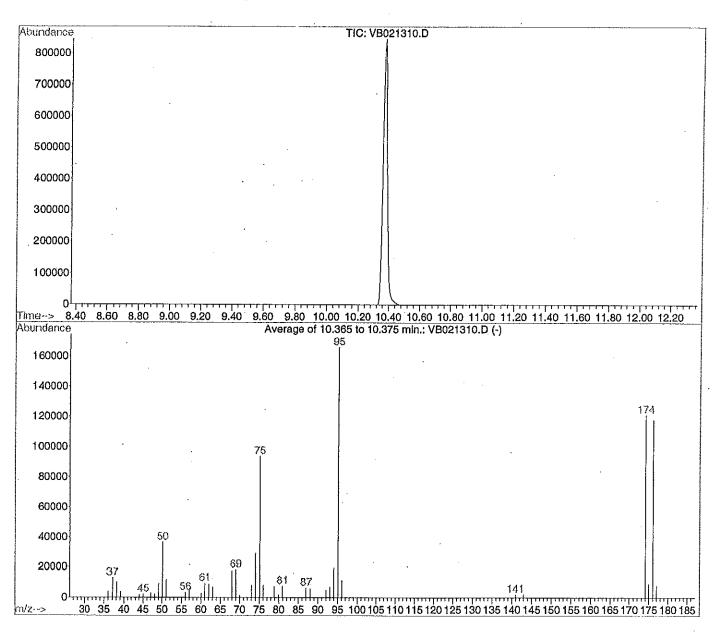
Vial: 1 Operator: Skelton

Sample : BFB Tune : BFB Tune Misc

: GC/MS Ins Multiplr: 1.00

MS Integration Params: TBA.P

: C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



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 55 95	40 60 100 9 2 100 9 101	22.0 56.5 100.0 6.6 0.0 73.1 7.4 97.2 6.7	36501 93693 165909 10963 0 121272 8945 117840 7849	PASS PASS PASS PASS PASS PASS PASS PASS	

: C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 12 07:46:23 2006
Response via : Initial Calibration

