United States Army

Fort Monmouth, New Jersey

Closure and Site Investigation Report for Underground Storage Tanks In the 600 Area

Main Post-West Area

February 2002

CLOSURE AND SITE INVESTIGATION REPORT FOR UNDERGROUND STORAGE TANKS IN THE 600 AREA

USTS IN THE 600 AREA: 600A, 600B, 611, 615,618, 619, 621, 634 638, 639-2, 640, 641, 644, 664, 666, AND 686

MAIN POST-WEST AREA

FEBRUARY 2002

PREPARED FOR:

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

PREPARED BY:

VERSAR, INC. 2558 PEARL BUCK ROAD, SUITE 1 BRISTOL, PA 19007-6894

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1.0 INTRODUCTION

Versar, Inc. (Versar) was contracted by the United States (U.S.) Army Fort Monmouth (Fort Monmouth), Directorate of Public Works (DPW), Fort Monmouth, New Jersey to prepare UST closure reports at sixty (60) sites at Fort Monmouth, New Jersey. Sixteen (16) of the sites, 600A, 600B, 611, 615, 618, 619, 621, 634, 638, 639-2, 640, 641, 644, 664, 666, and 686, are in the vicinity of Building 600 on the Main Post West Area. These sites cover a relatively small area surrounding Building 600, which has a high level of security. This report summarizes the combined investigation results for these 16 sites. This investigation was conducted in accordance with the Workplan for the 600 Area, which was verbally approved by the NJDEP during a meeting at Fort Monmouth in August 2001.

1.1 Background

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia. In addition to the Main Post, the installation includes two subposts, the Charles Wood Area and the Evans Area. The Main Post (Figure 1) encompasses approximately 630 acres and is generally bounded by State Highway 35, Parkers Creek, Lafetra Brook, the New Jersey Transit Railroad, and a residential area to the south. The post was established during WW I, in 1918, as an Army Signal Corps training center. The Main Post currently provides supporting administrative, training, and housing functions, as well as many of the community facilities for Fort Monmouth. The primary mission of Fort Monmouth is to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command (CECOM). CECOM is a major subordinate command of the U.S. Army Materiel Command (AMC) and is the host tenant at Fort Monmouth. The sites in the vicinity of Building 600 encompass an area of approximately 20 acres. Figure 2 shows the layout of the area and the location of the individual sites in relation to each other.

1.2 Objective

The objective of this report is to summarize the work previously performed in the 600 Area and present the results of the new investigations. The purpose of the investigations was to close the remaining 16 UST sites in the 600 Area.

This report includes:

- A description of soil and groundwater sampling activities conducted during the closure investigation;
- The presentation and summary of the results of previously and newly collected soil samples collected from UST sites in the 600 Area; and



2.0 SITE SETTING

2.1 Site Description

Figure 2 illustrates the 600 Area and the UST sites within the area. Each of the 16 UST sites is associated with a former building in the area. The approximate location of each of the buildings and associated USTs was determined from historical photographs and figures. The USTs each contained No. 2 Fuel Oil for heating the former buildings. The tanks were removed throughout 1994.

The 600 Area is bordered by Saltzman Avenue to the south, Sherrill Avenue to the north, Messenger Avenue to the west, and Irwin Avenue to the east. The area covers approximately 20 acres. The site contains a large military office building with a high level of security that is surrounded by well-groomed landscaping and fencing on three sides. Beyond the immediate Building 600 grounds are paved parking lots, several small support buildings, and secondary roadways. Topography at the site is relatively flat, but is centered over a topographic high, sloping gradually to the northwest.

2.2 Regional Geology

As reported in the RAWA (GES, 1999), Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain Physiographic province. The site is located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands. In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, and gravel. The mineralogy ranges from quartz to glauconite. The New Jersey Coastal Plain formations record several major transgressive/regressive cycles and contain units, which are generally thicker to the southeast and reflect a deeper water environment. Over twenty (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, Marshaltown, and Navesink Formations). The individual thickness for these units varies greatly (i.e., from several ft. to several hundred ft.). The lithologies observed in borings installed within the Main Post area have reportedly consisted of fineto-medium grained sands, with occasional lenses or lamentations of gravel silt and/or clay.

Based on past drilling, the depth to bedrock is greater than twenty (20) ft. A generalized stratigraphic sequence at the site (progressing upward) includes a lower (Sandy Hook) and upper (Shrewsbury) member of the Red Bank sand. The lower member is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite. The

upper is a yellowish-gray to reddish brown clayey, medium-to-coarse grained sand that contains abundant rock fragments, minor mica, and glauconite.

2.3 Hydrogeology

Groundwater has been encountered at depths between two (2) and fourteen (14) ft. below ground surface (bgs) in the 600 area. During soil sampling in the area, unsaturated soils were reportedly encountered up to twelve (12) ft. bgs. Seasonal water table fluctuations are expected to be limited to two (2) to three (3) ft. Fluctuations may also be due to tidal influence (based on proximity to the Atlantic Ocean, rivers, tributaries), the nature of fill material, presence of clay and silt lenses in the overburden, and local recharge areas (streams and lakes). The interbedded sequences of sand and clay transmit water under both confined and unconfined conditions. The intermittent clay strata serve as semiconfining beds, where present. The 600 area is located on a topographic mound, generally causing the groundwater to flow away from Building 600 in all directions.

3.0 SITE CHARACTERIZATION

Soil samples were collected at several of the former UST sites when the tanks were originally removed. Illustrations of each site and analytical data are presented in Figures 4-1 through 4-16. The soil sampling data is also summarized in Table 3-1. Table 3-3 summarizes groundwater sample data collected from wells and by Geoprobe sampling in the area.

3.1 Previous Soil Sampling Summary

Soil samples were collected and analyzed for total petroleum hydrocarbons (TPH) at six of the UST sites in the 600 Area, 600B, 611, 618, 619, 621, and 686. Results of the soil sample analyses are summarized in Table 3-1. This section describes the results in detail.

Six soil samples were collected from the excavation walls at 600B on November 10, 1993. Concentrations of TPH in the six samples ranged from 1,020 mg/kg to 13,000 mg/kg. Two of the locations, A and F, exceeded the Residential Direct Contact Soil Cleanup Criteria (RDCSCC) of 10,000 mg/kg for total organic compounds. On November 15, 1993, soil samples were collected at locations A and F and were analyzed for VOCs. Sample A contained acetone, ethylbenzene, and xylenes. Sample F contained methylene chloride and xylenes. None of the VOCs were detected at concentrations that exceed the RDCSCC.

Two post-excavation samples collected during the August 18, 1994 removal of the UST at Building 611 contained 27.6 and 2,450 mg/kg TPH. Geoprobe samples collected on September 6, 1994 contained up to 2,831 mg/kg TPH. Additional excavation was conducted on December 16, 1994. Samples collected following the excavation activities ranged from no detectable TPH to 57.8 mg/kg TPH. All concentrations were below the guidance concentration.

Soil samples collected on September 6, 1994 from six locations surrounding the former UST excavation at Building 618 contained concentrations of TPH ranging from 1,000 to 5,360 mg/kg. Additional soil removal was conducted on September 22, 1994. Soil samples were collected in six locations correlating to the original six sample locations. Two of soil samples still contained concentrations of TPH above the guidance concentration. On September 27, 1994, following additional soil removal, these two locations were sampled a third time, and one of the locations still had a TPH concentration of 2,920 mg/kg. Additional remediation and sampling was conducted on January 4, 1995 at sample location 618-A. The final post-excavation soil sample contained only 35 mg/kg TPH.

Six soil samples were collected August 25, 1994 from the extent of the UST excavation at former Building 619, and TPH concentrations ranged from 70.6 to 3,060 mg/kg. Additional soil removal was conducted in three areas of the excavation where samples

exceeded the guidance concentration. Results of the second round of soil sampling conducted September 9, 1994 ranged from 45.1 to 543 mg/kg, which is below the 1,000 mg/kg guidance concentration.

Soil samples were collected from the walls of the UST excavation at former building 621 on August 26, 1994. The highest concentration of TPH detected was 174.3 mg/kg. Most of the samples contained non-detectable concentrations of TPH.

On January 18, 1995, six soil samples were collected from the area of the former UST at the former Building 686. The concentrations of TPH detected in these samples ranged from 79.6 to 14,700 mg/kg. Following additional excavation activities on January 27, 1994, soil samples were collected from four locations that exceeded the cleanup criteria. The concentration of TPH was still above cleanup criteria at one location. No additional excavation activities were performed.

3.2 Previous Groundwater Sampling Summary

Six monitoring wells were installed in the vicinity of the 600 area in association with unrelated investigations. Three of the wells, M5-MW15, M5-MW16, and M5-MW25, are located in the northwest corner of the 600 area. Three wells, 699-MW2, 699-MW15, and 616-MW1 are located in the southeast corner of the area. Quarterly samples have been collected from these wells since the time of their installation. Samples were analyzed for volatile and semi-volatile compounds. Because groundwater generally flows away from the center of the 600 area, analytical data collected from these wells located at the edge of the area may be indicative of any impact the former USTs may have had on groundwater quality in the area. The groundwater data is summarized in Table 3-3. This section discusses the data in detail.

Quarterly samples collected from 616-MW1 between April 1997 and December 2001 contained small concentrations of xylenes below NJDEP groundwater quality criteria (GWQC) of 40 ug/L. No other volatile or semi-volatile compounds were detected in this well. Two of the quarterly samples collected from 699-MW15 between November 1995 and December 2001 contained concentrations of methylene chloride below the GWQC of 2 ug/L. Benzene was detected during the June 19, 2001 sample round at a concentrations of 1.33, which exceeds the GWQC. However, benzene was not detected in the two subsequent quarterly sampling rounds. Toluene was also detected in the June 19, 2001 sample at a concentration of 1.82 ug/L, which is below the GWQC.

The first sample collected from 699-MW2 in May 1995 contained several compounds including benzene at a concentration of 3.7 ug/L, which is above the GWQC of 0.2 ug/L. Benzene was detected in only one subsequent sample collected June 19, 2001 and was not detected in the two most recent rounds. Acetone, t-butyl alcohol, methylene chloride, methyl ethyl ketone, toluene, ethyl benzene, and total xylenes were each detected, at low concentrations, during one or more sample rounds. Acetone and methylene chloride are common laboratory contaminants and are not believed to be indicative of site conditions.

Quarterly samples collected from M5-MW25 between April 1999 and September 2001 contained no volatile or semi-volatile compounds except one, chloroform, which was detected during one round at a concentration of 1.47 ug/L, below the GWQC of 6 ug/L. Groundwater collected in September 1999 from M5-MW15 contained tetrachloroethylene at a concentration of 2.15 ug/L, which is greater than the GWQC of 0.4 ug/L. That compound has not been detected in subsequent sample rounds. No other compounds were detected at M5-MW15. Tetrachloroethylene was detected at concentrations ranging from 8.35 ug/L to 639.7 ug/L, each exceeding the GWQC, in samples collected from M5-MW16 between April 1999 and September 2001. No other compounds were detected at M5-MW16.

4.0 SOIL AND GROUNDWATER SAMPLING

Soil samples were collected from each of the 10 former UST excavation areas that either had not yet been investigated, or that required additional investigation. Geoprobe groundwater samples were collected from five locations across the 600 area. The following sections provide the details of the field activities conducted to facilitate closure of all 16 sites in the 600 area.

4.1 Soil Sampling

There were ten UST sites, 600A, 615, 634, 638, 639, 640, 641, 644, 664, and 666, that had not yet been investigated. The historical files for former UST site 600A were unavailable for review. Because the exact location of the former UST is unknown, five soil samples were collected from locations on the north, east, and west sides of the former building 600. The south side of the building has been investigated because it is the location of the former UST 600B. At each of the other nine sites where the former UST location is known, soil samples were collected from the four sides and in the center of each former tank excavation. Soil samples were collected at the depth of the bottom of the former excavation or if the depth is unknown, at the deepest unsaturated depth interval.

Additional sampling was conducted at three of the six sites that were previously investigated. At 600B and 686, previous sample locations contained TPH concentrations that exceed the soil guidance concentration of 1,000 mg/kg. None of the TPH results at 619 exceeded the guidance criteria, however, the two soil samples with the highest concentrations were resampled in order to assess the current conditions at that site. All of the new samples were analyzed for both TPH and VOC.

Prior to soil sampling activities, all sites were marked-out for clearance from underground and overhead utilities. Soil samples were collected using the Geoprobe soil sampling system. All soil samples were screened using a PID in the field and then submitted to the laboratory and analyzed for TPH. Select samples were also analyzed for VOC based on field observations. Soil samples were labeled with the site number followed by consecutive numbers starting with the number 1. Figures labeled 4-1 through 4-16 illustrate the sample locations and sample results at each site.

4.2 Groundwater Sample Collection

Quarterly groundwater monitoring was conducted per usual at the six existing wells in the area, M5-MW15, M5-MW16, M5-MW25, 616-MW1, 699-MW2, and 699-MW15. Groundwater was also collected using the Geoprobe sampling method at five locations strategically located across the 600 Area to complement the existing groundwater quality

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data. The Geoprobe groundwater sample locations and existing monitoring well locations are illustrated on Figure 2.

Groundwater samples were submitted for laboratory analysis of VOCs and SVOCs. Geoprobe locations were resampled a minimum of 30 days after the initial round of sampling.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Soil Sampling Results

On November 15, 2001, five soil samples were collected at 600A located at the former Building 600. TPH was only detected in one of the samples, 600A-5, at a concentration of 381.15 mg/kg. The former UST 600B, also located at former Building 600, was investigated at the time of its removal in November 1993. One of the samples, 600B-1, exceeded the cleanup criteria with a TPH concentration of 13,000 mg/kg. The samples collected November 15, 2001 did not exceed the cleanup criteria, but two of the samples did exceed the guidance criteria of 1,000 mg/kg. Therefore, the soil samples were analyzed for VOCs. Like all of the soil samples collected in the 600 Area, the VOC samples collected at 600B only contained methylene chloride, a common laboratory contaminant.

On September 6, 1994, at the time of the UST removal, three samples collected at 611 contained TPH concentrations above the guidance criteria. Additional soil removal was conducted and subsequent samples collected from 611 on December 16, 1994 contained very low levels of TPH ranging from undetected to 57.80 mg/kg.

None of the five samples collected at each of the former buildings 615, 638, 639, 664, and 666 contained detectable concentrations of TPH.

On September 9, 1994, six samples were collected at 618. None of the samples exceeded the cleanup criteria but they all exceeded the guidance criteria of 1,000 mg/kg. The results ranged from 1,000 to 5,360 mg/kg TPH. Additional soil removal was conducted and new post-excavation samples were collected on September 22, 1994. Only two samples from the subsequent round exceeded the guidance criteria, yet further remediation was conducted and subsequent samples 618A and 618D, collected on September 27, 1994 contained 2,920 mg/kg and non detectable TPH, respectively. After additional excavation, soil from sample location 618A was sampled again on January 4, 1995 and contained only 35 mg/kg TPH.

Site 619 was investigated at the time of the UST removal. Two of the soil samples collected on August 25, 1994 contained concentrations of TPH above the guidance criteria. Samples 619B and 619F contained 1,450 and 3,060 mg/kg TPH, respectively. Additional soil removal was conducted and four of the sample locations were resampled on September 9, 1994. The results of the second round of sampling ranged from 45.10 to 543 mg/kg TPH. The two locations, E and F, that contained the highest concentration of TPH in the 1994 sampling round were resampled and analyzed for TPH and VOC in order to assess current site conditions. Locations E and F contained 701.82 and 295.13 mg/kg TPH, respectively. Both samples contained low levels of chloroform. No other VOCs were detected.

On August 25, 1994, soil samples were collected at 621 when the UST was removed. The sample concentrations ranged from undetectable to 174.30 mg/kg TPH. No additional investigation was necessary at this site.

Soil samples were collected at the former location of the UST at 634 on November 19, 2001. The results ranged from undetectable to 1,079.28 mg/kg TPH, just barely above the guidance criteria. Therefore, the samples were also analyzed for VOCs. The only compound detected was methylene chloride.

Five samples collected from the excavation of former UST 640 on November 8, 2001, contained TPH concentrations ranging from 262.25 to 2,922.48 mg/kg except for location 640-1, which contained 10,757.05 mg/kg. The samples were analyzed for VOCs and only contained low levels of the laboratory contaminant, methylene chloride, found in all other samples.

Soil samples were collected at 641 on October 26, 2001. Only two of the samples contained detectable levels of TPH. The sample locations, 641-2 and 641-5, contained 1,585.49 and 347.79 mg/kg TPH. The two samples were analyzed for VOCs and contained no detectable compounds.

Soil samples were collected at 644 on January 3, 2002. Samples contained between 4,616.22 and 8,903.10 mg/kg TPH. One of the sample locations, 644-1, was analyzed for VOCs and contained no volatile compounds.

Six post-excavation soil samples were collected from 686 at the time of UST removal. Results ranged from 79.60 to 14,700 mg/kg TPH. Following additional soil removal four of the locations were resampled and contained TPH concentrations ranging from 236 at 686-E to 1,400 mg/kg at 686-F. The location 686-F was resampled on November 15, 2001 for TPH and VOC analyses. Soil sample F contained 337.76 mg/kg TPH and no detectable VOCs.

5.2 Groundwater Sample Results

The results of the long term monitoring are summarized in section 3.2: Previous Groundwater Sampling Summary. Five of the six wells contain no compounds above GWQC. MW5-MW16 has exceeded the GWQC for tetrachloroethylene in every round collected between April 1999 and September 2001. No other compounds have been detected in groundwater from that well.

Geoprobe groundwater samples were collected at five locations, 600GW-1 through 600GW-5, throughout the 600 area on January 3, 2002 and February 5, 2002. Samples collected at 600GW-1 contained no compounds above method detection limits. The first sample collected at 600GW-2 contained three compounds, naphthalene, 2-methylnaphthalene, and dibenzofuran at concentrations of 89.36 ug/L, 35.38ug/L, and 1.37 ug/L, respectively. The second round collected at 600GW-2 contained acenaphthene

at 1.03 ug/L. Groundwater collected at 600GW-3 contained no detectable compounds during the first sample round and four compounds, 3.58 ug/L of naphthalene, 29.64 ug/L of 2-methylnaphthalene, 1.11 ug/L of acenaphthene, and 2.19 ug/L of phenanthrene, during the second round. There were no compounds detected in the first round collected at 600GW-4. The second round collected from 600GW-4 contained 1.11 ug/L 1,4-dichlorobenzene and 1.92 ug/L 1,2-dichlorobenzene. Several compounds were detected at 600GW-5 during the first round of sample collection, but no compounds were detected at that location during the second round. None of the compounds detected in the geoprobe groundwater samples during either round of sampling exceeded GWQC. The sample results are summarized in Table 3-3.

5.3 Recommendations

Based on soil sampling results, there was only one soil sample collected in the 600 Area that exceeds NJDEP soil cleanup criteria. Sample location 640-1 contained 10,757.05 mg/kg TPH. However, this sample was analyzed for VOCs and contained only one volatile compound, methylene chloride, at very low concentrations that did not exceed the soil cleanup criteria. Methylene chloride is a common laboratory contaminant that is not considered indicative of site conditions. Given that the concentration of TPH detected at 640-1 only slightly exceeded the soil cleanup criteria and the given absence of VOCs in the sample, we respectfully recommend that further action is not necessary at this location. Therefore, no further action is recommended at the 16 individual UST sites in the 600 Area.

Based on groundwater sample results, groundwater collected at the five Geoprobe sample locations has not been impacted by the presence of the former USTs in the 600 Area. Groundwater at one well, MW5-MW16, contains one compound of concern that exceeds the NJDEP GWQC. However, this well is being continuously monitored in association with the investigation at Area M5. Therefore, no further action is recommended for the former USTs in the 600 Area.

New Jersey Department of Environmental Protection

Site Remediation Program UST Site/Remedial Investigation Report Certification Form

A. Facility Name: U.S. Army Fort Monmouth New Jersey						
- Facility Street Address : <u>Di</u>	rectorate of Public V	Works Building 173				
Municipality: Oceanport		County : Mor	nmouth			
Block:Lo	ot(s):		Telephone Number : 732-532-6224			
B. Owner (RP)'s Name:						
			City:			
State:	Zip:	Telephone Number :				
C. (Check as appropriate) Site Investigation	D. (Complete all	that apply) e Manager: Ian Curtis, F	ederal Case Manager			
Report (SIR) \$500 Fee	S	UST Registration Number				
Remedial Investigation	600A	81533-83				
Report (RIR) \$1000 Fee	600B	81533-212	93-11-9-0923-00			
X NA – Federal Agreement	611	81533-212	94-8-18-1613-35			
	615	81533-89				
	618	81533-91	94-8-19-1612-06			
	619	81533-92	94-08-24-1320-18			
	621	81533-94	94-08-25-1302-00			
	634	(NA)	94-10-21-0841-16			
	638	(NA)	94-10-21-0841-16			
	639	(NA)	•			
	640	(NA)	94-10-21-0841-16			
	641	(NA)	94-10-21-0841-16			
	644	(NA)				
	664	(NA)				
	666	(NA)				
	686	81533-107	94-12-08-1040-10			
	Tank Closure	Number: Federal Case Mana	ager			

Name: Dinker Desai	Signature:	UST Cert. No.: 10173	
Firm: U.S. Army, Fort Monmou	th	Firm's UST Cert. Number: 10173	····
Firm Address: Bldg. 173	City: Fort Monmouth		
State: NJ Zip	: <u>07703</u> Telepho	one Number : (732) 532-1475	
(NOTE: Certification numbers req	uired only if work was conducted	d on USTs regulated per N.J.S.A. 58:10A-21 et seq	(.)
 For a Corporation by a persor resolution, certified as a true of the corporation of the certified as a true of the c	n authorized by a resolution of the corporation of the secretary of the corporation of the secretary of the corporation of the public agency by either senalty of law that I have personapplication and all attached documentation and the information, I believe ware that there are significant civilitation and that I am committing to do not believe to be true. I am atute, I am personally liable for the	er a principal executive officer or ranking elected O sonally examined and am familiar with the informations, and that based on my inquiry of those indivive that the submitted information is true, accurated penalties for knowingly submitting false, inaccurated a crime of the fourth degree if I make a written make a ware that if I knowingly direct or authorism.	on; or official. mation viduals te, and ate, or n false ize the ublic Works

Tables

Table 3-1 Summary of Soil Sampling Results for TPH Analysis

			TPH
Sample	Sample	Sample ID	Concentration
Site ID	Date	Sumple ID	(mg/kg)
600A	11/15/01	1	ND
	11/15/01	2	ND
	11/15/01	3	ND
	11/15/01	. 4	ND
	11/15/01	5	381.15
ĺ	1		ND
600B	11/10/93	A	13,000.00
	11/10/93	В	1,020.00
	11/10/93	C	2,600.00
	11/10/93	D	4,020.00
	11/10/93	E	2,480.00
	11/10/93	F	7,200.00
	11/15/01	1	840.17
1	11/15/01	2	3,521.65
	11/15/01	3	ND
	11/15/01	4	ND
	11/15/01	5	401.04
•	11/15/01	6	6,137.04
	11/15/01	DUP	ND
611	08/18/94	P-1	2,450.00
	08/18/94	P-2	27.60
	09/06/94	Α	ND
	09/06/94	В	2,831.00
	09/06/94	· C	1,160.00
	09/06/94	D	348.00
	09/06/94	E	554.00
	09/06/94	F	752.00
	09/06/94	G	47.30
	09/06/94	G (dup)	143.50
	09/06/94	H	1,030.00
	12/16/94	A1	9.52
	12/16/94	B1	29.40
	12/16/94	C1	57.80
	12/16/94	G1	ND
	12/16/94	H1	15.90
615	11/19/01	. 1	ND
	11/19/01	2	ND
	11/19/01	3	ND
	11/19/01	4	ND
	11/19/01	5	ND
	11/19/01	DUP	ND

Table 3-1 Summary of Soil Sampling Results for TPH Analysis

G 1			TPH	
Sample	Sample	Sample ID	Concentration	
Site ID	Date		(mg/kg)	
618	09/06/94	A	3,940.00	
	09/06/94	В	1,000.00	
	09/06/94	C	1,240.00	
	09/06/94	D	4,390.00	
	09/06/94	Е	5,360.00	
	09/04/94	F	4,860.00	
	09/22/94	A	1,050.00	
1	09/22/94	В	214.00	
	09/22/94	C	164.00	
	09/22/94	D	2,810.00	
	09/22/94	Е	15.90	
	09/22/94	F	33.00	
	09/27/94	A	2,920.00	
1	09/27/94	D	ND	
	01/04/95	A	35.00	
619	08/25/94	A	154.00	
1	08/25/94	В	1,450.00	
	08/25/94	C	70.60	
İ	08/25/94	D	555.00	
	08/25/94	Е	858.00	
	08/25/94	F	3,060.00	
	09/09/94	B1	84.00	
	09/09/94	C1	45.10	
	09/09/94	E1	543.00	
	09/09/94	F1	113.00	
1	10/12/01	E	701.82	
	10/12/01	F	295.13	
621	08/25/94	A	ND	
1	08/25/94	В	ND	
	08/25/94	С	ND	
	08/25/94	D	ND	
	08/25/94	Е	42.30	
	08/25/94	F	ND	
	08/25/94	G (dup of A)	36.50	
1	08/25/94	H_	174.30	

Table 3-1 Summary of Soil Sampling Results for TPH Analysis

			r	
Sample	Sample		TPH	
Site ID	Date	Sample ID	Concentration	
Site 1D	Date		(mg/kg)	
634	11/19/01	1	ND	
	11/19/01	2	ND	
	11/19/01	3	713.28	
	11/19/01	4	ND	
	11/19/01	5	721.34	
	11/19/01	DUP	1,079.28	
638	10/13/01	1	ND	
	10/13/01	2	ND	
	10/13/01	3	ND	
	10/13/01	4	ND	
	10/13/01	5	ND	
	10/13/01	DUP	ND	
639	10/13/01	1	ND	
	10/13/01	2	ND	
	10/13/01	3	ND	
	10/13/01	4	ND	
	10/13/01	5	ND	
	10/13/01	DUP	ND	
640	11/08/01	1	10,757.05	
	11/08/01	2	287.44	
	11/08/01	3	2,478.86	
	11/08/01	4	240.79	
	11/08/01	5	262.25	
	11/08/01	DUP	2,922.48	
641	10/26/01	1	ND	
	10/26/01	2	1,585.49	
	10/26/01	3	ND	
	10/26/01	4	ND	
	10/26/01	5	347.79	
	10/26/01	DUP	ND	

Table 3-1 Summary of Soil Sampling Results for TPH Analysis

			ТРН	
Sample	Sample	Sample ID	Concentration	
Site ID	Date	•	(mg/kg)	
644	10/12/01	1	1,297.72	
	10/12/01	2	3,203.55	
	10/12/01	3	308.93	
	10/12/01	4 .	5,166.71	
	10/12/01	5	ND	
	01/03/02	1	8,903.10	
	01/03/02	2	6,921.76	
ļ	01/03/02	3	7,243.03	
	01/03/02	4	7,616.32	
_	01/03/02	· 5	4,616.22	
664	11/14/01	1	ND	
	11/14/01	2	ND	
	11/14/01	3	ND	
	11/14/01	4	ND	
	11/14/01	5	ND	
	11/14/01	DUP	ND	
666	11/14/01	1	ND	
	11/14/01	2	ND	
	11/14/01	3	ND	
	11/14/01	4	ND	
	11/14/01	5	ND	
	11/14/01	DUP	ND	
686	01/18/95	A	79.60	
	01/18/95	В	14,700.00	
	01/18/95	C	174.00	
	01/18/95	D	4,400.00	
	01/18/95	E	2,900.00	
	01/18/95	F	3,200.00	
1	01/18/95	G (dup of F)	1,600.00	
	01/27/95	В	667.00	
	01/27/95	D	342.00	
	01/27/95	Е	236.00	
	01/27/95	F	1,400.00	
	11/15/01	piping	256.62	
	11/15/01	686/8'	337.76	
ND = Not de	tected above n	nethod detection li	mits.	

Table 3-2 **Summary of Soil Sampling Results for VOCs**

Sample	Sample	Sample			Ethyl-	Methylene	Total
Site ID	Date	ID	Acetone	Chloroform	benzene	Chloride	Xylenes
RDCSCC			1000	19	1000	49	410
600B	11/15/93	A2	0.28	ND	4.50	ND	17.40
	11/15/93	F2	ND	ND	ND	0.20	0.41
	11/15/01	1	ND	ND	ND	1.20	ND
]	11/15/01	2	ND	ND	ND	0.66	ND
	11/15/01	3	ND	ND	ND	0.36	ND
	11/15/01	4	ND	ND	ND	0.34	ND
	11/15/01	5	ND	ND	ND	ND .	ND
619	10/12/01	Е	ND	0.87	ND	ND	ND
	10/12/01	F	ND	6.8	ND	ND	ND
634	11/19/01	1	ND	ND	ND	ND	ND
	11/19/01	2	ND	ND	ND	0.28	ND
	11/19/01	3	ND	ND	ND	0.29	ND
	11/19/01	4	ND	ND	ND	0.33	ND
	11/19/01	5	ND	ND	ND	0.40	ND
640	11/08/01	1	ND	ND	ND	1.50	ND
	11/08/01	2	ND	ND	ND	0.69	ND
	11/08/01	3	ND	ND	ND	0.49	ND
	11/08/01	4	ND	ND	ND	0.40	ND
	11/08/01	5	ND	ND	ND	0.33	ND
641	10/26/01	2	ND	ND	ND	ND	ND ·
	10/26/01	5	ND	ND	ND	ND	ND
644	10/26/01	1	ND	ND	ND	ND	ND
	10/26/01	2	ND	ND	ND	ND	ND
	10/26/01	3	ND	ND	ND	ND	ND
	10/26/01	^ 4	ND	ND	ND	ND	ND
	10/26/01	5	ND	ND	ND	ND	ND
686	11/15/01	686	ND	ND	ND	ND	ND

All results reported in mg/kg.
RDCSCC =NJDEP Residential Direct Contact Soil Celanup Criteria (mg/kg)

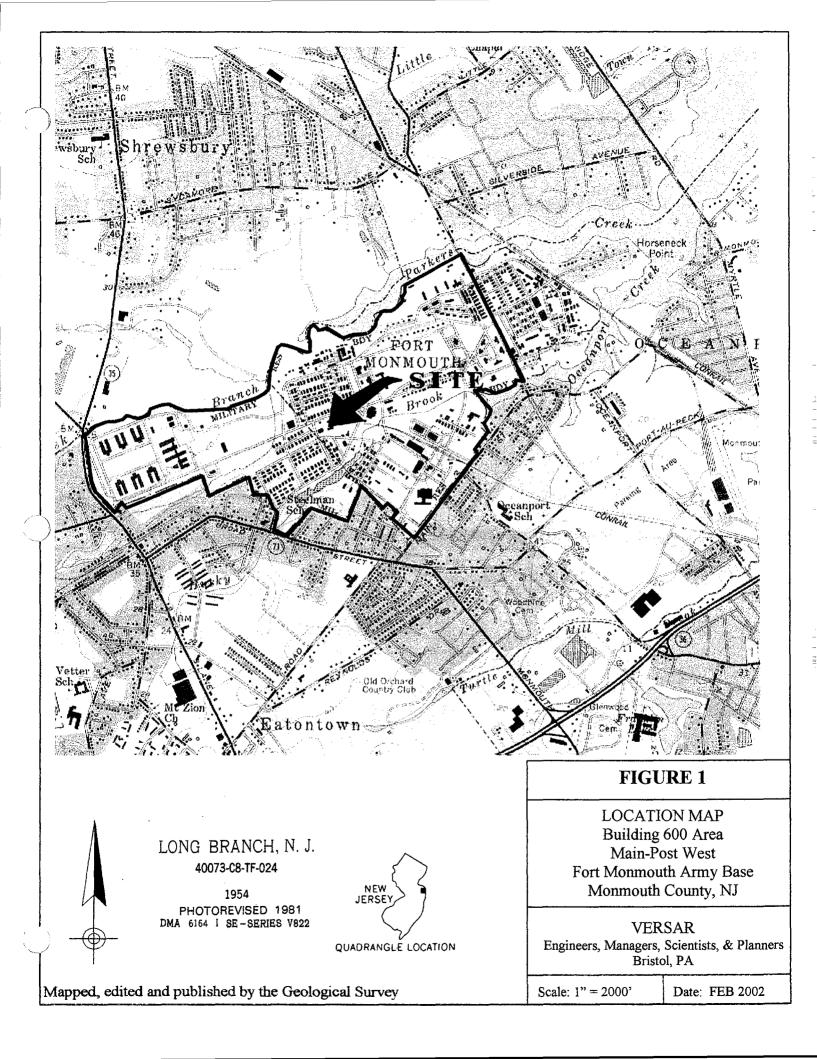
Table 3-3 Summary of Groundwater Data in the 600 Area

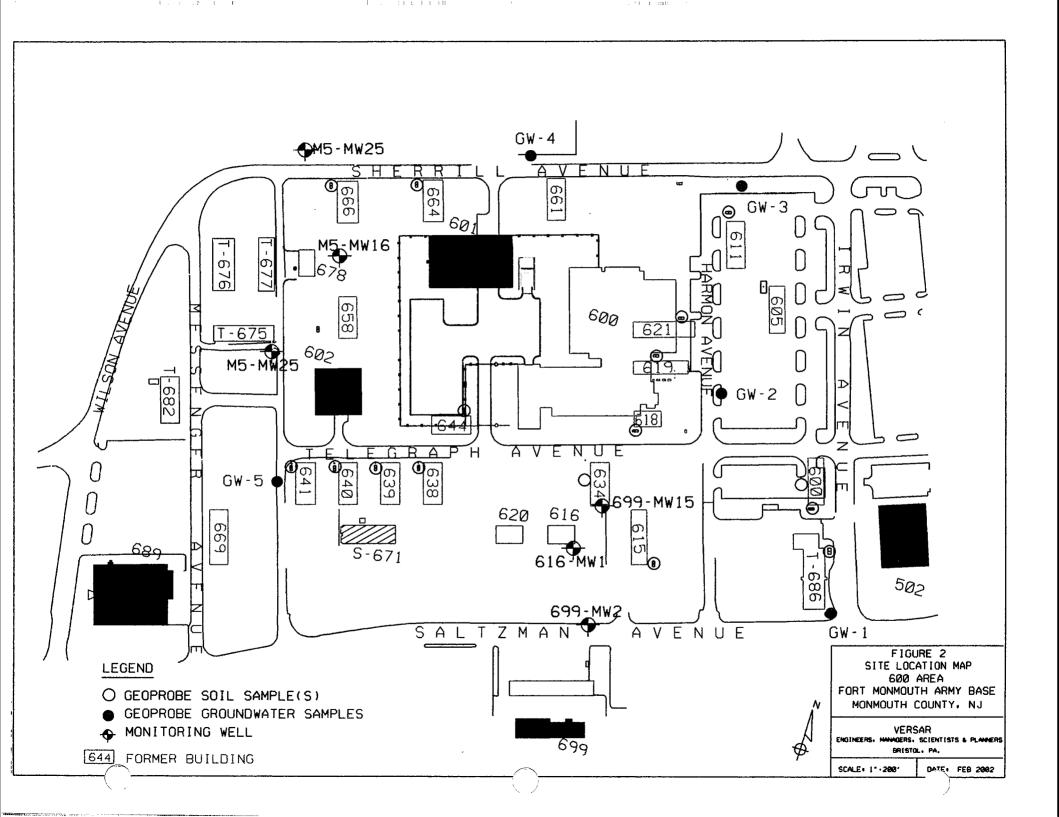
Monitoring Well	Sample Date	t-butyl alcohol	acetone	methylene chloride	MEK	benzene	toluene	ethyl-benze	total xylenes
616-MW1	04/02/97	ND	ND	ND	ND	ND	ND	ND	ND
	04/02/97	ND	ND	ND	ND	ND	ND	ND	ND
	07/16/97	ND	ND	ND	ND	ND	ND	ND	ND
	07/16/97	ND	ND	ND	ND	ND	ND	ND	ND
	10/07/97	ND	ND	ND	ND	ND	ND	ND	ND
	10/07/97	ND	ND	ND	ND ND	ND ND	ND	ND ND	ND ND
	01/09/98 01/09/98	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
	06/09/98	ND ND	ND	ND ND	ND ND	ND	ND	ND ND	ND ND
	06/09/98	ND	ND	ND	ND ND	ND	ND	ND ND	ND
	07/29/98	ND	ND	ND	ND	ND	ND.	ND ND	ND
	07/29/98	ND	ND	ND	ND	ND	ND	ND	ND
	12/30/98	ND	ND	ND	ND	ND	ND	ND	ND
	12/30/98	ND	ND	ND	ND	ND	ND	ND	ND
	03/09/99	ND	ND	ND	ND	ND	ND	ND	ND
!	06/28/99	ND	ND	ND	ND	ND	ND	ND	3.91
	09/24/99	ND	ND	ND	ND	ND	ND	ND	19.8
	11/30/99	ND	ND	ND	ND	ND	ND	ND	6.95
:	03/29/00	ND	ND	ND	ND	ND	ND	ND	ND
	06/16/00	ND	ND	ND	ND	ND	ND	ND	2.27
	09/07/00	ND	ND	ND	ND	ND	ND	ND	
	12/28/00	ND	ND	ND	ND	ND	ND	ND	
	03/21/01	ND	ND	ND	ND	ND	ND	ND	ND
	06/19/01	ND	ND	ND	ND	ND	ND	ND	ND
	08/30/01	ND	ND	ND	ND	ND	ND	ND	1.17
	12/13/01	ND	ND	ND	ND	ND	ND	ND	ND
699-MW15	11/21/95	ND	ND	0.8	ND	ND ND	ND ND	ND ND	ND ND
	11/21/95	ND	ND ND	0.8 0.7	ND ND	ND ND	ND ND	ND ND	ND ND
	02/20/96 02/20/96	ND ND	ND ND	0.7	ND	ND	ND ND	ND	ND
	05/22/96	ND	ND	NA	ND ND	ND	NA	ND	ND ND
	05/22/96	ND	ND	NA	ND	ND	NA	ND ND	ND
	10/01/96	ND	ND	NA	ND	ND	NA	ND	ND
	10/01/96	ND	ND	NA	ND	ND	NA	ND	ND
	01/13/97	ND	ND	NA	ND	ND	NA	ND	ND
	01/13/97	ND	ND	NA	ND	ND	NA	ND	ND
	04/02/97	ND	ND	ND	ND	ND	ND	ND	ND
	04/02/97	ND	ND	ND	· ND	ND	ND	ND	ND
	07/16/97	ND	ND	ND	ND	ND	ND	ND	ND
	07/16/97	ND	ND	ND	ND	ND	ND	ND	ND
	10/07/97	ND	ND	ND	ND	ND	ND	ND	ND
	10/07/97	ND	ND	ND	ND	ND	· ND	ND	ND
	01/09/98	ND	ND	ND	ND	ND	ND	ND	ND
l	01/09/98	ND	ND	ND	ND	ND	ND	ND	ND ND
	06/09/98	ND	ND ND	ND	ND ND	ND ND	ND ND	ND ND	ND ND
	06/09/98	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
	07/29/98 07/29/98	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND
			1		ND ND	ND	ND	ND	ND ND
	12/30/98 12/30/98	ND	ND ND	ND ND	ND ND	ND	ND	ND ND	ND ND
	03/09/99	ND	ND	ND	ND.	ND	ND	ND ND	ND
	06/28/99	ND	ND	ND	ND	ND	ND	ND	ND
	09/24/99	ND	ND	ND	ND	ND	ND	ND	1
	11/30/99	ND	ND	ND	ND	ND	ND	ND	Į.
	03/29/00	ND	ND	ND	ND	ND	ND	ND	1
	06/16/00	ND	ND	ND	ND	ND	ND	ND	ND
	09/07/00	ND	ND	ND	ND	ND	ND	ND	ND
	12/28/00	ND	ND	ND	ND	ND	ND	ND	ND
	03/12/01	ND	ND	ND	ND	ND	ND	ND	ND
	06/19/01	ND	ND	ND	ND	1.33	1.82	ND	ND
	08/30/01	ND	ND	ND	ND	ND	ND	ND	1
	12/13/01	ND	ND	ND	ND	ND	ND	ND	ND
Standards:		5	700	2	300	0.2	1000	700	40

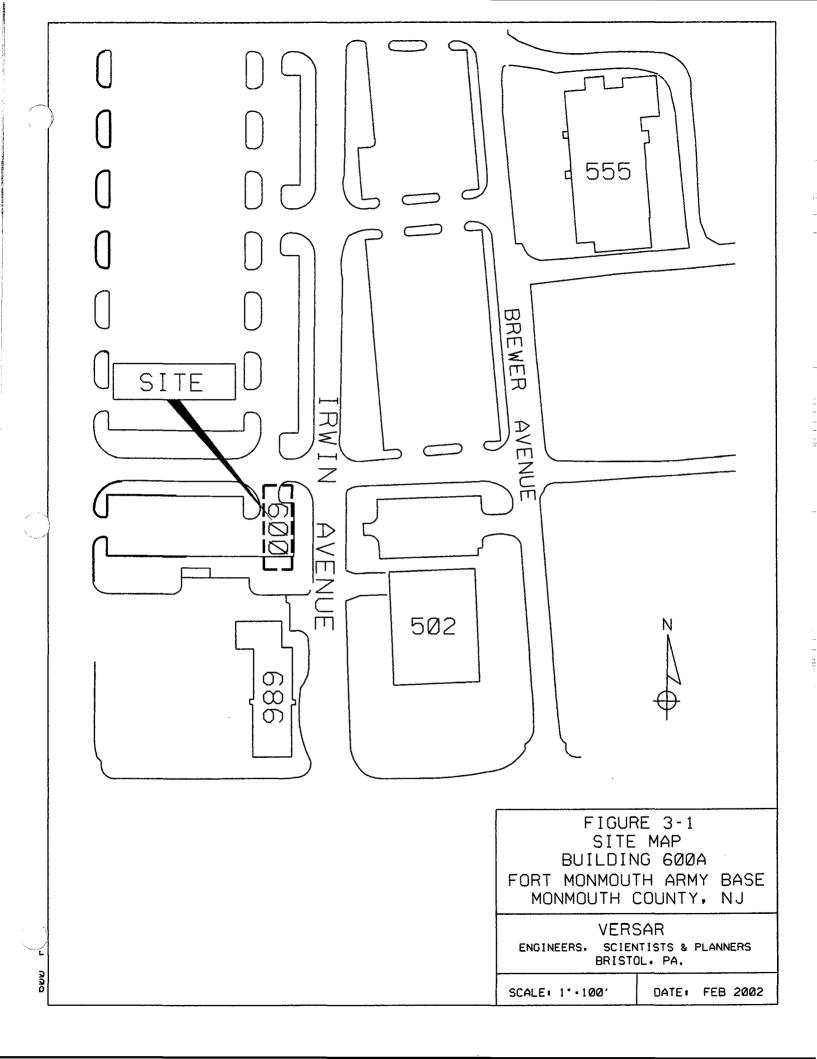
Table 3-3
Summary of Groundwater Data in the 600 Area

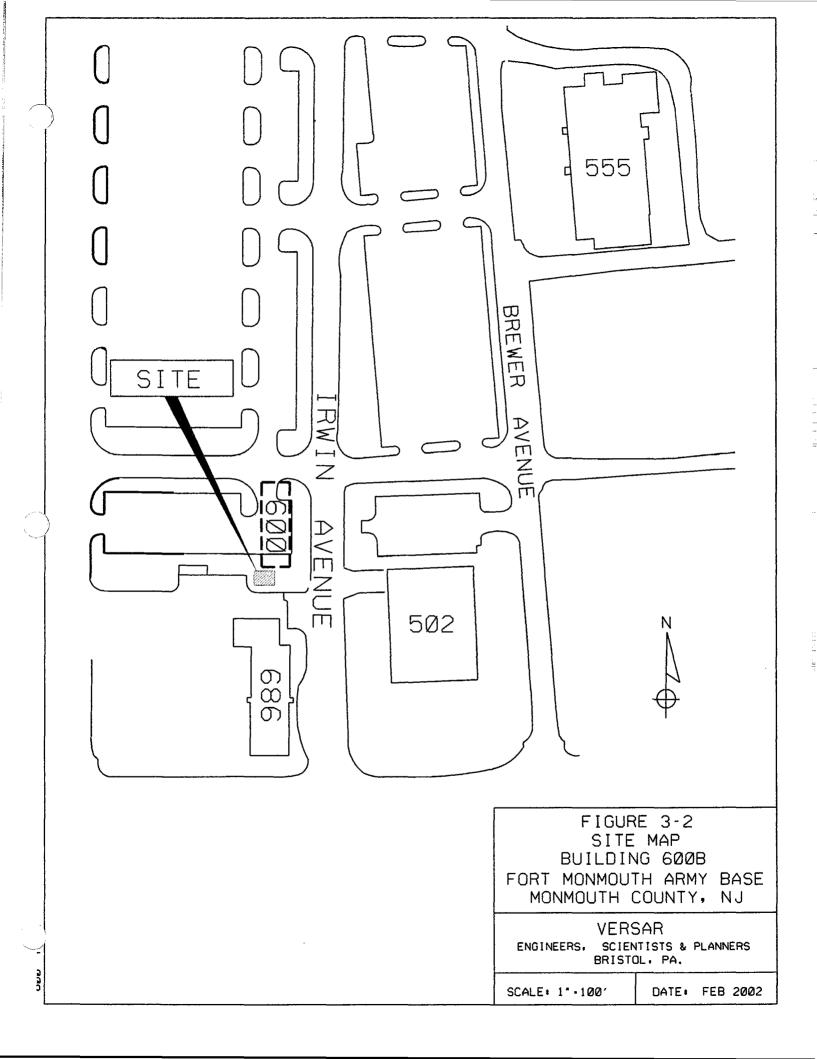
Monitoring Well	Sample Date	t-butyl	acetone	methylene	MEK	benzene	toluene	ethyl-benze	total xylenes
	•	alcohol		chloride				_	
699-MW2	05/24/95	2.0	NA	1.0	ND	3.7	16	4.3	24
	05/24/95	2.0	NA	1.0	ND	3.7	16	4.3	24
	08/16/95	ND	NA	1.7	ND	ND	ND	ND	ND
	08/16/95	ND	NA	1.7	ND	ND	ND	ND	ND
	11/20/95	ND	NA	0.8	ND	ND	ND	ND	ND
	11/20/95	ND	NA	0.8	ND	ND	ND	ND	ND
	02/21/96	ND	NA	0.8	ND	ND	ND	ND	
	02/21/96	ND	NA	0.8	ND	ND	ND	ND	ND
	05/22/96	NA	NA	NA	ND	NA NA	NA	NA	NA
	05/22/96	NA	NA	NA	ND	NA	NA		NA.
	10/01/96	NA	NA	NA	ND	NA	NA	NA	NA NA
	10/01/96	NA	NA	NA	ND	NA	NA	NA	NA
	01/13/97	NA	NA	NA	ND	NA	NA	NA	NA
	01/13/97	NA	NA	NA	ND	NA	NA	NA	NA
	04/02/97	ND	ND	ND	ND	ND	ND	ND	ND
	04/02/97	ND	ND	ND	ND	ND	ND	ND	ND
	07/16/97	ND	ND	ND	ND	ND	ND	ND	ND
	07/16/97	ND	ND	ND	ND	ND	ND	ND	ND
	10/07/97	ND	. ND	ND	ND	ND	ND	ND	ND
	10/07/97	ND	ND	ND	ND	ND	ND	ND	ND
	01/09/98	ND	ND	ND	ND	ND	ND	ND	ND
	01/09/98	ND	ND	ND	ND	ND	ND		ND
	06/08/98	ND	8.40	ND	ND	ND	ND	ND	ND
	06/08/98	ND	8.40	ND	ND	ND	ND	ND	ND
	07/29/98	ND	ND	ND	3.72	ND	ND	ND	ND
	07/29/98	ND	ND	ND	3.72	ND	ND	ND	ND
	12/30/98	ND	ND	ND	ND	ND	ND		ND
	12/30/98	ND	ND	ND	ND	ND	ND	ND	ND
	03/10/99	ND	ND	ND	ND	ND	ND	ND	ND
;	06/28/99	ND	ND	ND	ND	ND	ND	ND	ND
	09/25/99	ND	ND	ND	ND	ND	ND	ND	ND
	11/30/99	ND	ND	ND	ND	ND	ND	ND	ND
	03/29/00	ND	ND	ND	ND	ND	ND	ND	ND
	06/16/00	ND	ND	ND	ND	ND	ND	ND	ND
	09/07/00	МD	ND	ND	ND	ND	ND		ND
	12/28/00	ND	ND	ND	ND	ND	ND	ND	ND
	03/12/01	ND	ND	ND	ND	ND	ND	ND	ND
	06/19/01	ND	ND	ND	ND	4.77	24.25	4.29	18.31
	08/30/01	ND	ND	1.84	ND	ND	ND	ND	ND
	12/13/01	ND	ND	ND	ND	ND	ND	ND	ND
Standards:		5	700	2	300	0.2	1000	700	40

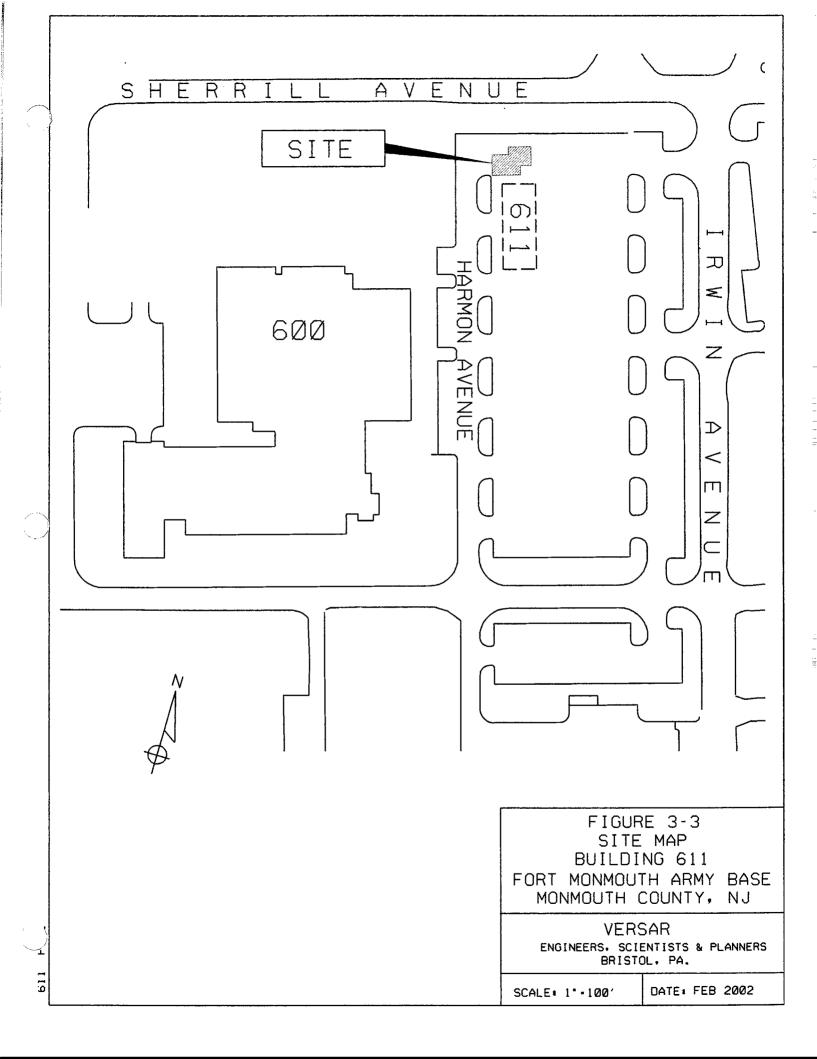
Figures 1

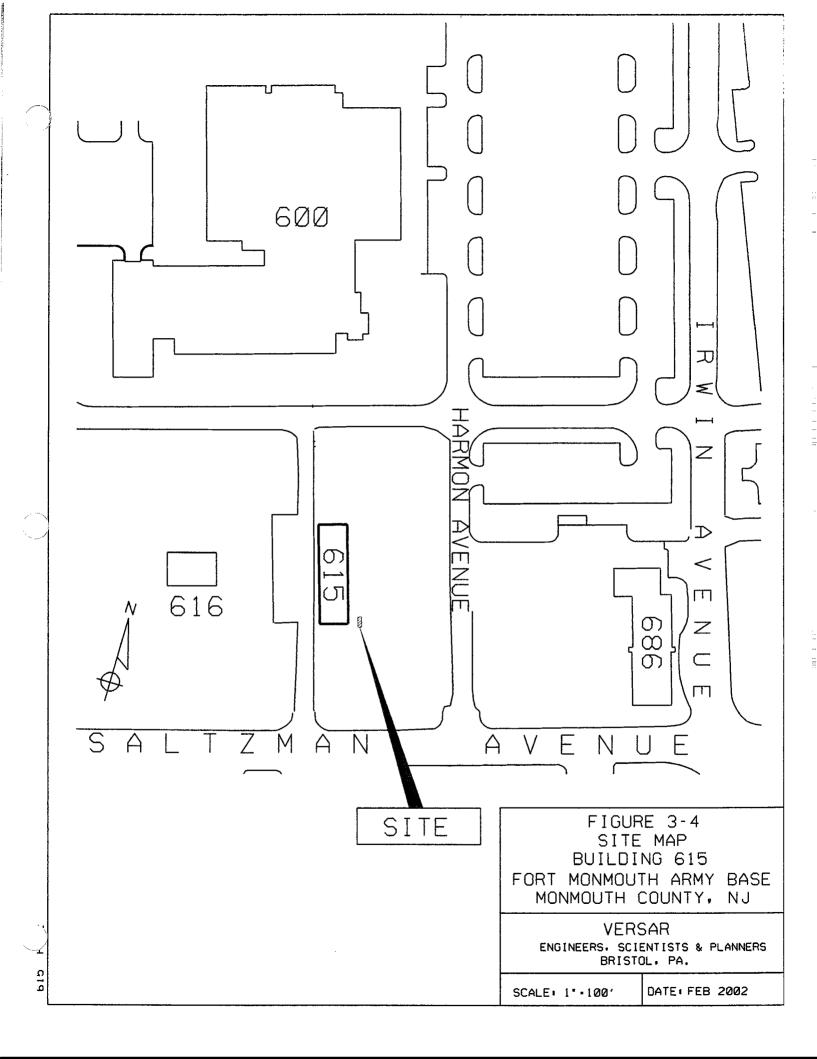


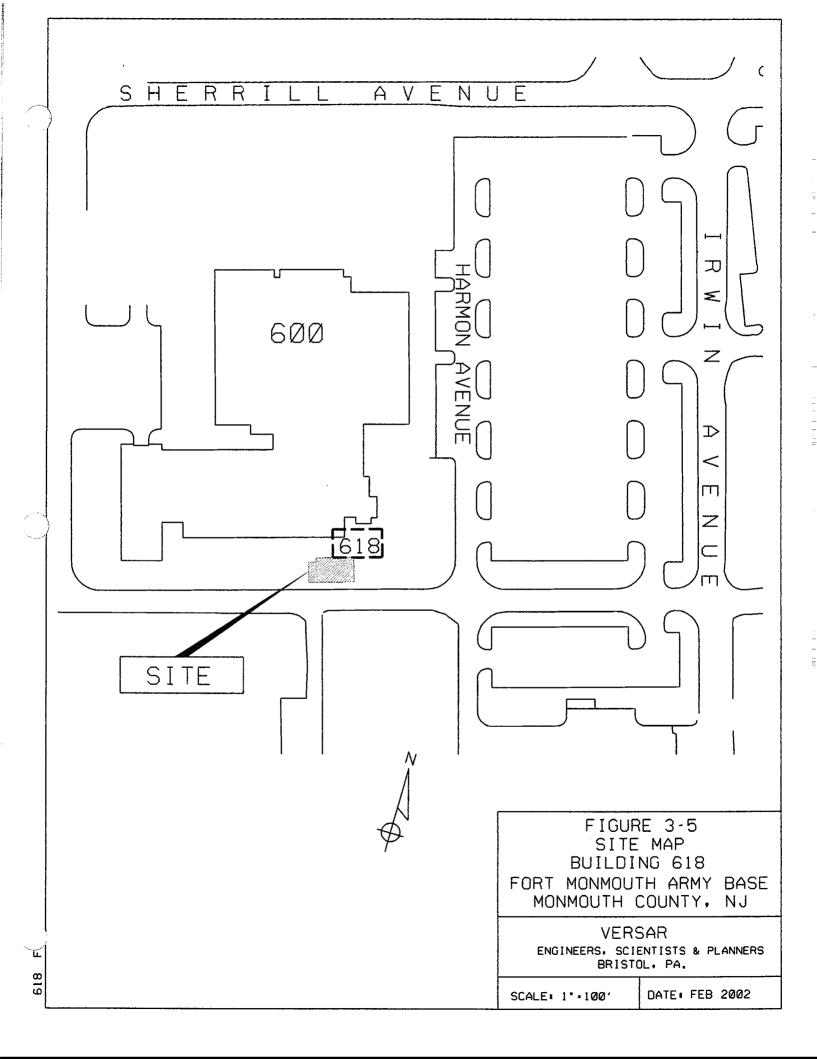


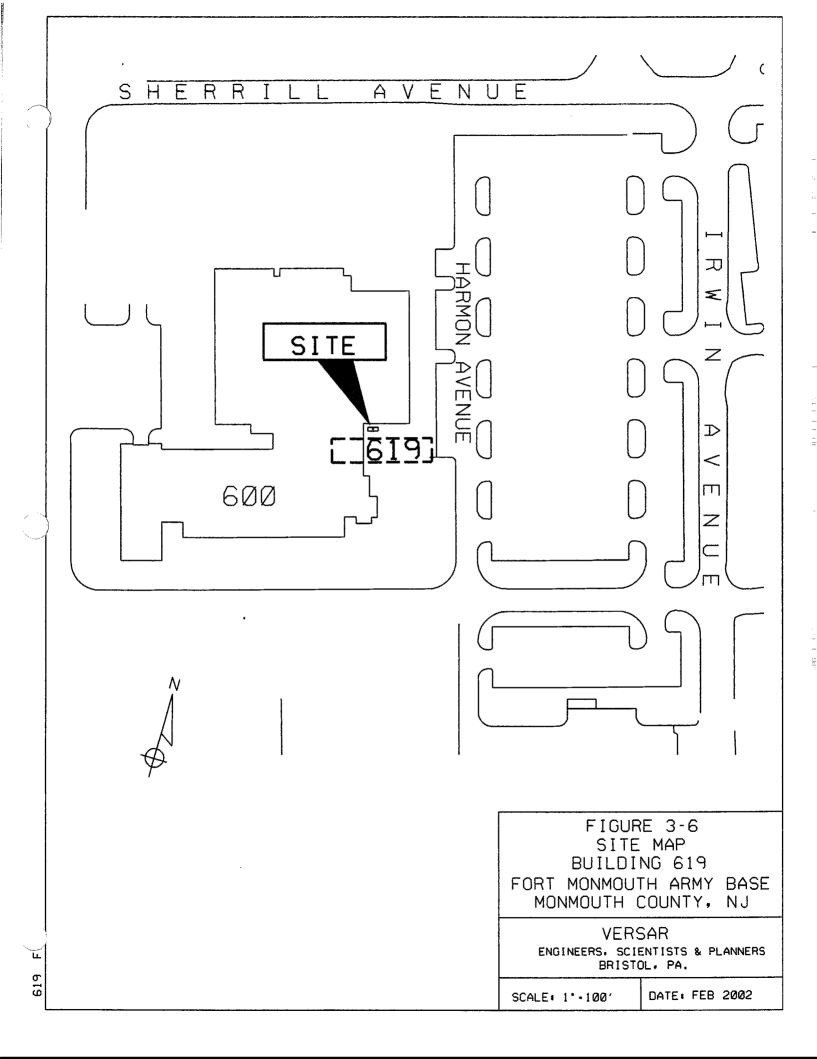


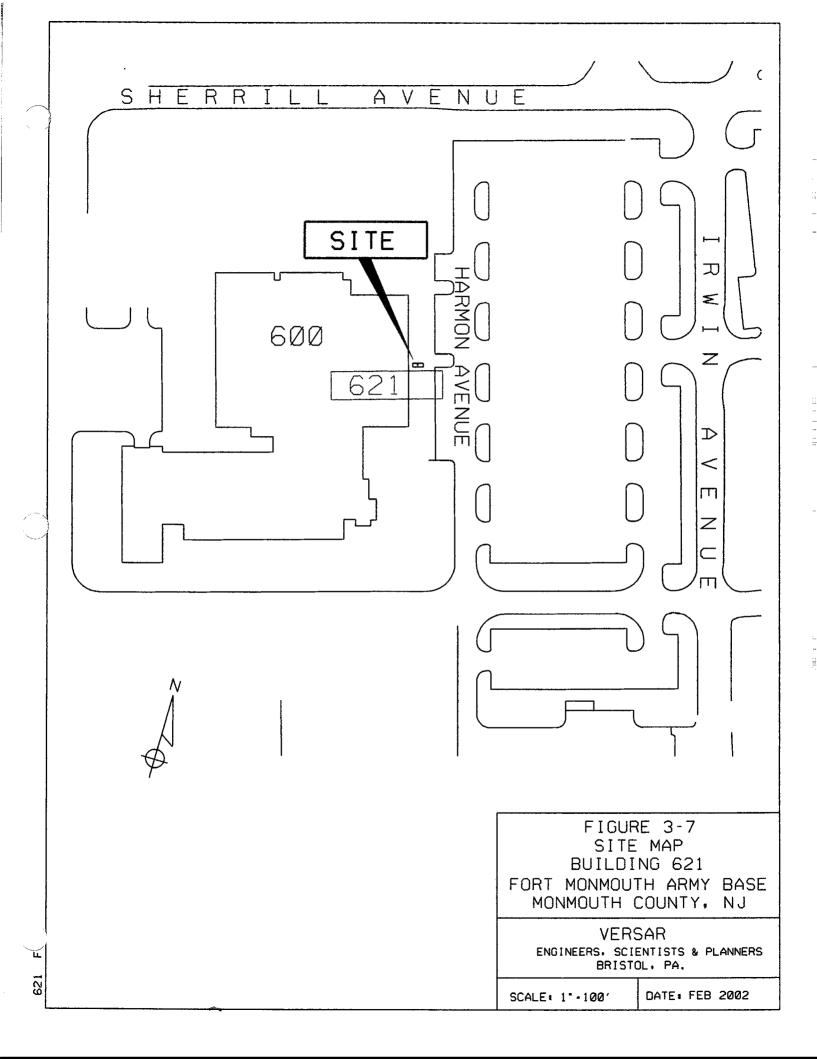


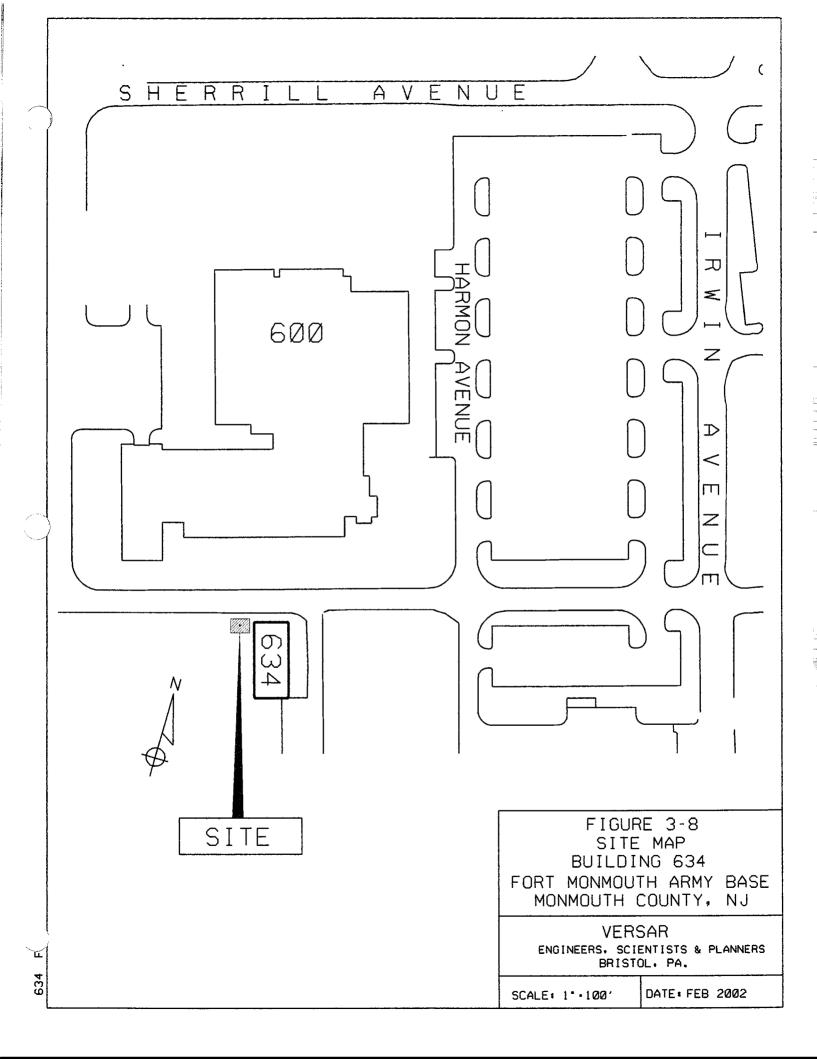


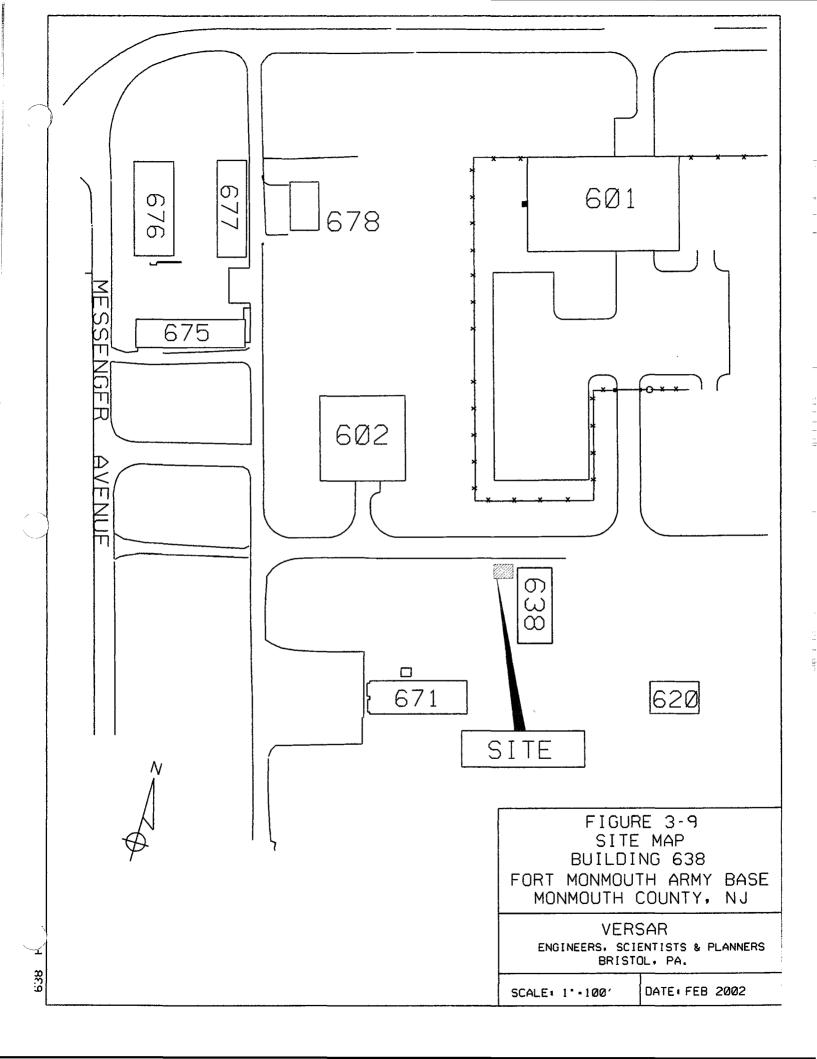


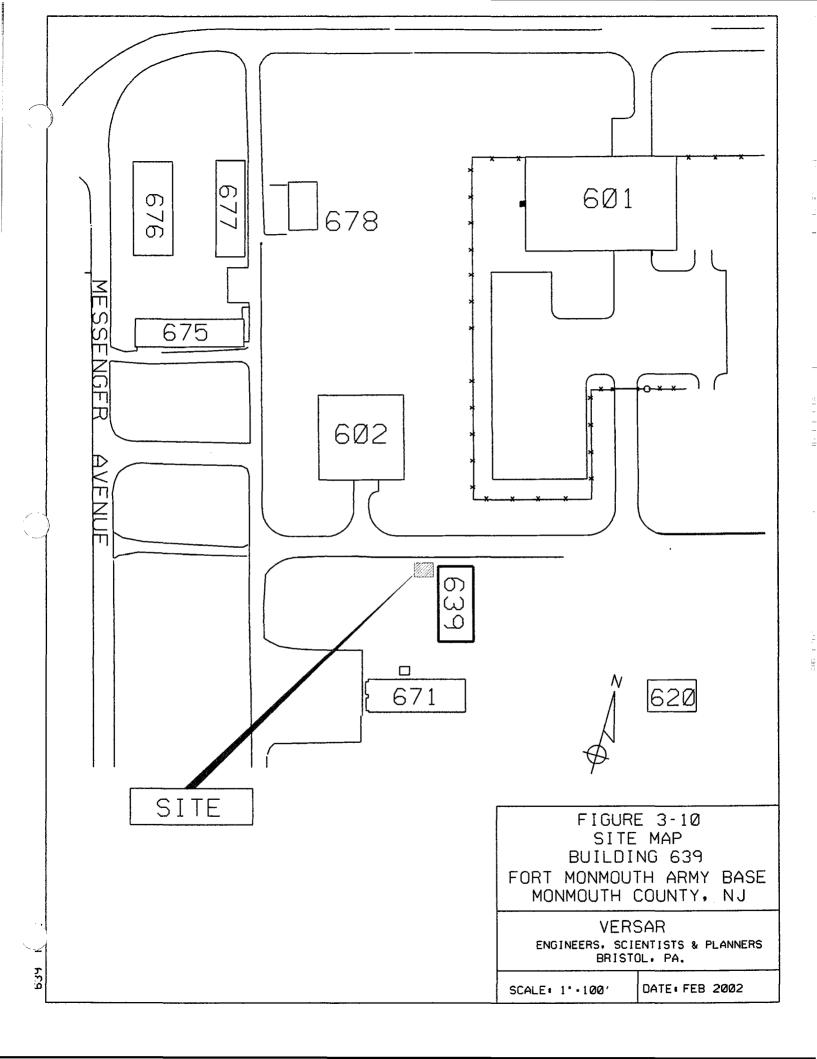


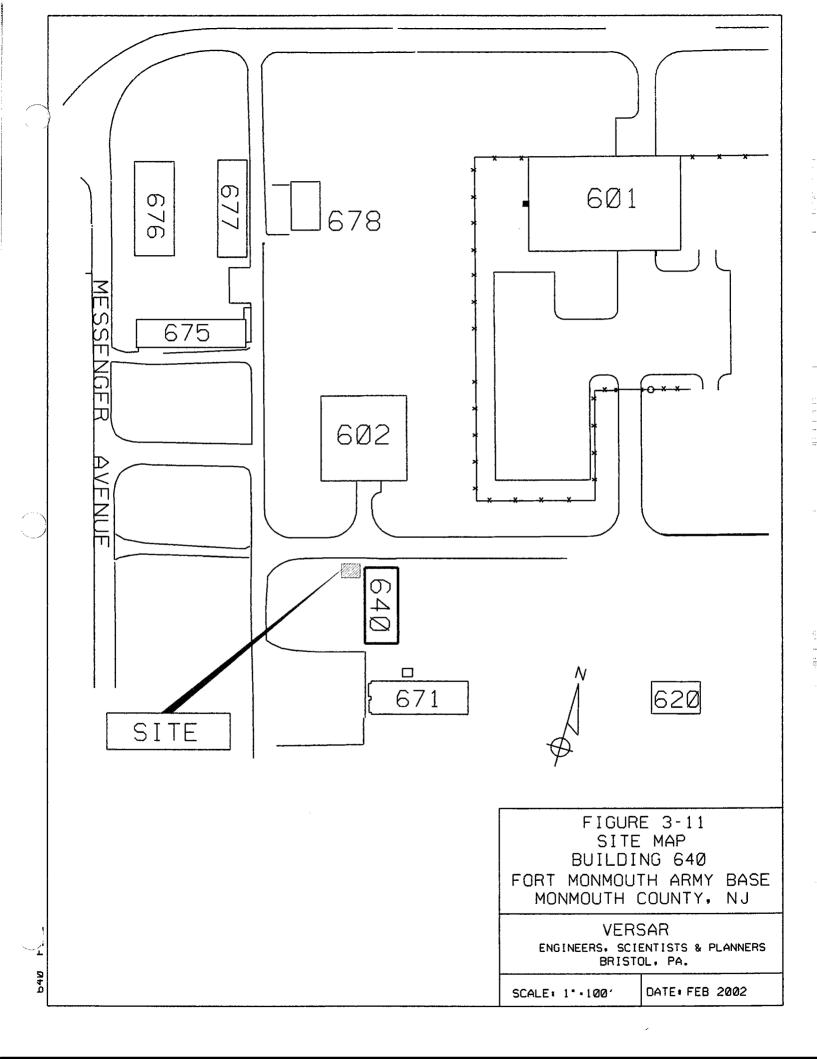


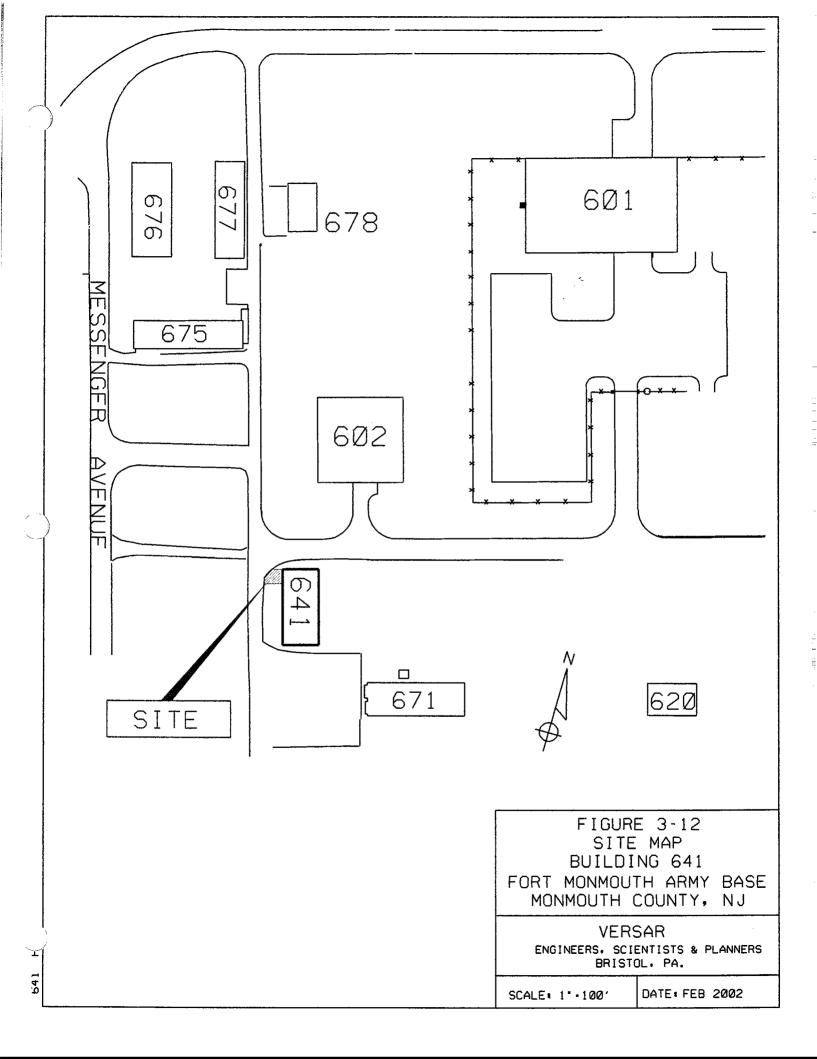


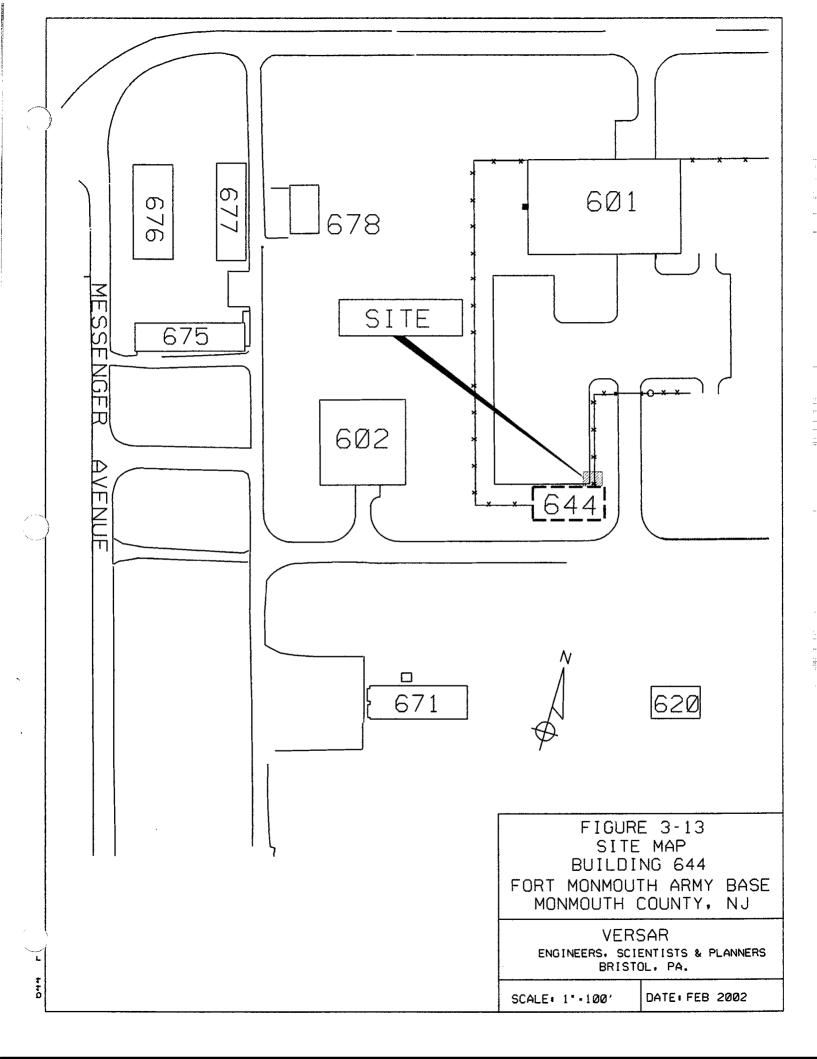


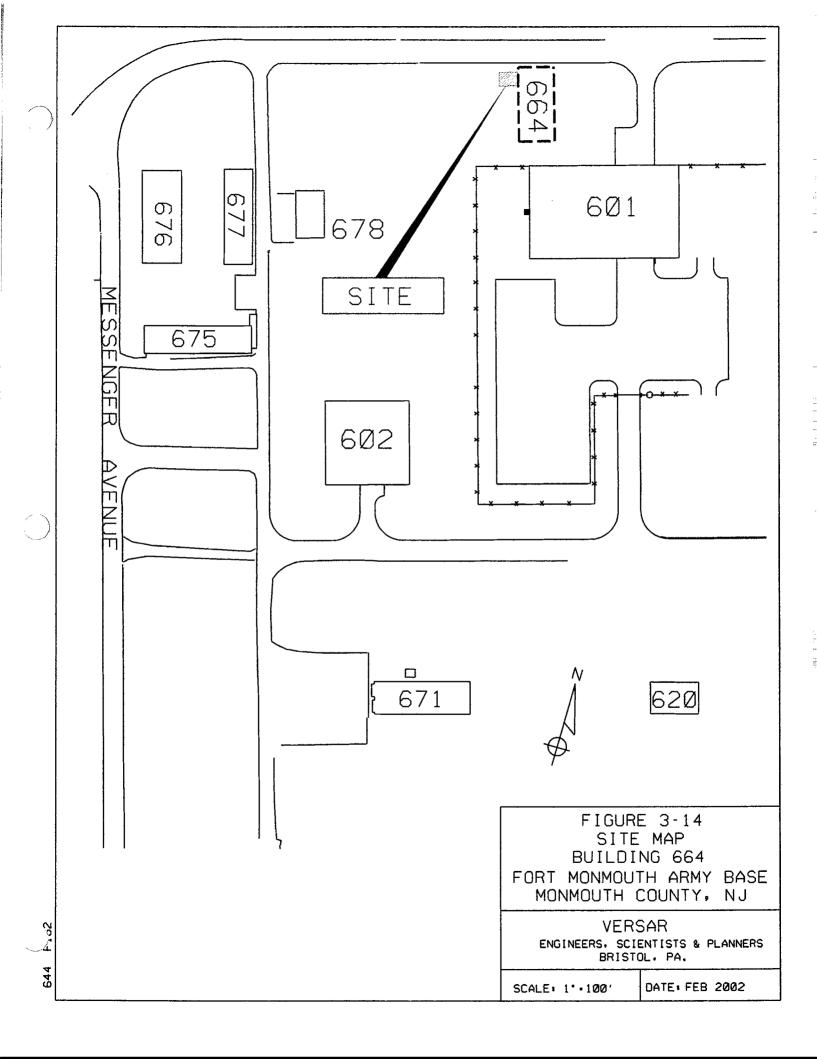


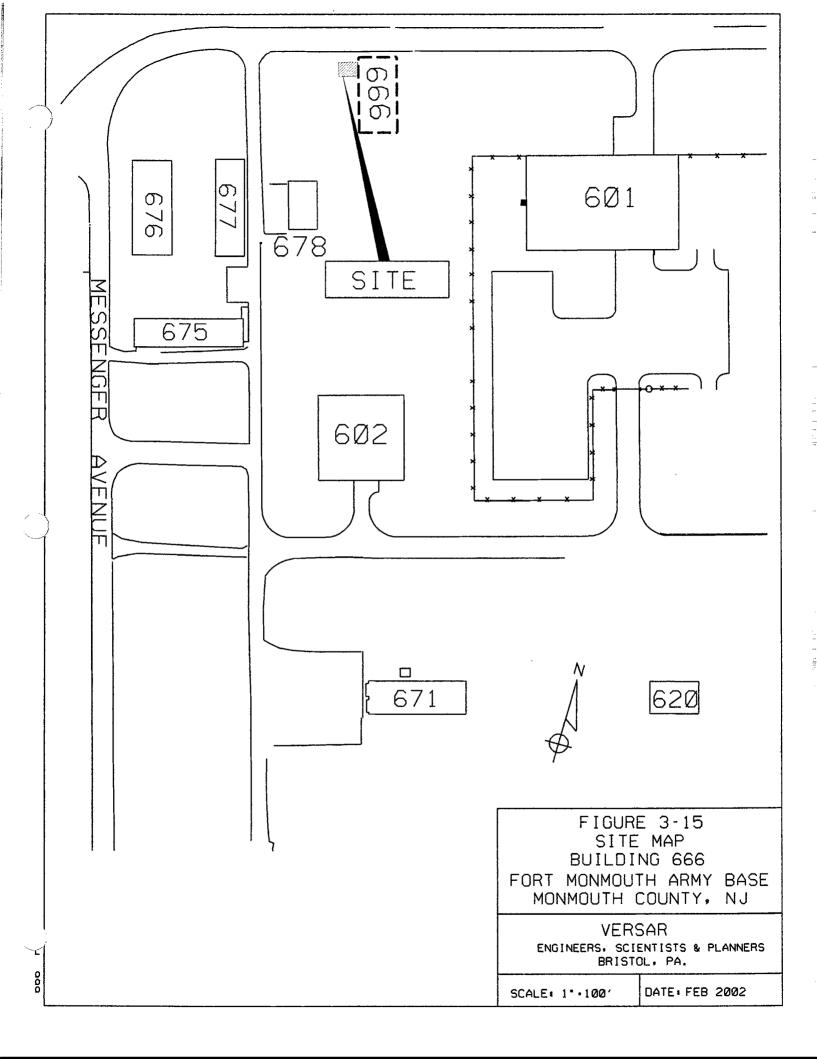


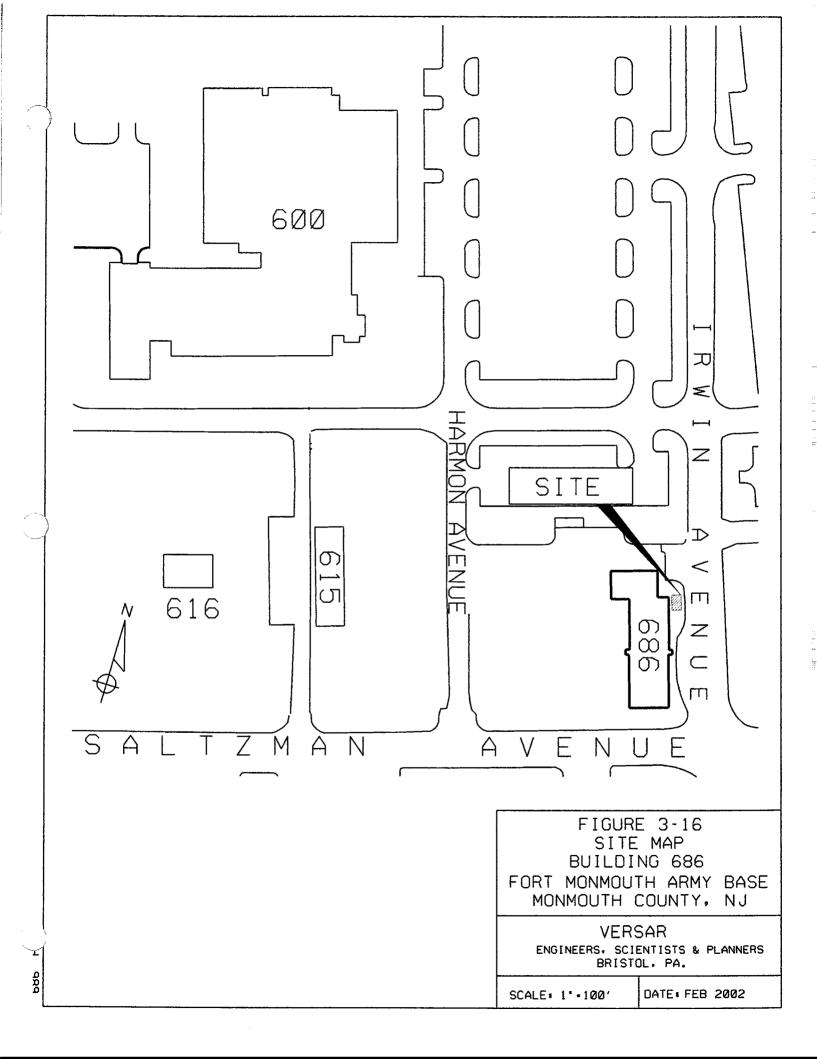


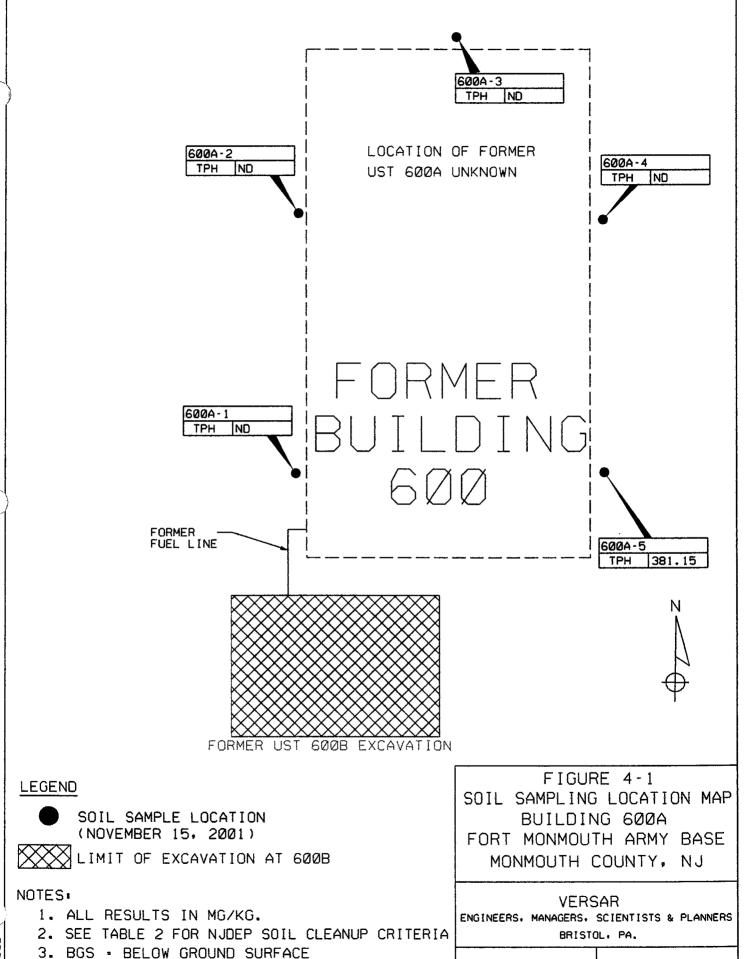








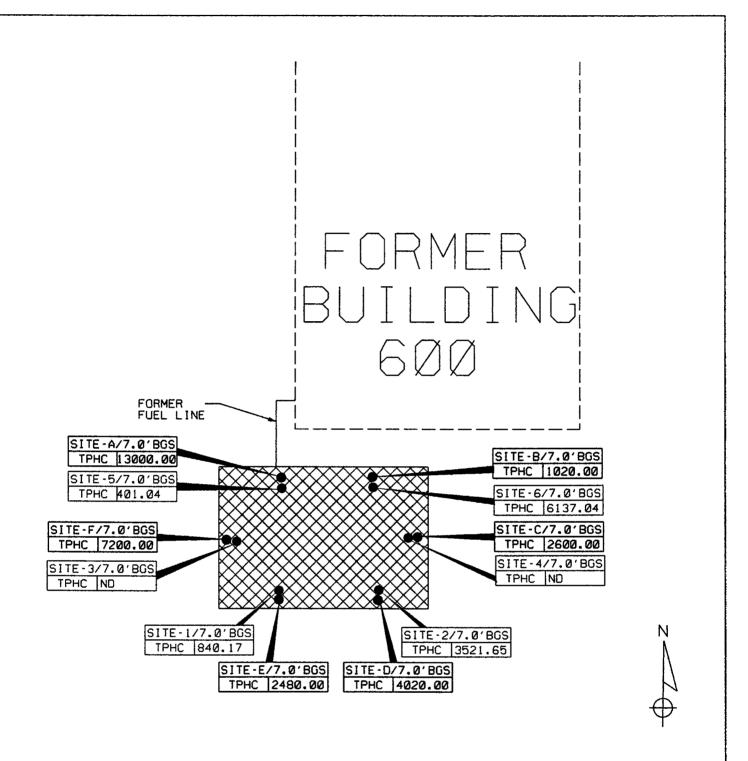




SCALE: 1"-10'

DATE: FEB 2002

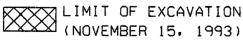
600E











NOTES:

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

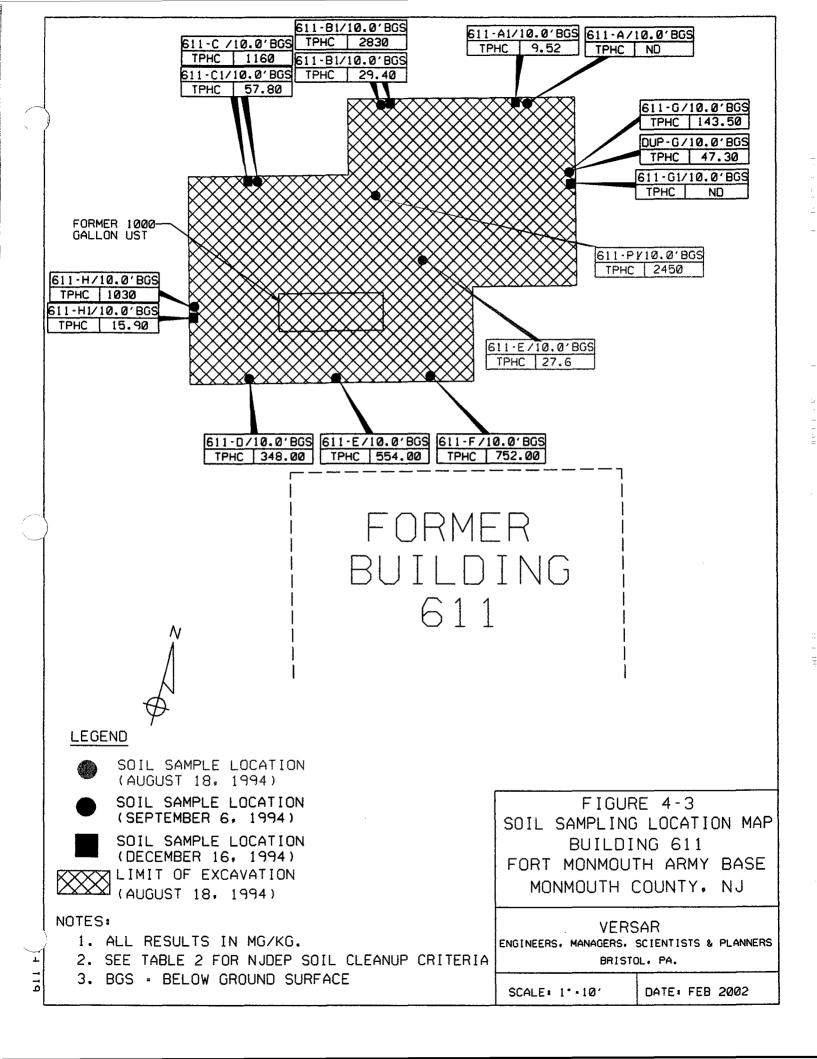
FIGURE 4-2
SOIL SAMPLING LOCATION MAP
BUILDING 600B
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

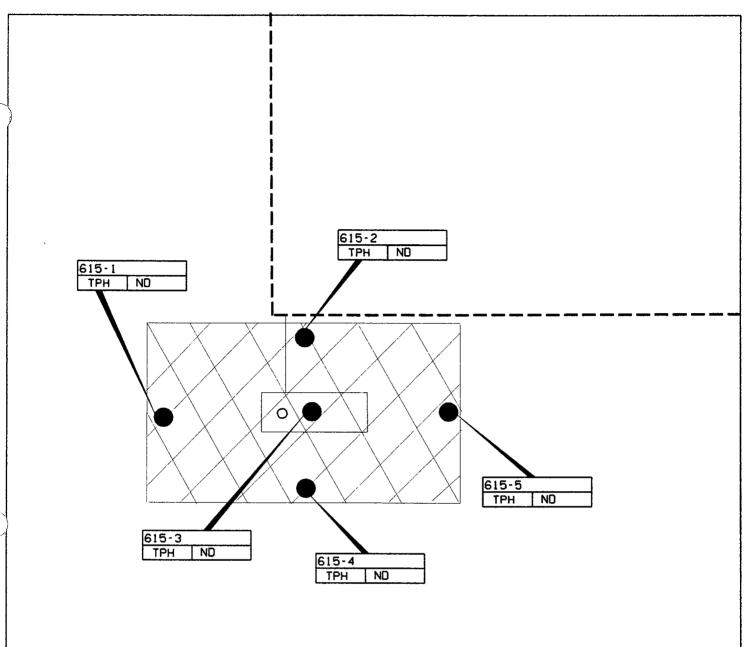
VERSAR ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS BRISTOL, PA.

SCALE: 1" - 10'

DATE: FEB 2002

H H M M M M







(NO

SOIL SAMPLE LOCATION (NOVEMBER 19, 2001)

APPROXIMATE LIMIT OF EXCAVATION

NOTES:

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

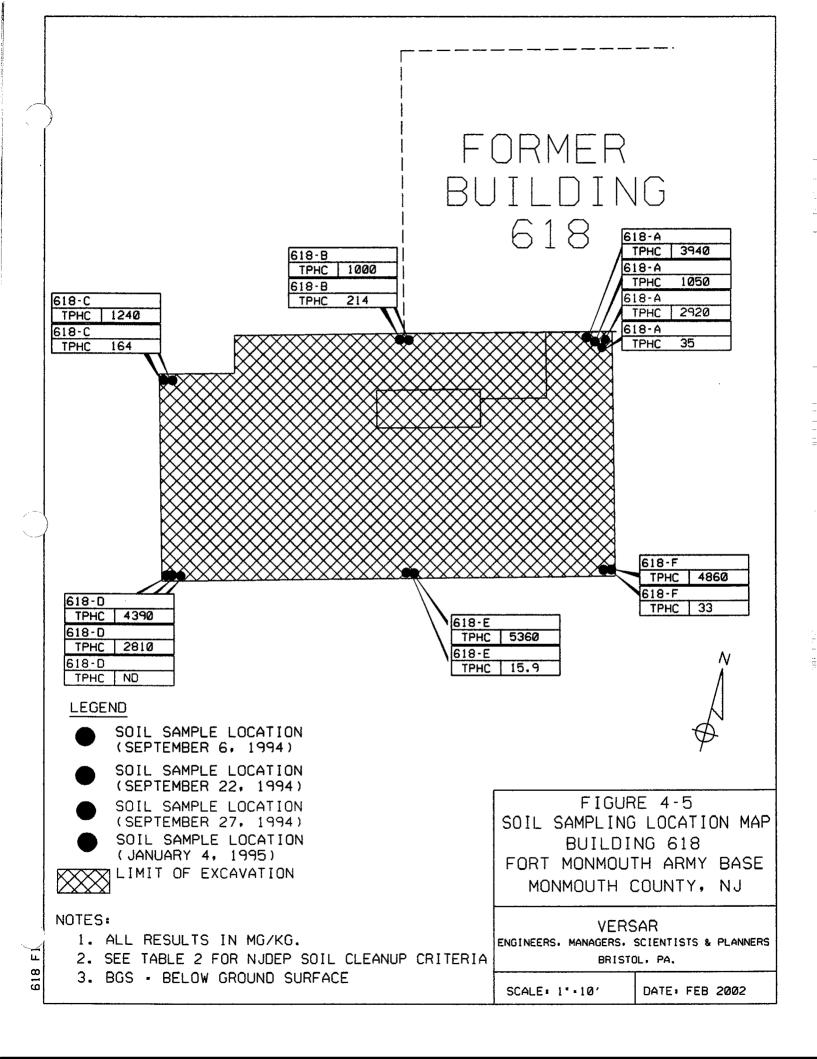
FIGURE 4-4
SAMPLE LOCATION MAP
BUILDING 615
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

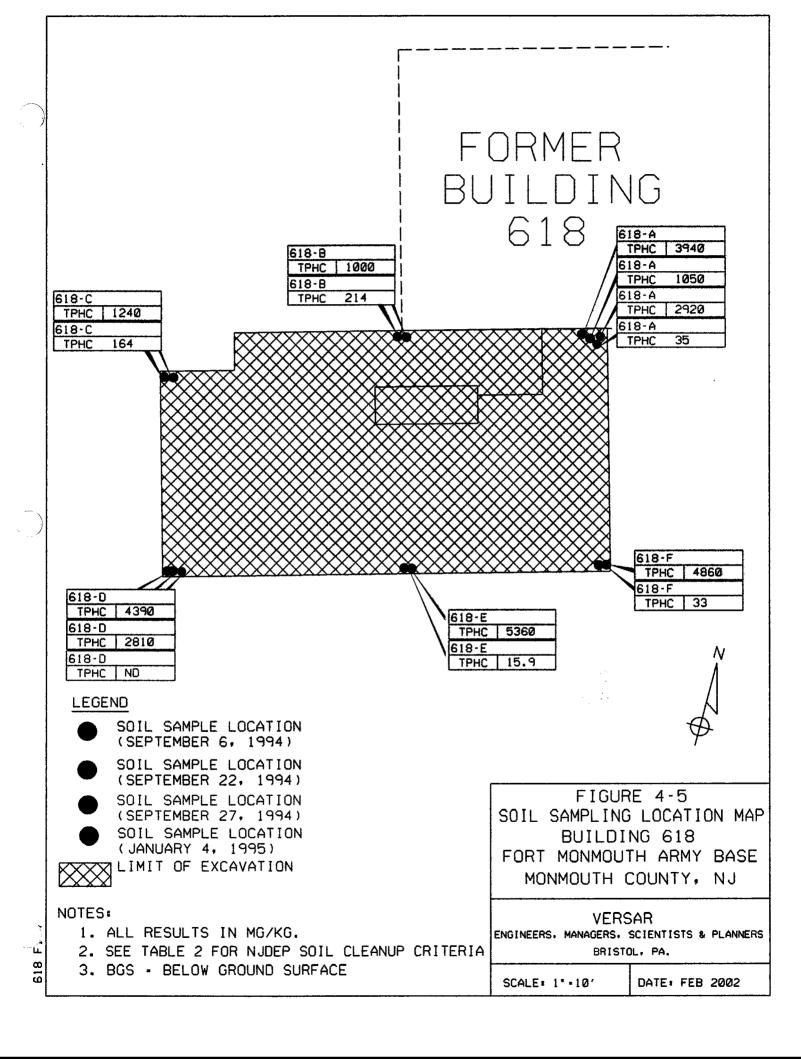
VERSAR ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS BRISTOL, PA.

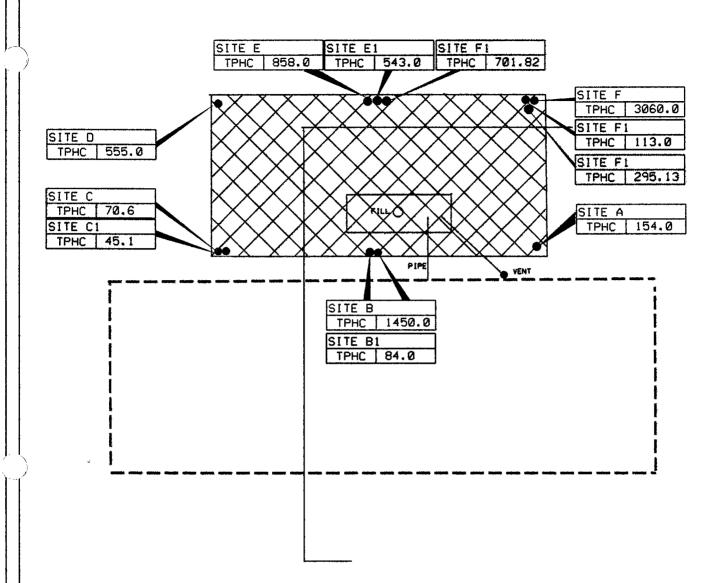
SCALE: 1"-10'

DATE: FEB 2002

619 F









- SOIL SAMPLE LOCATION (AUGUST 25, 1994)
- SOIL SAMPLE LOCATION (SEPTEMBER 9, 1994)
- SOIL SAMPLE LOCATION (OCTOBER 12, 2001)
- LIMIT OF EXCAVATION (DECEMBER 16, 1994)

NOTES:

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



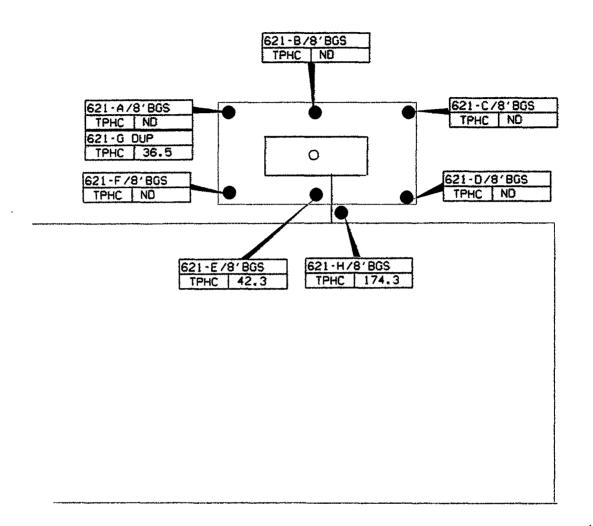
FIGURE 4-6
SOIL SAMPLING LOCATION MAP
BUILDING 619
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1: -10'

DATE: FEB 2002

619 FI







SOIL SAMPLE LOCATION (AUGUST 25, 1994)

LIMIT OF EXCAVATION

NOTES:

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

FIGURE 4-7
SOIL SAMPLING LOCATION MAP
BUILDING 621
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

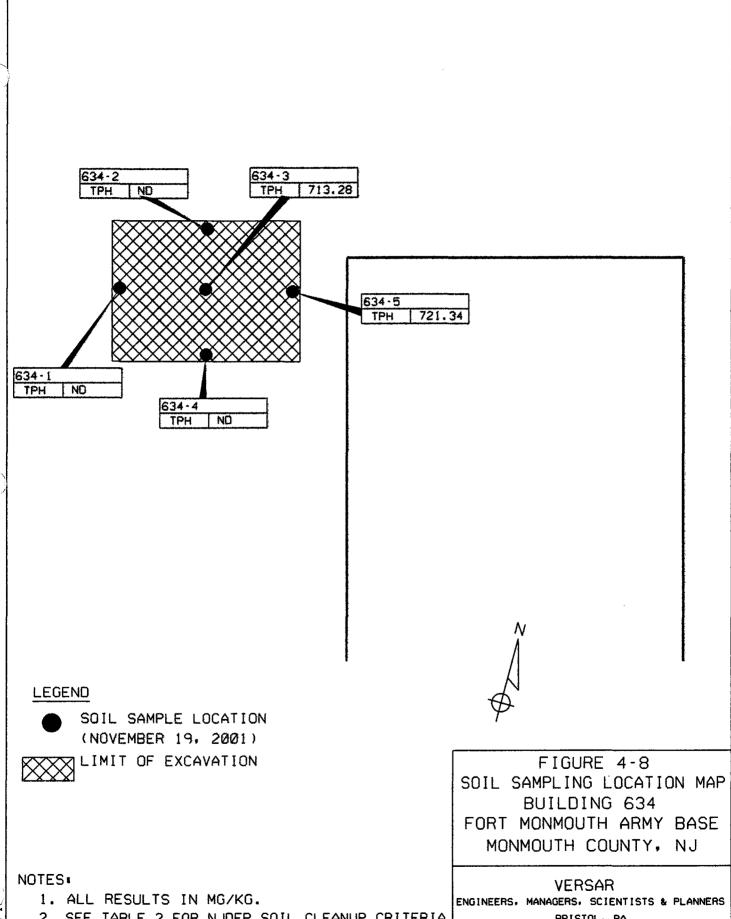
VERSAR

ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS BRISTOL, PA.

SCALE: 1: -10'

DATE: FEB 2002

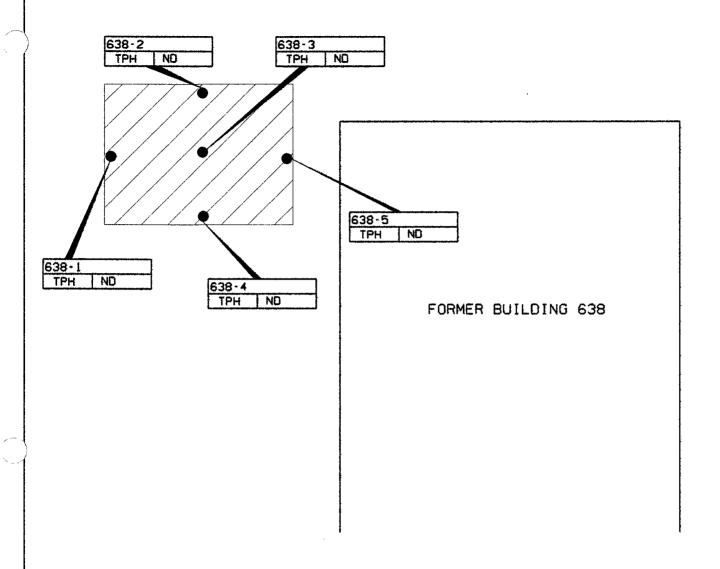
2



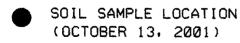
- 2. SEE TABLE 2 FOR NJDEP SOIL CLEANUP CRITERIA
- 3. BGS BELOW GROUND SURFACE

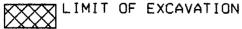
BRISTOL. PA.

SCALE: 1: -10'









NOTES:

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

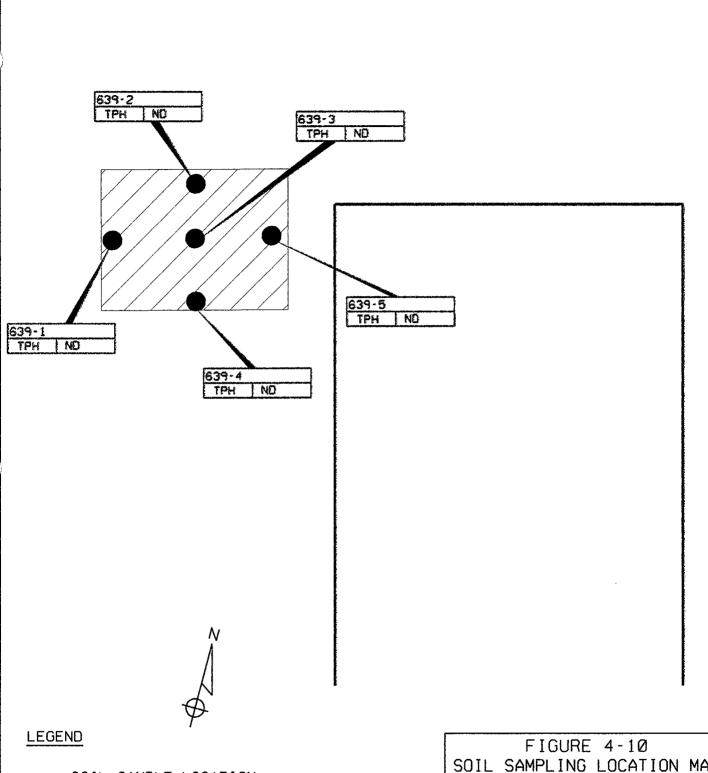
FIGURE 4-9
SOIL SAMPLING LOCATION MAP
BUILDING 638
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

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

SCALE: 1: -10'

DATE: FEB 2002

5.38 F



SOIL SAMPLE LOCATION (OCTOBER 13, 2001



NOTES:

1. ALL RESULTS IN MG/KG.

LIMIT OF EXCAVATION

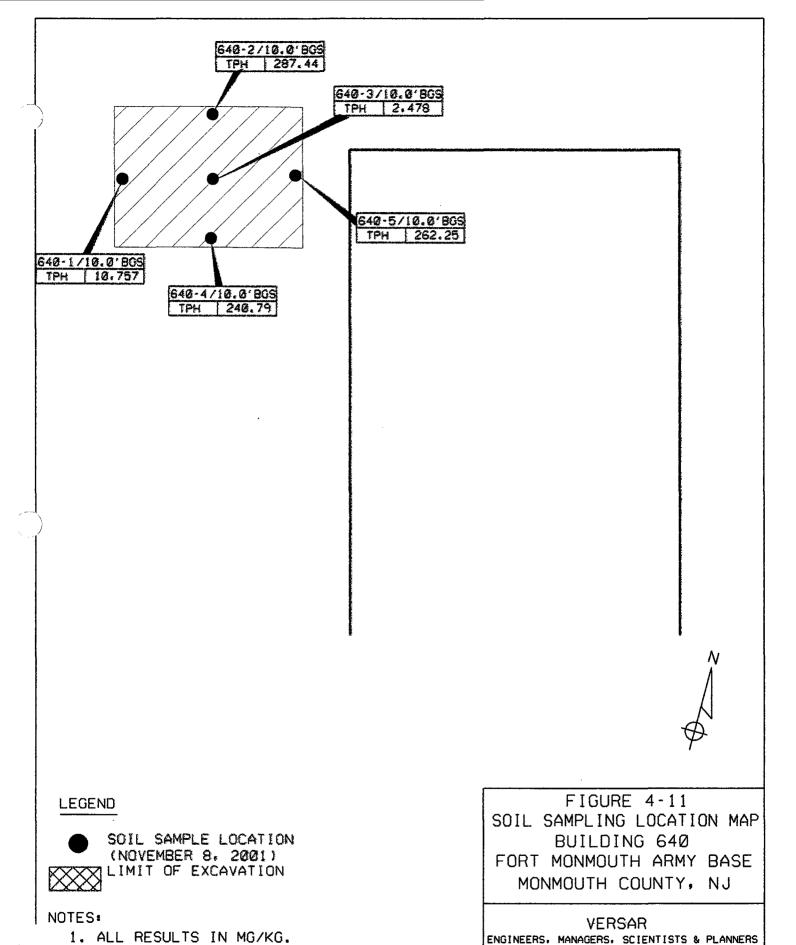
2. SEE TABLE 2 FOR NJDEP SOIL CLEANUP CRITERIA

3. BGS - BELOW GROUND SURFACE

FIGURE 4-10
SOIL SAMPLING LOCATION MAP
BUILDING 639
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

VERSAR ENGINEERS: MANAGERS: SCIENTISTS & PLANNERS BRISTOL: PA:

SCALE: 1"-10"



BRISTOL, PA.

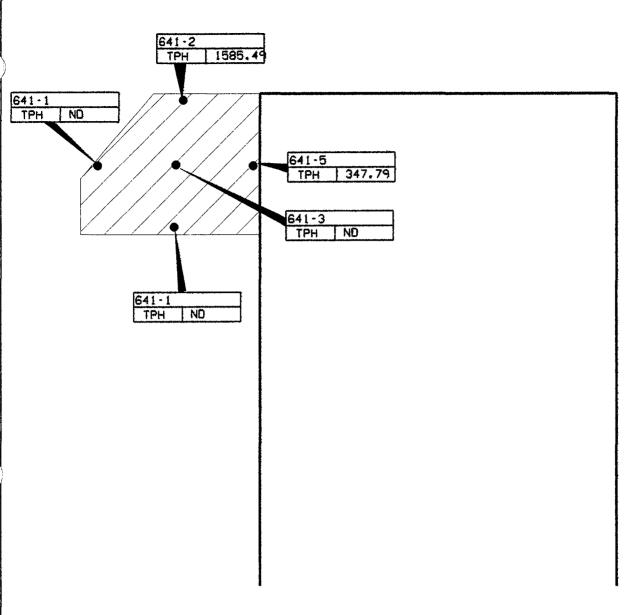
DATE: FEB 2002

SCALE: 1" - 10'

2. SEE TABLE 2 FOR NJDEP SOIL CLEANUP CRITERIA

3. BGS - BELOW GROUND SURFACE

5





SOIL SAMPLE LOCATION (OCTOBER 26, 2001)
LIMIT OF EXCAVATION (DECEMBER 16, 1994)

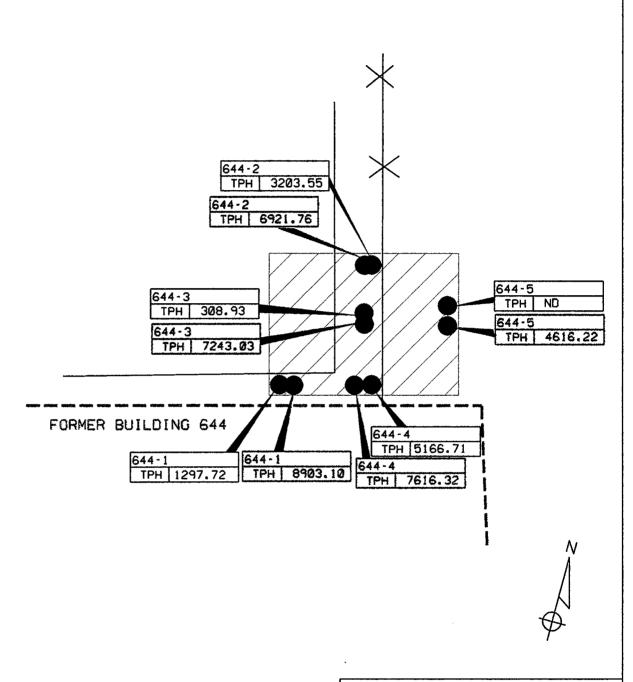
NOTES:

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

FIGURE 4-12 SOIL SAMPLING LOCATION MAP BUILDING 641 FORT MONMOUTH ARMY BASE MONMOUTH COUNTY, NJ

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

SCALE: 1:-10'



- SOIL SAMPLE LOCATION (OCTOBER 12, 2001)
- SOIL SAMPLE LOCATION
 (JANUARY 3, 2002)

 XXX APPROXIMATE LIMIT OF EXCAVATION



NOTES:

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

FIGURE 4-13
SOIL SAMPLING LOCATION MAP
BUILDING 644
FORT MONMOUTH ARMY BASE
MONMOUTH COUNTY, NJ

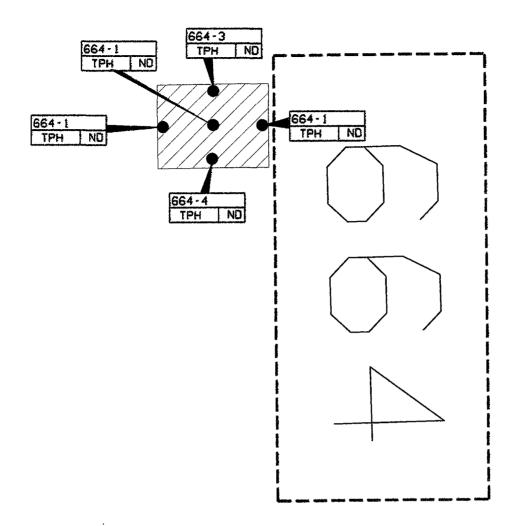
VERSAR

ENGINEERS, MANAGERS, SCIENTISTS & PLANNERS BRISTOL, PA.

SCALE: 1'-10'

DATE: FEB 2002

D41 F





SOIL SAMPLE LOCATION (NOVEMBER 14, 2001)



LIMIT OF EXCAVATION

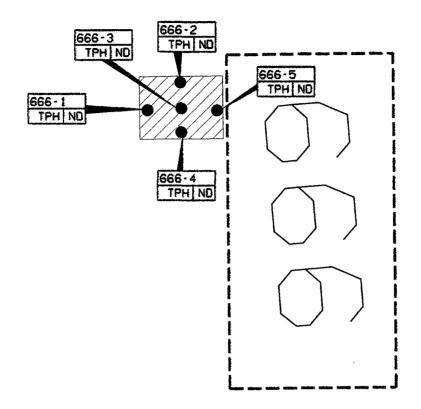
NOTES:

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

FIGURE 4-14 SOIL SAMPLING LOCATION MAP BUILDING 664 FORT MONMOUTH ARMY BASE MONMOUTH COUNTY, NJ

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

SCALE: 1" - 10'









LIMIT OF EXCAVATION

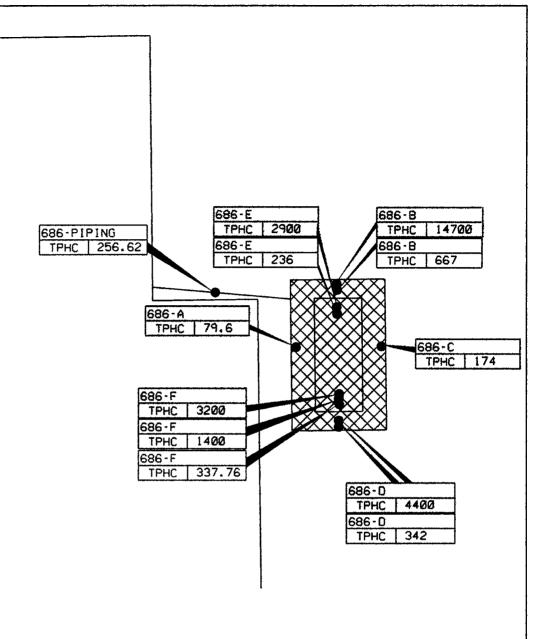
NOTES:

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

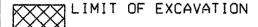
FIGURE 4-15 SOIL SAMPLING LOCATION MAP BUILDING 666 FORT MONMOUTH ARMY BASE MONMOUTH COUNTY, NJ

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

SCALE: 1"-10'



- SOIL SAMPLE LOCATION (JANUARY 18, 1995)
- SOIL SAMPLE LOCATION (JANUARY 27, 1995)
- SOIL SAMPLE LOCATION (NOVEMBER 15, 2001)



NOTES:

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



FIGURE 4-16 SOIL SAMPLING LOCATION MAP BUILDING 686 FORT MONMOUTH ARMY BASE MONMOUTH COUNTY, NJ

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

SCALE: 1"-10'

DATE: FEB 2001

989

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 600

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
T. B.	2007501	Aqueous	05-Fed-02	02/05/02
F. B.	2007502	Aqueous	05-Fed-02 11:05	02/05/02
600GW1/6.7'	2007503	Aqueous	05-Fed-02 11:30	02/05/02
600GW2/6.5'	2007504	Aqueous	05-Fed-02 13:15	02/05/02
600GW3/12.2'	2007505	Aqueous	05-Fed-02 14:00	02/05/02
600GW4/12.4'	2007506	Aqueous	05-Fed-02 14:20	02/05/02
600GW5/7.3'	2007507	Aqueous	05-Fed-02 14:45	02/05/02
F. D.	2007508	Aqueous	05-Fed-02	02/05/02

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright/Date

7-27-07

Laboratory Director

Quantitation Report (OT Reviewed) Data File: C:\HPCHEM\1\DATA\020213\VB010793.D Vial: 32 Acq On : 14 Feb 2002 1:30 pm Operator: Skelton Sample : 2007508 Misc : Field Dupe Inst : GC VOA 2 Multiplr: 1.00 MS Integration Params: TBA.P Nuant Time: Feb 15 6:47 2002 Ouant Results File: M262478.RES Quant Method: C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator)
Title: Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update: Fri Feb 15 06:29:01 2002 Response via : Initial Calibration DataAcq Meth: M262477 Internal Standards R.T. QIon Response Conc Units Dev(Min) 1) Bromochloromethane 16.76 128 624468 30.00 ug/L -0.01 26) 1,4-Difluorobenzene 19.49 114 4490451 30.00 ug/L 0.00 37) Chlorobenzene-d5 27.32 119 1307299 30.00 ug/L -0.01 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5 System Monitoring Compounds 25) 1,2-Dichloroethane-d4 18.36 65 1777498 31.56 ug/L 0.00 Range 70 - 121 Recovery = 105.20% 23.50 98 5248163 29.78 ug/L -0.01 Range 81 - 117 Recovery = 99.27% 30.34 95 2229231 29.63 ug/L 0.00 Spiked Amount 30.000 35) Toluene-d8 30.000 Spiked Amount 49) Bromofluorobenzene Spiked Amount 30.000 Range 74 - 121 Recovery = 98.77%

Target Compounds

Qvalue

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020213\VB010793.D

Acq On : 14 Feb 2002 1:30 pm

Quant Time: Feb 15 6:47 2002

Sample

: 2007508

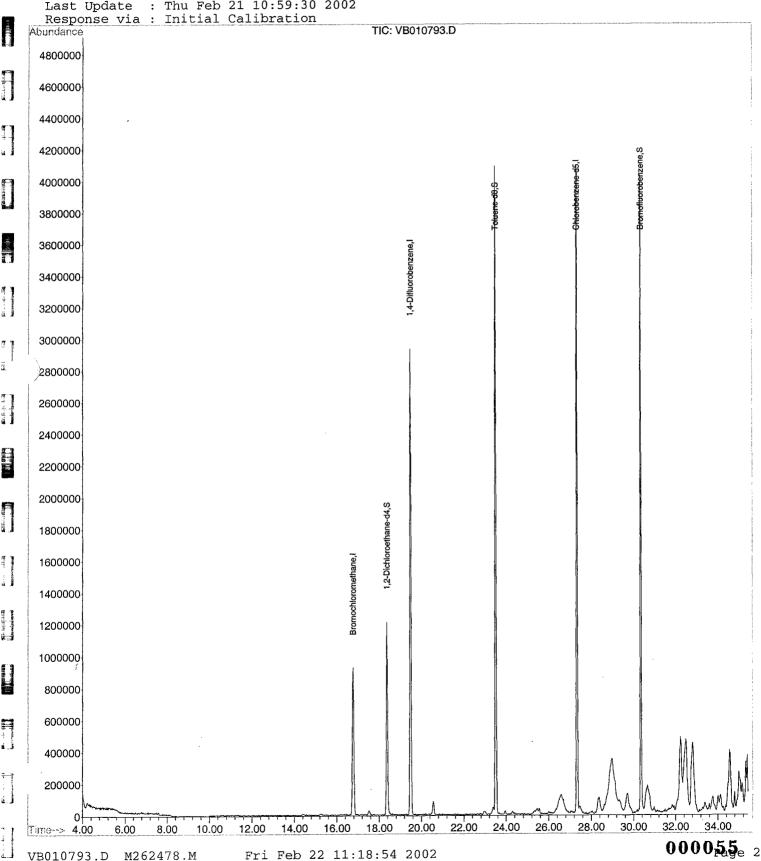
Operator: Skelton : GC VOA 2 Inst Multiplr: 1.00

Quant Results File: M262478.RES

Vial: 32

Misc : Field Dupe MS Integration Params: TBA.P

: C:\HPCHEM\1\METHODS\M262478.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Feb 21 10:59:30 2002



BASE NEUTRAL

traffic and

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name

BNA06570.D

Sample Name

MB-2939

Operator

Date Acquired

BPatel 8-Feb-02 Misc Info

MB-0202007

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Oualifiers
110-86-1	Pyridine	T	response	not detected	NLE	0.61	ng/I	Quantiers
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64		
62-53-3	Aniline			not detected	NLE	0.78		
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80		
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90		
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95		
100-51-6	Benzył alcohol			not detected	NLE	1.17		
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96		
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81		
621-64-7	n-Nitroso-di-n-propylamine	1	* *	not detected	20	0.84		
67-72-1	Hexachloroethane			not detected	10	0.96		
98-95-3	Nitrobenzene			not detected	10	1.27		
78-59-1	Isophorone			not detected	100	0.88		
111-91-1	bis(2-Chloroethoxy)methane	1		not detected	NLE	1.00		
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11		
91-20-3	Naphthalene			not detected	NLE	1.06	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77	ug/L	
87-68-3	Hexachlorobutadiene		, ,	not detected	1	1.16	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.93	ug/L	
606-20-2	2,6-Dinitrotoluene		. '	not detected	NLE	0.98	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85	ug/L	
83-32-9	Acenaphthene			not detected	400	1.02	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.06	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10	ug/L	
86-73-7	Fluorene			not detected	300	0.84	ug/L	
7005-72-3	4-Chlorophenyl-phenylether	<u> </u>		not detected	NLE	0.92	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.92	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene	<u> </u>		not detected	NLE	1.08	ug/L	
120-12-7	Anthracene			not detected	2000	0.93	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.23	ug/L	
206-44-0	Fluoranthene			not detected	300	0.90	ug/L	(

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06570.D

Sample Name

MB-2939

Operator

BPatel

Misc Info

MB-0202007

Date Acquired

8-Feb-02

Sample Multiplier

1

C I CH	None	n m	Domongo	Result	Regulatory Level (ug/L)*	MDL		0.15
CAS#	Name	R.T.	Response	······································				Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	ļ
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
<u>56-55-3</u>	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene		·	not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SA	MP	LE	NO
-----	----	----	----	----

La	b Name:	FMET	_	•	Lab	Code 13461		MB-29	939
Pre	oject:	02-125	39	Case No.: 2007	<u>'5 L</u>	ocation: 600 G	SDO	3 No.:	
Ma	atrix: (soil/\	water)	WATE	٦		Lab Sample	ID: N	1B-2939	
Sa	ımple wt/v	ol:	1000	(g/ml) <u>ML</u>		Lab File ID:	В	NA06570.E)
Le	vel: (low/r	ned)	LOW			Date Receiv	red: 2	/5/02	
%	Moisture:			decanted: (Y/N)	N	Date Extract	ted: 2	/7/02	
Со	ncentrated	d Extrac	t Volume:	1000 (uL)		Date Analyz	ed: <u>2</u>	/8/02	
Inje	ection Volu	ume: <u>1</u>	.0 (uL)		Dilution Fact	tor: <u>1</u>	.0	
GF	PC Cleanu	p: (Y/N)	N	pH:					
Nu	ımber TICs	s found:	1			CENTRATION or ug/Kg)	UNITS UG/L	3:	
С	CAS NUME	BER	COMF	OUND NAME		RT	EST.	CONC.	Q
	1		Linknou	m		7/0		1	1 1

Semi-Volatile Analysis Report

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

Data File Name

BNA06587.D

Operator
Date Acquired

BPatel 9-Feb-02 Sample Name

MB-2947

BPatel

Misc Info

MB-020208

Sample Multiplier

Regul	ato

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	0.61 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 ug/L	· i
62-53-3	Aniline			not detected	NLE	0.78 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.17 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 ug/L	
67-72-1	Hexachloroethane			. not detected	10	0.96 ug/L	
98-95-3	Nitrobenzene			not detected	10	1.27 ug/L	ļ
78-59-1	Isophorone			not detected	100	0.88 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.06 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09 ug/L	
208-96-8	Acenaphthylene	,		not detected	NLE	0.93 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug/L	
83-32-9	Acenaphthene			not detected	400	1.02 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.06 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10 ug/L	
86-73-7	Fluorene			not detected	300	0.84 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.92 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10 ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08 ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.08 ug/L	
120-12-7	Anthracene			not detected	2000	0.93 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.90 ug/L	

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06587.D

Sample Name

MB-2947

Operator

BPatel

Misc Info

MB-020208

Date Acquired

9-Feb-02

Sample Multiplier

1

CAS#	None	n m	D	D14	Regulatory Level (ug/L)*	MOY		
	Name	R.T.	Response	Result		MDL		Qualifiers I
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	·
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20		ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPL	E NO.
-----	-------	-------

Lab Name: FME	TL	Lab Code 13461	MB-2947
Project: 02-1	2539 Case No.: 20075	Location: 600 G SD0	G No.:
Matrix: (soil/water)	WATER	Lab Sample ID: M	1B-2947
Sample wt/vol:	1000 (g/ml) ML	Lab File ID: B	NA06587.D
Level: (low/med)	LOW	Date Received: 2	/5/02
% Moisture:	decanted: (Y/N)	N Date Extracted: 2	/8/02
Concentrated Extr	act Volume: 1000 (uL)	Date Analyzed: 2	/9/02
Injection Volume:	1.0 (uL)	Dilution Factor: 1	.0
GPC Cleanup: (Y/	N) <u>N</u> pH:		
Number TICs foun	d:0	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	::
CAS NUMBER	COMPOUND NAME	RT EST.	CONC. Q

Semi-Volatile Analysis Report

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

Data File Name Operator

Date Acquired

BNA06580.D

BPatel

8-Feb-02

Sample Name

2007502

Misc Info

Field Blank Sample Multiplier

California Cal				_		Regulatory Level (ug/L)*			
11-13-1	CAS#	Name	R.T.	Response	Result	1	MDL		Qualifiers
11-44-4 bis(2-Chlorocthy) ether not detected NLE 0.78 ug/L			_			· · · · · · · · · · · · · · · · · · ·			
111-44-4 bis(2-Chloroethyl)ether			ļ						<u> </u>
1,3-Dichlorobenzene not detected 0,00 0,90						1			
106-46-7						· · · · · · · · · · · · · · · · · · ·			
100-51-6 Benzyl alcohol not detected NLE 1.17 ug/L		· i ······	<u> </u>						
1,2-Dichlorobenzene not detected 600 0.96 ug/L									
19638-32-9 bis(2-chloroisopropyl)ether not detected 300 0.81 bg/L			i						
Section		1,2-Dichlorobenzene	-	·····					
	39638-32-9		_		not detected	300	0.81	ug/L	
Nitrobenzene Not detected 10 1.27	621-64-7	n-Nitroso-di-n-propylamine	ļi		not detected	20	0.84	ug/L	
11-91-1 1500-1000-1000-1000-1000-1000-1000-1000	67-72-1	Hexachloroethane			not detected	10	0.96	ug/L	
111-91-1 bis(2-Chloroethoxy)methane not detected NLE 1.00 ug/L 120-82-1 1,2,4-Trichlorobenzene not detected 9 1.11 ug/L 91-20-3 Naphthalene not detected NLE 1.06 ug/L 106-47-8 4-Chloroaniline not detected NLE 0.77 ug/L 87-68-3 Hexachlorobutdiene not detected 1 1.16 ug/L 91-57-6 2-Methylnaphthalene not detected NLE 1.11 ug/L 91-57-6 2-Methylnaphthalene not detected NLE 1.11 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 1.10 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 1.10 ug/L 131-11-3 Dimethylphthalate not detected NLE 0.95 ug/L 131-11-3 Dimethylphthalate not detected NLE 0.95 ug/L 131-13 Dimethylphthalate not detected NLE 0.93 ug/L 208-96-8 Acenaphthylene not detected NLE 0.93 ug/L 209-09-2 2,6-Dinitrotoluene not detected NLE 0.98 ug/L 99-09-2 3-Nitroaniline not detected NLE 0.98 ug/L 132-64-9 Dibenzofuran not detected NLE 0.88 ug/L 132-64-9 Dibenzofuran not detected NLE 0.89 ug/L 132-64-9 Dibenzofuran not detected NLE 1.06 ug/L 121-14-2 2,4-Dinitrotoluene not detected NLE 1.06 ug/L 121-14-2 2,4-Dinitrotoluene not detected NLE 0.92 ug/L 84-66-2 Diethylphthalate not detected NLE 0.92 ug/L 100-01-6 4-Nitroniline not detected NLE 0.92 ug/L 100-01-6 4-Nitroniline not detected NLE 0.92 ug/L 103-33-3 Azobenzene not detected NLE 0.87 ug/L 103-33-3 Azobenzene not detected NLE 1.06 ug/L 103-33-3 Azobenzene not detected NLE 1.08 ug/L 103-34-41 Hexachlorobenzene not detected NLE 1.08 ug/L 101-55-3 4-Rinonophenyl-phenylether not detected NLE 1.08 ug/L 101-55-3 4-Rinonophenyl-phenylether not detected NLE 1.08 ug/L 101-55-3 4-Rinonophenyl-phenylether not detected NLE 1.08 ug/L 101-55-3 4-Rinonophen	98-95-3	Nitrobenzene			not detected	10	1.27	ug/L	
120-82-1 1,2,4-Trichlorobenzene not detected 9 1.11 ug/L 91-20-3 Naphthalene not detected NLE 1.06 ug/L 106-47-8 4-Chloroaniline not detected NLE 0.77 ug/L 91-57-6 2-Methylaphthalene not detected NLE 1.11 ug/L 91-57-6 2-Methylaphthalene not detected NLE 1.11 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 1.11 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 1.10 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 1.10 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 0.95 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 0.99 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 0.99 ug/L 92-99-9-8 Acenaphthylene not detected NLE 0.93 ug/L 066-20-2 2,6-Dinitrotoluene not detected NLE 0.98 ug/L 99-09-2 3-Nitroaniline not detected NLE 0.98 ug/L 83-32-9 Acenaphthene not detected NLE 0.85 ug/L 83-32-9 Acenaphthene not detected NLE 0.85 ug/L 121-14-2 2,4-Dinitrotoluene not detected NLE 1.06 ug/L 121-14-2 2,4-Dinitrotoluene not detected NLE 0.92 ug/L 121-14-3 3-Azobenzene not detected NLE 0.92 ug/L 121-14-3 4-Chlorophenyl-phenylether not detected NLE 0.92 ug/L 123-33-3 Azobenzene not detected NLE 0.93 ug/L 124-14 4-Ritroaniline not detected NLE 0.93 ug/L 125-33-34 4-Ritroaniline not detected NLE 0.93 ug/L 126-33-35 4-Ritroaniline not detected NLE 0.93 ug/L 127-44-44 1-Ritroaniline not detected NLE 0.93 ug/L 128-44-14 1-Ritroaniline	78-59-1	Isophorone	ļ		not detected	100	0.88	ug/L	
106-47-8	111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00	ug/L	
106-47-8	120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11	ug/L	
R7-68-3 Hexachlorobutadiene not detected 1 1.16 ug/L 91-57-6 2-Methylnaphthalene not detected NLE 1.11 ug/L 77-47-4 Hexachlorocyclopentadiene not detected 50 1.26 ug/L 91-58-7 2-Chloronaphthalene not detected NLE 1.10 ug/L 88-74-4 2-Nitroaniline not detected NLE 0.95 ug/L 131-11-3 Dimethylphthalate not detected NLE 0.95 ug/L 208-96-8 Acenaphthylene not detected NLE 0.93 ug/L 208-96-8 Acenaphthylene not detected NLE 0.93 ug/L 606-20-2 2,6-Dinitrotoluene not detected NLE 0.98 ug/L 99-09-2 3-Nitroaniline not detected NLE 0.85 ug/L 33-32-9 Acenaphthene not detected NLE 0.85 ug/L 132-64-9 Dibenzofuran not detected NLE 1.06 ug/L 121-14-2 2,4-Dinitrotoluene not detected NLE 1.06 ug/L 24-66-2 Diethylphthalate not detected 5000 1.10 ug/L 86-73-7 Fluorene not detected NLE 0.92 ug/L 100-01-6 4-Nitroaniline not detected NLE 0.92 ug/L 100-01-6 4-Nitroaniline not detected NLE 0.92 ug/L 103-33-3 Azobenzene not detected NLE 0.92 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.92 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.93 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.94 ug/L 102-12-7 Anthracene not detected NLE 1.08 ug/L 103-13-14-14 Hexachlorobenzene not detected NLE 1.08 ug/L 104-14-14 Hexachlorobenzene not detected NLE 1.08 ug/L 105-10-15-	91-20-3	Naphthalene			not detected	NLE	1.06	ug/L	
1.11 1.11	106-47-8	4-Chloroaniline			not detected	NLE	0.77	ug/L	
1.26 1.26	87-68-3	Hexachlorobutadiene			not detected	1	1.16	ug/L	
91-58-7 2-Chloronaphthalene not detected NLE 1.10 ug/L	91-57-6	2-Methylnaphthalene			not detected	NLE	1.11	ug/L	
131-11-3 Dimethylphthalate not detected NLE 0.95 ug/L	77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26	ug/L	
131-11-3 Dimethylphthalate not detected 7000 1.09 ug/L	91-58-7	2-Chloronaphthalene	l l		not detected	NLE	1.10	ug/L	
208-96-8 Acenaphthylene not detected NLE 0.93 ug/L 606-20-2 2,6-Dinitrotoluene not detected NLE 0.98 ug/L 99-09-2 3-Nitroaniline not detected NLE 0.85 ug/L 83-32-9 Acenaphthene not detected 400 1.02 ug/L 132-64-9 Dibenzofuran not detected NLE 1.06 ug/L 121-14-2 2,4-Dinitrotoluene not detected 10 1.16 ug/L 84-66-2 Diethylphthalate not detected 5000 1.10 ug/L 86-73-7 Fluorene not detected 300 0.84 ug/L 7005-72-3 4-Chlorophenyl-phenylether not detected NLE 0.92 ug/L 100-01-6 4-Nitroaniline not detected NLE 0.92 ug/L 86-30-6 n-Nitrosodiphenylamine not detected NLE 0.92 ug/L 101-3-33-3 Azobenzene not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected NLE 0.87 ug/L	88-74-4	2-Nitroaniline			not detected	NLE	0.95	ug/L	
2,6-Dinitrotoluene not detected NLE 0.98 ug/L	131-11-3	Dimethylphthalate			not detected	7000	1.09 1	ug/L	
99-09-2 3-Nitroaniline	208-96-8	Acenaphthylene			not detected	NLE	0.93	ug/L	
R3-32-9 Acenaphthene not detected 400 1.02 ug/L 132-64-9 Dibenzofuran not detected NLE 1.06 ug/L 121-14-2 2,4-Dinitrotoluene not detected 10 1.16 ug/L 84-66-2 Diethylphthalate not detected 5000 1.10 ug/L 86-73-7 Fluorene not detected 300 0.84 ug/L 7005-72-3 4-Chlorophenyl-phenylether not detected NLE 0.92 ug/L 100-01-6 4-Nitroaniline not detected NLE 0.92 ug/L 86-30-6 n-Nitrosodiphenylamine not detected NLE 0.92 ug/L 103-33-3 Azobenzene not detected NLE 1.06 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected NLE 1.08 ug/L 85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L 121-12-7 Nathracene not detected 900 1.23 ug/L 122-12-12-12-12-12-12-12-12-12-12-12-12-	606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98	ug/L	
132-64-9 Dibenzofuran not detected NLE 1.06 ug/L 121-14-2 2,4-Dinitrotoluene not detected 10 1.16 ug/L 84-66-2 Diethylphthalate not detected 5000 1.10 ug/L 86-73-7 Fluorene not detected 300 0.84 ug/L 7005-72-3 4-Chlorophenyl-phenylether not detected NLE 0.92 ug/L 100-01-6 4-Nitroaniline not detected NLE 0.92 ug/L 86-30-6 n-Nitrosodiphenylamine not detected NLE 0.92 ug/L 103-33-3 Azobenzene not detected NLE 1.06 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected NLE 1.08 ug/L 185-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L 121-12-12-12-12-12-12-12-13-12-12-12-13-12-12-12-12-12-13-12-12-12-12-12-12-12-12-12-12-12-12-12-	99-09-2	3-Nitroaniline			not detected	NLE	0.85	ug/L	
121-14-2	83-32-9	Acenaphthene			not detected	400	1.02	ug/L	
84-66-2 Diethylphthalate not detected 5000 1.10 ug/L 86-73-7 Fluorene not detected 300 0.84 ug/L 7005-72-3 4-Chlorophenyl-phenylether not detected NLE 0.92 ug/L 100-01-6 4-Nitroaniline not detected NLE 0.92 ug/L 86-30-6 n-Nitrosodiphenylamine not detected 20 1.10 ug/L 103-33-3 Azobenzene not detected NLE 1.06 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected 10 1.08 ug/L 88-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L	132-64-9	Dibenzofuran			not detected	NLE	1.06	ug/L	
R6-73-7 Fluorene not detected 300 0.84 ug/L	121-14-2	2,4-Dinitrotoluene			not detected	10	1.16	ug/L	
100-01-6	84-66-2	Diethylphthalate		·	not detected	5000	1.10	ug/L	
100-01-6 4-Nitroaniline not detected NLE 0.92 ug/L 86-30-6 n-Nitrosodiphenylamine not detected 20 1.10 ug/L 103-33-3 Azobenzene not detected NLE 1.06 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected 10 1.08 ug/L 85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L	86-73-7	Fluorene			not_detected	300	0.84 1	ug/L	
86-30-6 n-Nitrosodiphenylamine not detected 20 1.10 ug/L 103-33-3 Azobenzene not detected NLE 1.06 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected 10 1.08 ug/L 85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L	7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92	ug/L	
86-30-6 n-Nitrosodiphenylamine not detected 20 1.10 ug/L 103-33-3 Azobenzene not detected NLE 1.06 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected 10 1.08 ug/L 85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L	100-01-6	4-Nitroaniline			not detected	NLE	0.92 ι	ug/L	
103-33-3 Azobenzene not detected NLE 1.06 ug/L 101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected 10 1.08 ug/L 85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L	86-30-6								
101-55-3 4-Bromophenyl-phenylether not detected NLE 0.87 ug/L 118-74-1 Hexachlorobenzene not detected 10 1.08 ug/L 85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L									
118-74-1 Hexachlorobenzene not detected 10 1.08 ug/L 85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L						·			
85-01-8 Phenanthrene not detected NLE 1.08 ug/L 120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L									, <u>-</u>
120-12-7 Anthracene not detected 2000 0.93 ug/L 84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L					-			-	
84-74-2 Di-n-butylphthalate not detected 900 1.23 ug/L									
(ADESSEE) TOURNAUDEDC I I I I I I I I I I I I I I I I I I I	206-44-0	Fluoranthene			not detected	300			

Semi-Volatile Analysis Report Page 2

Data File Name

Date Acquired

BNA06580.D

Operator

BPatel

Sample Name

2007502

8-Feb-02

Misc Info

Field Blank

Sample Multiplier

0.40#	N.	D. W.		D 1	Regulatory Level (ug/L)*	, m,		
CAS#	Name	R.T.	Response	Result		MDL	1	<u>Qualifiers</u>
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not_detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAN	/IPLE	NO.
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Lab Name: FMETL		Lab Code 13461	Field Blank
Project: 02-125			G No.:
Matrix: (soil/water)	WATER	Lab Sample ID: 2	
Sample wt/vol:	1000 (g/ml) ML	· –	BNA06580.D
Level: (low/med)	LOW	Date Received: 2	2/5/02
% Moisture:	decanted: (Y/N)	N Date Extracted: 2	2/7/02
Concentrated Extract	t Volume: 1000 (uL)	Date Analyzed: 2	/8/02
Injection Volume: 1	.0 (uL)	Dilution Factor: 1	.0
GPC Cleanup: (Y/N)	N pH:		
		CONCENTRATION UNITS	3:
Number TICs found:	0	(ug/L or ug/Kg) UG/L	
CAS NUMBER	COMPOUND NAME	RT EST	. CONC. Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name

BNA06581.D

Sample Name

2007503

Operator

BPatel

Misc Info

600GW1

1

Date Acquired

8-Feb-02

Sample Multiplier

Regulatory

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	0.61	1g/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 1	1g/L	
62-53-3	Aniline			not detected	NLE	0.78 ι		
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80 t		
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 t		
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 t		
100-51-6	Benzyl alcohol			not detected	NLE	1.17 u		
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 u		
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 u		
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 u		
67-72-1	Hexachloroethane			not detected	10	0.96 u		
98-95-3	Nitrobenzene			not detected	10	1.27 u		
78-59-1	Isophorone			not detected	100	0.88 u		
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 u		
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 u		
91-20-3	Naphthalene			not detected	NLE	1.06 u		
106-47-8	4-Chloroaniline			not detected	NLE	0.77 u		
87-68-3	Hexachlorobutadiene			not detected	1	1.16 u		
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11 u		
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 u		
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 u		
88-74-4	2-Nitroaniline			not detected	NLE	0.95 u		
131-11-3	Dimethylphthalate	7		not detected	7000		ıg/L	··
208-96-8	Acenaphthylene			not detected	NLE	0.93 u		
606-20-2	2,6-Dinitrotoluene			not detected	NLE		g/L	
99-09-2	3-Nitroaniline			not detected	NLE		ıg/L	
83-32-9	Acenaphthene			not detected	400		g/L	
132-64-9	Dibenzofuran			not detected	NLE	1.06 u		
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 u		
84-66-2	Diethylphthalate			not detected	5000	1.10 u		· · ·
86-73-7	Fluorene			not detected	300	0.84 u		
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92 u		
100-01-6	4-Nitroaniline	1		not detected	NLE	0.92 u	$\neg \neg$.,
86-30-6	n-Nitrosodiphenylamine	1		not detected	20	1.10 u		·
103-33-3	Azobenzene			not detected	NLE	1.06 u		
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 u		
118-74-1	Hexachlorobenzene			not detected	10	1.08 u		
85-01-8	Phenanthrene	1 1		not detected	NLE	1.08 u		
120-12-7	Anthracene	1		not detected	2000	0.93 u		
84-74-2	Di-n-butylphthalate			not detected	900	1.23 u	_	
206-44-0	Fluoranthene	 		not detected	300	0.90 u	_	
						V., U		

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06581.D

Sample Name

2007503

Operator

BPatel

Misc Info

600GW1

Date Acquired

8-Feb-02

Sample Multiplier

1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Oualifiers
92-87-5	Benzidine		response	not detected	50		ug/L	Quantiers
129-00-0	Pyrene			not detected	200		ug/L	
85-68-7	Butylbenzylphthalate			not detected	100		ug/L	
56-55-3	Benzo[a]anthracene			not detected	10		ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20		ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPL	E NO
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Lab Name: FN	METL	L	ab Code 13461	600GW1
Project: 02	-12539 Case N	o.: <u>20075</u>	Location: 600 G SE	OG No.:
Matrix: (soil/wate	er) <u>WATER</u>		Lab Sample ID:	2007503
Sample wt/vol:	<u>1000</u> (g/	ml) ML	Lab File ID:	BNA06581.D
Level: (low/med) LOW		Date Received:	2/5/02
% Moisture:	decanted	d: (Y/N) N	Date Extracted:	2/7/02
Concentrated Ex	ktract Volume: 1000	(uL)	Date Analyzed:	2/8/02
Injection Volume	e: <u>1.0</u> (uL)		Dilution Factor:	1.0
GPC Cleanup: (Y/N) <u>N</u> pH:			
Number TICs for	und: 1		ONCENTRATION UNIT	
CAS NUMBER	COMPOUND	NAME	RT ES	T. CONC. Q
4	Linknown		7.40	1 1

Semi-Volatile Analysis Report

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

Data File Name

BNA06582.D

Sample Name

2007504

Operator

BPatel

Misc Info

600GW2

Date Acquired

8-Feb-02

Sample Multiplier

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine		Response	not detected	NLE	0.61 ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 ug/L	
62-53-3	Aniline			not detected	NLE	0.78 ug/L	1
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 ug/L	1
100-51-6	Benzyl alcohol			not detected	NLE	1.17 ug/L	-
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.96 ug/L	
98-95-3	Nitrobenzene			not detected	10	1.27 ug/L	
78-59-1	Isophorone			not detected	100	0.88 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.06 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/L	<u> </u>
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.93 ug/L	<u> </u>
606-20-2	2,6-Dinitrotoluene	<u> </u>		not detected	NLE	0.98 ug/L	<u> </u>
99-09-2	3-Nitroaniline	$oxed{oxed}$		not detected	NLE	0.85 ug/L	
83-32-9	Acenaphthene	18.36	50863	1.03 ug/L	400	1.02 ug/L	
132-64-9	Dibenzofuran	 		not detected	NLE	1.06 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug/L	
84-66-2	Diethylphthalate	<u> </u>		not detected	5000	1.10 ug/L	
86-73-7	Fluorene			not detected	300	0.84 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE .	0.92 ug/L	
100-01-6	4-Nitroaniline	ļ		not detected	NLE	0.92 ug/L	ļ
86-30-6	n-Nitrosodiphenylamine	1		not detected	20	1.10 ug/L	ļ
103-33-3	Azobenzene	 		not detected	NLE	1.06 ug/L	ļ
101-55-3	4-Bromophenyl-phenylether	\vdash		not detected	NLE	0.87 ug/L	<u> </u>
118-74-1	Hexachlorobenzene	\perp	· · - · · · · · · · · · · · · · · · · ·	not detected	10	1.08 ug/L	<u> </u>
85-01-8	Phenanthrene	 		not detected	NLE	1.08 ug/L	
120-12-7	Anthracene	1	· .	not detected	2000	0.93 ug/L	ļ
84-74-2	Di-n-butylphthalate	 		not detected	900	1.23 ug/L	<u> </u>
206-44-0	Fluoranthene	<u> </u>		not detected	300	0.90 ug/L	

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06582.D

Sample Name

2007504

Operator

BPatel

Misc Info

600GW2

Date Acquired

8-Feb-02

Sample Multiplier

G 1 G#			_		Regulatory Level (ug/L)*			
CAS#	Name	R.T.	Response	Result	1	MDL	,	Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	,
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene		1	not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20		ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE

EST. CONC.

5

Q

JN

RT

7.49

19.37

								600GW2
Lab Name:	FMETL	· ·			Lab	Code <u>13461</u>		
Project:	02-1253	39	Case No	.: <u>20075</u>	L	ocation: 600 G	SE	OG No.:
Matrix: (soil/	water)	WATE	<u>R</u>			Lab Sample	e ID:	2007504
Sample wt/vo	ol:	1000	(g/n	nl) ML		Lab File ID:		BNA06582.D
Level: (low/r	med)	LOW				Date Recei	ved:	2/5/02
% Moisture:			decanted	: (Y/N) _	N	Date Extrac	ted:	2/7/02
Concentrated	d Extract	Volume	1000	(uL)		Date Analyz	zed:	2/8/02
Injection Volu	ume: <u>1.0</u>	0 (uL	.)			Dilution Fac	ctor:	1.0
GPC Cleanu	p: (Y/N)	N_	pH:					
					CON	NCENTRATION	UNIT	rs:
Number TICs	s found:	2			(ug/l	L or ug/Kg)	UG/L	<u> </u>
							1	

COMPOUND NAME

1-Naphthalenemethanol

unknown

CAS NUMBER

2. 004780-79-4

Semi-Volatile Analysis Report

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

Data File Name

Operator

BNA06583.D

BPatel

Misc Info

Date Acquired 8-Feb-02

Sample Name

2007505

info 600GW3

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Oualifiers
110-86-1	Pyridine	T,	xcoponoe	not detected	NLE	0.61 ug/	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 ug/	
62-53-3	Aniline	1.		not detected	NLE	0.78 ug/	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80 ug/	
541-73-1	1,3-Dichlorobenzene		·	not detected	600	0.90 ug/	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 ug/	
100-51-6	Benzyl alcohol			not detected	NLE	1.17 ug/	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 ug/	L
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 ug/	
67-72-1	Hexachloroethane			not detected	10	0.96 ug/	L
98-95-3	Nitrobenzene			not detected	10	1.27 ug/	L
78-59-1	Isophorone			not detected	100	0.88 ug/	
111-91-1	bis(2-Chloroethoxy)methane		·- · · · · · · · · · · · · · · · · · ·	not detected	NLE	1.00 ug/	L
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/	L,
91-20-3	Naphthalene	13.94	283183	3.58 ug/L	NLE	1.06 ug/	L
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/	Ĺ
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug/	L
91-57-6	2-Methylnaphthalene	15.61	1552544	29.64 ug/L	NLE	1.11 ug/	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug/	L
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/	L
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/	L
131-11-3	Dimethylphthalate		,	not detected	7000	1.09 ug/	<u> </u>
208-96-8	Acenaphthylene			not detected	NLE	0.93 ug/	ւ
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug/	·
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug/	
83-32-9	Acenaphthene	18.23	58408	1.11 ug/L	400	1.02 ug/	
132-64-9	Dibenzofuran			not detected	NLE	1.06 ug/	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug/	
84-66-2	Diethylphthalate			not detected	5000	1.10 ug/	
86-73-7	Fluorene	19.49	144221	2.36 ug/L	300	0.84 ug/	
7005-72-3	4-Chlorophenyl-phenylether	ļ <u>.</u>		not detected	NLE	0.92 ug/	
100-01-6	4-Nitroaniline			not detected	NLE	0.92 ug/	·
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10 ug/	
103-33-3	Azobenzene			not detected	NLE	1.06 ug/	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 ug/	
118-74-1	Hexachlorobenzene			not detected	10	1.08 ug/l	
85-01-8	Phenanthrene	21.84	194053	2.19 ug/L	NLE	1.08 ug/	
120-12-7	Anthracene			not detected	2000	0.93 ug/	-
84-74-2	Di-n-butylphthalate	44	·	not detected	900	1.23 ug/	
206-44-0	Fluoranthene			not detected	300	0.90 ug/l	

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06583.D

Sample Name

2007505

Operator

BPatel

Misc Info

600GW3

Date Acquired

8-Feb-02

Sample Multiplier

	•				Regulatory Level (ug/L)*			
CAS#	Name	R.T.	Response	Result	(ug/L/)	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	,
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATI\	/ELY IDE	NTIFIED	COMPOUNDS

EPA SAMPLE NO.

	,	.,veer ibenin		COM COMPC	00000140
Lab Name:	FMETL		L	ab Code 13461	600GW3
Project:	02-12539	Case No.: 20075	<u></u>	Location: 600 G S	DG No.:
Matrix: (soil/v	vater) WATE	R		Lab Sample ID:	2007505
Sample wt/vo	ol: <u>1000</u>	(g/ml) ML		Lab File ID:	BNA06583.D
Level: (low/n	ned) LOW			Date Received:	2/5/02
% Moisture:		decanted: (Y/N)	N	Date Extracted:	2/7/02
Concentrated	Extract Volume	e: <u>1000</u> (uL)		Date Analyzed:	2/8/02
Injection Volu	ıme: <u>1.0</u> (u	L) _.		Dilution Factor:	1.0
GPC Cleanur	o: (Y/N)N	pH:			

CONCENTRATION UNITS:

Number TICs found:	15	(ug/L or ug/Kg)	UG/L	

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000535-77-3	Benzene, 1-methyl-3-(1-methylet	12.04	5	JN
2. 000095-93-2	Benzene, 1,2,4,5-tetramethyl-	12.76	7	JN
3. 000099-87-6	Benzene, 1-methyl-4-(1-methylet	13.29	9	JN
4. 002809-64-5	Naphthalene, 1,2,3,4-tetrahydro-5	15.11	7	JN
5. 002142-73-6	Ethanone, 1-(2,5-dimethylphenyl)	15.21	8	JN
6. 000264-09-5	Benzocycloheptatriene	15.85	30	JN
7. 000092-52-4	Biphenyl	16.76	8	JN
8. 000575-43-9	Naphthalene, 1,6-dimethyl-	17.13	10	JN
9.	unknown	17.20	15	J
10. 000575-37-1	Naphthalene, 1,7-dimethyl-	17.33	24	JN
11. 000581-42-0	Naphthalene, 2,6-dimethyl-	17.38	12	JN
12. 000581-40-8	Naphthalene, 2,3-dimethyl-	17.60	8	JN
13. 000573-98-8	Naphthalene, 1,2-dimethyl-	17.81	5	JN
14. 006939-35-1	1(2H)-Naphthalenone, 3,4-dihydr	18.63	17	JN
15. 000941-98-0	Ethanone, 1-(1-Naphthalenyl)-	19.82	5	JN

3/90

Semi-Volatile Analysis Report

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

Data File Name

Date Acquired

BNA06584.D

Sample Name

2007506

Operator

BPatel 8-Feb-02 Misc Info

600GW4

Sample Multiplier

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Oualifiers
110-86-1	Pyridine	T	Response	not detected	NLE	0.61 ug/	 -
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 ug/	
62-53-3	Aniline	1		not detected	NLE	0.78 ug/	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80 ug/	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 ug/	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 ug/	
100-51-6	Benzyl alcohol			not detected	NLE	1.17 ug/	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/	
39638-32-9	bis(2-chloroisopropyl)ether		,	not detected	300	0.81 ug/	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 ug/	
67-72-1	Hexachloroethane			not detected	10	0.96 ug/	L
98-95-3	Nitrobenzene			not detected	10	1.27 ug/	L
78-59-1	Isophorone			not detected	100	0.88 ug/	L
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug/	L
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/	L
91-20-3	Naphthalene			not detected	NLE	1.06 ug/	L
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/	ւ
87-68-3	Hexachlorobutadiene	1		not detected	11	1.16 ug/	ւ
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11 ug/	<u>, </u>
77-47-4	Hexachlorocyclopentadiene	11		not detected	50	1.26 ug/	L
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/	<u> </u>
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/	ւ
131-11-3	Dimethylphthalate			not detected	7000	1.09 ug/	L L
208-96-8	Acenaphthylene			not detected	NLE	0.93 ug/	L
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug/	L
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug/	L
83-32-9	Acenaphthene			not detected	400	1.02 ug/	<u> </u>
132-64-9	Dibenzofuran	 		not detected	NLE	1.06 ug/	L
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug/	L
84-66-2	Diethylphthalate	 		not detected	5000	1.10 ug/	L
86-73-7	Fluorene	ļļ		not detected	300	0.84 ug/	
7005-72-3	4-Chlorophenyl-phenylether	<u> </u>		not detected	NLE	0.92 ug/l	
100-01-6	4-Nitroaniline			not detected	NLE	0.92 ug/l	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10 ug/l	
103-33-3	Azobenzene			not detected	NLE	1.06 ug/l	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 ug/l	
118-74-1	Hexachlorobenzene	11		not detected	10	1.08 ug/l	
85-01-8	Phenanthrene			not detected	NLE	1.08 ug/l	
120-12-7	Anthracene	 _		not detected	2000	0.93 ug/J	
84-74-2	Di-n-butylphthalate			not detected	900	1.23 ug/l	
206-44-0	Fluoranthene			not detected	300	0.90 ug/1	

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06584.D

Sample Name

2007506

Operator

BPatel

Misc Info

600GW4

Date Acquired

8-Feb-02

Sample Multiplier 1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Oualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200		ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

		600GW4							
Lab Name:	FMETL		Lab Code 13461						VV 4
Project:	02-125	<u>39</u> (Dase No.: 20075		ocation	n: <u>600 G</u>	_ SE	OG No.:	
Matrix: (soil/	water)	WATER			Lal	Sample	ID:	2007506	
Sample wt/ve	ol:	1000	(g/ml) <u>ML</u>		Lal	File ID:	-	BNA06584.E)
Levei: (low/r	med)	LOW	LOW Date Received: 2						
% Moisture:		de	ecanted: (Y/N)	N	Da	te Extrac	ted:	2/7/02	
Concentrate	d Extract	Volume:	1000 (uL)		Da	te Analyz	ed:	2/8/02	
Injection Vol	ume: <u>1.</u>	0 (uL)			Dili	ution Fac	tor:	1.0	
GPC Cleanu	p: (Y/N)	N	_ pH:						
				CON	ICENT	RATION	UNIT	S:	
Number TICs	s found:	0		(ug/	L or ug	/Kg)	UG/L		
CAS NUME	BER	COMPO	DUND NAME			RT	ES	T. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name

Date Acquired

BNA06585.D

Sample Name

2007507

Operator

BPatel 9-Feb-02 Misc Info

600GW5

Sample Multiplier 1

					Regulatory Level			
CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	0.61	ug/L	
62-75-9	N-nitroso-dimethylamine	<u> </u>		not detected	20	0.64	ug/L	ļ
62-53-3	Aniline			not detected	NLE	0.78	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.17	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84	ug/L	
67-72-1	Hexachloroethane		·	not detected	10	0.96	ug/L	· · · · · · · · · · · · · · · · · · ·
98-95-3	Nitrobenzene			not detected	10	1.27	ug/L	
78-59-1	Isophorone			not detected	100	0.88	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.06	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11	ug/L	
77-47-4	Hexachlorocyclopentadiene	<u> </u>		not detected	50	1.26	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.93	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85	ug/L	
83-32-9	Acenaphthene			not detected	400	1.02	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.06	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10	ug/L	
86-73-7	Fluorene			not detected	300	0.84	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.92		*
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10		
103-33-3	Azobenzene .			not detected	NLE	1.06		
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87		
118-74-1	Hexachlorobenzene			not detected	10	1.08		
85-01-8	Phenanthrene			not detected	NLE	1,08		
120-12-7	Anthracene			not detected	2000	0.93		
84-74-2	Di-n-butylphthalate			not detected	900	1.23		
206-44-0	Fluoranthene			not detected	300	0.90		-

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06585.D

Sample Name

2007507

Operator

BPatel

Misc Info

600GW5

Date Acquired

9-Feb-02

Sample Multiplier

1

			_		Regulatory Level (ug/L)*	* ===		
CAS#	Name	R.T.	Response	Result	\- - /	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMF	LE NO
-----	------	-------

					00.150			
Lab Name:	FMETI	<u> </u>	· 	Lab	Code <u>13461</u>		600G	W5
Project:	02-125	39 C	ase No.: 20075	Lo	ocation: 600 G	_ SE	OG No.:	
Matrix: (soil/	water)	WATER			Lab Sample	ID:	2007507	
Sample wt/v	ol:	1000	(g/ml) ML		Lab File ID:	_	BNA06585.D)
Level: (low/r	med)	LOW			Date Receiv	ed: 2	2/5/02	
% Moisture:		de	canted: (Y/N)	N	Date Extrac	ted: :	2/7/02	
Concentrate	d Extrac	t Volume:	1000 (uL)		Date Analyz	ed: 2	2/9/02	
Injection Vol	ume: <u>1</u>	.0 (uL)			Dilution Fac	tor:	1.0	
GPC Cleanu	p: (Y/N)	N	pH:					
				CON	CENTRATION	UNIT	S:	
Number TICs	s found:	1		(ug/L	or ug/Kg)	UG/L	· · · · · · · · · · · · · · · · · · ·	
CAS NUME	BER	СОМРО	UND NAME		RT	ES	Г. CONC.	Q
1.		unknown			7.49		4	J

Semi-Volatile Analysis Report

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

Data File Name

BNA06588.D

Operator Date Acquired **BPatel**

9-Feb-02

Sample Name

2007508

Misc Info

Field Dup

Sample Multiplier

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine	T N. I.	Kesponse	not detected	NLE	0.61 u	
62-75-9	N-nitroso-dimethylamine	1 -	<u></u>	not detected	20	0.64 u	
62-53-3	Aniline	 -		not detected	NLE	0.78 u	-
111-44-4	bis(2-Chloroethyl)ether	 		not detected	10	0.78 u	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 u	
106-46-7	1,4-Dichlorobenzene	1		not detected	75	0.95 u	
100-51-6	Benzyl alcohol			not detected	NLE	1.17 us	1
95-50-1	1,2-Dichlorobenzene	1		not detected	600	0.96 us	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 u	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 us	
67-72-1	Hexachloroethane			not detected	10	0.96 u	
98-95-3	Nitrobenzene			not detected	10	1.27 us	
78-59-1	Isophorone			not detected	100	0.88 us	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug	
120-82-1	1,2,4-Trichlorobenzene	1 - 1		not detected	9	1.11 us	
91-20-3	Naphthalene			not detected	NLE	1.06 ug	
106-47-8	4-Chloroaniline	1		not detected	NLE	0.77 us	1
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11 ug	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug	
88-74-4	2-Nitroaniline		····································	not detected	NLE	0.95 us	
131-11-3	Dimethylphthalate			not detected	7000	1.09 us	ı/L
208-96-8	Acenaphthylene			not detected	NLE	0.93 սց	2/L
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug	/L
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug	/L
83-32-9	Acenaphthene			not detected	400	1.02 ug	/L
132-64-9	Dibenzofuran			not detected	NLE	1.06 ug	:/L
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug	:/L
84-66-2	Diethylphthalate			not detected	5000	1.10 ug	/L
86-73-7	Fluorene			not detected	300	0.84 ug	/L
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92 ug	;/L
100-01-6	4-Nitroaniline			not detected	NLE	0.92 ug	/L
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10 ug	
103-33-3	Azobenzene			not detected	NLE	1.06 ug	/ L
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 ug	
118-74-1	Hexachlorobenzene			not detected	10	1.08 ug	
85-01-8	Phenanthrene			not detected	NLE	1.08 ug	
120-12-7	Anthracene			not detected	2000	0.93 ug	
84-74-2	Di-n-butylphthalate			not detected	900	1.23 ug	
206-44-0	Fluoranthene			not detected	300	0.90 ug	

Semi-Volatile Analysis Report Page 2

Data File Name

BNA06588.D

Sample Name

2007508

Operator

BPatel

Misc Info

Field Dup

Date Acquired

9-Feb-02

Sample Multiplier

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Oualifiers
92-87-5	Benzidine		Kesponse	not detected	50		ug/L	Quainters
								
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

Page 2 of 2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

I A SHEET	EFA SAMPLE NO

			Field Dup
Lab Name: FMETL		Lab Code 13461	Tield Bup
Project: <u>02-125</u>	39 Case No.: 20075	Location: 600 G SD	G No.:
Matrix: (soil/water)	WATER	Lab Sample ID: 2	007508
Sample wt/vol:	1000 (g/mi) ML	Lab File ID: B	NA06588.D
Level: (low/med)	LOW	Date Received: 2	/5/02
% Moisture:	decanted: (Y/N)	N Date Extracted: 2	/8/02
Concentrated Extract	Volume: 1000 (uL)	Date Analyzed: 2	/9/02
Injection Volume: 1.	.0 (uL)	Dilution Factor: 1	.0
GPC Cleanup: (Y/N)	N pH:		
Number TICs found:	0	CONCENTRATION UNITS	3:
CAS NUMBER	COMPOUND NAME	RT EST.	. CONC. Q

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Lab File ID: BNA06548.D DFTPP Injection Date: 2/5/02

Instrument ID: GC_BNA_2 DFTPP Injection Time: 7:24

		% RELA	ATIVE
m/e	ION ABUNDANCE CRITERIA	ABUND	ANCE
51	30.0 - 80.0% of mass 198	34.4	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 Relative abundance	39.2	
70	Less than 2.0% of mass 69	0.3	(0.7)1
127	25.0 - 75.0% of mass 198	52.8	
197	Less than 1.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	6.9	
275	10.0 - 30.0% of mass 198	24.9	
365	Greater than 0.75% of mass 198	2.3	
441	Present, but less than mass 443	7.7	
442	40.0 - 110.0% of mass 198	52.4	
443	15.0 - 24.0% of mass 442	10.5	(20.1)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	SSTD120	SSTD120	BNA06549.D	2/5/02	7:47
02	SSTD010	SSTD010	BNA06550.D	2/5/02	8:32
03	SSTD050	SSTD050	BNA06551.D	2/5/02	9:17
04	SSTD020	SSTD020	BNA06552.D	2/5/02	10:02
05	SSTD080	SSTD080	BNA06553.D	2/5/02	10:48

²⁻Value is % mass 442

Vial: 99

Operator: BPatel

Inst

: GC/MS Ins

Data File : D:\DATA\020205\BNA06548.D Acq On : 5 Feb 2002 7:24 am

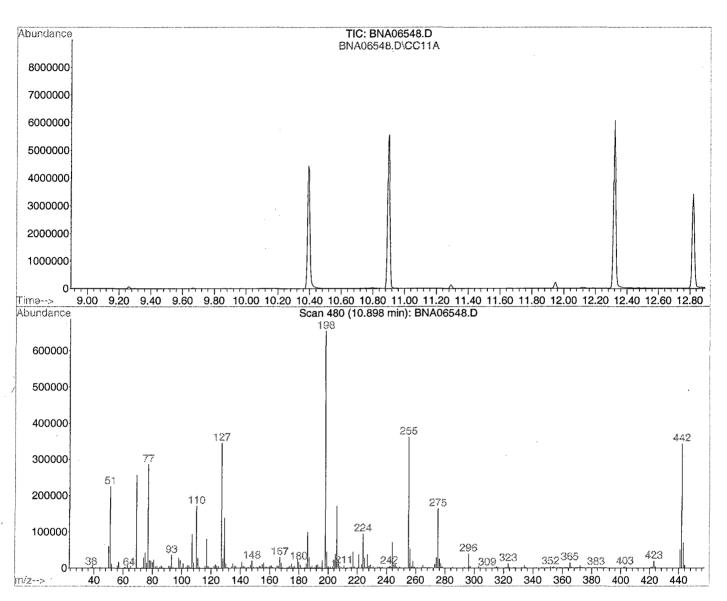
: 5 Feb 2002 7:24 am : DFTPP Tune

Misc : 50 NG/2UL Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)

Title : BNA Calibration

Sample



Spectrum Information: Scan 480

Target Mass	Rel. to	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51 68 69 70 127 197 198 199 275 365 441 442	198 69 198 69 198 198 198 198 198 443 198	30 0.00 0.00 0.00 40 0.00 100 5 10 1	60 2 100 2 60 1 100 9 30 100 99	34.4 0.0 39.2 0.7 52.8 0.0 100.0 6.9 24.9 2.3 73.4 52.4	225024 0 256448 1749 345280 0 654528 45360 163072 14753 50544 342720	PASS PASS PASS PASS PASS PASS PASS PASS
443	442	17	23	20.1	68848	PASS

: C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Method

Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002
Response via : Initial Calibration