Calibration Files

50 =VB021314.D 20 =VB021315.D 10 =VB021311.D

5 =VB021312.D 2 =VB021313.D

_			Compound	50 	20	10	5 	2	Avg	%RSD
	1)	I	Bromochloromethane		<b></b>	I	STD			
-	2) 3) 4) 5)	tm tm tm	Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl eth	0.114 0.983 0.126 6.128	0.097 0.892 0.120 5.255	0.090 0.870 0.102 4.809	0.089 0.859 0.107 4.574	0.086 0.795 0.111 4.318	0.095 0.880 0.113 5.017	7.71 8.63
_	6) 7) . 8) . 9)	TCm	Di-isopropyl ether Dichlorodifluorometha Chloromethane Vinyl Chloride	2.855 3.281 3.329	2.629 3.128 3.177	2.942 3.291 3.278	3.022 3.300 3.343	3.056 3.259 3.254	3.252 3.276	18.53 5.89 2.18 2.03
	10) 11) 12) 13) 14)	Tm Tm Tm MC Tm	Bromomethane Chloroethane Trichlorofluoromethan 1,1-Dichloroethene Acetone	2.065 5.535 3.946	2.150 5.256 3.648	2.155 5.309 3.380	2.199 5.478 3.403	2.158 5.291 3.180	1.810 2.146 5.374 3.512 0.787	3.47 2.28 2.31 8.38
	15) 16) 17) 18)	Tm Tm Tm	Carbon Disulfide Methylene Chloride trans-1,2-Dichloroeth 1,1-Dichloroethane	8.190 2.691 3.739	7.593 2.604 3.509	7.332 2.606 3.296	7.205 2.673 3.272	6.851 2.758 3.062	7.434 2.666 3.376	26.67 6.72 2.42 7.63 6.09
,—	19) 20) 21) 22)	Tm Tm Tm	Vinyl Acetate 2-Butanone cis-1,2-Dichloroethen Chloroform	1.945 0.887 3.912	1.596 0.759 3.634	1.424	1.353 0.769 3.265	1.275 0.677 3.055	1.519 0.780 3.454	17.53 9.85 9.59 3.10
	23) 24) 25)	Tm Tm S	1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane-d4	4.196 3.574	3.871 3.235	3.547 2.986	3.461 3.002	3.165 2.826	3.648 3.125	10.87 9.30 2.82
-	26) 27)	I TM	1,4-Difluorobenzene Benzene	1.485	1.387	1.370	1.352	1.271		5.61
	28) 29) 30) 31) 32)	Tm Tm	1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl e	0.362 0.363 0.471 0.218	0.334 0.341 0.432 0.183		0.317 0.328 0.402 0.149	0.300 0.311 0.390 0.138	0.328 0.335 0.423 0.170	2.03 7.06 5.68 7.42 18.59
-	33) 34) 35) 36)	Tm Tm S TCM	cis-1,3-Dichloroprope 4-Methyl-2-Pentanone Toluene-d8 Toluene	0.092 1.354	0.079 1.249	0.485 0.068 1.219 1.494	0.070	0.069	0.076 1.207	15.81 13.65 9.25 8.03
	37) 38) 39)	.Tm Tm	Chlorobenzene-d5 trans-1,3-Dichloropro 1,1,2-Trichloroethane	2.033	1.747	1.611	1.434	1.259	1.071	18.33 3.80
_	40) 41) 42) 43) 44)		Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene	0.547 1.175 3.763	0.476 1.036 3.513	1.322 0.437 1.009 3.556 6.077	0.430 0.969 3.585	0.460 0.888 3.548	0.470 1.015 3.593	4.73 9.91 10.35 2.74 6.58
	45) 46) 47) 48)	Tm Tm Tm TPm	m+p-Xylenes o-Xylene Styrene Bromoform	2.590 5.473 3.965 0.771	2.314 4.968 3.483 0.672	2.244 4.703 3.232 0.631	2.137 4.262 2.946 0.622	1.901 3.652 2.449 0.592	2.237 4.612 3.215 0.658	11.25 15.02 17.69 10.59
	49) 50) 51) 52) 53) 54)	S TPm Tm Tm Tm	Bromofluorobenzene 1,1,2,2-Tetrachloroet 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Naphthalene	2.378 2.550 2.150	1.188 2.286 2.470 2.162	1.700 1.111 2.129 2.286 1.937 0.604	1.159 2.096 2.241 1.976	1.145 1.996 2.057 1.895	2.024	9.55 3.31 7.04 8.40 6.12
	/	T-11	Maphenarene	V.U-10	0.540	0.004	0.004	エ・エンチ	0,042	26.60

#### 4A

## **VOLATILE METHOD BLANK SUMMARY**

FIELD ID:

Lab Name:	FMETL.		_ NJDEP#: 13461	MB 11Jan200
Project:	0634880	Case No.: 60006	Location: 637	SDG No.: UST
Lab File ID:	VB02131	8.D	Lab Samp	ie ID: MB 11Jan2006

Date Analyzed: 1/11/2006 Time Analyzed: 20:48

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

Instrument ID: GCMS#2

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

	FIELD ID:	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	637C	6000605	VB021319.D	21:29
02	TRIP BLANK	6000606	VB021320.D	22:10

COMMENTS:			

# **VOLATILE METHOD BLANK SUMMARY**

FIELD ID:

MB 11Jan2006

Lab Name:

FMETL

NJDEP#: 13461

Project:

0634880

Case No.: 60007

Location: 906A

SDG No.: UST

Lab File ID:

VB021318.D

Lab Sample ID: MB 11Jan2006

Date Analyzed: 1/11/2006

Time Analyzed: 20:48

GC Column:

RTX502. ID: 0.25

Heated Purge: (Y/N)

Ν

Instrument ID: GCMS#2

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

		LAB	LAB	TIME
	FIELD ID:	SAMPLE ID	FILE ID	ANALYZED
01	906AC	6000705	VB021321.D	22:51

COMMEN	ITS
COMMEN	ITS

# 2A WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

 Lab Name:
 FMETL
 NJDEP#:
 13461

 Project:
 0634880
 Case No.:
 60006
 Location:
 637
 SDG No.:
 UST

	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT OUT
01	MB 11JAN2006	82	90	86	0
02	637C	83	91	87	0
03	TRIP BLANK	83	91	87	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