Calibration Files

120 =BNA06549.D 80 =BNA06553.D 50 =BNA06551.D

20 =BNA06552.D 10 =BNA06550.D

		20	-BIQA00332.D 10	~DIVA	00330.	D				-
			Compound	120	80	50	20	10	Avg	%RSD
	-									
7	1) 2) 3) 4) 5)	T T S	1,4-Dichlorobenzene-d Pyridine N-nitroso-dimethylami 2-Fluorophenol Aniline	1.366 0.721 1.238	1.369	1.382 0.752 1.295	1.353 0.751 1.299	1.436 0.775 1.366	1.381 0.744 1.291	2.33 3.14 3.81 4.10
F 1	6) 7) 8) 9)	S TCM T TM	Phenol-d6 Phenol bis(2-Chloroethyl)eth 2-Chlorophenol	1.503 1.490 1.210 1.324	1.511 1.518 1.228 1.329	1.588 1.600 1.285 1.371	1.604 1.666 1.314 1.379	1.720 1.790 1.421 1.456	1.585 1.613 1.292 1.372	5.53 7.50 6.50 3.88
	10) 11) 12) 13)	${f T}$	1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzyl alcohol 1,2-Dichlorobenzene 2-Methylphenol	1.471 0.800 1.363	1.456 1.486 0.811 1.371 1.089	1.522 0.833 1.400	1.529 0.823 1.435	1.610 0.879 1.511	1.524 0.829 1.416	3.73 3.53 3.68 4.24 5.64
	14) 15) 16) 17) 18)	TPM	bis(2-chloroisopropyl 4-Methylphenol n-Nitroso-di-n-propyl Hexachloroethane	1.130 1.120 0.240	1.140 1.145	1.199 1.199 0.243	1.231 1.222 0.237	1.329 1.290 0.258	1.206 1.195 0.244	6.67 5.58 3.38 4.39
	19) 20) 21) 22)	I S T T TC	Naphthalene-d8 Nitrobenzene-d5 Nitrobenzene Isophorone 2-Nitrophenol 2,4-Dimethylphenol	0.398 0.374 0.642 0.198	0.406 0.391 0.648 0.199 0.367	0.419 0.409 0.669 0.199	0.426 0.427 0.683 0.195	0.449 0.439 0.713 0.196	0.408 0.671 0.197	4.72 6.44 4.27 0.99 5.29
	27) 28)	T TC T TM T	bis(2-Chloroethoxy)me 2,4-Dichlorophenol Benzoic Acid 1,2,4-Trichlorobenzen Naphthalene	0.374 0.290 0.302 0.340 0.891	0.387 0.287 0.288 0.345 0.962	0.405 0.290 0.276 0.342 1.021	0.425 0.295 0.236 0.346 1.079	0.445 0.294 0.239 0.350 1.128	0.407 0.291 0.268 0.345 1.016	7.01 1.15 11.11 1.08 9.22
A	29) 30) 31) 32) 33)	Т	4-Chloroaniline Hexachlorobutadiene 4-Chloro-3-methylphen 2-Methylnaphthalene	0.211 0.311 0.633	0.646	0.210 0.334 0.669	0.207 0.336 0.688	0.215 0.347 0.723	0.211 0.330 0.672	4.52 1.35 4.04 5.29
1	34) 35) 36) 37) 38) 39)		Acenaphthene-d10 Hexachlorocyclopentad 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Fluorobiphenyl 2-Chloronaphthalene	0.397 0.438 0.465 1.272 1.184	0.408 0.436 0.464 1.299 1.218	0.377 0.426 0.454 1.307 1.224	0.333 0.414 0.438 1.333 1.247	0.291 0.415 0.431 1.372 1.296	0.426 0.451 1.317 1.234	13.54 2.67 3.38 2.85 3.37
	40) 41) 42) 43) 44)	T T T	2-Nitroaniline Dimethylphthalate Acenaphthylene 2,6-Dinitrotoluene 3-Nitroaniline	1.343 1.828 0.222 0.347	0.445 1.403 1.935 0.226 0.356	1.420 2.017 0.229 0.351	1.445 2.077 0.226 0.354	1.508 2.166 0.231 0.351	1.424 2.005 0.227 0.352	0.98 4.23 6.49 1.45 1.00
	45) 46) 47) 48) 49) 50)	${ m TP}$	Acenaphthene 2,4-Dinitrophenol Dibenzofuran 4-Nitrophenol 2,4-Dinitrotoluene	0.222 1.556 0.312	1.247 0.211 1.624 0.316 0.454	0.186 1.648 0.314	0.140 1.691 0.290	0.107 1.755 0.277	0.173 1.655 0.302	4.25 28.13 4.50 5.77 1.30
an along	50) 51)		Diethylphthalate Fluorene 4-Chlorophenyl-phenyl	1.386 1.442 0.757	1.460 1.469	1.493 1.483 0.722	1.521 1.481 0.709	1.604 1.552 0.735	1.493 1.486 0.735	5.34 2.74 2.81 0.96
	54)	I	Phenanthrene-d10			IS	TD			
7 T										

: C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Method

Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002
Response via : Initial Calibration

Calibration Files

120 =BNA06549.D 80 =BNA06553.D 50 =BNA06551.D

20 =BNA06552.D =BNA06550.D 10

			Compound	120	80	50	20	10	Avg	%RSD
	55) 56)	T TC	4,6-Dinitro-2-methylp n-Nitrosodiphenylamin			0.146 0.578		0.107 0.601		15.69 2.34
#	57)	T	Azobenzene	0.711		0.803		0.929		10.84
÷ 1	58)	S	2,4,6-Tribromophenol	0.122	0.116			0.097		9.55
ił	55,	${f T}$	4-Bromophenyl-phenyle	0.259	0.249			0.234	0.244	4.31
	60)	${f T}$	Hexachlorobenzene	0.263	0.253	0.246			0.247	4.69
7]		TCM		0.175		0.158				11.92
E	62)	$^{ m T}$	Phenanthrene	1.094		1.174		1.261	1.173	5.40
	63) 64)	T T	Anthracene Di-n-butylphthalate	1.132		1.229		1.294		5.13 6.78
<u> </u>	65)	TC	Fluoranthene			1.267				3.13
			Tagranene	1.173	1.250	1.207	1.200	1.27	1.255	3.13
	66)	I	Chrysene-d12			IS	STD			
	67)	${f T}$	Benzidine			0.465				4.65
	68)	TM	Pyrene			1.256				4.58
	68) 69) 70)	S	p-Terphenyl-d14			0.927				1.14
E.3		T	Butylbenzylphthalate			0.621				2.40
	71) 72)	T T	Benzo[a]anthracene		1.337 0.479	1.356		0.432		2.26
- C 1	73)	$^{ ext{ iny T}}$	3,3'-Dichlorobenzidin Chrysene			1.213				5.23 2.44
· .	74)	$\overset{\scriptscriptstyle{1}}{\mathbf{T}}$	bis(2-Ethylhexyl)phth							3.35
_	, -,	-	DIB (Z Benyinekyi) phen	0.755	0.025	0.050	0.035	0.071	0.007	3.33
7 1	75)	I	Perylene-d12			IS	STD		-	
-	76)	TC	Di-n-octylphthalate			1.952				4.36
ü)	${f T}$	Benzo[b]fluoranthene			1.699				1.86
	.1	T	Benzo[k]fluoranthene			1.700				1.78
7 1	79)	TC	Benzo[a]pyrene			1.615				2.60
4	80) 81)	$^{ m T}$	<pre>Indeno[1,2,3-cd]pyren Dibenz[a,h]anthracene</pre>	1.695 1.595		1.563				6.83 4.83
	82)	${ m T}$	Benzo[g,h,i]perylene	1.521		1.498				2.94
<i>5</i> 1	- - ,	-	20120[9,11,1][01,10110	1.021	1.515	1.201		_,	,	21,71

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Instrument ID: GC_BNA_2 DFTPP Injection Time: 11:19

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
51	30.0 - 80.0% of mass 198	34.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	39.0
70	Less than 2.0% of mass 69	0.3 (0.7)1
127	25.0 - 75.0% of mass 198	53.2
197	Less than 1.0% of mass 198	0.6
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	23.5
365	Greater than 0.75% of mass 198	2.1
441	Present, but less than mass 443	7.6
442	40.0 - 110.0% of mass 198	51.6
443	15.0 - 24.0% of mass 442	10.3 (19.9)2

1-Value is % mass 69

2-Value is % mass 442

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

	EPA	LAB ·	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01[SSTD050	SSTD050	BNA06569.D	2/8/02	11:45
02	MB-2939	MB-2939	BNA06570.D	2/8/02	12:30
03	2006804MS	2006804MS	BNA06575.D	2/8/02	16:32
04	2006804MSD	2006804MSD	BNA06576.D	2/8/02	17:21
05	FIELD BLANK	2007502	BNA06580.D	2/8/02	20:30
06	600GW1	2007503	BNA06581.D	2/8/02	21:17
07	600GW2	2007504	BNA06582.D	2/8/02	22:04
08	600GW3	2007505	BNA06583.D	2/8/02	22:50
09	600GW4	2007506	BNA06584.D	2/8/02	23:36
10	600GW5	2007507	BNA06585.D	2/9/02	0:23
11	MB-2947	MB-2947	BNA06587.D	2/9/02	1:55
12	FIELD DUP	2007508	BNA06588.D	2/9/02	2:41

Vial: 99

Operator: BPatel

: GC/MS Ins

Inst

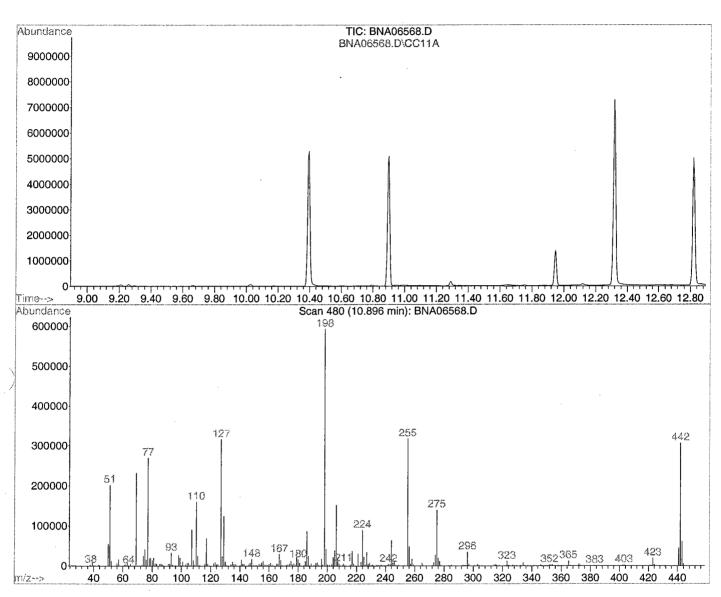
Data File : D:\DATA\020208\BNA06568.D

Acq On : 8 Feb 2002 11:19 am Sample : DFTPP Tune

Misc : 50 NG/2UL Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)

Title : BNA Calibration



Spectrum Information: Scan 480

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	34.0 0.0 39.0 0.7 53.2 0.6 100.0 7.1 23.5 2.1 73.8 51.6 19.9	201728 0 231808 1721 315648 3703 593792 42096 139776 12504 45000 306368 60976	PASS PASS PASS PASS PASS PASS PASS PASS

Evaluate Continuing Calibration Report

Data File : D:\DATA\020208\BNA06569.D Vial: 100 Acq On : 8 Feb 2002 11:45 am Sample : Sstd050 Misc : 50 PPM STD Operator: BPatel Inst : GC/MS Ins Multiplr: 1.00

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

Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002
Response via : Multiple Level Calibration

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

Max. RRF Dev: 25% Max. Rel. Area: 200%

_		natibev. 250 nati. Ref.					
		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
12345678901234567 14567	T T S T S TCM T TM T TCM T	1,4-Dichlorobenzene-d4 Pyridine N-nitroso-dimethylamine 2-Fluorophenol Aniline Phenol-d6 Phenol bis(2-Chloroethyl)ether 2-Chlorophenol 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzyl alcohol 1,2-Dichlorobenzene 2-Methylphenol bis(2-chloroisopropyl)ether 4-Methylphenol n-Nitroso-di-n-propylamine	1.000 1.381 0.744 1.291 1.997 1.585 1.613 1.292 1.372 1.502 1.524 0.829 1.416 1.137 1.206 1.195 0.244	1.000 1.421 0.772 1.319 2.001 1.619 1.654 1.318 1.402 1.506 1.538 0.868 1.416 1.162 1.162 1.274 1.236 0.248	0.0 -2.9 -3.8 -2.2 -0.2 -2.1 -2.5 -2.0 -2.2 -0.3 -0.9 -4.7 0.0 -2.2 -5.6 -3.4 -1.6	97 99 99 98 96 98 100 99 97 98 101 98 100 103 100 98	0.00 -0.01 0.00 0.00 0.00 0.00 0.00 0.00
18	$\mathbf{T}^{\mathbf{I}\mathbf{I}\mathbf{I}\mathbf{I}}$	Hexachloroethane	0.604	0.597	1.2	95	0.00
22344567890123 223433 2333 3333 3333 3333 3333 3333	T TC T TM T	Naphthalene-d8 Nitrobenzene-d5 Nitrobenzene Isophorone 2-Nitrophenol 2,4-Dimethylphenol bis(2-Chloroethoxy)methane 2,4-Dichlorophenol Benzoic Acid 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline Hexachlorobutadiene 4-Chloro-3-methylphenol 2-Methylnaphthalene	1.000 0.420 0.408 0.671 0.197 0.382 0.407 0.291 0.268 0.345 1.016 0.425 0.211 0.330 0.672	1.000 0.424 0.415 0.671 0.202 0.384 0.410 0.288 0.300 0.337 1.015 0.414 0.209 0.338 0.664	0.0 -1.7 0.0 -2.5 -0.5 -0.7 1.0 -11.9 2.3 0.1 2.6 0.9 -2.4 1.2	99 100 100 99 100 98 107 97 98 96 98 100 98	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
456789012345678c 1231	T T T T	Acenaphthene-d10 Hexachlorocyclopentadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Fluorobiphenyl 2-Chloronaphthalene 2-Nitroaniline Dimethylphthalate Acenaphthylene 2,6-Dinitrotoluene 3-Nitroaniline Acenaphthene 2,4-Dinitrophenol Dibenzofuran 4-Nitrophenol 2,4-Dinitrotoluene Diethylphthalate Fluorene 4-Chlorophenyl-phenylether 4-Nitroaniline	0 2 4 7	1.651	0.0 41.3 -2.1 -2.0 0.2 -0.8 -5.0 -2.5 -0.4 -2.6 2.3 0.9 -14.5 0.2 -13.9 -2.5 -0.1 1.1	98 98 97 98	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0

Evaluate Continuing Calibration Report

Data File : D:\DATA\020208\BNA06569.D Acq On : 8 Feb 2002 11:45 am Sample : Sstd050 Misc : 50 PPM STD Operator: BPatel Inst : GC/MS Ins Multiplr: 1.00 GC Integration Params: rteint2.p MS Integration Params: RTEINT.P

: C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)

Method : C:\HPCHEM\1\METHODS\M2629
Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002 Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54 I 55 TC 55 TC 57 T 58 S 59 T 51 TCM 63 T 63 T 63 T 63 TC	Phenanthrene-d10 4,6-Dinitro-2-methylphenol n-Nitrosodiphenylamine Azobenzene 2,4,6-Tribromophenol 4-Bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Di-n-butylphthalate Fluoranthene	1.000 0.138 0.578 0.811 0.109 0.244 0.247 0.154 1.173 1.217 1.290 1.253	1.000 0.145 0.579 0.827 0.106 0.236 0.240 0.161 1.180 1.226 1.372 1.253	0.0 -5.1 -0.2 -2.0 2.8 3.3 2.8 -4.5 -0.6 -0.7 -6.4 0.0	97 100 94 95 95 97 97	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
667 TM 569 TT 7712	Chrysene-d12 Benzidine Pyrene p-Terphenyl-d14 Butylbenzylphthalate Benzo[a]anthracene 3,3'-Dichlorobenzidine Chrysene bis(2-Ethylhexyl)phthalate	1.000 0.477 1.248 0.920 0.613 1.324 0.455 1.211 0.837	1.000 0.580 1.273 0.948 0.661 1.377 0.495 1.235 0.908	0.0 -21.6 -2.0 -3.0 -7.8 -4.0 -8.8 -2.0 -8.5	94 118 96 97 101 96 101	0.00 0.00 0.00 0.00 0.00 0.00 0.00
75 I 76 TC 77 T 78 T 79 TC 80 T 81 T 82 T	Perylene-d12 Di-n-octylphthalate Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Indeno[1,2,3-cd]pyrene Dibenz[a,h]anthracene Benzo[g,h,i]perylene	1.000 1.871 1.684 1.684 1.603 1.554 1.502 1.477	1.000 2.103 1.716 1.696 1.626 1.542 1.497	0.0 -12.4 -1.9 -0.7 -1.4 0.8 0.3	94 95 93	0.00 0.00 0.00 0.00 0.00 -0.01 -0.01

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA	SA	MP	LE	NC
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Lab Name:	FMETL		Lab C	Code 13461	MB-2939
Project:	02-1253	9 Case No.:	20075 Loc	cation: 600 G S	 DG No.:
Lab File ID:	BNA	06570.D		Lab Sample ID:	MB-2939
Instrument IE):	GC/MS Ins		Date Extracted:	2/7/02
Matrix: (soil/v	vater)	WATER		Date Analyzed:	2/8/02
Level: (low/n	ned)	LOW		Time Analyzed:	12:30

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

	EPA	LAB	LAB	DATE
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	2006804MS	2006804MS	BNA06575.D	2/8/02
02	2006804MSD	2006804MSD	BNA06576.D	2/8/02
03	FIELD BLANK	2007502	BNA06580.D	2/8/02
04	600GW1	2007503	BNA06581.D	2/8/02
05	600GW2	2007504	BNA06582.D	2/8/02
06	600GW3	2007505	BNA06583.D	2/8/02
07	600GW4	2007506	BNA06584.D	2/8/02
08	600GW5	2007507	BNA06585.D	2/9/02

COMMENTS:		
	•	

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name:	FMETL			Lab Code 13461	MB-2947
Project:	02-1253	9 Case No	o.: 20075	Location: 600 G SD	G No.:
_ab File ID:	BNA	06587.D		Lab Sample ID:	MB-2947
nstrument IE	D:	GC/MS Ins		Date Extracted: 2	2/8/02
Matrix: (soil/v	water)	WATER		Date Analyzed: 2	2/9/02
_evel: (low/n	ned)	LOW		Time Analyzed:	1:55

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

	EPA	LAB	LAB	DATE
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	FIELD DUP	2007508	BNA06588.D	2/9/02

COMMENTS:

Base Neutral Spike Report

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

Data File Name

BNA06575.D

Sample Name

2006804MS

Date Acquired	8-Feb-02		
CAS#	Name	Amount Recovered	Percent Recovered
110-86-1	Pyridine	2.31 ug/L	11.53
62-75-9	N-nitroso-dimethylamine	9.80 ug/L	49.01
62-53-3	Aniline	4.28 ug/L	21.38
111-44-4	bis(2-Chloroethyl)ether	15.89 ug/L	. 79.43
541-73-1	1,3-Dichlorobenzene	12.79 ug/L	63.94
106-46-7	1,4-Dichlorobenzene	13.00 ug/L	64.99
100-51-6	Benzyl alcohol	11.96 ug/L	59.79
95-50-1	1,2-Dichlorobenzene	13.29 ug/L	66.44
39638-32-9	bis(2-chloroisopropyl)ether	16.78 ug/L	83.90
621-64-7	n-Nitroso-di-n-propylamine	16.16 ug/L	80.81
67-72-1	Hexachloroethane	11.05 ug/L	55.26
98-95-3	Nitrobenzene	16.74 ug/L	83.68
78-59-1	Isophorone	17.71 ug/L	88.56
111-91-1	bis(2-Chloroethoxy)methane	16.70 ug/L	83.49
120-82-1	1,2,4-Trichlorobenzene	13.38 ug/L	66.92
91-20-3	Naphthalene	15.39 ug/L	76.95
106-47-8	4-Chloroaniline	7.45 ug/L	37.27
87-68-3	Hexachlorobutadiene	12.27 ug/L	61.34
91-57-6	2-Methylnaphthalene	15.05 ug/L	75.25
77-47-4	Hexachlorocyclopentadiene	4.44 ug/L	22.22
91-58-7	2-Chloronaphthalene	15.81 ug/L	79.07
88-74-4	2-Nitroaniline	15.68 ug/L	78.40
131-11-3	Dimethylphthalate	16.95 ug/L	84.77
208-96-8	Acenaphthylene	15.11 ug/L	75.57
506-20-2	2,6-Dinitrotoluene	17.84 ug/L	89.18
99-09-2	3-Nitroaniline	8.93 ug/L	44.64
83-32-9	Acenaphthene	15.88 ug/L	79.41
132-64-9	Dibenzofuran	15.68 ug/L	78.39

Base Neutral Spike Report

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

Data File Name

BNA06576.D

Sample Name

2006804MSD

Date Acquired 8-Feb-02

CAS#	Name	Amount Recovered	Percent Recovere
110-86-1	Pyridine	0.01 detected	0.06
62-75-9	N-nitroso-dimethylamine	10.74 ug/L	.53.68
62-53-3	Aniline	0.59 detected	2.97
111-44-4	bis(2-Chloroethyl)ether	16.94 ug/L	84.68
541-73-1	1,3-Dichlorobenzene	15.57 ug/L	77.87
106-46-7	1,4-Dichlorobenzene	15.49 ug/L	77.43
100-51-6	Benzyl alcohol	13.31 ug/L	66.57
95-50-1	1,2-Dichlorobenzene	15.78 ug/L	78.89
39638-32-9	bis(2-chloroisopropyl)ether	17.54 ug/L	87.70
621-64-7	n-Nitroso-di-n-propylamine	16.47 ug/L	82.33
67-72-1	Hexachloroethane	13.98 ug/L	69.91
98-95-3	Nitrobenzene	17.44 ug/L	87.19
78-59-1	Isophorone	18.50 ug/L	92.51
111-91-1	bis(2-Chloroethoxy)methane	17.43 ug/L	87.16
120-82-1	1,2,4-Trichlorobenzene	15.73 ug/L	78.66
91-20-3	Naphthalene	17.12 ug/L	85.61
106-47-8	4-Chloroaniline	4.22 ug/L	21.12
87-68-3	Hexachlorobutadiene	15.63 ug/L	78.13
91-57-6	2-Methylnaphthalene	16.51 ug/L	82.53
77-47-4	Hexachlorocyclopentadiene	5.23 ug/L	26.16
91-58-7	2-Chloronaphthalene	16.89 ug/L	84.45
88-74-4	2-Nitroaniline	16.38 ug/L	81.90
131-11-3	Dimethylphthalate	17.70 ug/L	88.51
208-96-8	Acenaphthylene	15.89 ug/L	79.44
606-20-2	2,6-Dinitrotoluene	18.16 ug/L	90.81
99-09-2	3-Nitroaniline	9.00 ug/L	45.01
83-32-9	Acenaphthene	16.65 ug/L	83.27
132-64-9	Dibenzofuran	16.20 ug/L	81.00
121-14-2	2,4-Dinitrotoluene	17.85 ug/L	89.26
84-66-2	Diethylphthalate	18.23 ug/L	91.13
86-73-7	Fluorene	16.46 ug/L	82.32
7005-72-3	4-Chlorophenyl-phenylether	16.01 ug/L	80.04
100-01-6	4-Nitroaniline	13.62 ug/L	68.11
86-30-6	n-Nitrosodiphenylamine	16.98 ug/L	84.91
103-33-3	Azobenzene	18.08 ug/L	90.41
101-55-3	4-Bromophenyl-phenylethe	16.09 ug/L	80.45
118-74-1	Hexachlorobenzene	15.85 ug/L	79.27
85-01-8	Phenanthrene	17.79 ug/L	88.93
120-12-7	Anthracene	16.78 ug/L	83.92
34-74-2	Di-n-butylphthalate	19.10 ug/L	95.52
206-44-0	Fluoranthene	16.90 ug/L	84.52
129-00-0	Pyrene	18.91 ug/L	94.53
35-68-7	Butylbenzylphthalate	19.77 ug/L	98.87
56-55-3	Benzo[a]anthracene	17.09 ug/L	85.47
218-01-9	Chrysene	17.84 ug/L	89.19
117-81-7	bis(2-Ethylhexyl)phthalate	19.60 ug/L	98.01
17-84-0	Di-n-octylphthalate	19.19 ug/L	95.93
205-99-2	Benzo[b]fluoranthene	16.73 ug/L	83.63
207-08-9	Benzo[k]fluoranthene	16.73 ug/L	83.66
50-32-8	Benzo[a]pyrene	16.03 ug/L	80.16
93-39-5	Indeno[1,2,3-cd]pyrene	16.07 ug/L	80.35
3-70-3	Dibenz[a,h]anthracene		
·J-70-J	Producta'ntanniarciic	16.81 ug/L 16.94 ug/L	84.04

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Lab Code 13461

Lab File ID (Standard): BNA06569.D Date Analyzed: 2/8/02

Instrument ID: GC_BNA_2 Time Analyzed: 11:45

		IS1DCB	DT "	IS2NAP	DT. II	IS3ANE	DT #
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	860290	10.94	3194676	13.90	1629607	18.16
	UPPER LIMIT	1720580	11.44	6389352	14.40	3259214	18.66
	LOWER LIMIT	430145	10.44	1597338	13.40	814804	17.66
	EPA SAMPLE NO.						
01	MB-2939	898925	10.94	3365570	13.89	1736220	18.16
02	2006804MS	801047	10.94	2971505	13.90	1531680	18.16
03	2006804MSD	836450	10.94	3112773	13.90	1612022	18.17
04	FIELD BLANK	834266	10.94	3089969	13.89	1600850	18.16
05	600GW1	840520	10.94	3080262	13.90	1598071	18.16
06	600GW2	816229	10.94	2965614	13.89	1545532	18.16
07	600GW3	864075	10.94	3117121	13.89	1642964	18.16
08	600GW4	858363	10.94	3117684	13.89	1608515	18.16
09	600GW5	801816	10.94	2924925	13.89	1514088	18.16
10	MB-2947	878009	10.94	3231697	13.89	1677861	18.16
11	FIELD DUP	938259	10.94	3398044	13.89	1762738	18.16

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

Lab File ID (Standard): BNA06569.D Date Analyzed: 02/08/02

Instrument ID: GC_BNA_2 Time Analyzed: 11:45

	-	IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	2968215	21.79	2846493	28.29	2059289	31.64
	UPPER LIMIT	5936430	21.29	5692986	27.79	4118578	31.14
	LOWER LIMIT	1484108	22.29	1423247	28.79	1029645	32.14
	EPA SAMPLE NO.						
01	MB-2939	3156536	21.79	2978375	28.28	2258271	31.63
02	2006804MS	2789565	21.79	2580150	28.29	1936486	31.64
03	2006804MSD	2912301	21.79	2706007	28.29	2004141	31.64
04	FIELD BLANK	2925251	21.79	2807421	28.28	2099976	31.63
05	600GW1	2903369	21.79	2845681	28.28	2135818	31.64
06	600GW2	2835136	21.79	2733310	28.28	2050140	31.63
07	600GW3	3016901	21.79	2978533	28.28	2251183	31.64
08	600GW4	2978737	21.79	2911255	28.28	2197134	31.63
09	600GW5	2800057	21.79	2769378	28.28	2082896	31.64
10	MB-2947	3089099	21.79	3028995	28.28	2274340	31.63
11	FIELD DUP	3251806	21.79	3300466	28.28	2466572	31.64

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

```
(QT/LSC Reviewed)
                                   Quantitation Report
  Data File : D:\DATA\020208\BNA06570.D
                                                                   Vial: 1
 Acq On : 8 Feb 2002 12:30 pm Sample : MB-2939
                                                               Operator: BPatel
                                                               Inst : GC/MS Ins
Misc
                                                               Multiplr: 1.00
  MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
    hant Time: Feb 8 13:07 2002
                                                    Quant Results File: M262552.RES
  Quant Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
 Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002
Response via : Initial Calibration
DataAcq Meth : M262552
   Internal Standards
                                        R.T. QIon Response Conc Units Dev(Min)
   ______
     1) 1,4-Dichlorobenzene-d4 10.94 152 898925 40.00 ug/L
19) Naphthalene-d8 13.89 136 3365570 40.00 ug/L
34) Acenaphthene-d10 18.16 164 1736220 40.00 ug/L
54) Phenanthrene-d10 21.79 188 3156536 40.00 ug/L
66) Chrysene-d12 28.28 240 2978375 40.00 ug/L
                                                                                   0.00
                                                                                 0.00
    19) Naphthalene-d8
34) Acenaphthene-d10
54) Phenanthrene-d10
                                                                                   0.00
                                                                                  0.00
    66) Chrysene-d12
                                                                                  -0.01
    75) Perylene-d12
                                        31.63 264 2258271
                                                                40.00 ug/L
                                                                                 0.00
   System Monitoring Compounds
                                         8.15 112 1386418 47.80 ug/L
                                                                                   0.00
     4) 2-Fluorophenol
                                    Range 21 - 100 Recovery = 47.80%
10.16 99 1126913 31.64 ug/L
Range 10 - 94 Recovery = 31.64%
     Spiked Amount 100.000
     6) Phenol-d6
                      100.000
     Spiked Amount
                                     12.25 82 1272453 36.04 ug/L
                                                                                   0.00
    20) Nitrobenzene-d5
                                    Range 35 - 114 Recovery = 72.08%
     Spiked Amount 50.000
    38) 2-Fluorobiphenyl
                                     16.53 172 2145476 37.54 ug/L
                                                                                   0.00
                                    Range 43 - 116 Recovery = 75.08%
     Spiked Amount 50.000
                                    20.11 330 710528 82.77 ug/L
Range 10 - 123 Recovery = 82.77%
25.73 244 3184637 46.51 ug/L
                                                                                   0.00
    58) 2,4,6-Tribromophenol
     Spiked Amount 100.000
    69) p-Terphenyl-d14
     Spiked Amount
                     50.000
                                    Range 33 - 141 Recovery = 93.02\%
```

rget Compounds Qvalue

Quantitation Report Data File : D:\DATA\020208\BNA06570.D Vial: 1 : 8 Feb 2002 12:30 pm Operator: BPatel Acq On Sample : MB-2939 Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Time: Feb 8 13:07 2002 Quant Results File: M262552.RES : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Method Title : BNA Calibration Last Update : Tue Feb 05 14:50:22 2002 Response via : Initial Calibration TIC: BNA06570.D 7000000 6500000 6000000 5500000 5000000 4500000 4000000 Nitrobenzene-d5,S 3500000 3000000 2500000 2000000 1500000 000000 500000 6.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 Time--> 4.00 8.00 10.00 12.00 32.00 34.00 Abundance BNA06570.D\CC11A 90 80 70 60 50 40 30 20

10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00

BNA06570.D M262552.M Mon Feb 11 11:48:20 2002

6.00 8.00

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Page 2

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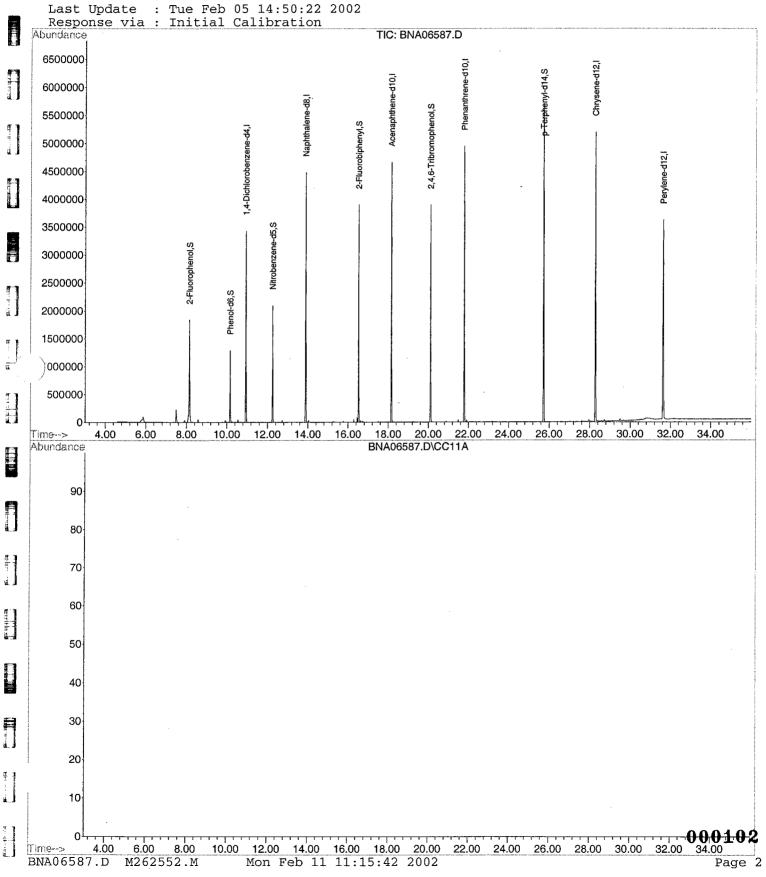
rget Compounds Ovalue

Quantitation Report

Data File : D:\DATA\020208\BNA06587.D Vial: 18 : 9 Feb 2002 Operator: BPatel Aca On Sample : MB-2947 Inst : GC/MS Ins Multiplr: 1.00 Misc : MB-020208 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Time: Feb 9 2:31 2002 Ouant Results File: M262552.RES

Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)

Title : BNA Calibration



```
Quantitation Report
                                                            (QT Reviewed)
  Data File : D:\DATA\020208\BNA06580.D
                                                                  Vial: 11
Acq On : 8 Feb 2002 8:30 pm

| Sample : 2007502 | Misc : Field Blank
                                                              Operator: BPatel
                                                              Inst : GC/MS Ins
                                                              Multiplr: 1.00
  MS Integration Params: RTEINT.P
                                             GC Integration Params: rteint2.p
    lant Time: Feb 8 21:07 2002
                                                   Quant Results File: M262552.RES
Quant Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
  Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002
  Response via : Initial Calibration
DataAcq Meth : M262552
                                        R.T. QIon Response Conc Units Dev(Min)
   Internal Standards
   _______
     1) 1,4-Dichlorobenzene-d4 10.94 152 834266 40.00 ug/L 0.00 l9) Naphthalene-d8 13.89 136 3089969 40.00 ug/L 0.00 l34) Acenaphthene-d10 18.16 164 1600850 40.00 ug/L 0.00 l54) Phenanthrene-d10 21.79 188 2925251 40.00 ug/L 0.00 l66) Chrysene-d12 28.28 240 2807421 40.00 ug/L -0.01 l75) Perylene-d12 31.63 264 2099976 40.00 ug/L 0.00
    19) Naphthalene-d8
    34) Acenaphthene-d10
    54) Phenanthrene-d10
    66) Chrysene-d12
    75) Perylene-d12
   System Monitoring Compounds
                                                                  0.00 ug/L
                                        0.00 112
                                                           0
     4) 2-Fluorophenol
                                                        Recovery = 0.00%#
0 0.00 ug/L
                                   Range 21 - 100
                                        0.00 99
04
     Spiked Amount
                     100.000
     6) Phenol-d6
                                      nge 10 - 94 Recovery = 0.00%#
12.25 82 1069742 33.00 ug/L 0.00
                                   Range 10 - 94
     Spiked Amount
                        100.000
    20) Nitrobenzene-d5
     Spiked Amount 50.000
                                    Range 35 - 114 Recovery = 66.00\%
                                    16.53 172 1719223 32.63 ug/L 0.00
    38) 2-Fluorobiphenyl
     Spiked Amount 50.000
                                   Range 43 - 116 Recovery = 65.26%
                                                         0 0.00 ug/L
                                     0.00 330
    58) 2,4,6-Tribromophenol
                                   Range 10 - 123 Recovery = 0.00%#
25.73 244 1424706 22.07 ug/L
     Spiked Amount 100.000
    69) p-Terphenyl-d14
                     50.000
     Spiked Amount
                                   Range 33 - 141 Recovery = 44.14\%
    rget Compounds
                                                                               Ovalue
```

Quantitation Report Data File : D:\DATA\020208\BNA06580.D Vial: 11 : 8 Feb 2002 8:30 pm Operator: BPatel Acq On Sample : 2007502 Inst : GC/MS Ins Multiplr: 1.00 : Field Blank GC Integration Params: rteint2.p MS Integration Params: RTEINT.P Quant Time: Feb 8 21:07 2002 Quant Results File: M262552.RES : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Method Title : BNA Calibration Last Update : Tue Feb 05 14:50:22 2002 Response via: Initial Calibration TIC: BNA06580.D Abundance 5500000 5000000 2-Fluorobiphenyl, S 4500000 4000000 3500000 Vitrobenzene-d5,S 3000000 2500000 2000000 1500000 1000000 500000 18.00 20.00 22.00 24.00 26.00 28.00 30.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 Time--> BNA06580.D\CC11A Abundance 90 80 70 60 50 40 30 20 10

Time-> 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00 BNA06580.D M262552.M Mon Feb 11 11:14:49 2002 Page 2

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Quantitation Report
                                                               (QT/LSC Reviewed)
  Data File : D:\DATA\020208\BNA06581.D
                                                                      Vial: 12
Acq On : 8 Feb 2002 9:17 pm Sample : 2007503
                                                                 Operator: BPatel
                                                                 Inst : GC/MS Ins
Misc : 600GW1
                                                                 Multiplr: 1.00
  MS Integration Params: RTEINT.P GC Integration Params: rteint2.p
     mant Time: Feb 8 21:53 2002
                                                      Quant Results File: M262552.RES
Quant Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
  Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002
 Response via : Initial Calibration
DataAcq Meth : M262552
                                         R.T. QIon Response Conc Units Dev(Min)
   Internal Standards
   _____
     1) 1,4-Dichlorobenzene-d4 10.94 152 840520 40.00 ug/L 0.00 l9) Naphthalene-d8 13.90 136 3080262 40.00 ug/L 0.00 l84) Acenaphthene-d10 18.16 164 1598071 40.00 ug/L 0.00 l54) Phenanthrene-d10 21.79 188 2903369 40.00 ug/L 0.00 l66) Chrysene-d12 28.28 240 2845681 40.00 ug/L -0.01
    19) Naphthalene-d8
34) Acenaphthene-d10
54) Phenanthrene-d10
    66) Chrysene-d12
                                                                  40.00 ug/L 0.00
                                         31.64 264 2135818
    75) Perylene-d12
   System Monitoring Compounds
                                          0.00 112
                                                             0
                                                                     0.00 ug/L
     4) 2-Fluorophenol
                                     Range 21 - 100 Recovery = 0.00%#
0.00 99 0 0.00 ug/L
Range 10 - 94 Recovery = 0.00%#
12.25 82 1073153 33.21 ug/L 0.00
     Spiked Amount 100.000
     6) Phenol-d6
                      100.000
     Spiked Amount
    20) Nitrobenzene-d5
                                     Range 35 - 114 Recovery = 66.42%
16.53 172 1757971 33.42 ug/L 0.00
     Spiked Amount 50.000
    38) 2-Fluorobiphenyl
                                     Range 43 - 116 Recovery = 66.84% 0.00 330 0 0.00 ug/L
     Spiked Amount 50.000
    58) 2,4,6-Tribromophenol
                                     Range 10 - 123 Recovery = 0.00%#
25.73 244 1596925 24.41 ug/L 0.00
     Spiked Amount 100.000
    69) p-Terphenyl-d14
                                     Range 33 - 141 Recovery = 48.82%
     Spiked Amount 50.000
     rget Compounds
                                                                                   Ovalue
```

000105

Quantitation Report Data File : D:\DATA\020208\BNA06581.D Vial: 12 Acq On : 8 Feb 2002 9:17 pm Operator: BPatel Sample : 2007503 : GC/MS Ins Inst Multiplr: 1.00 Misc : 600GW1 GC Integration Params: rteint2.p Quant Results File: M262552.RES MS Integration Params: RTEINT.P Quant Time: Feb 8 21:53 2002 : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Title : BNA Calibration Last Update : Tue Feb 05 14:50:22 2002 Response via : Initial Calibration TIC: BNA06581.D Abundance 5500000 5000000 2-Fluorobiphenyl,S 4500000 4000000 3500000 3000000 2500000 2000000 1500000 1000000 500000 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00 Time--> Abundance BNA06581.D\CC11A 90 80 70 60 50

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(QT/LSC Reviewed)

Data File : D:\DATA\020208\BNA06582.D Vial: 13 Acq On : 8 Feb 2002 10:04 pm

| Sample : 2007504 | Misc : 600GW2 Operator: BPatel Inst : GC/MS Ins Multiplr: 1.00

MS Integration Params: RTEINT.P GC Integration Params: rteint2.p pant Time: Feb 11 11:01 2002 Quant Results File: M262552.RES

Quant Method: C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
Title: BNA Calibration
Last Update: Tue Feb 05 14:50:22 2002

Response via : Initial Calibration

	DataAcq Meth : M262552	acion					
	Internal Standards	R.T.	QIon	Response	Conc U	nits De	ev(Min)
11.5.11.5.	1) 1,4-Dichlorobenzene-d4 19) Naphthalene-d8 34) Acenaphthene-d10			816229 2965614	40.00	ug/L ug/L	0.00
Est. All All	54) Phenanthrene-d10	18.16 21.79 28.28 31.63	188 240	1545532 2835136 2733310 2050140	$40.00 \\ 40.00$	ug/L ug/L ug/L ug/L	0.00 -0.02
Aller or all the	System Monitoring Compounds 4) 2-Fluorophenol Spiked Amount 100.000	Range 21	- 100	0 Recove	ry =	ug/L 0.00	18#
	6) Phenol-d6 Spiked Amount 100.000 20) Nitrobenzene-d5 Spiked Amount 50.000 38) 2-Fluorobiphenyl	Range 10 12.25 Range 35	- 94 82 - 114	0 Recove 1074985 Recove 1728326	ry = 34.55 ry =	0.00 ug/L 69.10	0.00 %
	Spiked Amount 50.000 58) 2,4,6-Tribromophenol Spiked Amount 100.000 69) p-Terphenyl-d14	Range 43 0.00 Range 10 25.73	- 116 330 - 123 244	Recove 0 Recove 1589318	ry = 0.00 ry = 25.29	67.96 ug/L 0.00 ug/L	% %# 0.00
Mental Color	Spiked Amount 50.000 rget Compounds 45) Acenaphthene	Range 33					value

Quantitation Report Data File : D:\DATA\020208\BNA06582.D Vial: 13 Operator: BPatel : 8 Feb 2002 10:04 pm Acq On : 2007504 : GC/MS Ins Sample Inst Multiplr: 1.00 Misc : 600GW2 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Results File: M262552.RES Quant Time: Feb 11 11:01 2002 : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Method Title : BNA Calibration : Tue Feb 05 14:50:22 2002 Last Update Response via: Initial Calibration Abundance TIC: BNA06582.D 5500000 5000000 4500000 4000000 3500000 3000000 2500000 2000000 1500000 1000000 500000 14.00 6.00 8.00 10.00 12.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 4.00 Time--> Abundance BNA06582.D\CC11A 90 80 70 60 50 40 30 20 10 000108

10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00

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Mon Feb 11 11:15:07 2002

4.00

BNA06582.D

6.00

M262552.M

8.00

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Quantitation Report (QT/LSC Reviewed)
   Data File : D:\DATA\020208\BNA06583.D
                                                                                         Vial: 14
Acq On : 8 Feb 2002 10:50 pm

| Sample : 2007505 | Misc : 600GW3
                                                                                  Operator: BPatel
                                                                                   Inst : GC/MS Ins
                                                                                   Multiplr: 1.00
   MS Integration Params: RTEINT.P GC Integration Params: rteint2.p quant Time: Feb 11 11:03 2002 Quant Results File: M262552.
                                                                   Ouant Results File: M262552.RES
Quant Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
   Title : BNA Calibration
Last Update : Tue Feb 05 14:50:22 2002
  Response via : Initial Calibration
DataAcq Meth : M262552
                                                    R.T. QIon Response Conc Units Dev(Min)
    Internal Standards
    1) 1,4-Dichlorobenzene-d4 10.94 152 864075 40.00 ug/L 0.00 19) Naphthalene-d8 13.89 136 3117121 40.00 ug/L 0.00 34) Acenaphthene-d10 18.16 164 1642964 40.00 ug/L 0.00 54) Phenanthrene-d10 21.79 188 3016901 40.00 ug/L 0.00 66) Chrysene-d12 28.28 240 2978533 40.00 ug/L -0.01 75) Perylene-d12 31.64 264 2251183 40.00 ug/L 0.00
      19) Naphthalene-d8
34) Acenaphthene-d10
54) Phenanthrene-d10
66) Chrysene-d12
      75) Perylene-d12
    System Monitoring Compounds
                                               0.00 112 0 0.00 ug/L

Range 21 - 100 Recovery = 0.00%#
0.00 99 0 0.00 ug/L

Range 10 - 94 Recovery = 0.00%#
12.25 82 1087577 33.26 ug/L 0.00

Range 35 - 114 Recovery = 66.52%
16.53 172 1821284 33.68 ug/L 0.00
       4) 2-Fluorophenol
       Spiked Amount 100.000
       6) Phenol-d6
       b) Phenol-d6
Spiked Amount 100.000
      20) Nitrobenzene-d5
       Spiked Amount 50.000
      38) 2-Fluorobiphenyl
                                               Range 43 - 116 Recovery = 67.36%

0.00 330 0 0.00 ug/L

Range 10 - 123 Recovery = 0.00%#

25.73 244 1329590 19.42 ug/L 0.00

Range 33 - 141 Recovery = 38.84%
       Spiked Amount 50.000
      58) 2,4,6-Tribromophenol
       Spiked Amount 100.000
      69) p-Terphenyl-d14
      Spiked Amount 50.000
      rget Compounds
                                                                                                         Qvalue
                                                13.94 128 283183 3.58 ug/L 100
15.61 142 1552544 29.64 ug/L 97
18.23 153 58408 1.11 ug/L 97
19.49 166 144221 2.36 ug/L 99
21.84 178 194053 2.19 ug/L 98
     29) Naphthalene
     33) 2-Methylnaphthalene
     45) Acenaphthene
     51) Fluorene
      62) Phenanthrene
```

000109

Quantitation Report

Data File : D:\DATA\020208\BNA06583.D Vial: 14 Acq On : 8 Feb 2002 10:50 pm Operator: BPatel Sample : 2007505 : GC/MS Ins Inst Multiplr: 1.00 Misc : 600GW3 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Time: Feb 11 11:03 2002 Quant Results File: M262552.RES : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Method Title : BNA Calibration Last Update : Tue Feb 05 14:50:22 2002 Response via: Initial Calibration TIC: BNA06583.D Moundance 6000000 5500000 2-Fluorobiphenyl,S 2-Methylnaphthalene,T 5000000 4500000 4000000 3500000 Nitrobenzene-d5,S 3000000 2500000 2000000 1500000 1000000 500000 14.00 16.00 18.00 20.00 22.00 24.00 26.00 6.00 8.00 10.00 12.00 28.00 30.00 Time--> 4.00 32.00 Abundance BNA06583.D\CC11A 90 80 70 60 50 40 30 20 10 000110 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00 4.00

Mon Feb 11 11:15:15 2002

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BNA06583.D M262552.M

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Quantitation Report
                                                                                                                                  (QT Reviewed)
     Data File : D:\DATA\020208\BNA06584.D
                                                                                                                                                Vial: 15
Acq On : 8 Feb 2002 11:36 pm

| Sample : 2007506 | Misc : 600GW4
                                                                                                                                      Operator: BPatel
                                                                                                                                       Inst : GC/MS Ins
                                                                                                                                      Multiplr: 1.00
     MS Integration Params: RTEINT.P
                                                                                                 GC Integration Params: rteint2.p
         uant Time: Feb 9 0:12 2002
                                                                                                                 Quant Results File: M262552.RES
Quant Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
     Title : BNA Calibration
     Last Update : Tue Feb 05 14:50:22 2002
   Response via : Initial Calibration
DataAcq Meth : M262552
       Internal Standards
                                                                                     R.T. QIon Response Conc Units Dev(Min)
             _______
           1) 1,4-Dichlorobenzene-d4 10.94 152 858363 40.00 ug/L 0.00 lp) Naphthalene-d8 13.89 136 3117684 40.00 ug/L 0.00 lp) Acenaphthene-d10 18.16 164 1608515 40.00 ug/L 0.00 lp) Phenanthrene-d10 21.79 188 2978737 40.00 ug/L 0.00 lp) Chrysene-d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 2911255 40.00 ug/L -0.01 lp) Phenanthrene d12 28.28 240 ug/L -0.01 lp) Phenanthrene d12 28.28 290 ug/L -0.01 lp) Phen
         19) Naphthalene-d8
34) Acenaphthene-d10
          54) Phenanthrene-d10
          66) Chrysene-d12
                                                                                      31.63 264 2197134
          75) Perylene-d12
                                                                                                                                          40.00 ug/L -0.01
       System Monitoring Compounds
                                                                                                                               . 0
                                                                                         0.00 112
                                                                                                                                               0.00 ug/L
            4) 2-Fluorophenol
                                                                              Range 21 - 100 Recovery = 0.00%#

0.00 99 0 0.00 ug/L

Range 10 - 94 Recovery = 0.00%#

12.25 82 1036531 31.69 ug/L 0.00
            Spiked Amount
                                               100.000
            6) Phenol-d6
                                                  100.000
            Spiked Amount
          20) Nitrobenzene-d5
                                                                              Range 35 - 114 Recovery = 63.38%
16.53 172 1685709 31.84 ug/L -0.01
            Spiked Amount 50.000
          38) 2-Fluorobiphenyl
                                                                              Range 43 - 116
0.00 330
                                                                                                                            Recovery = 63.68%
0 0.00 ug/L
           Spiked Amount 50.000
          58) 2,4,6-Tribromophenol
                                                                              Range 10 - 123 Recovery = 0.00%#
25.73 244 1599378 23.90 ug/L 0.00
           Spiked Amount 100.000
          69) p-Terphenyl-d14
                                                50.000
                                                                              Range 33 - 141 Recovery = 47.80\%
           Spiked Amount
          arget Compounds
                                                                                                                                                                           Qvalue
```

000111

Quantitation Report Data File : D:\DATA\020208\BNA06584.D Vial: 15 Acq On : 8 Feb 2002 11:36 pm Operator: BPatel : GC/MS Ins Sample : 2007506 Inst Multiplr: 1.00 Misc : 600GW4 GC Integration Params: rteint2.p Quant Results File: M262552.RES MS Integration Params: RTEINT.P Quant Time: Feb 9 0:12 2002 Method . : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) : BNA Calibration Title Last Update : Tue Feb 05 14:50:22 2002 Response via: Initial Calibration TIC: BNA06584.D Abundance 5500000 5000000 1,4-Dichlorobenzene-d4,1 4500000 p-Terphenyl-d14,S 4000000 3500000 3000000 2500000 2000000 1500000 1000000 500000 18.00 20.00 22.00 24.00 26.00 28.00 30.00 4.00 8.00 10.00 12.00 14.00 16.00 Time--> 6.00 32.00 Abundance BNA06584.D\CC11A 90 80 70 60 50 40 30 20 10 000112

6.00 8.00

4.00 BNA06584.D M262552.M 10.00 12.00 14.00 16.00 18.00 20.00

Mon Feb 11 11:15:24 2002

22.00 24.00

Page 2

```
(QT/LSC Reviewed)
                                   Quantitation Report
  Data File : D:\DATA\020208\BNA06585.D
                                                                   Vial: 16
  Acq On : 9 Feb 2002 12:23 am
                                                               Operator: BPatel
| Sample : 2007507
| Misc : 600GW5
                                                               Inst : GC/MS Ins
                                                              Multiplr: 1.00
  MS Integration Params: RTEINT.P
                                             GC Integration Params: rteint2.p
    \ant Time: Feb 9 0:59 2002
                                                    Quant Results File: M262552.RES
Quant Method : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator)
  Title : BNA Calibration
  Last Update : Tue Feb 05 14:50:22 2002
 Response via : Initial Calibration
DataAcq Meth: M262552
   Internal Standards
                                        R.T. QIon Response Conc Units Dev(Min)
    ______
     1) 1,4-Dichlorobenzene-d4 10.94 152 801816 40.00 ug/L
19) Naphthalene-d8 13.89 136 2924925 40.00 ug/L
34) Acenaphthene-d10 18.16 164 1514088 40.00 ug/L
54) Phenanthrene-d10 21.79 188 2800057 40.00 ug/L
66) Chrysene-d12 28.28 240 2769378 40.00 ug/L
75) Perylene-d12 31.64 264 2082896 40.00 ug/L
    19) Naphthalene-d8
                                                                                  0.00
    34) Acenaphthene-d10
                                                                                  0.00
    54) Phenanthrene-d10
                                                                40.00 ug/L 0.00
                                                                40.00 ug/L -0.02
    66) Chrysene-d12
                                                                   40.00 ug/L 0.00
    75) Perylene-d12
   System Monitoring Compounds
                                         0.00 112
                                                            0
                                                                   0.00 ug/L
     4) 2-Fluorophenol
                                    Range 21 - 100 Recovery = 0.00%#

0.00 99 0 0.00 ug/L

Range 10 - 94 Recovery = 0.00%#

12.25 82 1065514 34.72 ug/L 0.00
                      100.000
     Spiked Amount
     6) Phenol-d6
                       100.000
     Spiked Amount
    20) Nitrobenzene-d5
                                    Range 35 - 114 Recovery = 69.44%
16.53 172 1719635 34.51 ug/L 0.00
     Spiked Amount 50.000
    38) 2-Fluorobiphenyl
                                    Range 43 - 116 Recovery = 69.02% 0.00 330 0 0.00 ug/L
     Spiked Amount 50.000
    58) 2,4,6-Tribromophenol
                                    Range 10 - 123 Recovery = 0.00%#
25.73 244 1273143 20.00 ug/L 0.00
     Spiked Amount 100.000
    69) p-Terphenyl-d14
                       50.000
                                    Range 33 - 141 Recovery = 40.00%
     Spiked Amount
                                                                                Ovalue
    rget Compounds
```

000113

Quantitation Report Data File : D:\DATA\020208\BNA06585.D Vial: 16 Acq On : 9 Feb 2002 12:23 am Operator: BPatel : 2007507 : GC/MS Ins Sample Inst Multiplr: 1.00 : 600GW5 Misc GC Integration Params: rteint2.p MS Integration Params: RTEINT.P Quant Time: Feb 9 0:59 2002 Quant Results File: M262552.RES : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Title : BNA Calibration Last Update : Tue Feb 05 14:50:22 2002 Response via: Initial Calibration TIC: BNA06585.D 5500000 5000000 1,4-Dichlorobenzene-d4,1 4500000 4000000 3500000 3000000 2500000 2000000 1500000 1000000 500000 22.00 24.00 26.00 28.00 10.00 12.00 14.00 16.00 18.00 20.00 30.00 Time--> 6.00 8.00 32.00 Abundance BNA06585.D\CC11A 90 80 70 60 50 40 30 20 10 000114

4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00

Page 2

Mon Feb 11 11:15:33 2002

BNA06585.D M262552.M

Range 33 - 141 Recovery = 48.48%

rget Compounds

50.000

69) p-Terphenyl-d14

Spiked Amount

Ovalue

000115

Quantitation Report Data File : D:\DATA\020208\BNA06588.D Vial: 19 : 9 Feb 2002 Acq On 2:41 am Operator: BPatel : GC/MS Ins Sample : 2007508 Inst Misc : Field Dup Multiplr: 1.00 GC Integration Params: rteint2.p MS Integration Params: RTEINT.P Quant Results File: M262552.RES Quant Time: Feb 11 11:07 2002 : C:\HPCHEM\1\METHODS\M262552.M (RTE Integrator) Title : BNA Calibration Last Update : Tue Feb 05 14:50:22 2002 Response via : Initial Calibration TIC: BNA06588.D 65000001 6000000 5500000 1,4-Dichlorobenzene-d4,1 5000000 4500000 4000000 3500000 3000000 2500000 2000000 1500000 1000000 500000 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 6.00 28.00 30.00 Time--> 4.00 8.00 BNA06588.D\CC11A Abundance 90 80 70 60 50 40 30 20 10 000116

6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00

Mon Feb 11 11:15:51 2002

30.00 32.00

34.00

Page 2

4.00

BNA06588.D M262552.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 packages will be returned or held without review until the data package is completed.

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

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

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

Laboratory Certification #13461

Methods for further guidance.

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

600 Area

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
T. B.	2000301	Aqueous	03-Jan-02	01/03/02
F. B.	2000302	Aqueous	03-Jan-02 10:00	01/03/02
600 GW-1/6.9'	2000303	Aqueous	03-Jan-02 10:30	01/03/02
600 GW-2/6.3'	2000304	Aqueous	03-Jan-02 10:45	01/03/02
600 GW-3/12.3'	2000305	Aqueous	03-Jan-02 11:20	01/03/02
600 GW-4/12.6'	2000306	Aqueous	03-Jan-02 13:45	01/03/02
600 GW-5/7.5'	2000307	Aqueous	03-Jan-02 14:15	01/03/02
F.D.	2000308	Aqueous	03-Jan-02	01/03/02

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright/Date

1-10-02

Laboratory Director

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CHAIN OF CUSTODY



Fort Monmouth Envonmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Days, ()ASAP Verbal

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461 Customer: D. DESA! **Analysis Parameters** Project No: 02 Comments: Location: 600 AREA Phone #:)DERA (YOMA ()Other: GROUND WATER SAMPLES Samplers Name / Company: MARK LAWRA - TVS PWS 07 Sample 15 Type bottles 15 Remarks / Preservation Method Lab Sample I.D. Sample Location Date Time 20003 T.B. AQ. 1-3-02 2 HCL F.B. 1000 X × 600 GW-1 6.9' 3 1030 × 600 GW-Z 6,31 1045 3 **†** 1 X ~ 3 6006W-3 12,3 1120 X 11 1345 0 600 GW- 4 12.6 3 X 600 GW-5 7.5 1415 X 3 11 11 Received by (signature): Relinquished by (signature): Date/Time: Relinquished by (signature): Date/Time: Received by (signature): 1450 1-3-02 Relinquished by (signature): Date/Time: Received by (signature): Relinquished by (signature): Date/Time: Received by (signature): Report Type: ()Full, ()Keduced, ()Standard, ()Screen / non-certified, ()EDD Remarks:

000002

Hrs.

Turnaround time: (Standard 3 wks, ()Rush

METHOD SUMMARY

Method Summary

EPA Method 624

Gas Chromatographic Determination of Volatiles in Water

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

EPA Method 3510/625

Gas Chromatographic Determination of Semi-volatiles in Water

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

CONFORMANCE-NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

			Indicate
			Yes, No, N/
1.	Chromatograms labe (Field samples a	eled/Compounds identified and method blanks)	\cs
2.	Retention times for o	chromatograms provided	yes
3.	GC/MS Tune Specif	ications	•
	a. b.	BFB Meet Criteria DFTPP Meet Criteria	Yes
4.	GC/MS Tuning Freq series and 12 hours f	uency – Performed every 24 hours for 600 for 8000 series	Yes
5.	analysis and continu	 Initial Calibration performed before sample ing calibration performed within 24 hours of 500 series and 12 hours for 8000 series 	yes
6.	GC/MS Calibration	requirements	
	a. b.	Calibration Check Compounds Meet Criteria System Performance Check Compounds Meet Criteria	Jes Jes
7 .	Blank Contamination	n - If yes, List compounds and concentrations in each blank:	NO
	a. b. c.	VOA Fraction B/N Fraction Acid Fraction	
8.	Surrogate Recoverie	s Meet Criteria	Yes
	If not met, list the outside the acce	hose compounds and their recoveries, which fall ptable range:	•
	a . b. c.	VOA Fraction B/N Fraction Acid Fraction WA	÷
	If not met, were as "estimated"?	the calculations checked and the results qualified	
9.		Spike Duplicate Recoveries Meet Criteria e compounds and their recoveries, which fall le range)	yes
·	a . b. c.	VOA Fraction	

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 (A)	
11.	Extraction Holding Time Met	Yes
	If not met, list the number of days exceeded for each sample:	
12.	Analysis Holding Time Met	Yes
	If not met, list the number of days exceeded for each sample:	•
Ad d	itional Comments:	
	oratory Manager: Date: 1-10-02	
Lab	Date: 1-10-02	

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 20003

Site: Bldg. 600 Area

Date Sampled

01/03/02

Date

Hold Time

Receipt/Refrigeration

01/03/02

NA

NA

Extractions

1. BN

01/07/02

7 days

Analyses

1. Volatile Organics

2. BN

01/03,04/02 01/07,08,/02 14 days 40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY **NJDEP CERTIFICATION # 13461**

Definition of Qualifiers

Method Detection Limit MDL:

Compound identified below detection limit J

В Compound found in blank

Results are from a dilution of the sample D U Compound searched for but not detected Compound exceeds calibration limit \mathbf{E}

PQL Practical Quantitation Limit

No limit established NLE RT

Retention time

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

Data File

VB010531.D

Operator Skelton

Sample Name Field ID MB 3Jan02 MB 3Jan02

Date Acquired

3 Jan 2002 10:54 am

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein		,	not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61_ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37_ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33_ug/L	
74-83-9	Bromomethane			not detected	10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48_ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91_ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.37_ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not_detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36_ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54_ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene			not detected	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	1	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29_ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene			not detected	1000	0.36_ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47_ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69_ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.73_ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66_ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.40 ug/L	
1330-20-7	m+p-Xylenes			not_detected	nle	0.99 ug/L	
95-47-6	o-Xylene			not detected	nle	0.26 ug/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52_ug/L	

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

Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

PQL = Practical Quantitation Limit

MDL = Method Detection Limit NLE = No Limit Established

R.T. = Retention Time

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

TENTATIVELY IDENTIFIED COMPOUNDS							MD 00 100	
Lab Name:	FMETL	·		Project:	UST		MB 03Ja	an02
NJDEP#:	13461	Cas	se No.: 2000	D3 Location	on: <u>600Ar</u>	e SD0	3 No.:	
Matrix: (soil/	water)	WATER	_	L	ab Sample	D: <u>M</u>	1B 3Jan02	
Sample wt/ve	ol:	5.0	(g/ml) ML	L	ab File ID:	V	B010531.D	
Level: (low/r	ned)	LOW	_	D	ate Receiv	ved: 1	/3/02	
% Moisture:	not dec.			D	ate Analyz	zed: 1	/3/02	
GC Column:	RTX5	02. ID: <u>0.2</u>	25 (mm)	D	ilution Fac	tor: <u>1</u>	.0	
Soil Extract \	/olume:		_ (uL)	S	oil Aliquot	Volum	e:	(uL)
				CONCENTRA	TION UN	ITS:		
Number TICs	s found:	0	_	(ug/L or ug/Kg	j) <u>UG</u>	/L		
CAS NO.		COMPOU	ND NAME		RT	EST.	. CONC.	Q

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

Data File

VB010546.D

Claster

Sample Name

2000301

Operator

Skelton

Field ID

Trip Blank

Date Acquired

3 Jan 2002 10:01 pm

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33 ug/L	
74-83-9	Bromomethane			not detected	10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene			not detected	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	11	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene			not detected	1000	0.36 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.73 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66 ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.40 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.99 ug/L	
95-47-6	o-Xylene			not detected	nle	0.26 ug/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52 ug/L	

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

Qualifiers

B = Compound found in related blank

E = Value above linear range

D = Value from dilution

PQL = Practical Quantitation Limit

MDL = Method Detection Limit NLE = No Limit Established

R.T. = Retention Time

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS							.
Lab Name:	FMETL		Project:	UST		Trip Bla	ank
NJDEP#:	13461	Case No.: 20	0003 Locat	ion: <u>600A</u>	re SD0	3 No.:	
Matrix: (soil/	water)	WATER	L	_ab Sample	e ID: 2	000301	
Sample wt/v	ol:	5.0 (g/ml) <u>N</u>	/L L	ab File ID:	: <u>v</u>	B010546.D	
Level: (low/r	med)	LOW	1	Date Recei	ved: <u>1</u>	/3/02	
% Moisture:	not dec.		ι	Date Analy:	zed: <u>1</u>	/3/02	
GC Column:	RTX5	02. ID: <u>0.25</u> (mm) [Dilution Fac	ctor: 1	.0	
Soil Extract \	Volume:	(uL)	9	Soil Aliquot	Volum	e:	(uL)
			CONCENTR	ATION UN	ITS:		
Number TICs	s found:	0	(ug/L or ug/K	(g) <u>UG</u>	i/L		
CAS NO.		COMPOUND NAME		RT	EST.	. CONC.	Q

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

Data File

VB010547.D

Operator Skelton

Sample Name Field ID 2000302 Field Blank

Date Acquired

3 Jan 2002 10:43 pm

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Oualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33 ug/L	
74-83-9	Bromomethane			not detected	_ 10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene			not detected	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	1	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29_ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene			not detected	1000	0.36_ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47_ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.73 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66 ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.40 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.99 ug/L	
95-47-6	o-Xylene			not detected	nle	0.26_ug/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52 ug/L	

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID
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		LENIA	TENTATIVEET IDENTIFIED COMIT COMES					
Lab Name:	FMETL			Project:	UST		Field B	ank
NJDEP#:	13461	Ca	se No.: 2000	03 Locat	ion: <u>600A</u>	re SD	G No.:	
Matrix: (soil/	water)	WATER	_	1	_ab Sample	e ID: 2	2000302	
Sample wt/ve	ol:	5.0	(g/ml) ML		ab File ID:	: _	/B010547.D	
Level: (low/r	ned)	LOW	_	[Date Recei	ved: _1	1/3/02	
% Moisture:	not dec.			[Date Analy:	zed: 1	1/3/02	
GC Column:	RTX5	02. ID: <u>0.</u> 2	25_ (mm)	1	Dilution Fac	ctor: 1	1.0	
Soil Extract \	/olume:		_ (uL)	5	Soil Aliquot	Volum	ne:	(uL)
				CONCENTR	ATION UN	ITS:	•	
Number TICs	s found:	0		(ug/L or ug/K	g) <u>UG</u>	i/L		
CAS NO.		COMPOL	JND NAME		RT	EST	CONC.	Q

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

Data File

VB010548.D

Operator Skelton

Sample Name

2000303 600GW-1

Date Acquired

3 Jan 2002 11:24 pm

Field ID

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33 ug/L	
74-83-9	Bromomethane			not detected	10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	1
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	i
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane		-	not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene		•	not detected	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	1	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene			not detected	1000	0.36 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.73 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66 ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.40 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.99 ug/L	
95-47-6	o-Xylene			not detected	nle	0.26 ug/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene	···		not detected	600	0.52 ug/L	

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab	ID
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		IENIATIVELY	IDENTIFIE	COMPO	20אט			
Lab Name:	FMETL			Project:	UST		600GW	/-1
NJDEP#:	13461	Case No.	: 20003	Locatio	n: <u>600A</u> r	e SD	G No.:	
Matrix: (soil/	water)	WATER		La	ab Sample	e ID: 2	000303	
Sample wt/v	ol:	<u>5.0</u> (g/m	I) ML	La	ab File ID:	<u>v</u>	/B010548.D	
Level: (low/r	ned)	LOW		Da	ate Recei	ved: 1	/3/02	
% Moisture:	not dec.			Da	ate Analyz	zed: <u>1</u>	/3/02	
GC Column:	RTX5	02. ID: <u>0.25</u> ((mm)	Di	lution Fac	tor: <u>1</u>	.0	
Soil Extract \	/olume:	(uL)	١	Sc	oil Aliquot	Volum	e:	(uL)
			CON	ICENTRA	TION UN	ITS.		
Number TICs	s found:	1	(ug/l	_ or ug/Kg) <u>UG</u>	/L		
CAS NO.		COMPOUND NA	AME		RT	EST	. CONC.	Q
1		unknown	•		24 38		1	

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

Data File

VB010549.D

Skelton Operator

Sample Name

2000304

Field ID

600GW-2

Date Acquired

4 Jan 2002 12:06 am

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61_ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	L
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	_ nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33 ug/L	
74-83-9	Bromomethane			not detected	10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	_nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			not detected	_nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene	[not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene			not detected	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	1	0.43_ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71_ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29_ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72_ug/L	
108-88-3	Toluene			not detected	_1000	0.36_ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47 ug/L	,
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.73 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66_ug/L	
124-48-1	Dibromochloromethane			not detected	_10	1.13_ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45_ug/L	
100-41-4	Ethylbenzene			not detected	700	0.40_ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.99_ug/L	
95-47-6	o-Xylene			not detected	nle	0.26_ug/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85_ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52 ug/L	

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET

•	2000011/6		
Lab Name: FMETL	•	Project: UST	600GW-2
NJDEP#: <u>13461</u>	Case No.: 2000	Location: 600Are SD	G No.:
Matrix: (soil/water)	WATER	Lab Sample ID:	2000304
Sample wt/vol:	5.0 (g/ml) ML	Lab File ID:	VB010549.D
Level: (low/med)	LOW	Date Received:	1/3/02
% Moisture: not dec.		Date Analyzed:	1/4/02
GC Column: RTX5	02. ID: <u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract Volume:	(uL)	Soil Aliquot Volun	ne: (ul
		CONCENTRATION UNITS:	
Number TICs found:	2	(ug/L or ug/Kg) UG/L	

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

Data File

VB010550.D

Skelton Operator

Sample Name

2000305

Field ID

600GW-3

Date Acquired

4 Jan 2002 12:48 am

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride	_	I	not detected	5	0.33 ug/L	
74-83-9	Bromomethane			not detected	10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene			not detected	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	1	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene			not detected	1000	0.36 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	пle	0.47 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.73 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66 ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.40 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.99 ug/L	
95-47-6	o-Xylene			not detected	nle	0.26 ug/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52 ug/L	

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	FMETL			Project: UST	600GW-3
NJDEP#:	13461	Ca	se No.: 20003	Location: 600Are	SDG No.:
Matrix: (soil/	water)	WATER	_	Lab Sample ID	2000305
Sample wt/vo	ol:	5.0	(g/ml) ML	Lab File ID:	VB010550.D
Level: (low/r	ned)	LOW		Date Received	1/3/02
% Moisture:	not dec.			Date Analyzed	1/4/02
GC Column:	RTX5	02. ID: 0.	25 (mm)	Dilution Factor:	1.0
Soil Extract \	/olume:	·- · · · · ·	(uL)	Soil Aliquot Vol	ume: (uL)
				ONCENTRATION UNITS g/L or ug/Kg) UG/L	:
Number TICs	s found:	5	` `		

				T
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000874-35-1	1H-Indene, 2,3-dihydro-5-methyl-	25.49	6	JN
2. 000275-51-4	Azulene	31.10	240	JN
3. 000270-82-6	Benzo[c]thiophene	32.22	6	JN
4. 000135-98-8	Benzene, (1-methylpropyl)-	32.43	4	JN
5. 000095-63-6	Benzene, 1,2,4-trimethyl-	33.14	3	JN

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

Data File

VB010551.D

Sample Name

2000306

Operator

Skelton

Field ID

600GW-4

Date Acquired

4 Jan 2002 1:31 am

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33 ug/L	
74-83-9	Bromomethane			not detected	10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene			not detected	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	_ 1	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene			not detected	1000	0.36 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	.1	0.73 ug/L	
591-78-6	2-Hexanone		·	not detected	nle	0.66 ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.40 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.99 ug/L	
95-47-6	o-Xylene		···	not detected	nle	0.26 ug/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene		-	not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52 ug/L	

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Lab Name:	FMETL		Project: UST	600GW-4
NJDEP#:	13461	Case No.: 200		DG No.:
Matrix: (soil/	water)	WATER	Lab Sample ID:	2000306
Sample wt/v	ol:	5.0 (g/ml) ML	Lab File ID:	VB010551.D
Level: (low/r	med)	LOW	Date Received:	1/3/02
% Moisture:	not dec.		Date Analyzed:	1/4/02
GC Column:	RTX5	02. ID: <u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract \	Volume:	(uL)	Soil Aliquot Volu	me: (I
			CONCENTRATION UNITS:	
Number TIC	s found:	4	(ug/L or ug/Kg) UG/L	

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000090-12-0	Naphthalene, 1-methyl-	26.54	21	JN
2. 000264-09-5	Benzocycloheptatriene	30.61	8	JN
3. 000091-20-3	Naphthalene	31.09	8	JN
4.	unknown	32.44	4	J

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

Data File

Date Acquired

VB010557.D

Operator

Skelton

4 Jan 2002 8:50 am

Sample Name

2000307

Field ID

600GW-5

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	1
75650	tert-Butyl alcohol			not detected	nle	6.61 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33 ug/L]
74-83-9	Bromomethane			not detected	10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			_not detected	nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene	18.67	158682	1.00 ug/L	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	1	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.29 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene	23.70	310688	1.80 ug/L	1000	0.36 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47 ug/L	
79-00-5	1,1,2-Trichloroethane	-		not detected	. 3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.73 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66 ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene	27.56	1176432	6.33 ug/L	700	0.40 ug/L	
1330-20-7	m+p-Xylenes	27.75	1903264	29.07 ug/L	nle	0.99 ug/L	
95-47-6	o-Xylene	28.84	2658012	18.83 ug/L	nle	0.26 ng/L	
100-42-5	Styrene			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52 ug/L	

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Project: UST	600GW-5
0003 Location: 600Are SI	DG No.:
Lab Sample ID:	2000307
ML Lab File ID:	VB010557.D
Date Received:	1/3/02
Date Analyzed:	1/4/02
n) Dilution Factor:	1.0
Soil Aliquot Volu	me: (uL)
	Location: 600Are SI Lab Sample ID: Lab File ID: Date Received: Date Analyzed: Dilution Factor:

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/L

Number TICs found: 10

		T		Ţ
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000620-14-4	Benzene, 1-ethyl-3-methyl-	30.94	36	JN
2. 000526-73-8	Benzene, 1,2,3-trimethyl-	31.08	22	JN
3. 000611-14-3	Benzene, 1-ethyl-2-methyl-	31.70	17	JN
4. 000095-36-3	1,2,4-Trimethylbenzene	32.02	62	JN
5. 000095-36-3	1,2,4-Trimethylbenzene	33.13	36	JN
6. 001074-43-7	Benzene, 1-methyl-3-propyl-	33.48	14	JN
7. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	33.65	20	JN
8. 000535-77-3	Benzene, 1-methyl-3-(1-methylet	34.28	10	JN
9. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	34.36	11	JN
10. 001758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	34.54	14	JN

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

Data File

VB010558.D

Skelton

Sample Name Field ID

2000308 Field Dup

1

Operator Date Acquired

4 Jan 2002 9:31 am

Sample Multiplier

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	Qualifier
107028	Acrolein			not detected	50	8.41 ug/L	
107131	Acrylonitrile			not detected	50	3.40 ug/L	
75650	tert-Butyl alcohol			not detected	nle	6.61 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.39 ug/L	
108203	Di-isopropyl ether			not detected	nle	0.43 ug/L	
75718	Dichlorodifluoromethane			not detected	nle	0.34 ug/L	
74-87-3	Chloromethane			not detected	30	0.37 ug/L	
75-01-4	Vinyl Chloride			not detected	5	0.33 ug/L	İ
74-83-9	Bromomethane			not detected	.10	0.56 ug/L	
75-00-3	Chloroethane			not detected	nle	0.44 ug/L	
75-69-4	Trichlorofluoromethane			not detected	nle	0.48 ug/L	
75-35-4	1,1-Dichloroethene			not detected	2	0.40 ug/L	
67-64-1	Acetone			not detected	700	0.91 ug/L	
75-15-0	Carbon Disulfide			not detected	nle	0.37 ug/L	
75-09-2	Methylene Chloride			not detected	2	0.22 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.72 ug/L	
75-34-3	1,1-Dichloroethane			not detected	70	0.46 ug/L	
108-05-4	Vinyl Acetate			not detected	nle	0.89 ug/L	
78-93-3	2-Butanone			not detected	300	0.68 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	10	0.45 ug/L	
67-66-3	Chloroform			not detected	6	0.36 ug/L	
71-55-6	1,1,1-Trichloroethane			not detected	30	0.54 ug/L	
56-23-5	Carbon Tetrachloride			not detected	2	0.39 ug/L	
71-43-2	Benzene	18.67	157320	1.00 ug/L	1	0.49 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.54 ug/L	
79-01-6	Trichloroethene			not detected	1	0.43 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.65 ug/L	
124-48-1	Bromodichloromethane			not detected	1	0.71 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	пle	0.29 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	nle	0.32 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	400	0.72 ug/L	
108-88-3	Toluene	23.70	317217	1.85 ug/L	1000	0.36 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	nle	0.47 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.69 ug/L	
127-18-4	Tetrachloroethene			not detected	111	0.73 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.66 ug/L	
124-48-1	Dibromochloromethane			not detected	10	1.13 ug/L	
108-90-7	Chlorobenzene			not detected	4	0.45 ug/L	
100-41-4	Ethylbenzene	27.56	1153670	6.19 ug/L	700	0.40 ug/L	
1330-20-7	m+p-Xylenes	27.75	1810882	27.57 ug/L	nle	0.99 ug/L	
95-47-6	o-Xylene	28.84	2749255	19.41 ug/L	nle	0.26 ug/L	
100-42-5	Styrene .			not detected	100	0.39 ug/L	
75-25-2	Bromoform			not detected	4	0.85 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	2	0.87 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.25 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.43 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.52 ug/L	

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

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

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Lab Name:	FMETL			Project:	UST	Field Dup	·
NJDEP#:	13461	Cas	se No.: 20003	Location	on: 600Are S	DG No.:	
Matrix: (soil/v	vater)	WATER		_ La	ab Sample ID:	2000308	
Sample wt/vo	ol:	5.0	(g/ml) ML	_ La	ab File ID:	VB010558.D	
Level: (low/n	ned)	LOW		D	ate Received:	1/3/02	
% Moisture: r	not dec.			D	ate Analyzed:	1/4/02	
GC Column:	RTX50	02. ID: 0.2	5 (mm)	D	ilution Factor:	1.0	
Soil Extract V	olume:		_ (uL)	S	oil Aliquot Volu	ıme:	(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/L

Number TICs found: 10

		1		
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000874-35-1	1H-Indene, 2,3-dihydro-5-methyl-	25.52	14	JN
2. 000611-14-3	Benzene, 1-ethyl-2-methyl-	30.94	35	JN
3.	unknown	31.09	47	J
4. 000611-14-3	Benzene, 1-ethyl-2-methyl-	31.70	17	JN
5. 000526-73-8	Benzene, 1,2,3-trimethyl-	32.02	60	JN
6. 000526-73-8	Benzene, 1,2,3-trimethyl-	33.13	33	JN
7. 001074-43-7	Benzene, 1-methyl-3-propyl-	33.48	13	JN
8.	unknown	33.65	19	J
9.	unknown	34.09	11	J
10.	unknown	34.54	17	J

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		Project: UST		
NJDEP#:	13461 Case No.: 20003		Location: 600Are SDG No.:		
Lab File ID:	VB010498.E	<u>) </u>	BFB Injection	Date:	1/2/02
Instrument II	D: GCMS#2		BFB Injection	Time:	11:49
GC Column:	RTX502.2): 0.25 (mm)	Heated Purge	: (Y/N)	N

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	18.4
75	30.0 - 66.0% of mass 95	52.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	77.7
175	4.0 - 9.0% of mass 174	6.1 (7.9)1
176	93.0 - 101.0% of mass 174	77.2 (99.4)1
177	5.0 - 9.0% of mass 176	5.3 (6.9)2

1-Value is % mass 174

2-Value is % mass 176

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

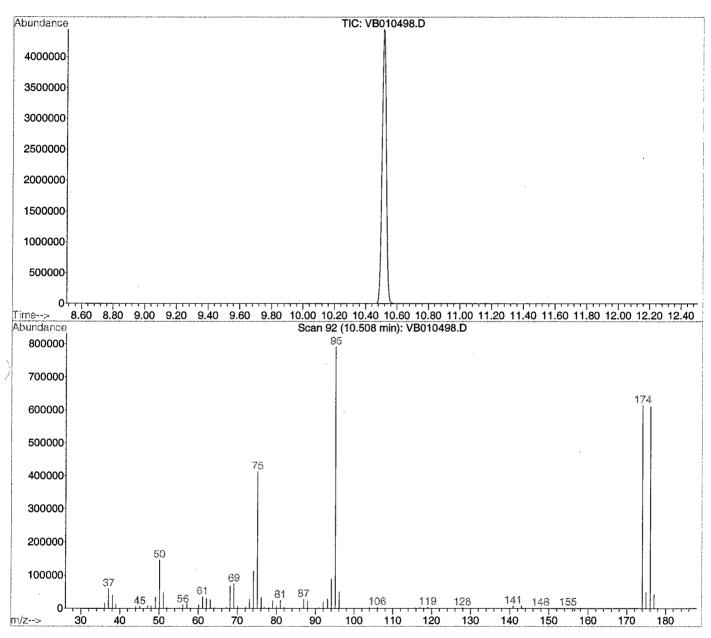
		LAB	LAB	DATE	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010499.D	1/2/02	12:18
02	VSTD100	VSTD100	VB010500.D	1/2/02	13:16
03	VSTD005	VSTD005	VB010501.D	1/2/02	13:57
04	VSTD050	VSTD050	VB010502.D	1/2/02	14:43
05	VSTD010	VSTD010	VB010503.D	1/2/02	15:24

Data File : C:\HPCHEM\1\DATA\020102\VB010498.D

Vial: 1 2 Jan 2002 11:49 am Acq On Operator: Skelton : BFB Tune Sample : GC VOA 2 Inst Misc : BFB Tune Multiplr: 1.00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 92

	Target Mass	Rel. to	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
	50	95	15	40	18.4	145984	PASS
	75	95	30	60	52.2	413248	PASS
	95	95	100	100	100.0	791360	PASS
	96	95	5	9	6.4	51032	PASS
	173	174	0.00	2	0.0	0	PASS
,	174	95	50	100	77.7	614784	PASS
4	175	174	5	9	7.9	48576	PASS
	176	174	95	101	99.4	611200	PASS
	177	176	5	9	6.9	42216	PASS

```
: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator)
        Method
        Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002
        Response via: Initial Calibration
        Calibration Files
       100 =VB010500.D 50 =VB010502.D
10 =VB010503.D 5 =VB010501.D
                                                                     20
                                                                                =VB010499 D
                                                                                           Avg
                                                100 50 20
                                                                           10 5
               Compound
                                                                                                        8RSD
               Bromochloromethane
                                              -----ISTD-----
              Acrolein 0.225 0.276 0.099 0.175 0.192 0.194 33.71 Acrylonitrile 1.093 1.154 1.092 0.919 1.142 1.080 8.73 tert-Butyl alcohol 0.137 0.156 0.153 0.149 0.183 0.156 10.88
    2) t
    3) t
    4) t
              Methyl-tert-Butyl eth 7.881 7.653 7.211 6.860 6.745 7.270 Di-isopropyl ether 2.109 2.031 1.928 1.898 1.853 1.964 Dichlorodifluorometha 2.183 2.121 2.334 2.265 2.326 2.246
     5) t
     6) t
                                                                                                       5.31
    7) T
                                                                                                        4.10
              Chloromethane 2.400 2.237 1.999 2.362 2.669 2.334
Vinyl Chloride 2.810 2.806 2.855 2.866 2.861 2.839
Bromomethane 1.457 1.482 1.492 1.406 1.594 1.486
Chloroethane 1.461 1.400 1.449 1.385 1.408 1.421
    8) TP
                                                                                                      10.46
     9) TC
   10) T
   11) T
  12) T
               Trichlorofluoromethan 4.184 4.761 4.939 4.928 4.970 4.756
               1,1-Dichloroethene 4.160 4.077 4.192 4.374 4.186 4.198 Acetone 0.923 1.201 1.017 0.966 1.738 1.169
   13) MC
                                                                                                        2.59
   14) T
                                                                                                      28.67
15) T
               Carbon Disulfide 6.625 6.668 6.172 6.568 6.376 6.482 Methylene Chloride 2.420 2.377 2.312 2.471 2.388 2.394
                                                                                                       3.18
7 16) T
                                                                                                       2.44
   17) T
               trans-1,2-Dichloroeth 3.856 3.818 3.773 3.851 3.818 3.823
                                                                                                       0.87
   18) TP
               1,1-Dichloroethane 4.711 4.621 4.684 4.856 4.698 4.714
  19) т
              Vinyl Acetate
2-Butanone
                                             6.599 6.343 5.661 5.077 5.089 5.754
              2-Butanone 1.302 1.413 1.187 0.956 1.268 1.225 cis-1,2-Dichloroethen 3.792 3.726 3.810 3.785 3.778 3.778 Chloroform 4.645 4.628 4.688 4.827 4.697 4.697
 20) T
                                                                                                      13.98
   21) T
                                                                                                       0.84
   22) TC
73) T
               1,1,1-Trichloroethane 4.198 4.064 3.900 3.957 3.776 3.979
                                                                                                       4.04
     T
               Carbon Tetrachloride 3.718 3.518 3.334 3.266 3.136 3.394
                                                                                                       6.70
               1,2-Dichloroethane-d4 3.393 3.188 3.199 3.281 3.279 3.268
126) I
               1,4-Difluorobenzene
                                               ----ISTD-----
27) TM Benzene
28) T 1,2-Dich
29) TM Trichlor
              Benzene 1.212 1.299 1.271 1.242 1.257 1.256 1,2-Dichloroethane 0.512 0.534 0.544 0.507 0.525 0.524 Trichloroethene 0.351 0.363 0.356 0.336 0.341 0.349 1,2-Dichloropropane 0.317 0.326 0.314 0.299 0.295 0.310
                                                                                                       2.96
                                                                                                       3.11
30) TC
31) T
                                                                                                       4.20
               Bromodichloromethane 0.422 0.421 0.394 0.377 0.367 0.396
                                                                                                       6.25
   32) T
               2-Chloroethyl vinyl e 0.129 0.133 0.133 0.124 0.127 0.129
                                                                                                       2.96
   33) т
               cis-1,3-Dichloroprope 0.509 0.508 0.457 0.415 0.388 0.455
 34) Т
               4-Methyl-2-Pentanone 0.120 0.120 0.113 0.087 0.101 0.108
                                                                                                      13.10
   35) S
              Toluene-d8 1.265 1.212 1.218 1.199 1.212 1.221
                                                                                                       2.08
   36) TCM Toluene
                                               1.283 1.411 1.416 1.373 1.382 1.373
37) I
              Chlorobenzene-d5
                                               -----ISTD-----
  38) T
              trans-1,3-Dichloropro 1.847 1.813 1.544 1.360 1.312 1.575 15.79
   39) T
               1,1,2-Trichloroethane 1.043 1.095 1.073 0.980 1.038 1.046
                                                                                                     4.15
   40) T
               Tetrachloroethene 1.396 1.422 1.366 1.358 1.332 1.375
  41) T
               2-Hexanone
                                               0.898 0.943 0.751 0.551 0.682 0.765
  42) T
              Dibromochloromethane 1.126 1.093 0.947 0.846 0.802 0.963

      43) TMP Chlorobenzene
      3.141 3.297 3.248 3.176 3.172 3.207

      44) TC Ethylbenzene
      5.067 5.794 5.753 5.419 5.324 5.471

      45) T m+p-Xylenes
      1.903 2.021 1.947 1.881 1.890 1.928

      46) T o-Xylene
      4.128 4.505 4.317 4.089 3.757 4.159

      47) T Grander
      2.604 3.260 3.260 3.260 3.263 3.273

                                                                                                      1.99
                                                                                                       5.57
  45) T
                                                                                                       3.00
  46) T
                                                                                                       6.72

      0-xylene
      4.128 4.505 4.317 4.089 3.757 4.159

      Styrene
      3.504 3.680 3.469 3.269 2.942 3.373

      Bromoform
      0.794 0.722 0.563 0.468 0.470 0.603

      Bromofluorobenzene
      1.954 1.877 1.802 1.765 1.713 1.822

   47) T
                                                                                                       8.34
   48) TP
              Bromoform
                                                                                                      24.58
🗃 49) S
                                                                                                       5.21
  50) TP
              1,1,2,2-Tetrachloroet 1.417 1.471 1.443 1.221 1.402 1.391
              1,3-Dichlorobenzene 2.665 2.811 2.728 2.566 2.633 2.681 1,4-Dichlorobenzene 2.812 2.988 2.874 2.782 2.748 2.841
   51) T
   FO) T
                                                                                                       3.33
              1,2-Dichlorobenzene 2.626 2.758 2.658 2.567 2.608 2.644
```

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL.		_ Project:	UST	
NJDEP#:	13461	Case No.: 20003	Location	n: 600Are SDG N	No.:
Lab File ID:	VB010529	.D	BF	B Injection Date:	1/3/02
Instrument II	D: GCMS#2		BF	B Injection Time:	9:31
GC Column:	BTX502.2	ID: 0.25 (mm)	He	ated Purge: (Y/N)	N

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	18.2
75	30.0 - 66.0% of mass 95	53.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	83.4
175	4.0 - 9.0% of mass 174	6.5 (7.7)1
176	93.0 - 101.0% of mass 174	80.3 (96.2)1
177	5.0 - 9.0% of mass 176	5.1 (6.3)2

1-Value is % mass 174

2-Value is % mass 176

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

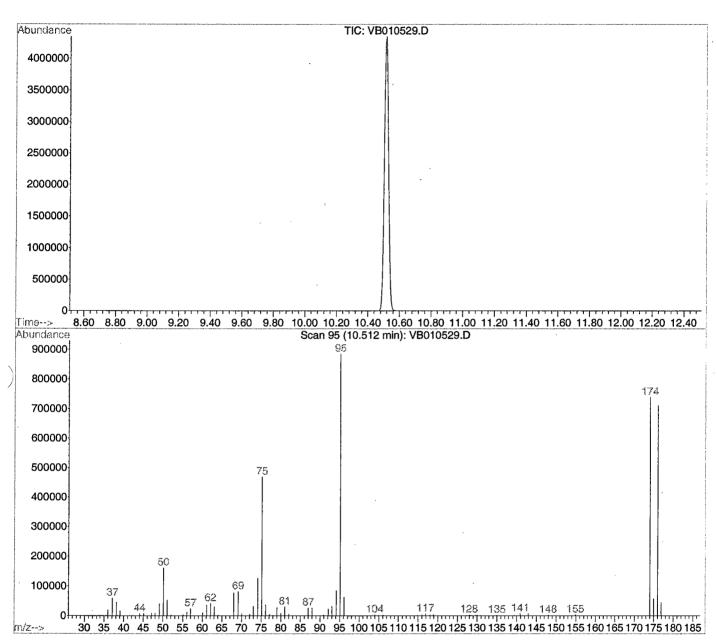
		LAB	LAB	DATE	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010530.D	1/3/02	10:00
02	MB 03JAN02	MB 3JAN02	VB010531.D	1/3/02	10:54
03	TRIP BLANK	2000301	VB010546.D	1/3/02	22:01
04	FIELD BLANK	2000302	VB010547.D	1/3/02	22:43
05	600GW-1	2000303	VB010548.D	1/3/02	23:24
06	600GW-2	2000304	VB010549.D	1/4/02	0:06
07	600GW-3	2000305	VB010550.D	1/4/02	0:48
08	600GW-4	2000306	VB010551.D	1/4/02	1:31
09	600GW-5	2000307	VB010557.D	1/4/02	8:50
10	FIELD DUP	2000308	VB010558.D	1/4/02	9:31

Data File: C:\HPCHEM\1\DATA\020103\VB010529.D

Vial: 25 : 3 Jan 2002 Acq On 9:31 am Operator: Skelton Sample : BFB Tune : GC VOA 2 Inst Misc : BFB Tune Multiplr: 1.00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 95

	Target	Rel. to	Lower	Upper	Rel.	Raw	Result
	Mass	Mass	Limit%	Limit%	Abn%	Abn	Pass/Fail
	50 75 95 96 173 174 175	95 95 95 95 174 95	15 30 100 5 0.00 50	40 60 100 9 2 100	18.2 53.0 100.0 7.1 0.0 83.4 7.7	160704 468480 884736 62896 0 738304 57184	PASS PASS PASS PASS PASS PASS PASS
•	176	174	95	101	96.2	710528	PASS
	177	176	5	9	6.3	44944	PASS

Evaluate Continuing Calibration Report

Vial: 25

Operator: Skelton
Inst : GC VOA 2
Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\020103\VB010530.D Acq On : 3 Jan 2002 10:00 am Sample : Vstd020 Misc : Vstd020

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 03 11:17:10 2002

Response via: Multiple Level Calibration

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

	Compound	AvgRF	CCRF	%Dev Area% Dev(min)
1 2 3 4 5 6 7 8 9 0 1 1 2 3 4 5 6 7 8 9 0 1 1 2 1 3 1 4 5 6 7 8 9 0 1 1 2 1 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 2 2 3 1 4 5 6 7 8 9 0 1 3 1 4 5 6 7 8 9 0 1 3 1	Bromochloromethane Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl ether Di-isopropyl ether Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Trichlorofluoromethane Trichlorofluoromethane 1,1-Dichloroethene Acetone Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate 2-Butanone cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane	1.000 0.194 1.080 0.156 7.270 1.964 2.246 2.334 2.839 1.486 1.421 4.756 4.198 1.169 6.482 2.394 3.823 4.714 5.754 1.225 3.778 4.697 3.979	1.000 0.166 0.809 0.114 5.957 1.715 1.957 2.363 2.584 1.488 1.431 4.995 3.796 0.789 5.983 2.221 3.486 4.434 4.538 0.803 3.454 4.433 3.601	0.0 98 0.00 14.4 164 0.00 25.1# 73 0.00 18.1 81 0.00 12.7 88 0.00 12.9 82 0.00 -1.2 116 0.00 9.0 89 0.00 -0.1 98 0.00 -0.7 97 0.00 -0.7 97 0.00 9.6 89 0.00 32.5# 76 0.00 7.7 95 0.00 7.7 95 0.00 7.7 95 0.00 7.7 95 0.00 5.6 93 0.00 9.5 91 0.00
23 T 24 T 25 S	Carbon Tetrachloride 1,2-Dichloroethane-d4	3.394 3.268	3.116 2.990	8.2 92 0.00 8.5 92 0.00
26 I 27 TM 28 T 29 TM 30 TC 31 T 32 T 33 T 34 T 35 S 36 TCM	1,4-Difluorobenzene Benzene 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone Toluene-d8 Toluene	1.000 1.256 0.524 0.349 0.310 0.396 0.129 0.455 0.108 1.221 1.373	1.000 1.294 0.535 0.352 0.310 0.406 0.132 0.442 0.088 1.247 1.428	0.0 93 0.00 -3.0 94 0.00 -2.1 91 0.00 -0.9 92 0.00 0.0 91 0.00 -2.5 95 0.00 -2.3 93 0.00 2.9 90 0.00 18.5 72 0.00 -2.1 95 0.00 -4.0 94 0.00
37 TTTTTTTP 412 TTTTTTTP 44 12 TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	Chlorobenzene-d5 trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	1.046 1.375 0.765 0.963 3.207 5.471 1.928 4.159 3.373 0.603 1.822 1.391 2.681	1.000 1.433 0.974 1.383 0.550 0.889 3.193 5.630 1.966 4.215 3.428 0.485 1.814 1.181 2.552 2.806 2.567	0.0 94 0.00 9.0 87 0.00 6.9 85 0.00 -0.6 95 0.00 28.1# 69 0.00 7.7 88 0.00 0.4 93 0.00 -2.9 92 0.00 -2.0 95 0.00 -1.3 92 0.00 -1.6 93 0.00 19.6 81 0.00 0.4 95 0.00 15.1 77 0.00 4.8 88 0.00 1.2 92 0.00 2.9 91 0.00

^{(#) =} Out of Range SPCC's out = 0 CCC's out = 0 VB010530.D M262476.M Fri Jan 04 14:23:27 2002

4A

(mm)

VOL	ATII	FN	ИFT	HOD	BL A	٩NK	SH	MMA	RY

Lab I	D
-------	---

Lab Name:

FMETL

Project:

UST

MB 03Jan02

NJDEP#:

13461

Case No.: 20003

Location: 600Are SDG No.:

Lab File ID:

VB010531.D

Lab Sample ID: MB 3Jan02

Date Analyzed: 1/3/02

Time Analyzed: 10:54

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
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED
01	TRIP BLANK	2000301	VB010546.D	22:01
02	FIELD BLANK	2000302	VB010547.D	22:43
03	600GW-1	2000303	VB010548.D	23:24
04	600GW-2	2000304	VB010549.D	0:06
05	600GW-3	2000305	VB010550.D	0:48
06	600GW-4	2000306	VB010551.D	1:31
07	600GW-5	2000307	VB010557.D	8:50
08	FIELD DUP	2000308	VB010558.D	9:31

COMMENTS:			

2A WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	FMETL		Project:	UST		
NJDEP#:	13461	Case No.: 20003	Location	n: 600Are	SDG No.:	

		SMC1	SMC2	SMC3	ТОТ
	Lab ID.	DCE #	TOL #	BFB #	OUT
01	MB 03JAN02	90	98	92	0
02	TRIP BLANK	88	99	93	0
03	FIELD BLANK	90	99	94	0
04	600GW-1	91	100	92	0
05	600GW-2	92	100	92	0
06	600GW-3	88	102	93	0
07	600GW-4	87	100	90	0
08	600GW-5	86	103	94	0
09	FIELD DUP	84	108	94	0

QC LIMITS

SMC1 DCE = 1,2-Dichloroethane-d4 SMC2 TOL = Toluene-d8 (70-121)

(81-117)

SMC3 BFB = Bromofluorobenzene (74-121)

Column to be used to flag recovery values

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

page 1 of 1

FORM II VOA-1

6/99

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

Data File
Date Acquired

VB010517.D 3-Jan-02

Sample Name Field ID 1667901 MS 1667901 MS

Compound Name	Amount Added ug/L	Result ul/L	Percent Recovered
Acrolein	200	139.49	69.7
Acrylonitrile	200	189.33	94.7
tert-Butyl alcohol	200	233.42	116.7
Methyl-tert-Butyl ether	20	19.32	96.6
Di-isopropyl ether	20	20.21	101.1
Dichlorodifluoromethane	20	18.40	92.0
Chloromethane	20	18.76	93.8
Vinyl Chloride	20	19.53	97.6
Bromomethane	20	19.57	97.8
Chloroethane	20	19.75	98.8
Trichlorofluoromethane	20	19.48	97.4
1,1-Dichloroethene	20	19.55	97.8
Acetone	20	16.73	83.7
Carbon Disulfide	20	20.01	100.0
Methylene Chloride	20	19.93	99.7
trans-1,2-Dichloroethene	20	19.61	98.1
1,1-Dichloroethane	20	20.15	100.8
Vinyl Acetate	20	17.36	86.8
2-Butanone	20	17.69	88.5
cis-1,2-Dichloroethene	20	20.47	102.3
Chloroform	20	20.35	101.7
1,1,1-Trichloroethane	20	19.23	96.2
Carbon Tetrachloride	20	19.16	95.8
Benzene	20	19.91	99.6
1,2-Dichloroethane	20	19.79	99.0
Trichloroethene	20	19.79	96.9
1,2-Dichloropropane	20	19.69	98.4
Bromodichloromethane	20	19.65	98.2
2-Chloroethyl vinyl ether	20	20.14	100.7
cis-1,3-Dichloropropene	20	18.89	94.4
4-Methyl-2-Pentanone	20	18.61	93.0
Toluene	20	20.07	100.3
trans-1,3-Dichloropropene	20	18.81	94.1
1,1,2-Trichloroethane	20	19.53	97.6
Tetrachloroethene	20	19.23	96.2
2-Hexanone	20	17.46	87.3
Dibromochloromethane	20	19.53	97.7
············		19.73	98.6
Chlorobenzene	20	20.20	
Ethylbenzene	20		101.0
m+p-Xylenes	40	38.88	97.2
o-Xylene	20	20.10	100.5
Styrene	20	20.01	100.1
Bromoform	20	19.14	95.7
1,1,2,2-Tetrachloroethane	20	18.75	93.8
1,3-Dichlorobenzene	20	19.18	95.9
1,4-Dichlorobenzene	20	19.50 19.66	97.5

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

Data File Date Acquired VB010518.D 3-Jan-02

Sample Name Field ID 1667901 MSD 1667901 MSD

Compound Name	Amount Added ug/L	Result ul/L	Percent Recovered
Acrolein	200	137.10	68.5
Acrylonitrile	200	185.29	92.6
tert-Butyl alcohol	200	240.66	120.3
Methyl-tert-Butyl ether	200	19.21	96.0
Di-isopropyl ether	20	19.48	97.4
Dichlorodifluoromethane	20	17.80	89.0
Chloromethane	20	19.07	95.3
Vinyl Chloride	20	18.96	94.8
Bromomethane	20	19.80	99.0
Chloroethane	20	19.81	99.1
Trichlorofluoromethane	20	18.61	93.1
		19.02	
1,1-Dichloroethene	20		95.1
Acetone Carbon Digulfido	20	16.14 19.81	80.7
Carbon Disulfide Methylene Chloride	20	20.15	99.1
Methylene Chloride	20	19.49	
trans-1,2-Dichloroethene	20	19.78	97.4
1,1-Dichloroethane	20	17.94	98.9
Vinyl Acetate	20		89.7
2-Butanone	20	17.38	86.9
cis-1,2-Dichloroethene	20	19.87	99.3
Chloroform	20	20.10	100.5
1,1,1-Trichloroethane	20	19.25	96.2
Carbon Tetrachloride	20	19.02	95.1
Benzene	20	19.96	99.8
1,2-Dichloroethane	20	20.15	100.8
Trichloroethene	20	19.39	97.0
1,2-Dichloropropane	20	20.44	102.2
Bromodichloromethane	20	20.01	100.1
2-Chloroethyl vinyl ether	20	20.59	103.0
cis-1,3-Dichloropropene	20	19.18	95.9
4-Methyl-2-Pentanone	20	20.16	100.8
Toluene	20	20.11	100.6
trans-1,3-Dichloropropene	20	19.15	95.7
1,1,2-Trichloroethane	20	20.22	101.1
<u> Tetrachloroethene</u>	20	19.42	97.1
2-Hexanone	20	17.83	89.1
Dibromochloromethane	20	19.68	98.4
Chlorobenzene	20	19.84	99.2
Ethylbenzene	20	20.05	100.3
n+p-Xylenes	40	39.58	99.0
o-Xylene	20	20.24	101.2
Styrene	20	20.24	101.2
Bromoform	20	19.37	96.8
1,1,2,2-Tetrachloroethane	20	19.11	95.6
1,3-Dichlorobenzene	20	19.39	97.0
1,4-Dichlorobenzene	20	19.48	97.4
1,2-Dichlorobenzene	20	19.48	97.4

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL Project: UST

NJDEP#: 13461 Case No.: 20003 Location: 600Are SDG No.:

Lab File ID (Standard): VB010530.D Date Analyzed: 1/3/02

Instrument ID: GCMS#2 Time Analyzed: 10:00

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

		IS1BCM AREA #	.RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
ĺ	12 HOUR STD	528235	16.76	3944080	19.49	1123054	27.33
	UPPER LIMIT	1056470	17.26	7888160	19.99	2246108	27.83
ĺ	LOWER LIMIT	264118	16.26	1972040	18.99	561527	26.83
ſ	_						
	Lab ID.						
01	MB 03JAN02	523041	16.75	3872471	19.49	1109131	27.33
02	TRIP BLANK	432153	16.75	3476179	19.49	1011003	27.33
03	FIELD BLANK	424704	16.75	3543495	19.49	1013516	27.33
04	600GW-1	410020	16.75	3451504	19.49	1029810	27.33
05	600GW-2	406023	16.75	3489497	19.49	1019893	27.34
06	600GW-3	400582	16.76	3537805	19.49	1064215	27.33
07	600GW-4	375734	16.76	3573669	19.49	1138906	27.34
08	600GW-5	341881	16.74	3773953	19.49	1018403	27.33
09	FIELD DUP	335779	16.74	3747205	19.49	1021789	27.33

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

(QT Reviewed)

Data File : $C:\HPCHEM\1\DATA\020103\VB010531.D$

: 3 Jan 2002 10:54 am : MB 3Jan02 Acq On

Sample : MB 3Jan02 Misc

MS Integration Params: TBA.P

Vial: 25

Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00

uant Time: Jan 3 11:29 2002 Ouant Results File: M262476.RES

Quant Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 03 11:17:10 2002
Response via : Initial Calibration

DataAcq Meth: M262476

/							
Internal Standards		R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
1) Bromochlorome 26) 1,4-Difluorob	enzene	16.75 19.49	128 114	523041 3872471	30.00	ug/L	0.00
37) Chlorobenzene	-a5	27.33	119	1109131	30.00	ug/L	0.00
System Monitoring	Compounds						
25) 1,2-Dichloroe	thane-d4	18.36	65	1545345	27.12	ug/L	0.00
Spiked Amount	30.000	Range 70	- 121	Recove	ry =	90.40%	
35) Toluene-d8		23.50	98	4624452	29.34	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	97.80%	
49) Bromofluorobe	nzene	30.34	95	1866653	27.71	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove	rv =	92.37%	

Target Compounds

Qvalue

Data File: C:\HPCHEM\1\DATA\020103\VB010531.D

: 3 Jan 2002 10:54 am

: MB 3Jan02

: MB 3Jan02

Quant Time: Jan 3 11:29 2002

MS Integration Params: TBA.P

Sample

Method

Title

Misc

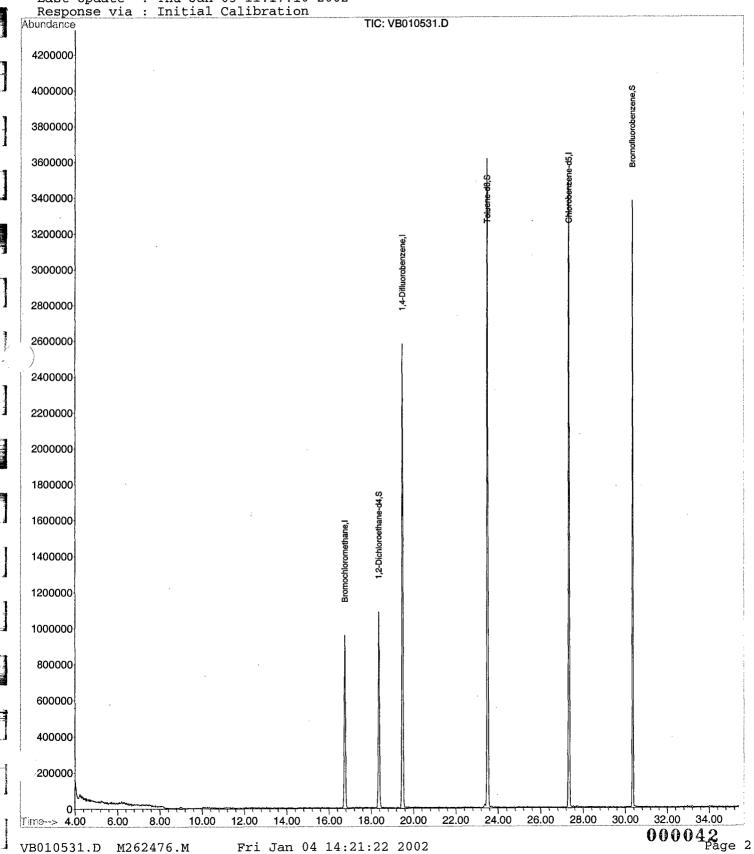
Vial: 25 Operator: Skelton : GC VOA 2 Inst

Multiplr: 1.00

Quant Results File: M262476.RES

: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Thu Jan 03 11:17:10 2002



Quantitation Report (QT Reviewed) Data File: C:\HPCHEM\1\DATA\020103\VB010546.D Vial: 10 Acq On : 3 Jan 2002 10:01 pm Sample : 2000301 Misc : Trip Blank Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00 MS Integration Params: TBA.P uant Time: Jan 3 22:36 2002 Ouant Results File: M262476.RES Quant Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002 Response via : Initial Calibration DataAcq Meth: M262476 Internal Standards R.T. QIon Response Conc Units Dev(Min) -----_____ 1) Bromochloromethane 16.75 128 432153 26) 1,4-Difluorobenzene 19.49 114 3476179 37) Chlorobenzene-d5 27.33 119 1011003 -0.01 30.00 ug/L 0.00 26) 1,4-Difluorobenzene 30.00 ug/L 37) Chlorobenzene-d5 30.00 ug/L 0.00 System Monitoring Compounds 18.37 65 1248160 26.51 ug/L25) 1,2-Dichloroethane-d4 0.01 Range 70 - 121 Recovery = 88.37% Spiked Amount 30.000 23.51 98 4220085 29.83 ug/L 35) Toluene-d8 Range 81 - 117 Recovery = 99.43% 30.35 95 1709744 27.84 ug/L Spiked Amount 30.000 49) Bromofluorobenzene 0.01 Spiked Amount 30.000 Range 74 - 121 Recovery = 92.80% Target Compounds Ovalue

Data File : C:\HPCHEM\1\DATA\020103\VB010546.D

Acq On : 3 Jan 2002 10:01 pm

Vial: 10 Operator: Skelton Inst : GC VOA 2

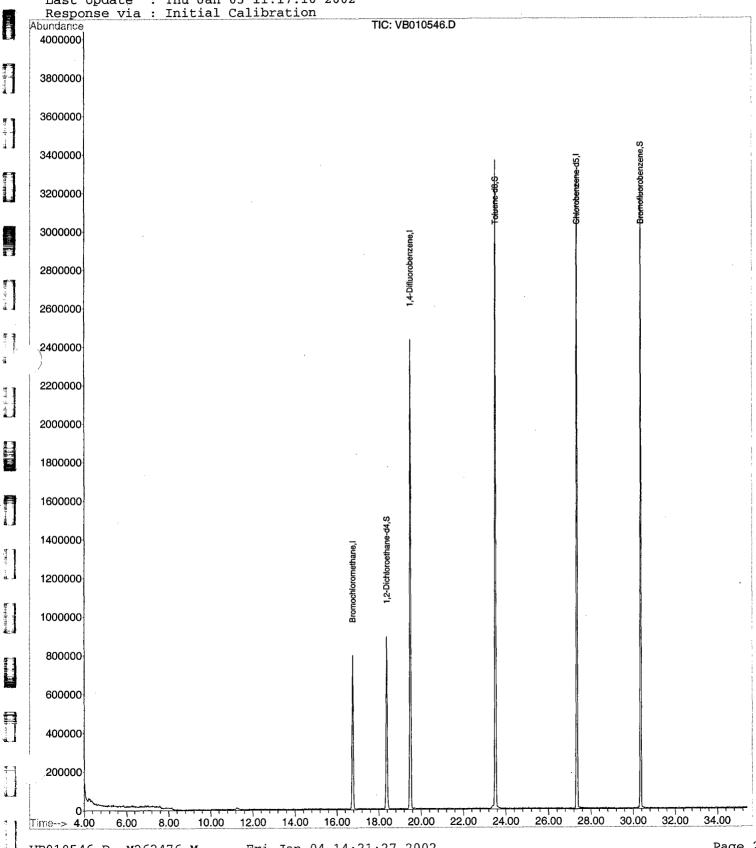
Sample : 2000301 Multiplr: 1.00 Misc : Trip Blank

MS Integration Params: TBA.P Quant Time: Jan 3 22:36 2002

Quant Results File: M262476.RES

: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Thu Jan 03 11:17:10 2002



Quantitation Report (QT Reviewed) Data File: C:\HPCHEM\1\DATA\020103\VB010547.D Vial: 11 Acq On : 3 Jan 2002 10:43 pm Sample : 2000302 Operator: Skelton Inst : GC VOA 2 Sample Misc : Field Blank Multiplr: 1.00 MS Integration Params: TBA.P uant Time: Jan 3 23:18 2002 Quant Results File: M262476.RES Quant Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002 Response via : Initial Calibration DataAcq Meth : M262476 Internal Standards R.T. QIon Response Conc Units Dev(Min) ______ 16.75 128 424704 19.49 114 3543495 27.33 119 1013516 30.00 ug/L 30.00 ug/L 30.00 ug/L 1) Bromochloromethane -0.0130.00 ug/L 0.00 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5 0.00 System Monitoring Compounds 25) 1,2-Dichloroethane-d4 18.36 65 1254524 27.12 ug/L Spiked Amount Range 70 - 121 Recovery = 90.40% 23.51 98 4279265 29.67 ug/L 35) Toluene-d8 Range 81 - 117 Recovery = 98.90% 30.35 95 1739387 28.25 ug/L Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000 Range 74 - 121 Recovery = 94.17%Target Compounds Qvalue

^{(#) =} qualifier out of range (m) = manual integration VB010547.D M262476.M Fri Jan 04 14:21:30 2002

Data File : C:\HPCHEM\1\DATA\020103\VB010547.D

: 3 Jan 2002 10:43 pm Acq On Sample : 2000302

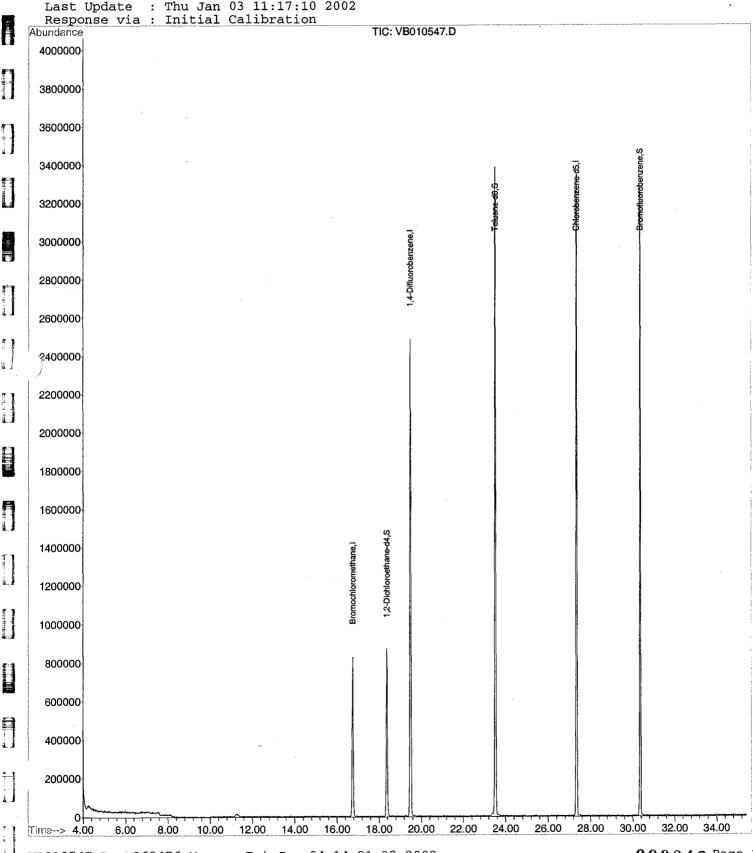
Vial: 11 Operator: Skelton : GC VOA 2 Inst Multiplr: 1.00

Misc : Field Blank MS Integration Params: TBA.P

Quant Time: Jan 3 23:18 2002 Quant Results File: M262476.RES

Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Thu Jan 03 11:17:10 2002



(QT/LSC Reviewed) Quantitation Report Data File : C:\HPCHEM\1\DATA\020103\VB010548.D Vial: 12 Acq On : 3 Jan 2002 11:24 pm Sample : 2000303 Misc : 600GW-1 Operator: Skelton Inst : GC VOA 2 Sample Multiplr: 1.00 MŞ Integration Params: TBA.P uant Time: Jan 4 14:16 2002 Ouant Results File: M262476.RES Quant Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002 Response via : Initial Calibration DataAcq Meth : M262476 Internal Standards R.T. QIon Response Conc Units Dev(Min) _____ ______ 16.75 128 410020 19.49 114 3451504 27.33 119 1029810 30.00 ug/L 1) Bromochloromethane 410020 -0.01 0.00 26) 1,4-Difluorobenzene 30.00 ug/L 37) Chlorobenzene-d5 30.00 ug/L 0.00 System Monitoring Compounds 27.34 ug/L 25) 1,2-Dichloroethane-d4 18.36 65 1221339 0.00 Range 70 - 121 Recovery = 91.13% Spiked Amount 30.000 23.51 98 4230965 30.12 ug/L 35) Toluene-d8 Range 81 - 117 Recovery = 100.40% 30.35 95 1730290 27.66 ug/L 30.000 Spiked Amount 49) Bromofluorobenzene Spiked Amount 30.000 Range 74 - 121 Recovery = 92.20% Qvalue Target Compounds

Data File : C:\HPCHEM\1\DATA\020103\VB010548.D

Acq On : 3 Jan 2002 11:24 pm

: 2000303

: 600GW-1

Quant Time: Jan 4 14:16 2002

Sample

Misc

MS Integration Params: TBA.P

Quant Results File: M262476.RES

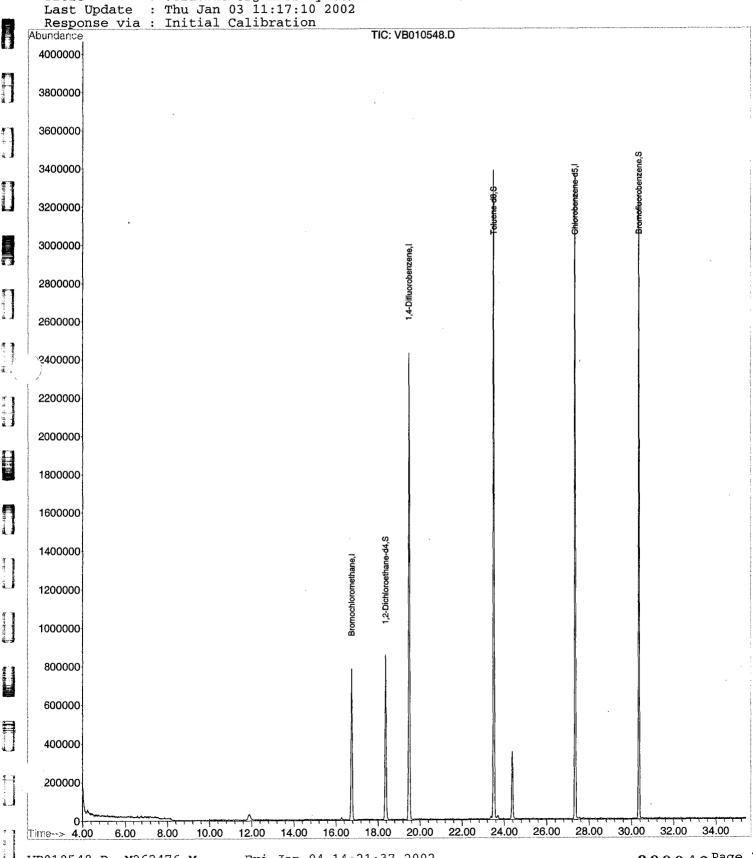
Inst

Vial: 12 Operator: Skelton

Multiplr: 1.00

: GC VOA 2

Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title



(QT/LSC Reviewed) Quantitation Report Data File: C:\HPCHEM\1\DATA\020103\VB010549.D Vial: 13 Acq On : 4 Jan 2002 12:06 am Sample : 2000304 Operator: Skelton Inst : GC VOA 2 Sample Misc : 600GW-2 Multiplr: 1.00 MS Integration Params: TBA.P uant Time: Jan 4 14:17 2002 Quant Results File: M262476.RES Quant Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002 Response via : Initial Calibration DataAcq Meth : M262476 Internal Standards R.T. QIon Response Conc Units Dev(Min) ______ 16.75 128 406023 19.49 114 3489497 27.34 119 1019893 30.00 ug/L 406023 0.00 1) Bromochloromethane 26) 1,4-Difluorobenzene 30.00 ug/L 0.00 37) Chlorobenzene-d5 30.00 ug/L 0.01 System Monitoring Compounds 25) 1,2-Dichloroethane-d4 18.37 65 1219159 27.56 ug/L 0.01 Spiked Amount Range 70 - 121 Recovery = 91.87% 23.51 98 4252498 29.94 ug/L 35) Toluene-d8 0.01Range 81 - 117 Recovery = 99.80% 30.35 95 1704356 27.51 ug/L 0.01 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000 Range 74 - 121 Recovery = 91.70% Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA\020103\VB010549.D

Acq On : 4 Jan 2002 12:06 am

Vial: 13 Operator: Skelton : GC VOA 2 Inst

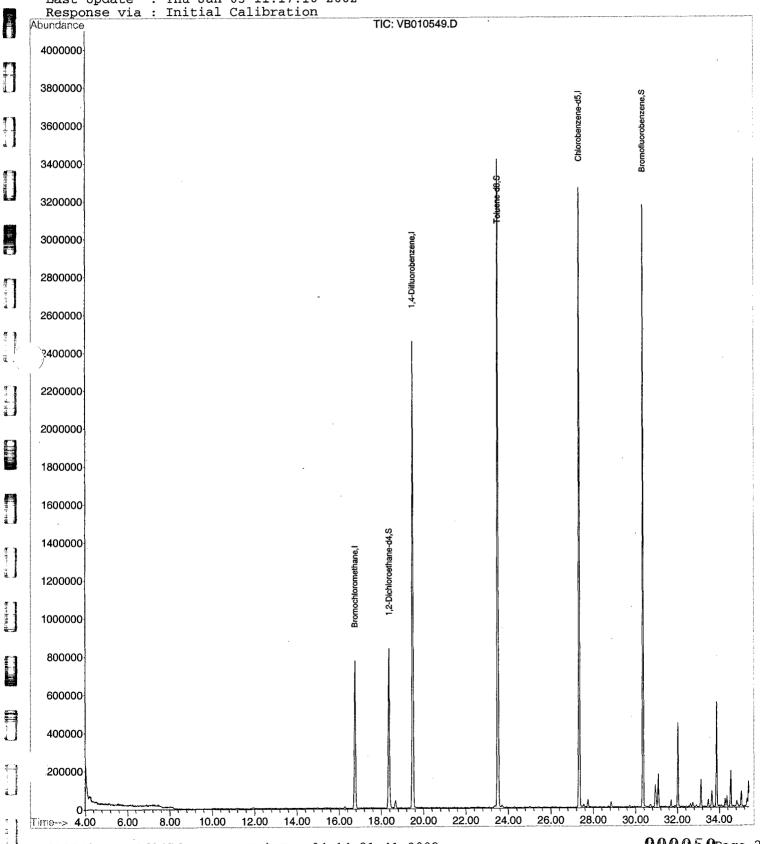
: 2000304 Sample : 600GW-2 Misc

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Jan 4 14:17 2002

Quant Results File: M262476.RES

: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002



Quantitation Report (QT Reviewed) Data File: C:\HPCHEM\1\DATA\020103\VB010550.D Vial: 14 Acq On : 4 Jan 2002 12:48 am Sample : 2000305 Operator: Skelton Sample Inst : GC VOA 2 Misc : 600GW-3 Multiplr: 1.00 MS Integration Params: TBA.P uant Time: Jan 4 14:17 2002 Ouant Results File: M262476.RES Quant Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002 Response via: Initial Calibration DataAcq Meth : M262476 Internal Standards R.T. QIon Response Conc Units Dev(Min) ______ _____ 16.76 128 400582 30.00 ug/L 19.49 114 3537805 30.00 ug/L 27.33 119 1064215 30.00 ug/L 1) Bromochloromethane 26) 1,4-Difluorobenzene 0.00 37) Chlorobenzene-d5 0.00 System Monitoring Compounds 25) 1,2-Dichloroethane-d4 18.36 65 1151208 26.38 ug/L 0.00 : Range 70 - 121 Recovery = 87.93% Spiked Amount 30.000 23.51 98 4385081 30.45 ug/L 35) Toluene-d8 0.00 Range 81 - 117 Recovery = 101.50% 30.35 95 1799485 27.84 ug/L Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000 Range 74 - 121 Recovery = 92.80%Target Compounds Ovalue

^{(#) =} qualifier out of range (m) = manual integration $VB010550.D \quad M262476.M$ Fri Jan 04 14:21:45 2002

Data File: C:\HPCHEM\1\DATA\020103\VB010550.D

Acq On

: 4 Jan 2002 12:48 am

: 2000305

Sample : 600GW-3 Misc

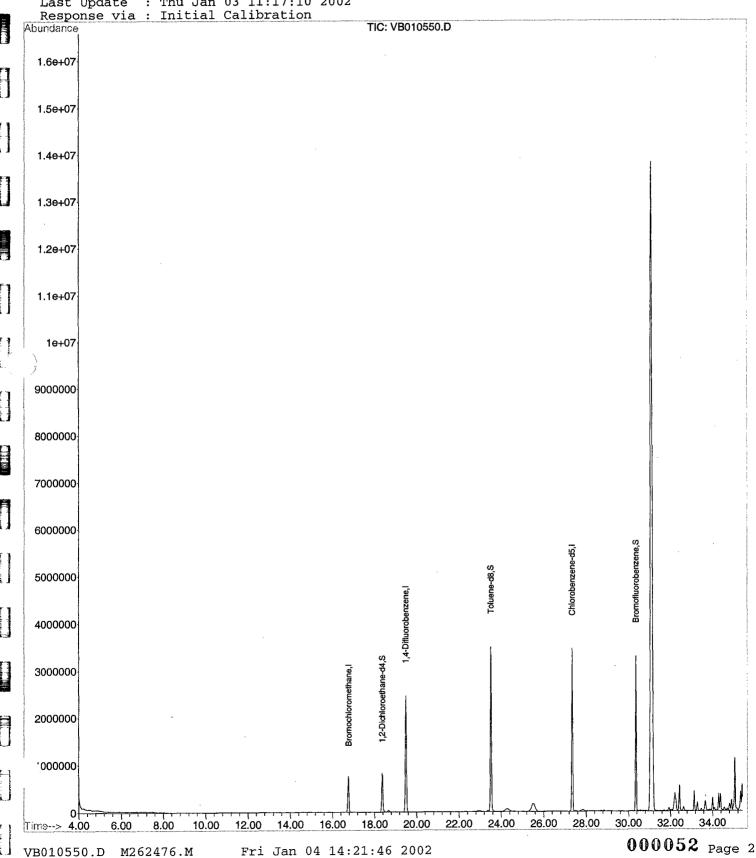
MS Integration Params: TBA.P Quant Time: Jan 4 14:17 2002

Vial: 14 Operator: Skelton : GC VOA 2 Inst

Multiplr: 1.00

Ouant Results File: M262476.RES

: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002



(QT/LSC Reviewed) Quantitation Report Data File: C:\HPCHEM\1\DATA\020103\VB010551.D Vial: 15 Acq On : 4 Jan 2002 Sample : 2000306 1:31 am Operator: Skelton Inst : GC VOA 2 Sample Misc : 600GW-4 Multiplr: 1.00 MS Integration Params: TBA.P Muant Time: Jan 4 2:06 2002 Quant Results File: M262476.RES Quant Method: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Thu Jan 03 11:17:10 2002 Response via : Initial Calibration DataAcq Meth: M262476 Internal Standards R.T. OIon Response Conc Units Dev(Min) ______ ______ 16.76 128 375734 19.49 114 3573669 27.34 119 1138906 30.00 ug/L 375734 0.00 1) Bromochloromethane 26) 1,4-Difluorobenzene 30.00 ug/L 0.00 37) Chlorobenzene-d5 30.00 ug/L 0.00 System Monitoring Compounds 25) 1,2-Dichloroethane-d4 18.36 65 1065459 26.03 ug/L 0.00 Spiked Amount Range 70 - 121 Recovery = 86.77% 23.51 98 4347553 29.89 ug/L 0.00 35) Toluene-d8 Range 81 - 117 Recovery = 99.63% 30.35 95 1875774 27.12 ug/L Spiked Amount 30.000 49) Bromofluorobenzene 0.00 Spiked Amount 30.000 Range 74 - 121 Recovery = 90.40% Target Compounds Qvalue

Data File : C:\HPCHEM\1\DATA\020103\VB010551.D

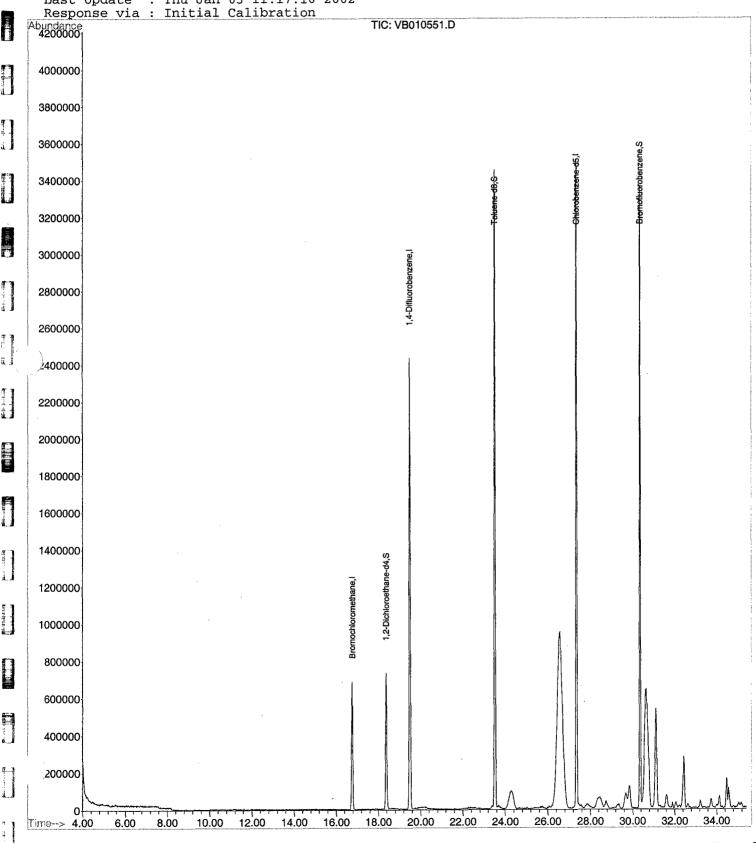
Vial: 15 1:31 am

Operator: Skelton Acq On : 4 Jan 2002 Inst : GC VOA 2 : 2000306 Sample Multiplr: 1.00 Misc : 600GW-4

MS Integration Params: TBA.P Quant Results File: M262476.RES Quant Time: Jan 4 2:06 2002

: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Thu Jan 03 11:17:10 2002



(QT Reviewed)

Vial: 21

Operator: Skelton

Inst : GC VOA 2

Data File : C:\HPCHEM\1\DATA\020103\VB010557.D

Acq On : 4 Jan 2002 8:50 am Sample : 2000307

1 Sample

: 600GW-5

Multiplr: 1.00 Quant Results File: M262476.RES

MS Integration Params: TBA.P uant Time: Jan 4 14:17 2002

Quant Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 03 11:17:10 2002
Response via : Initial Calibration

DataAcq Meth: M262476

 Internal Standards	· R.	T. QIon	Response	Conc Ur	nits Dev	(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzen 37) Chlorobenzene-d5		49 114	341881 3773953 1018403		ug/L	-0.02 0.00 0.00
System Monitoring Compo- 25) 1,2-Dichloroethane Spiked Amount 30.	-d4 18.3		965670 Recove			0.00
35) Toluene-d8 Spiked Amount 30. 49) Bromofluorobenzene Spiked Amount 30.	23.9 000 Range 8 30.3	50 98 81 - 117 35 95	4762598 Recove 1737291 Recove	31.01 ry = 28.09	ug/L 103.37% ug/L	0.00
Target Compounds 27) Benzene 36) Toluene 44) Ethylbenzene 45) m+p-Xylenes	27.5 27.5	70 91 56 91 75 106	158682 310688 1176432 1903264	6.33 29.07	ug/L ug/L ug/L ug/L	98 96
46) o-Xylene	28.8	84 91	2658012	18.83	ug/L	98

Data File : C:\HPCHEM\1\DATA\020103\VB010557.D

4 Jan 2002 8:50 am

8:50 am

Vial: 21
Operator: Skelton
Inst : GC VOA 2
Multiplr: 1.00

Misc : 600GW-5 MS Integration Params: TBA.P

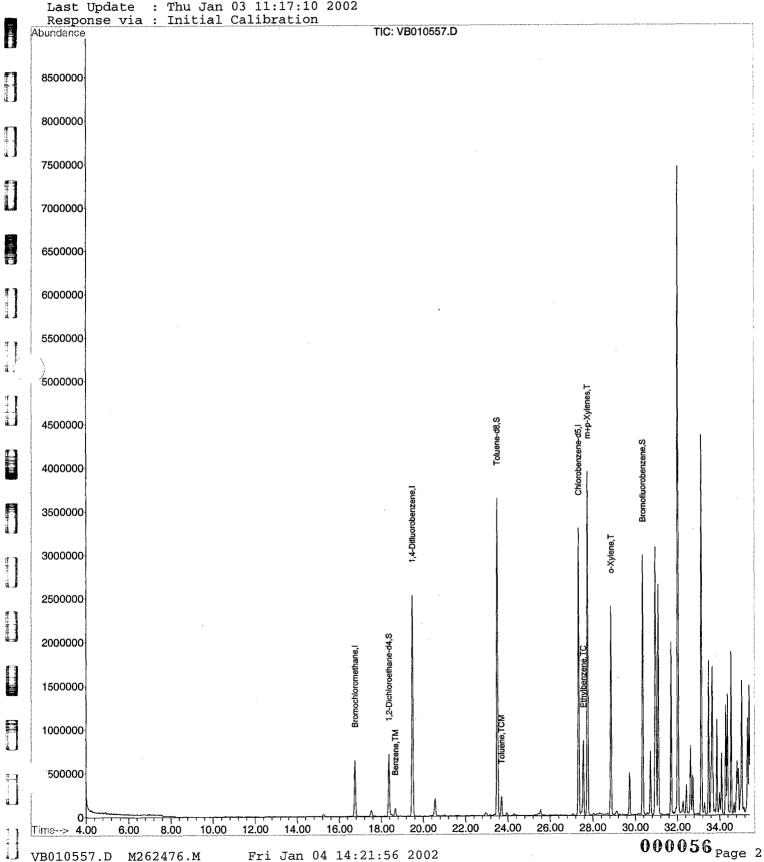
: 2000307

Acq On

Sample

Quant Time: Jan 4 14:17 2002 Quant Results File: M262476.RES

Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Jan 03 11:17:10 2002



(QT/LSC Reviewed)

Vial: 22

Data File : C:\HPCHEM\1\DATA\020103\VB010558.D

Acq On : 4 Jan 2002 9:31 am
| Sample : 2000308

Misc : Field Dup

Operator: Skelton Inst : GC VOA 2

Multiplr: 1.00

MS Integration Params: TBA.P Muant Time: Jan 4 14:18 2002

Quant Results File: M262476.RES

Quant Method: C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator)
Title: Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update: Thu Jan 03 11:17:10 2002

Response via : Initial Calibration

DataAcq Meth : M262476

.									
	Internal Standards		R.T	г.	QIon	Response	Conc U	nits De	ev(Min)
	1) Bromochlorometha 26) 1,4-Difluorobenz 37) Chlorobenzene-d5	ene	19.4	49	114	335779 3747205 1021789	30.00	ug/L ug/L ug/L	0.00
F	System Monitoring Com 25) 1,2-Dichloroetha		18.3	36	65	922672	25.22	ug/L	0.00
	Spiked Amount 3 35) Toluene-d8 Spiked Amount 3 49) Bromofluorobenze	0.000 0.000 ene	Range 23.5 Range 8	70 50 81 34	- 121 98 - 117 95	Recov 4953742 Recov 1757976 Recov	ery = 32.48 ery = 28.33	84.07 ug/L 108.27 ug/L	0.00 % 0.00
	Target Compounds 27) Benzene		18.6	67	78	157320	1.00	ug/L	value 99
	36) Toluene 44) Ethylbenzene		27.5	56	91	317217 1153670	1.85 6.19	ug/L ug/L	99
	45) m+p-Xylenes 46) o-Xylene		27.7 28.8	_		1810882 2749255		ug/L ug/L	

^(#) = qualifier out of range (m) = manual integration VB010558.D M262476.M Fri Jan 04 14:21:59 2002

Data File : C:\HPCHEM\1\DATA\020103\VB010558.D

D Vial: 22

Acq On : 4 Jan 2002

Operator: Skelton Inst : GC VOA 2

Sample : 2000308 Misc : Field Dup Inst : GC VC Multiplr: 1.00

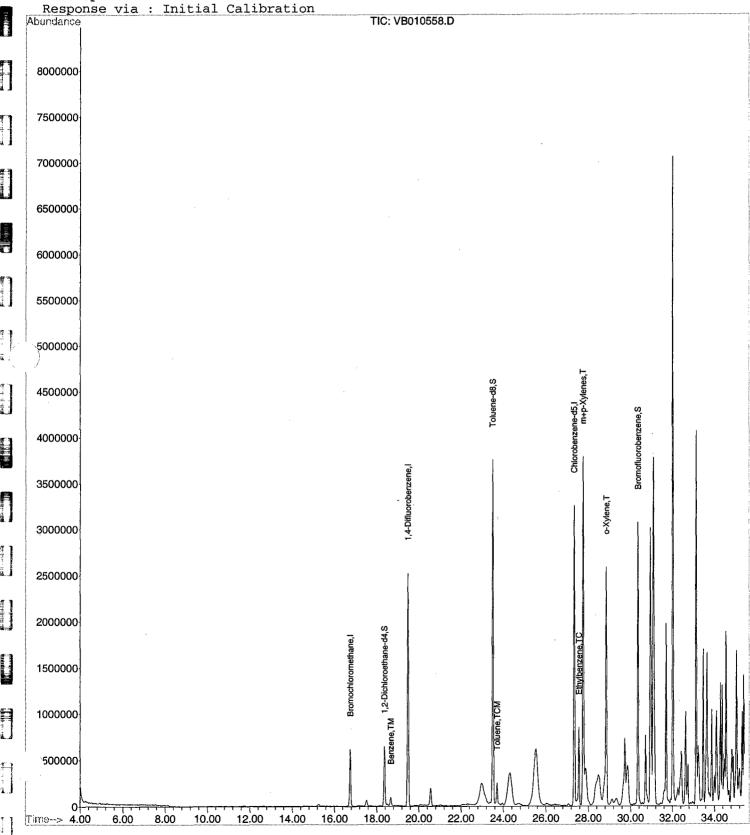
MS Integration Params: TBA.P Ouant Time: Jan 4 14:18 2002

Quant Results File: M262476.RES

Method : C:\HPCHEM\1\METHODS\M262476.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

9:31 am

Last Update : Thu Jan 03 11:17:10 2002



BASE NEUTRAL

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

Data File Name

Date Acquired

BN05344.D

8-Jan-02

Operator B.Patel

Sample Name

MB-020107

tel

Misc Info

MB-020107 1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine	1	Response	not detected	NLE	0.61	ug/L	Qualities
62-75-9	N-nitroso-dimethylamine		7	not detected	20		ug/L	
62-53-3	Aniline			not detected	NLE		ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10		ug/L	·
541-73-1	1,3-Dichlorobenzene			not detected	600		ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75		ug/L	
100-51-6	Benzyl alcohol		-	not detected	NLE		ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	1	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300		ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20		ug/L	,
67-72-1	Hexachloroethane			not detected	10	0.96		
98-95-3	Nitrobenzene			not detected	10	1.27	ug/L	
78-59-1	Isophorone			not detected	100	0.88	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.06	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.93	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85	ug/L	
83-32-9	Acenaphthene			not detected	400	1.02	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.06	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10	ug/L	
86-73-7	Fluorene			not detected	300	0.84	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92	ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.92	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.08	ug/L	
120-12-7	Anthracene			not detected	2000	0.93	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.23	ug/L	
206-44-0	Fluoranthene			not detected	300	0.90	ug/L	

Data File Name

BN05344.D

Sample Name

MB-020107

Operator

B.Patel

Misc Info

MB-020107

Date Acquired

8-Jan-02

Sample Multiplier 1

					Regulatory Level			
CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55- 3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not_detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE	NO.
-------------------	-----

Lab Name: FMETL	-	Lab Code 13461	MB-020107						
Project: 02	Case No.: 20003	Location: 600 Ar SD	G No.:						
Matrix: (soil/water)	WATER	Lab Sample ID: <u>I</u>	MB-020107						
Sample wt/vol:	1000 (g/ml) ML	Lab File ID:	BN05344.D						
Level: (low/med)	LOW	Date Received:	1/3/02						
% Moisture:	decanted: (Y/N)	N Date Extracted:	1/7/02						
Concentrated Extract	t Volume: 1000 (uL)	Date Analyzed:	1/8/02						
Injection Volume: 1	1.0								
GPC Cleanup: (Y/N)	GPC Cleanup: (Y/N) N pH:								
Number TICs found:	0	CONCENTRATION UNIT (ug/L or ug/Kg) <u>UG/L</u>							
CAS NUMBER	COMPOUND NAME	RT EST	r. CONC. Q						

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

Data File Name

BN05334.D

Sample Name

2000302

Operator **B.Patel** Misc Info

Field Blank

Date Acquired 7-Jan-02 Sample Multiplier

1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine		200,000	not detected	NLE		ug/L	- Qualitation
62-75-9	N-nitroso-dimethylamine			not detected	20		ug/L	
62-53-3	Aniline	1.		not detected	NLE		ug/L	
111-44-4	bis(2-Chloroethyl)ether	1		not detected	10		ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600		ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75		ug/L	
100-51-6	Benzyl alcohol			not detected	NLE		ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20		ug/L	
67-72-1	Hexachloroethane			not detected	10	0.96	ug/L	
98-95-3	Nitrobenzene			not detected	10	1.27	ug/L	
78-59-1	Isophorone			not detected	100		ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	T'	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.06	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.93	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85	ug/L	
83-32-9	Acenaphthene			not detected	400	1.02	ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.06	ug/L	
121-14-2	2,4-Dinitrotoluene	<u> </u>		not detected	10	1.16	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10	ug/L	
86-73-7	Fluorene			not detected	300	0.84	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92	ug/L	
100-01-6	4-Nitroaniline		·	not detected	NLE	0.92	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06	ug/L	
101-55-3	4-Bromophenyl-phenylether	$\perp \perp \perp$		not detected	NLE	0.87	ug/L	
118-74-1	Hexachlorobenzene	$oxed{oxed}$		not detected	10	1.08	ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.08	ug/L	
120-12-7	Anthracene	$\perp \perp 1$		not detected	2000	0.93	ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.23	ug/L	
206-44-0	Fluoranthene			not detected	300	0.90	ug/L	

Data File Name

BN05334.D

Operator Date Acquired **B.Patel**

7-Jan-02

Sample Name

2000302

Misc Info

Field Blank

Sample Multiplier

					Regulatory Level			
CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20		ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not .detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE		ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

L. / C/ ((1))	EPA SAMPLE NO
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		,,	MINUELI IBENTI		com consc	Ciold Diank
Lab Name:	FMETL			L	ab Code <u>13461</u>	Field Blank
Project:	02		Case No.: 20003		Location: 600 Ar S	DG No.:
Matrix: (soil/v	vater)	WATE	R		Lab Sample ID:	2000302
Sample wt/vo	ol:	1000	(g/ml) <u>ML</u>		Lab File ID:	BN05334.D
Level: (low/n	ned)	LOW			Date Received:	1/3/02
% Moisture:		(decanted: (Y/N)	N	Date Extracted:	1/7/02
Concentrated	Extract	Volume:	: <u>1000</u> (uL)		Date Analyzed:	1/7/02
Injection Volu	ıme: <u>1.0</u>	<u>)</u> (uL	.)		Dilution Factor:	1.0
GPC Cleanup	p: (Y/N)	N	pH:			
				C	ONCENTRATION UNI	TS:

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000057-10-3	Hexadecanoic acid	22.18	4	JN
2. 000112-80-1	Oleic Acid	23.89	20	JN
3.	unknown	23.94	30	J
4. 000057-11-4	Octadecanoic acid	24.09	15	JN

(ug/L or ug/Kg)

UG/L

Number TICs found:

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

Data File Name

BN05335.D

Operator
Date Acquired

B.Patel 7-Jan-02 Sample Name

2000303

Misc Info

600GW-1 1

Sample Multiplier

Regulatory

CAS#	Name	R.T.	Response	Result	Level (ug/L)*	MDL	Oualifiers
110-86-1	Pyridine			not detected	NLE	0.61 ug/L	T
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 ug/L	
62-53-3	Aniline			not detected	NLE	0.78 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.17 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.96 ug/L	
98-95-3	Nitrobenzene			not detected	10	1.27 ug/L	
78-59-1	Isophorone			not detected	100	0.88 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/L	
91-20-3	Naphthalene			not detected	NLE	1.06 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE	1.11 ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09 ug/L	
208-96-8	Acenaphthylene	11	·	not detected	NLE	0.93 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug/L	
83-32-9	Acenaphthene			not detected	400	1.02 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	1.06 ug/L	<u> </u>
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10 ug/L	
86-73-7	Fluorene	1		not detected	300	0.84 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.92 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10 ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08 ug/L	
85-01-8	Phenanthrene			not detected	NLE	1.08 ug/L	
120-12-7	Anthracene			not detected	2000	0.93 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.23 ug/L	
206-44-0	Fluoranthene	<u> </u>		not detected	300	0.90 ug/L	

Data File Name

Date Acquired

Operator

BN05335.D

B.Patel 7-Jan-02 Sample Name

2000303

Misc Info

600GW-1

Sample Multiplier

1

CAS#	Name	R.T.	Response	Result	Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	<u> </u>
91 <u>-</u> 94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	<u> </u>
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	<u> </u>
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	FMETL			_ L	ab Code <u>13461</u>	600GW-1
Project:	02		Case No.: 20003		Location: 600 Ar SI	DG No.:
Matrix: (soil/v	water)	WATE	3		Lab Sample ID:	2000303
Sample wt/vo	ol:	1000	(g/ml) ML		Lab File ID:	BN05335.D
Level: (low/n	ned)	LOW			Date Received:	1/3/02
% Moisture:		(decanted: (Y/N)	N	Date Extracted:	1/7/02
Concentrated	d Extract	Volume	: <u>1000</u> (uL)		Date Analyzed:	1/7/02
Injection Volu	ume: <u>1.0</u>) (uL	.)		Dilution Factor:	1.0
GPC Cleanu	p: (Y/N)	N	pH:			
				0.0		ro

CONCENTRATION UNITS:

Number TICs found	: 4	(ug/L or ug/Kg)	UG/L	
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	18.23	8	J
2. 000112-80-1	Oleic Acid	23.89	7	JN
3.	unknown	23.93	12	J
4. 000057-11-4	Octadecanoic acid	24.08	5	JN

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

Data File Name

BN05336.D

Sample Name

2000304

Operator

B.Patel

Misc Info

600GW-2

Date Acquired

7-Jan-02

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine	<u> </u>	жариыс	not detected	NLE	0.61 ug/	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 ug/	
62-53-3	Aniline		··· ,,-,- ·	not detected	NLE	0.78 ug/	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80 ug/	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 ug/	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 ug/	
100-51-6	Benzyl alcohol			not detected	NLE	1.17 ug/	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 ug/	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84 ug/	
67-72-1	Hexachloroethane			not detected	10	0.96 ug/	
98-95-3	Nitrobenzene			not detected	10	1.27 ug/	
78-59-1	Isophorone			not detected	100	0.88 ug/	L .
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug/	լ
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/	L
91-20-3	Naphthalene	12.98	3474126	89.36 ug/L	NLE	1.06 ug/	Ĺ
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/	L
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug/	L
91-57-6	2-Methylnaphthalene	14.63	784737	35.38 ug/L	NLE	1.11 ug/	L
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug/	L L
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/	ւ
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/	<u> </u>
131-11-3	Dimethylphthalate			not detected	7000	1.09 ug/	ւ
208-96-8	Acenaphthylene			not detected	NLE	0.93 ug/	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug/	L .
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug/	Ĺ
83-32-9	Acenaphthene			not detected	400	1.02 ug/	<u>L</u>
132-64-9	Dibenzofuran	17.62	37633	1.37 ug/L	NLE	1.06 ug/	L
121-14-2	2,4-Dinitrotoluene	1		not detected	10	1.16 ug/	<u> </u>
84-66-2	Diethylphthalate	4		not detected	5000	1.10 ug/	L
86-73-7	Fluorene			not detected	300	0.84 ug/	<u>L</u>
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92 ug/	<u> </u>
100-01-6	4-Nitroaniline	↓		not detected	NLE	0.92 ug/	
86-30-6	n-Nitrosodiphenylamine	4	···.	not detected	20	1.10 ug/	
103-33-3	Azobenzene	11		not detected	NLE	1.06 ug/	L
101-55-3	4-Bromophenyl-phenylether	4		not detected	NLE	0.87 ug/	<u>L</u>
118-74-1	Hexachlorobenzene		,	not detected	10	1.08 ug/	
85-01-8	Phenanthrene	4		not detected	NLE	1.08 ug/	-
120-12-7	Anthracene	 		not detected	2000	0.93 ug/	
84-74-2	Di-n-butylphthalate	-		not detected	900	1.23 ug/	
206-44-0	Fluoranthene	<u></u>		not detected	300	0.90 ug/	

Data File Name

BN05336.D

Sample Name

2000304

Operator

B.Patel

Misc Info

600GW-2

Date Acquired

7-Jan-02

Sample Multiplier

G + G#			_		Regulatory Level (ug/L)*	1.57		
CAS#	Name	R.T.	Response	Result	·- 	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85 - 68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not_detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO	١.
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EST. CONC.

5

19

Q

JN

JN

RT

13.12

14.86

Lab Name:	FMETL	-		Lab Co	de 13461		600GW-2
Project:	02		Case No.: 20003	Loca	tion: <u>600 A</u>	r_SI	DG No.:
Matrix: (soil/	water)	WATER	<u>l</u>		Lab Sample	ID:	2000304
Sample wt/v	ol:	1000	(g/ml) <u>ML</u>	<u>.</u>	Lab File ID:		BN05336.D
Level: (low/r	med)	LOW			Date Receiv	/ed:	1/3/02
% Moisture:		d	ecanted: (Y/N)	N	Date Extrac	ted:	1/7/02
Concentrate	d Extract	Volume:	1000 (uL)		Date Analyz	ed:	1/7/02
Injection Vol	ume: <u>1</u> .	.0 (uL)	1		Dilution Fac	tor:	1.0
GPC Cleanu	p: (Y/N)	N	pH:				
				CONCE	NTRATION	UNIT	ΓS:
Number TIC	s found:	2		(ug/L or	ug/Kg)	UG/l	<u>- </u>

COMPOUND NAME

Naphthalene, 1-methyl-

Benzo[b]thiophene

CAS NUMBER

000095-15-8

2. 000090-12-0

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

Data File Name

BN05337.D

B.Patel

Sample Name

2000305

Operator

Date Acquired

7-Jan-02

Misc Info

600GW-3

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	T	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64	ug/L	
62-53-3	Aniline			not detected	NLE	0.78		
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95	ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.17	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.96	ug/L	
98-95-3	Nitrobenzene			not detected	10	1.27	ug/L	
78-59-1	Isophorone		_	not detected	100	0.88	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11	ug/L	
91-20-3	Naphthalene			not detected	NLE	1.06	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16	ug/L	
91-57-6	2-Methylnaphthalene			not detected	NLE_	1.11	ug/L	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10	ug/L	
88-74-4	2-Nitroaniline	\perp		not detected	NLE	0.95	ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09	ug/L	
208-96-8	Acenaphthylene	\perp	·	not detected	NLE	0.93	ug/L	
606-20-2	2,6-Dinitrotoluene	11		not detected	NLE	0.98	ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85	ug/L	
83-32-9	Acenaphthene	<u> </u>		not detected	400	1.02	ug/L	
132-64-9	Dibenzofuran	\perp		not detected	NLE	1.06	ug/L	
121-14-2	2,4-Dinitrotoluene	<u> </u>		not detected	10	1.16	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10	ug/L	
86-73-7	Fluorene	\perp		not detected	300	0.84	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92	ug/L	
100-01-6	4-Nitroaniline	11		not detected	NLE	0.92	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06	ug/L	
101-55-3	4-Bromophenyl-phenylether	1		not detected	NLE	0.87	ug/L	
118-74-1	Hexachlorobenzene	\perp		not detected	10	1.08	ug/L	
85-01-8	Phenanthrene	<u> </u>		not detected	NLE	1.08	ug/L	
120-12-7	Anthracene			not detected	2000	0.93	ug/L	
84-74-2	Di-n-butylphthalate		· · · · · · · · · · · · · · · · · · ·	not detected	900	1.23	ug/L	
206-44-0	Fluoranthene	<u> </u>		not detected	300	0.90	ug/L	

Data File Name

Date Acquired

BN05337.D

Operator

7-Jan-02

B.Patel

Sample Name

2000305

Misc Info

600GW-3

Sample Multiplier

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Oualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

Par I Break

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPI	LE NO.
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Lab Name: FMETI		Lab Code 13461	600GW-3
Project: 02	Case No.: 20003	Location: 600 Ar SE	OG No.:
Matrix: (soil/water)	WATER	Lab Sample ID:	2000305
Sample wt/vol:	1000 (g/ml) ML	Lab File ID:	BN05337.D
Level: (low/med)	LOW	Date Received:	1/3/02
% Moisture:	decanted: (Y/N) _	N Date Extracted:	1/7/02
Concentrated Extrac	t Volume: 1000 (uL)	Date Analyzed:	1/7/02
Injection Volume: 1	.0 (uL)	Dilution Factor:	1.0
GPC Cleanup: (Y/N)	NpH:		
		CONCENTRATION UNIT	·S:
Number TICs found:	0	(ug/L or ug/Kg) <u>UG/L</u>	<u> </u>
CAS NUMBER	COMPOUND NAME	RT ES	T. CONC. Q

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

Data File Name

Date Acquired

BN05338.D

7-Jan-02

Operator **B.Patel** Sample Name

2000306

Misc Info

600GW-4

1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	0
110-86-1	Pyridine	T	Response	not detected	NLE	0.61 ug/	Qualifiers
62-75-9	N-nitroso-dimethylamine	1		not detected	20	0.64 ug/	
62-53-3	Aniline	1		not detected	NLE	0.78 ug/	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.78 ug/	
541-73-1	1,3-Dichlorobenzene	\vdash		not detected	600	0.90 ug/	
106-46-7	1,4-Dichlorobenzene	\vdash	·	not detected	75	0.95 ug/	1
100-51-6	Benzyl alcohol		· · · · · · · · · · · · · · · · · · ·	not detected	NLE	0.93 ug/	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.90 ug/	1
621-64-7	n-Nitroso-di-n-propylamine	1	· · · · · · · · · · · · · · · · · · ·	not detected	20	0.84 ug/	
67-72-1	Hexachloroethane			not detected	10	0.96 ug/	
98-95-3	Nitrobenzene			not detected	10	1.27 ug/	
78-59-1	Isophorone			not detected	100	0.88 ug/	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug/	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/	
91-20-3	Naphthalene			not detected	NLE	1.06 ug/	
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/	
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug/	
91-57-6	2-Methylnaphthalene		•	not detected	NLE	1.11 ug/	
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug/	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/	
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/	L
131-11-3	Dimethylphthalate			not detected	7000	1.09 ug/	L I
208-96-8	Acenaphthylene			not detected	NLE	0.93 ug/	L
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug/l	L
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug/l	L
83-32-9	Acenaphthene			not detected	400	1.02 ug/l	L
132-64-9	Dibenzofuran			not detected	NLE	1.06 ug/	_
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug/	
84-66-2	Diethylphthalate			not detected	5000	1.10 ug/	,
86-73-7	Fluorene			not detected	300	0.84 ug/l	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92 ug/l	
100-01-6	4-Nitroaniline	·		not detected	NLE	0.92 ug/l	_
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10 ug/l	
103-33-3	Azobenzene			not detected	NLE	1.06 ug/l	,
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 ug/l	1
118-74-1	Hexachlorobenzene			not detected	10	1.08 ug/l	
85-01-8	Phenanthrene			not detected	NLE	1.08 ug/l	
120-12-7	Anthracene	$\Box \Box \Box$		not detected	2000	0.93 ug/l	,
84-74-2	Di-n-butylphthalate			not detected	900	1.23 ug/l	
206-44-0	Fluoranthene			not detected	300	0.90 ug/l	. [

Data File Name

Date Acquired

Operator

BN05338.D

B.Patel 7-Jan-02 Sample Name

2000306

Misc Info

600GW-4

Sample Multiplier

G L G II			_		Regulatory Level (ug/L)*	ımi		
CAS#	Name	R.T.	Response	Result	, ` 	MDL	г—	Qualifiers
92-87-5	Benzidine	<u> </u>		not detected	50	1.81	ug/L	<u> </u>
129-00-0	Ругепе			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	<u> </u>
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMP	LE NO
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Lab Name: FMETI	-	Lab Code	13461	600GV	V-4
Project: 02	Case No.: 20003	Location	n: <u>600 Ar</u> S	DG No.:	
Matrix: (soil/water)	WATER	Lab	Sample ID:	2000306	
Sample wt/vol:	1000 (g/ml) ML	Lab	File ID:	BN05338.D	
Level: (low/med)	LOW	Dat	te Received:	1/3/02	
% Moisture:	decanted: (Y/N)	N Dat	te Extracted:	1/7/02	
Concentrated Extrac	t Volume: 1000 (uL)	Dat	te Analyzed:	1/7/02	
Injection Volume: 1	.0 (uL)	Dilu	ution Factor:	1.0	
GPC Cleanup: (Y/N)	NpH:				
		CONCENT	RATION UNI	TS:	
Number TICs found:	0	(ug/L or ug/	/Kg) <u>UG</u> /	<u>L</u>	
CAS NUMBER	COMPOUND NAME		RT ES	ST. CONC.	Q

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name

Date Acquired

BN05339.D

Operator

B.Patel 7-Jan-02 Sample Name

2000307

Misc Info

600GW-5

					Regulatory Level		٠	
CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL		Qualifiers
110-86-1	Pyridine			not detected	NLE	0.61	ug/L	
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64	ug/L	
62-53-3	Aniline			not detected	NLE	0.78	ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.80	ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90	ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75		ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.17	ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96	ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81	ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	0.84	ug/L	
67-72-1	Hexachloroethane			not detected	10	0.96	ug/L	
98-95-3	Nitrobenzene			not detected	_10	1.27	ug/L	
78-59-1	Isophorone			not detected	100	0.88	ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00	ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11	ug/L	
91-20-3	Naphthalene	12.98	1251939	31.27 ug/L	NLE	1.06	ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77	ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16	ug/L	
91-57-6	2-Methylnaphthalene	14.63	2872232	125.76 ug/L	NLE	1.11	ug/L	Е
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26	ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10	ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95	ug/L	
131-11-3	Dimethylphthalate		· · · · · · · · · · · · · · · · · · ·	not detected	7000	1.09	ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.93	ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98	ug/L	
99-09-2	3-Nitroaniline	<u> </u>		not detected	NLE	0.85	ug/L	
83-32-9	Acenaphthene	17.20	41656	1.94 ug/L	400	1.02	ug/L	
132-64-9	Dibenzofuran	17.62	55578	1.89 ug/L	NLE	1.06	ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16	ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10	ug/L	
86-73-7	Fluorene	18.44	65736	2.86 ug/L	300	0.84	ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92	ug/L	
100-01-6	4-Nitroaniline	\perp		not detected	NLE	0.92	ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	1.10	ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06	ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87	ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08	ug/L	
85-01-8	Phenanthrene	20.75	83045	2.62 ug/L	NLE	1.08	ug/L	
120-12-7	Anthracene	T		not detected	2000	0.93	ug/L	
84-74-2	Di-n-butylphthalate	\perp		not detected	900	1.23	ug/L	
206-44-0	Fluoranthene			not detected	300	0.90	ug/L	

Data File Name

BN05339.D

Operator Date Acquired **B.Patel**

7-Jan-02

Sample Name

2000307

Misc Info

600GW-5

Sample Multiplier

					Regulatory Level			
CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20_	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

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

Data File Name

Operator

BN05342.D

B.Patel

Sample Name

2000307 (1:2)

Misc Info

600GW-5 (1:2)

Date Acquired 8-Jan-02

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifiers
110-86-1	Pyridine	T	Kesponse	not detected	NLE	1.22 ug/L	Qualifiers
62-75-9	N-nitroso-dimethylamine			not detected	20	1.28 ug/L	
62-53-3	Aniline			not detected	NLE	1.56 ug/L	· · · · ·
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.60 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.80 ug/L	ļ
106-46-7	1,4-Dichlorobenzene			not detected	75	1.90 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.34 ug/L	<u> </u>
95-50-1	1,2-Dichlorobenzene			not detected	600	1.92 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.62 ug/L	
621-64-7	n-Nitroso-di-n-propylamine			not detected	20	1.68 ug/L	
67-72-1	Hexachloroethane			not detected	10	1.92 ug/L	
98-95-3	Nitrobenzene			not detected	10	2.54 ug/L	
78-59-1	Isophorone			not detected	100	1.76 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	2.22 ug/L	
91-20-3	Naphthalene	12.98	657936	32.06 ug/L	NLE	2.12 ug/L	D
106-47-8	4-Chloroaniline			not detected	NLE	1.54 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	2.32 ug/L	
91-57-6	2-Methylnaphthalene	14.62	1481889	126.58 ug/L	NLE	2.22 ug/L	D
77-47-4	Hexachlorocyclopentadiene			not detected	50	2.52 ug/L	
91-58-7	2-Chloronaphthalene			not detected_	NLE	2.20 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.90 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.18 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	1.86 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.96 ug/L	
99-09-2	3-Nitroaniline		·	not detected	NLE	1.70 ug/L	
83-32-9	Acenaphthene			not detected	400	2.04 ug/L	
132-64-9	Dibenzofuran			not detected	NLE	2.12 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	2.32 ug/L	
84-66-2	Diethylphthalate			not detected	5000	2.20 ug/L	
86-73-7	Fluorene	18.44	32348	2.76 ug/L	300	1.68 ug/L	D
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.84 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.84 ug/L	
86-30-6	n-Nitrosodiphenylamine	1		not detected	20	2.20 ug/L	
103-33-3	Azobenzene	1		not detected	NLE	2.12 ug/L	
<u>10</u> 1-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.74 ug/L	
<u>118-74-1</u>	Hexachlorobenzene			not detected	10	2.16 ug/L	
85-01-8	Phenanthrene	20.74	42256	2.60 ug/L	NLE	2.16 ug/L	D
120-12-7	Anthracene			not detected	2000	1.86 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.46 ug/L	
206-44-0	Fluoranthene			not detected	300	1.80 ug/L	·

Data File Name

BN05342.D

Operator

B.Patel

Date Acquired 8-Jan-02 Sample Name

2000307 (1:2)

Misc Info

600GW-5 (1:2)

Sample Multiplier

G			_		Regulatory Level (ug/L)*			
CAS#	Name	R.T.	Response	Result	· · · · · ·	MDL		Qualifiers
92-87-5	Benzidine			not detected	50	3.62	ug/L	
129-00-0	Pyrene			not detected	200	2.02	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	2.26	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	2.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.74	ug/L	
218-01-9	Chrysene			not detected	20	2.10	ug/L	
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.98	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	2.40	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	2.14	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	2.48	ug/L	
50-32-8	Benzo[a]pyrene			not detected	20	2.08	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene		·	not detected	20	2.64	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	2.24	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMP	LE NO
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Lab Name:	FMETL			_ Lab Co	de 13461	600GW-5
Project:	02	С	ase No.: 20003	Loca	tion: <u>600 Ar</u> S	DG No.:
Matrix: (soil/	water)	WATER			Lab Sample ID:	2000307
Sample wt/vo	ol:	1000	(g/ml) ML		Lab File ID:	BN05339.D
Level: (low/r	ned)	LOW			Date Received:	1/3/02
% Moisture:		de	canted: (Y/N)	N	Date Extracted:	1/7/02
Concentrated	d Extract	Volume:	1000 (uL)		Date Analyzed:	1/7/02
Injection Volu	ime: <u>1.0</u>	(uL)			Dilution Factor:	1.0
GPC Cleanu	p: (Y/N)	N	pH:			•

CONCENTRATION UNITS:

16.59

17

JN

UG/L

(ug/L or ug/Kg)

				1
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000622-96-8	Benzene, 1-ethyl-4-methyl-	9.01	9	JN
2. 000095-36-3	1,2,4-Trimethylbenzene	9.16	88	JN
3. 000526-73-8	Benzene, 1,2,3-trimethyl-	9.63	24	JN
4. 000098-82-8	Benzene, (1-methylethyl)-	10.15	15	JN
5. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	10.75	14	JN
6. 000874-41-9	Benzene, 1-ethyl-2,4-dimethyl-	11.23	11	JN
		1		1 .

Number TICs found:

000571-58-4

unknown 12.34 19 8. 000090-12-0 Naphthalene, 1-methyl-14.87 53 JΝ 9. 15.77 11 unknown J <u>10. 00</u>1127-76-0 15.97 12 JN Naphthalene, 1-ethyl-11._ 000581-42-0 Naphthalene, 2,6-dimethyl-16.14 49 JN 12. 000581-40-8 Naphthalene, 2,3-dimethyl-16.32 50 JN 25 JN 13. 000582-16-1 Naphthalene, 2,7-dimethyl-16.38

Naphthalene, 1,4-dimethyl-

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

Data File Name

BN05340.D

Sample Name

2000308

Operator

B.Patel

Misc Info

Field Dup.

Date Acquired 7-Jan-02

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Ovelifiers
110-86-1	Pyridine		Response	not detected	NLE	0.61 ug/L	Qualifiers
62-75-9	N-nitroso-dimethylamine			not detected	20	0.64 ug/L	
62-53-3	Aniline			not detected	NLE	0.78 ug/L	†
111-44-4	bis(2-Chloroethyl)ether			not detected	10	0.70 ug/L	T
541-73-1	1,3-Dichlorobenzene			not detected	600	0.90 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.95 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	1.17 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.96 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	0.81 ug/L	
621-64-7	n-Nitroso-di-n-propylamine	1		not detected	20	0.84 ug/L	
67-72-1	Hexachloroethane			not detected	10	0.96 ug/L	
98-95-3	Nitrobenzene			not detected	10	1.27 ug/L	1.
78-59-1	Isophorone			not detected	100	0.88 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	1.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene			not detected	9	1.11 ug/L	
91-20-3	Naphthalene	12.97	1166782	30.05 ug/L	NLE	1.06 ug/L	
106-47-8	4-Chloroaniline			not detected	NLE	0.77 ug/L	
87-68-3	Hexachlorobutadiene			not detected	1	1.16 ug/L	
91-57-6	2-Methylnaphthalene	14.63	2717697	122.69 ug/L	NLE	1.11 ug/L	Е
77-47-4	Hexachlorocyclopentadiene			not detected	50	1.26 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	1.10 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	0.95 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	1.09 ug/L	
208-96-8	Acenaphthylene			not detected	NLE	0.93 ug/L	
606-20-2	2,6-Dinitrotoluene			not detected	NLE	0.98 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	0.85 ug/L	
83-32-9	Acenaphthene	17.20	40344	1.97 ug/L	400	1.02 ug/L	
132-64-9	Dibenzofuran	17.62	53891	1.92 ug/L	NLE	1.06 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	1.16 ug/L	
84-66-2	Diethylphthalate			not detected	5000	1.10 ug/L	
86-73-7	Fluorene	18.44	65220	2.97 ug/L	300	0.84 ug/L	
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	0.92 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	0.92 ug/L	
<u>86-30-6</u>	n-Nitrosodiphenylamine			not detected	20	1.10 ug/L	
103-33-3	Azobenzene			not detected	NLE	1.06 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	0.87 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	1.08 ug/L	
85-01-8	Phenanthrene	20.75	84376	2.77 ug/L	NLE	1.08 ug/L	
120-12-7	Anthracene			not detected	2000	0.93 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	1.23 ug/L	
206-44-0	Fluoranthene			not detected	300	0.90 ug/L	

Data File Name

Date Acquired

Operator

BN05340.D

B.Patel

7-Jan-02

Sample Name

2000308

Misc Info

Field Dup.

Sample Multiplier

1

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL		Qualifiers
92-87-5	Benzidine			not_detected	50	1.81	ug/L	
129-00-0	Pyrene			not detected	200	1.01	ug/L	
85-68-7	Butylbenzylphthalate			not detected	100	1.13	ug/L	
56-55-3	Benzo[a]anthracene			not detected	10	1.00	ug/L	
91-94-1	3,3'-Dichlorobenzidine			not detected	60	0.87	ug/L	
218-01-9	Chrysene			not detected	20	1.05	ug/L	-
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	0.99	ug/L	
117-84-0	Di-n-octylphthalate			not detected	100	1.20	ug/L	
205-99-2	Benzo[b]fluoranthene			not detected	10	1.07	ug/L	
207-08-9	Benzo[k]fluoranthene			not detected	2	1.24	ug/L	l
50-32-8	Benzo[a]pyrene			not detected	20	1.04	ug/L	
193-39-5	Indeno[1,2,3-cd]pyrene			not detected	20	1.32	ug/L	
53-70-3	Dibenz[a,h]anthracene			not detected	20	1.12	ug/L	
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	1.00	ug/L	

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established

R.T.=Retention Time

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

Data File Name

BN05343.D

Sample Name

2000308 (1:2)

Operator

B.Patel

Misc Info

Field Dup (1:2)

Date Acquired

8-Jan-02

					Regulatory Level		
CAS#	Name	R.T.	Response	Result	(ug/L)*	MDL	Qualifiers
110-86-1	Pyridine			not detected	NLE	1.22 ug/L	T
62-75-9	N-nitroso-dimethylamine			not detected	20	1.28 ug/L	
62-53-3	Aniline	+		not detected	NLE	1.56 ug/L	
111-44-4	bis(2-Chloroethyl)ether			not detected	10	1.60 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	1.80 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	1.90 ug/L	
100-51-6	Benzyl alcohol			not detected	NLE	2.34 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected_	600	1.92 ug/L	
39638-32-9	bis(2-chloroisopropyl)ether			not detected	300	1.62 ug/L	
621-64-7	n-Nitroso-di-n-propylamine	1		not detected	20	1.68 ug/L	
67-72-1	Hexachloroethane			not detected	10	1.92 ug/L	ļ
98-95-3	Nitrobenzene			not detected	10	2.54 ug/L	
78-59-1	Isophorone			not detected	100	1.76 ug/L	
111-91-1	bis(2-Chloroethoxy)methane			not detected	NLE	2.00 ug/L	
120-82-1	1,2,4-Trichlorobenzene	1		not detected	9	2.22 ug/L	
91-20-3	Naphthalene	12.98	571713	30.66 ug/L	NLE	2.12 ug/L	D
106-47-8	4-Chloroaniline		· · · · · · · · · · · · · · · · · · ·	not detected	NLE	1.54 ug/L	<u> </u>
87-68-3	Hexachlorobutadiene			not detected	1	2.32 ug/L	
91-57-6	2-Methylnaphthalene	14.63	1365413	128.36 ug/L	NLE	2.22 ug/L	D
77-47-4	Hexachlorocyclopentadiene			not detected	50	2.52 ug/L	
91-58-7	2-Chloronaphthalene			not detected	NLE	2.20 ug/L	
88-74-4	2-Nitroaniline			not detected	NLE	1.90 ug/L	
131-11-3	Dimethylphthalate			not detected	7000	2.18 ug/L	
208-96-8	Acenaphthylene	11		not detected	NLE	1.86 ug/L	<u>. </u>
606-20-2	2,6-Dinitrotoluene			not detected	NLE	1.96 ug/L	
99-09-2	3-Nitroaniline			not detected	NLE	1.70 ug/L	
83-32-9	Acenaphthene	17.20	19993	2.06 ug/L	400	2.04 ug/L	D
132-64-9	Dibenzofuran			not detected	NLE	2.12 ug/L	
121-14-2	2,4-Dinitrotoluene			not detected	10	2.32 ug/L	
84-66-2	Diethylphthalate			not detected	5000	2.20 ug/L	
86-73-7	Fluorene	18.44	29676	2.84 ug/L	300	1.68 ug/L	D
7005-72-3	4-Chlorophenyl-phenylether			not detected	NLE	1.84 ug/L	
100-01-6	4-Nitroaniline			not detected	NLE	1.84 ug/L	
86-30-6	n-Nitrosodiphenylamine			not detected	20	2.20 ug/L	
103-33-3	Azobenzene			not detected	NLE	2.12 ug/L	
101-55-3	4-Bromophenyl-phenylether			not detected	NLE	1.74 ug/L	
118-74-1	Hexachlorobenzene			not detected	10	2.16 ug/L	
85-01-8	Phenanthrene	20.75	41197	2.85 ug/L	NLE	2.16 ug/L	D
120-12-7	Anthracene			not detected	2000	1.86 ug/L	
84-74-2	Di-n-butylphthalate			not detected	900	2.46 ug/L	
206-44-0	Fluoranthene	1		not detected	300	1.80 ug/L	

Data File Name

Date Acquired

Operator

BN05343.D

B.Patel

8-Jan-02

Sample Name

2000308 (1:2)

Misc Info

Field Dup (1:2)

Sample Multiplier

2

CAS#	Name	R.T.	Response	Result	Regulatory Level (ug/L)*	MDL	Qualifie
92-87-5	Benzidine			not detected	50	3.62 t	g/L
129-00-0	Pyrene			not detected	200	2.02 u	g/L
85-68-7	Butylbenzylphthalate			not detected	100	2.26	g/L
56-55-3	Benzo[a]anthracene			not detected	10	2.00 t	g/L
91-94-1	3,3'-Dichlorobenzidine			not detected	60	1.74 t	g/L
218-01-9	Chrysene			not detected	20	2.10 u	g/L
117-81-7	bis(2-Ethylhexyl)phthalate			not detected	30	1.98 t	g/L
117-84-0	Di-n-octylphthalate			not detected	100	2.40 t	g/L
205-99-2	Benzo[b]fluoranthene			not detected	10	2.14 t	g/L
207-08-9	Benzo[k]fluoranthene			not detected	2	2.48 t	g/L
50-32-8	Benzo[a]pyrene			not detected	20	2.08 t	g/L
19 <u>3</u> -39-5	Indeno[1,2,3-cd]pyrene			not detected	20	2.64 u	
53-70-3	Dibenz[a,h]anthracene			not detected	20	2.24 u	g/L
191-24-2	Benzo[g,h,i]perylene			not detected	NLE	2.00 u	g/L

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

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

PQL= Practical Quantitation Limit

MDL= Method Detection Limit NLE= No Limit Established

R.T.=Retention Time

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	FMETL				L	ab Code 13461	Field Dup.
Project:	02	(Case No.:	20003		Location: 600 Ar	SDG No.:
Matrix: (soil/	water)	WATER	 			Lab Sample ID	: 2000308
Sample wt/ve	ol:	1000	(g/ml)	ML		Lab File ID:	BN05340.D
Level: (low/r	med)	LOW				Date Received	: 1/3/02
% Moisture:		d	ecanted: (`	Y/N) _	N	Date Extracted	l: 1/7/02
Concentrate	d Extract	Volume:	1000	(uL)		Date Analyzed	: 1/7/02
Injection Vol	ume: 1.	0 (uL)				Dilution Factor	: 1.0
CBC Cloopu	n: /\//N1\	NI	nH.				

CONCENTRATION UNITS:

Number TICs found:	14(ug/L or	ug/Kg)	UG/L	
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000095-36-3	1,2,4-Trimethylbenzene	9.63	23	JN
2. 000098-82-8	Benzene, (1-methylethyl)-	10.15	15	JN
3. 000934-80-5	Benzene, 4-ethyl-1,2-dimethyl-	10.75	14	JN
4. 002870-04-4	Benzene, 2-ethyl-1,3-dimethyl-	11.23	11	JN
5	unknown	12.34	20	J
6. 000091-57-6	Naphthalene, 2-methyl-	14.87	56	JN
7.	unknown	15.77	12	J
8. 001127-76-0	Naphthalene, 1-ethyl-	15.97	13	JN
9. 000581-42-0	Naphthalene, 2,6-dimethyl-	16.14	51	JN
10. 000581-40-8	Naphthalene, 2,3-dimethyl-	16.32	53	JN
11. 000582-16-1	Naphthalene, 2,7-dimethyl-	16.38	27	JN
12. 000571-58-4	Naphthalene, 1,4-dimethyl-	16.59	18	JN
13. 000575-41-7	Naphthalene, 1.3-dimethyl-	16.79	9	JN

Naphthalene, 1,4,6-trimethyl-

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name:	FMETL		Lab Code <u>13461</u>	_
Project:	02	Case No.: 20003	Location: 600 Ar S	SDG No.:
Lab File ID:	BN05275.D		DFTPP Injection D	Date: 1/3/02
Instrument IE	D: GC_BNA_1		DFTPP Injection T	ime: 9:18

,	% RELATIVE				
ION ABUNDANCE CRITERIA	ABUNDANCE				
30.0 - 80.0% of mass 198	56.8				
Less than 2.0% of mass 69	0.0 (0.0)1				
Mass 69 Relative abundance	75.2				
Less than 2.0% of mass 69	0.6 (0.8)1				
25.0 - 75.0% of mass 198	54.5				
Less than 1.0% of mass 198	0.0				
Base Peak, 100% relative abundance	100.0				
5.0 to 9.0% of mass 198	7.4				
10.0 - 30.0% of mass 198	22.7				
Greater than 0.75% of mass 198	3.8				
Present, but less than mass 443	9.0				
40.0 - 110.0% of mass 198	58.2				
15.0 - 24.0% of mass 442	12.0 (20.6)2				
	30.0 - 80.0% of mass 198 Less than 2.0% of mass 69 Mass 69 Relative abundance Less than 2.0% of mass 69 25.0 - 75.0% of mass 198 Less than 1.0% of mass 198 Base Peak, 100% relative abundance 5.0 to 9.0% of mass 198 10.0 - 30.0% of mass 198 Greater than 0.75% of mass 198 Present, but less than mass 443 40.0 - 110.0% of mass 198				

¹⁻Value is % mass 69

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

ſ	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	SSTD120	SSTD120	BN05276.D	1/3/02	9:44
02	SSTD010	SSTD010	BN05277.D	1/3/02	10:32
03	SSTD050	SSTD050	BN05278.D	1/3/02	11:19
04	SSTD020	SSTD020	BN05279.D	1/3/02	12:08
05	SSTD080	SSTD080	BN05280.D	1/3/02	12:58

²⁻Value is % mass 442

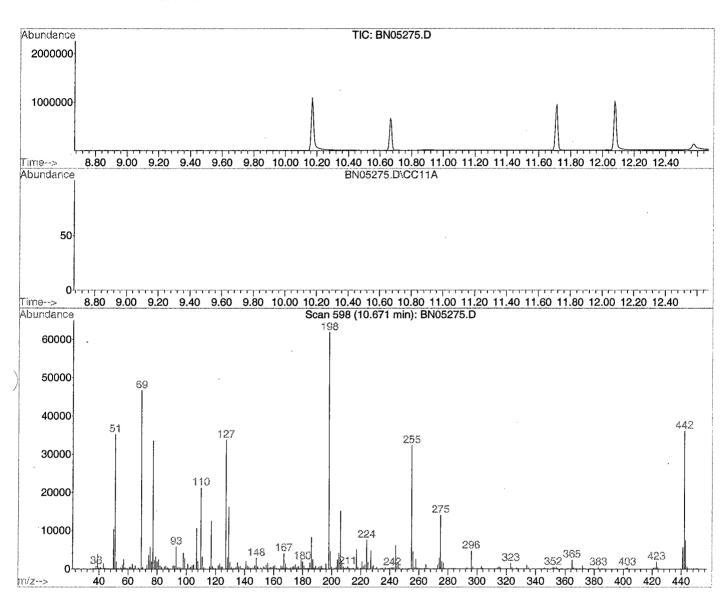
Data File: D:\HPCHEM\1\DATA\020103\BN05275.D

Vial: 99 : 3 Jan 2002 9:18 am Operator: B.Patel Acq On : DFTPP Tune : 50 NG/2UL Sample Inst : GC/MS Ins Multiplr: 1.00

Misc GC Integration Params: rteint2.p MS Integration Params: RTEINT.P

: C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method

: BNA Calibration



Spectrum Information: Scan 598

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 17	60 2 100 2 60 1 100 9 30 100 99 100 23	56.8 0.0 75.2 0.8 54.5 0.0 100.0 7.4 22.7 3.8 74.6 58.2 20.6	35152 0 46600 372 33744 0 61928 4561 14057 2343 5545 36072 7436	PASS PASS PASS PASS PASS PASS PASS PASS

Response Factor Report GC/MS Ins : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002
Response via : Initial Calibration Calibration Files 120 =BN05276.D 80 =BN05280.D 50 =BN05278.D 20 =BN05279.D 10 =BN05277.D 120 80 50 20 10 Avg %RSD Compound 1,4-Dichlorobenzene-d ------ISTD-----1.516 1.299 1.379 1.329 1.428 1.390 6.17 2) T Pyridine 3) T N-nitroso-dimethylami 0.982 0.932 0.894 0.857 0.758 0.885 2-Fluorophenol 1.424 1.435 1.385 1.312 1.286 1.368 4) S 4.87 5) T 2.304 1.979 1.802 1.624 1.793 1.900 13.59 1.761 1.735 1.714 1.606 1.603 1.684 4.42 Aniline 6) S Phenol-d6

thalene-d8
Dichlorophenol 0.281 0.283 0.276 0.265 0.265 0.274 3.16 oic Acid 0.276 0.274 0.256 0.225 0.197 0.246 13.82 4-Trichlorobenzen 0.308 0.313 0.308 0.309 0.319 0.312 1.54 thalene 1.037 1.034 1.037 1.013 1.057 1.036 1.52 loroaniline 0.329 0.349 0.342 0.340 0.310 0.334 4.55 chlorobutadiene 0.179 0.180 0.180 0.182 0.189 0.182 2.35 loro-3-methylphen 0.307 0.317 0.302 0.300 0.301 0.305 2.31 thylnaphthalene 0.603 0.593 0.590 0.573 0.595 0.591 1.88
aphthene-d10
aphthene 1.194 1.214 1.225 1.214 1.229 1.219 Dinitrophenol 0.249 0.245 0.210 0.161 0.150 0.203 nzofuran 1.637 1.668 1.664 1.667 1.692 1.666 trophenol 0.325 0.317 0.263 0.291 0.227 0.284 Dinitrotoluene 0.482 0.491 0.485 0.463 0.448 0.474 hylphthalate 1.981 2.006 2.002 1.960 1.992 1.988

: C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method

Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002

Response via : Initial Calibration

Calibration Files 120 =BN05276.D 80 =BN05280.D 50 =BN05278.D

=BN05279.D 10 =BN05277.D

		Compound	120	80	50	20	10	Avg	%RSD
55) 56) 57)	T TC T	4,6-Dinitro-2-methylp n-Nitrosodiphenylamin Azobenzene	0.187 0.650 1.171	0.653	0.657	0.656	0.141 0.662 1.164	0.656	11.74 0.72 0.46
57) 58) 59) 60)	S T T	2,4,6-Tribromophenol 4-Bromophenyl-phenyle Hexachlorobenzene	0.239	0.251 0.242	$0.255 \\ 0.244$	0.252 0.249		0.253 0.244	4.65 3.09 1.51
61) 62) 63) 64)	TCM T T	Pentachlorophenol Phenanthrene Anthracene Di-n-butylphthalate	1.114	0.137 1.125 1.144 2.035	1.130 1.147	1.121	1.187 1.151	1.135 1.136	17.42 2.70 1.47 2.05
65)	TC	Fluoranthene Chrysene-d12	1.121	1.140	1.166	1.156	1.170		1.76
67) 68) 69) 70)	T TM S	Benzidine Pyrene p-Terphenyl-d14	0.577 1.506 0.884	0.518 1.504 0.899	0.521 1.472 0.897	0.543 1.429 0.877	0.587 1.473 0.889	0.549 1.477 0.889	5.78 2.13 1.00
71) 72) 73) 74)	T T T T	Butylbenzylphthalate Benzo[a]anthracene 3,3'-Dichlorobenzidin Chrysene bis(2-Ethylhexyl)phth	1.241 0.578 1.201	1.197	1.222 0.559 1.169	1.190 0.552 1.135	1.208 0.564 1.157	1.221 0.567 1.172	6.24 1.83 2.21 2.35 7.11
75) 777 79) 79) 80) 82)	I TC T T TC 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	3.579 1.514 1.499 1.454 1.623 1.141	3.633 1.559 1.531 1.491 1.623 1.126 1.456	3.548 1.563 1.539 1.481 1.616 1.122	3.329 1.470 1.539 1.469 1.539 1.066	1.527 1.523 1.447 1.517 1.065	1.526 1.526 1.468 1.584 1.104	5.11 2.49 1.08 1.25 3.23 3.24 3.52

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name:	FMETL		Lab Code <u>13461</u>		
Project:	02	Case No.: 20003	Location: 600 Ar SDG N	lo.:	
Lab File ID:	BN05296.D		DFTPP Injection Date:	1/4/02	
Instrument ID	D: GC_BNA_1		DFTPP Injection Time:	9:50	

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
51	30.0 - 80.0% of mass 198	48.0
68	Less than 2.0% of mass 69	0.0 (0.0)
69	Mass 69 Relative abundance	64.4
70	Less than 2.0% of mass 69	0.4 (0.6)
127	25.0 - 75.0% of mass 198	49.9
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	21.0
365	Greater than 0.75% of mass 198	3.5
441	Present, but less than mass 443	10.1
442	40.0 - 110.0% of mass 198	64.8
443	15.0 - 24.0% of mass 442	12.2 (18.8)2

¹⁻Value is % mass 69

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

ſ	EPA	LAB	LAB	DATE	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	SSTD050	SSTD050	BN05297.D	1/4/02	10:14
02	1666204MS	1666204MS	BN05323.D	1/5/02	5:48
03	1666204MSD	1666204MSD	BN05324.D	1/5/02	6:32

²⁻Value is % mass 442

Data File : D:\HPCHEM\1\DATA\020104\BN05296.D

Acq On : 4 Jan 2002 9:50 am

Vial: 99 Operator: B.Patel Inst : GC/MS Ins

Sample : DFTPP Tune Misc : 50 NG/2UL

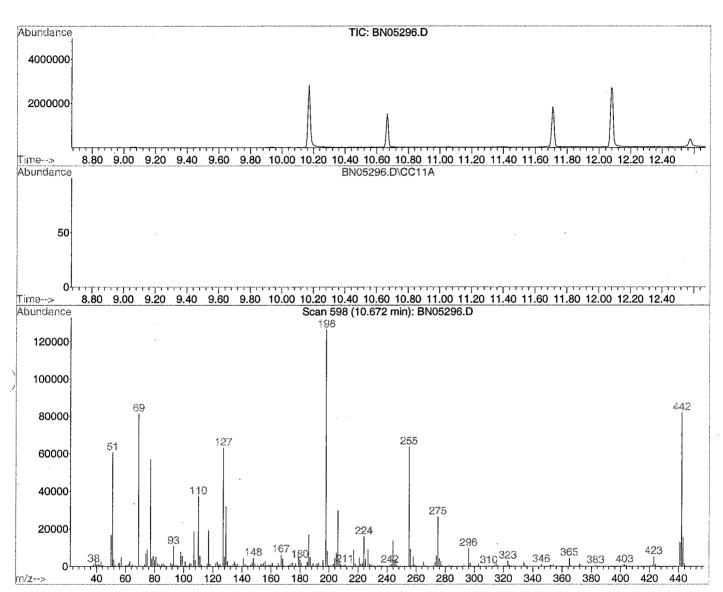
Multiplr: 1.00

MS Integration Params: RTEINT.P

GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

Title : BNA Calibration



Spectrum Information: Scan 598

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51 68 69 70 127 197 198 199 275 365 441 442	198 69, 198 69 198 198 198 198 198 198	30 0.00 0.00 0.00 40 0.00 100 5 10	60 2 100 2 60 1 100 9 30 100 99	48.0 0.0 64.4 0.6 49.9 0.0 100.0 6.5 21.0 3.5 82.7 64.8	60656 0 81480 475 63104 0 126472 8201 26504 4401 12722 81968	PASS PASS PASS PASS PASS PASS PASS PASS
443	442	40 17	23	18.8	15383	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\020104\BN05297.D Vial: 100 Acq On : 4 Jan 2002 10:14 am Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00 GC Integration Params: rteint2.p : Sstd050 : 50 PPM STD Sample Misc MS Integration Params: RTEINT.P

: C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method

Title : BNA Calibration

Last Update : Thu Jan 03 13:43:53 2002 Response via : Multiple Level Calibration

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

 T I	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I I I I I I I I I I I I I I I I I I I	1,4-Dichlorobenzene-d4 Pyridine N-nitroso-dimethylamine 2-Fluorophenol Aniline Phenol-d6 Phenol bis(2-Chloroethyl)ether 2-Chlorophenol 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzyl alcohol 1,2-Dichlorobenzene 2-Methylphenol bis(2-chloroisopropyl)ether 4-Methylphenol n-Nitroso-di-n-propylamine Hexachloroethane	1.000 1.390 0.885 1.368 1.900 1.684 1.709 1.638 1.333 1.460 1.505 0.638 1.389 1.227 2.059 1.231 0.203 0.728	1.000 1.389 0.885 1.394 1.759 1.725 1.782 1.507 1.353 1.467 1.491 0.761 1.384 1.274 2.088 1.315 0.212 0.725	0.0 0.1 0.0 -1.9 7.4 -2.4 -4.3 8.0 -1.5 -0.5 0.9 -19.3 0.4 -3.8 -1.4 -6.8 -4.4	115 117 114 117 120 99 118 118 116 127 115 121 120 121	0.00 -0.02 -0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
22 TC 223 TC 225 TC 25 TC 27 T 28 TM 29 T 29 T 20 TC 30 T 22 TCM 33 T	Naphthalene-d8 Nitrobenzene-d5 Nitrobenzene Isophorone 2-Nitrophenol 2,4-Dimethylphenol bis(2-Chloroethoxy)methane 2,4-Dichlorophenol Benzoic Acid 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline Hexachlorobutadiene 4-Chloro-3-methylphenol 2-Methylnaphthalene	1.000 0.458 0.442 0.713 0.205 0.377 0.513 0.274 0.246 0.312 1.036 0.334 0.182 0.305 0.591	1.000 0.456 0.443 0.718 0.217 0.383 0.511 0.280 0.271 0.306 1.021 0.354 0.183 0.313 0.586	0.0 0.4 -0.2 -0.7 -5.9 -1.6 0.4 -2.2 -10.2 1.9 1.4 -6.0 -0.5 -2.6 0.8	123 120 119 120 126	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ITTC ITTTTTTTTTCM 45567890141234456788 41123 456788 123 123 125 135 135 135 135 135	Acenaphthene-d10 Hexachlorocyclopentadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Fluorobiphenyl 2-Chloronaphthalene 2-Nitroaniline Dimethylphthalate Acenaphthylene 2,6-Dinitrotoluene 3-Nitroaniline Acenaphthene 2,4-Dinitrophenol Dibenzofuran 4-Nitrophenol 2,4-Dinitrotoluene Diethylphthalate Fluorene 4-Chlorophenyl-phenylether 4-Nitroaniline	1.000 0.385 0.400 0.453 1.373 1.259 0.489 1.781 1.987 0.435 0.203 1.666 0.284 0.474 1.988 1.304 0.708 0.359	1.000 0.364 0.414 0.479 1.381 1.279 0.520 1.778 1.996 0.433 0.367 1.236 0.211 1.642 0.298 0.474 1.992 1.306 0.720 0.360	0.0 5.5 -3.5 -5.7 -0.6 -1.6 -6.3 0.2 -0.5 0.5 -1.7 -3.9 1.4 -4.9 0.8 -0.8 -1.7 -0.3	123	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\020104\BN05297.D Vial: 100 Acq On : 4 Jan 2002 10:14 am Operator: B.Patel Sample : Sstd050 Misc : 50 PPM STD Inst : GC/MS Ins Multiplr: 1.00

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

: C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

: BNA Calibration

Last Update : Thu Jan 03 13:43:53 2002 Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
4556789012345 556789012345	T TC T S T TCM T	Phenanthrene-d10 4,6-Dinitro-2-methylphenol n-Nitrosodiphenylamine Azobenzene 2,4,6-Tribromophenol 4-Bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Di-n-butylphthalate Fluoranthene	1.000 0.166 0.656 1.163 0.125 0.253 0.244 0.120 1.135 1.136 1.986 1.151	1.000 0.169 0.651 1.170 0.133 0.254 0.247 0.142 1.117 1.134. 2.000 1.105	0.0 -1.8 0.8 -0.6 -6.4 -1.2 -18.3 1.6 0.2 -0.7 4.0	116 118 123 117 119 128 116	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
667899010	T TM S T T	Chrysene-d12 Benzidine Pyrene p-Terphenyl-d14 Butylbenzylphthalate Benzo[a]anthracene 3,3'-Dichlorobenzidine Chrysene bis(2-Ethylhexyl)phthalate	1.000 0.549 1.477 0.889 1.114 1.221 0.567 1.172 1.532	1.000 0.487 1.523 0.914 1.150 1.247 0.558 1.183 1.569	0.0 11.3 -3.1 -2.8 -3.2 -2.1 1.6 -0.9 -2.4		0.00 0.00 0.00 0.00 0.00 0.00 0.00
75 76 77 78 79 81 82	T T TC T	Perylene-d12 Di-n-octylphthalate Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Indeno[1,2,3-cd]pyrene Dibenz[a,h]anthracene Benzo[g,h,i]perylene	1.000 3.462 1.526 1.526 1.468 1.584 1.104 1.429	1.000 3.617 1.514 1.526 1.471 1.560 1.108 1.401	0.0 -4.5 0.8 0.0 -0.2 1.5 -0.4 2.0	106 108 108 106	0.00 0.00 0.00 0.00 0.00 0.00 0.00

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: FMETL Lab Code 13461

Project: 02 Case No.: 20003 Location: 600 Ar SDG No.:

Lab File ID: BN05326.D DFTPP Injection Date: 1/7/02

Instrument ID: GC_BNA_1 DFTPP Injection Time: 10:50

		% RELAT	IVE		
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE			
51	30.0 - 80.0% of mass 198	53.3			
68	Less than 2.0% of mass 69	0.0 (0.0)1		
69	Mass 69 Relative abundance	70.0			
70	Less than 2.0% of mass 69	0.6 (0.9)1		
127	25.0 - 75.0% of mass 198	51.7			
197	Less than 1.0% of mass 198	0.0			
198	Base Peak, 100% relative abundance	100.0			
199	5.0 to 9.0% of mass 198	6.2			
275	10.0 - 30.0% of mass 198	21.2			
365	Greater than 0.75% of mass 198	3.3			
441	Present, but less than mass 443	8.9			
442	40.0 - 110.0% of mass 198	57.4			
443	15.0 - 24.0% of mass 442	10.8 (18.9)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	BN05327.D	1/7/02	11:15
02	FIELD BLANK	2000302	BN05334.D	1/7/02	16:33
03	600GW-1	2000303	BN05335.D	1/7/02	17:19
04	600GW-2	2000304	BN05336.D	1/7/02	18:04
05	600GW-3	2000305	BN05337.D	1/7/02	18:49
06	600GW-4	2000306	BN05338.D	1/7/02	19:34
07	600GW-5	2000307	BN05339.D	1/7/02	20:19
08	FIELD DUP.	2000308	BN05340.D	1/7/02	21:03
09	600GW-5 DL	2000307 (1:2)	BN05342.D	1/8/02	8:13
10	FIELD DUP.DL	2000308 (1:2)	BN05343.D	1/8/02	9:03
11	MB-020107	MB-020107	BN05344.D	1/8/02	9:48

²⁻Value is % mass 442

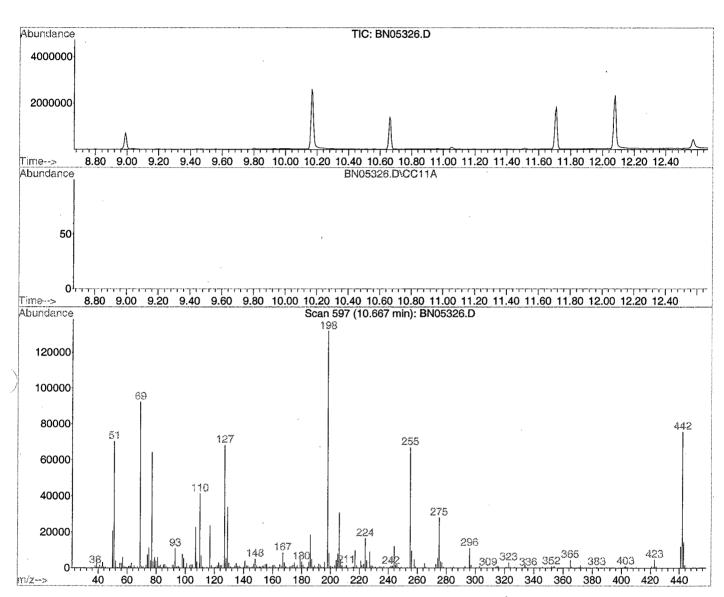
Data File: D:\HPCHEM\1\DATA\020107\BN05326.D

Vial: 99 : 7 Jan 2002 10:50 am Operator: B.Patel : DFTPP Tune Sample : GC/MS Ins : 50 NG/2UL Misc Multiplr: 1.00

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

: C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

Title : BNA Calibration



Spectrum Information: Scan 597

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
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	53.3 0.0 70.0 0.9 51.7 0.0 100.0 6.2 21.2 3.3 82.5 57.4 18.9	70272 0 92232 851 68128 0 131840 8193 27968 4414 11775 75632 14280	PASS PASS PASS PASS PASS PASS PASS PASS

Evaluate Continuing Calibration Report

Data File: D:\HPCHEM\1\DATA\020107\BN05327.D Vial: 100 Acq On : 7 Jan 2002 11:15 am Operator: B.Patel Sample : Sstd050 Misc : 50 PPM STD Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

Title : BNA Calibration

Last Update : Thu Jan 03 13:43:53 2002 Response via : Multiple Level Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I T T S T S T S T S T S T S T S T S T S	1,4-Dichlorobenzene-d4 Pyridine N-nitroso-dimethylamine 2-Fluorophenol Aniline Phenol-d6 Phenol bis(2-Chloroethyl)ether 2-Chlorophenol 1,3-Dichlorobenzene 1,4-Dichlorobenzene Benzyl alcohol 1,2-Dichlorobenzene 2-Methylphenol bis(2-chloroisopropyl)ether 4-Methylphenol n-Nitroso-di-n-propylamine Hexachloroethane	1 000	1.000 1.304 0.885 1.401 4.729 1.708 1.791 1.574 1.369 1.478 1.507 0.803 1.395 1.275 2.099 1.312 0.214 0.748	0.0 6.2 0.0 -2.4 9.0 -1.4 -4.8 3.9 -2.7 -1.2 -0.1 -25.9 -0.4 -3.9 -1.9 -6.6 -5.4 -2.7	112 117 119 113 117 122 105 121 120 119 135 117 123 122 122	0.00 -0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
22 T 22 T 22 T 22 T 24 T 25 T 26 TC 27 T 8 TM 29 T 30 T 31 TC 33 T	Naphthalene-d8 Nitrobenzene-d5 Nitrobenzene Isophorone 2-Nitrophenol 2,4-Dimethylphenol bis(2-Chloroethoxy)methane 2,4-Dichlorophenol Benzoic Acid 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline Hexachlorobutadiene 4-Chloro-3-methylphenol 2-Methylnaphthalene	0.442 0.713 0.205 0.377 0.513 0.274 0.246 0.312 1.036 0.334	1.000 0.458 0.443 0.727 0.215 0.380 0.507 0.277 0.274 0.308 1.036 0.337 0.180 0.313	0.0 0.0 -0.2 -2.0 -4.9 -0.8 1.2 -1.1 -11.4 1.3 0.0 -0.9 1.1 -2.6 2.4	120 119 120 128 119 119 117	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
I TC 4557890TTTTTTCM 4456787 42534 456787 45678	Acenaphthene-d10 Hexachlorocyclopentadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Fluorobiphenyl 2-Chloronaphthalene 2-Nitroaniline Dimethylphthalate Acenaphthylene 2,6-Dinitrotoluene 3-Nitroaniline Acenaphthene 2,4-Dinitrophenol Dibenzofuran 4-Nitrophenol 2,4-Dinitrotoluene Diethylphthalate Fluorene 4-Chlorophenyl-phenylether 4-Nitroaniline	1.000 0.385 0.400 0.453 1.373 1.259 0.489 1.781 1.987 0.435 0.369 1.215 0.203 1.666 0.284 0.474 1.988 1.304 0.708 0.359	1.000 0.390 0.413 0.481 1.399 1.271 0.515 1.795 1.999 0.445 0.353 1.207 0.219 1.656 0.331 0.487 2.030 1.319 0.716 0.374	0.0 -1.3 -3.2 -6.2 -1.9 -1.0 -5.3 -0.6 -2.3 4.3 0.7 -7.9 0.6 -16.5 -2.7 -2.1 -1.2 -1.1 -4.2		0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
(#) = (BN0532)	Out of Range 7.D M62552.M Wed Jan 09	08:22:10	2002	GC-BNA	A-1	

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\020107\BN05327.D

Operator: B.Patel Inst : GC/MS Ins

Acq On : 7 Jan 2002 11:15 am
Sample : Sstd050
Misc : 50 PPM STD Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p

Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)
Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002

Response via : Multiple Level Calibration

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

12 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
4556789012345 556789012345	T TC	Phenanthrene-d10 4,6-Dinitro-2-methylphenol n-Nitrosodiphenylamine Azobenzene 2,4,6-Tribromophenol 4-Bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Di-n-butylphthalate Fluoranthene	1.000 0.166 0.656 1.163 0.125 0.253 0.244 0.120 1.135 1.136 1.986 1.151	1.000 0.176 0.651 1.191 0.136 0.252 0.243 0.142 1.130 1.125 2.027 1.151	0.0 -6.0 0.8 -2.4 -8.8 0.4 0.4 -18.3 0.4 1.0 -2.1	127 118 118 130	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
667899012	T	Chrysene-d12 Benzidine Pyrene p-Terphenyl-d14 Butylbenzylphthalate Benzo[a]anthracene 3,3'-Dichlorobenzidine Chrysene bis(2-Ethylhexyl)phthalate	1.000 0.549 1.477 0.889 1.114 1.221 0.567 1.172 1.532	1.000 0.587 1.514 0.904 1.150 1.233 0.520 1.179 1.567	0.0 -6.9 -2.5 -1.7 -3.2 -1.0 8.3 -0.6 -2.3	116 131 120 117 118 117 108 117	0.00 0.00 0.00 0.00 0.00 0.00 0.00
75 77 78 78 80 81 82	I TC T	Perylene-d12 Di-n-octylphthalate Benzo[b]fluoranthene Benzo[k]fluoranthene Benzo[a]pyrene Indeno[1,2,3-cd]pyrene Dibenz[a,h]anthracene Benzo[g,h,i]perylene	1.000 3.462 1.526 1.526 1.468 1.584 1.104 1.429	1.000 3.600 1.494 1.544 1.446 1.584 1.113 1.377	0.0 -4.0 2.1 -1.2 1.5 0.0 -0.8 3.6	119 121 114 119 116 117 118 113	0.00 0.00 0.00 0.00 0.00 0.00 0.00

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA	SAN	/IPL	ΕI	NO.
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Lab Name:	FMET!	L	Lab Code 13461	MB-020107
Project:	02	Case No.: 20003	Location: 600 Ar SD	OG No.:
Lab File ID:	BN	05344.D	Lab Sample ID:	MB-020107
Instrument II	D:	GC/MS ins	Date Extracted:	1/7/02
Matrix: (soil/	water)	WATER	Date Analyzed:	1/8/02
Level: (low/r	med)	IOW	Time Analyzed:	9-48

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

	EPA	LAB	LAB	DATE
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	FIELD BLANK	2000302	BN05334.D	1/7/02
02	600GW-1	2000303	BN05335.D	1/7/02
03	600GW-2	2000304	BN05336.D	1/7/02
04	600GW-3	2000305	BN05337.D	1/7/02
05	600GW-4	2000306	BN05338.D	1/7/02
06	600GW-5	2000307	BN05339.D	1/7/02
07	FIELD DUP.	2000308	BN05340.D	1/7/02
08	600GW-5 DL	2000307 (1:2)	BN05342.D	1/8/02
09	FIELD DUP.DL	2000308 (1:2)	BN05343.D	1/8/02

COMMEN 12:			
··-···	 	 	

2C WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: FMETL Lab Code 13461

Project: 02 Case No.: 20003 Location: 600 Ar SDG No.:

	EPA	S1	S2	S3	TOT
	SAMPLE NO.	NBZ #	2FP #	TPL #	OUT
01	1666204MS	66	65	68	0
02	1666204MSD	72	69	77	0
03	FIELD BLANK	56	54	37	0
04	600GW-1	63	61	55	0
05	600GW-2	53	53	20	0
06	600GW-3	58	55	31	0
07	600GW-4,	48	45	25	0
08	600GW-5	71	64	47	0
09	FIELD DUP.	76	74	55	0
10	600GW-5 DL	70	64	47	0
11	FIELD DUP.DL	75	76	58	0
12	MB-020107	43	41	41	0

QC LIMITS

S1	NBZ	=	Nitrobenzene-d5	(24-97)
S2	2FP	=	2-Fluorobiphenyl	(27-106)
S3	TPL	=	p-Terphenyl-d14	(14-119)

Column to be used to flag recovery values

D Surrogate diluted out

^{*} Values outside of contract required QC limits

Base Neutral Spike Report

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

Data File Name

BN05323.D

Sample Name

1666204MS

Data The Hame	D1103323
Date Acquired	5-Jan-02

CAS#	Name	Amount Recovered	Percent Recovere
110-86-1	Pyridine	4.93 ug/L	24.65
62-75-9	N-nitroso-dimethylamine	7.71 ug/L	38.54
62-53-3	Aniline	9.34 ug/L	46.70
111-44-4	bis(2-Chloroethyl)ether	10.83 ug/L	54.16
541-73-1	1,3-Dichlorobenzene	13.22 ug/L	66.11
106-46-7	1,4-Dichlorobenzene	13.11 ug/L	65.56
100-51-6	Benzyl alcohol	15.33 ug/L	76.63
95-50-1	1,2-Dichlorobenzene	13.80 ug/L	69.02
39638-32-9	bis(2-chloroisopropyl)ether	16.98 ug/L	84.88
621-64-7	n-Nitroso-di-n-propylamine	13.87 ug/L	69.33
67-72-1	Hexachloroethane	13.37 ug/L	66.87
98-95-3	Nitrobenzene	14.91 ug/L	74.53
78-59-1	Isophorone	16.73 ug/L	83.64
111-91-1	bis(2-Chloroethoxy)methane	12.63 ug/L	63.15
120-82-1	1,2,4-Trichlorobenzene	13.85 ug/L	69.26
91-20-3	Naphthalene	14.37 ug/L	71.85
106-47-8	4-Chloroaniline	10.18 ug/L	50.92
87-68-3	Hexachlorobutadiene	13.47 ug/L	67.36
91-57-6	2-Methylnaphthalene	15.33 ug/L	76.65
77-47-4	Hexachlorocyclopentadiene	6.01 ug/L	30.06
91-58-7	2-Chloronaphthalene	15.56 ug/L	77.81
88-74-4	2-Nitroaniline	15.73 ug/L	78.64
131-11-3	Dimethylphthalate	14.52 ug/L	72.59
208-96-8	Acenaphthylene	14.41 ug/L	72.06
606-20-2	2,6-Dinitrotoluene	17.99 ug/L	89.97
99-09-2	3-Nitroaniline	13.16 ug/L	65.79
83-32-9	Acenaphthene	16.25 ug/L	81.27
132-64-9	Dibenzofuran	15.97 ug/L	79.87
121-14-2	2,4-Dinitrotoluene	17.29 ug/L	86.43
84-66-2	Diethylphthalate	14.45 ug/L	72.26
86-73-7	Fluorene	16.65 ug/L	83.25
7005-72-3	4-Chlorophenyl-phenylether	13.77 ug/L	68.85
100-01-6	4-Nitroaniline	13.77 ug/L	62.44
86-30-6	n-Nitrosodiphenylamine	14.22 ug/L	71.08
103-33-3			
	Azobenzene	16.75 ug/L	83.74
101-55-3	4-Bromophenyl-phenylether	14.05 ug/L	70.23
118-74-1	Hexachlorobenzene	16.61 ug/L	83.06
85-01-8 120-12-7	Phenanthrene	16.81 ug/L	84.04
120-12-7	Anthracene	15.83 ug/L	79.13
84-74-2	Di-n-butylphthalate	14.59 ug/L	72.93
206-44-0	Fluoranthene	16.43 ug/L	82.14
129-00-0	Pyrene	17.28 ug/L	86.41
85-68-7	Butylbenzylphthalate	14.77 ug/L	73.87
56 - 55-3	Benzo[a]anthracene	17.08 ug/L	85.38
218-01-9	Chrysene	14.41 ug/L	72.04
117-81-7	bis(2-Ethylhexyl)phthalate	14.02 ug/L	70.10
117-84-0	Di-n-octylphthalate	13.69 ug/L	68.44
205-99-2	Benzo[b]fluoranthene	16.57 ug/L	82.87
207-08-9	Benzo[k]fluoranthene	16.62 ug/L	83.11
50-32-8	Benzo[a]pyrene	15.45 ug/L	77.24
193-39-5	Indeno[1,2,3-cd]pyrene	16.56 ug/L	82.78
53-70-3	Dibenz[a,h]anthracene	19.27 ug/L	96.33
91-24-2	Benzo[g,h,i]perylene	15.63 ug/L	78.17

Base Neutral Spike Report

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

Data File Name

BN05324.D

Sample Name

1666204MSD

Date Acquired 5-Jan-02

CAS#	Name	Amount Recovered	Recovere
110-86-1	Pyridine	6.18 ug/L	30.91
62-75-9	N-nitroso-dimethylamine	6.99 ug/L	34.94
62-53-3	Aniline	9.55 ug/L	47.76
111-44-4	bis(2-Chloroethyl)ether	11.08 ug/L	55.39
541-73-1	1,3-Dichlorobenzene	12.76_ug/L	63.81
106-46-7	1,4-Dichlorobenzene	12.45 ug/L	62.27
100-51-6	Benzyl alcohol	15.26 ug/L	76.32
95-50-1	1,2-Dichlorobenzene	12.97 ug/L	64.84
39638-32-9	bis(2-chloroisopropyl)ether	17.40 ug/L	87.01
621-64-7	n-Nitroso-di-n-propylamine	14.27 ug/L	71.36
67-72-1	Hexachloroethane	12.69 ug/L	63.45
98 - 95-3	Nitrobenzene	15.68 ug/L	78.40
78-59-1	Isophorone	17.49 ug/L	87.47
111-91-1	bis(2-Chloroethoxy)methane	13.40 ug/L	. 67.01
120-82-1	1,2,4-Trichlorobenzene	14.41 ug/L	72.06
91-20-3	Naphthalene	15.08 ug/L	75.39
106-47-8	4-Chloroaniline	12.52 ug/L	62.61
87-68-3	Hexachlorobutadiene	13.89 ug/L	69.47
91-57 -6	2-Methylnaphthalene	16.17 ug/L	80.83
77-47-4	Hexachlorocyclopentadiene	6.98 ug/L	34.89
91-58-7	2-Chloronaphthalene	16.49 ug/L	82.43
88-74-4	2-Nitroaniline	16.00 ug/L	79.98
131-11-3	Dimethylphthalate	15.40 ug/L	77.00
208-96-8	Acenaphthylene	14.72 ug/L	73.59
606-20-2	2,6-Dinitrotoluene	19.37 ug/L	96.87
99-09-2	3-Nitroaniline	15.06 ug/L	75.32
83-32-9	Acenaphthene	16.86 ug/L	84.28
132-64-9	Dibenzofuran	16.31 ug/L	81.53
121-14-2	2,4-Dinitrotoluene	19.11_ug/L	95.56
34-66-2	Diethylphthalate	15.86 ug/L	79.32
86-73-7 7005-73-2	Fluorene	17.64 ug/L	88.22
7005-72-3	4-Chlorophenyl-phenylether	14.86 ug/L	74.29
100-01-6	4-Nitroaniline	14.37 ug/L	71.83
36-30-6	n-Nitrosodiphenylamine	15.65 ug/L	78.25
103-33-3	Azobenzene	17.87 ug/L	89.35
101-55-3	4-Bromophenyl-phenylethei	15.21 ug/L	76.07
118-74-1	Hexachlorobenzene	17.95 ug/L	89.75
35-01-8	Phenanthrene	18.48 ug/L	92.41
120-12-7	Anthracene	17.91 ug/L	89.57
34-74-2	Di-n-butylphthalate	16.89 ug/L	84.45
206-44-0	Fluoranthene	19.03 ug/L	95.14
129-00-0	Pyrene	19.82 ug/L	99.08
35-68-7	Butylbenzylphthalate	16.80 ug/L	83.99
66-55-3	Benzo[a]anthracene	19.34 ug/L	96.71
218-01-9	Chrysene	16.42 ug/L	82.12
17-81-7	bis(2-Ethylhexyl)phthalate	15.70 ug/L	78.52
17-84-0	Di-n-octylphthalate	15.96 ug/L.	79.78
05-99-2	Benzo[b]fluoranthene	19.62 ug/L	98.11
07-08-9	Benzo[k]fluoranthene	19.12 ug/L	95.62
0-32-8	Benzo[a]pyrene	17.98 ug/L	89.89
93-39-5	Indeno[1,2,3-cd]pyrene	18.90 ug/L	94.48
3-70-3	Dibenz[a,h]anthracene	22.38 ug/L	111.89
91-24-2	Benzo[g,h,i]perylene	18.14 ug/L	90.71

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

 Lab Name:
 FMETL
 Lab Code
 13461

 Project:
 02
 Case No.:
 20003
 Location:
 600 Ar
 SDG No.:

 Lab File ID (Standard):
 BN05297.D
 Date Analyzed:
 1/4/02

Instrument ID: GC_BNA_1 Time Analyzed: 10:14

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	469379	10.01	1685542	12.92	754723	17.12
	UPPER LIMIT	938758	10.51	3371084	13.42	1509446	17.62
	LOWER LIMIT	234690	9.51	842771	12.42	377362	16.62
	EPA SAMPLE NO.						
01	1666204MS	482631	10.01	1754962	12.92	781673	17.12
02	1666204MSD	442411	10.01	1564270	12.92	711103	17.12

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: 02 Case No.: 20003 Location: 600 Ar SDG No.:

Lab File ID (Standard): BN05297.D Date Analyzed: 01/04/02

Instrument ID: GC_BNA_1 Time Analyzed: 10:14

		IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	1219083	20.69	892291	27.08	666723	30.29
Ī	UPPER LIMIT	2438166	20.19	1784582	26.58	1333446	29.79
ļ	LOWER LIMIT	609542	21.19	446146	27.58	333362	30.79
	EPA SAMPLE NO.						,
01	1666204MS	1257956	20.69	963837	27.09	716214	30.29
02	1666204MSD	1127246	20.68	883978	27.08	644961	30.29

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

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

 Lab Name:
 FMETL
 Lab Code
 13461

 Project:
 02
 Case No.:
 20003
 Location:
 600 Ar
 SDG No.:

 Lab File ID (Standard):
 BN05327.D
 Date Analyzed:
 1/7/02

Instrument ID: GC_BNA_1 Time Analyzed: 11:15

		IS1DCB AREA #	RT #	IS2NAP AREA #	RT #	IS3ANE AREA #	RT #
	12 HOUR STD	474662	10.00	1695557	12.92	753446	17.11
	UPPER LIMIT	949324	10.50	3391114	13.42	1506892	17.61
Ì	LOWER LIMIT	237331	9.50	847779	12.42	376723	16.61
	EPA SAMPLE NO.						
01	FIELD BLANK	378364	10.02	1395622	12.93	637306	17.13
02	600GW-1	397072	10.01	1434426	12.93	658329	17.13
03	600GW-2	407336	10.01	1501531	12.93	657983	17.13
04	600GW-3	374307	10.02	1363866	12.93	612222	17.13
05	600GW-4	423040	10.01	1567712	12.93	697577	17.13
06	600GW-5	424971	10.01	1546171	12.93	705912	17.13
07	FIELD DUP.	430495	10.01	1499540	12.93	674544	17.13
08	600GW-5 DL	433439	10.01	1585108	12.93	720017	17.13
09	FIELD DUP.DL	397778	10.02	1440259	12.93	639981	17.13
10	MB-020107	515684	10.01	1873723	12.93	830581	17.13

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: 02 Case No.: 20003 Location: 600 Ar SDG No.:

Lab File ID (Standard): BN05327.D Date Analyzed: 01/07/02

Instrument ID: GC_BNA_1 Time Analyzed: 11:15

	-	IS4PNE AREA #	RT #	IS5CYS AREA #	RT #	IS6PRL AREA #	RT #
	12 HOUR STD	1235449	20.68	945466	27.08	725563	30.29
	UPPER LIMIT	2470898	20.18	1890932	26.58	1451126	29.79
	LOWER LIMIT	617725	21.18	472733	27.58	362782	30.79
. [EPA SAMPLE NO.						
01	FIELD BLANK	989629	20.70	745698	27.10	567062	30.31
02	600GW-1	1062918	20.70	808171	27.10	611967	30.31
03	600GW-2	1089602	20.70	864645	27.10	641598	30.31
04	600GW-3	977419	20.70	759025	27.10	571150	30.31
05	600GW-4	1113216	20.70	879978	27.10	660795	30.30
06	600GW-5	1116664	20.70	907546	27.10	683470	30.30
07	FIELD DUP.	1072048	20.70	872255	27.10	683579	30.30
08	600GW-5 DL	1146593	20.70	951606	27.10	698921	30.30
09	FIELD DUP.D	1018478	20.70	817371	27.10	612208	30.31
10	MB-020107	1337925	20.70	1053262	27.10	774288	30.30

IS1 DCB = 1,4-Dichlorobenzene-d4

IS2 NAP = Naphthalene-d8

IS3 ANE = Acenaphthene-d10

IS4 PNE = Phenanthrene-d10

IS5 CYS = Chrysene-d12

IS6 PRL = Perylene-d12

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

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

* Values outside of contract required QC limits

Quantitation Report (QT Reviewed) Data File : D:\HPCHEM\1\DATA\020107\BN05344.D Vial: 3 Acq On : 8 Jan 2002 9:48 am Operator: B.Patel Sample | Sample : MB-020107 | Misc : MB-020107 Inst : GC/MS Ins Multiplr: 1.00 Integration Params: RTEINT.P GC Integration Params: rteint2.p lant Time: Jan 8 10:23 2002 Quant Results File: M62552.RES Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Title : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002 Response via : Initial Calibration DataAcq Meth : M62552 R.T. QIon Response Conc Units Dev(Min) Internal Standards ______ 1) 1,4-Dichlorobenzene-d4 10.01 152 515684 40.00 ug/L
19) Naphthalene-d8 12.93 136 1873723 40.00 ug/L
34) Acenaphthene-d10 17.13 164 830581 40.00 ug/L
54) Phenanthrene-d10 20.70 188 1337925 40.00 ug/L
56) Chrysene-d12 27.10 240 1053262 40.00 ug/L
75) Perylene-d12 30.30 264 774288 40.00 ug/L 19) Naphthalene-d8 0.00 34) Acenaphthene-d10 0.00 54) Phenanthrene-d10 0.00 0.00 66) Chrysene-d12 75) Perylene-d12 0.02 System Monitoring Compounds 0 0.00 ug/L 0.00 112 4) 2-Fluorophenol Recovery = 0.00%# 0 0.00 ug/L Range 21 - 100 Spiked Amount 100.000 6) Phenol-d6 0.00 99 Range 10 - 94 11.32 82 Recovery = 0.00%# 462967 21.59 ug/L 0.00 100.000 Spiked Amount 20) Nitrobenzene-d5 Recovery = 43.18% Spiked Amount 50.000 Range 35 - 114 582373 20.42 ug/L 0.00 15.55 172 38) 2-Fluorobiphenyl Recovery = 40.84%# 0 0.00 ug/L Spiked Amount 50.000 Range 43 - 116 0.00 330 58) 2,4,6-Tribromophenol Recovery = 0.00%# 480796 20.53 ug/L 0.00 Range 10 - 123 Spiked Amount 100.000

24.61 244

Range 33 - 141

Spiked Amount rget Compounds

69) p-Terphenyl-d14

50.000

Ovalue

Recovery = 41.06%

Quantitation Report