- \* Values outside of contract required QC limits
- D System Monitoring Compound diluted out

# 2A WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

 Lab Name:
 FMETL
 NJDEP#:
 13461

 Project:
 0634880
 Case No.:
 60007
 Location:
 906A
 SDG No.:
 UST

i	FIELD ID:	SMC1 DCE #	SMC2 TOL #	SMC3 BFB #	TOT
01	MB 11JAN2006	82	90		0
02	906AC	83	90	91	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

- \* Values outside of contract required QC limits
- D System Monitoring Compound diluted out

page 1 of 1

FORM II VOA-1

6/99

: C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 12 07:46:23 2006

Response via : Initial Calibration

Non-Spiked Sample: VB021335.D

Spike Spike

Sample Duplicate Sample

File ID: VB021336.D Sample: 6002305 MS Acq Time: 12 Jan 2006 9:06 am VB021337.D 6002305 MSD

12 Jan 2006 9:47 am

_	Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
	Acrolein	0.0	50	46	46	93	92	1	20	59-137
	Acrylonitrile	0.0	50	49	49	97	98	1	20	68-127
	tert-Butyl alcohol	0.0	100	84	87	84	87	3	20	17-167
	Methyl-tert-Butyl et	0.0	10	9	. 9	88	90	2	20	74-116
	Di-isopropyl ether	0.0	10	9	9	91	94	3	20	77-117
	Dichlorodifluorometh		10	7	8	72	76	6	20	50-131
	Chloromethane	0.0	10	8	9	80	86	7	20	65-123
	Vinyl Chloride	0.0	10	8	8	78	82	5	20	63-125
	Bromomethane Chloroethane	0.0	10	8	9	80	86	8	20	72-118
	Trichlorofluorometha	0.0	10	9	9	86	90	6	20	64-127
	1,1-Dichloroethene	0.0	10 10	- 8 8	8	79	84	5	20	60-122
	Acetone	0.0	10	8	8 8	77 76	83 77	8	20 20	68-116
	Carbon Disulfide	0.0	10	8	8	79	84	7	20	2-148
	Methylene Chloride	0.0	10	و	10	90	95	6	20	79-110
	trans-1,2-Dichloroet	0.0	10	8	. 10	80	95 86	7	20	73-110
	1,1-Dichloroethane	0.0	10	9	9	88	93	5	.20	77-112
_	Vinyl Acetate	0.0	10	9	9	86	88	2	20	52-127
	2-Butanone	0.0	10	9	9	86	85	1	20	12-162
	cis-1,2-Dichloroethe	0.0	10	9	9	87	92	5	20	74-114
	Chloroform	0.0	10	9	9	89	94	6	20	79-110
	1,1,1-Trichloroethan	0.0	10	8	8	79	84	7	20	73-114
	Çarbon Tetrachloride	0.0	10	8	8	78	84	7	20	69-115
•	Benzene	0.0	10	. 9	. 9	86	91	5	20	78-112
	1,2-Dichloroethane	0.0	10	9	10	93	95	2	20	78-115
_	Trichloroethene	0.0	10	8	9	82	86	5	20	74-114
	1,2-Dichloropropane	0.0	10	9	9	88	93	5	20	77-113
	Bromodichloromethane	0.0	10	9	9	88	92	. 5	20	77-113
	2-Chloroethyl vinyl	0.0	10	8	9	84	86	2	20	67-117
_	cis-1,3-Dichloroprop 4-Methyl-2-Pentanone	0.0	10	8   9	9	82	87	5	20	75-116
	Toluene	0.0	10	9	9	87 89	88 93	1 5	20 20	33-146
	trans-1,3-Dichloropr	0.0	10	8	9	83	93 86	3	20	80-113 75-117
	1,1,2-Trichloroethan	0.0	10	9	10	94	95	2	20	78-116
-	Tetrachloroethene	0.0	10	8	8	80	83	4	20	73-115
	2-Hexanone	0.0	10	8	8	80	83	3	20	30-147
	Dibromochloromethane	0.0	10	9	9	91	93	3	20	77-115
	Chlorobenzene	0.0	10	9	9	88	92	4	20	78-112
	Ethylbenzene	0.0	10	8	9	85	90	- 5	20	77-113
	m+p-Xylenes	0.0	20	17	18	85	89	4	20	76-115
	o-Xylene	0.0	10	9	. 9	86	91	5	20	74-118
	Styrene	0.0	10	9	9	89	92	3	20	77-116
	Bromoform	0.0	10	9	9	90	91	1	20	72-116
	1,1,2,2-Tetrachloroe	0.0	10	9	9	92	94	2	20	73-120
	1,3-Dichlorobenzene	0.0	10	8	9	84	89	5	20	75-114
_	1,4-Dichlorobenzene	0.0	10	9	9	87	92	- 6	20	75-116
_	1,2-Dichlorobenzene	0.0	10	9	9	86	91	6	20	76-115
	Naphthalene	0.0	10	5	6	52#	63#	19	20	70-120