```
Data File: D:\HPCHEM\1\DATA\020107\BN05344.D
                                                                    Vial: 3
            : 8 Jan 2002
  Acq On
                                9:48 am
                                                               Operator: B.Patel
  Sample
              : MB-020107
                                                                      : GC/MS Ins
                                                               Inst
                                                               Multiplr: 1.00
  Misc
              : MB-020107
  MS Integration Params: RTEINT.P
                                                GC Integration Params: rteint2.p
  Ouant Time: Jan 8 10:23 2002
                                                    Ouant Results File: M62552.RES
                 : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)
  Method
  Title
                 : BNA Calibration
  Last Update : Thu Jan 03 13:43:53 2002
  Response via : Initial Calibration
                                                  TIC: BN05344.D
Abundance
  3000000
  2500000
  2000000
  1500000
  1000000
  500000
               6.00
                           10.00
                                12.00
                                      14.00
                                            16.00
                                                  18.00 20.00
                                                              22.00 24.00 26.00
                                                                                28.00
                                                                                      30.00
         4.00
                     8.00
Time-->
                                                 BN05344.D\CC11A
Abundance
      90
     80
     70
     60
     50
     40
     30
     20
     10
                    8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 M Wed Jan 09 08:04:35 2002 GC-BNA-1
         4.00 6.00
BN05344.D M62552.M
                                                                                                  Page 2
                                                                                      000109
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(QT/LSC Reviewed) Quantitation Report Data File: D:\HPCHEM\1\DATA\020107\BN05334.D Vial: 7 Acq On : 7 Jan 2002 4:33 pm | Sample : 2000302 | Misc : Field Blank Operator: B.Patel Sample Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p lant Time: Jan 9 7:48 2002 Quant Results File: M62552.RES Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Title : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002 Response via : Initial Calibration DataAcq Meth : M62552 Internal Standards R.T. QIon Response Conc Units Dev(Min) ______ 1) 1,4-Dichlorobenzene-d4 10.02 152 378364 40.00 ug/L L9) Naphthalene-d8 12.93 136 1395622 40.00 ug/L 34) Acenaphthene-d10 17.13 164 637306 40.00 ug/L 54) Phenanthrene-d10 20.70 188 989629 40.00 ug/L 56) Chrysene-d12 27.10 240 745698 40.00 ug/L 75) Perylene-d12 30.31 264 567062 40.00 ug/L 19) Naphthalene-d8 0.00 34) Acenaphthene-d10 0.00 54) Phenanthrene-d10 0.00 0.00 66) Chrysene-d12 75) Perylene-d12 0.02 System Monitoring Compounds

4) 2-Fluorophenol 0.00 112 0.00 ug/L Range 21 - 100 Recovery = 0.00%# 0 0.00 ug/L Spiked Amount 100.000 0.00 99 6) Phenol-d6 Recovery = 0.00%# 444460 27.83 ug/L 0.00 Range 10 - 94 Spiked Amount 100.000 11.32 82 20) Nitrobenzene-d5 Recovery = 55.66% Spiked Amount 50.000 Range 35 - 114 15.55 172 Range 43 - 116 592954 27.10 ug/L 0.00 38) 2-Fluorobiphenyl Recovery = 54.20% 0 0.00 ug/L Spiked Amount 50.000 0.00 330 58) 2,4,6-Tribromophenol Recovery = 0.00%# 305131 18.40 ug/L 0.02 Range 10 - 123 Spiked Amount 100.000 69) p-Terphenyl-d14 24.62 244 50.000 Spiked Amount Range 33 - 141 Recovery = 36.80%

rget Compounds Qvalue

Quantitation Report Data File: D:\HPCHEM\1\DATA\020107\BN05334.D Vial: 7 4:33 pm Acq On : 7 Jan 2002 Operator: B.Patel : GC/MS Ins : 2000302 Sample Inst Multiplr: 1.00 : Field Blank Misc MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Time: Jan 9 7:48 2002 Quant Results File: M62552.RES : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method Title : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002 Response via : Initial Calibration Abundarice 2400000 TIC: BN05334.D 1,4-Dichlorobenzene-d4,1 Phenanthrene-d10,1 2200000 2000000 1800000 1600000 Nitrobenzene-d5,S 1400000 1200000 1000000 800000 600000 400000 200000 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 Time--> 4.00 6.00 8.00 10.00 Abundance BN05334.D\CC11A 90 80 70 60 50 40 30 20

10

4.00

BN05334.D M62552.M

11 me-->

6.00

8.00

10.00

12.00 14.00 16.00

Wed Jan 09 08:03:11 2002

20.00

18.00

22.00 24.00

GC-BNA-1

26.00

0111 Page 2

Data File : D:\HPCHEM\1\DATA\020107\BN05335.D

Acq On : 7 Jan 2002 5:19 pm Sample : 2000303 Operator: B.Patel Sample Inst : GC/MS Ins Misc : 600GW-1 Multiplr: 1.00

MC Integration Params: RTEINT.P GC Integration Params: rteint2.p ant Time: Jan 9 7:49 2002 Quant Results File: M62552.RES

Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

	Title : BNA Calibration Last Update : Thu Jan 03 13: Response via : Initial Calibra DataAcq Meth : M62552	n 43:53 2002	JZ.M (1	KIE INCEGI	acor,		
#'A	Internal Standards	R.T.	QIon	Response	Conc Ur	nits Dev	Min)
Constitution of the state of th	1) 1,4-Dichlorobenzene-d4 19) Naphthalene-d8 34) Acenaphthene-d10 54) Phenanthrene-d10 66) Chrysene-d12 75) Perylene-d12	12.93 17.13	136 164 188 240	1434426 658329	40.00 40.00 40.00 40.00	-	0.00 0.00 0.00 0.01 0.01 0.03
	System Monitoring Compounds 4) 2-Fluorophenol Spiked Amount 100.000 6) Phenol-d6	Range 21 0.00	- 100 99	0 Recove: 0	ry = 0.00	0.00% ug/L	· :
â	Spiked Amount 100.000 20) Nitrobenzene-d5 Spiked Amount 50.000 38) 2-Fluorobiphenyl	11.32 Range 35 15.55	82 - 114 172	Recove: 686782	31.48 ry = 30.39	ug/L 62.96% ug/L	0.00
Miles - in a different	Spiked Amount 50.000 58) 2,4,6-Tribromophenol Spiked Amount 100.000 69) p-Terphenyl-d14	24.62	330 - 123 244	Recove: 0 Recove: 491689	ry = 0.00 ry = 27.36	60.78% ug/L 0.00%#	
	Spiked Amount 50.000	Range 33	- 141	Recove:	ry =		lue

rget Compounds Qvalue

Quantitation Report Data File: D:\HPCHEM\1\DATA\020107\BN05335.D Vial: 8 : 7 Jan 2002 Acq On Operator: B.Patel 5:19 pm Sample : 2000303 : GC/MS Ins Inst : 600GW-1 Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Time: Jan 9 7:49 2002 Quant Results File: M62552.RES : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method Title : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002 Response via: Initial Calibration TIC: BN05335.D 2400000 2200000 2000000 1800000 p-Terphenyl-d14,S 1600000 Vitrobenzene-d5,S 1400000 1200000 1000000 800000 600000 400000 200000 10.00 24.00 12.00 14.00 16.00 18.00 20.00 22.00 Time--> 4.00 6.00 8.00 26.00 28.00 30.00 BN05335.D\CC11A Abundance 90 80 70 60 50 40 30 20

8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00

Wed Jan 09 08:03:20 2002

30.00 32.00 34.00

000113Page 2

26.00 28.00

GC-BNA-1

10

4.00

BN05335.D M62552.M

6.00

(QT/LSC Reviewed) Quantitation Report

Data File : D:\HPCHEM\1\DATA\020107\BN05336.D

Acq On : 7 Jan 2002 6:04 pm | Sample : 2000304 | Misc : 600GW-2

Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00

GC-BNA-1

Vial: 9

MS Integration Params: RTEINT.P pant Time: Jan 9 7:51 2002

GC Integration Params: rteint2.p Quant Results File: M62552.RES

Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

BNA Calibration

Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002

Response via : Initial Calibration

	DataAcq Meth : M62552						
6 73	Internal Standards	R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
	1) 1,4-Dichlorobenzene-d4 19) Naphthalene-d8 34) Acenaphthene-d10	10.01 12.93 17.13		407336 1501531 657983		ug/L ug/L ug/L	0.00
for it ing	54) Phenanthrene-d10	20.70 27.10 30.31	188 240	1089602 864645 641598	40.00	ug/L ug/L	0.00 0.00 0.02 0.02
MALE CONTRACT	System Monitoring Compounds 4) 2-Fluorophenol Spiked Amount 100.000	Range 21	112 - 100	0 Recove	0.00 ry =	ug/L 0.00%	
	6) Phenol-d6 Spiked Amount 100.000 20) Nitrobenzene-d5 Spiked Amount 50.000 38) 2-Fluorobiphenyl	0.00 Range 10 11.32 Range 35	- 94 82	Recove 452000 Recove	ry = 26.30 ry =	ug/L 52.60%	# 0.00 0.00
A cold for the state of the sta	Spiked Amount 50.000 58) 2,4,6-Tribromophenol Spiked Amount 100.000 69) p-Terphenyl-d14 Spiked Amount 50.000	Range 43 0.00 Range 10 24.61 Range 33	- 116 330 - 123 244	Recove 0 Recove 195188	ry = 0.00 ry = 10.15	52.56% ug/L 0.00% ug/L	# 0.00
A the first feet for the feet for the feet feet feet feet feet feet feet	rget Compounds 29) Naphthalene 33) 2-Methylnaphthalene 47) Dibenzofuran	12.98 14.63 17.62	142	3474126 784737 37633	35.38	Qvaug/L ug/L ug/L #	

Quantitation Report

Data File: D:\HPCHEM\1\DATA\020107\BN05336.D Vial: 9

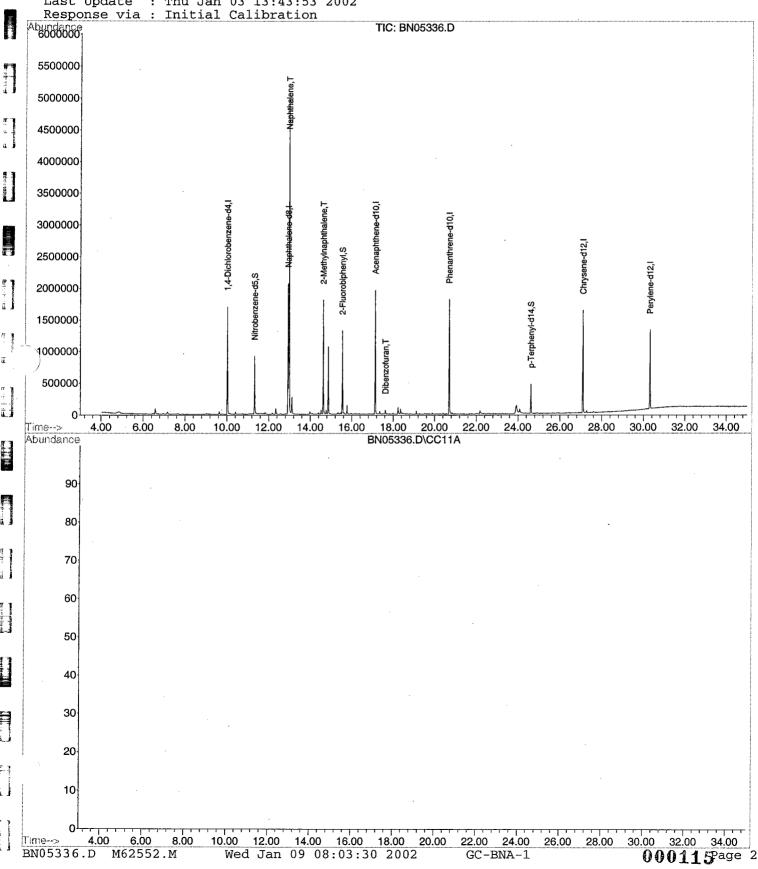
Acq On : 7 Jan 2002 6:04 pm Operator: B.Patel Sample : 2000304 Inst : GC/MS Ins Misc : 600GW-2 Multiplr: 1.00

MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Time: Jan 9 7:51 2002 Quant Results File: M62552.RES

Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

Title : BNA Calibration

Last Update : Thu Jan 03 13:43:53 2002



Vial: 10

Data File : D:\HPCHEM\1\DATA\020107\BN05337.D

Acq On : 7 Jan 2002 6:49 pm Operator: B.Patel | Sample : 2000305 | Misc : 600GW-3 Inst : GC/MS Ins

Multiplr: 1.00 GC Integration Params: rteint2.p MS Integration Params: RTEINT.P ant Time: Jan 9 7:52 2002 Quant Results File: M62552.RES

Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

Title : BNA Calibration

Last Update : Thu Jan 03 13:43:53 2002

Response via : Initial Calibration

DataAcq Meth: M62552

2.3	•						
5-4	Internal Standards	R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
6 le 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1) 1,4-Dichlorobenzene-d4 19) Naphthalene-d8 34) Acenaphthene-d10	10.02 12.93 17.13	152 136 164	374307 1363866 612222	40.00 40.00 40.00	ug/L	0.00 0.00 0.00
a J	54) Phenanthrene-d10	20.70	188	977419		ug/L	0.00
- 4	66) Chrysene-d12	27.10		759025	40.00		0.00
<u>.</u>	75) Perylene-d12	30.31			40.00		0.02
Reinden ingen	System Monitoring Compounds 4) 2-Fluorophenol	0.00				ug/L	
	Spiked Amount 100.000	Range 21		Recove	-		#
	6) Phenol-d6	0.00		0		ug/L	
	Spiked Amount 100.000	_	- 94	Recove	-	0.00%	
	20) Nitrobenzene-d5	11.32		449431	28.79	~	0.00
8.9	Spiked Amount 50.000	Range 35	172	Recove 578955	_	57.58%	0.00
	38) 2-Fluorobiphenyl Spiked Amount 50.000	Range 43		Recove		•	0.00
	58) 2,4,6-Tribromophenol		330		-	ug/L	
Ev. a	Spiked Amount 100.000	Range 10				0.00%	#
	69) p-Terphenyl-d14	24.61			15.61		0.00
2 7	Spiked Amount 50.000	Range 33	- 141			31.22%	#
18 T	rget Compounds	-			_	Qva	alue

Quantitation Report Vial: 10 Data File: D:\HPCHEM\1\DATA\020107\BN05337.D : 7 Jan 2002 Operator: B.Patel Acq On 6:49 pm Sample : 2000305 Inst : GC/MS Ins Misc : 600GW-3 Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Quant Time: Jan 9 7:52 2002 Quant Results File: M62552.RES Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Title : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002 Response via : Initial Calibration TIC: BN05337.D Abundance 1,4-Dichlorobenzene-d4,1 2200000 2000000 1800000 1600000 1400000 1200000 1000000 800000 600000 400000 200000 0 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 Time--> 4.00 6.00 8.00 10.00 12.00 14.00 Abundance BN05337.D\CC11A 90 80 70 60 50 40 30 20 10

8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00

Wed Jan 09 08:03:39 2002

26.00

GC-BNA-1

28.00

30.00 32.00 34.00

000117 Page 2

6.00

4.00

BN05337.D M62552.M

Quantitation Report (QT Reviewed) Data File: D:\HPCHEM\1\DATA\020107\BN05338.D Vial: 11 Acq On : 7 Jan 2002 7:34 pm

| Sample : 2000306 | Misc : 600GW-4 Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p uant Time: Jan 9 7:52 2002 Quant Results File: M62552.RES Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002

Response via : Initial Calibration

DataAcq Meth: M62552

==	Internal Standards	к.т.	QIon	Response	Conc Ur	nits Dev(Min)
	1) 1,4-Dichlorobenzene-d4 19) Naphthalene-d8	10.01 12.93	136	1567712		ug/L	0.00
E il	34) Acenaphthene-d10 54) Phenanthrene-d10 66) Chrysene-d12 75) Perylene-d12	17.13 20.70 27.10 30.30	188 240	697577 1113216 879978 660795	$\frac{40.00}{40.00}$	ug/L ug/L	0.00 0.00 0.00 0.02
program Lyter	System Monitoring Compounds 4) 2-Fluorophenol Spiked Amount 100.000 6) Phenol-d6		- 100	0 Recove 0			
	Spiked Amount 100.000 20) Nitrobenzene-d5 Spiked Amount 50.000 38) 2-Fluorobiphenyl	Range 10 11.32 Range 35 15.54	- 114	Recove	23.76	ug/L 47.52%	0.00
Bucker bread	Spiked Amount 50.000 58) 2,4,6-Tribromophenol Spiked Amount 100.000 69) p-Terphenyl-d14	Range 43 0.00 Range 10	- 116 330	Recove 0 Recove	ry = 0.00 ry =	45.20% ug/L 0.00%#	
	Spiked Amount 50.000 arget Compounds	Range 33				25.36%#	

GC-BNA-1

Quantitation Report Data File : D:\HPCHEM\1\DATA\020107\BN05338.D Vial: 11 : 7 Jan 2002 : 2000306 Operator: B.Patel 7:34 pm Acq On Inst : GC/MS Ins Multiplr: 1.00 Sample Misc : 600GW-4 GC Integration Params: rteint2.p MS Integration Params: RTEINT.P Quant Results File: M62552.RES Quant Time: Jan 9 7:52 2002 : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method Title : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002 Response via : Initial Calibration TIC: BN05338.D Abundance 2600000 2400000 2200000 2000000 1800000 2-Fluorobiphenyl,S 1600000 1400000 1200000 1000000 800000 600000 400000 200000 18.00 20.00 22.00 24.00 26.00 28.00 30.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 Time--> BN05338.D\CC11A Abundance 90 80 70 60 50 40 30 20 10 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 Tme--> 30.00 32.00 34.00 BN05338.D M62552.M Wed Jan 09 08:03:48 2002 GC-BNA-1 000119Page 2

Data File : D:\HPCHEM\1\DATA\020107\BN05339.D Acq On : 7 Jan 2002 8:19 pm

| Sample : 2000307 | Misc : 600GW-5

Vial: 12 Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00

MS Integration Params: RTEINT.P lant Time: Jan 9 7:54 2002 GC Integration Params: rteint2.p Quant Results File: M62552.RES

Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)

: BNA Calibration Title

Last Update : Thu Jan 03 13:43:53 2002
Response via : Initial Calibration
DataAcq Meth : M62552

1	DataAcq Meth : Mo2552			•			
9 9	Internal Standards	R.T.	QIon	Response	Conc U	nits De	v(Min)
Golden of Burner	1) 1,4-Dichlorobenzene-d4 19) Naphthalene-d8	12.93	136	424971 1546171	40.00	ug/L ug/L	0.00
in It ing	34) Acenaphthene-d10 54) Phenanthrene-d10 66) Chrysene-d12 75) Perylene-d12	20.70 27.10 30.30	188 240	705912 1116664 907546 683470	40.00		0.00 0.00 0.00 0.02
	System Monitoring Compounds 4) 2-Fluorophenol Spiked Amount 100.000 6) Phenol-d6	0.00 Range 21 0.00	- 100				} #
	Spiked Amount 100.000 20) Nitrobenzene-d5 Spiked Amount 50.000	Range 10 11.32 Range 35	- 94 82 - 114	Recove 626645 Recove	ery = 35.41 ery =	0.009 ug/L 70.829	0.00
And the state of t	38) 2-Fluorobiphenyl Spiked Amount 50.000 58) 2,4,6-Tribromophenol Spiked Amount 100.000 69) p-Terphenyl-d14 Spiked Amount 50.000	Range 43 0.00 Range 10	330 - 123 244	Recove 0 Recove 469690	ery = 0.00 ery = 23.27	63.969 ug/L 0.009 ug/L	} }# 0.00
`	rget Compounds 29) Naphthalene	12.98	128	1251939		ug/L	value 99
Fig. 1	45) Acenaphthene 47) Dibenzofuran 51) Fluorene	14.63 17.20 17.62 18.44	168 166		1.94 1.89 2.86	ug/L ug/L ug/L # ug/L	94 80 86
7	62) Phenanthrene	20.75	178	83045	2.62	ug/L	99

Quantitation Report Data File: D:\HPCHEM\1\DATA\020107\BN05339.D Vial: 12 Acq On : 7 Jan 2002 Operator: B.Patel Sample : 2000307 Inst : GC/MS Ins : 600GW-5 Multiplr: 1.00 Misc GC Integration Params: rteint2.p MS Integration Params: RTEINT.P Quant Time: Jan 9 7:54 2002 Quant Results File: M62552.RES : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) : BNA Calibration Title Last Update : Thu Jan 03 13:43:53 2002 Response via : Initial Calibration TIC: BN05339.D Abundance 7000000 6000000 5000000 4000000 3000000 2000000 000000 22.00 24.00 10.00 12.00 14.00 16.00 18.00 20.00 26.00 28.00 4.00 6.00 8.00 30.00 Time--> Abundance BN05339.D\CC11A 90 80 70 60 50 40 30

8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00

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30.00 32.00 34.00

000121 Page 2

26.00 28.00

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20

10

6.00

BN05339.D M62552.M

Quantitation Report (QT/LSC Reviewed) Data File: D:\HPCHEM\1\DATA\020107\BN05340.D Vial: 13 Acq On : 7 Jan 2002 9:03 pm Sample : 2000308 Operator: B.Patel Sample Inst : GC/MS Ins Misc : Field Dup. Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p pant Time: Jan 9 7:58 2002 Quant Results File: M62552.RES Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002
Response via : Initial Calibration

	bacaacq Mecn : Mozooz						
	Internal Standards	R.T.	QIon	Response	Conc U	nits Dev	(Min)
and the state of t	1) 1,4-Dichlorobenzene-d4 19) Naphthalene-d8 34) Acenaphthene-d10			430495 1499540	40.00	ug/L	0.00
(A) (A) (A) (A) (A) (A) (A) (A) (A) (A)	34) Acenaphthene-d1054) Phenanthrene-d1066) Chrysene-d1275) Perylene-d12	17.13 20.70 27.10 30.30	188 240	674544 1072048 872255 683579	40.00	ug/L	0.00 0.00 0.01 0.02
Supremental Company	System Monitoring Compounds 4) 2-Fluorophenol Spiked Amount 100.000 6) Phenol-d6	0.00 Range 21 0.00	- 100		0.00 ery = 0.00	0.00%	#
	Spiked Amount 100.000 20) Nitrobenzene-d5 Spiked Amount 50.000 38) 2-Fluorobiphenyl	Range 10 11.32 Range 35 15.54	82	Recove 652351 Recove	ery = 38.01 ery =	0.00% ug/L 76.02%	0.00
Fire the state of	Spiked Amount 50.000 58) 2,4,6-Tribromophenol Spiked Amount 100.000 69) p-Terphenyl-d14	Range 43 0.00 Range 10 24.61	- 116 330 - 123 244	Recove 0 Recove 534627	ery = 0.00 ery = 27.56	73.56% ug/L 0.00% ug/L	# 0.00
		Range 33	128	Recove	30.05	ug/L	alue 100
		14.63 17.20 17.62 18.44 20.75	168 166	2717697 40344 53891 65220 84376	1.97 1.92 2.97	ug/L ug/L ug/L # ug/L ug/L	80

Quantitation Report

Data File: D:\HPCHEM\1\DATA\020107\BN05340.D Vial: 13 Acq On : 7 Jan 2002 9:03 pm Operator: B.Patel Sample : 2000308 : GC/MS Ins Inst Misc : Field Dup. Multiplr: 1.00 GC Integration Params: rteint2.p Quant Results File: M62552.RES MS Integration Params: RTEINT.P Quant Time: Jan 9 7:58 2002 Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Title : BNA Calibration Last Update : Thu Jan 03 13:43:53 2002 Response via: Initial Calibration TIC: BN05340.D Abundance 7000000 6500000 6000000 5500000 5000000 4500000 4000000 3500000 3000000 2500000 2000000 1500000 000000 500000 Time--> 6.00 8.00 10.00 12.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 4.00 14.00 34.00 Abundance BN05340.D\CC11A 90 80 70 60 50 40 30 20 10 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 Time--> 4.00 26.00 28.00 30.00 32.00 34.00 BN05340.D M62552.M Wed Jan 09 08:04:07 2002 000123 Page 2 GC-BNA-1

Quantitation Report (QT Reviewed) Data File: D:\HPCHEM\1\DATA\020107\BN05342.D Vial: 1 Acq On : 8 Jan 2002 8:13 am Sample : 2000307 (1:2) Operator: B.Patel Inst : GC/MS Ins Misc : 600GW-5 (1:2) Multiplr: 1.00 MS Integration Params: RTEINT.P GC Integration Params: rteint2.p mant Time: Jan 9 8:01 2002 Quant Results File: M62552.RES Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002 Response via : Initial Calibration DataAcq Meth : M62552 R.T. QIon Response Conc Units Dev(Min) Internal Standards _____ 1) 1,4-Dichlorobenzene-d4 10.01 152 433439 40.00 ug/L 19) Naphthalene-d8 12.93 136 1585108 40.00 ug/L 34) Acenaphthene-d10 17.13 164 720017 40.00 ug/L 34) Phenanthrene-d10 20.70 188 1146593 40.00 ug/L 36) Chrysene-d12 27.10 240 951606 40.00 ug/L 19) Naphthalene-d8
34) Acenaphthene-d10
54) Phenanthrene-d10 . 0.00 0.00 66) Chrysene-d12 0.00 75) Perylene-d12 30.30 264 698921 40.00 ug/L 0.02 System Monitoring Compounds 4) 2-Fluorophenol 0.00 112 0 0.00 ug/L Recovery = 0.00%# 0 0.00 ug/L Recovery = 0.00%# Spiked Amount 100.000 Range 21 - 100 0.00 99 Range 10 - 94 6) Phenol-d6 Spiked Amount 100.000 Recovery = 0.00%# 20) Nitrobenzene-d5 11.32 82 318475 17.55 ug/L 0.00 Spiked Amount 50.000 Range 35 - 114 Recovery = 35.10% 396710 16.05 ug/L 0.00 38) 2-Fluorobiphenyl 15.54 172 Spiked Amount 50.000 Recovery = 32.10%# 0 0.00 ug/L Range 43 - 116 58) 2,4,6-Tribromophenol 0.00 330 Range 10 - 123 24.60 244 Recovery = 0.00%# Spiked Amount 100.000 250282 11.83 ug/L 0.00 69) p-Terphenyl-d14 Range 33 - 141 Spiked Amount 50.000 Recovery = 23.66%#

rge	et Compounds						Qvalue
29)	Naphthalene	12.98	128	657936	16.03	ug/L	99
33)	2-Methylnaphthalene	14.62	142	1481889	63.29	ug/L	100
51)	Fluorene	18.44	166	32348	1.38	ug/L	97
62)	Phenanthrene	20.74	178	42256	1.30	ua/L	95

Quantitation Report Data File : D:\HPCHEM\1\DATA\020107\BN05342.D Vial: 1 : 8 Jan 2002 Acq On 8:13 am Operator: B.Patel : 2000307 (1:2) : 600GW-5 (1:2) Sample Inst : GC/MS Ins Multiplr: 1.00 Misc MS Integration Params: RTEINT.P GC Integration Params: rteint2.p Ouant Time: Jan 9 8:01 2002 Ouant Results File: M62552.RES : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Method Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002 Response via: Initial Calibration Abundance TIC: BN05342.D 4000000 3500000 3000000 2500000 2000000 1500000 1000000 ⁷500000 18.00 12.00 14.00 8.00 10.00 16.00 20.00 22.00 24.00 26.00 28.00 30.00 4.00 6.00 Time--> BN05342.D\CC11A Abundance 90 80 70 60 50 40 30 20 10 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 6.00 8.00 26.00 34.00

Wed Jan 09 08:04:16 2002

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BN05342.D M62552.M

(QT Reviewed) Data File : D:\HPCHEM\1\DATA\020107\BN05343.D Vial: 2 Acq On : 8 Jan 2002 9:03 am

| Sample : 2000308 (1:2)
| Misc : Field Dup (1:2) Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00 GC Integration Params: rteint2.p MS Integration Params: RTEINT.P lant Time: Jan 9 8:01 2002 Quant Results File: M62552.RES Quant Method : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator) Title : BNA Calibration
Last Update : Thu Jan 03 13:43:53 2002
Response via : Initial Calibration DataAcq Meth : M62552 Internal Standards R.T. QIon Response Conc Units Dev(Min) ______ _____ 1) 1,4-Dichlorobenzene-d4 10.02 152 397778 40.00 ug/L

	T) I, 4-DICHTOLODGHZGHG-d4	10.02	172	331110	±0.00		0.00
	19) Naphthalene-d8	12.93	136	1440259	40.00		0.00
	19) Naphthalene-d8 34) Acenaphthene-d10	17.13	164	639981	40.00	ug/L	0.00
7	54) Phenanthrene-d10 66) Chrysene-d12	20.70	188	1018478	40.00	ug/L	0.00
	66) Chrysene-d12	27.10	240	817371	40.00	ug/L	0.00
4 1	75) Perylene-d12	30.31	264	612208		ug/L	
7 7	System Monitoring Compounds						
	 4) 2-Fluorophenol 			0		ug/L	
i.i	Spiked Amount 100.000	Range 21					18#
	6) Phenol-d6	0.00	99	0	0.00	ug/L	
÷	Spiked Amount 100.000	Range 10	- 94	Recove	ry =	0.00	8#
	20) Nitrobenzene-d5	11.32	82	308222	18.70	ug/L	0.00
	Spiked Amount 50.000	Range 35	- 114	Recove	ry =	37.40	ક
	38) 2-Fluorobiphenyl	15.55	172				
7	Spiked Amount 50.000	Range 43	- 116	Recove	ry =	37.98	8#
The second second	58) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/L	
i ji	Spiked Amount 100.000	Range 10	- 123	Recove	ry =	0.00	8 #
	69) p-Terphenyl-d14	24.61	244	264950	14.58	ug/L	0.00
R.	Spiked Amount 50.000	Range 33	- 141	Recove	ry =	29.16	용#
	\						
E i							value
*	29) Naphthalene	12.98	128	571713		ug/L	98
1	33) 2-Methylnaphthalene		142	1365413	64.18	ug/L	99
	45) Acenaphthene	17.20	153	19993		ug/L	
1	51) Fluorene	18.44	166	29676	1.42	ug/L	95
	45) Acenaphthene 51) Fluorene 62) Phenanthrene	20.75	178	41197	1.43	ug/L	98

Quantitation Report

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Data File: D:\HPCHEM\1\DATA\020107\BN05343.D
                                                                    Vial: 2
      Acq On
               : 8 Jan 2002
                                  9:03 am
                                                                Operator: B.Patel
                : 2000308 (1:2)
      Sample
                                                                Inst
                                                                        : GC/MS Ins
                                                                Multiplr: 1.00
                : Field Dup (1:2)
                                                 GC Integration Params: rteint2.p
      MS Integration Params: RTEINT.P
      Quant Time: Jan 9 8:01 2002
                                                     Quant Results File: M62552.RES
                    : C:\HPCHEM\1\METHODS\M62552.M (RTE Integrator)
      Method
      Title
                    : BNA Calibration
      Last Update : Thu Jan 03 13:43:53 2002
      Response via : Initial Calibration
    Abundance
                                                   TIC: BN05343.D
     3500000
     3000000
     2500000
     2000000
     1500000
     1000000
     /500000
                                        14.00
                       8.00
                             10.00
                                  12.00
                                             16.00
                                                        20.00
                                                              22.00
                                                                    24.00
                                                                          26.00
            4.00
                  6.00
                                                    18.00
                                                                                28.00
   Time-->
   Abundance
                                                  BN05343.D\CC11A
90
         80
        70
        60
        50
        40
        30
        20
        10
                 6.00
                       8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00
                                                                          26.00
                                                                                           32.00 34.00
                                                                                28.00
                                                                                     30.00
                                                                                       000127 Page 2
   BN05343.D M62552.M
                              Wed Jan 09 08:04:26 2002
                                                               GC-BNA-1
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LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

*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



618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489 • 609-467-9521

E-SYSTEMS, INC.

PROJECT: U.S. ARMY FORT MONMOUTH, NJ BLDG 600

ANALYSIS NO:	CLIENT ID:	
A 5364	1330.1	
A 5365	1330.2	
A 5366	1330.3	
A 5367	1330.4	
		DEC 1
	By	32

DATE RECEIVED: NOVEMBER 17, 1993

TWENTY FIRST CENTURY ENVIRONMENTAL, INC.

RICHARD W. LYNCH (LABORATORY MANAGER

METAL ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	Yes
1.	Calibration Summary Meet Criteria		NA
2.	ICP Interference Check Sample Results Summary Submitted (if applicable) / Meet Criteria.		de
3.	Serial Dilution Summary Submitted (if applicable) / Meet: Criteria.		SIA
4.	Laboratory Control Sample Summary Submitted (if applicable) / Meet Criteria.		S.
5.	Blank Contamination - If yes, list compounds and concentrations in each blank:	•	
	<u>sone</u>		
6.	Matrix Spike/ Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)		
			
7.	Extraction Holding Time Met		
	If not met, list number of days exceeded for each sample:		
в.	Analysis Holding Time Met		V
-	If not met, list number of days exceeded for each sample:		
Add	itional Comments:		
Labo	pratory Manager: Belle 12-17	7-9	3

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		No	<u>Yea</u>
1.	Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)		
2.	GC/MS Tune Specifications a. BFB Meet Criteria b. DFTPP Meet Criteria		NA
3.	GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.		<u></u>
4.	GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series		
5.	GC/MS Calibration Requirements a. Calibration Check Compounds b. System Performance Check Compounds		<u>√</u>
6.	Blank Contamination - If yes, list compounds and concentrations in each blank:		· .
	a. VOA Fraction b. B/N Fraction c. Acid Fraction	enK	
7.	Surrogate Recoveries Meet Criteria		
	If not met, list those compounds and their recoveries which fall outside the acceptable range:		٠
	a. VOA Fraction b. B/N Fraction c. Acid Fraction		
	If not met, were the calculations checked and the results qualified as "estimated"?		MA
ε.	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 b. B/N Fraction c. Acid Fraction		
9.	Internal Standard Area/Retention Time Shift Heet Criteria		
	SAnotes 1330.1	to 13	30.4

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (CONTINUED)

		No	Yes:
10.	Extraction Holding Time Met.		<u>~</u>
	If not met, list number of days exceeded for each sample:		·
11.	Analysis Holding Time Het		
	If not met, list number of days exceeded for each sample:		·
Addi	itional Comments:		
Labo	pratory Manager: 3.7/4 Date: 12-17	2-93	:
	Samples 1330.1	to 1330	0.4

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NARRATIVE

There were no problems encountered during the analysis of this batch of samples (A5364 to A5367). All extractions and analysis were completed within proper hold times.

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P.O. #: 21 St Contry

Chain of Custody

D		Sampler:			Date /	/ Ti-			lysis			Star	· · ·
Project #: N	ene - unknown	Jampier:	ナー		11/15/93			Para	meter	s	n r	Scar	τ. :
Customer: C, AF DPW	plohy	Site Name:	600		//8//			1	//		/ Whai	Fini	sh:
Phone: X 26			81533-2 93-11-9-	/2 0923 Sample	# of	· 1 /		20/		/		Prese	rvation Method
ID Number	Date/Time	Location/ID	Number	Matrix	Bottles	/	3/	/ /	/ /		7 X /	Remarks	
1330.1	11/15/93 1500 11/15/93 1503	Site A-2 Site F-2	, 7-7.5'	Soil Soil	1	X	(x			9.0			
- 3	11/15/93 1455	Field Blank	?	AR	3	,	۷			טון			
1.4	11/15/93/0955	trip Blank	·	AR	3	<u> </u>	-						
											Kept	24°C	
					. ,				_		OVA - SA	u- AS3114	
1												. 95 PPM	
			·									C.Appl	V15/AS
Relinquished	By (signatu	re) Date /	,	ceived E	By (signa	ature	>	Ship	ped B	 y:		C. #PJ/	
Relinquished	By (signatu		Time Re) . (or Lab t	oy (s	igna	ture):		ate / Timo	ł	
Note: A draw of cust	ing depictin tody.	g,sample loca	tion sho	uMld be a	ttached	or di	raun	on	the r	ever	se'side o	f this ch	ain
SAI-ENV COC	form Ol		Page	of		Pa	ges		Rev.	н	Date: 02 (Apr 93	

FT. MONMOU DFFICE
E-SYSTEMS, INC. P. O. BOX 369, BUILDING 1209 • FT. MONMOUTH, NEW JERSEY 0/703-5000 • (201) 5-14-0995

Purgeables

Metals

U.S.E.P.A. Method 624 - This is a purge and trap Gas Chromatograph/Mass Spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

An HP5996 GC/MS was used with a capillary column.

Method detection limits are as stated.

Soil samples are prepared for analysis as prescribed in Method 8240/8260 from SW-846.

Soil samples for metal analysis were run in accordance with the methods prescribed in SW-846. This includes a nitric acid digestion followed by either Furnace, Flame Atomic Absorption, Flameless Atomic Absorption, or Inductively Coupled Plasma analysis.

Aqueous samples for metals analysis were run in accordance with the methods prescribed in Methods for Chemical Analysis of Water and Wastes, EPA-600-4-79-020 March 1983.

LABORATORY CHRONICLE

RECEIPT/RI	EFRIGERATION	11/1//93
ORGANICS EXTRACTION	<u>N</u>	
1.	Acids	NA .
2.	Base/Neutrals	NA
3.	Pesticides/PCB's/Herbicides	NA
4.	Petroleum Hydrocarbons/Oil & Grease	NA
ANALYSIS	-	
1.	Volatiles	11/19/93-11/22/93
2.	Acids	NA .
3.	Base/Neutrals	NA
4.	Pesticides/PCB's/Herbicides	NA
5.	Petroleum Hydrocarbons/Oil & Grease _	NA
6.	Total Organic Carbon	NA .
	Section Supervisor Review & Approval	martin
INORGANIC	, , , , ,	
1.	Metals	11/22/93
2.	Cyanides	NA
3.	Phenols	NA
OTHER ANA	LYTES	
· · · · · · · · · · · · · · · · · · ·		:
	cion Supervisor Lew & Approval	P. Sill
-	ity Control Supervisor ew & Approval	- Gol
Labo	ratory Director ew & Approval Ruluu	Lynn

If fractions are re-extracted and re-analyzed because initial endeavors did not meet puality control acceptance criteria, include dates for both.