<sup># -</sup> Fails Limit Check

# 8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: NJDEP#: 13461 FMETL Project: 0634880 Case No.: 60006 Location: 637 SDG No.: UST Lab File ID (Standard): VB021311.D Date Analyzed: 1/11/2006 Instrument ID: GCMS#2 Time Analyzed: 16:01 GC Column: RTX502.2 ID: 0.25 Heated Purge: (Y/N) (mm) Ν

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	477172	16.43	3603875	19.62	939180	25.65
	UPPER LIMIT	954344	16.93	7207750	20.12	1878360	26.15
ĺ	LOWER LIMIT	238586	15.93	1801938	19.12	469590	25.15
			33345				
	FIELD ID:				.		
01	MB 11JAN2006	457185	16.43	3387692	19.63	892840	25.65
02	637C	451875	16.43	3328281	19.63	881634	25.66
03	TRIP BLANK	450293	16.43	3314080	19.63	878455	25.66

IS1 BCM

= Bromochloromethane

IS2 DFB

= 1,4-Difluorobenzene

IS3 CBZ

= Chlorobenzene-d5

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

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

<sup>\*</sup> Values outside of contract required QC limits

# 8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP#: 13461

Project: 0634880 Case No.: 60007 Location: 906A SDG No.: UST

Lab File ID (Standard): VB021311.D Date Analyzed: 1/11/2006

Instrument ID: GCMS#2 Time Analyzed: 16:01

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

	,	IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
ſ	12 HOUR STD	477172	16.43	3603875	19.62	939180	25.65
l	UPPER LIMIT	954344	16.93	7207750	20.12	1878360	26.15
	LOWERLIMIT	238586	15.93	1801938	19.12	469590	25.15
	FIELD ID:					-	
01	MB 11JAN2006	457185	16.43	3387692	19.63	892840	25.65
02	906AC	447930	16.44	3400184	19.63	902392	25.65

IS1 BCM = Bromochloromethane

IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

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

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

\* Values outside of contract required QC limits

Data File : C:\HPCHEM\1\DATA\060111\VB021318.D

Acq On : 11 Jan 2006

8:48 pm

: MB 11Jan2006

Misc : MB 11Jan2006 MS Integration Params: TBA.P

Quant Time: Jan 12 7:49 2006

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Vial: 8

Quant Results File: M2VO222.RES

Quant Method : C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 12 07:46:23 2006
Response via : Initial Calibration
DataAcq Meth : M2VO222

Sample

	Internal Standards	R.T.	QIon	Response	Conc U	nits De	v(Min)
_	1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.43 19.63 25.65	128 114 119	457185 3387692 892840	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
-	System Monitoring Compounds 25) 1,2-Dichloroethane-d4	18.47	65	1247698	24.63	11Ct / T.	0.00
	Spiked Amount 30.000	Range 70		Recove			
	35) Toluene-d8	22.58	98	3672657	26.94		0.00
	Spiked Amount 30.000	Range '70	- 120	Recove	ry =	89.808	ł
	49) Bromofluorobenzene	28.00	95	1312101	25,94	ug/L	0.00
	Spiked Amount 30.000	Range 70	- 120	Recove	ry =	86.47%	វ
	Target: Compounds					Οv	alue

<sup>(#) =</sup> qualifier out of range (m) = manual integration VB021318.D M2V0222.M Thu Jan 19 13:51:43 2006

Data File: C:\HPCHEM\1\DATA\060111\VB021318.D

: 11 Jan 2006 8:48 pm

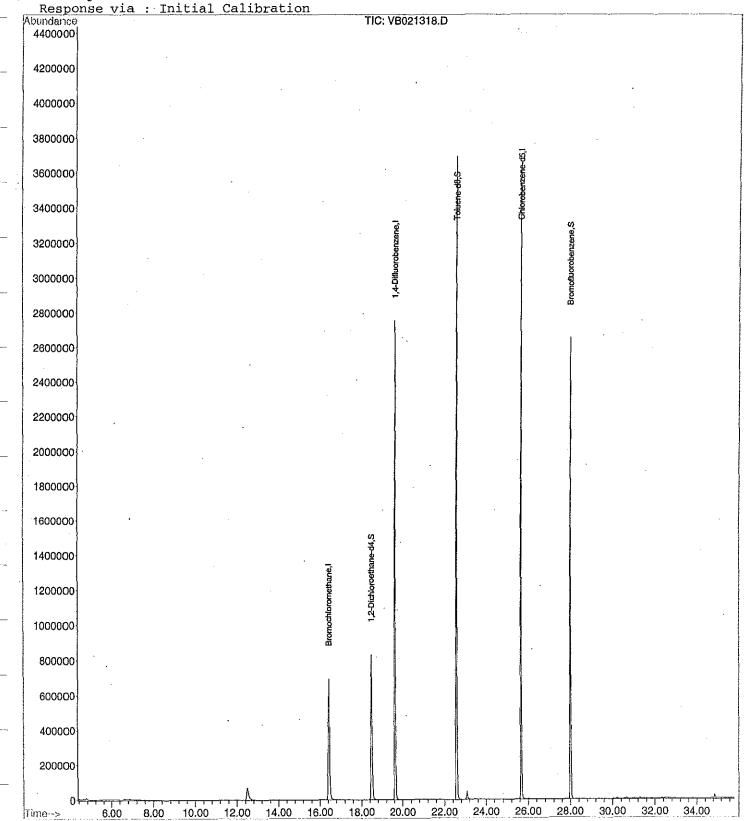
Vial: 8 Operator: Skelton Inst : GC/MS Ins

: MB 11Jan2006 Sample Misc Multiplr: 1.00 : MB 11Jan2006

MS Integration Params: TBA.P Quant Time: Jan 12 7:49 2006

Quant Results File: M2VO222.RES

Method : C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 12 07:46:23 2006



Data File : C:\HPCHEM\1\DATA\060111\VB021320.D

Acq On

: 11 Jan 2006 10:10 pm

: 6000606

: GC/MS Ins : Trip Blank Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Jan 12 7:46 2006

Quant Results File: M2VO222.RES

Vial: 10

Operator: Skelton

Quant Method : C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 12 07:46:23 2006
Response via : Initial Calibration
DataAcq Meth : M2VO222

Sample

Misc

	Internal Standards	R.T.	QIon	Response (	Conc U	nits Dev	(Min)
_	1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.43 19.63 25.66	128 114 119	450293 3314080 878455	30.00 30.00 30.00	ug/L	0.00
_	System Monitoring Compounds 25) 1,2-Dichloroethane-d4	18.47	65	1246352	24.98	ug/L	0.00
	Spiked Amount 30.000 35) Toluene-d8	Range 70 22.57	- 120	Recovery		83.27%	0.00
_	35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 70 28.00	- 120 95	Recovery	7 = 26.00	90.67%	0.00
_	margat Compounds					0	. 1