RESULT SUMMARY

CERTIFICATE OF ANALYSIS

U.S. ARMY-FORT MONMOUTH, NJ BLDG 600

LEAD

ANALYSIS NO:	CLIENT ID:	MDL (mg/Kg)	RESULT (mg/Kg)
A 5364	1330.1	5.00	N.D.
A 5365	1330.2	5.00	N.D.

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER US ARMY FT. MONMOUTH NJ Soil MATRIX SAMPLE NUMBER A5364 DILUTION FACTOR 125.00 CLIENT ID 1330.1 BLDG 600 COMMENTS HNU 9.0 DATA FILE >A4481 DATE ANALYZED 11/19/93

*******************		*****	*======================================	==========	=======
COMPOUND	ug/kg	MDL	COMPOUND	ug/kg	MDL
		======	****************		========
Acrolein	ND	7700	2-Chloroethylvinylether	ND	1500
- Acrylonitrile	ND	<i>77</i> 00	2-Hexanone	MD	1500
Chloromethane	ND	1500	trans-1,3-Dichloropropene	ND.	<i>77</i> 0
Bromomethane	ND	1500	To luene	ND	<i>7</i> 70
Vinyl Chloride	ND	1500	cis-1,3-Dichloropropene	ND	<i>77</i> 0
Chloroethane	ND	1500	1,1,2,2-Tetrachloroethane	ND	<i>77</i> 0
Acetone	280 JB	1500	1,1,2-Trichloroethane	ND	<i>77</i> 0
1,1-Dichloroethene	ND	<i>77</i> 0	4-Methyl-2-pentanone	ND	1500
Carbon Disulfide	ND	1500	Tetrachloroethene	ND	770
Methylene Chloride	ND	<i>7</i> 70	Dibromochloromethane	ND.	<i>77</i> 0
1,2-Dichloroethene(trans)	ND .	<i>77</i> 0	Chlorobenzene	ND	<i>77</i> 0
1,1-Dichloroethane	ND	778	Ethylbenzene	4500	770
Vinyl Acetate	ND	770	m&p-Xylenes	10000	<i>77</i> 0
2-Butanone	ND	1500	o-Xylene	7400	<i>77</i> 0
Chloroform	ND	770	Styrene	ND	<i>7</i> 70
1,1,1-Trichloroethane	ND	<i>77</i> 0	Bromoform	ND	770
Carbon Tetrachloride	ND	<i>7</i> 70	m-Dichlorobenzen e	ND	770
1,2-Dichloroethane	ND	<i>7</i> 70	p-Dichlorobenzene	ND	<i>77</i> 0
Benzene	ND	770	o-Dichlorobenzene	ND	<i>77</i> 0
Trichloroethene	ND	<i>7</i> 70	Methyl Tertiary Butyl Ether	ND	1500
1,2-Dichloropropane	ND	<i>7</i> 70	Tertiary Butyl Alcohol	ND	<i>7</i> 700
Bromodichloromethane	ND	<i>77</i> 0	-		

SURROGATE COMPOUNDS	* RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	94.7	70 - 121	OK
To luene-d8	109	81 - 117	OK
Bromofluorobenzene	103	74 - 121	OK

Percent Solid of 81.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

TILE OPCANICE A

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

E1

1330.1

Client Name: US Army Ft. Monmouth Client ID: BLDG 600

Matrix: (soil/water) SOIL Lab Sample ID: A5364

Sample wt/vol: 0.04 (g/mL) g Lab File ID: >A4481

Level: LOW Date Received: 11/17/93

% Moisture: 19 Date Analyzed 11/19/93

Column: CAP Dilution Factor: 125

Number TICs Found 20 CONCENTRATION UNITS

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

Į ĮCAS	5 NUMBER	I COMPOUND NAME	I I RT	I IEST CONCÍ
ţ		1	Į.	1
===				=======
f-		1	1	1
1 1	108872	Cyclohexane, methyl- (8CI9CI)	112.61	8500 l
1 2	1678917	Cyclohexane, ethyl- (8CI9CI)	115.81	1 6700 l
1 3	1678928	Cyclohexane, propyl- (8CI9CI)	118.33	6500 l
1 4	611143	Benzene, 1-ethyl-2-methyl- (9CI)	119.44	23000 1
15	108678	Benzene, 1,3,5-trimethyl- (9CI)	119.59	20000 1
1 6	622968	Benzene, 1-ethyl-4-methyl- (9CI)	119.98	12000
1 フ	95636	Benzene, 1,2,4-trimethyl- (8CI9CI)	120.30	41000
18	1074551	Benzene, 1-methyl-4-propyl- (9CI)	120.62	8100
19	620144		121.10	16000 I
110	1074437		121.49	22000
1.11	535773		121.59	33000 1
112	1074175		121.97	7800 l
.113	535773		122.17	20000 1
114	933982		122.31	12000 I
115	2049958		122.57	23000 I
116	2870044	Benzene, 2-éthyl-1,3-dimethyl- (9CI)	122.89	11000 (
117	488233	Benzene, 1,2,3,4-tétramethyl- (8CI9CI)	123.16	12000
118	54120626	Benzene, ethyl-1,2,4-trimethyl- (9CI)	123.30	11000
119	100527		123.61	8100 I
120	535 <i>77</i> 3		123.99	20000 I
1		1	.l(

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Soil
SAMPLE NUMBER	A5365	DILUTION FACTOR	125.00
CLIENT ID	1330.2 BLDG 600	QA BATCH	
DATA FILE	>A4483	DATE ANALYZED	11/19/93

		E=====		*****	2022226
COMPOUND	ug/kg	MDL	COMPOUND	UG/KG	MDL
=======================================		*=====			======
Acrolein	ND	7800	Bromodichloromethane	ND	780
Acrylonitrile	ND	<i>7</i> 800	2-Chloroethylvinylether	_ ND	1600
Chloromethane	ND	1600	2-Hexanone	ND	1600
Bromomethane	ND	1600	trans-1,3-Dichloropropene	ND	780
Vinyl Chloride	. ND	1600	Toluene	ND	<i>7</i> 80
Chloroethane	ND	1600	cis-1,3-Dichloropropene	ND	<i>7</i> 80
Acetone	ND B	1600	1,1,2,2-Tetrachloroethane	ND	780
1,1-Dichloroethene	ND	780	1,1,2-Trichloroethane	ND	<i>7</i> 80
Carbon Disulfide	ND	1600	4-Methyl-2-pentanone	ND	1600
Methylene Chloride	220 J	<i>7</i> 80	Tetrachloroethene	ND	<i>7</i> 80
1,2-Dichloroethene(trans)	ND	<i>7</i> 80	Dibromochloromethane	ND	<i>7</i> 80
1,1-Dichloroethane	NO	<i>7</i> 80	Chlorobenzene	ND	<i>7</i> 80
Vinyl Acetate	ND -	<i>7</i> 80	Ethylbenzene	ND	<i>7</i> 80
2-Butanone	ND	1600	m&p-Xylenes	410 J	<i>7</i> 80
Chloroform	ND	780	e-Xylene	ND	<i>_7</i> 80
1,1,1-Trichloroethane	ND	786	Styrene	ND	.780
Carbon Tetrachloride	ND	780	Bromoform	ND	780
1,2-Dichloroethame	ND	<i>7</i> 80	m-Dichlorobenzene	МD	780
Benzene	ND	<i>7</i> 80	p-Dichlorobenzene	ND	⁻ 780
Trichloroethene	ND	780	o-Dichlorobenzene	ND	<i>7</i> 80
1,2-Dichloropropane	ND	<i>7</i> 80			

X RECOVERY	<u>LIMIT5</u>	<u>STATUS</u>
93.9	70 - 121	OK
105	81 - 117	OK
103	74 - 121	OK
	93.9 105	93.9 70 - 121 105 81 - 117

Percent Solid of 80.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank (ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1330.2

Client Name: US Army Ft. Monmouth

Client ID: BLDG 600

Matrix: (soil/water) SOIL

Lab Sample ID: A5365

Sample wt/vol: 0.04 (a/mL) Lab File ID: >A4483

Level: LOW

Date Received: 11/17/93

% Moisture:

Date Analyzed 11/19/93

Column: CAP

Dilution Factor: 125

CONCENTRATION UNIIS

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

Number TICs Found 20

I CA	IS NUMBER	I COMPOUND NAME I	I I RT	I IEST CONCI
= =	========		======	
1		1	1	1 1
1 1	4923777	Cyclohexane, 1-ethyl-2-methyl-,cis- (8CI9CI)	117.75	1 2400 1
1 2	1678928	Cyclohexane, propyl- (8CI9CI)	118.29	2600
1 3		l 1-Azabicyclo[2.2.2]octane, 4-methyl (9CI)	119.14	1600
1 4		Benzene, 1-ethyl-3-methyl- (9CI)	120.25	1 2500
1 5		Benzene, 1-methylpropylethyl- (9CI)	120.58	1 2100
1 6		Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	120.72	1900
1 7	,	Benzene, 1-methyl-3-propyl- (9CI)	121.44	
1 8		Benzene, 1-ethyl-2,3-dimethy- (9CI)	122.18	I 1400 I
1 9		Napthalene, decahydro- (8CI9CI)	122.66	I 6400 I
110		Benzene, 1methyl-4-propyl (9CI)	121.93	1 2000
111		Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	122.14	i 1900 i
112	20,001,		122.28	2500
113		Benzene, (1,1,-dimethylpropyl)- (9CI)	122.54	6700
114		Benzene, 1,3- diethyl-5-methyl- (9CI)	122.71	
115	_, _,,,	Cyclohexanone, 5-methyl-2-(1-methylethenyl-,	122.86	ı 4700 l
116		Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	123.13	
117	_,,,,,,	Napthalene, decahydro-2-methyl- (8CI9CI)	123.27	I 5900 I
118			123.59	l 2700 f
119		Benzene, (1-ethylpropyl)- (8CI9CI)	123.84	I 2900 I
120	25155151	Benzene, 2-ethyl-1,4-dimethyl- (9CI)	123.97	5200
I			.1	l l

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water	
SAMPLE NUMBER	A5366	DILUTION FACTOR	1.00	
CLIENT ID	1330.3 BLDG 600	QA BATCH		
DATA FILE	>A4480	DATE ANALYZED	11/19/93	

*****************	*********	22223E	****************	=======================================	=== = ===
COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
		*****		******	
Acrolein	ND	50	Bromodichloromethane	ND	5
Acrylonitrile	ND	50	2-Chloroethylvinylether	ND	18
Chloromethane	ND	10	2-Hexanone	ND	10
Bromomethane	ND	10	trans-1,3-Dichloropropene	ND	5
Vinyl Chloride	ND	10	Toluene	ND	5
Chloroethane	ND	10	cis-1,3-Dichloropropene	ND	5
Acetone	10	10	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	10	4-Methy1-2-pentanone	ND	10
Methylene Chloride	3.9 J	5	Tetrachloroethene	ND	5
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5	Chlorobenzene	ND	5
Vinyl Acetate	ND	5	Ethylbenzene	ND	5
2-Butanone	ND	10	m&p-Xylenes	ND	5
Chloroform	ND	5	o-Xylene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene :	ND	5
Carbon Tetrachloride	ND	5	Bromoform	ND	5
1,2-Dichloroethane	ND	5	m-Dichlorobenzene	ND	5
Benzene	ND	5	p-Dichlorobenzene	ND	5
Trichloroethene	ND	5	o-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5			

<u>x recovery</u>	<u>LIMITS</u>	<u>status</u>
96.9	76 - 114	0K
97.5	88 - 110	OK
103	86 - 115	OK
	96.9 97.5	96.9 76 - 114 97.5 88 - 110

⁽J) Indicates detected below MDL (B) Indicates also present in blank (ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1330.3 I

Lab Name: 21st Century Environmental Contract: N/A

Client Name: US Army Ft. Monmouth, NJ

Number TICs found:

Client ID: BLDG 600

Matrix: (soil/water) WATER Lab Sample ID: A5366

Sample wt/vol: 5 (g/mL) ml Lab File ID: >A4480

Level: (low/med) LOW Date Received: NA

% Moisture: NA Date Analyzed: 11/19/93

Column: DB-624 Dilution Factor: 1

CONCENTRATION UNITS
(ug/L or ug/kg) ug/L

I CAS NUMBER	I COMPOUND NAME		EST. CONC.	
	INO UNKNOWNS			
		ll		
		!! !!		

FORM I VOA-TIC

1/87 Rev.

~ CC012

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water	
Sample Number	A5367	DILUTION FACTOR	1.00	
CLIENT ID	1330.4 BLDG 600	QA BATCH		
DATA FILE	>A4490	DATE ANALYZED	11/22/93	

******************		:E2222	=4=====================================		
COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
		****	89t\$q2320t2=23252222222		=======
Acrolein	ND	50	Bromodichloromethane	ND	5
Acrylonitrile	ND	50	2-Chloroethylvinylether	ND	10
Chloromethane	ND	10	2-Hexanone	ND	10
Bromomethane	ND	10	trans-1,3-Dichloropropene	ND	5
Vinyl Chloride	ND	10	Toluene	ND	5
Chloroethane	ND.	10	cis-1,3-Dichloropropene	ND	5
Acetone	5.6 J	10	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	10	4-Methyl-2-pentanone	ND	10
Methylene Chloride	2.1 J	5	Tetrachloroethene	ND	5
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5	Chlorobenzene	· ND	5
Vinyl Acetate	ND	5	Ethylbenzene	ND	5
2-Butanone	ND	10	m&p-Xylenes	ND	5
Chloroform	ND	5	o-Xylene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
Carbon Tetrachloride	ND	. 5	Bromoform	ND	5
1,2-Dichloroethane	ND	5	m-Dichlorobenzene	ND	5
Benzene	ND	5	p-Dichlorobenzene	ND	5
Trichloroethene	ND	5	o-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	•		

<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
95.9	76 - 114	OK
96.2	88 - 110	OK
104	86 - 115	OK
	95.9 96.2	95.9 76 - 114 96.2 88 - 110

⁽J) Indicates detected below MDL

⁽B) Indicates also present in blank (ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1330.4

Lab Name: 21st Century Environmental Contract: N/A

Client Name: US Army Ft. Monmouth, NJ

Client ID: BLDG 600

Matrix: (soil/water) WATER

Lab Sample ID: A5367

Sample wt/vol:

5 (g/mL) ml

Lab File ID: >A4490

Level: (low/med) LOW

Date Received: NA

% Moisture: NA

Date Analyzed: 11/22/93

Column: DB-624

Dilution Factor: 1

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

Number TICs found:

·	·	<u> </u>		
	I COMPOUND NAME	I RT		
	= ====================================	•	6.4	•
				! !
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	1			1 1
				l
·	<u> </u>		l	I

FORM I VOA-TIC

1/87 Rev

DATA PACKAGE

Trons

CERTIFICATE OF ANALYSIS

U.S. ARMY-FORT MONMOUTH, NJ BLDG 600

LEAD

ANALYSIS NO:	CLIENT ID:	MDL (mg/Kg)	RESULT (mg/Kg)
A 5364	1330.1	5.00	N.D.
A 5365	1330.2	5.00	N.D.

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER US ARMY FT. MONMOUTH NJ Soil MATRIX 125,00 SAMPLE NUMBER A5364 DILUTION FACTOR CLIENT ID 1330.1 BLDG 600 COMMENTS HNU 9.0 DATA FILE >A4481 11/19/93 DATE ANALYZED

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
******************		*=====	**********************		======
Acrolein	ND	<i>77</i> 00	2-Chloroethylvinylether	ND	1500
Acrylonitrile	ND	<i>7</i> 700	2-Hexanone	ND	1500
Chloromethane	ND	1500	trans-1,3-Dichloropropene	. ND	<i>77</i> 0
Bromomethane	ND	1500	To luene	NO	770
Vinyl Chloride	ND	1508	cis-1,3-Dichloropropene	ND	<i>7</i> 70
Chloroethane	ND	1500	1,1,2,2-Tetrachloroethane	ND	<i>77</i> 0
Acetone	280 JB	1500	1,1,2-Trichloroethane	ND	<i>77</i> 0
1,1-Dichloroethene	ND .	770	4-Methyl-2-pentanone	ND	1500
Carbon Disulfide	ND	1500	Tetrachloroethene	ND	770
Methylene Chloride	ND	<i>77</i> 0	Dibromochloromethane	ND	<i>7</i> 70
1,2-Dichloroethene(trans)	ND	<i>77</i> 0	Chlorobenzene	ND	<i>7</i> 70
1,1-Dichloroethane	ND	<i>77</i> 0	Ethylbenzene	4500	770
Vinyl Acetate	ND	<i>7</i> 70	m&p-Xylenes	10000	<i>77</i> 0
2-Butanone	ND	1500	o-Xylene	<i>7</i> 400	<i>7</i> 70
Chloroform	ND	<i>77</i> 0	Styrene	ND	<i>7</i> 70
1,1,1-Trichloroethane	ND	770	Bromoform	ND	<i>77</i> 0
Carbon Tetrachloride	ND	<i>77</i> 0	m-Dichlorobenzene	ND	<i>7</i> 70
1,2-Dichloroethane	ND	<i>77</i> 0	p-Dichlorobenzene	ND	<i>77</i> 0
Benzene	ND	<i>77</i> 0	o-Dichlorobenzene	ND	<i>7</i> 70
Trichloroethene	ND	<i>7</i> 70	Methyl Tertiary Butyl Ether	ND	1500
1,2-Dichloropropane	ND ·	770	Tertiary Butyl Alcohol	ND	<i>7</i> 700
Bromodichloromethane	ND	- <i>77</i> 0	-		

SURROGATE COMPOUNDS	* RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	94.7	70 - 121	DK
To luene-d8	109	81 - 117	OK
Bromofluorobenzene	103	74 - 121	OK

Percent Solid of 81.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1330.1 i

Client Name: US Army Ft. Monmouth

Matrix: (soil/water) SOIL

Sample wt/vol: 0.04 (g/mL) g

Level: LOW

% Moisture: 19

Column: CAP

Number TICs Found 20

Client ID: BLDG 600

Lab Sample ID: A5364

Lab File ID: >A4481

Date Received: 11/17/93

Date Analyzed 11/19/93

Dilution Factor: 125

CONCENTRATION UNITS

	· ·			
I ICAS	S NUMBER - 1	COMPOUND NAME	I RT	I IEST CONCI
. = = =		' :====================================		.========
			1	
i 1	108872	Cyclohexane, methyl- (8CI9CI)	112.61	8500 I
1 2	1678917	Cyclohexame, methyl- (8CI9CI)	115.81	
1 3	1678928	Cyclohexame, ethyl= (8CI9CI)	118.331	
1 4	611143	Benzene, 1-ethyl-2-methyl- (9CI)	119.44	
1 5	108678	Benzene, 1,3,5-trimethyl- (9CI)	119.59	
16	622968		119.98	
12	95636	Benzene, 1,2,4-trimethyl- (8CI9CI)	120.30	
18	1074551	Benzene, 1-methyl-4-propyl- (9CI)	120.62	
i 9	620144	Benzene, 1-ethyl-3-methyl- (9CI)	121.10	
110	1074437	Benzene, 1-methyl-3-propyl- (9CI)	121.49	
111	535773	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	121.59	
112	1074175	Benzene, 1-methyl-2-propyl- (9CI)	121.97	
113	535773		122.17	
114			122.31	
115	2049958	Benzene, (1,1-dimethylpropyl)- (9CI)	122.57	
116	2870044	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	122.89	
117	488233	Benzene, 1,2,3,4-tetramethyl- (8CI9CI)	123.16	
118	54120626	Benzene, ethyl-1,2,4-trimethyl- (9CI)	123.30	
119	100527		123.61	
120	535773	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	123.99	
t		l	122.77	. 20000 1
· ——	····		- · ·	·

QUANT REPORT

Operator ID: MANAGER Quant Rev: 6 Quant Time: 931119 18:27
Output File: ^A4481::D1 Injected at: 931119 17:59

Data File: >A4481::D3 Dilution Factor: 1.00000

Name: A5364

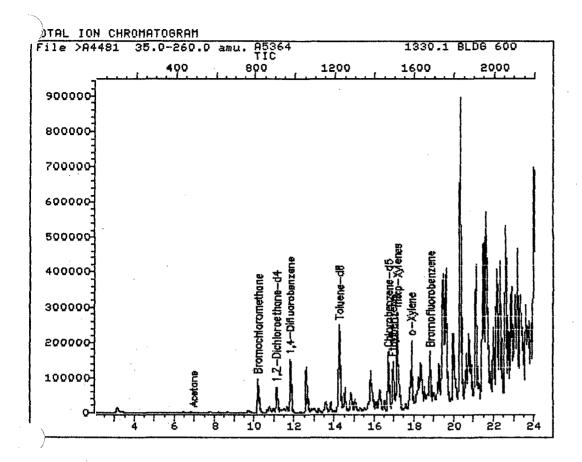
Misc: 1330.1 BLDG 600 0.04g

ID File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

	Compound	R.T.	Scan#	Area	Conc	Units	9
1)	*Bromochloromethane	10.20	814	61 <i>7</i> 57	50.00	UG/L	100
9)	Acetone	6.96	488	1137	1.79	UG/L	91
23)	1,2-Dichloroethane-d4	11.12	906	121423	47.34	UG/L	100
24)		11.80	975	320083	50.00	UG/L	100
33)	Toluene-d8	14.24	1220	330272	54.59	UG/L	100
35)	*Chlorobenzene-d5	16.72	1469	256200	50.00	UG/L	100
43)	Ethylbenzene	16.95	1492	211691	28.95	UG/L	80
44)	m&p-Xylenes	17.15	1512	378394	67.67	UG/L	90
45)	o-Xylene	17.87	1584	273935	48.02	UG/L	89
48)	Bromofluorobenzene	18.82	1679	143848	51.52	HG/L	100

Compound is ISTD



Data File: >A4481::D3

Name: A5364

Misc: 1330.1 BLDG 600

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

Operator ID: MANAGER

Quant Time: 931119 18:27 Injected at: 931119 17:59

TOCTO

Quant Output File: ^A4481::D1

0.04g

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

 JOB NUMBER
 MATRIX
 Soil

 SAMPLE NUMBER
 A5365
 DILUTION FACTOR
 125.00

 CLIENT ID
 1330.2 BLDG 600
 QA BATCH

 DATA FILE
 >A4483
 DATE ANALYZED
 11/19/93

**********************		*****			======
COMPOUND	D UG/KG MOL		COMPOUND	UG/KG	MDL
		=====			======
Acrolein	ND	<i>7</i> 800	Bromodichloromethane	ND ND	780
Acrylonitrile	ND	<i>7</i> 800	2-Chloroethylvinylether	ND	1600
Chloromethane	ND	1600	2-Hexanone	ND 1	1600
Bromomethane	ND	1600	trans-1,3-Dichloropropene	ND	<i>7</i> 80
Vinyl Chloride	ND	1600	Toluene	ND	780
Chloroethane	ND	1600	cis-1,3-Dichloropropene	ND	<i>7</i> 80
Acetone	ND B	1600	1,1,2,2-Tetrachloroethane	ND	780
1,1-Dichloroethene	ND	<i>7</i> 80	1,1,2-Trichloroethane	ND	<i>7</i> 80
Carbon Disulfide	ND	1600	4-Methyl-2-pentanone	ND	1600
Methylene Chloride	220 J	<i>7</i> 80	Tetrachloroethene	ND	<i>7</i> 80
1,2-Dichloroethene(trans)	ND	780	Dibromochloromethane	. ND	780
1,1-Dichloroethane	ND	<i>7</i> 80	Chlorobenzene	ND	780
Vinyl Acetate	ND	<i>7</i> 80	Ethylbenzene	ND	780
2-But anone	· ND	1600	m&p-Xylenes	'410 J	780
Chloroform	ΝĐ	<i>7</i> 80	o-Xylene	MD	<i>7</i> 80
1,1,1-Trichloroethane	ND	<i>7</i> 80	Styrene	ND ND	<i>7</i> 80
Carbon Tetrachloride	ND	780	Bromoform	ND	<i>7</i> 80
1,2-Dichloroethane	ND	<i>7</i> 80	m-Dichlorobenzene -	- ND	780
Benzene	ND	780	p-Dichlorobenzene	ND	<i>7</i> 80
Trichloroethene	ND	780	o-Dichlorobenzene	ND	<i>7</i> 80
1,2-Dichloropropane	ND	<i>7</i> 80			

SURROGATE COMPOUNDS	* RECOVERY	<u>LIMITS</u>	STATUS
1,2-Dichloroethane-d4	93.9	70 - 121	OK
Toluene-d8	105	81 - 117	OK
Bromofluorobenzene	103	74 - 121	OK

Percent Solid of 80.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1330.2

Client Name: US Army Ft. Monmouth

Matrix: (soil/water) SOIL

Sample wt/vol: 0.04 (g/mL) g

Level: LOW

% Moisture: 20

Column: CAP

Number TICs Found 20

Client ID: BLDG 600

Lab Sample ID: A5365

Lab File ID: >A4483

Date Received: 11/17/93

Date Analyzed 11/19/93

Dilution Factor: 125

CONCENTRATION UNITS

						·		
	l ICAS	NUMBER	1	COMPOUND NAME	I I RT I	EST	CONC	1
	l		I	•	į	ł		I
	===		==	=======================================		====	====	1
			i			١ .		١
	1	4923 <i>777</i>	ţ	Cyclohexane, 1-ethyl-2-methyl-,cis- (8CI9CI)	17.75	;	2400	t
	2	1678928	Į	Cyclohexane, propyl- (8CI9CI)	118.29	!	2600	İ
	3	45651410	1	1-Azabicyclo[2.2.2]octane, 4-methyl (9CI)	119.14		1600	I
	4	620144	1	Benzene, 1-ethyl-3-methyl- (9CI)	120.25	ł	2500	Į
	5	135988	1	Benzene, 1-methylpropylethyl- (9CI)	120.58	l	2100	l
	6	535773	1	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	120.72	t	1900	ı
	1 フ	1074437	1	Benzene, 1-methyl-3-propyl- (9CI)	121.44	I	2800	I
	8	933982	1	Benzene, 1-ethyl-2,3-dimethy- (9CI)	122.18	j	1400	ł
	9	91178	1	Napthalene, decahydro- (8CI9CI)	122.66	l	6400	ı
	110	1074551	1.	Benzene, 1methyl-4-propyl (9CI)	121.93	1	2000	ı
·	11	535773	1	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	122.14		1900	ı
	12	2870044	1	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	122.28	l	2500	1
	13	2049958	ı		122.54	1	6700	ļ
	14	2050240	1	Benzene, 1,3- diethyl-5-methyl- (9CI)	122.71	1	2400	Į
.	15	29606799	1	Cyclohexanone, 5-methyl-2-(1-methylethenyl-,	122.86	ł	4700	ļ
	16	527537	1	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	123.13	1	2400	
	17	2958761	1		123.27	l	5900	I
	18	100527	i		123.59	l	2700	ļ
	19	1196583	1		123.84	l	2900	1
	20	25155151	Ί		123.97	1	5200	
ļ	<u> </u>	· · · · · · · · · · · · · · · · · · ·	1_		I	l		١

QUANT REPORT

Operator ID: MANAGER Output File: ^A4483::D1

>A4483::D3

Quant Rev: 6

Quant Time: Injected at:

931119 19:32 931119 19:04

Data File:

Dilution Factor:

1.00000

Name: A5365

0.04g

Misc: 1330.2 BLDG 600

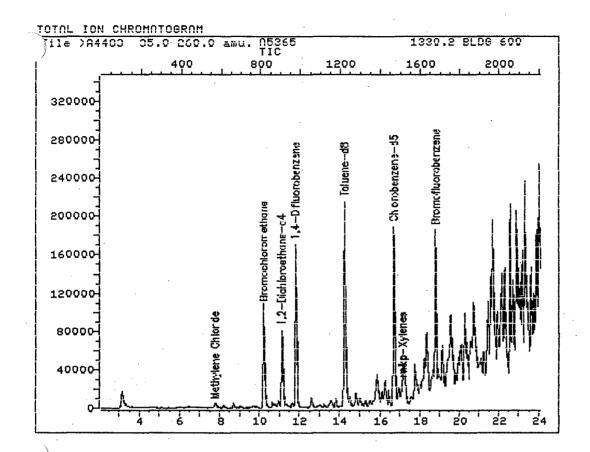
ID File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 931119 16:46

	Compound	R.T.	Scan#	Area	Conc	Units q	
1)	*Bromochloromethane	10.20	813	71101	50.00	UG/L 100	0
13)	Methylene Chloride	7.74	566	4655	1.40	UG/L 67	7
23)	1,2-Dichloroethane-d4	11.10	904	138680	46.96	UG/L 100	0
24)	*1,4-Difluorobenzene	11.79	973	367505	50.00	UG/L 100	0
33)	Toluene-d8	14.21	1217	364832	52.52	UG/L 100	0
35)	*Chlorobenzene-d5	16.68	1465	285955	50.00	UG/L 100	0
44)	m&p-Xylenes	17.11	1508	16407	2.63	UG/L 93	3
48)	Bromofluorobenzene	18. <i>77</i>	1675	161165	51. <i>7</i> 2	UG/L 100	0

^{*} Compound is ISTD



Data File: >A4483::D3

Name: A5365

Misc: 1330.2 BLDG 600

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

Operator ID: MANAGER

Quant Time: 931119 19:32 Injected at: 931119 19:04 Quant Output File: ^A4483::D1

0.04g

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		_ MATRIX	Water	
SAMPLE NUMBER	A5366	DILUTION FACTOR	1.00	
CLIENT ID	1330.3 BLDG 600	QA BATCH		
DATA FILE	>A4480	DATE ANALYZED	11/19/93	

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL	
D#####################################						
Acrolein	ND	50	Bromodichloromethane	ND	- 5	
Acrylonitrile	ND	50	2-Chloroethylvinylether	ND ·	10	
Chloromethane	ND.	10	2-Hexanone	ND	10	
Bromomethane	ND	10	trans-1,3-Dichloropropene	ND	5	
Vinyl Chloride	ND	10	Toluene	ND	5	
Chloroethane	ND	10	cis-1,3-Dichloropropene	ND	5	
Acetone	10	10	1,1,2,2-Tetrachioroethane	ND	5	
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5 .	
Carbon Disulfide	ND ·	10	4-Methyl-2-pentanone	ND	10	
Methylene Chloride	3.9 J	5	Tetrachloroethene	ND	5	
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5	
1,1-Dichloroethane	ND	5	Chlorobenzene	ND	5	
Vinyl Acetate	ND	5	Ethylbenzene	ND	· 5	
2-Butanone	ND	10	m&p-Xylenes	ND	5	
Chloroform	ND _	5	o-Xylene	ND	5	
1,1,1-Trichloroethane	ND.	5	Styrene	ND	5	
Carbon Tetrachloride	ND =	. 5	Bromoform	ND	5	
1,2-Dichloroethane	ND-	5	m-Dichlorobenzene	ND	5	
Benzene	ND	. 5	p-Dichlorobenzene	ND	5	
Trichlaroethene	ND	5	o-Dichlorobenzene	ND	5	
1,2-Dichloropropane	ND	5	•			

SURROGATE COMPOUNDS	* RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	96.9	76 - 114	OK
Toluene-d8	97.5	88 - 110	OK
Bromofluorobenzene :	103	86 - 115	OK

⁽J) Indicates detected below MDL (B) Indicates also present in blank (ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1330.3 Lab Name: 21st Century Environmental Contract: N/A

Client Name: US Army Ft. Monmouth, NJ Client ID: BLDG 600

Matrix: (soil/water) WATER

Lab Sample ID: A5366

Sample wt/vol:

(q/mL) ml

Lab File ID: >A4480

Level: (low/med) LOW

Date Received: NA

% Moisture: NA

Date Analyzed: 11/19/93

Column: DB-624

Dilution Factor:

CONCENTRATION UNITS

Number TICs found: (ug/L or ug/kg)

I CAS NUMBER	COMPOUND NAME		EST. CONC.	
	NO UNKNOWNS			
I				

FORM I VOA-TIC

QUANT REPORT

Operator ID: MANAGER Quant Rev: 6 Quant Time: 931119 17:54
Output File: ^A4480::D1 Injected at: 931119 17:26

Data File: >A4480::D3 Dilution Factor: 1.00000

Name: A5366

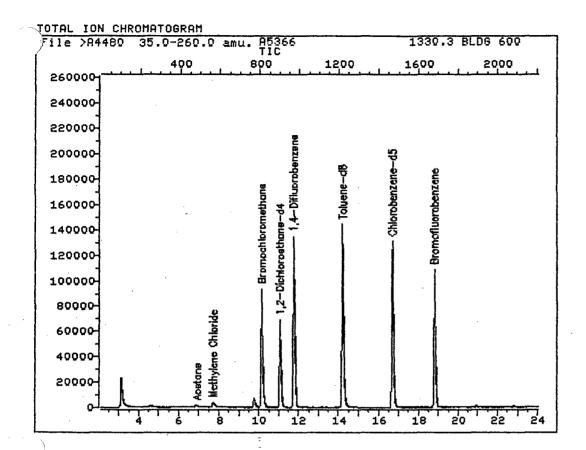
Misc: 1330.3 BLDG 600 5ml

ID File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

	Compound	R.T.	Scan#	Area	Conc	Units q
1)	*Bromochloromethane	10.14	808	58768	50.00	UG/L 100
9)	Acetone	6.90	482	6254	10.34	UG/L 88
13)	Methylene Chloride	7.70	562	10815	3.92	UG/L 71
23)	1,2-Dichloroethane-d4	11.05	899	118286	48.46	UG/L 100
24)	*1,4-Difluorobenzene	11.74	969	290068	50.00	UG/L 100
33)	Toluene-d8	14.19	1215	26 <i>7</i> 383	48. <i>77</i>	UG/L 100
35)	*Chlorobenzene-d5	16.68	1466	200589	50.00	UG/L 100
48)	Bromofluorobenzene	18.79	1678	112593	51.51	UG/L 100

^{*} Compound is ISTD



Data File: >A4480::D3

Name: A5366

Misc: 1330.3 BLDG 600

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

Operator ID: MANAGER

Quant Time: 931119 17:54 Injected at: 931119 17:26 Quant Output File: ^A4480::D1

5m1

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

 JOB NUMBER
 MATRIX
 Water

 SAMPLE NUMBER
 A5367
 DILUTION FACTOR
 1.00

 CLIENT ID
 1330.4 BLDG 600
 QA BATCH

 DATA FILE
 >A4490
 DATE ANALYZED
 11/22/93

	=======================================	- 			32222
COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
*************	***********	****	****************	**********	******
Acrolein	ND	50	Bromodichloromethane	ND	5
Acrylonitrile	ND	50	2-Chloroethylvinylether	ND	10
Chloromethane	ΝĐ	10	2-Hexanone	ND	10
Bromomethane	ND	10	trans-1,3-Dichloropropene	ND	5
Vinyl Chloride	ND	10	Toluene	ND	5
Chloroethane	ND	10	cis-1,3-Dichloropropene	ND	5
Acetone	5.6 J	10	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5 .	1,1,2-Trichloroethane	- ND	5
Carbon Disulfide	ND	10	4-Methyl-2-pentanone	, ND	10
Methylene Chloride	2.1 J	5	Tetrachloroethene	ND	5
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5	Chlorobenzene	ND	5
Vinyl Acetate	ND	5	Ethylbenzene	ND	5
2-Butanone	ND	10	m&p-Xylenes	ND	5
Chloroform	ND	5	o-Xylene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
Carbon Tetrachloride	ND	. 5	Bromoform	ND	5
1,2-Dichloroethane	ND	. 5	m-Dichlorobenzene	ND	5
Benzene	ND	5	p-Dichlorobenzene	ND	5
Trichloroethene	ND	5	o-Dichlorobenzene	ND	- 5
1,2-Dichloropropane	ND	5	•		

SURROGATE COMPOUNDS	* RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	95.9	76 - 114	OK
Toluene-d8	96.2	88 - 110	OK
Bromofluorobenzene	104	86 - 115	OK

⁽J) Indicates detected below MDL

⁽B) Indicates also present in blank

⁽ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1330.4

Lab Name: 21st Century Environmental Contract: N/A

Client Name: US Army Ft. Monmouth, NJ

Client ID: BLDG 600

Matrix: (soil/water) WATER

Lab Sample ID: A5367

Sample wt/vol:

5 (g/mL) ml

Lab File ID: >A4490

Level:

(low/med) LOW

Date Received: NA

% Moisture: NA

Date Analyzed: 11/22/93

Column: DB-624

Dilution Factor: 1

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

Number TICs found: 1

				•
I I CAS NUMBER	COMPOUND NAME	I I RT	EST. CONC.	
1108203	Diisopropyl ether	•		
1				
		I		
1				
1				1

FORM I VOA-TIC

1/87 Rev.

QUANT REPORT

Operator ID: MANAGER Quant Rev: 6 Quant Time: 931123 08:48

Name: A5367

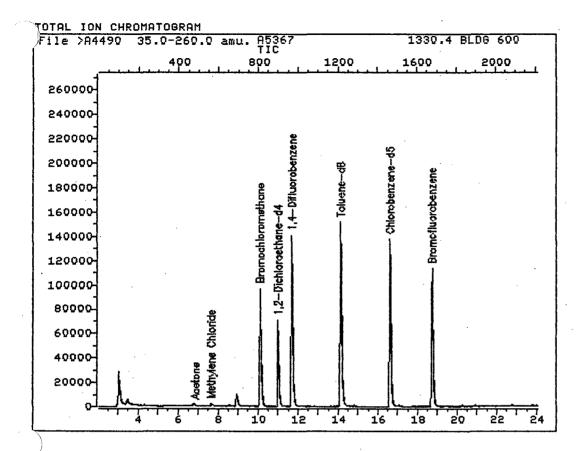
Misc: 1330.4 BLDG 600 5ml

ID File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931123 08:42

	Compound	R.T.	Scan#	. Area	Conc	Units	q
1)	*Bromochloromethane	10.09	808	60649	50.00	UG/L	100
9)	Acetone	6.86	482	4583	5.63	UG/L	88
13)	Methylene Chloride	7.64	561	5841	2.12	UG/L	69
23)	1,2-Dichloroethane-d4	11.00	899	120873	47.93	UG/L	100
	*1,4-Difluorobenzene	11.69	969	302 <i>7</i> 57	50.00	UG/L	100
33)	Toluene-d8	14.13	1214	282621	48.11	UG/L	100
35)	*Chlorobenzene-d5	16.61	1464	212808	50.00	UG/L	100
48)	Bromofluorobenzene	18.72	1676	117476	52.22	UG/L	100

^{*} Compound is ISTD



Data File: >A4490::D3

Name: A5367

Misc: 1330.4 BLDG 600

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 931123 08:42

Operator ID: MANAGER

Quant Time: 931123 08:48 Injected at: 931122 18:05 Quant Output File: ^A4490::D1

5ml

Q C RESULTS

ICP Batch # M 213	21st Century	Aqueou
GFAA Batch #	Environmental	Solid
Hg Batch #	**************************************	

QUALITY CONTROL DATA

	MDL	PREP	LCS	SAMPLE	DUPLICATE		SPIKE	SPIKE
ELEMENT	(ppm)	BLK	(%:rec)	RESULT	RESULT	RPD	AMT. (ppm)	(% rec)
Aluminum								
Antimony			<u>:</u>					
Barium								
Beryllium			-					
Cadmium								
Calcium				·	·			
Chromium								
Cobalt								
Copper								
Iron								
Magnesium								
Manganese								
Nickel								
Silver								
Sodium								
Vanadium								
Zinc			·					
Arsenic			·					
Lead	0.05	N.D.	110	-12	.08	40	0.5	112
Selenium								
Thallium								
Mercury								
Potassium								
						 	1	

Comments:		
	3.	.00034

21st Century Environmental Inc SOIL VOLATILE SURROGATE RECOVERY

SAMPLE	S1 [°]	S2	S3	TOT
·			•	TOT
NO.	(DCE)#	(TOL)#	(BFB)#	OUT
		-		
BLANK	100	96	103	0
A5369	105	100	102	. 0
A5378	105	100	99	0
BLANK	97	97	103	0
MeOH BLK	97	96	104	0 .
A5366	97	98	103	0
A5364	95	109	103	0
A5365	94	105	103	. 0
A5368	96	105	110	0
BLANK	97	100	102	0
A5367	96	96	104	0.
A4692MS	97	86	81	Ō
A4692MSD	9 8	8 <i>7</i>	81	0
· ·				-

				. *	OC LIMITS
			•		
S1	(DCE)	=	1,2-Dichloroethane-d4	7	70-121
S2	(TOL)	=	Toluene-d8		81-117
S3	(BFB)	=	Bromofluorobenzene		74-121

[#] Column used to flag surrogate recovery values

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name:

Contract:N/A

Lab Code:

Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix Spike - EPA Sample No.: A4692

Level:(low/med) LOW

I	SPIKE	I SAMPLE	I MS		I QC I
I	ADDED	ICONCENTRATION	ICONCENTRATION		ILIMITSI
I COMPOUND	(ug/Kg)	I (ug/Kg)	I (ug/Kg)		#1 REC. I
1.1-Dichloroethene Trichloroethene	50.0 50.0		 52.1 47.8	104	159-1721
Benzene	50.0	I ND I	53.6	107	
Toluene	50.0	I ND	41.0	82	
Chlorobenzene	50.0	I ND	53.8	108	
	l	[l	.l	11

1 1 1		<u> </u>	(ug/Kg)	CONCEN'	/Kg)	1				#1	RP	LIMITS .
•	=======================================	! =		-		: :		-	====			=======
Ì	1,1-Dichloroethene	1	50.00	l	48.6	1	97	l	7	ı	22	
1	Trichloroethene	1	50.00	l .	45.2	1	90	Ţ	6.	· 1	24	162-1371
1	Benzene	ı	50.00		50.1	1	100	ı	フ	1	21	166-1421
	Toluene	1	50.00		39.7	I	79	i	4	1	21	159-1391
	Chlorobenzene	ł	50.00	l	50.9	l	102	1	6	1	21	160-1331
l		۱_				1.		_1,		_!-		

- # Column to be used to flag recovery and RPD values with an asterisk
- * * Values outside of qc limits

0 out of

5 outside limits

Spike Recovery:

0 out of 10 outside limits

		•
MMENTS:		
ALIENIS:	· ·	

QUANT REPORT

C. Actor ID: MANAGER Quant Rev: 6 Quant Time: 931022 01:2 00:58

Data File: >A4106::D3 Dilution Factor: 1.8000

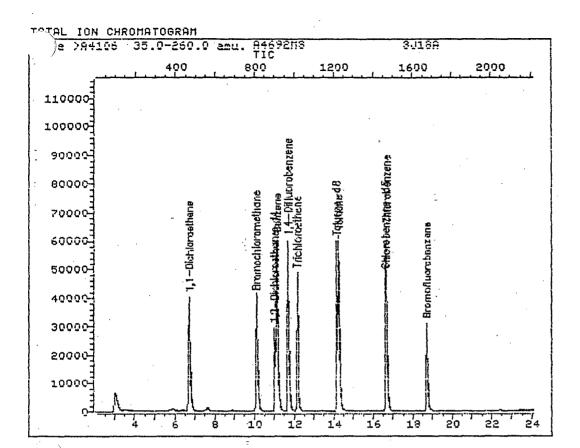
Name: A4692MS Misc: 3J18A 5g

ID File: ID0127::M1

Title: USEPA 624 VOLATILE Last Calibration: 931821 15:23

	Compound	R.T.	Scan#	Area	Conc	Units q
1)	*Bromochloromethane	10.09	807	32467	50.00	UG/L 100
10)	1,1-Dichloroethene	6.71	467	78413	52.12	UG/L 100
23)	1,2-Dichloroethane-d4	11.01	899	53942	48.55	UG/L 100
24)	*1,4-Difluorobenzene	11.69	968	137072	50.00	UG/L 100
26)	Benzene	11.13	911	143531	53.58	UG/L 100
27.)	Trichloroethene	12.14	1013	44123	47. <i>7</i> 8	UG/L 84
33 I	Toluene-d8	14.13	1213	111900	43.21	UG/L 100
34)	Toluene	14.24	1224	117354	40.97	UG/L 93
35)	*Chlorobenzene-d5	16.60	1462	76209	50.00	UG/L 100
42)	Chlorobenzene	16.66	1468	78137	53.76	UG/L 9?
48)	Bromofluorobenzene	18.70	1673	33183	40.49	UG/L 100

^{*} Compound is ISTD



Quant Output File: ^A4106::QT

5g

Data File: >A4106::D3

Name: A4692MS

Misc: 3J18A

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931021 15:23

Operator ID: MANAGER

Quant Time: 931022 01:2° Injected at: 931022 00:58

QUANT REPORT

Operator ID: MANAGER Output File: ^A4107::QT

Data File: >A4107::D3

Name: A4692MSD Misc: 3J18A

Quant Rev: 6 Quant Time: 931022 01:5

931022 01:29 Injected at:

Dilution Factor: 1.00000

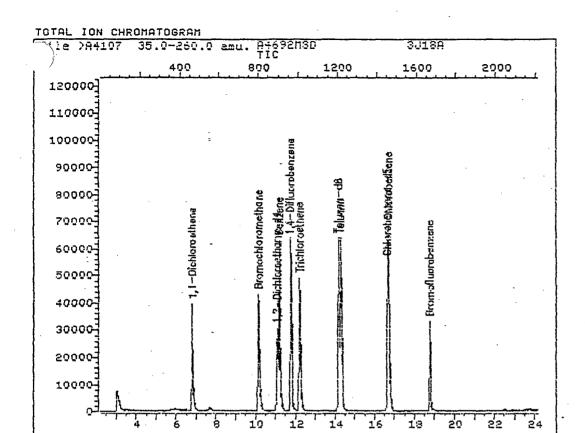
ID File: ID0127::M1

Title: USEPA 624 VOLATILE

Last Calibration: 931021 15:23

	Compound	R.T.	Scan#	Area	Conc	Units q
1)	•	10.14	800	33101	50.00	UG/L 100
10)	1,1-Dichloroethene	6.78	461	74573	48.62	UG/L 100
23)	1,2-Dichloroethane-d4	11.05	891	55319	48.84	UG/L 100
24)	*1,4-Difluorobenzene	11.72	959	144829	50.00	UG/L 100
26)	Benzene	11.17	903	141705	50.07	UG/L 100
27)	Trichloraethene	12.18	1005	44082	45.18	UG/L 8÷
33)	Toluene-d8	14.15	1203	118660	43.37	UG/L 100
34)	Toluene	14.26	1214	120120	39.69	UG/L 99
35)	*Chlorobenzene-d5	16.62	1452	82354	50.00	UG/L 100
42)	Chlorobenzene	16.67	1457	79883	50.86	UG/L 9-
48)	Bromofluorobenzene	18.73	1664	35701	40.31	UG/L 100

mpound is ISTD



Quant Output File: ^A4107::QT

5g

Data File: >A4107::D3

Name: A4692MSD

Misc: 3J18A

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 931021 15:23

Operator ID: MANAGER

Quant Time: 931022 01:57 Injected at: 931022 01:29

rrran

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE CRITERIA FOR VOLATILES 50ng

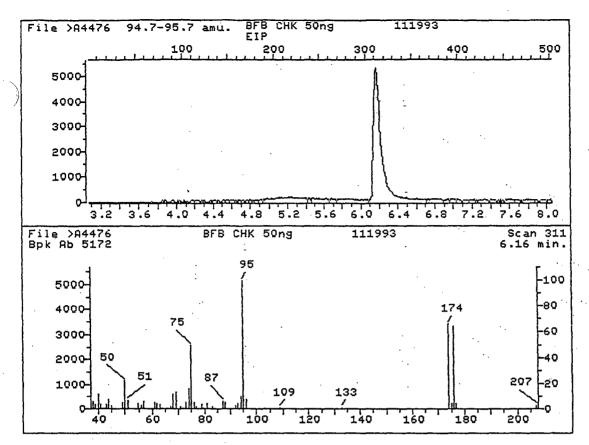
DATE AND TIME OF INJECTION: 11/19/93 13:59

INSTRUMENT ID: 5995

	-	% Relative		
	Ion Abundance	Base	Applopulate	: ,
m/z	Criteria	Peak	Peak	Status
50	15-40% of mass 95	22.08	22.08	Ok
<i>7</i> 5	30-60% of mass 95	49.27	49.27	0k
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.78	7.70	Ok
173	Less than 2% of mass 174	0.00	0. <u>0</u> 0	Ok
174	Greater than 50% of mass 95	66.14	66.14	Ok
175	5-9% of mass 174	4.45	6.72	Ok
176	95-101% of mass 174	64.27	97.16	Ok
177	5-9% of mass 176	3.98	6.20	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES STANDARDS AND BLANKS LISTED BELOW

ISAMPLE ID I	ILAB ID	I I DATE TIME I
111		_
I>A4476::D21	IBFB CHK 50ng	1111/19/93 13:591
1>A4477::D21	IHSL CAL CHK 50ppb	1111/19/93 14:221
1>A4478::D31	IBLANK	1111/19/93 16:181
1>A4479::D31	IMeOH BLK	1111/19/93 16:541
1>A4480::D31	IA5366	1111/19/93 17:261
I>A4481::D3I	IA5364	1111/19/93 17:591
1>A4483::D31	IA5365	1111/19/93 19:041
1>A4484::D31	1A5368	1111/19/93 19:371



>A4476 311 BFB CHK 50ng NRM 111993

File: >A4476 Scan #: 311 Retn. time: 6.16 m/z Int. Int. m/z Int. m/z 🖖 Int. Int. m/z 36.95 5.820 49.95 22.080 67.90 11.504 80.90 3.828 108.95 1.044 . 947 1.740 132.95 37.95 5.994 50.95 6.825 68.90 13.032 82.90 66.145 .54.95 4.350 70.90 86.90 6.148 173.85 38.95 3.113 2.030 4.447 39.85 11.524 55.95 2.939 72.90 4.988 87.90 5.124 174.95 2.166 175.95 64.269 40.85 3.616 56.95 6.206 73.90 15.893 91.90 74,90 92.90 4.157 176.85 3.983 42.85 3.674 60.90 4.911 49.265 75.90 93.90 9.938 207.05 2.900 43.85 7.115 61.90 4.215 4.640 .889 94.90 100.000 207.95 44.95 2.359 62.90 3.558 76.90 2.108 96.00 48.95 4.834 66.90 1.817 78.90 3.229 7.695

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE CRITERIA FOR VOLATILES 50nq

DATE AND TIME OF INJECTION: 11/22/93 15:29

INSTRUMENT ID: 5995

m/z

50

75

96

173

174

175

176

data release authorized by

95-101% of mass 174

5-9% of mass 176

Ion Abundance	% Relativ		
Criteria	Peak	Peak	Status
15-40% of mass 95	20.56	20.56	Ok
30-60% of mass 95	50.54	50.54	Ok
Base peak, 100% relative abundance	100.00	100.00	Ok
5-9% of mass 95	7.52	7.52	Ok
Less than 2% of mass 174	0.00	0.00	Ok
Greater than 50% of mass 95	61.75	61.75	0k
5-9% of mass 174	4.37	7.08	Ok

61.06

4.06

98.89

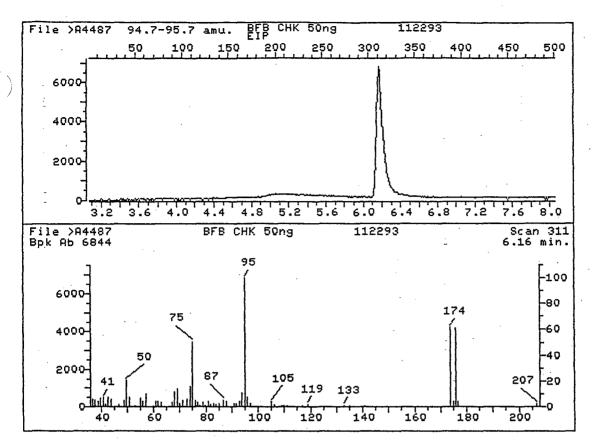
6.65

Ok

Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES STANDARDS AND BLANKS LISTED BELOW

ISAMPLE ID I	ILAB ID	I DATE TIME I
1>A4487::D31	18FB CHK 50ng _	111/22/93 15:291
I>A4488::D31	1HSL CAL CHK 50ppb	1111/22/93 16:351
1>A4489::D31	IBLANK	1111/22/93 17:281
1>A4490::D31	1A5367	1111/22/93 18:051
I>A4491::D31	IA5357	111/22/93 18:371
I>A4492::D31	IA5355	111/22/93 19:091
1>A4493::D31	IA5387	111/22/93 19:421



>A4487 311 BFB CHK 50ng NRM

112293

File: >A4487 Scan #:

311 Retn. time: 6.16

•								-	
m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.85	1.257	52.95	1.008	72.90	5.538	86.90	5.275	110.95	1.271
36.85	6.122	54.95	6.517	<i>7</i> 3.90	15.532	87.90	4.0 <i>77</i>	116.95	1.257
37.85	4.866	55.95	3.872	74.90	50.541	90.90	2.878	118.95	1.783
38.85	4.383	56.95	10.228	76.00	4.851	91.90	2.762	132.95	1.154
39.85	6.984	59.80	1.184	76.90	3.068	92.90	4.106	135.00	.964
40.85	7.525	60.90	4.252	<i>77</i> .80	.935	93.90	10.491	140.90	1.008
41.95	1.417	61.80	3.916	78.80	3.419	94.90	100.000	173.85	61.748
42.85	7.203	62.90	3.448	79.80	1.140	95.90	7.525	174.85	4.369
43.85	5.538	66.90	3.112	80.80	4.106	96.95	2.893	175.85	61.061
46.85	1.739	67.90	11.397	81.90	1.812	104.95	4.018	176.85	4.062
48.85	5.070	68.90	14.509	83.00	2.352	105.95	1.432	206.95	2.162
49.85	20.558	69.90	2.601	83.90			1.081	208.05	.745
50.85	7.481	71.00	4.909	85.00	2.338	109.95	.847		

Continuing Calibration Check HSL Compounds

Case No:				Calibration Date: 11/19/93					
Contractor: 21st Century Env.				Time: 14:22					
	Contract No:	Labora	tory ID	: >A4					
	Instrument ID: Volatile Inst A		Initia	al Calib	 ratio	n Dat	e: 11/09/93		
	Minimum RF for SPCC is .	.300	Maxim	num % Di	ff fo	r CCC	C is 25%		
	Compound	RF	RF	%Diff	CCC	SPCC			
	Chloromethane	1.43249	1.00820	29.62		**			
	Bromomethane	1.04974	1.01019	3.77					
	Vinyl Chloride	1.57678	1.31532	16.58	¥				
		.90195							
	Acrolein	.05549	.04073	26.60			(Conc=100.00)		
	1,1,2-Trichlorotrifluoroethane								
	Trichlorofluromethane	3.67660							
	Acetone		.51445				•		
	1,1-Dichloroethene	3.39084							
	•	5.49262							
	Acrylonitrile		.50486						
		2.90785							
		3.40143		_					
	Tertiary Butyl Alcohol	.83745					(Conc=100.00)		
	Methyl Tertiary Butyl Ether								
	1,1-Dichloroethane	4.04214	3,35073	- 17.10		**			
	•	5.67139							
		1.18849							
		3.58945							
		2.74729							
	• •	2.26220							
	· · · · · · · · · · · · · · · · · · ·	2.57781					(Conc=50.00)		
		.56078							
	Benzene		1.07103						
	Trichloroethene		.40221	.59					
	1,2-Dichloropropane	.47785	. 40433						
	Bromodichloromethane	.62987	.57048						
	2-Chloroethylvinylether	.32164		_					
	2-Hexanone	.29314							
	trans-1,3-Dichloropropene	.66397							
	To luene-d8	.98044							
	Toluene		1.00176		*		•		
				-					

RF - Response Factor from daily standard file at 50.00 UG/L

RF - Average Response Factor from Initial Calibration Form VI

*Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Form VII Page 1 of 2

Continuing Calibration Check HSL Compounds

Contractor: 21st Century Env.

Contract No:

Laboratory ID: >A4477

Instrument ID: Volatile Inst A

Calibration Date: 11/19/93

Laboratory ID: >A4477

Minimum RF for SPCC is .300

Maximum % Diff for CCC is 25%

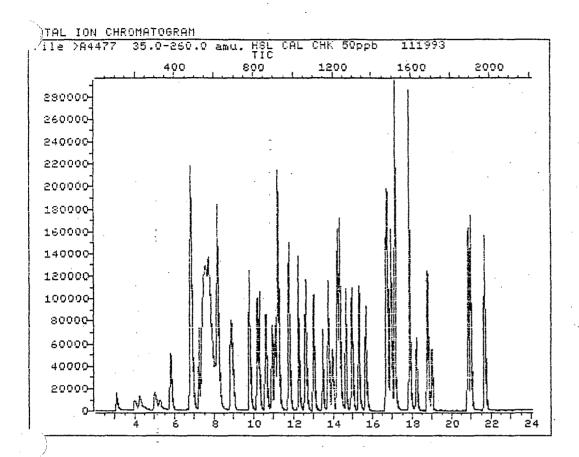
Compound	- RF	RF	%Diff	CCC	SPCC	·
cis-1,3-Dichloropropene	.84936	.72057	15.16			
1,1,2,2-Tetrachloroethane	.45498	.38757	14.82		**	
1,1,2-Trichloroethane	.43273	.41607	3.85			
4-Methyl-2-pentanone	.41918	.35037	16.41			•
Tetrachloroethene	. 39365	.38472	2.27			•
Dibromochloromethane	.60540	.57053	5.76			•
Chlorobenzene	.92785	.91198	1.71		**	
Ethylbenzene	1.59656	1.42696	18.62	*		•
m&p-Xylenes	1.23699	1.09133	11.78			(Conc=100.00)
o-Xylene	1.21406	1.11328	8.30			
Styrene	.90718	.87919	3.09			
Bromoform	.36431	.32929	9.61		**	
Bromofluorobenzene	.61999	.54489	12.11			
m-Dichlorobenzene	.73847	.76373	3.42			
p-Dichlorobenzene	.79295	.80987	2.13			
o-Dichlorobenzene	.72230	. <i>7</i> 3679	2.01			
						•

RF - Response Factor from daily standard file at 50.00 UG/L

RF - Average Response Factor from Initial Calibration Form VI

^{*}Diff - * Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)



Quant Output File: ^A4477::D1

Data File: >A4477::D2 Name: HSL CAL CHK 50ppb

Misc: 111993

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 931118 13:00

Operator ID: MANAGER

Quant Time: 931119 14:57 Injected at: 931119 14:22

Continuing Calibration Check HSL Compounds

Case No:

Calibration Date: 11/22/93

Contractor: 21st Century Env.

Time: 16:35

Contract No:

Laboratory ID: >A4488

Instrument ID: Volatile Inst A

Initial Calibration Date: 11/09/93

Minimum RF for SPCC is .300

Maximum % Diff for CCC is 25%

Compound -	RF	RF	%Diff	CCC	SPCC	·
Chloromethane	1.43249	.91128	36.39		**	
Bromomethane	1.04974	.95655	8.88			
Vinyl Chloride	1.57678	1.18387	24.92	. *		
Chloroethane	.90195	.69716	22.71			
Acrolein	.05549	.03857	30.49			(Conc=100.00)
1,1,2-Trichlorotrifluoroethane	2.19227	2.32391	6.00	-		
Trichlorofluromethane		3.78080	2.83			
Acetone	.71035	.67160	5.46			·
1,1-Dichloroethene	3.39084	2.94060	13.28	*		
Carbon Disulfide	5.49262	4.59579	16.33			
Acrylonitrile	.62129	.54603	12.11			
Methylene Chloride	2.90785	2.26884	21.98			
1,2-Dichloroethene(trans)	3.40143	2.84929	16.23			
Tertiary Butyl Alcohol	.83745	.81131	3.12			(Conc=100.00)
Methyl Tertiary Butyl Ether	4.28851	2.98481	30.40			
1,1-Dichloroethane	4.04214	3.38153	16.34		**	
Vinyl Acetate	5.67139	4.46121	21.34			
2-Butanone	1.18849	1.10525	7.00			
Chloroform	3.58945	3.22900	10.04	*		
1,1,1-Trichloroethane	2.74729	2.51362	8.51			
Carbon Tetrachloride	2.26220	2.02576	10.45			
1,2-Dichloroethane-d4	2.57781	2.07908	19.35			(Conc=50.00)
1,2-Dichloroethane	.56078	.46333	17.38	-		
Benzene	1.14334	1.09907	3.87			
Trichloroethene	.39984	.41348	3.41			
1,2-Dichloropropane	.47785	.408 <i>7</i> 5	14.46	*		
		.58860				
2-Chloroethylvinylether	.32164	.29410	8.56			
2-Hexanone	.29314	.26079	11.04			
trans-1,3-Dichloropropene	.66397	.60794	8.44			
To luene-d8	.98044	.97026	1.04			
Toluene	1.04974	1.05970	.95	*		

RF - Response Factor from daily standard file at 50.00 UG/L

RF - Average Response Factor from Initial Calibration Form VI

*Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check HSL Compounds

Case No: Calibration Date: 11/22/93

Contractor: 21st Century Env. Time: 16:35

Contract No: Laboratory ID: >A4488

Instrument ID: Volatile Inst A Initial Calibration Date: 11/09/93

Minimum RF for SPCC is .300 Maximum % Diff for CCC is 25%

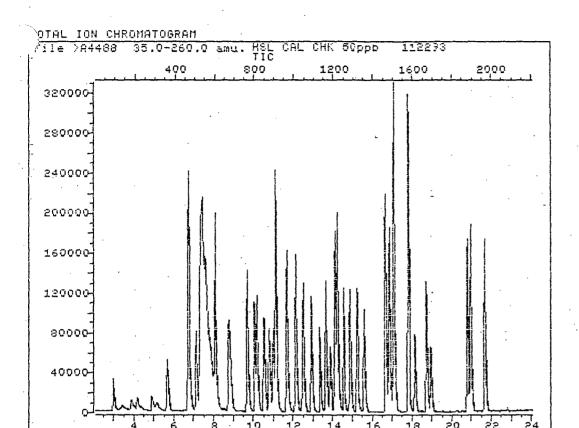
Compound	RF	RF	%Diff	CCC	SPCC		
cis-1,3-Dichloropropene	.84936	.74048	12.82				
1,1,2,2-Tetrachloroethane	. 45498	.42724	6.10		**		
1,1,2-Trichloroethane	.43273	. 43135	.32				
4-Methyl-2-pentanone	.41918	.35813	14.56				
Tetrachloroethene	.39365	.40526	2.95				
Dibromochloromethane	.60540	.58982	2.57			•	
Chlorobenzene	.92785	.92246	.58		**		
Ethylbenzene	1.59656	1.48351	7.08	*			
m&p-Xylenes	1.23699	1.11769	9.64			(Conc=100.00)	
o-Xylene	1.21406	1.11391	8.25				
Styrene	.90718	.87113	3.97				
Bromoform	.36431	.36276	42		**		
Bromofluorobenzene	.61999	.52854	14.75				
m-Dichlorobenzene	.73847	. <i>7</i> 3309	· .73				
p-Dichlorobenzene	.79295	.79078	.27				
o-Dichlorobenzene	.72230	.72020	.29				

RF - Response Factor from daily standard file at 50.00 UG/L

RF - Average Response Factor from Initial Calibration Form VI

^{*}Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)



-Quant Output File: ^A4488::D1

Data File: >A4488::D3

Name: HSL CAL CHK 50ppb

Misc: 112293

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

Operator ID: MANAGER

Quant Time: 931122 17:04 Injected at: 931122 16:35

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE CRITERIA FOR VOLATILES 50ng

DATE AND TIME OF INJECTION: 11/09/93 11:51

INSTRUMENT ID: 5995

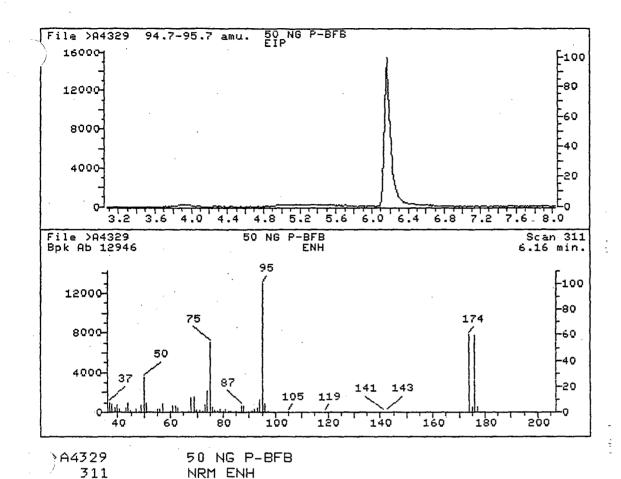
DATA RELEASE AUTHORIZED BY

L	and	W	Kynny
*	Relative	Abund	алсе
	Daga	۸	

Ion Abundance	Bas e	Appropriate	
Criteria	Peak	Peak	Status
15-40% of mass 95	26.97	26.97	Ok
30-60% of mass 95	54.36	54.36	" Ok
Base peak, 100% relative abundance	100.00	100.00	Ok
5-9% of mass 95	7.00	7.00	Ok
Less than 2% of mass 174	0.00	8.00	Ok
Greater than 50% of mass 95	60.04	60.04	Ok
5-9% of mass 174	4.28	7.12	Ok
95-101% of mass 174	59.18	98.56	Ok
5-9% of mass 176	4.06	6.87	Ok
	Criteria 15-40% of mass 95 30-60% of mass 95 Base peak, 100% relative abundance 5-9% of mass 95 Less than 2% of mass 174 Greater than 50% of mass 95 5-9% of mass 174 95-101% of mass 174	Criteria Peak 15-40% of mass 95 26.97 30-60% of mass 95 54.36 Base peak, 100% relative abundance 100.00 5-9% of mass 95 7.00 Less than 2% of mass 174 0.00 Greater than 50% of mass 95 60.04 5-9% of mass 174 4.28 95-101% of mass 174 59.18	Criteria Peak Peak 15-40% of mass 95 26.97 26.97 30-60% of mass 95 54.36 54.36 Base peak, 100% relative abundance 100.00 100.00 5-9% of mass 95 7.00 7.00 Less than 2% of mass 174 0.00 0.00 Greater than 50% of mass 95 60.04 60.04 5-9% of mass 174 4.28 7.12 95-101% of mass 174 59.18 98.56

THIS PERFORMANCE AFFECTS ALL SAMPLES STANDARDS AND BLANKS LISTED BELOW

ISAMPLE ID I	ILAB ID	1	1 DATE	TIME I
ll	·	.	1	1
1>A4329::D61	150 NG P-BFB	1	111/09/93	11:511
I>A4330::D6I	IHSL CAL STD 50ppb	l	111/09/93	12:531
I>A4331::D6I	IHSL CAL STD 20ppb	I	111/09/93	13:321
I>A4332::D61	IHSL CAL STD 100ppb	1	111/09/93	14:061
1>A4333::D61	IHSL CAL STD 150ppb	!	111/09/93	14:521
1>A4334::D61	IHSL CAL STD 200ppb	I	111/09/93	15:271
I>A4335::D61	IBLANK	I	111/09/93	16:021
1>A4336::D61	IA5111	1	111/09/93	16:421
1>A4337::D61	1A5179	ł	111/09/93	17:151
1>A4338::D61	IA5180	1	111/09/93	17:481
1>A4339::D61	IA5181	1	111/09/93	18:331
1>A4340::D61	1A5182	1	111/09/93	19:051
I>A4341::D6I	IA5183	I	111/09/93	19:381
I>A4342::D61	IA5059	.1	111/09/93	20:111
1>A4343::061	1A5060	1	111/09/93	20:431
1>A4344::D61	IA5061	1	111/09/93	21:161
1>A4347::D61	1A5063	1	111/09/93	22:531
1>A4348::061	IA5064	1	111/09/93	23:261



File: >A4329 Scan #: 311 Retn. time: 6.16

	•								
m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.95	1.659	48.85	5.559	68.90	12.777	80.90	2.620	97.05	.919
36.95	7.786	49.95	26.973	69.90	1.587	81.90	.864	103.85	.184
37.95	6.750	50.95	7.907	70.90	2.022	83.00	.629	104.95	.514
38.85	3.229	54.95	2.504	72.00	.579	85.00	.833	118.85	.460
39.85	6.031	55.95	2.704	73.00	5.526	87.00	5.103	140.90	.318
40.85	2.969	56.95	6.309	<i>7</i> 3.90	16.660	87.90	4.748	142.80	.405
41.95	. 446	59.80	1.205	74.90	54.360	90.90	.717	173.95	60.039
42,95	3.584	60.90	5.186	76.00	4.527	92.00	2.444	174.95	4.276
43.95	7.694	61.90	4.870	76.90	1.585	92.90	3.714	175.95	59.1 <i>7</i> 5
44.85	1.957	62.90	3.546	77.80	.689	94.00	10.280	176.95	4.065
46.95	2.217	66.90	1.007	78.80	2.276	95.00	100.000	207.05	1.355
47.85	.684	67.90	12.015	79.90	850	96.00	6.995		

Initial Calibration Data HSL Compounds

	Case No:		Instr	ument ID	: Volati	le Inst A						
	Contractor: 21st Century Env.		Calib	ration Da	ate: 11/	09/93						
	Contract No:											•
	Minimum RF for SPCC is	.300	Maxim	um % RSD	for CCC	is 30%						•
	Laboratory ID: Compound	>A4331 RF 20.00	RF	RF	>A4333 RF 150.00	RF	RRT	- RF	% RSD	ררר	SPCC	
	compound	20.00			170.00	208.00			4 KOD			
	Chloromethane	1.41614	1.48583	1.38938	1.48584	1.38527		1.43249	3.499		**	
	Bromomethane					1.06061		1.04974	4.529			
						1.53950		1.57678	6.155	¥		•
	Chloroethane		1.02808			.90633		.90195	8.938			
	Acrolein				.05890			. 05549	5.008			(Conc=40.0,100.0,200.0
	1,1,2-Trichlorotrifluoroethane							2.19227	4.888			
	Trichlorofluromethane					3.75363		3.67660	3.520			
	Acetone							.71035	8.266			
	1,1-Dichloroethene				3.40539			3.39084	5.286	*		
	Carbon Disulfide Acrylonitrile				5.86737 .70276			5.49262 .62129	9.528 9.437			
	Methylene Chloride				2.89062			2.90785	5.100			
	1,2-Dichloroethene(trans)				3.35122			3.40143	3.736			·
`	Tertiary Butyl Alcohol	7.27007			1.05172	7.47740		.83745	26.181			(Conc=40.0,100.0,200.0
	Methyl Tertiary Butyl Ether	_			4.86036	_		4.28851	17.089			(60:16-40:0)100:0)200:0
	1,1-Dichloroethane				4.12971			4.04214	5.104		**	
	Vinyl Acetate				6.32058			5.67139	10.158			
	2-Butanone				1.31778			1.18849	6.722			
	Chloroform				3.66984			3.58945	5.104	¥		
	1,1,1-Trichloroethane				2.80681			2.74729	4.660			•
		2.09076						2.26220	5.496			
	1,2-Dichloroethane-d4				2.46942			2.57781	5.651			(Conc=50.0,50.0,50.0,5
		.53015						.56078	4.775			
	R .											•

.953 1.14334

1.068 .47785

1.104 .62987

1.141 .32164

.39984

.29314

.66397

1.039

1.301

1.165

4.637

5.074

4.543

4.356

4.787

8.090

6.080

Benzene

2-Hexanone

Trichloroethene

1,2-Dichloropropane

Bromodichloromethane

2-Chloroethylvinylether

trans-1,3-Dichloropropene

1.08161 1.19068 1.08997 1.17220 1.18222

.39865

.45894

.59713

.31454

.30188

.63418

.42436

.34588

.33078

.69094

.*37*598

.32165

.27361

.70169

.48763 ,49570

.65619 .64685

.38471

.60336

.30403

.28250

.60862

.45032 .49669

.41551

.64585

.32211

.27696

.68443

RF - Response Factor (Subscript is amount in UG/L)

RRT - Average Relative Retention Time (RT Std/RT Istd)

RF - Average Response Factor

MRSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data HSL Compounds

Case No: Instrument ID: Volatile Inst A

Contractor: 21st Century Env. Calibration Date: 11/09/93

Contract No:

Minimum RF for SPCC is .300

Maximum % RSD for CCC is 30%

	Laboratory	ID:	rf	>A4330 RF	>A4332 RF	>A4333 RF	>A4334 RF		— RF	# DOD	666	ence	
	Compound		20.00	50.00	100.00	150.00	200.00	RRT	KI-	% RSD	LLL	SPCC	
	Toluene-d8		.93694	.95229	.99760	1.00527	1.01007	1.206	.98044	3.411			(Conc=50.0,50.0,50.0,5
	Toluene		.94400	1.05882		1.10072		1.215	1.04974	7.216	*		, , ,
	cis-1,3-Dichloropropene		.77201	.87336	.81013	.88691	.90438	.877	.84936	6.591			•
	1,1,2,2-Tetrachloroethane		.41084	.49408	.43530	.46678	.46789	1.137	. 45498	7.097		**	
	1,1,2-Trichloroethane		.40611	. 44372	.41282	.45002	.45098	.896	. 43273	4.980			
٠	4-Methyl-2-pentanone		.41359	.39946	.42492	.46966	.38824	.919	.41918	7.505			
	Tetrachloroethene		.37672	.41067	.37172	.40073	.40841	.916	.39365	4.624			
	Dibromochloromethane		.57516	.62097	.57784	.63499	.61804	.939	.60540	4.487			
	Chlorobenzene		.86084	.95991	.87657	.95433	.98761	1.003	.92785	6.006		**	
	Ethylbenzene		1.50052	1.63926	1.51652	1.63336	1.69312	1.014	1.59656	5.253	*		
	m&p-Xylenes		1.18826	1.27196	1.15439	1.25465	1.31567	1.026	1.23699	5.258			(Conc=40.0,100.0,200.0
	o-Xylene		1.17314	1.26950	1.12067	1.21877	1.28822	1.068	1.21406	5.676			
٠.	Styrene		.84945	.94069	.84973	92050	.97556	1.069	.90718	6.189			
	Bromoform		.32129	.36170	34992	.39373	.39491	1.090	.36431	8.534		**	
-	Bromofluorobenzene		.62013	.61233	.61052	.61367	.64330	1.124	.61999	2.182			(Conc=50.0,50.0,50.0,5
	m-Dichlorobenzene		.76536	.77087	.67688	.73259	.74666	1.246	. <i>7</i> 3847	5.097			
	p-Dichlorobenzene		.82415	.83567	.72139	. <i>7</i> 6554	.81798	1.255	.79295	6.080			•
	o-Dichlorobenzene		. <i>7</i> 5022	. <i>7</i> 5536	.66161	.71926	.72506	1.297	.72230	5.167			

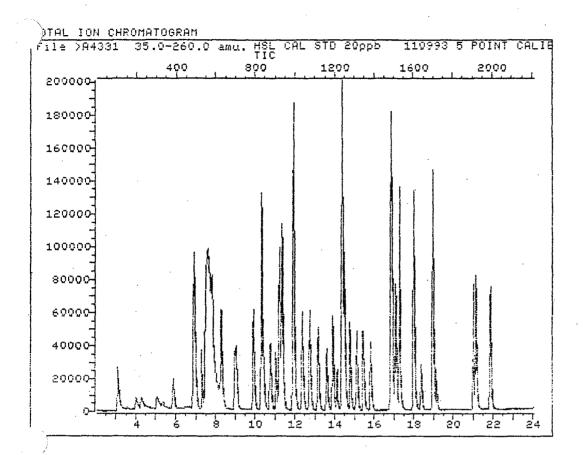
RF - Response Factor (Subscript is amount in UG/L

RRT - Average Relative Retention Time (RT Std/RT Istd)

RF - Average Response Factor

[%]RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)



Name: HSL CAL STD 20ppb

Misc: 110993 5 POINT CALIBRATION

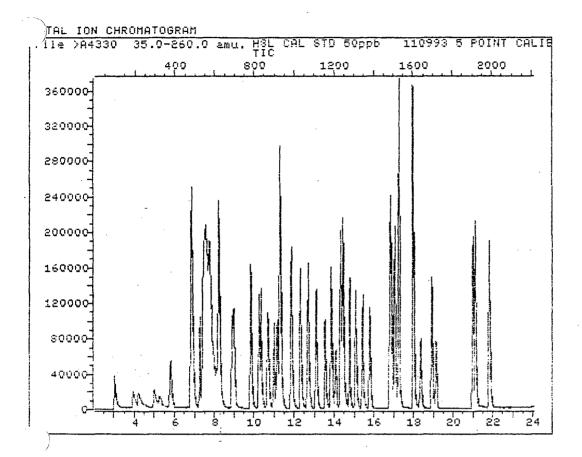
Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 931109 13:37

Operator ID: MANAGER

Quant Time: 931109 14:02 Injected at: 931109 13:32



Data File: >A4330::D6 Quant Output File: ^A4330::D1

Name: HSL CAL STD 50ppb

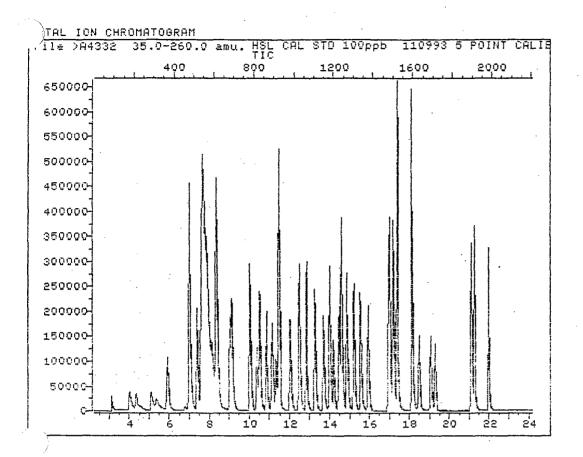
Misc: 110993 5 POINT CALIBRATION

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931108 14:37

Operator ID: MANAGER

Quant Time: 931109 13:27 Injected at: 931109 12:53



Name: HSL CAL STD 100ppb

Misc: 110993 5 POINT CALIBRATION

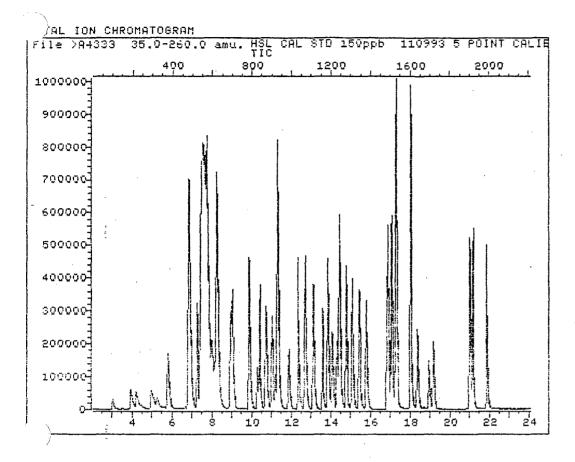
Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 931109 13:37

Operator ID: MANAGER

Quant Time: 931109 14:35 Injected at: 931109 14:06



Data File: >A4333::D6 Quant Output File: ^A4333::D1

Name: HSL CAL STD 150ppb

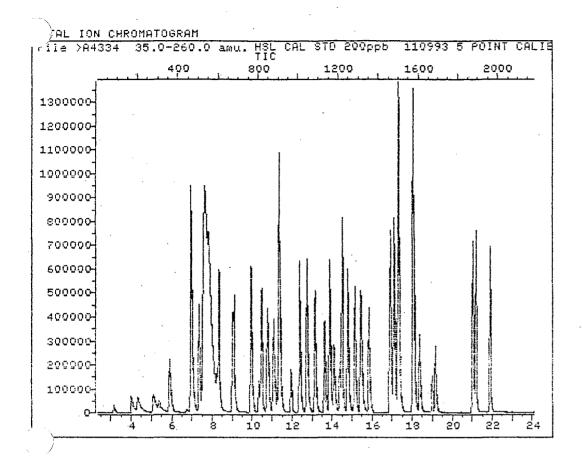
Misc: 110993 5 POINT CALIBRATION

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931109 14:56

Operator ID: MANAGER

Quant Time: 931109 15:22 Injected at: 931109 14:52



Data File: >A4334::D6 Quant Output File: ^A4354::D1

Name: HSL CAL STD 200ppb

Misc: 110993 5 POINT CALIBRATION

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931109 14:56

Operator ID: MANAGER

Quant Time: 931109 15:55 Injected at: 931109 15:27

4A VOLATILE METHOD BLANK SUMMARY

Lab Name: 21st CENTURY ENVIRONMENTAL INC.

Contract No.:

Lab Code:

Case No:

SAS No.:

SDG No.:

LAB ID FILE (BLANK): >A4478

DATE ANALYZED: 11/19/93

INSTRUMENT ID: A

TIME ANALYZED: 16:18

Matrix: WATER

Level:(low/med) LOW

Column: (pack/cap)

Sample ID: BLANK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES.MS AND MSD

i	LAB		LAB	ī	DATE	ī	TIME
	SAMPLE ID		FILE ID	i	ANALYZED	i	ANALYZED
1		===		- :	========	=	========
1 1	A5366		I >A4480	ı	11/19/93	ī	17:26
21				i		i	
31				ï	· · · · · · · · · · · · · · · · · · ·	ï	
41		_		ï		1	
51		_		ï		Ī	
61		_		ï		ì	
7		_	1	ï		ì	
81				ĺ		ŀ	
91		_	1	ï		Ī	
101			1	ï		Ì	
11				ĺ		Ī	
121				1		_1	
131			1	Ţ		Ī	
141						_1	
151		_	1	1		_	
161			1	1		_ {	
171		_	1	1		_1	
181			1	1		_1	
191				1		_1	
201			l	1	· · · · · · · · · · · · · · · · · · ·	_1	
211		_	1	I		_1	
221			·	١		_	
231		_		-1		_	
241			l	1		_1	
25		_	1	1		_ 1	

COMMENTS:	 		

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER MATRIX Water SAMPLE NUMBER BLANK DILUTION FACTOR 1.00 CLIENT ID 111993 METHOD BLANK QA BATCH DATA FILE >A4478 DATE ANALYZED 11/19/93 COMPOUND UG/L UG/L MDL COMPOUND Acrolein ND 2-Chloroethulvinulether Acrylonitrile ND 50 2-Hexanone ND 10 Chloromethane ND 10 trans-1,3-Dichloropropene 5 ND Bromomethane ND 10 Toluene ND Vinul Chloride ND 10 cis-1.3-Dichloropropene ND Chloroethane ND 10 1,1,2,2-Tetrachloroethane ND 5 1,1,2-Trichloroethane 5 Acetone ND 10 ND 1.1-Dichloroethene ND 5 4-Methyl-2-pentanone ND 10 Carbon Disulfide ND 10 Tetrachloroethene ND Methylene Chloride 5 Dibromochloromethane ND ND 1.2-Dichloroethene(trans) ND 5 Chlorobenzene ND 1,1-Dichloroethane ND 5 Ethylbenzene ND ND ND Vinul Acetate m&p-Xylenes 2-Butanone ND 10 o-Xylene ND Chloroform ND 5 Sturene ND 1,1,1-Trichloroethane ND 5 Bromoform ND Carbon Tetrachloride ND m-Dichlorobenzene ND 1,2-Dichloroethane ND 5 ND p-Dichlorobenzene 5 Benzene ND 5 o-Dichlorobenzene ND

SURROGATE COMPOUNDS	% RE	COVERY	_LIM	<u>TS</u>	STATUS
1,2-Dichloroethane-d4		96.8	76 -	- 114	OK
Toluene-d8		97.1	88 -	- 110	OK
Bromofluorobenzene	-	103	86 -	- 115	OK

Methol Tertiary Butyl Ether

Tertiary Butyl Alcohol

Trichloroethene

1,2-Dichloropropane

Bromodichloromethane

ND

ND

ND

10

50

ND

ND

⁽J) Indicates detected below MDL

⁽B) Indicates also present in blank

⁽ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

BLANK Lab Name: 21st Century Environmental Contract: N/A

Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix: (soil/water) WATER

Lab Sample ID: BLANK

Sample wt/vol:

Lab Code:

(g/mL) ml

Lab File ID: >A4478

Level: (low/med) LOW Date Received: NA

Date Analyzed: 11/19/93

% Moisture: NA Column: DB-624

Dilution Factor:

CONCENTRATION UNITS

Number TICs found: (ug/L or ug/Kg) ug/L

	I COMPOUND NAME		I EST. CONC.	
, ' :	INo Unknowns			
1				!! !!
		 		!! !! !!
				!!
		1i	l	

FORM I VOA-TIC

1/87 Rev.

QUANT REPORT

Operator ID: MANAGER

Output File: ^A4478::D1

Data File: >A4478::D3

Name: BLANK

Misc: 111993 METHOD BLANK

Quant Rev: 6 Quant Time: 931119 16:49

Injected at: 931119 16:18

Dilution Factor: 1.00000

5ml

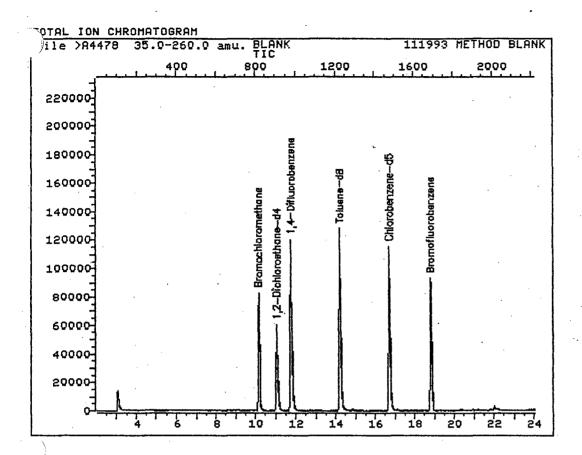
ID File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 931119 16:46

	Compound	R.T.	Scan#	Area	Conc	Units	, q
1)	*Bromochloromethane	10.15	816	51029	50.00	UG/L	100
23)	1,2-Dichloroethane-d4	11.07	908	102601	48.41	UG/L	100
24)	*1,4-Difluorobenzene	11.76	978	251406	50.00	UG/L	100
33)	Toluene-d8	14.20	1223	230724	48.56	UG/L	100
35)	*Chlorobenzene-d5	16.69	1474	171 <i>7</i> 35	50.00	UG/L	100
48)	Bromofluorobenzene	18.79	1685	96509	51.57	UG/L	100

Compound is ISTD



Quant Output File: ^A4478::D1

5ml

Data File: >A4478::D3

Name: BLANK

Misc: 111993 METHOD BLANK

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

Operator ID: MANAGER

Quant Time: 931119 16:49 Injected at: 931119 16:18

00064

VOLATILE METHOD BLANK SUMMARY

Lab Name: 21st CENTURY ENVIRONMENTAL INC.