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA\060111\VB021320.D

: 11 Jan 2006 10:10 pm Sample

: 6000606 : Trip Blank

MS Integration Params: TBA.P Quant Time: Jan 12 7:46 2006

Misc

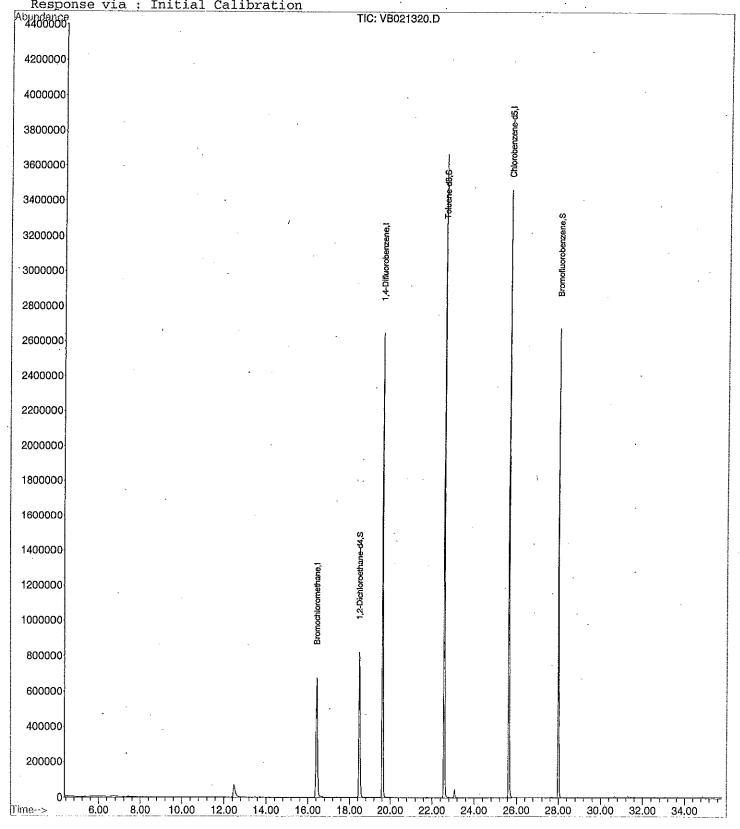
Vial: 10 Operator: Skelton : GC/MS Ins Inst

Multiplr: 1.00

Quant Results File: M2VO222.RES

: C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Method Title

Last Update : Thu Jan 12 07:46:23 2006 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\060111\VB021321.D

Acq On : 11 Jan 2006 10:51 pm

Sample : 6000705

: 906AC MS Integration Params: TBA.P

Inst : GC/MS Ins Multiplr: 1.00

Vial: 11

Operator: Skelton

Quant Time: Jan 12 7:47 2006 Quant Results File: M2VO222.RES

Quant Method : C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 12 07:46:23 2006
Response via : Initial Calibration

DataAcq Meth : M2VO222

Misc

	Internal Standards	R.T.	QIon	Response	Conc U	nits Dev	(Min)
_	1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.44 19.63 25.65	114	447930 3400184 902392	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
_	System Monitoring Compounds	40.45	~-				
	25) 1,2-Dichloroethane-d4 Spiked Amount 30.000	18.47 Range 70		1241826		ug/L	0.00
	35) Toluene-d8	22.57		3683698			0.00
_	Spiked Amount 30.000	Range 70				_	
	49) Bromofluorobenzene	28.00	95	1389266	27.18	ug/L	0.00
	Spiked Amount 30.000	Range 70	- 120	Recove			
	Target Compounds				•.	Ov	alue
	. 44) Ethylbenzene	25.72	91	865653	4.71	ug/L	99
	(45) m+p-Xylenes	26.01	106	70702		ug/L	99
	46) o-Xylene	26.84	91	299933		ug/L	99

Data File : C:\HPCHEM\1\DATA\060111\VB021321.D
Acq On : 11 Jan 2006 10:51 pm

: 6000705

Sample Misc : 906AC

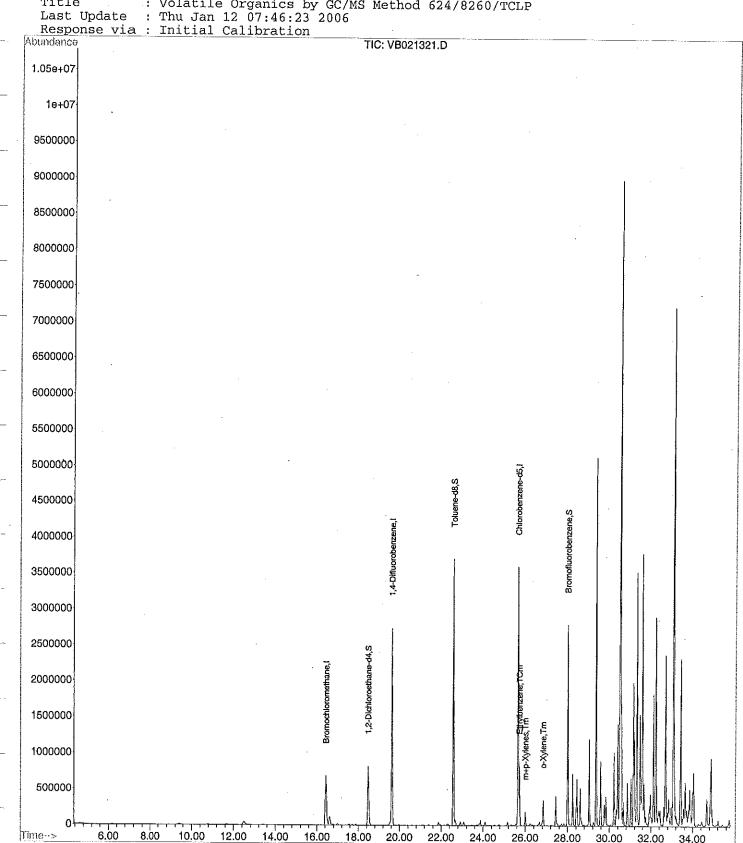
MS Integration Params: TBA.P

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

Multiplr: 1.00

Quant Time: Jan 12 7:47 2006 Quant Results File: M2VO222.RES

Method : C:\HPCHEM\1\METHODS\M2VO222.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP



# VOLATILE ORGANICS (SOIL)

# **VOLATILE ORGANICS ANALYSIS DATA SHEET**

FIELD ID:

MB 17Jan2006

Lab Name: **FMETL** NJDEP#: 13461 Project: 0634880 Case No.: 60007 Location: 906A SDG No.: UST Matrix: (soil/water) SOIL Lab Sample ID: MB\_17Jan2006 Sample wt/vol: (g/ml) G 10.0 Lab File ID: VB021392.D Level: (low/med) MED Date Received: 1/4/2006 % Moisture: not dec. 0 Date Analyzed: 1/17/2006 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

# **CONCENTRATION UNITS:**

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	1000	U
107131	Acrylonitrile	1000	Ū
75650	tert-Butyl alcohol	1000	Ū
1634044	Methyl-tert-Butyl ether	100	Ū
108203	Di-isopropyl ether	100	Ū
75718	Dichlorodifluoromethane	100	Ū
74-87-3	Chloromethane	100	Ū
75-01-4	Vinyl Chloride	100	Ū
74-83-9	Bromomethane	100	Ū
75-00-3	Chloroethane	100	Ū
75-69-4	Trichlorofluoromethane	100	Ū
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	100	Ū
75-09-2	Methylene Chloride	100	Ū
156-60-5	trans-1,2-Dichloroethene	100	Ū
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	100	Ū
78-93-3	2-Butanone	100	Ū
156-59-2	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	100	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
_108-10-1	4-Methyl-2-Pentanone	100	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	100	U
79-00-5	1,1,2-Trichloroethane	100	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	100	Ü
124-48-1	Dibromochloromethane	100	Ū
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	Ū

#### 1A

# **VOLATILE ORGANICS ANALYSIS DATA SHEET**

FIELD ID:

MB 17Jan2006

Lab Name: **FMETL** NJDEP#: 13461 Project: 0634880 Case No.: 60007 Location: 906A SDG No.: UST Matrix: (soil/water) SOIL Lab Sample ID: MB 17Jan2006 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB021392.D Level: (low/med) MED Date Received: 1/4/2006 % Moisture: not dec. 0 Date Analyzed: 1/17/2006 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

### **CONCENTRATION UNITS:**

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			200	U
95-47-6	o-Xylene			100	Ū
100-42-5	Styrene		•	100	Ū
75-25-2	Bromoform			100	Ū
79-34-5	1,1,2,2-Tetrachior	oethane		100	Ü
541-73-1	1,3-Dichlorobenze			100	U ·
106-46-7	1,4-Dichlorobenze			100	Ü
95-50-1	1,2-Dichlorobenze			100	Ü
91-20-3	Naphthalene	-		100	Ü