Contract No.:

Lab Code: Case No:

SAS No.: SDG No.:

LAB ID FILE (BLANK): >A4489

DATE ANALYZED: 11/22/93

INSTRUMENT ID: A

TIME ANALYZED: 17:28

Matrix: WATER Level:(low/med) LOW

Column: (pack/cap)

Sample ID: BLANK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	· · · · · · · · · · · · · · · · · · ·						
1	LAB SAMPLE ID	I .	LAB FILE ID	1	DATE ANALYZED		IME
!	SHUBLE ID	ł	FILE IU	1	HNHLTZED	i HIVE	ILIZED !
1=				====			=====
11	A5367	1	>A4490	ł	11/22/93		
21	A5355	1	>A4492	t.	11/22/93	19:	
31	A5387	l	>A4493	I	11/22/93	19:	42
41_		_!	<u> </u>	1_	·	ـــــــا	1
51_		I		l _		l	1
61_		_1		1_		l	1
71		_		1_		l	1
81		1		1		t	
91		_		1		1	{
101		- ₁				1	
111		_,					
121		- i		i-		·	
131		_		— i -		1	
141		- <u>;</u>				1	·
151		-;		;-		`	i
				; -			i
		-;		<u>'</u>		' 	;
181		-¦	· · · · · · · · · · · · · · · · · · ·	¦		' 	i
_		;		;-		1	 ;
201		-:		:-		'	 :
	· · ·	-¦		—;-	······································	` 	¦
		-¦		¦-		<u> </u>	
_		-¦				¦	 ¦
271		-¦		¦-		¦	!
		-!	· 	¦-		<u> </u>	!
251		_'				1	}

	00055
COMMENTS:	
	·

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER Water MATRIX SAMPLE NUMBER BLANK 1.00 DILUTION FACTOR 112293 METHOD BLANK CLIENT ID QA BATCH DATA FILE >A4489 DATE ANALYZED COMPOUND COMPOUND UG/L MDL #32222222 50 ND 10 ND 2-Chloroethulvinulether Acrolein Acrylonitrile ND 50 2-Hexanone ND 10 5 10 trans-1,3-Dichloropropene ND Chloromethane ND Bromomethane ND 10 5 To luene ND 5 Vinul Chloride ND 10 cis-1.3-Dichloropropene ND Chloroethane ND 10 1,1,2,2-Tetrachloroethane ND 5 5 Acetone ND 10 1,1,2-Trichloroethane ND 1,1-Dichloroethene 5 4-Methyl-2-pentanone 10 ND ND Carbon Disulfide 10 Tetrachloroethene 5 ND ND 5 Methylene Chloride ND Dibromochloromethane ND 1.2-Dichloroethene(trans) ND 5 Chlorobenzene ND 1,1-Dichloroethane 5 5 ND Ethylbenzene ND 5 5 ND m&p-Xvlenes Vinul Acetate 5 2-Butanone ND 10 o-Xylene ND Chloroform ИD 5 Sturene ND 1,1,1-Trichloroethane ND 5 Bromoform ND Carbon Tetrachloride ND m-Dichlorobenzene ND 5 1,2-Dichloroethane ND p-Dichlorobenzene ND

SURROGATE COMPOUNDS	* RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	97.3	76 - 114	OK .
To luene-d8	99.5	88 - 110	OK
Bromofluorobenzene	102	86 - 115	OK

5

5

o-Dichlorobenzene

Methol Tertiary Butyl Ether

Tertiary Butyl Alcohol

Benzene

Trichloroethene

1,2-Dichloropropane

Bromodichloromethane

ND

ND

ND

ND

5

10

50

ND

ND

⁽J) Indicates detected below MDL

⁽B) Indicates also present in blank

⁽ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

(q/mL) ml

BLANK Lab Name: 21st Century Environmental Contract: N/A

Case No.: N/A

SAS No.: N/A

SDG No.: N/A

Matrix: (soil/water) WATER

Lab Sample ID: BLANK

Sample wt/vol:

Lab File ID:

>A4489

Lab Code:

Level: (low/med) LOW

Date Received: NA

Date Analyzed: 11/22/93

% Moisture: NΑ Column: DB-624

Dilution Factor:

CONCENTRATION UNITS

Number TICs found:

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

I CAS NUMB	 ER	COMPOUND NAME		ا RT ! ======ا			
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FORM I VOA-TIC

1/87 Rev.

QUANT REPORT

Quant Rev: 6 Operator ID: MANAGER Quant Time: 931123 08:43 Output File: ^A4489::D1 Injected at: 931122 17:28

Dilution Factor: 1.00000

Data File: >A4489::D3 Name: BLANK

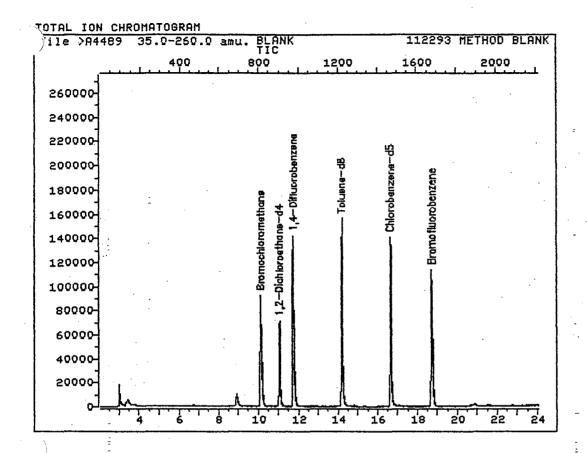
Misc: 112293 METHOD BLANK 5ml

ID File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931123 08:42

Compound	R.T.	Scan#	Area	Conc	Units	9
1) *Bromochloromethane 23) 1,2-Dichloroethane-d4 24) *1,4-Difluorobenzene	10.11 11.03	808 901 971	58724 118764 290810	50.00 48.64 50.00	UG/L UG/L UG/L	100
33) Toluene-d8 35) *Chlorobenzene-d5	14.16 16.64	1216 1465	280870 212005	49.77 50.00	UG/L UG/L	100
48) Bromofluorobenzene	18.72	1675	114617	51.14	UG/L	100

Compound is ISTD



Data File: >A4489::D3

Name: BLANK

Misc: 112293 METHOD BLANK

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931123 08:42

Operator ID: MANAGER

Quant Time: 931123 08:43 Injected at: 931122 17:28

00069

Quant Output File: ^A4489::D1

5ml

VOLATILE METHOD BLANK SUMMARY

Lab Name: 21st CENTURY ENVIRONMENTAL INC.

Contract No.:

Lab Code:

Case No:

SAS No.:

SDG No.:

LAB ID FILE (BLANK): >A4479

DATE ANALYZED: 11/19/93

INSTRUMENT ID: A

TIME ANALYZED: 16:54

Matrix: SOIL Level:(low/med) LOW

Column: (pack/cap)

Sample ID: MeOH BLK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

						•
ı	LAB		ī	LAB	1	I DATE I TIME
1	SAMPLE	ID	ı	FILE ID	- 1	I ANALYZED I ANALYZED
1 =			===		==	
11	A5364		l	>A4481	1	11/19/93 17:59
21	A5365		l	>A4483	1	11/19/93 19:04
31	A5368		I	>A4484	i	11/19/93 19:37
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			!	·	—!	!
211.	· · · · · · · · · · · · · · · · · · ·		!		<u>!</u>	<u> </u>
221.			!		!	!
-		·	!-		!	
241			!		—!	<u> </u>
251			1		- 1	

COMMENTS:	
-	

21st Century Environmental Inc. VOLATILE ORGANIC ANALYSIS DATA

 JOB NUMBER
 MATRIX
 Water

 SAMPLE NUMBER
 MeOH BLK
 DILUTION FACTOR
 1.00

 CLIENT ID
 EXTRACTION BLANK
 QA BATCH

 DATA FILE
 >A4479
 DATE ANALYZED
 11/19/93

COMPOUND	. UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrilë	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	18	Toluene	ND	. 5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	NĐ	18	1,1,2,2-Tetrachloroethane	· ND	5
Acetone	. 16 B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	. ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	ND	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	. 5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	. ND	5
Chloroform :	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	. 5
Carbon Tetrachloride	ND	. 5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	. 50
Bromodichloromethane	ND	5	· ·		

SURROGATE COMPOUNDS	* RECOVERY	<u>LIMITS</u>	STATUS
1,2-Dichloroethane-d4	97.2	76 - 114	OK
To luene-d8	96.5	88 - 110	0K
Bromofluorobenzene	104	-86 - 115	OK

⁽J) Indicates detected below MDL

⁽B) Indicates also present in blank

⁽ND) Indicates compound not detected

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

I MeOH BLANK

Lab Name: 21st Century Environmental Contract: N/A

Lab Code:

Case No.: N/A

SAS No.: N/A

SDG No.: N/A

Matrix: (soil/water) SOIL

Lab Sample ID: EXTRACT. BLANK

Sample wt/vol:

5

(q/mL)q

Lab File ID:

>A4479

Level: (low/med) LOW

Date Received: NA

Date Analyzed: 11/19/93

Column: DB-624

% Moisture: NA

Dilution Factor:

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

Number TICs found:

01.10 (10.100.1	I COMPOUND NAME		EST. CONC.	
	_ No Unknowns	.	1	
·		.	1	

FORM I VOA-TIC

QUANT REPORT

Operator ID: MANAGER Output File: ^A4479::D1 Data File:

>A4479::D3

Name: MeOH BLK

Misc: EXTRACTION BLANK

Quant Time: Quant Rev: 6 931119 17:22

931119 16:54 Injected at:

Dilution Factor: 1.00000

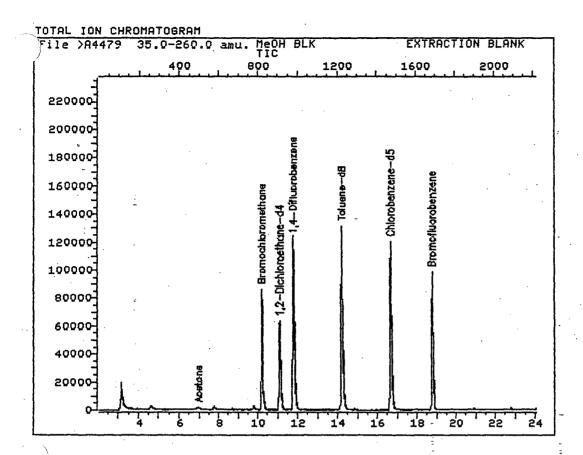
100ul

ID File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

	Compound	R.T.	Scan#	Area	Conc	Units q
1) 9)	*Bromochloromethane Acetone	10.19	820 494	53558 8677	50.00 15.75	UG/L 100 UG/L 91
	1,2-Dichloroethane-d4 *1,4-Difluorobenzene	11.10 11.77	911 979	108132 262147	48.61 50.00	UG/L 100 UG/L 100
33)	Toluene-d8 *Chlorobenzene-d5 Bromofluorobenzene	14.20 16.66 18.76	1223 1471 1682	239002 178711 101099	48.24 50.00 51.91	UG/L 100 UG/L 100 UG/L 100

Compound is ISTD



Data File: >A4479::D3

Name: MeOH BLK

Misc: EXTRACTION BLANK

Id File: ID0127::M1

Title: USEPA 624 VOLATILES Last Calibration: 931119 16:46

Operator ID: MANAGER

Quant Time: 931119 17:22 Injected at: 931119 16:54 Quant Output File: ^A4479::D1

100ul

Report of Analysis

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

Client: U.S. Army

DPW, SELFM-DP-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1325.1-.6

Sample Rec'd: 11/10/93

Analysis Start: 11/12/93

Analysis Comp: 11/12/93

Analysis: 418.1 (TPH)

Matrix: Soil

Analyst: S. Hubbard

Ext. Method: SONC.

NJDEPE UST Reg.#: 81533-212

Closure #:

DICAR #: 93-11-9-0923-00

Location #: Bldg. # 600

Lab ID.	Description	%Solid	Result (mg/K	
1325.1	Site A, 7 - 7.5' hNu = 18.	87	13000.	129
1325.2	Site B, 7 - 7.5' hNu = 5.	78	1020.	6.6
1325.3	Site C, 7 - 7.5' hNu = 10.	87	2600.	46.
1325.4	Site D, 7 - 7.5' hNu = 7.	88	4020.	46.
1325.5	Site E, 7 - 7.5' hNu = 12.	85	2480.	46.
1325.6	Site F, 7 - 7.5' hNu = 20.	86	7200.	46.
M. BL.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added

1324.3 Dup. = 82% 1324.3 Spike= 90% 1324.3 Spike Dup.= 88% RPD: 97%

Brian K. McKee

Laboratory Director



				P.O.	#:	PUS	-0	07									I	Chain	σF	Custod	y :
Project #: //			Samp	ler:/	· /a				Date				Ana							Star	t:
Customer C. Applely			Sampler: (1) Site Name: Bldg. 600 UST # 81533 - 212			11/19/9						/-/	7-	7/		Fini	sh:				
Phone: 又分6,	<i>3</i> 34		1					-0923-	oo		/:		1							Prese	rvation Method
ab Sample ID Number	Date/	Time	Cu: Loca	stome tion/	er Sa 10 h	ample Kumber		Sample Matrix	# of Bottles	5		2/0/2			/ /	/ /	Th		Re	marks	
1325.1	11/0/93	1432	Site	Ĥ -	7-	7,51		Soil	1		X	X	X				8.0	,			
.2		1434	Site	B -	7 -	7.51		50,1	(X	メ	X				5,0				
.3	-	1436	Site	0	7-	7,5'		Soil	1		X	¥	X			1	0.0			·	
, 4		1438	Site	Δ	7	7.5 '		Sail	1		X	メ	X			;	0	Kept	- 24	°C	
1,5		1425	Site	٤	7-	7.5		Szil	/		X	乂	X			1	20				
1.6		1428	Site		>-	7.5'		Sai'/	<u> </u>		У	ソ	マ]	0,0				
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Relinquisted	Bg (s	ignatu	re)	Date 11/0/2	/.	ime F	Rec	eived f	or Lab	by by	ونة> البير	gnat	ure): [)			7 Tin 13 153			
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FAI-ENV COC 1	Form D	11			Ė.	oage _		(ci			Page	?s	. —	Re	v. F	i [lat	e: U2	Hpr	93	

PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	✓	,
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		<u> </u>
3. IR Spectra submitted for standards, blanks, & samples 4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	_ _Y	<u> </u>
5. Extraction holding time met. (If not met, list number of days exceeded for each sample	e)	
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		<u> </u>
Comments:		

Laboratory Authentication Statement

<u>ځ.</u>

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.

Laboratory Manager

1324. 70 MU (dil 7) 13 MV 1325.3 114AU & 27) 1325,5 106 (dil7) 1325.6 1326-1 13MV GMV

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1322.1 253MU 37 MJ 57(di)7) 1322.4 191 MV 1322.5 1323.1 125MV 278 UV

201MV

PRINTED IN U.S.A.

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

Client: U.S. Army

DEH, SELFM-EH-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1325.1-.6

Sample Rec'd: 11/10/93

Analysis Start: 11/11/93 Analysis Comp: 11/11/93

Analysis: Munsel

Lab ID#	Soil Color
1325.1	2.5Y 4/4 Olive Brown
1325.2	2.5Y 4/4 Olive Brown
1325.3	2.5Y 4/4 Olive Brown
1325.4	2.5Y 4/4 Olive Brown
1325.5	5Y 4/4 Olive
1325.6	5Y 5/3 Olive

Brian K. McKee Laboratory Director

Rage 182 2 33.75 - 65.7 - 65.7 - 135 - 135 -

<i></i>						<u> </u>	<u> </u>
Sample	Ext. Amt.	MW	Conc.	Mg/Kg	W.Wt.	D.Wt.	&S_
1322.1	10	253	1108.5	1,154.3 ·	5.810	5,474	94
.2	30	37	15.4	52.8.	5.246	5.090	. 97
.3	30	(Jul7) 57	23.9	595.3	6.100	5.741	.94
.4	30	112	47.7	172.3	7.371	6.793	GP.
.5	<i>3</i> 0	191	81.8	293.1-	7.952	7.424	.93
1323 .]	5	125	53.3	1, 254.3	4.567	6.419	.85
1,2	.5	a78	119.3	2,840.1	6.252	5.853	.84
.3	5	ND			5,227	4.487	,80
1/04	5	207	88.7	2,136.6	8.128	6.781	,83
1324.1	30	6 AV	4:23	7,7/ H.37	5.664	4.862	·86·
a	30	76	40,4	784.5 1070.4	6.197	5.455	.98
Dup.	30	7 ,	8290	9.39,97			86
Spk . 1	30	96	i	(158)			7
bup Spk	30	94		154 888 / 973			K
.3	10	13	60.1	7	5.264	4.379	.83
1.4	10	(dil 7)	4034.	7	4.970	4,359	.48
1325.1	10	2 (die 13)	12862 1 6738. -	ラ	6.331	5.483	.87
- 1 - 2	15	277	1015.	7	5.739	4.503	.78
		~22	25	*			

FT. MONMOUTH OFFICE E-SYSTEMS, INC. • P. O. BOX 369, BUILDING 1209 • FT. MONMOUTH, NEW JERSEY 07703-5000 • (201) 544-0995

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: UST Program

Bldg. 600

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
600-1/7'	1658401	Soil	15-Nov-01 13:00	11/15/01
600-2/7'	1658402	Soil	15-Nov-01 13:15	11/15/01
600-3/7'	1658403	Soil	15-Nov-01 13:30	11/15/01
600-4/7'	1658404	Soil	15-Nov-01 13:40	11/15/01
600-5/7'	1658405	Soil	15-Nov-01 13:50	11/15/01
FD/7'	1658406	Soil	15-Nov-01	11/15/01

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY RESULTS

> Daniel Wright/Date-Laboratory Director

Table of Contents

Section	Pages
Method Summary	1
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Blank Spike Summary	4
Initial Calibration Summary	5
Continuing Calibration Summary	6-9
Surrogate Results Summary	10
MS/MSD Results Summary	11-12
Raw Sample Data	13-26
Laboratory Deliverable Checklist	27
Laboratory Authentication Statement	28

Method Summary

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

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No. N/A
1.	Method Detection Limits provided.	- 100, 100, 100 - 100 S
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	<u>ou</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 2.
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	1 105
5 .	IR Spectra submitted for standards, blanks and samples.	_NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>405</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	- Yes
Addii	tional comments:	
	11-30-01	
Labo	oratory Manager Date	·



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: D. D.		Project No:	02-125	539				Anal	ysis I	aram	eters			Comments:	
Phone #: 12/47)		Location: E	Location: BLDG. 600				τ	Z						Cal. # Z. HNK
()DERA ()OMA (Other:		FORMER				Q A	٩							O.K (NO
Samplers Name / Cor	mpany: MARK	LAURA-T	VS-PWS	Sample	#	>0<+10	トムエリ	Ma UHO						OTE MO	
Lims Sample I.D.	Sample Lo	cation	Date	Time	Туре	bottles	15	Ĵ	ō						Remarks / Preservation Method
1 1105,84 01	600 - 1	7'	11-15-01	1300	SOIL.	1		X	X						
Q)	600 - 2	7′	10	1315	15	11		X	X						
03	600 - 3	7'	١(1330	LI	11		×	×						
04	600 - 4	7'	ч	1340	11	. (1		ン	X						
05	600 - 5	7′	α.	1350	17	lt		X	X						
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Relinquished by (signatur	te/Time:	// // //			quished by (signature):				Date/Time: Rec		Receiv	eived by (signature):			
Report Type: ()Full, ()Reduced, ()Standard, ()Screen / non-certified, ()EDD Remarks: Turnaround time: ()Standard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.															

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

Client:

U.S. Army

Project #:

16584

DPW. SELFM-PW-EV

Location:

Bldg. 600

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted :

19-Nov-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1658401	600-1	1.00	15.36	90.08	164	ND
1658402	600-2	1.00	15.62	89.02	163	ND
1658403	600-3	1.00	15.01	87.53	172	ND
1658404	600-4	1.00	15.21	84.53	176	ND
1658405	600-5	1.00	15.47	89.78	163	381.15
1658406	F.D.	1.00	15.74	91.06	158	ND
			_			
			···········			
						
	·					
	 	 				
	:	 				
METHOD BLANK	MB-2639	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

/ II \

5		100 10		3656.D 3657.D	50	="	r013654	4.D		
	Compound		5		50	20		-		%RSD
1) tC	C8 C10 C12 C14 C16 C18 C20 C22 C24 C26 C28 C30		1.744	1.887	1.886	1.754	1.738	1.802	E4	4.30
	C10		2.003	2.147	2.126	1.965	2.057	2.060	E4	3.79
3) TC	C12		2.113	2.213	2.208	2.156	2.083	2.155	E4	2.66
4) tC	C14		2.299	2.326	2.324	2.268	2.306	2.305	E4	1.02
5) tC	C16		2.493	2.384	2.406	2.366	2.379	2.406	E4	2.12
6) tC	C18		2.560	2.472	2.471	2.394	2.508	2.481	E4	2.44
7) tC	C20		2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
	C22		2.749	2.537	2.572	2.524	2.557	2.588	E4	3.55
√9) tC	C24		2.833	2.572	2.606	2.557	2.595	2.633	E4	4.31
•	C26		2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
•	C28		2.766	2.550	2.598	2.549	2.569	2.606	E4	3.51
12) tC	C30		2.816	2.620	2,673	2.602	2.581	2.658	E4	3.56
13) tC	C32		2.764	2.603	2.654	2.589	2.613	2.645	E4	2.69
14) tC	C34		2.766	2.589	2.631	2.5/3	2.599	2.632	E4	2.97
15) tC	C36		2.763	2.655	2,663	2.622	2.627	2.666	E4	2.14
16) tC	C38		2.526	2.460	2.422	2.425	2.430	2.453	E4	1.79
17) tC	C40		2.197	2.275	2.148	2.199	2.178	2.199	E4	2.14
18) tC	C42		1.886	2.124	1.935	1.972	1.902	1.964	E4	4.86
19) TC	Pristane		2.536	2.306	2.402	2.282	2.379	2.381	E4	4.20
20) TC	C32 C34 C36 C38 C40 C42 Pristane Phytane		2.753	2.4/6	2.516	2.487	2.554	2.557	E4	4.43
21) sC	o-terphenyl TPHC - total		2.654	2.507	2.538	2.504	2.538	2.548	E4	2.41
2) tC	TPHC - total		3.562	2.604	2.659	2.739	2.933	2.899	£4	13.48

Data File : C:\HPCHEM\1\DATA\011119\T013807.D

Vial: 100

Acq On : 19 Nov 2001 11:20 am
Sample : Tstd050
Misc : Tstd050

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

: TPHCINT.E IntFile

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 2 3	tC tC TC	C8 C10 C12	18.019 20.595 21.549	20.649 E3 22.791 E3 22.973 E3	-14.6 -10.7 -6.6	109 107 10 4	-0.03 0.00 0.00
4	tC tC	C14 C16	23.048	23.409 E3 24.122 E3	-1.6 -0.3	101 100	0.00
6 7 8	tC tC tC	C18 C20 C22	24.812 24.684 25.878	24.021 E3 24.373 E3 25.638 E3	3.2 1.3 0.9	97 98 100	0.00 0.00 0.00
9	tC tC	C24 C26	26.326 26.702	25.916 E3 26.194 E3	1.6 1.9	99 99	0.00
	tC tC	C28 C30	26.061 26.583 26.447	25.765 E3 26.469 E3 26.266 E3	1.1 0.4 0.7	99 99 99	0.00 0.00 0.00
14	tC tC	C32 C34 C36	26.317	26.143 E3 27.081 E3	0.7 -1.6	99 102	0.00
	tC	C38 C40	24.528 21.994 19.638	25.796 E3 24.627 E3 23.151 E3	-5.2 -12.0 -17.9	106 115 120	0.00 0.00 0.00
8 9 20	tC TC TC	c42 Pristane Phytane	23.812 25.573	22.692 E3 25.364 E3	4.7 0.8	94 101	0.00 0.00
21 22	sC tC	o-terphenyl TPHC - total	25.484 28.994	25.624 E3 27.732 E3	-0.5 4.4	$\begin{array}{c} 101 \\ 104 \end{array}$	0.00 1.46#

Data File : C:\HPCHEM\1\DATA\011119\T013818.D

Acq On : 19 Nov 2001 5:51 pm Sample : Tstd050s

Vial: 7
Operator: Skelton
Inst : GC/MS Ins

Misc : IntFile : TPHCINT.E

Multiplr: 1.00

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
2		C8 C10	18.019 20.595 21.549	20.912 E3 22.414 E3 23.381 E3	-16.1 -8.8 -8.5	111 105 106	-0.05 -0.01 0.00
3 4 5		C12 C14 C16	23.048 24.057	23.883 E3 24.693 E3	-3.6 -2.6	103 103	0.00
6	tC tC	C18 C20	24.812 24.684	26.500 E3 25.423 E3	-6.8 -3.0	107 103	0.00
8 9		C22 C24	25.878 26.326	26.184 E3 26.479 E3	-1.2 -0.6	102 102	0.00 0.00
11	tC tC	C26 C28	26.702 26.061	26.760 E3 26.296 E3	-0.2 -0.9	102 101	0.00
	tC tC tC	C30 C32 C34	26.583 26.447 26.317	26.999 E3 26.755 E3 26.612 E3	-1.6 -1.2 -1.1	101 101 101	0.00 0.00 0.00
15	tC tC	C36 C38	26.661 24.528	27.616 E3 26.472 E3	-3.6 -7.9	104 109	0.00
17 8	tC tC	C40 c42	21.994 19.638	25.435 E3 24.573 E3	-15.6 -25.1#	118 127	-0.01 0.00
29 20 21 22	TC TC sC tC	Pristane Phytane o-terphenyl TPHC - total	23.812 25.573 25.484 28.994	24.480 E3 25.715 E3 26.074 E3 28.595 E3	-2.8 -0.6 -2.3 1.4	102 102 103 108	0.00 0.00 0.00 0.51#
44	LL	Tric cocar	20.001			-00	0.51

Data File : C:\HPCHEM\1\DATA\011119\T013829.D
Acq On : 19 Nov 2001 11:54 pm Operator: Skelton Sample

Misc

: Tstd050s

Inst : GC/MS Ins Multiplr: 1.00

Vial: 18

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

		Compound		AvgRF	CCRF		%Dev	Area%	Dev(min)
1	tC	C8		18.019	21.396	E3	-18.7	113	-0.06
2	tC	C10		20.595	23.520		-14.2	111	-0.01
3	TC	C12		21.549	23.599	E3	-9.5	107	0.00
4	tC	C14		23.048	24.254	E3	-5.2	104	0.00
5	tC	C16		24.057	24.923	E3	-3.6	104	0.00
6	tC	C18		24.812	24.957		-0.6	101	0.00
7	tC	C20	•	24.684	25.776	E 3	-4.4	104	0.00
8	tC	C22		25.878	26.537		-2.5	103	0.00
9	tC	C24		26.326	26.812	E3	-1.8	103	0.00
10	t C	C26		26.702	27.049	E3	-1.3	103	0.00
11	tC	C28	• •	26.061	26.689	E3	-2.4	103	0.00
12	tC	C30		26.583	27.596		-3.8	103	0.00
13	tC	C32	-	26.447	27.128		-2.6	102	0.00
14	tC	C34		26.317	26.996		-2.6	103	0.00
15	tC	C36		26.661	28.071		-5.3	105	0.00
16	tC	C38		24.528	26.803		-9.3	111	0.00
17	tC	C40	_	21.994	25.904		-17.8	121	0.00
18	tC	c42		19.638	25.406		-29.4#	131	0.00
19	TC	Pristane		23.812	24.377		-2.4	101	0.00
20	TC	Phytane		25.573	26.222		-2.5	104	0.00
21	sC	o-terphenyl		25.484	26.413		-3.6	104	0.00
22	tC	TPHC - total		28.994	29.521	E3	-1.8	111	1.45#

Data File: C:\HPCHEM\1\DATA\011119\T013840.D

Vial: 29

Acq On : 20 Nov 2001 5:56 am Sample : Tstd050s Operator: Skelton Sample Inst : GC/MS Ins Multiplr: 1.00 Misc

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Multiple Level Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	21.151 E3	-17.4	112	-0.05
2	tC	C10	20.595	22.359 E3	-8.6	105	-0.01
3	TC	C12	21.549	23.393 E3	~8.6	106	0.00
4	tC	C14	23.048	23.788 E3	-3.2	102	0.00
5	tC	C16	24.057	24.483 E3	-1.8	102	0.00
6	tC	C18	24.812	24.651 E3	0.6	100	0.00
7	tC	C20 ·	24.684	25.098 E3	-1.7	101	0.00
8	tC	C22	25.878	25.962 E3	-0.3	101	0.00
	tC	C24	26.326	26.272 E3	0.2	101	0.00
10	tC	C26	26.702	26.516 E3	0.7	101	0.00
11	tC	C28	26.061	26.090 E3	-0.1	100	0.00
12	tC	C30	26.583	26.802 E3	-0.8	100	0.00
13	tC	C32	26.4 4 7	26.556 E3	-0.4	100	0.00
14	tC	C34	26.317	26.433 E3	-0.4	100	0.00
15	tC	C36	26.661	27.462 E3	-3.0	103	0.00
16	tC	C38	24.528	26.273 E3	-7.1	108	0.00
17	tC	C40	21.994	25.371 E3	-15.4	118	-0.01
18	tC	c42	19.638	25.059 E3	-27.6#	129	0.00-
)	TC	Pristane	23.812	23.910 E3	-0.4	100	0.00
ó کے	TC	Phytane	25.573	24.771 E3	3.1	98	0.00
21	sC	o-terphenyl	25.484	25.800 E3	-1.2	102	0.00
22	tC	TPHC - total	28.994	29.430 E3	-1.5	111	0.51#

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

Client:

U.S. Army

Project #:

16584

DPW. SELFM-PW-EV

Location:

Bldg. 600

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1658401			10.00	9.98	99.83
1658402			10.00	10.32	103.20
1658403			10.00	10.18	101.80
1658404			10.00	10.16	101.58
1658405			10.00	10.45	104,47
1658406			10.00	10.31	103.12
		_			
	1				
		 			
	 	 			
	 				
	+	 			
METHOD BLANK	MB-2639		10.00	11.50	114.96

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16584

DPW. SELFM-PW-EV

Location:

Bldg. 600

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

Extraction Method:

19-Nov-01

Inst. ID. Column Type: GC TPHC INST. #1

RTX-5, 0.32mm ID, 30M

Analysis Complete:

Shake 19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Amount (ppm) Recovery		QC Limits %	
1658101MS	1000	0.00	924.80	92.48	75-125	
1658101MSD	1000	0.00	920.81	92.08	75-125	

RPD	0.43	20.00

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

Client:

U.S. Army

Project #:

16584

DPW. SELFM-PW-EV

Location:

Bldg. 600

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1 RTX-5, 0.32mm ID, 30M **Extraction Method:** Analysis Complete:

Shake 19-Nov-01

Column Type: Injection Volume:

1uL

Analyst:

Skelton

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-011108	19-Nov-01	1000	848.93	84.89	75-125

Quantitation Report (QT Reviewed)

Vial: 1

Data File : C:\HPCHEM\1\DATA\011119\T013808.D
Acq On : 19 Nov 2001 11:59 am
Sample : MB 2639
Misc : 19Nov01
IntFile : TPHCINT.E Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Quant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units

System Monitoring Compounds 21) sC o-terphenyl 21) sC o-terphenyl 12.45 292962 11.496 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 114.96%#

Target Compounds

Data File : C:\HPCHEM\1\DATA\011119\T013808.D

Vial: 1

Acg On : 19 Nov 2001 11:59 am

Operator: Skelton Inst : GC/MS Ins

Sample : MB 2639 Misc : 19Nov01

Multiplr: 1.00

IntFile : TPHCINT.E

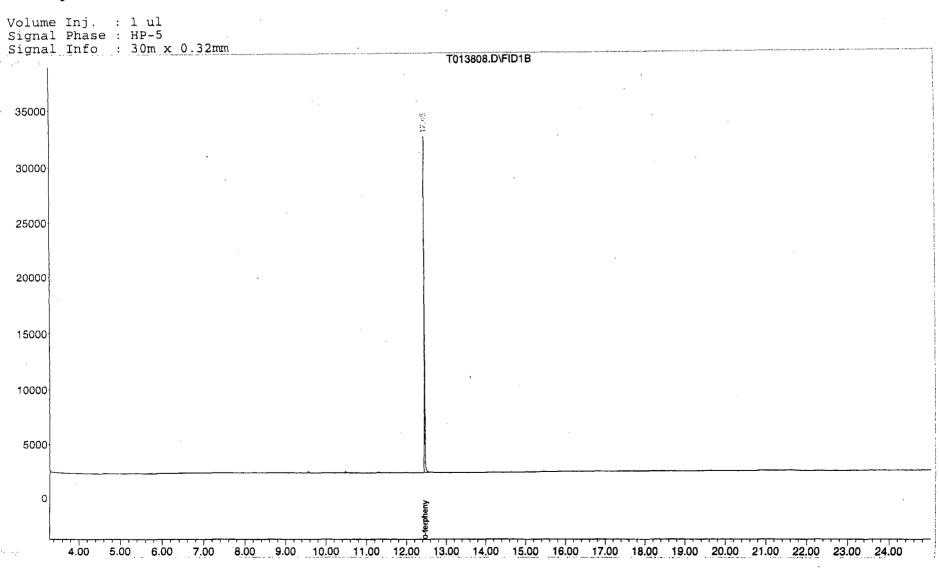
Quant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013827.D

Vial: 16

Acq On : 19 Nov 2001 10:48 pm Sample : 1658401s

Operator: Skelton

Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 19 23:13 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcg Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units

System Monitoring Compounds

12.45 21) sC o-terphenyl 254409 9.983 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 99.83%#

Target Compounds

Ouantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013827.D

Aca On : 19 Nov 2001 10:48 pm

Operator: Skelton Inst : GC/MS Ins : 1658401s

Misc

Sample

Multiplr: 1.00

Vial: 16

IntFile : TPHCINT.E

Ouant Time: Nov 19 23:13 2001 Ouant Results File: TPH95.RES

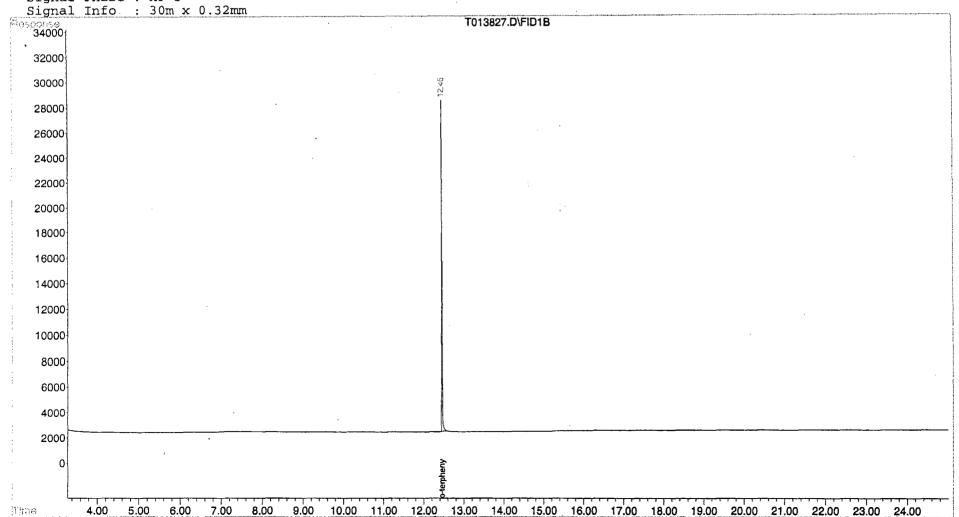
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013828.D

Vial: 17

Acq On : 19 Nov 2001 11:21 pm Sample : 1658402s

Operator: Skelton

Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 19 23:46 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound

R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 262987 10.320 mg/ Spiked Amount 10.000 Range 8 - 13 Recovery = 103.20%#

12.45

262987 10.320 mg/L

Target Compounds

Quantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013828.D

Acq On : 19 Nov 2001 11:21 pm

Operator: Skelton
Inst : GC/MS Ins.

Sample : 1658402s

Multiplr: 1.00

Vial: 17

IntFile : TPHCINT.E

Quant Time: Nov 19 23:46 2001 Quant Results File: TPH95.RES

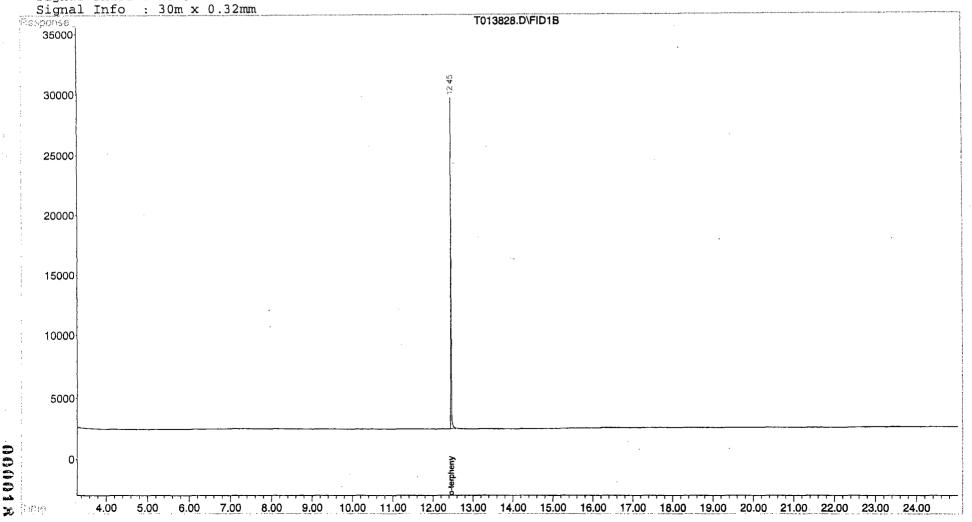
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013830.D

Vial: 19

Acq On : 20 Nov 2001 12:27 am Sample : 1658403s

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc IntFile : TPHCINT.E

Quant Time: Nov 20 0:52 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 259413 10.180 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 101.80%#

Target Compounds

res de la la 170 alla destinació

Ouantitatio port

Data File : C:\HPCHEM\1\DATA\011119\T013830.D

Aca On : 20 Nov 2001 12:27 am Operator: Skelton Inst : GC/MS Ins

Vial: 19

Sample : 1658403s Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 0:52 2001 Quant Results File: TPH95.RES

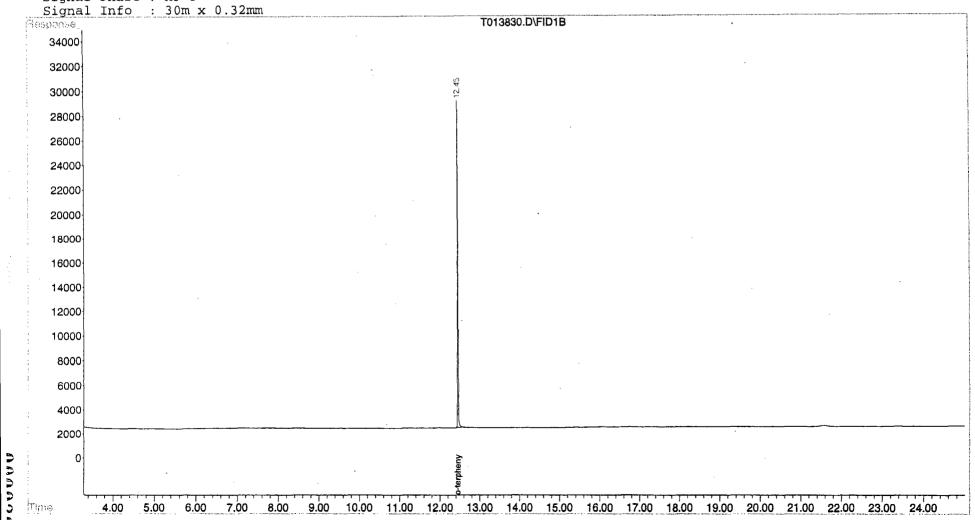
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013831.D

Vial: 20

Acq On : 20 Nov 2001 1:00 am Sample : 1658404s

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc: Multiplr
IntFile: TPHCINT.E
Quant Time: Nov 20 1:25 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Initial Calibration

DataAcq Meth : TPH95.M

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

Compound

R.T. Response

Conc Units

System Monitoring Compounds

21) sC o-terphenyl Spiked Amount

henyl 12.45 258859 10.158 mg/L 10.000 Range 8 - 13 Recovery = 101.58%#

Target Compounds

Ouantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013831.D ...

Vial: 20

: 20 Nov 2001 1:00 am Acq On

Operator: Skelton

Sample : 1658404s Inst : GC/MS Ins

Multiplr: 1.00

Misc

IntFile : TPHCINT.E

Quant Time: Nov 20 1:25 2001 Quant Results File: TPH95.RES

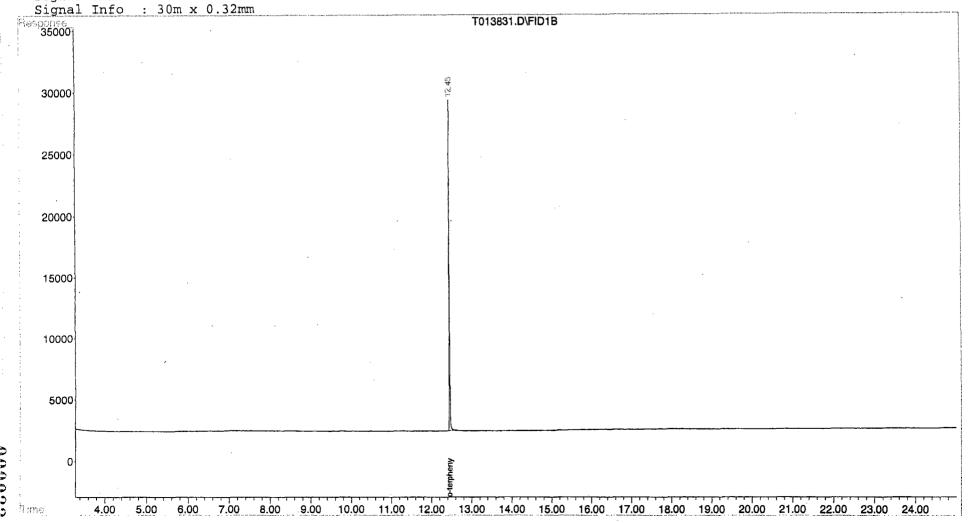
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013832.D

Vial: 21

Acq On : 20 Nov 2001 1:32 am Sample : 1658405s

Operator: Skelton

Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 26 9:56 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Compound Conc Units

System Monitoring Compounds

12.45 21) sC o-terphenyl 12.45 266231 10.447 mg/l Spiked Amount 10.000 Range 8 - 13 Recovery = 104.47%# 21) sC o-terphenyl 266231 10.447 mg/L

Target Compounds

(C) DM D-18- - 1/0 mi-An-

22) tC TPHC - total 12.45 3069763 105.876 mg/L m Quantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013832.D

Vial: 21

Acq On : 20 Nov 2001 1:32 am

Operator: Skelton

Sample : 1658405s

Inst : GC/MS Ins

Sample . 105

Multiplr: 1.00

Misc :

IntFile : TPHCINT.E

Ouant Time: Nov 26 9:56 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm T013832.D\FID1B Response 35000 30000 25000 20000 15000 10000 5000 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 5.00 6.00 7.00 8.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013833.D

Vial: 22

Acq On : 20 Nov 2001 2:05 am Sample : 1658406s Misc : IntFile : TPHCINT.E

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Iml-manual int

Quant Time: Nov 20 2:31 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 262792 10.312 mg/L 21) sC o-terphenyl 12.45 262792 10.312 mg/ Spiked Amount 10.000 Range 8 - 13 Recovery = 103.12%#

Target Compounds

Ouantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013833.D

Aca On : 20 Nov 2001 2:05 am Operator: Skelton Inst : GC/MS Ins

Vial: 22

Sample : 1658406s Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 2:31 2001 Quant Results File: TPH95.RES

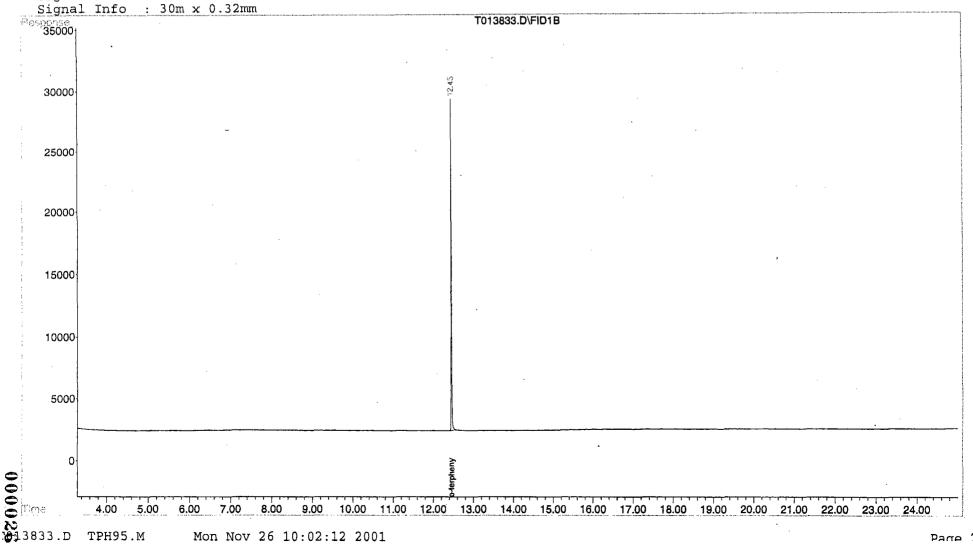
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

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

Laboratory Certification #13461

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-8 for Solid Waste Analysis. I have personally examined the information contained in report and to the best of my knowledge, I believe that the submitted information is to accurate, complete and meets the above referenced standards where applicable. I aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Blda. 600B

Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
1658501	Soil	15-Nov-01 10:25	11/15/01
1658502	Soil	15-Nov-01 10:50	11/15/01
1658503	Soil	15-Nov-01 11:15	11/15/01
1658504	Soil	15-Nov-01 11:35	11/15/01
1658505	Soil	15-Nov-01 11:49	11/15/01
1658506	Soil	15-Nov-01 12:00	11/15/01
1658507	Soil	15-Nov-01	11/15/01
	Sample ID# 1658501 1658502 1658503 1658504 1658505 1658506	Sample ID# 1658501 Soil 1658502 Soil 1658503 Soil 1658504 Soil 1658505 Soil 1658506 Soil	Sample ID# Of Collection 1658501 Soil 15-Nov-01 10:25 1658502 Soil 15-Nov-01 10:50 1658503 Soil 15-Nov-01 11:15 1658504 Soil 15-Nov-01 11:35 1658505 Soil 15-Nov-01 11:49 1658506 Soil 15-Nov-01 12:00

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

ENCLOSURE: **CHAIN OF CUSTODY** RESULTS

Daniel Wright/Date

Laboratory Director

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CHAIN OF CUSTODY

METHOD SUMMARY

Method Summary

NJDEP Method 8260 Gas Chromatographic Determination of Volatiles in Soil

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 is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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

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

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

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

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

CONFORMANCE-NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		Indicate Yes, No, N/A
1.	Chromatograms labeled/Compounds identified (Field samples and method blanks)	yes
2.	Retention times for chromatograms provided	yes_
3.	GC/MS Tune Specifications	•
	a. BFB Meet Criteria b. DFTPP Meet Criteria	Yes NA
4.	GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	yes
5.	GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	Jes
6.	GC/MS Calibration requirements	
	 a. Calibration Check Compounds Meet Criteria b. System Performance Check Compounds Meet Criteria 	yes yes
7 .	Blank Contamination – If yes, List compounds and concentrations in each blank:	yes_
	a. VOA Fraction 13DCB407, 14DCB385, 1,2DCB485 b. B/N Fraction N/A c. Acid Fraction N/A	•
8.	Surrogate Recoveries Meet Criteria	yes
	If not met, list those compounds and their recoveries, which fall outside the acceptable range:	,
	a. VOA Fraction b. B/N Fraction c. Acid Fraction A)A	
	If not met, were the calculations checked and the results qualified as "estimated"?	
9.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	yes
	a. VOA Fraction	
	b. B/N Fraction UA 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	NO
	(If not met, list those compounds, which fall outside the acceptable range)	
	a. VOA Fraction 153 high veryou ox	
	b. B/N Fraction NA	
	c. Acid Fraction NA	
11.	Extraction Holding Time Met	NA
	If not met, list the number of days exceeded for each sample:	
12.	Analysis Holding Time Met	yes
	If not met, list the number of days exceeded for each sample:	
Add	litional Comments:	
Lab	oratory Manager: Date: 12-6-01	

TPHC Conformance/Non-conformance Summary Report

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

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16585

Site: Bldg. 600B

Hold Time Date **Date Sampled** 11/15/01 NA Receipt/Refrigeration NA 11/15/01 **Extractions** 1. TPHC 11/19/01 14 days **Analyses** 1. VOA 11/20,26/01 14 days 2. TPHC 11/19/01 40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL: Method Detection Limit

J: Compound identified below detection limit

B: Compound found in blank

D : Results are from a dilution of the sample
 U : Compound searched for but not detected
 E : Compound exceeds calibration limit

POL: Practical Quantitation Limit

NLE: No limit established RT: Retention time

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 20Nov01

Lab Name:	FMETL			NJDEP # 13461	
Project:	UST		Case No.: 16585	Location: 600B S	DG No.:
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	MB
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC007444.D
Level: (low/n	ned)	MED		Date Received:	11/15/01
% Moisture: r	not dec.	0 .		Date Analyzed:	11/20/01
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0
Soil Extract V	/olume:	25000	(ul.)	Soil Aliquot Volu	me: 125 /ul

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	υ
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	Ū
591-78-6	2-Hexanone	200	Ü
126-48-1	Dibromochloromethane	200	Ŭ
108-90-7	Chlorobenzene	100	Ü
100-30-7	Ethylbenzene	200	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 20Nov01 Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16585 Location: 600B SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: MB Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007444.D Level: (low/med) MED Date Received: 11/15/01 Date Analyzed: 11/20/01 % Moisture: not dec. 0 Rtx502.2 ID: 0.25 Dilution Factor: 1.0 GC Column: (mm) Soil Aliquot Volume: 125 Soil Extract Volume: 25000 (uL) (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or u	g/Kg) <u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	Ū

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

F	El	_D	ID.
_	_	_	

Lab Name:	FMETL			NJDEP	# 13461		IVID ZUIV	0001
Project:	UST	·	Case No.: <u>1658</u>	5Locat	ion: <u>600B</u>	_ SD	G No.:	
Matrix: (soil/	water)	SOIL		ı	ab Sample	D: <u>I</u>	МВ	
Sample wt/ve	ol:	10.0	(g/ml) <u>G</u>		ab File ID:	<u>\</u>	VC007444.D	
Level: (low/r	ned)	MED		. [Date Receiv	ved: _	11/15/01	
% Moisture:	not dec.	0		[Date Analyz	zed:	11/20/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	·	Dilution Fac	ctor:	1.0	
Soil Extract \	Volume:	25000	(uL)	5	Soil Aliquot	Volun	ne: <u>125</u>	(uL)
			•	CONCENTR	ATION UN	ITS:		
Number TICs	s found:	0		(ug/L or ug/K	g) <u>UG</u>	/KG		
CAS NO.		СОМР	OUND NAME		RT	ES1	r. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Q

MB26Nov01 Lab Name: **FMETL** NJDEP # 13461 Project: Case No.: 16585 Location: 600B UST SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: MB (g/ml) G Sample wt/vol: 10.0 Lab File ID: VC007463.D Level: (low/med) MED Date Received: 11/15/01 Date Analyzed: 11/26/01 % Moisture: not dec.

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

COMPOUND

CAS NO.

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

OAS NO.	COMI COME (ug/L of ug/Ng)	od/Nd	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	Ü
79-00-5	1,1,2-Trichloroethane	200	Ū
127-18-4	Tetrachloroethene	100	Ü
591-78-6	2-Hexanone	200	Ü
126-48-1	Dibromochloromethane	200	Ü
108-90-7	Chlorobenzene	100	Ü
100-41-4	Ethylbenzene	200	U
100-41-4	Luiyibelizelle	200	<u> </u>

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB26Nov01 Lab Name: **FMETL** NJDEP # 13461 Project: **UST** Case No.: 16585 Location: 600B SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: MB Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007463.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 0 Date Analyzed: 11/26/01 GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	40	J
106-46-7	1,4-Dichlorobenzene	38	J
95-50-1	1,2-Dichlorobenzene	48	j

1E

COMPOUND NAME

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

	1	/OLATI	LE ORGANICS A	ANALYSIS DATA	A SHEET	F	FIELD ID.	
Lab Name:	FMETL	TENT	TATIVELY IDEN	TIFIED COMPO NJDEP #	UNDS 13461		MB26Nov()1
Project:	UST		Case No.: 165	85 Locatio	n: 600B	SDG	No.:	
Matrix: (soil/v	water)	SOIL		La	b Sample II	D: <u>M</u>	В	·
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	La	b File ID:	VC	C007463.D	_
Level: (low/n	ned)	MED		Da	ite Receive	d: <u>11</u>	/15/01	_
% Moisture: r	not dec.	0		Da	ite Analyze	d: <u>11</u>	/26/01	_
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)	Dil	ution Facto	r: <u>1.0</u>	0	_
Soil Extract V	/olume:	25000	(uL)	So	il Aliquot Vo	olume	: 125	(uL)
Number TICs	s found:	0	· ·	CONCENTRA (ug/L or ug/Kg)			_	

EST. CONC.

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VOLATILE ORGANICS ANALYSIS DATA SHEET

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	-	LU		_

Lab Name:	FMETL			_ NJDEP # _13461	600B-1
Project:	UST		Case No.: 16585	Location: 600B S	DG No.:
Matrix: (soil/wa	ater)	SOIL		Lab Sample ID:	1658501
Sample wt/vol	:	9.7	(g/ml) <u>G</u>	Lab File ID:	VC007448.D
Level: (low/m	ed)	MED		Date Received:	11/15/01
% Moisture: no	ot dec.	16.11		Date Analyzed:	11/20/01
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0
Soil Extract Vo	olume: 2	25000	(uL)	Soil Aliquot Volu	me: <u>125</u> (u

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	860	U
107131	Acrylonitrile	860	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	370	U
108203	Di-isopropyl ether	250	U
75718	Dichlorodifluoromethane	490	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	370	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	250	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	1200	
156-60-5	trans-1,2-Dichloroethene	250	U
75-35-3	1,1-Dichloroethane	120	·U
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	250	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	250	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	250	Ū
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	120	U
591-78-6	2-Hexanone	250	Ū
126-48-1	Dibromochloromethane	250	Ū
108-90-7	Chlorobenzene	120	Ū
100-30-7	Ethylbenzene	250	Ü

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

			• •		600B-1	ı
_ab Name:	FMETL			NJDEP # 13461		
Project:	UST		Case No.: 16585	Location: 600B SI	OG No.:	
Matrix: (soil/	water)	SOIL		Lab Sample ID:	1658501	
Sample wt/v	ol:	9.7	(g/ml) G	_ Lab File ID:	VC007448.D	
_evel: (low/r	ned)	MED		Date Received:	11/15/01	
% Moisture:	not dec.	16.11	· .	Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract \	Volume:	25000	(uL)	Soil Aliquot Volum	me: <u>125</u> (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L	or ug/kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			370	U
1330-20-7	o-Xylene	-		250	כ
100-42-5	Styrene			250	U
75-25-2	Bromoform			250	U
79-34-5	1,1,2,2-Tetrachloroethane	9		250	U
541-73-1	1,3-Dichlorobenzene			370	Ú
106-46-7	1,4-Dichlorobenzene	·		370	U
95-50-1	1,2-Dichlorobenzene			370	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	FMETL			NJDEP	# 13461		600B-1	
Project:	UST		Case No.: 16585	Locat	ion: 600B	_ s	DG No.:	
Matrix: (soil/	water)	SOIL		l	_ab Sample	ID:	1658501	
Sample wt/vo	ol:	9.7	(g/ml) <u>G</u>	l	.ab File ID:		VC007448.D	
Level: (low/r	ned)	MED	· · · · · ·	. [Date Receiv	/ed:	11/15/01	
% Moisture:	not dec.	16.11			Date Analyz	ed:	11/20/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	í	Dilution Fac	tor:	1.0	
Soil Extract \	/olume:	25000	(uL)	9	Soil Aliquot	Volu	me: <u>125</u>	(uL)
Number TICs	s found:	3	•	ONCENTR				
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CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 004110-44-5	Octane, 3,3-dimethyl-	30.89	1500	JN
2. 000493-02-7	Naphthalene, decahydro-, trans-	33.66	1900	JN
3. 002958-76-1	Naphthalene, decahydro-2-methyl	34.95	1900	JN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

Lab Name:	FMETL			NJDEP # 13461	600B-2
Project:	UST		Case No.: 16585	Location: 600B SD	G No.:
Matrix: (soil/w	ater)	SOIL		Lab Sample ID: 1	658502
Sample wt/vol	l:	9.9	(g/ml) G	_ Lab File ID: \	/C007449.D
Level: (low/m	ed)	MED		Date Received: 1	1/15/01
% Moisture: n	ot dec.	18.02		Date Analyzed: 1	1/20/01
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor: 1	.0
Soil Extract Vo	olume:	25000	(uL)	Soil Aliquot Volum	ne: 125 (u

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	860	U
107131	Acrylonitrile	860	υ
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	370	U
108203	Di-isopropyl ether	250	U
75718	Dichlorodifluoromethane	490	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	370	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	250	Ū
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	250	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	660	
156-60-5	trans-1,2-Dichloroethene	250	υ
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	120	U
78 -87-5	1,2-Dichloropropane	120	U
75- 27- 4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	250	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	250	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	Ū
127-18-4	Tetrachloroethene	120	Ū
591-78-6	2-Hexanone	250	Ü
126-48-1	Dibromochloromethane	250	U
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	250	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL	· · · · · · · · · · · · · · · · · · ·		NJDEP # 13461	600B-2	
Project:	UST		Case No.: 16585	Location: 600B S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658502	
Sample wt/vo	ol:	9.9	(g/ml) G	_ Lab File ID:	VC007449.D	
Level: (low/n	ned)	MED		Date Received:	11/15/01	
% Moisture: r	not dec.	18.02		Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	ime: 125	(uL)

CAS NO.	COMPOUND (ug/L or ug/kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	370	U
1330-20-7	o-Xylene	250	U
100-42-5	Styrene	250	U.
75-25-2	Bromoform	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIEL	DID.
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Lab Name:	FMETL			NJDEP # 13461	600B-2	
Project:	UST		Case No.: 16585	Location: 600B S	DG No.:	
Matrix: (soil/w	/ater)	SOIL		Lab Sample ID:	1658502	
Sample wt/vo	d:	9.9	(g/ml) G	Lab File ID:	VC007449.D	
Level: (low/m	ned)	MED		Date Received:	11/15/01	
% Moisture: n	ot dec.	18.02		Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume: 2	25000	(uL)	Soil Aliquot Volu	me: <u>125</u>	(uL)

CONCENTRATION UNITS:

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

Number TICs found:	15	(ug/L or ug/kg) OG	/NG	
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	28.10	2100	J
2.	unknown	28.99	3500	J
3.	unknown	30.64	1600	J
4.	unknown	30.89	3200	J ·
5. 000108-67-8	Benzene, 1,3,5-trimethy	- 31.92	4400	JN
6. 001678-93-9	Cyclohexane, butyl-	32.17	2000	JN
7.	unknown	32.33	1800	J
8.	unknown	33.37	3300	J
9.	unknown	33.66	1900	J
10.	unknown	34.43	2900	J
11.	unknown	34.55	2700	J
12.	unknown	34.78	1900	J
13. 029949-27-7	n-Amylcyclohexane	34.85	4600	JN
14.	unknown	34.94	4600	J
15	unknown	35.28	1700	

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

VC007450.D

Lab Name: FMETL NJDEP # 13461 600B-4

Project: UST Case No.: 16585 Location: 600B SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1658504

(g/ml) G

Sample wt/vol:

10.4

Level: (low/med) MED Date Received: 11/15/01

% Moisture: not dec. 12.26 Date Analyzed: 11/20/01

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Lab File ID:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	770	U
107131	Acrylonitrile	770	U
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	330	U
108203	Di-isopropyl ether	220	U
75718	Dichlorodifluoromethane	440	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	330	U
74-83-9	Bromomethane	220	U
75-00-3	Chloroethane	330	U
<u>75-6</u> 9-4	Trichlorofluoromethane	220	U
75-35-4	1,1-Dichloroethene	110	U
67-64-1	Acetone	220	U
75-15-0	Carbon Disulfide	110	U
75-09-2	Methylene Chloride	360	
156-60-5	trans-1,2-Dichloroethene	220	U
75-35-3	1,1-Dichloroethane	110	U
108-05-4	Vinyl Acetate	330	<u> </u>
78-93-3	2-Butanone	330	U
····	cis-1,2-Dichloroethene	110	U
67-66-3	Chloroform	110	U
75-55-6	1,1,1-Trichloroethane	110	U
56-23-5	Carbon Tetrachloride	220	U
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	220	U
79-01-6	Trichloroethene	110	U
78-87-5	1,2-Dichloropropane	110	U
75-27-4	Bromodichloromethane	110	U
110-75-8	2-Chloroethyl vinyl ether	220	Ų
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-Ì	4-Methyl-2-Pentanone	220	U
108-88-3	Toluene	110	Ų
10061-02-6	trans-1,3-Dichloropropene	220	U
79-00-5	1,1,2-Trichloroethane	220	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	220	U
126-48-1	Dibromochloromethane	220	U
108-90-7	Chlorobenzene	110	U
100-41-4	Ethylbenzene	220	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP # 13461	600B-4	
Lab Hairio.	1 1416-1 6-				_	
Project:	UST		Case No.: 16585	Location: 600B S	DG No.:	
Matrix: (soil/w	vater)	SOIL		Lab Sample ID:	1658504	
Sample wt/vo	ol:	10.4	(g/ml) G	_ Lab File ID:	VC007450.D	
Level: (low/m	ned)	MED		Date Received:	11/15/01	
% Moisture: r	not dec.	12.26		Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	me: <u>125</u>	(uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			330	U
1330-20-7	o-Xylene			220	U
100-42-5	Styrene			220	U
75-25-2	Bromoform			220	U
79-34-5	1,1,2,2-Tetrachl	oroethane	- I	220	U
541-73-1	1,3-Dichloroben	zene		330	U
106-46-7	1,4-Dichloroben	zene	·	330	U
95-50-1	1,2-Dichloroben	zene		330	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

600B-4 Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16585 Location: 600B SDG No.: Lab Sample ID: 1658504 Matrix: (soil/water) SOIL 10.4 Sample wt/vol: (g/ml) G Lab File ID: VC007450.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 12.26 Date Analyzed: 11/20/01 Rtx502.2 ID: 0.25 GC Column: (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL) (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/KG

Number TICs found: 15

	, <u> </u>		, 	
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	28.51	2500	J
2.	unknown	28.99	3000	J
3.	unknown	29.40	2100	J
4	unknown	30.53	1400	J
5. 002847-72-5	Decane, 4-methyl-	30.89	2900	JN
6	unknown	31.92	2200	J
7.	unknown	32.03	1900	J
8.	unknown	32.17	2000	J
9.	unknown	32.81	1400	J
10.	unknown	33.37	2300	J
11.	unknown	33.66	1700	J
12.	unknown	34.44	2200	J
13.	unknown	34.78	1600	J
14. 004292-92-6	Cyclohexane, pentyl-	34.85	4200	JN
15.	unknown	34.95	5000	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP # 13461	600B-5
Project:	UST		Case No.: 16585	Location: 600B SD	G No.:
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658505
Sample wt/vo	ol:	9.6	(g/ml) G	_ Lab File ID:	VC007451.D
Level: (low/n	ned)	MED		Date Received:	11/15/01
% Moisture: r	not dec.	19.37		Date Analyzed:	11/20/01
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volun	ne: 125 (uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	900	U
107131	Acrylonitrile	900	U
75650	tert-Butyl alcohol	1700	U
1634044	Methyl-tert-Butyl ether	390	U
108203	Di-isopropyl ether	260	U
75718	Dichlorodifluoromethane	510	U
74-87-3	Chloromethane	130	U
75-01-4	Vinyl Chloride	390	U
74-83-9	Bromomethane	260	υ
75-00-3	Chloroethane	390	U
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	130	U
67-64-1	Acetone	260	U
75-15-0	Carbon Disulfide	130	U
75-09-2	Methylene Chloride	340	
156-60-5	trans-1,2-Dichloroethene	260	U
75-35-3	1,1-Dichloroethane	130	U
108-05-4	Vinyl Acetate	390	U
78-93-3	2-Butanone	390	U
	cis-1,2-Dichloroethene	130	U
67-66-3	Chloroform	130	U
75-55-6	1,1,1-Trichloroethane	130	· U
56-23-5	Carbon Tetrachloride	260	U
71-43-2	Benzene	130	· U
107-06-2	1,2-Dichloroethane	260	U
79-01-6	Trichloroethene	130	U
78-87-5	1,2-Dichloropropane	130	U
75-27-4	Bromodichloromethane	130	U
110-75-8	2-Chloroethyl vinyl ether	260	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-10-1	4-Methyl-2-Pentanone	260	U
108-88-3	Toluene	130	U
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	130	U
591-78-6	2-Hexanone	260	U
126-48-1	Dibromochloromethane	260	U
108-90-7	Chlorobenzene	130	Ū
100-41-4	Ethylbenzene	40	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD II)
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Lab Name:	FMETL			NJDEP # 13461	600B-5
Project:	UST .	· · · · · · · · · · · · · · · · · · ·	Case No.: 16585	Location: 600B SI	DG No.:
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658505
Sample wt/vo	oi:	9.6	(g/ml) G	Lab File ID:	VC007451.D
Level: (low/n	ned)	MED		Date Received:	11/15/01
% Moisture: r	not dec.	19.37		Date Analyzed:	11/20/01
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	me: <u>125</u> (uL

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			390	U
1330-20-7	o-Xylenė			260	U
100-42-5	Styrene			260	U
75-25-2	Bromoform			260	U
79-34-5	1,1,2,2-Tetrachl	oroethane		260	U
541-73-1	1,3-Dichloroben	zene		390	U
106-46-7	1,4-Dichloroben	zene		390	U
95-50-1	1,2-Dichloroben	zene		390	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

600B-5 Lab Name: NJDEP # 13461 **FMETL** Project: UST Case No.: 16585 Location: 600B SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1658505 Sample wt/vol: 9.6 (g/ml) G Lab File ID: VC007451.D Date Received: 11/15/01 Level: (low/med) MED % Moisture: not dec. 19.37 Date Analyzed: 11/20/01 Rtx502.2 ID: 0.25 GC Column: (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

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

Number TICs found: 15

		T		
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	28.10	3200	J
2.	unknown	28.52	4100	J
3	unknown	29.00	4000	J
4.	unknown	30.05	2700	J
5	unknown	30.53	2300	J
6. ·	unknown	30.65	2500	J
7. 002847-72-5	Decane, 4-methyl-	30.89	4800	Z
8.	unknown	31.93	3300	7
9. 001678-93-9	Cyclohexane, butyl-	32.17	3100	Z
10.	unknown	32.80	2700	7
11.	unknown	33.06	2300	7
12. 000645-10-3	1,7-Dimethyl-4-(1-methylethyl)cyc	33.29	2600	JN
13.	unknown	33.65	3200	7
14. 004292-92-6	Cyclohexane, pentyl-	34.85	5200	JN
15.	unknown	34.95	6600	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD	OI C
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600B-5 Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16585 Location: 600B SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1658505 Sample wt/vol: 9.6 (g/ml) G Lab File ID: VC007464.D Level: (low/med) **MED** Date Received: 11/15/01 % Moisture: not dec. 19.37 Date Analyzed: 11/26/01 GC Column: Rtx502.2 ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 25 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	4500	U
107131	Acrylonitrile	4500	Ú
75650	tert-Butyl alcohol	8400	U
1634044	Methyl-tert-Butyl ether	1900	U
108203	Di-isopropyl ether	1300	U
75718	Dichlorodifluoromethane	2600	U
74-87-3	Chloromethane	640	U
75-01-4	Vinyl Chloride	1900	υ
74-83-9	Bromomethane	1300	U
75-00-3	Chloroethane	1900	U
75-69-4	Trichlorofluoromethane	1300	Ù
75-35-4	1,1-Dichloroethene	640	U
67-64-1	Acetone	1300	U
75-15-0	Carbon Disulfide	640	U
75-09-2	Methylene Chloride	1300	U
156-60-5	trans-1,2-Dichloroethene	1300	U
75-35-3	1,1-Dichloroethane	640	U
108-05-4	Vinyl Acetate	1900	U
78-93-3	2-Butanone	1900	U
	cis-1,2-Dichloroethene	640	U
67-66-3	Chloroform	640	U
75-55-6	1,1,1-Trichloroethane	640	U
56-23-5	Carbon Tetrachloride	1300	U
71-43-2	Benzene	640	U
107-06-2	1,2-Dichloroethane	1300	U
79-01-6	Trichloroethene	640	U
78-87-5	1,2-Dichloropropane	640	U
75-27-4	Bromodichloromethane	640	U
110-75-8	2-Chloroethyl vinyl ether	1300	U
10061-01-5	cis-1,3-Dichloropropene	640	U
108-10-1	4-Methyl-2-Pentanone	1300	U
108-88-3	Toluene	640	U
10061-02-6	trans-1,3-Dichloropropene	1300	U
79-00-5	1,1,2-Trichloroethane	1300	U
127-18-4	Tetrachloroethene	640	U
591-78-6	2-Hexanone	1300	U
126-48-1	Dibromochloromethane	1300	U
108-90-7	Chlorobenzene	640	U
100-41-4	Ethylbenzene	1300	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

600B-5 Lab Name: **FMETL** NJDEP # 13461 Location: 600B Project: UST Case No.: 16585 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1658505 Sample wt/vol: 9.6 (g/ml) G Lab File ID: VC007464.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 19.37 Date Analyzed: 11/26/01 Rtx502.2 ID: 0.25 GC Column: (mm) Dilution Factor: 1.0 Soil Aliquot Volume: 25 Soil Extract Volume: 25000 (uL) (uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	· ·	190	0 U
1330-20-7	o-Xylene		130	0 U
100-42-5	Styrene		130	0 U
75-25-2	Bromoform		130	0 U
79-34-5	1,1,2,2-Tetrachlo	roethane	130	0 U
541-73-1	1,3-Dichlorobenz	ene	190	0 U
106-46-7	1,4-Dichlorobenz	ene	190	10 U
95-50-1	1,2-Dichlorobenz	ene	190	0 U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD	ID
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Lab Name:	FMETL		NJDEP	# 13461		600B-5	•
Project:	UST	Case No.: 1658		ion: 600B	SD	G No.:	<u></u>
Matrix: (soil/		SOIL		_ab Sample	_		
Sample wt/ve	ol:	9.6 (g/ml) G	<u>·</u>	_ab File ID:	<u>\</u>	/C007464.D	
Level: (low/r	ned)	MED	[Date Receiv	ved: 1	1/15/01	_
% Moisture:	not dec.	19.37	·	Date Analyz	zed: 1	1/26/01	
GC Column:	Rtx50	2.2 ID: <u>0.25</u> (mm)	í	Dilution Fac	tor: 1	1.0	
Soil Extract \	Volume:	25000 (uL)	\$	Soil Aliquot	Volum	ne: <u>25</u>	(uL)
Number TICs	s found:	0	CONCENTR (ug/L or ug/K	-	ITS: /KG		
CAS NO.		COMPOUND NAME		RT	EST	r. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

600B-6

Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16585 Location: 600B SDG No.: SOIL Matrix: (soil/water) Lab Sample ID: 1658506 (g/ml) G Sample wt/vol: 9.7 Lab File ID: VC007452.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 17.39 Date Analyzed: 11/20/01 GC Column: Rtx502.2 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	870	U
107131	Acrylonitrile	870	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	370	· U
108203	Di-isopropyl ether	250	U
75718	Dichlorodifluoromethane	500	U
74-87-3	Chloromethane	120	· U
75-01-4	Vinyl Chloride	370	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	370	U ·
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	250	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	140	J
156-60-5	trans-1,2-Dichloroethene	250	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	250	Ū
10061-01-5	cis-1,3-Dichloropropene	120	Ū
108-10-1	4-Methyl-2-Pentanone	250	Ū
108-88-3	Toluene	120	Ū
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	Ü
127-18-4	Tetrachloroethene	120	Ū
591-78-6	2-Hexanone	250	Ü
126-48-1	Dibromochloromethane	250	Ü
108-90-7	Chlorobenzene	120	Ü
100-41-4	Ethylbenzene	4300	

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

600B-6 Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16585 Location: 600B SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1658506 Sample wt/vol: 9.7 (g/ml) G Lab File ID: VC007452.D Date Received: 11/15/01 Level: (low/med) MED % Moisture: not dec. 17.39 Date Analyzed: 11/20/01 GC Column: Rtx502.2 ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL) (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		10000	. [
1330-20-7	o-Xylene		4200	
100-42-5	Styrene		250	U
75-25-2	Bromoform		250	U
79-34-5	1,1,2,2-Tetrachlor	oethane	250	U
541-73-1	1,3-Dichlorobenze	ene	370	U
106-46-7	1,4-Dichlorobenze	ene	370	U
95-50-1	1.2-Dichlorobenze	ene	370	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD I	
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Lab Name:	FMETL			NJDEP # 13461	9008-9	
Project:	UST		Case No.: 16585	Location: 600B SI	DG No.:	
Matrix: (soil/w	rater)	SOIL		Lab Sample ID:	1658506	_
Sample wt/vo	l:	9.7	(g/ml) G	Lab File ID:	VC007452.D	
Level: (low/m	ed)	MED		Date Received:	11/15/01	
% Moisture: n	ot dec.	17.39		Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume: 2	25000	(uL)	Soil Aliquot Volu	me: <u>125</u> (u	ıL

CONCENTRATION UNITS:

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

		- 	_ 	
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	29.00	18000	J
2.	unknown	30.06	6800	J
3. 000611-14-3	Benzene, 1-ethyl-2-methyl-	30.84	6800	JN
4. 002847-72-5	Decane, 4-methyl-	30.89	7900	JN
5. 000108-67-8	Benzene, 1,3,5-trimethyl-	30.98	7100	JN
6. 000095-36-3	1,2,4-Trimethylbenzene	31.92	21000	JN
7. 000095-36-3	1,2,4-Trimethylbenzene	33.03	8800	JN
8. 001074-43-7	Benzene, 1-methyl-3-propyl-	33.37	15000	JN
9.	unknown	33.54	19000	J
10.	unknown	33.67	11000	J
11.	unknown	33.78	7500	J
12.	unknown	34.43	10000	J
13. 004292-92-6	Cyclohexane, pentyl-	34.86	9300	JN
14.	unknown	34.95	8600	J
15.	unknown	35.29	6300	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

F	ΙE	LD	IJ	D	

Lab Name:	FMETL			NJDEP # 13461	600B-6	
Project:	UST		Case No.: 16585	Location: 600B SI	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658506	
Sample wt/vo	ol:	9.7	(g/ml) <u>G</u>	Lab File ID:	VC007465.D	
Level: (low/r	ned)	MED		Date Received:	11/15/01	
% Moisture:	not dec.	17.39		Date Analyzed:	11/26/01	
GC Column:	Rtx502	2.2 ID:	0.25_ (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volu	me: 25	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	4400	U
107131	Acrylonitrile	4400	U
75650	tert-Butyl alcohol	8100	U
1634044	Methyl-tert-Butyl ether	1900	U
108203	Di-isopropyl ether	1200	U
75718	Dichlorodifluoromethane	2500	U
74-87-3	Chloromethane	620	U
75-01-4	Vinyl Chloride	1900	U
74-83-9	Bromomethane	1200	U
75-00-3	Chloroethane	1900	U
75-69-4	Trichlorofluoromethane	1200	U
75-35-4	1,1-Dichloroethene	620	U
67-64-1	Acetone	1200	U
75-15-0	Carbon Disulfide	620	U
75-09-2	Methylene Chloride	1200	U
156-60-5	trans-1,2-Dichloroethene	1200	U
75-35-3	1,1-Dichloroethane	620	U
108-05-4	Vinyl Acetate	1900	U
78-93-3	2-Butanone	1900	U
	cis-1,2-Dichloroethene	620	U
67-66-3	Chloroform	620	U
75-55-6	1,1,1-Trichloroethane	620	U
56-23-5	Carbon Tetrachloride	1200	U
71-43-2	Benzene	620	U
107-06-2	1,2-Dichloroethane	1200	U
79-01-6	Trichloroethene	620	υ
78-87-5	1,2-Dichloropropane	620	U
75-27-4	Bromodichloromethane	620	U
110-75-8	2-Chloroethyl vinyl ether	1200	U
10061-01-5	cis-1,3-Dichloropropene	620	U
108-10-1	4-Methyl-2-Pentanone	1200	U
108-88-3	Toluene	620	U
10061-02-6	trans-1,3-Dichloropropene	1200	U
79-00-5	1,1,2-Trichloroethane	1200	Ū
127-18-4	Tetrachloroethene	620	Ū
591-78-6	2-Hexanone	1200	Ü
126-48-1	Dibromochloromethane	1200	Ū
108-90-7	Chlorobenzene	620	Ū
100-41-4	Ethylbenzene	2000	

VOLATILE ORGANICS ANALYSIS DATA SHEET

FI	EL	D	ID
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Lab Name:	FMETL			NJDEP # 13461	600B-6	
Project:	UST		Case No.: 16585	Location: 600B S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658506	
Sample wt/vo	ol:	9.7	(g/ml) G	Lab File ID:	VC007465.D	
Level: (low/n	ned)	MED		Date Received:	11/15/01	
% Moisture: ı	not dec.	17.39		Date Analyzed:	11/26/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	ıme: <u>25</u>	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	4600	
1330-20-7	o-Xylene	2000	
100-42-5	Styrene	1200	U
75-25-2	Bromoform	1200	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
541-73-1	1,3-Dichlorobenzene	1900	U
106-46-7	1,4-Dichlorobenzene	1900	U
95-50-1	1.2-Dichlorobenzene	1900	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

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Lab Name:	FMETL		NJDEP	# 13461		600B	-6
Project:	UST	Case No.: 1658	B5 Locat	tion: 600B	SE	OG No.:	
Matrix: (soil/	water)	SOIL	E	Lab Sample	e ID:	1658506	
Sample wt/ve	ol:	9.7 (g/ml) <u>G</u>		Lab File ID:	<u>.</u>	VC007465.D	
Level: (low/r	ned)	MED	I	Date Recei	ved:	11/15/01	
% Moisture:	not dec.	17.39	1	Date Analy	zed:	11/26/01	
GC Column:	Rtx50	2.2 ID: 0.25 (mm)	. [Dilution Fac	ctor:	1.0	
Soil Extract \	√olume:	25000 (uL)	(Soil Aliquot	Volur	me: <u>25</u>	(uL)
Number TIC:	s found:	0	CONCENTR (ug/L or ug/K		ITS: /KG		
				1	Ī		
CAS NO.		COMPOUND NAME		RT	ES.	T. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID	F	IEL	D.	ID
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Lab Name:	FMETL		:	NJDEP # 13461	FD600B	
Project:	UST		Case No.: 16585	Location: 600B SI	DG No.:	
Matrix: (soil/\	water)	SOIL	·	Lab Sample ID:	1658507	
Sample wt/ve	ol:	10.1	(g/ml) G	Lab File ID:	VC007453.D	
Level: (low/r	ned)	MED		Date Received:	11/15/01	
% Moisture:	not dec.	11.13	<u> </u>	Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:	25000	(al.)	Soil Aliquot Volu	me [.] 125	(ul

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	780	U
107131	Acrylonitrile	780	U
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	330	U
108203	Di-isopropyl ether	220	U
75718	Dichlorodifluoromethane	440	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	330	U
74-83-9	Bromomethane	220	U
75-00-3	Chloroethane	330	U
75-69-4	Trichlorofluoromethane	220	U
75-35-4	1,1-Dichloroethene	110	U
67-64-1	Acetone	220	U
75-15-0	Carbon Disulfide	110	U
75-09-2	Methylene Chloride	150	J
156-60-5	trans-1,2-Dichloroethene	220	U
75-35-3	1,1-Dichloroethane	110	υ
108-05-4	Vinyl Acetate	330	U
78-93-3	2-Butanone	330	٦
	cis-1,2-Dichloroethene	110	٦
67-66-3	Chloroform	110	כ
75-55-6	1,1,1-Trichloroethane	110	J
56-23-5	Carbon Tetrachloride	220	J
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	220	U
79-01-6	Trichloroethene	110	· U
78-87-5	1,2-Dichloropropane	110	U
75-27-4	Bromodichloromethane	110	U
110-75-8	2-Chloroethyl vinyl ether	220	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-Pentanone	220	U
108-88-3	Toluene	110	U
10061-02-6	trans-1,3-Dichloropropene	60	J
79-00-5	1,1,2-Trichloroethane	220	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	220	U
126-48-1	Dibromochloromethane	220	Ū
108-90-7	Chlorobenzene	110	Ü
100-41-4	Ethylbenzene	220	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

FD600B Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16585 Location: 600B SDG No.: SOIL Lab Sample ID: 1658507 Matrix: (soil/water) Lab File ID: Sample wt/vol: 10.1 (g/ml) G VC007453.D Level: (low/med) Date Received: 11/15/01 MED % Moisture: not dec. 11.13 Date Analyzed: 11/20/01 Rtx502.2 ID: 0.25 Dilution Factor: 1.0 GC Column: (mm) Soil Aliquot Volume: 125 Soil Extract Volume: 25000 (uL) (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	330	U
1330-20-7	o-Xylene	220	U
100-42-5	Styrene	220	U
75-25-2	Bromoform	220	U
79-34-5	1,1,2,2-Tetrachloroethane	220	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIEL	.D ID
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Lab Name:	FMETL				NJDEP#	13461	FD600B	
Project:	UST		Case No.:	16585	Location	: <u>600B</u> S	DG No.:	
Matrix: (soil/v	vater)	SOIL			Lat	Sample ID:	1658507	
Sample wt/vo	oł:	10.1	(g/ml)	G	_ Lat	File ID:	VC007453.D	
Level: (low/n	ned)	MED_	· .		Da	te Received:	11/15/01	
% Moisture: r	not dec.	11.13		·	Da	te Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (n	nm)	Dile	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)		So	i Aliquot Volu	ıme: <u>125</u>	(uL)

CONCENTRATION UNITS:

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

Number TICs found: 15

				· · · · · · · · · · · · · · · · · · ·
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000119-64-2	Naphthalene, 1,2,3,4-tetrahydro-	27.59	17000	JN
2.	unknown	28.10	9400	J
3.	unknown	28.53	11000	J
4.	unknown	29.42	7000	J
5. 000091-20-3	Naphthalene	30.90	19000	JN
6.	unknown	31,46	5800	J
7.	unknown	31.92	2900	J
8.	unknown	32.17	5400	J
9.	unknown	32.81	4600	J
10.	unknown	33.06	3700	J
11. 001074-43-7	Benzene, 1-methyl-3-propyl-	33.37	3700	JN
12.	unknown	34.32	2800	J
13.	unknown	34.43	2700	J
14. 004292-92-6	Cyclohexane, pentyl-	34.85	4500	JN
15.	unknown	34,95	3900	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

FD600B Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16585 Location: 600B SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1658507 Sample wt/vol: 10.1 (g/ml) G Lab File ID: VC007466.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 11.13 Date Analyzed: 11/26/01 Rtx502.2 ID: 0.25 GC Column: (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	780	U
107131	Acrylonitrile	780	Ü
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	330	U
108203	Di-isopropyl ether	220	U
75718	Dichlorodifluoromethane	440	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	330	U
74-83-9	Bromomethane	220	U
75-00-3	Chloroethane	330	U
75-69-4	Trichlorofluoromethane	220	U
75-35-4	1,1-Dichloroethene	110	Ū
67-64-1	Acetone	220	U
75-15-0	Carbon Disulfide	110	Ū
75-09-2	Methylene Chloride	220	U
156-60-5	trans-1,2-Dichloroethene	220	U
75-35-3	1,1-Dichloroethane	110	U
108-05-4	Vinyl Acetate	330	U
78-93-3	2-Butanone	330	U
	cis-1,2-Dichloroethene	110	U
67-66-3	Chloroform	110	U
75-55-6	1,1,1-Trichloroethane	110	U
56-23-5	Carbon Tetrachloride	220	U
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	220	U
79-01-6	Trichloroethene	110	U
78-87-5	1,2-Dichloropropane	110	U
75-27-4	Bromodichloromethane	110	U
110-75-8	2-Chloroethyl vinyl ether	220	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-Pentanone	220	U
108-88-3	Toluene	110	Ü
10061-02-6	trans-1,3-Dichloropropene	220	Ü
79-00-5	1,1,2-Trichloroethane	220	Ü
127-18-4	Tetrachloroethene	110	Ü
591-78-6	2-Hexanone	220	Ü
126-48-1	Dibromochloromethane	220	Ü
108-90-7	Chlorobenzene	110	Ü
100-41-4	Ethylbenzene	220	U.