#### 1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

MB 17Jan2006 Lab Name: FMETL NJDEP#: 13461 Project: 0634880 Case No.: 60007 Location: 906A SDG No.: UST Matrix: (soil/water) SOIL Lab Sample ID: MB 17Jan2006 Sample wt/vol: 10.0 (g/ml) <u>G</u> Lab File ID: VB021392.D Level: (low/med) MED Date Received: 1/4/2006 % Moisture: not dec. 0 Date Analyzed: 1/17/2006 GC Column: RTX502. ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL) **CONCENTRATION UNITS:** (ug/L or ug/Kg) UG/KG Number TICs found: CAS NO. **COMPOUND NAME** RT EST. CONC. Q

### 1A

# **VOLATILE ORGANICS ANALYSIS DATA SHEET**

FIELD ID:

Trip Blank

Lab Name: **FMETL** NJDEP#: 13461 SDG No.: UST Project: 0634880 Case No.: 60007 Location: 906A SOIL Matrix: (soil/water) Lab Sample ID: 6000606 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB021393.D Level: (iow/med) MED Date Received: 1/4/2006 % Moisture: not dec. 0 Date Analyzed: 1/17/2006 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL) (uL)

# **CONCENTRATION UNITS:**

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	1000	U
107131	Acrylonitrile	1000	U
75650	tert-Butyl alcohol	1000	U
1634044	Methyl-tert-Butyl ether	100	U
108203	Di-isopropyl ether	100	U
75718	Dichlorodifluoromethane	100	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	100	U
74-83-9	Bromomethane	100	U
75-00-3	Chloroethane	100	U
75-69-4	Trichlorofluoromethane	100	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	440	
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	100	U
156-60-5	trans-1,2-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	100	U
78-93-3	2-Butanone	100	U
156-59-2	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	100	U
79-01-6	Trichloroethene	100	U.
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	100	Ū٠
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	100	U
108-88-3	Toluene	100	Ų
10061-02-6	trans-1,3-Dichloropropene	100	U
79-00-5	1,1,2-Trichloroethane	100	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	100	U
124-48-1	Dibromochloromethane	100	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	U

#### 1A

(uL)

Soil Extract Volume: 25000

# **VOLATILE ORGANICS ANALYSIS DATA SHEET**

FIELD ID:

Trip Blank

(uL)

Lab Name: **FMETL** NJDEP#: 13461 0634880 SDG No.: UST Project: Case No.: 60007 Location: 906A SOIL Lab Sample ID: 6000606 Matrix: (soil/water) Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB021393.D Level: (low/med) MED Date Received: 1/4/2006 % Moisture: not dec. 0 Date Analyzed: 1/17/2006 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

#### **CONCENTRATION UNITS:**

Soil Aliquot Volume: 125

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			200	U
95-47-6	o-Xylene	,		100	U
100-42-5	Styrene			100	Ų
75-25-2	Bromoform		100	U	
79-34-5	1,1,2,2-Tetrach		100	U	
541-73-1	1,3-Dichloroben	zene		100	U
106-46-7	1,4-Dichloroben	zene	-	100	U
95-50-1	1,2-Dichloroben	zene		100	Ū
91-20-3	Naphthalene			100	Ù

# 1E

# **VOLATILE ORGANICS ANALYSIS DATA SHEET** TENTATIVELY IDENTIFIED COMPOUNDS

FIEL	D	ID:
------	---	-----

Lab Name:	FMETL			NJDEP#: 13461	Trip Blank
Project: <u>0634880</u> Case No.: <u>6000</u>		Case No.: 60007	Location: 906A SD	DG No.: UST	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	6000606
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	/B021393.D
Level: (low/n	ned)	MED		Date Received:	1/4/2006
% Moisture: r	not dec.	0		Date Analyzed:	1/17/2006
GC Column:	RTX5	02. ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volum	ne: <u>125</u> (u

# **CONCENTRATION UNITS:**

(ug/L or ug/Kg)

UG/KG

Number TICs found: 2

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000079-20-9	Acetic acid, methyl ester	12.50	330	JN
2. 001112-39-6	Silane, dimethoxydimethyl-	17.39	460	JN