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

FD600B Lab Name: **FMETL** NJDEP # 13461 SDG No.: Project: **UST** Case No.: 16585 Location: 600B Lab Sample ID: 1658507 Matrix: (soil/water) SOIL Sample wt/vol: 10.1 (g/ml) G Lab File ID: VC007466.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 11.13 Date Analyzed: 11/26/01 GC Column: Rtx502.2 ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L	or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes		330)	U
1330-20-7	o-Xylene	··· ·			J
100-42-5	Styrene		220)	U
75-25-2	Bromoform		220)	U
79-34-5	1,1,2,2-Tetrachloroethane	220)	U	
541-73-1	1,3-Dichlorobenzene	330)	U	
106-46-7	1,4-Dichlorobenzene	330) [U	
95-50-1	1,2-Dichlorobenzene	330)	U	

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

 Lab Name:
 FMETL
 NJDEP # 13461

 Project:
 UST
 Case No.: 16585
 Location: 600B
 SDG No.:

 Lab File ID:
 VC007374.D
 BFB Injection Date: 11/15/01

 Instrument ID:
 GCMSVoa
 BFB Injection Time: 14:10

GC Column: Rtx502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
e	ION ADDINDANCE CRITERIA	ABONDANCE
50	8.0 - 40.0% of mass 95	16.7
75	75 30.0 - 66.0% of mass 95 47.9	
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	71.0
175	4.0 - 9.0% of mass 174	5.0 (7.1)1
176	93.0 - 101.0% of mass 174	69.5 (97.8)1
177	5.0 - 9.0% of mass 176	4.5 (6.4)2

¹⁻Value is % mass 174

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

		LAB	LAB	DATE	TIME
ļ	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD100	VSTD100	VC007375.D	11/15/01	14:54
02	VSTD050	VSTD050	VC007376.D	11/15/01	15:34
03	VSTD020	VSTD020	VC007377.D	11/15/01	16:15
04	VSTD010	VSTD010	VC007378.D	11/15/01	16:55
05	VSTD005	VSTD005	VC007379.D	11/15/01	17:36

²⁻Value is % mass 176

Data File : D:\HPCHEM\1\DATA\011115\VC007374.D

Acq On : 15 Nov 2001 2:10 pm

Vial: 3 Operator: Skelton

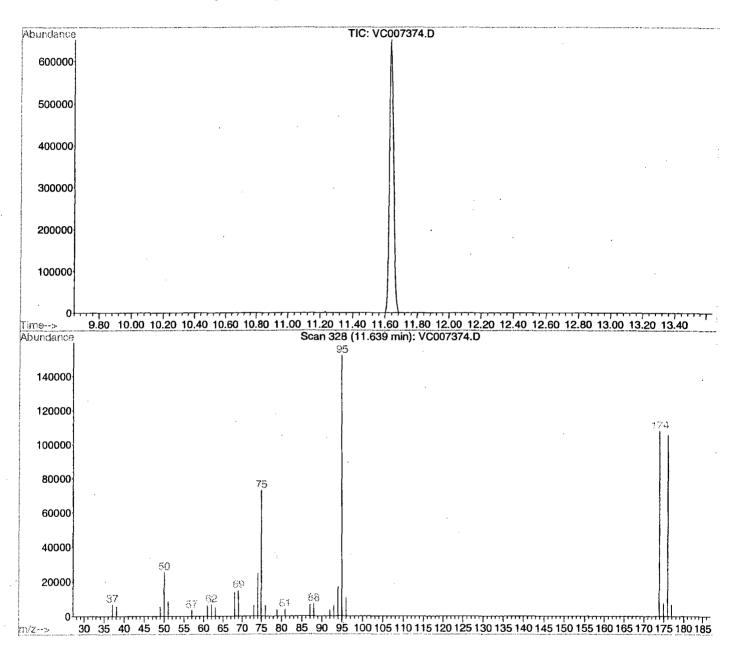
Sample : BFB Tune
Misc : BFB Tune

Inst : GC/MS Ins

Multiplr: 1.00

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 328

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
	50	95	15	40	16.7	25472	PASS
İ	75	95	30	60	47.9	73008	PASS
	95	95	100	100	100.0	152320	PASS
İ	96	95	5	9	6.9	10513	PASS
	173	174	0.00	2	0.0	0	PASS
l.	174	95	50	100	71.0	108168	PASS
1	175	174	5	9	7.1	7632	PASS
	176	174	95	101	97.8	105832	PASS
	177	176	5	9	6.4	6788	PASS

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Nov 30 14:00:51 2001
Response via : Initial Calibration

Calibration Files 50 = VC007376.D 5 =VC007379.D 10 =VC007378.D 20

=VC007377.D 100 =VC007375.D

	20	7007377.2	V C O	.,,,,,,,,,	_				•
		Compound	50	5	10	20	100	Avg	%RSD
~~									
1)	I	Bromochloromethane							
2)	t	Acrolein	0.429	0.427	0.461	0.464	0.434	0.443	4.09
3)	t	Acrylonitrile				1.204			4.75
4)	t	tert-Butyl alcohol				0.161			10.58
5)	t	Methyl-tert-Butyl eth							3.31
6)	t	Di-isopropyl ether				1.719			10.79
7)	${f T}$	Dichlorodifluorometha							4.70
8)	\mathbf{TP}	Chloromethane				3.197			3.95
9)	TC	Vinyl Chloride				3.100			4.12
10)	${f T}$	Bromomethane				1.530			5,19
11)	T	Chloroethane				1.631			1.59
12)	\mathbf{T}	Trichlorofluoromethan							2.63
13)	MC	1,1-Dichloroethene				3.161			3.49
14)	T	Acetone				0.918			25.78
15)	T	Carbon Disulfide				7.334			2.19
16)	T	Methylene Chloride				2.233			3.94
17) 18)	T	trans-1,2-Dichloroeth	2.0/3	2.033	3.019	2.930	2.000	2.712	2.55 3.10
19)	TP T	1,1-Dichloroethane Vinyl Acetate	1 500	3 067	4.070	1 601	1 717	J.004 / 510	6.98
20)	T	2-Butanone	1 020	0 794	0 912	0.998	1 019	0 9/0	10.22
21)	T	cis-1,2-Dichloroethen							2.84
2)	TC	Chloroform	3.431	3 478	3 654	3.612	3 405	3 516	3.16
23)	T	1,1,1-Trichloroethane							2.96
24)	$\bar{\mathbf{T}}$	Carbon Tetrachloride	2.397	2.231	2.420	2.435	2.395	2.376	3.48
25)	s	1,2-Dichloroethane-d4	2.198	2.252	2.267	2.256	2.211	2.237	1.37
		•							
26)	I	1,4-Difluorobenzene							
27)	TM	Benzene				1.367			4.02
28)	\mathbf{T}	1,2-Dichloroethane				0.400			3.21
29)	TM	Trichloroethene				0.311			2.41
30)	TC	1,2-Dichloropropane				0.339			2.43
31)	T	Bromodichloromethane				0.385			1.79
32)	T	2-Chloroethyl vinyl e	0.110	0.000	0.100	0.110	0.108	0.102	12.79
33)	T T	cis-1,3-Dichloroprope 4-Methyl-2-Pentanone	0.303	0.430	0.434	0.500	0.502	0.431	4.79 10.55
34) 35)	S	Toluene-d8				1.156			0.86
36)		Toluene				1.365			4.41
301	ICM	Toruene	1.230	1.500	1.500	1.505	1.23/	1.321	4.41
37)	I	Chlorobenzene-d5			IS	STD			
38)	$\hat{\mathbf{T}}$	trans-1,3-Dichloropro							
39)	$ar{ extbf{T}}$	1,1,2-Trichloroethane							4.26
40)	T	Tetrachloroethene				1.120			3.49
41)	T	2-Hexanone				0.703			8.36
42)	Т	Dibromochloromethane	0.986	0.903	0.976	0.988	0.983	0.967	3.74
43)	TMP	Chlorobenzene	3.130	3.279	3.426	3.297	2.956	3.218	5.59
44)	TC	Ethylbenzene	5.409	5.570	5.810	5.643	5.198	5.526	4.22
45)	${f T}$	m+p-Xylenes	2.145	2.225	2.320	2.237	2.094	2.204	3.98
46)	\mathbf{T}	o-Xylene	4.065	3.962	4.244	4.177	3.934	4.076	3.28
47)	${f T}$	Styrene				3.813			5.65
48)	TP	Bromoform				0.638			8.39
49)	S	Bromofluorobenzene				1.564			1.72
50)	TP	1,1,2,2-Tetrachloroet				1.531			4.65
1)	\mathbf{T}	1,3-Dichlorobenzene				2.455			3.67
52)	\mathbf{T}	•	2.476						3.63
53)	\mathbf{T}	1,2-Dichlorobenzene	2.282	2.308	2.380	2.347	2.169	2.297	3.51

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		NJDEP # 13461	
Project:	UST	Case No.: 16585	Location: 600B SDG N	lo.:
Lab File ID:	VC007442	.D	BFB Injection Date:	11/20/01
Instrument II	D: GCMSVoa	<u> </u>	BFB Injection Time:	9:32
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	17.8
75	30.0 - 66.0% of mass 95	49.3
95	95 Base peak, 100% relative abundance 100.0	
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	74.6
175	4.0 - 9.0% of mass 174	5.1 (6.9)1
176	93.0 - 101.0% of mass 174	70.9 (95.1)1
177	5.0 - 9.0% of mass 176	4.4 (6.2)2

¹⁻Value is % mass 174

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	VSTD020	VSTD020	VC007443.D	11/20/01	10:29
02	MB 20NOV01	МВ	VC007444.D	11/20/01	11:19
03	600B-1	1658501	VC007448.D	11/20/01	14:58
04	600B-2	1658502	VC007449.D	11/20/01	15:38
05	600B-4	1658504	VC007450.D	11/20/01	16:19
06	600B-5	1658505	VC007451.D	11/20/01	16:59
07	600B-6	1658506	VC007452.D	11/20/01	17:40
08	FD600B	1658507	VC007453.D	11/20/01	18:21

²⁻Value is % mass 176

Data File : D:\HPCHEM\1\DATA\011120\VC007442.D

Acq On : 20 Nov 2001 9:32 am

Vial: 31 Operator: Skelton : GC/MS Ins

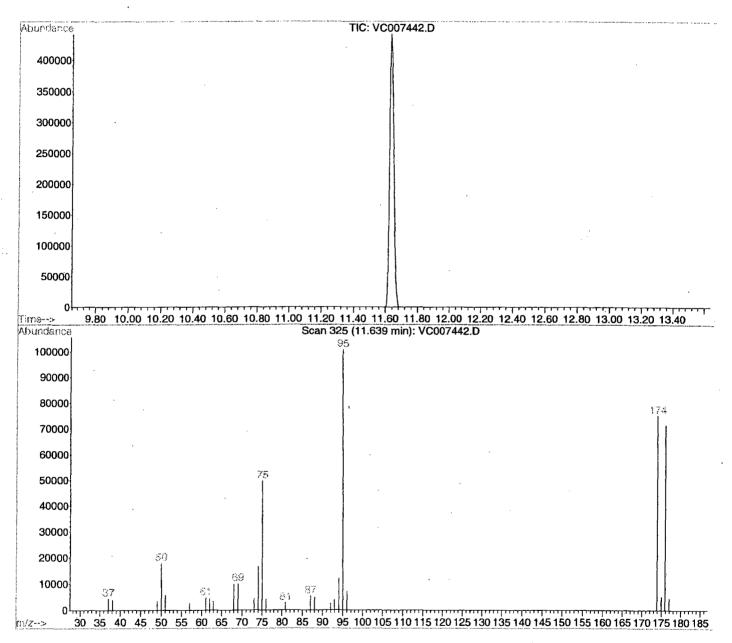
: BFB Tune Sample

Inst

Misc : BFB Tune Multiplr: 1.00

MS Integration Params: ACETONE.P

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title



Spectrum Information: Scan 325

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail	
50 75 95 96 173 174 175	95 95 95 95 174 95	15 30 100 5 0.00 50	40 60 100 9 2 100	17.8 49.3 100.0 7.0 0.0 74.6 6.9	17920 49696 100808 7057 0 75232 5169	PASS PASS PASS PASS PASS PASS PASS	
176 177	174 176	95 5	101 9	95.1 6.2	71512 4432	PASS PASS	

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\011120\VC007443.D

Vial: 32

Acq On : 20 Nov 2001 10:29 am

Operator: Skelton Inst : GC/MS Ins

Sample : Vstd020 Misc : Vstd020

Multiplr: 1.00

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Nov 30 14:00:51 2001

Response via : Multiple Level Calibration

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

_	Compound	AvgRF	CCRF	%Dev Area% Dev(min)
1 I t t t t t t t TPC 10 TT T MC 11 TT T T T T T T T T T T T T T T T T	Bromochloromethane Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl ether Di-isopropyl ether Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethene Acetone Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate 2-Butanone cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane	1.000 0.443 1.151 0.149 5.637 1.640 2.405 3.097 3.029 1.492 1.601 3.409 3.080 1.005 7.209 2.210 2.912 3.884 4.519 0.949 2.888 3.516	1.000 0.479 1.297 0.180 5.402 1.503 1.693 2.585 2.607 1.233 1.542 3.283 2.980 1.022 6.634 2.111 2.817 3.779 4.517 1.042 2.817 3.387	3.3 80 0.00 2.7 80 0.00 0.0 81 0.00 -9.8 88 0.00 2.5 80 0.00 3.7 79 0.00 6.1 77 0.00 3.5 79 0.00
26 I 27 TM 28 T 29 TM 30 TC 31 T 32 T 33 T 34 T 35 S 36 TCM		1.000 1.345 0.391 0.305 0.334 0.379	1.000 1.276 0.389 0.286 0.320 0.364 0.103 0.458 0.127 1.178 1.225	0.0 84 0.00 5.1 79 0.00 0.5 82 0.00 6.2 78 0.00 4.2 80 0.00 4.0 80 0.00 -1.0 79 0.00 6.7 77 0.00 -12.4 87 0.00 -2.4 86 0.00 7.7 76 0.00
50 TP 51 T 52 T 53 T	Chlorobenzene-d5 trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	1.045 1.086 0.674 0.967 3.218 5.526 2.204 4.076 3.650 0.619 1.582 1.494 2.402 2.484 2.297	0.997 0.984 0.735 0.887 2.899 5.120 2.006 3.683 3.038 0.570 1.587 1.505 2.060 2.144 2.018	0.0 87 0.00 8.1 78 0.00 4.6 80 0.00 9.4 76 0.00 -9.1 91 0.00 8.3 78 0.00 9.9 76 0.00 7.3 79 0.00 9.0 78 0.00 9.6 76 0.00 16.8 69 0.00 7.9 77 0.00 -0.3 88 0.00 -0.7 85 0.00 14.2 73 0.00 13.7 73 0.00 12.1 74 0.00

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		NJDEP#	13461	
Project:	UST	Case No.: 16585	Location	n: <u>600B</u> SDG N	lo.:
Lab File ID:	VC007460	.D	BF	B Injection Date:	11/26/01
Instrument II	D: GCMSVoa		BF	B Injection Time:	8:53
GC Column:	Rtx502.2	D: <u>0.25</u> (mm)	He	ated Purge: (Y/N)	N

		% RELATIVE	
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE	
50	8.0 - 40.0% of mass 95		
75	30.0 - 66.0% of mass 95	45.1	
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	68.7	
175	4.0 - 9.0% of mass 174	5.2 (7.6)1	
176	93.0 - 101.0% of mass 174	66.6 (97.1)1	
177	5.0 - 9.0% of mass 176	4.6 (6.9)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
į	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VC007461.D	11/26/01	9:29
02	MB26NOV01	MB	VC007463.D	11/26/01	11:06
03	600B-5	1658505	VC007464.D	11/26/01	11:55
04	600B-6	1658506	VC007465.D	11/26/01	12:36
05	FB600B	1658507	VC007466.D	11/26/01	13:16

Data File: D:\HPCHEM\1\DATA\011126\VC007460.D

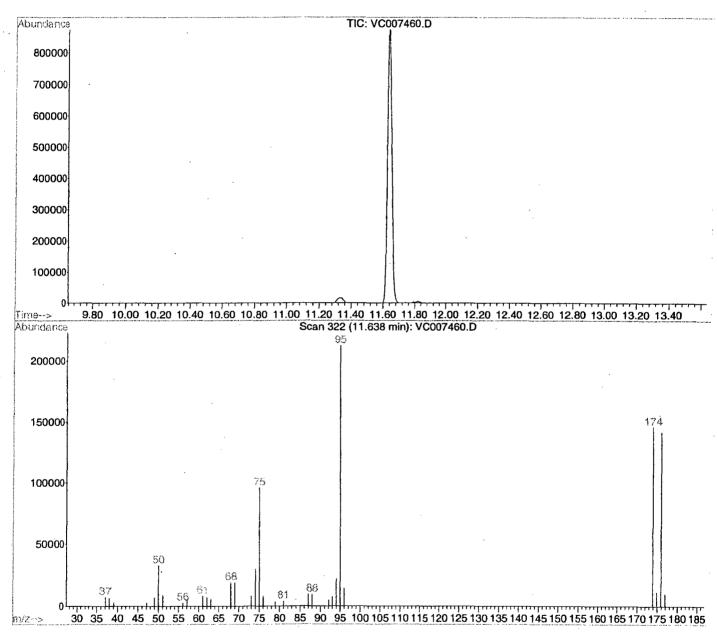
: 26 Nov 2001 Acq On 8:53 am

Vial: 12 Operator: Skelton Inst : GC/MS Ins

Sample : BFB Tune Misc : BFB tune

Multiplr: 1.00

MS Integration Params: ACETONE.P
Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title



Spectrum Information: Scan 322

'	Farget	Rel. to	Lower	Upper	Rel.	Raw	Result
	Mass	Mass	Limit%	Limit%	Abn%	Abn	Pass/Fail
	50	95	15	40	15.4	32728	PASS
	75	95	30	60	45.1	95968	PASS
	95	95	100	100	100.0	212736	PASS
	96	95	5	9	6.8	14373	PASS
	173 174 175 176 177	174 95 174 174 176	0.00 50 5 95 5	2 100 9 101 9	0.0 68.7 7.6 97.1 6.9	146048 11123 141760 9827	PASS PASS PASS PASS PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\011126\VC007461.D

Acq On : 26 Nov 2001 9:29 am Sample : Vstd020 Misc : Vstd020 Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Nov 30 14:00:51 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 25% Max. Rel. Area: 200%

	Compound	AvgRF	CCRF	%Dev Area% Dev(min)
1 I t t t t t T T T T T T T T T T T T T T	Bromochloromethane Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl ether Di-isopropyl ether Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethene Acetone Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate 2-Butanone	0.443 1.151 0.149 5.637 1.640 2.405 3.097 3.029 1.492 1.601 3.409 3.080 1.005 7.209 2.210 2.912 3.884 4.519 0.949	1.000 0.381 0.961 0.144 5.660 1.753 2.228 2.560 2.326 1.465 1.508 3.506 2.756 1.134 6.056 2.558 3.453 3.720 0.915	0.0 151 0.00 14.0 124 0.00 16.5 121 0.00 3.4 135 0.00 -0.4 147 0.00 -6.9 154 0.00 7.4 133 0.00 17.3 121 0.00 23.2 114 0.00 1.8 145 0.00 5.8 140 0.00 -2.8 152 0.00 10.5 132 0.00 -12.8 187 -0.01 7.7 137 0.00 7.0 139 0.00 12.2 131 0.00 11.1 133 0.00 17.7 120 0.00 3.6 139 -0.01
21 T 22 TC 23 T 24 T 25 S	cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane-d4	2.888 3.516 2.785 2.376 2.237	2.577 3.293 2.807 2.370 2.184	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
26 I 27 TM 28 T 29 TM 30 TC 31 T 32 T 33 T 34 T 35 S 36 TCM	1,4-Difluorobenzene Benzene 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone Toluene-d8 Toluene	1.000 1.345 0.391 0.305 0.334 0.379 0.102 0.491 0.113 1.150 1.327	1.000 1.145 0.331 0.282 0.285 0.336 0.088 0.445 0.097 1.145 1.149	0.0 159 0.00 14.9 133 0.00 15.3 132 0.00 7.5 144 -0.01 14.7 134 0.00 11.3 139 0.00 13.7 126 -0.01 9.4 140 0.00 14.2 124 0.00 0.4 157 0.00 13.4 134 0.00
37 I 38 T 39 T 40 T 41 T 42 T 43 TMP 44 TC 45 T 46 T 17 T 3 TP 49 S 50 TP 51 T 52 T 53 T	Chlorobenzene-d5 trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	1.045 1.086 0.674 0.967 3.218 5.526 2.204 4.076 3.650 0.619 1.582 1.494 2.402 2.484 2.297	1.000 1.473 0.888 0.930 0.558 0.840 2.656 4.661 1.835 3.523 2.758 0.518 1.635 1.162 1.946 1.981	0.0 166 0.00 14.3 140 0.00 15.0 137 0.00 14.4 138 0.00 17.2 132 0.00 13.1 141 0.00 17.5 134 0.00 15.7 137 0.00 16.7 136 0.00 13.6 140 0.00 24.4 120 0.00 16.3 135 0.00 -3.4 173 0.00 22.2 126 0.00 19.0 131 0.00 20.2 129 0.00 20.2 129 0.00

⁰⁰⁰⁰⁵³

VOLATILE METHOD BLANK SUMMARY

Lab Name:	FMETL		NJDEP # 13461	MB 20Nov01
Project:	UST	Case No.: 16585	Location: 600B SD0	3 No.:
Lab File ID:	VC007444.	<u>D</u>	Lab Sample ID: M	1B
Date Analyz	ed: 11/20/01		Time Analyzed: 1	1:19
GC Column:	Rtx502.2 ID:	0.25 (mm)	Heated Purge: (Y	/N) <u>N</u>
Instrument II	D: GCMSVoa			

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

		LAB	LAB	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYŹED
01	600B-1	1658501	VC007448.D	14:58
02	600B-2	1658502	VC007449.D	15:38
03	600B-4	1658504	VC007450.D	16:19
04	600B-5	1658505	VC007451.D	16:59
05	600B-6	1658506	VC007452.D	17:40
06	FD600B	1658507	VC007453.D	18:21

COMMENTS:	

VOLATILE METHOD BLANK SUMMARY

FIEL	סו כ
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Lab Name:	FMETL		NJDEP # 13461	MB26Nov01
Project:	UST	Case No.: 16585	Location: 600B SI	DG No.:
Lab File ID:	VC007463.	<u> </u>	Lab Sample ID:	МВ
Date Analyze	ed: 11/26/01		Time Analyzed:	11:06
GC Column:	Rtx502.2 ID:	0.25 (mm)	Heated Purge: ((Y/N) N
Instrument ID	: GCMSVoa			

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

	FIELD ID.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED		
01	600B-5	1658505	VC007464.D	11:55		
02	600B-6	1658506	VC007465.D	12:36		
03	FB600B	1658507	VC007466.D	13:16		

COMMENTS:				
	···		 	

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Project Lab Name: **FMETL UST** Case No.: 16585 Location 600B NJDEP# 13461

EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB
MB	107.0	100.0	95.0
MB	99.0	98.0	102.0
600B-1	111.7	93.3	102.7
600B-2	115.7	99.0	109.7
600B-4	111.0	94.7	93.0
600B-5	111.3	93.7	91.3
600B-6	105.7	92.7	92.7
FD600B	103.0	66.3	20.3

SMC1 1,2-DCE-d4

1,2-Dichloroethane-d4

SMC2 Tol-d8

SMC3 BFB

Toluene-d8

Bromofluorobenzene

D System Monitoring Compounds diluted out

Method

Spike Recovery and RPD Summary Report - Soil
: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Nov 30 14:00:51 2001

Response via : Initial Calibration

on-Spiked Sample: VC007454.D

Spike

Spike

Sample

Duplicate Sample

File ID: VC007455.D Sample: 1658602 MS Acq Time: 20 Nov 2001 7:42 pm

VC007456.D

1658602 MSD

20 Nov 2001 8:22 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene	0.0 0.0 0.0 0.7 0.7	20 20 20 20 20 20	17 18 19 20 13	20 20 23 23 17	85 88 94 95 66	101 102 113 109 84	16 14 19 14 24#	22 21 24 21 21	59-172 66-142 62-137 59-139 60-133

- Fails Limit Check

M362451.M

Tue Dec 04 14:06:41 2001

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: FMETL NJDEP # 13461

Project: UST Case No.: 16585 Location: 600B SDG No.:

Lab File ID (Standard): VC007443.D Date Analyzed: 11/20/01

Instrument ID: GCMSVoa Time Analyzed: 10:29

GC Column: Rtx502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

		IS1BCM	DT (1)	IS2DFB	DT 11	IS3CBZ	DT "
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	209179	16.69	1450710	19.41	401662	27.24
	UPPER LIMIT	418358	17.19	2901420	19.91	803324	27.74
Ī	LOWER LIMIT	104590	16.19	725355	18.91	200831	26.74
ſ							
	FIELD ID.						
01	MB 20NOV01	194971	16.69	1324892	19.41	355712	27.25
02	600B-1	212532	16.69	1501022	19.41	409499	27.23
03	600B-2	240658	16.68	1723456	19.41	518293	27.24
04	600B-4	329618	16.69	2350991	19.41	760793	27.25
05	600B-5	364149	16.69	2592568	19.41	843289 *	27.24
06	600B-6	381866	16.69	2653913	19.41	956458 *	27.25
07	FD600B	380122	16.69	2674478	19.41	2190516*	27.25

IS1 BCM = Brow

Bromochloromethane

IS2 DFB

= 1,4-Difluorobenzene

IS3 CBZ

Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

^{*} Values outside of contract required QC limits

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Instrument ID: GCMSVoa Time Analyzed: 9:29

GC Column: Rtx502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
12 HOUR STD	377637	16.69	2726556	19.42	769324	27.24
UPPER LIMIT	755274	17.19	5453112	19.92	1538648	27.74
LOWER LIMIT	188819	16.19	1363278	18.92	384662	26.74
FIELD ID.	·				,	
MB26NOV01	343704	16.70	2468066	19.42	684484	27.25
600B-5	356664	16.69	2636727	19.41	750602	27.25
600B-6	361118	16.69	2648429	19.41	744471	27.25
FB600B	358822	16.69	2594371	19.41	978000	27.25

IS1 BCM = Bromochloromethane

IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

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

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

^{*} Values outside of contract required QC limits

Quantitation Report (OT Reviewed)

Data File : D:\HPCHEM\1\DATA\011120\VC007444.D

Acq On : 20 Nov 2001 11:19 am Sample : MB

Operator: Skelton Inst : GC/MS Ins

Vial: 32

Misc : MB Multiplr: 1.00

MS Integration Params: ACETONE.P Quant Time: Nov 27 11:23 2001

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 19 11:45:35 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
1) Bromochloromethane	16.69	128	194971	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.41	114	1324892	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	355712	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	466644	32.10	ug/L	0.00
Spiked Amount 30.000	Range 70	- 121	Recove	ry =	107.00%	
35) Toluene-d8	23.42	98	1525220	30.03	ug/L	0.00
Spiked Amount 5 30.000	Range 81	- 117	Recove		100.10%	
49) Bromofluorobenzene	30.25	95	536140	28.58	ug/L	0.00
Spiked Amount 30.000	Range 74	- 121	Recove	ry =	95.27%	

Target Compounds

Ovalue

Data File: D:\HPCHEM\1\DATA\011120\VC007444.D

Vial: 32

: 20 Nov 2001 11:19 am Acq On

Operator: Skelton : GC/MS Ins

Sample : MB Misc : MB

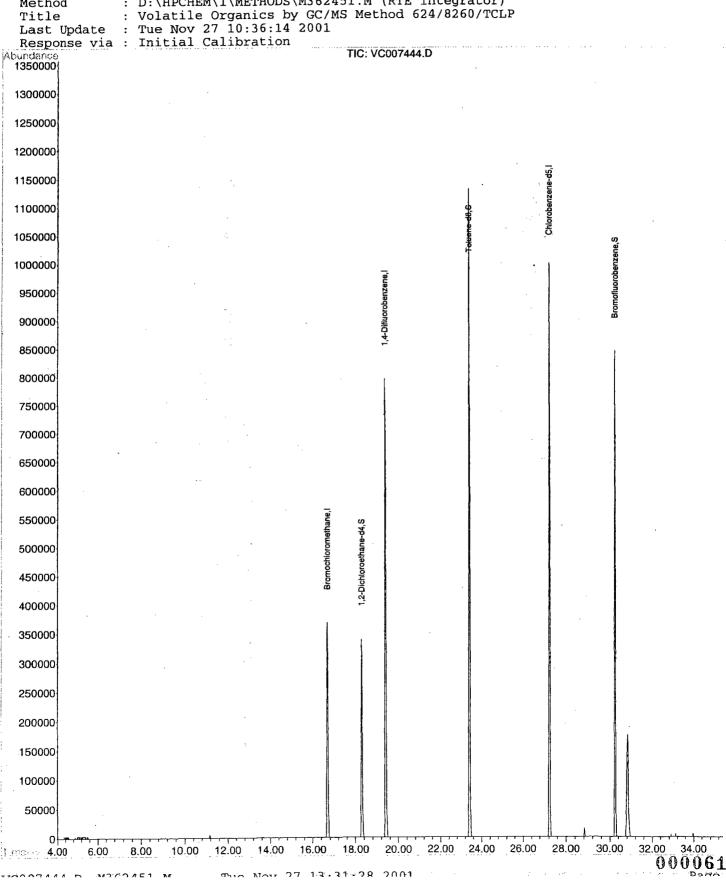
Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:23 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method



Quantitation Report (QT Reviewed)

Vial: 13

Data File : D:\HPCHEM\1\DATA\011126\VC007463.D

Acq On : 26 Nov 2001 11:06 am

Operator: Skelton : MB Sample Inst : GC/MS Ins Multiplr: 1.00

Misc : MB MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:35 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Nov 26 11:35:58 2001

Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards		R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
1) Bromochlorome 26) 1,4-Difluorob 37) Chlorobenzene	enzene	16.70 19.42 27.25	128 114 119	343704 2468066 684484	30.00 30.00 30.00	ug/L	0.01 0.00 0.00
System Monitoring 25) 1,2-Dichloroe Spiked Amount	thane-d4	18.30 Range 70		758564 Recove		•	0.00
35) Toluene-d8 Spiked Amount		23.42 Range 81	- 117	Recove		98.40%	0.00
49) Bromofluorobe Spiked Amount	30.000	30.25 Range 74		1107708 Recove	30.69 ry =	ug/L 102.30%	0.00
Target Compounds						Qva	alue

Data File : D:\HPCHEM\1\DATA\011126\VC007463.D

: 26 Nov 2001 11:06 am

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

: MB Multiplr: 1.00 : MB

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:35 2001

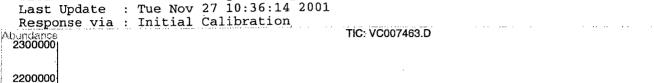
Acq On

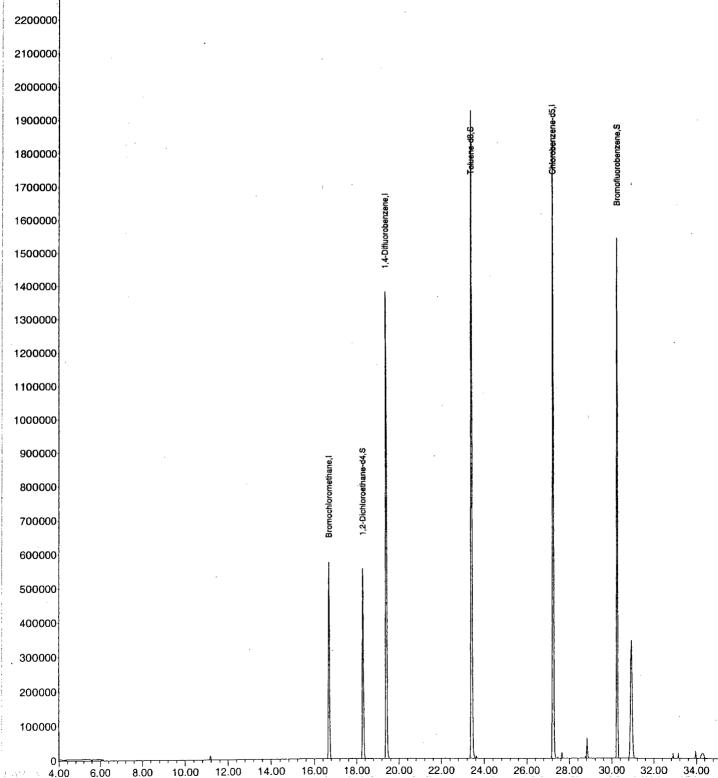
Sample

Misc

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title





(QT Reviewed) Quantitation Report

Vial: 1

Data File: D:\HPCHEM\1\DATA\011120\VC007448.D

2:58 pm

Acq On : 20 Nov 2001 Sample

Operator: Skelton : 1658501 Inst : GC/MS Ins : 600B-1 Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Nov 20 15:33 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 20 12:00:22 2001
Response via : Initial Calibration

DataAcq Meth : M362451

Misc

Internal Standards	R.T.	QIon	Response	Conc U	nits 1	Dev(Min)
1) Bromochloromethane	16.69	128	212532	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.41	114	1501022	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.23	119	409499	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.29	65	1735412	109.51	ug/L	-0.01
Spiked Amount 30.000	Range 70	- 121	Recove	ery =	365.0	ጋ3%#
35) Toluene-d8	23.41	98	5343878	92.87	ug/L	-0.01
Spiked Amount 30.000	Range 81	- 117	Recove	ery =.	309.5	578#
49) Bromofluorobenzene	30.25	95	2188872	101.36	ug/L	0.00
Spiked Amount 30.000	Range 74	- 121	Recove	ery =	337.8	378#
Target Compounds		et	1 			Ovalue
16) Methylene Chloride	11.15	84	157014	10.03	ua/E.	-

Data File : D:\HPCHEM\1\DATA\011120\VC007448.D

Vial: 1

Acq On : 20 Nov 2001 2:58 pm

Operator: Skelton

Sample

: 1658501

Inst : GC/MS Ins Multiplr: 1.00

Misc : 600B-1

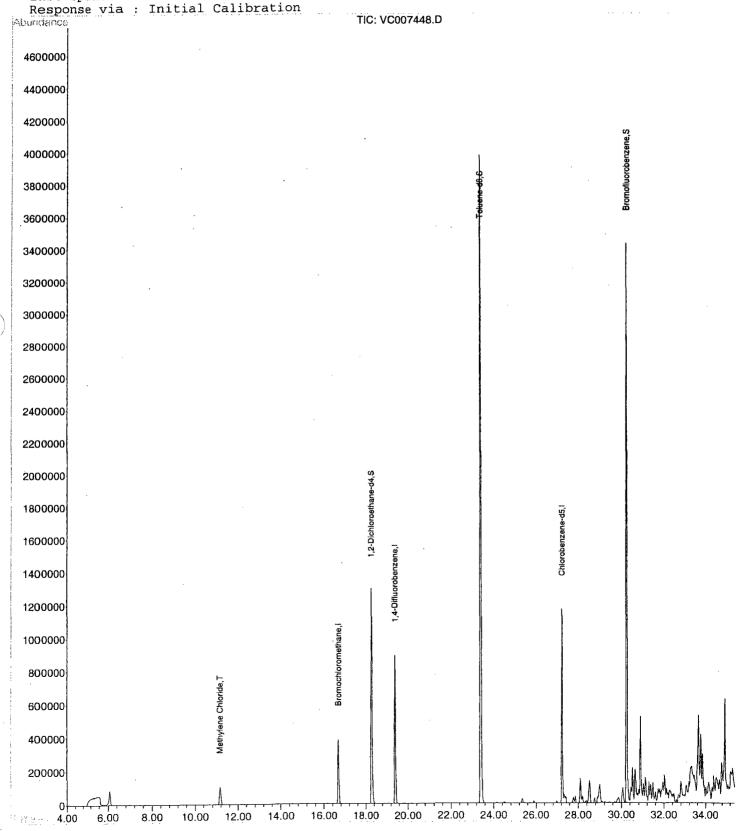
CETONE . P

MS Integration Params: ACETONE.P Ouant Time: Nov 20 15:33 2001

Quant Results File: M362451.RES

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Tue Nov 27 10:36:14 2001



(QT/LSC Reviewed)

Vial: 2

Quant Results File: M362451.RES

Data File: D:\HPCHEM\1\DATA\011120\VC007449.D

: 20 Nov 2001 Acq On

3:38 pm : 1658502

Operator: Skelton Inst : GC/MS Ins

Misc : 600B-2 Multiplr: 1.00

MS Integration Params: ACETONE.P Quant Time: Nov 27 11:23 2001

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 20 12:00:22 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Sample

Internal Standards	к.т.	QIon	Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene	16.68 19.41	_	240658 1723456		ug/L 0.00
37) Chlorobenzene-d5	27.24	119	518293	30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000	18.29 Range 70				ug/L -0.01
35) Toluene-d8	_		6489474	-	
Spiked Amount 30.000	Range 81	- 117	Recove	ery =	327.40%#
49) Bromofluorobenzene	30.25	95	2946169	107.79	ug/L 0.00
Spiked Amount 30.000	Range 74	- 121	Recove	ry =	359.30%#
Target Compounds 16) Methylene Chloride	11.17	. 84	94801	-5.35	Qvalue ug/L 93

Data File : D:\HPCHEM\1\DATA\011120\VC007449.D

Vial: 2

: 20 Nov 2001 3:38 pm Acq On

Operator: Skelton

: 1658502 Sample

TOUDDAND MARCHET M

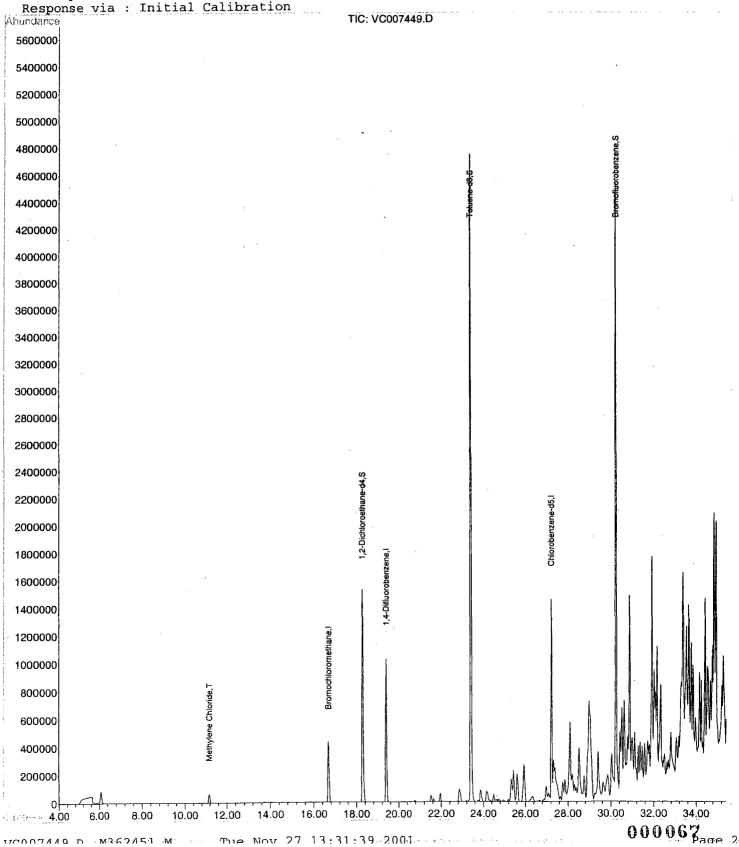
: GC/MS Ins Multiplr: 1.00

: 600B-2 Misc MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:23 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 27 10:36:14 2001
Response via : Initial Calibration



The Nov 27 13:31:39-2001-

(QT/LSC Reviewed) Vial: 3

Data File: D:\HPCHEM\1\DATA\011120\VC007450.D

Acq On

: 20 Nov 2001 4:19 pm

: 1658504

: 600B-4

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:23 2001

Operator: Skelton

: GC/MS Ins Multiplr: 1.00

Inst

Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Nov 20 12:00:22 2001

Response via : Initial Calibration

DataAcq Meth: M362451

Sample

Misc

Internal Standards	R.T.	QIon	Response	Conc Ur	nits D	ev(Min)
1) Bromochloromethane	16.69 19.41	128 114	329618 2350991	30.00	J	0.00
26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	27.25	119	760793	30.00 30.00		0.00 0.01
System Monitoring Compounds						
<pre>25) 1,2-Dichloroethane-d4</pre>	18.30	65	2675486	108.86	ug/L	0.00
Spiked Amount 30.000	Range 70	- 121	Recove	ery =	362.8	78#
35) Toluene-d8	23.41	98	8491315	94.22	ug/L	0.00
Spiked Amount 30.000	Range 81	- 117	Recove	ry =	314.0	78#
49) Bromofluorobenzene	30.25	95	3723781	92.81	ug/L	0.00
Spiked Amount 30.000	Range 74	- 121	Recove		309.3	78#
Target Compounds						Qvalue
16) Methylene Chloride	11.17	84	79489	3.27	ug/L	87

Data File : D:\HPCHEM\1\DATA\011120\VC007450.D

4:19 pm

: 20 Nov 2001

Vial: 3 Operator: Skelton : GC/MS Ins Inst

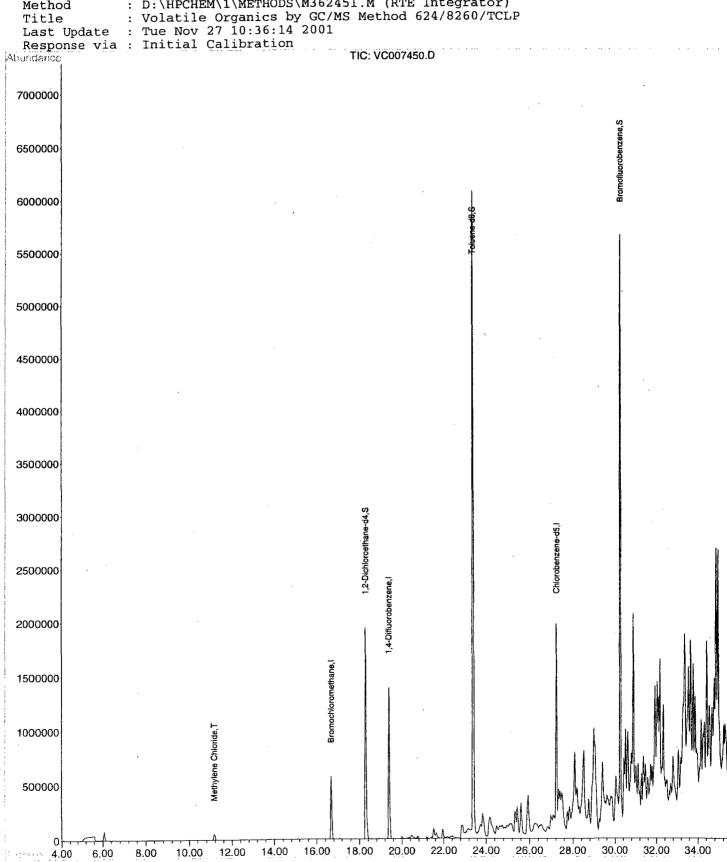
Sample : 1658504 Multiplr: 1.00 Misc : 600B-4

MS Integration Params: ACETONE.P

Acq On

Quant Time: Nov 27 11:23 2001 Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method



(QT/LSC Reviewed)

Data File : D:\HPCHEM\1\DATA\011120\VC007451.D

: 20 Nov 2001 4:59 pm Acq On

Vial: 4 Operator: Skelton Inst : GC/MS Ins

Sample Misc

: 1658505 : 600B-5

Multiplr: 1.00

MS Integration Params: ACETONE.P Quant Time: Nov 27 11:24 2001

Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 20 12:00:22 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T. Ç	lon	Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane	16.69	128	364149	30.00	ug/L 0.00
26) 1,4-Difluorobenzene	19.41	114	2592568	30.00	ug/L 0.00
37) Chlorobenzene-d5	27.24	119	843289	30.00	ug/L 0.00
System Monitoring Compounds					
25) 1,2-Dichloroethane-d4	18.30	65	2961218	109.06	ug/L 0.00
Spiked Amount 30.000	Range 70 -	- 121	Recove	ry =	363.53%#
35) Toluene-d8	23.42	98	9277578	93.35	ug/L 0.00
Spiked Amount 30.000	Range 81 -	- 117	Recove	ry =	311.17%#
49) Bromofluorobenzene	30.25	95	4059467	91.28	ug/L 0.00
Spiked Amount 30.000	Range 74 -	- 121	Recove	ry =	304.27%#
Target Compounds					Ovalue
16) Methylene Chloride	11.16	84	70140	2.61	

Data File : D:\HPCHEM\1\DATA\011120\VC007451.D 4:59 pm

Vial: 4

: 20 Nov 2001 Acq On : 1658505

Operator: Skelton

Sample

: GC/MS Ins

Misc

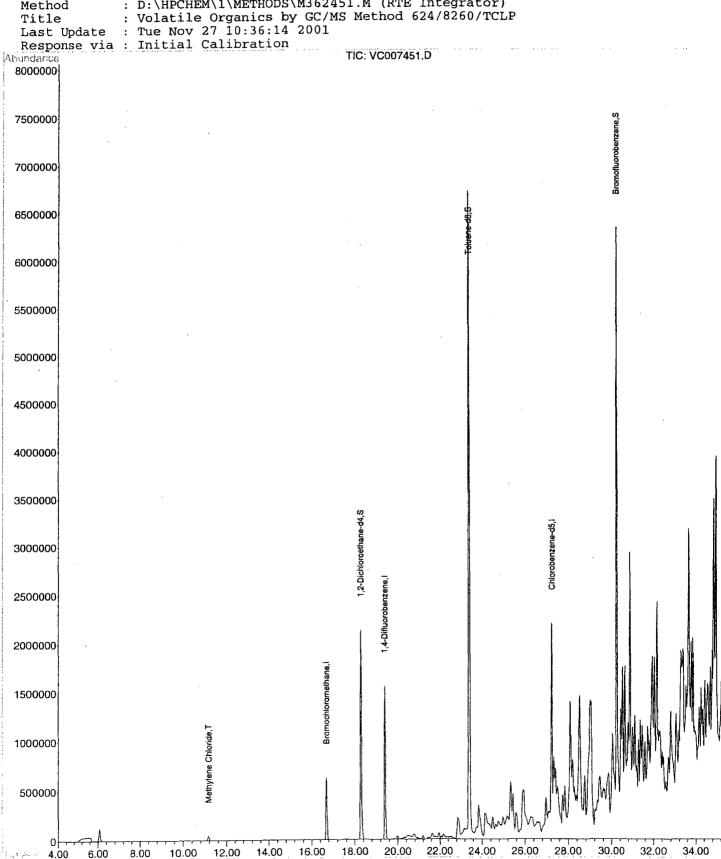
: 600B-5

Multiplr: 1.00

MS Integration Params: ACETONE.P Quant Time: Nov 27 11:24 2001

Ouant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method



(QT Reviewed)

Data File: D:\HPCHEM\1\DATA\011126\VC007464.D

: 26 Nov 2001 11:55 am Acq On

: 1658505 Sample

Misc

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

Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:35 2001

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Nov 26 11:35:58 2001

Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev	(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 19.41 27.25	128 114 119	356664 2636727 750602	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	30.25	- 121 98 - 117 95	3348251	ry = 33.12 ry = 33.87	134.37% ug/L 110.40%	0.00

Target Compounds

Qvalue

Data File : D:\HPCHEM\1\DATA\011126\VC007464.D

Vial: 14

: 26 Nov 2001 11:55 am Acq On

Operator: Skelton : GC/MS Ins

Sample

: 1658505

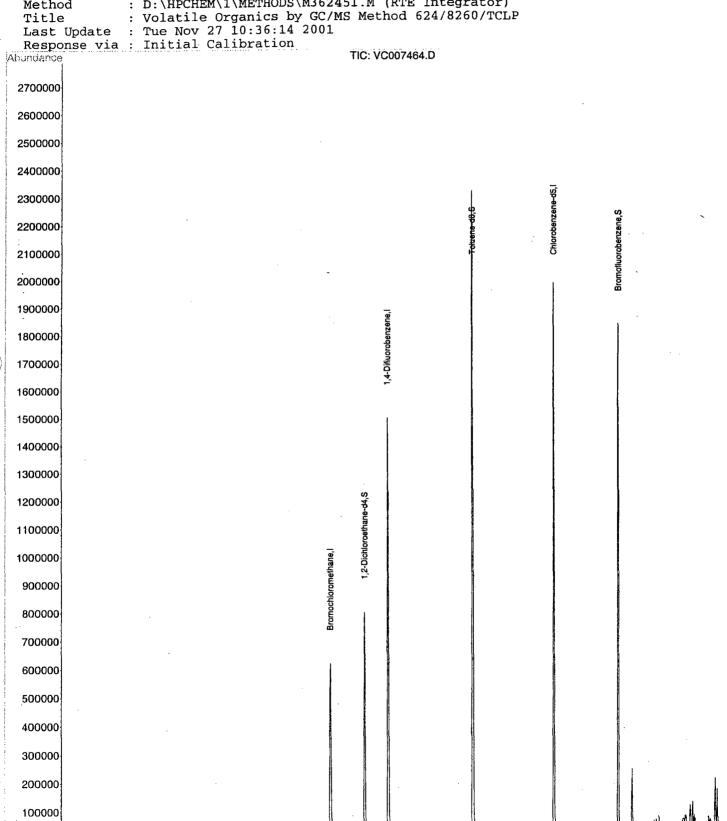
Multiplr: 1.00

Misc MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:35 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method



16.00

12.00

fice- 4.00

6.00

8.00

10.00

14.00

18.00

20.00

22.00

32.00

AAAANO Page 2

30.00

28.00

26.00

Quantitation Report (QT/LSC Reviewed)

Vial: 5

Multiplr: 1.00

Operator: Skelton

Inst : GC/MS Ins

Data File : D:\HPCHEM\1\DATA\011120\VC007452.D

: 20 Nov 2001 Acq On

5:40 pm

Sample : 1658506 Misc : 600B-6

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:24 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Tue Nov 20 12:00:22 2001

Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc U	nits D	ev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 19.41 27.25	114	381866 2653913 956458	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
System Monitoring Compou	nds					
25) 1,2-Dichloroethane-	14 18.30	65	2966280	104.18	ug/L	0.00
Spiked Amount 30.0	00 Range 70	- 121	Recov	ery =	347.2	78#
35) Toluene-d8	23.42	98	9397452	92.37	ug/L	0.00
Spiked Amount 30.0	00 Range 81	- 117	Recov	ery =	307.9	·08#
49) Bromofluorobenzene	30.25	95	4667175	92.53	ug/L	0.00
Spiked Amount 30.0	00 Range 74	- 121	Recov	ery =	308.4	38#
Target Compounds		•		÷		Ovalue
16) Methylene Chloride	11.15	84	32053	1.14	ug/L	79
44) Ethylbenzene	27.46	91	6125341	34.77	ug/L	98
45) m+p-Xylenes	27.65	106	5671080	80.70	ug/L	98
46) o-Xylene	28.74	91	4396655	33.83	ug/L	99

^{(#) =} qualifier out of range (m) = manual integration VC007452 D M362451.M Tue Nov 27 13:31:53 2001

Data File : D:\HPCHEM\1\DATA\011120\VC007452.D

Vial: 5

: 20 Nov 2001 Acq On

5:40 pm

Operator: Skelton : GC/MS Ins

Sample : 600B-6

Method

: 1658506

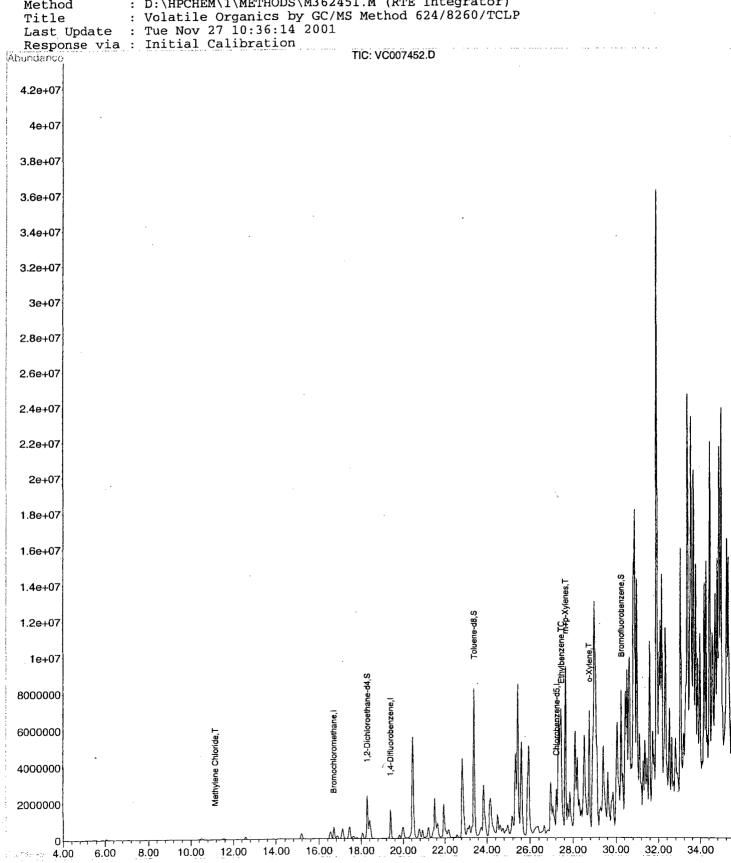
Multiplr: 1.00

Quant Results File: M362451.RES

Misc MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:24 2001

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)



(QT Reviewed)

Data File: D:\HPCHEM\1\DATA\011126\VC007465.D

Acq On : 26 Nov 2001 12:36 pm

: 1658506

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Vial: 15

Misc MS Integration Params: ACETONE.P

Sample

Quant Time: Nov 27 11:35 2001

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards		R.T.	QIon	Response	Conc Ur	nits D	ev(Min)
1) Bromochlorometha 26) 1,4-Difluorobenz 37) Chlorobenzene-d5	ene	16.69 19.41 27.25	128 114 119	361118 2648429 744471	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
35) Toluene-d8 Spiked Amount 3 49) Bromofluorobenze	ne-d4 0.000 0.000	Range 70 23.42 Range 81	- 121 98 - 117 95	3541930 Recove 1505228	ery = 34.89 ery = 38.34	133.8 uġ/L 116.3	0.00 0.00 0.00 0.00
Target Compounds 44) Ethylbenzene 45) m+p-Xylenes 46) o-Xylene		27.46 27.65 28.74	_		7.37	ug/L ug/L ug/L	Qvalue 99 92 98

^{(#) =} qualifier out of range (m) = manual integration

Data File : D:\HPCHEM\1\DATA\011126\VC007465.D

: 26 Nov 2001 12:36 pm

: 1658506

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Vial: 15

Misc MS Integration Params: ACETONE.P

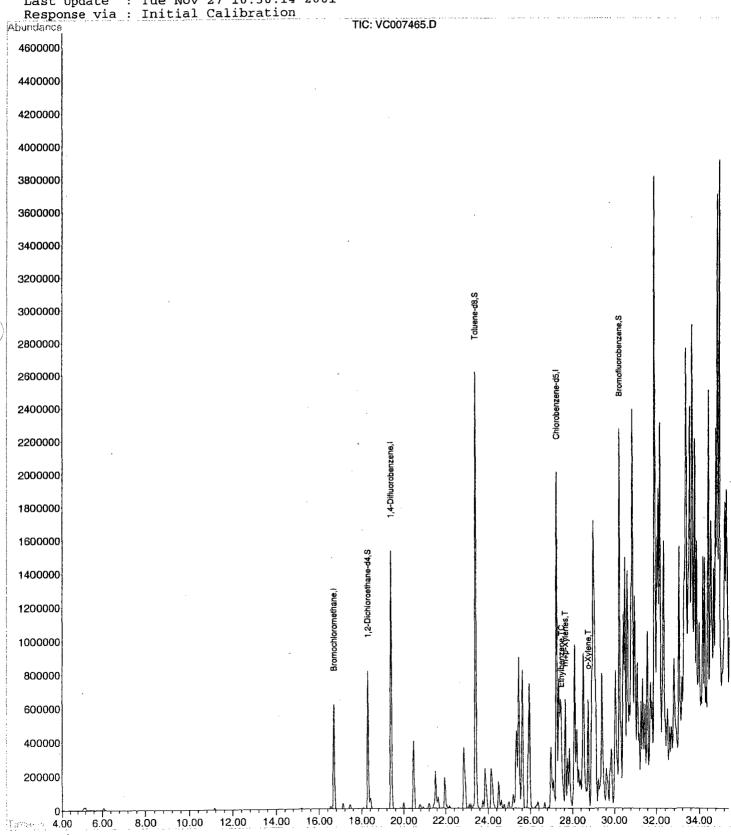
Acq On

Sample

Quant Time: Nov 27 11:35 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Nov 27 10:36:14 2001



(OT Reviewed)

Data File : D:\HPCHEM\1\DATA\011126\VC007466.D

Acq On : 26 Nov 2001 1:16 pm

Sample

Quant Time: Nov 27 11:35 2001

: 1658507

MS Integration Params: ACETONE.P

Operator: Skelton

Inst : GC/MS Ins Multiplr: 1.00

Vial: 16

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Misc

Internal Standards	R.T. QIon	Response Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 128 19.41 114 27.25 119	358822 30.00 2594371 30.00 978000 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	18.30 65 Range 70 - 121 23.42 98 Range 81 - 113 30.25 95 Range 74 - 121	Recovery = 3476763 34.96 Recovery = 1403197 27.21	133.77%# ug/L 0.00 116.53%

Target Compounds

Qvalue

Data File : D:\HPCHEM\1\DATA\011126\VC007466.D

Vial: 16

Multiplr: 1.00

: 26 Nov 2001 1:16 pm Acq On

Operator: Skelton : GC/MS Ins Inst

Sample : 1658507 Misc

100000

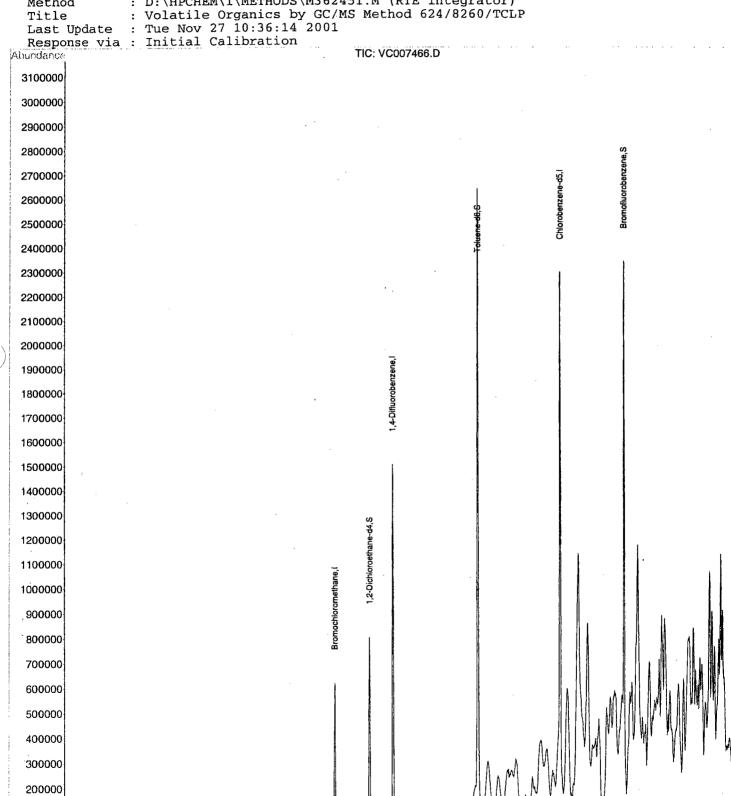
4.00

6.00

MS Integration Params: ACETONE.P Quant Time: Nov 27 11:35 2001

Ouant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method



10.00 12.00

8.00

14.00

16.00 18.00

20.00

22.00

24.00

26.00

28.00

30.00 32.00

34.00

A hard with a na A

Quantitation Report (QT/LSC Reviewed)

Vial: 6

Data File: D:\HPCHEM\1\DATA\011120\VC007453.D

: 20 Nov 2001 Acq On 6:21 pm

Operator: Skelton : 1658507 Inst : GC/MS Ins : FD600B Multiplr: 1.00

Misc MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:25 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Nov 20 12:00:22 2001

Response via: Initial Calibration

DataAcq Meth: M362451

Sample

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 19.41 27.25	128 114 119	380122 2674478 2190516	30.00 30.00 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 81	- 121 98 - 117 95	9182476 Recove 4041440	ery = 89.56 ery = 34.98	339.20%# ug/L 0.00 298.53%#
Target Compounds 16) Methylene Chloride	11.18	84	38206	1:36	Qvalue ug/L 77

Data File : D:\HPCHEM\1\DATA\011120\VC007453.D

: 20 Nov 2001 6:21 pm Acq On : 1658507 Sample

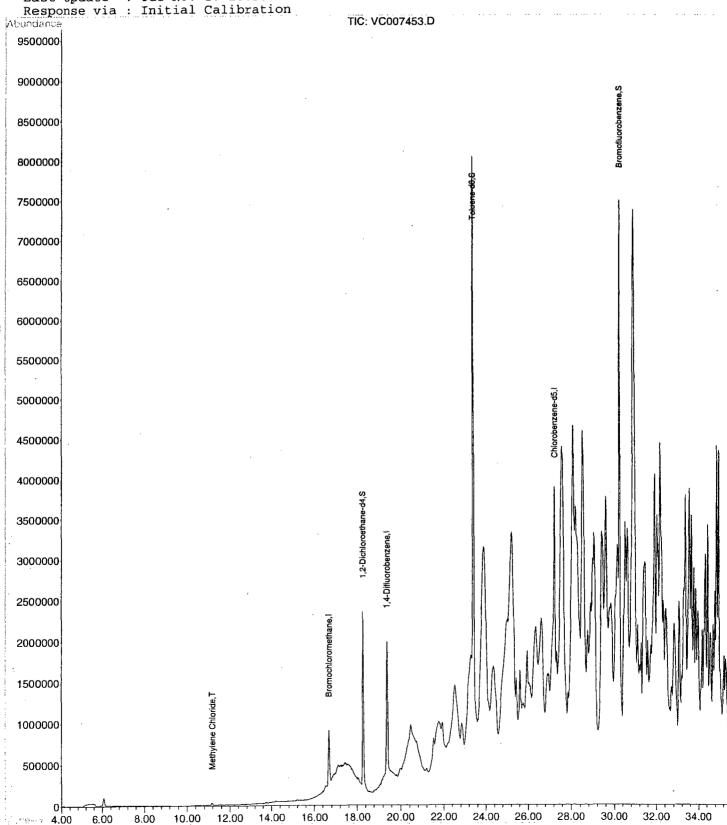
: GC/MS Ins Multiplr: 1.00

Vial: 6 Operator: Skelton

Misc : FD600B MS Integration Params: ACETONE.P

Quant Results File: M362451.RES Quant Time: Nov 27 11:25 2001

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 27 10:36:14 2001
Response via : Initial Calibration



TPHC

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

Client:

U.S. Army

Project #:

UST Reg. #:

16585

DPW. SELFM-PW-EV

Location:

Bldg. 600B

Bldg. 173

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.:

GC TPHC INST. #1 RTX-5, 0.32mm ID, 30M

Extraction Method: Analysis Complete:

Shake 19-Nov-01

Column Type: Injection Volume:

1uL

Analyst:

Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1658501	600B-1	1.00	15.83	83.89	171	840.17
1658502	600B-2	1.00	15.05	81.98	184	3521.65
1658503	600B-3	1.00	15.93	82.30	173	ND
1658504	600B-4	1.00	15.54	87.74	166	ND
1658505	600B-5	1.00	15.74	80.63	178	401.04
1658506	600B-6	1.00	15.03	82.61	182	6137.04
1658507	FD	1.00	15.17	88.87	168	ND
METHOD BLANK	MB-2639	1.00	15.00	100.00	151	ND
METHOD BLANK	MB-2647	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Calibr	ation Files				
5	=T013655.D	100	=T013656.D	50	=T013654.D
20	=T013658.D	10	=T013657.D		

		Compound	5	100	50	20	10	Avg		%RSD
-	tC		1.744							
2)	tC	C10	2.003					2.060		3.79 2.66
3) 4)	TC tC	C12 C14						2.305		1.02
5)	-	C14 C16						2.406		2.12
6)	-	C18	2.560	2.472	2.471	2.394	2.508	2.481	E4	2.44
7)	tC		2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
8)	tC	C22						2.588		3.55
9)	tC	C24	2.833							4.31
10)	tC	C26						2.670		4.66
11)	tC	C28						2.606		3.51
-	tC		2.816							3.56
13)	tC	C32						2.645		2.69
14)	tC	C34						2.632		2.97
15)	tC		2.763							2.14
16)	tC	433	2.526							1.79
17)	tC	C - C	2.197							2.14
18)	tC		1.886							4.86
19)	TC		2.536							4.20
20)	TC		2.753							4.43
ર્1)	sC		2.654							2.41
2)	tC	TPHC - total	3.562	2.604	2.659	2.739	2.933	2.899	E4	13.48

Data File : C:\HPCHEM\1\DATA\011119\T013807.D
Acq On : 19 Nov 2001 11:20 am

Vial: 100

Operator: Skelton Inst : GC/MS Ins

: Tstd050 : Tstd050 Sample Misc

COME OF CHARACTERS OF A

Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	·C8	18.019	20.649 E3		109	-0.03
2	tC	C10	20.595	22.791 E3	-10.7	107	0.00
3	TC	C12	21.549	22.973 E3	-6.6	104	0.00
4	tC	C14	23.048	23.409 E3	-1.6	101	0.00
5	tC	C16	24.057	24.122 E3	-0.3	100	0.00
6	tC	C18	24.812	24.021 E3	3.2	97	0.00
7	tC	C20	24.684	24.373 E3	1.3	98	0.00
8	tC	C22	25.878	25.638 E3	0.9	100	0.00
9	tC	C24	26.326	25.916 E3	1.6	99	0.00
10	tC	C26	26.702	26.194 E3	1.9	99	0.00
11	tC	C28	26.061	25.765 E3	1.1	99	0.00
12	tC	C30	26.583	26.469 E3		99	0.00
13	tC	C32	26.447	26.266 E3	0.7	99	0.00
14	tC	C34	26.317	26.143 E3	0.7	99	0.00
15	tC	C36	26.661	27.081 E3	-1.6	102	0.00
16.	tC	C38	24.528	25.796 E3		106	0.00
17	tC.	C40	21.994	24.627 E3		115	0.00
8	tC	c42	19.638	23.151 E3		120	0.00
.29	TC	Pristane	23.812	22.692 E3		94	0.00
20	TC	Phytane	25.573	25.364 E3	0.8	101	0.00
21	sC	o-terphenyl	25.484	25.624 E3		101	0.00
22	tC	TPHC - total	28.994	27.732 E3	4.4	104	1.46#

Data File : C:\HPCHEM\1\DATA\011119\T013818.D

Vial: 7

Acq On : 19 Nov 2001 5:51 pm

Operator: Skelton

Sample

: Tstd050s

Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	20.912 E3	-16.1	111	-0.05
2	tC	C10	20.595	22.414 E3	-8.8	105	-0.01
3	TC	C12	21.549	23.381 E3	-8.5	106	0.00
4	tC	C14	23.048	23.883 E3	-3.6	103	0.00
5	tC	C16	24.057	24.693 E3	-2.6	103	0.00
6	tC	C18	24.812	26.500 E3	-6.8	107	0.00
7	tC.	C20	24.684	25.423 E3	-3.0	103	0.00
8	tC	C22	25.878	26.184 E3	-1.2	102	0.00
9	tC	C24	26.326	26.479 E3	-0.6	102	0.00
10	tC	C26	26.702	26.760 E3	-0.2	102	0.00
11	tC	C28	26.061	26.296 E3	-0.9	101	0.00
12	tC	C30	26.583	26.999 E3	-1.6	101	0.00
13	tC	C32	26.447	26.755 E3	-1.2	101	0.00
14	tC	C34	26.317	26.612 E3	-1.1	101	0.00
15	tC	C36	26.661	27.616 E3	-3.6	104	0.00
16	tC	C38	24.528	26.472 E3	-7.9	109	0.00
17	tC	C40	21.994	25.435 E3	-15.6	118	-0.01
	tC	c42	19.638	24.573 E3	-25.1#	127	0.00
19	TC	Pristane	23.812	24.480 E3	-2.8	102	0.00
20	TC	Phytane	25.573	25.715 E3	-0.6	102	0.00
21		o-terphenyl	25.484	26.074 E3	-2.3	103	0.00
	tC	TPHC - total	28.994	28.595 E3	1.4	108	0.51#

Data File : C:\HPCHEM\1\DATA\011119\T013829.D
Acq On : 19 Nov 2001 11:54 pm

Vial: 18 Operator: Skelton

Inst : GC/MS Ins

Sample : Tstd050s

Multiplr: 1.00

Misc : IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	21.396 E3	-18.7		-0.06
2	tC	C10	20.595	23.520 E3	-14.2		-0.01
3	TC	C12	21.549	23.599 E3	-9.5	107	0.00
4	tC	C14	23.048	24.254 E3	-5.2	104	0.00
	tC	C16	24.057	24.923 E3	-3.6	104	0.00
6	tC	C18	24.812	24.957 E3	-0.6	101	0.00
	tC	C20	24.684	25.776 E3	-4.4	104	0.00
8	tC	C22	25.878	26.537 E3	-2.5	103	0.00
9	tC	C24	26.326	26.812 E3	-1.8	103	0.00
10	tC	C26	26.702	27.049 E3	-1.3	103	0.00
11	tC	C28	26.061	26.689 E3	-2.4	103	0.00
12	tC	C30	26.583	27.596 E3	-3.8	103	0.00
	tC	C32	26.447	27.128 E3	-2.6	102	0.00
14	tC	C34	26.317	26.996 E3	-2.6	103	0.00
	tC	C36	26.661	28.071 E3	-5.3	105	0.00
	tC	C38	24.528	26.803 E3	-9.3	111	0.00
1,7	tC	C40	21.994	25.904 E3	-17.8	121	0.00
8	tC	c42	19.638	25.406 E3	-29.4#	131	0.00
19	TC	Pristane	23.812	24.377 E3	-2.4	101	0.00
20	TC	Phytane	25.573	26.222 E3	-2.5	104	0.00
21	sC	o-terphenyl	25.484	26.413 E3	-3.6	104	0.00
22		TPHC - total	28.994	29.521 E3	-1.8	111	1.45#

Data File : C:\HPCHEM\1\DATA\011119\T013840.D

Vial: 29

Acq On : 20 Nov 2001 5:56 am Sample : Tstd050s

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Multiple Level Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 2	tC tC	C8 C10	18.019 20.595	21.151 E3 22.359 E3	-17.4 -8.6	112 105	-0.05 -0.01
3 4	TC tC	C12 C14	21.549 23.048	23.393 E3 23.788 E3	-8.6 -3.2	106 102	0.00
6	tC tC	C16 C18	24.057 24.812 24.684	24.483 E3 24.651 E3 25.098 E3	-1.8 0.6 -1.7	102 100 101	0.00 0.00 0.00
7 8 9	tC tC tC	C20 C22 C24	25.878 26.326	25.962 E3 26.272 E3	-0.3 0.2	101 101	0.00
10	tC tC	C26 C28	26.702 26.061	26.516 E3 26.090 E3	0.7 -0.1	101 100	0.00 0.00
13	tC tC	C30 C32	26.583 26.447	26.802 E3 26.556 E3	-0.8 -0.4	100 100	0.00
	tC tC tC	C34 C36 C38	26.317 26.661 24.528	26.433 E3 27.462 E3 26.273 E3	-0.4 -3.0 -7.1	100 103 108	0.00 0.00 0.00
	tC tC	C40 C42	21.994 19.638	25.371 E3 25.059 E3	-15.4 -27.6#	118	$ \begin{array}{c} -0.01 \\ 0.00 \end{array} $
19 20	TC TC	Pristane Phytane	23.812 25.573	23.910 E3 24.771 E3	-0.4 3.1	100 98	0.00
21 22	sC tC	o-terphenyl TPHC - total	25.484 28.994	25.800 E3 29.430 E3	-1.2 -1.5	102 111	0.00 0.51#

Data File : C:\HPCHEM\1\DATA\011119\T013851.D

Vial: 40

Acq On : 20 Nov 2001 11:59 am Sample : Tstd050s Operator: Skelton Inst : GC/MS Ins Misc Multiplr: 1.00

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via: Multiple Level Calibration

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

Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8 ·	18.019	21.333 E3	-18.4	113	-0.05
2	tC	C10	20.595	22.301 E3	-8.3	105	-0.01
3	TC	C12	21.549	23.385 E3	-8.5	106	0.00
4	tC	C14	23.048	23.751 E3	-3.1	102	0.00
5	tC	C16	24.057	24.359 E3	-1.3	101	0.00
6	tC	C18	24.812	24.271 E3	2.2	98	0.00
7	tC	C20	24.684	25.016 E3	~1.3	101	0.00
8	tC	C22	25.878	25.865 E3	0.1	101	0.00
. 9	tC	C24	26.326	26.136 E3	0.7	100	0.00
10	tC	C26	26.702	26.415 E3	1.1	100	0.00
11	tC	C28	26.061	25.990 E3	0.3	100	0.00
12	tC	C30	26.583	26.697 E3	-0.4	100	0.00
13	tC	C32	26.447	26.440 E3	0.0	100	0.00
14	ŧC	C34	26.317	26.342 E3	-0.1	100	0.00
15	tC	C36	26,661	27.330 E3	-2.5	103	0.00
16	tC	C38	24.528	26.234 E3	-7.0	108	0.00
17	tC	C40	21.994	25.278 E3	-14.9	118	-0.01
19	tC	c42	19.638	25.122 E3	-27.9#	130	0.00
)	TC	Pristane	23.812	23.579 E3	1.0	98	0.00
<u></u>	TC	Phytane	25.573	25.375 E3	0.8	101	0.00
21	sC	o-terphenyl	25.484	25.727 E3	-1.0	101	0.00
22	tC	TPHC - total	28.994	28.838 E3	0.5	108	1.45#

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

Client:

U.S. Army

Project #:

16585

DPW. SELFM-PW-EV

Location:

Bldg. 600B

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

Inst. ID.

GC TPHC INST. #1

Extraction Method:

19-Nov-01 Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1658501		10.00	10.35	103.53
1658502		10.00	10.61	106.08
1658503		10.00	9.97	99.71
1658504		10.00	10.23	102.31
1658505		10.00	9.92	99.17
1658506		10.00	10.68	106.82
1658507		10.00	10.52	105.19
METHOD BLANK	MB-2639	10.00	11.50	114.96
METHOD BLANK	MB-2647	10.00	11.86	118.64

Surrogate Added:

o-Terphenyl

Client:

U.S. Army

Project #:

16585

DPW. SELFM-PW-EV

Location:

Bldg. 600B

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

_ ____

Dave Dan ucica.

13-1404-0

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1658603MS	1000	88.41	931.16	84.27	75-125
1658603MSD	1000	88.41	949.81	86.14	75-125

DDD	240	40.00
I KPD:	2.19	20.00

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

Client:

U.S. Army

Project #:

16585

DPW. SELFM-PW-EV

Location:

Bldg. 600B

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1658101MS	1000	0.00	924.80	92.48	75-125
1658101MSD	1000	0.00	920.81	92.08	75-125

RPD	0.43	20.00

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

Client:

U.S. Army

Project #:

16585

DPW. SELFM-PW-EV

Location:

Bldg. 600B

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

Inst. ID.

GC TPHC INST. #1

Extraction Method:

19-Nov-01

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

Shake 19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits	.%
LCS-2640	19-Nov-01	1000	848.93	84.89	75-125	
LCS-2648	19-Nov-01	1000	861.18	86.12	75-126	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013810.D
Acq On : 19 Nov 2001 1:05 pm
Sample : MB 2647
Misc : 19Nov01
IntFile : TPHCINT.E

Vial: 3

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00.

Quant Time: Nov 19 13:30 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Compound Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 302332 11.864 mg/L 10.000 Range 8 - 13 Recovery = 118.64%# Spiked Amount

Target Compounds

Ouantitation port

Vial: 3

Data File: C:\HPCHEM\1\DATA\011119\T013810.D

: 19 Nov 2001 1:05 pm

Operator: Skelton Inst : GC/MS Ins : MB 2647 Multiplr: 1.00 : 19Nov01

IntFile : TPHCINT.E

Aca On

Sample

Misc

Quant Time: Nov 19 13:30 2001 Quant Results File: TPH95.RES

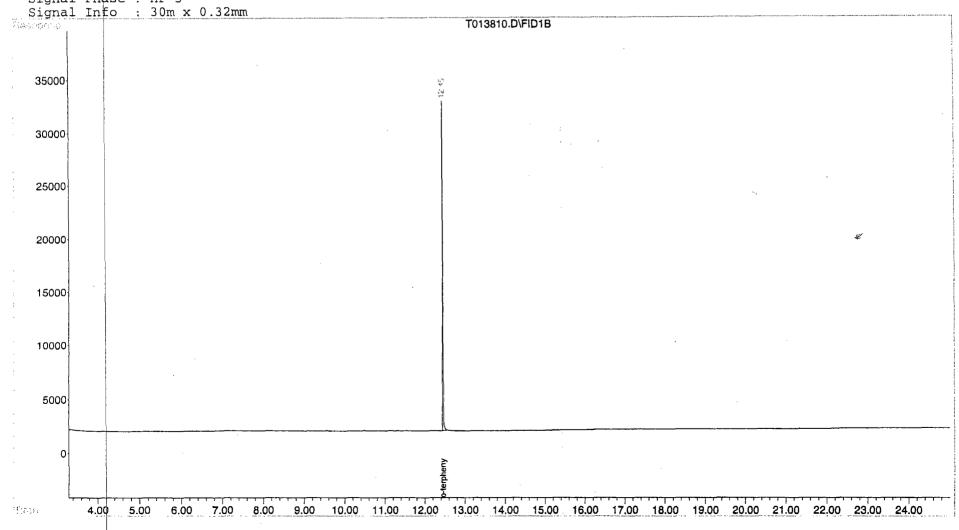
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013808.D

Vial: 1 Acq On : 19 Nov 2001 11:59 am
Sample : MB 2639
Misc : 19Nov01
Intrile : TPHCINT.E Operator: Skelton
Inst : GC/MS Ins
Multiplr: 1.00

Quant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Initial Calibration DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound R.T. Response Conc Units

System Monitoring Compounds

12.45 21) sC o-terphenyl 292962 11.496 mg/L 21) sC o-terphenyl 12.45 292962 11.496 mg. Spiked Amount 10.000 Range 8 - 13 Recovery = 114.96%#

Target Compounds

Quantitation ort

Data File : C:\HPCHEM\1\DATA\011119\T013808.D

Vial: 1

Acq On : 19 Nov 2001 11:59 am Sample : MB 2639

Operator: Skelton
Inst : GC/MS Ins

Misc : 19Nov01

Multiplr: 1.00

IntFile : TPHCINT.E

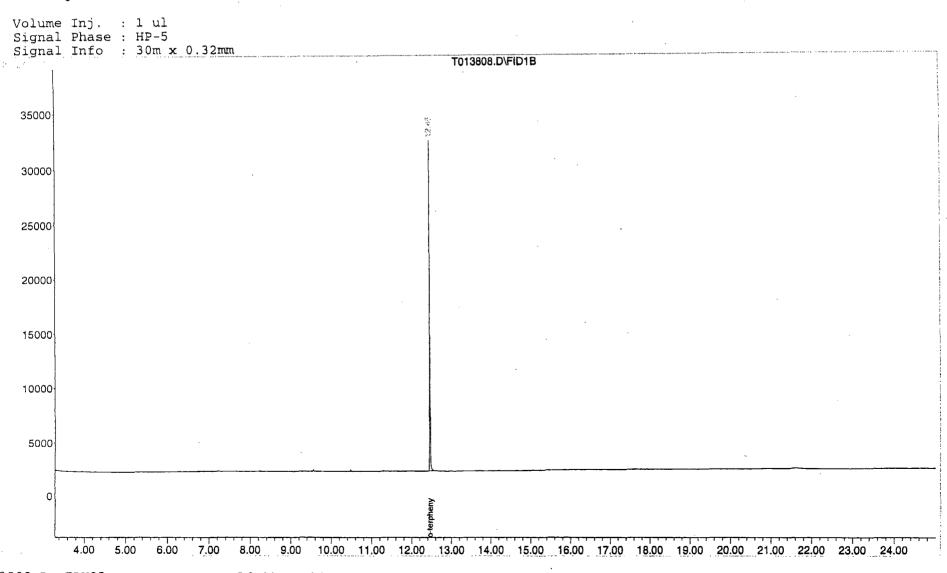
Ouant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES

Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013834.D

Vial: 23

Acq On : 20 Nov 2001 2:38 am

Operator: Skelton

: 1658501s Sample

Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 26 9:56 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 8 - 13	263834 Recovery	10.353 mg/L = 103.53%#	_
Target Compounds				
4) tC C14	9.88	51903	2.252 mg/L	
5) tC C16	11.24	36893·	1.534 mg/L	
6) tC C18	11.50	90397	3.643 mg/L	
19) TC Pristane	11.50	90397	3.796 mg/L	
22) tC TPHC - total	12.45	6469843	223.146 mg/L m	

Ouantitation ort

Inst

Vial: 23

Multiplr: 1.00

Operator: Skelton

: GC/MS Ins

Data File : C:\HPCHEM\1\DATA\011119\T013834.D

Acq On : 20 Nov 2001 2:38 am

Sample : 1658501s

Misc

IntFile : TPHCINT.E

Ouant Time: Nov 26 9:56 2001 Ouant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

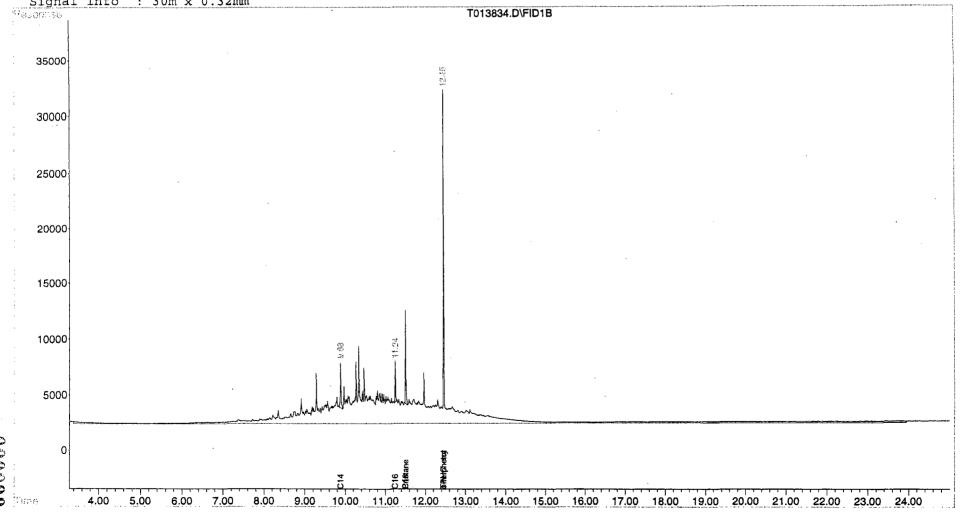
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\011119\T013835.D
Acq On : 20 Nov 2001 3:11 am

: 1658502s Sample

Vial: 24 Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

: TPHCINT.E IntFile

Quant Time: Nov 20 8:25 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 e 8 - 13	270336 Recovery	10.608 mg/L = 106.08%#	
Target Compounds				
3) TC C12	8.82	31234	1.449 mg/L	
4) tC C14	9.96	80749	3.503 mg/L	
5) tC C16	11.00	75426	3.135 mg/L	
6) tC C18	11.50	329339	13.273 mg/L	
7) tC C20	11.95	125643	5.090 mg/L	
19) TC Pristane	11.50	329339	13.831 mg/L	
20) TC Phytane	11.95	125643	4.913 mg/L	
22) tC TPHC - total	11.50	25195959	869.011 mg/L	m

Ouantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013835.D

Aca On : 20 Nov 2001 3:11 am Operator: Skelton : GC/MS Ins Inst

Vial: 24

Sample : 1658502s Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 8:25 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

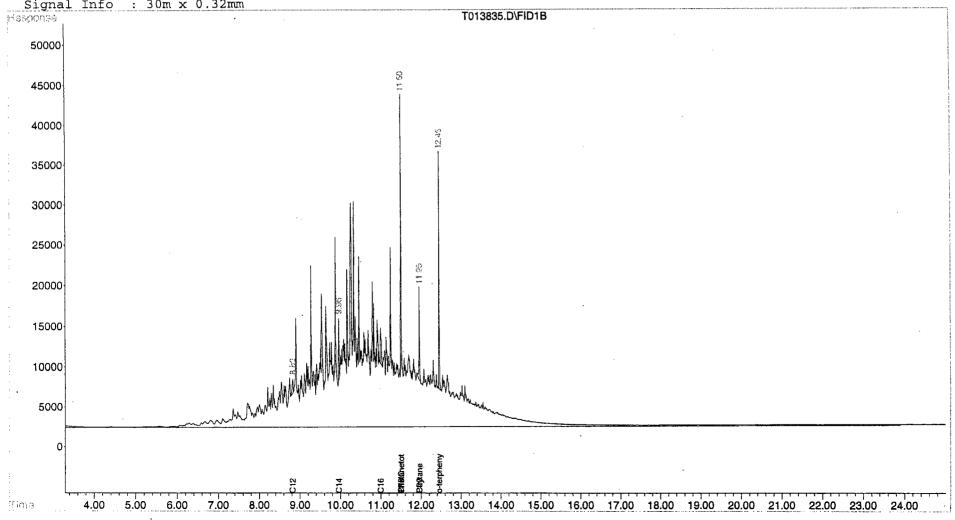
: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013836.D

Vial: 25

Acq On : 20 Nov 2001 3:44 am Sample : 1658503s

Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 4:10 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

12.45 254090 9.971 mg/L 21) sC o-terphenyl Spiked Amount 10.000 Range 8 - 13 Recovery = 99.71%#

Target Compounds

/m1 _m_min 1 ! m+

Quantitation ort

Data File : C:\HPCHEM\1\DATA\011119\T013836.D

Acg On : 20 Nov 2001 3:44 am

Vial: 25
Operator: Skelton

Sample : 1658503s

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 4:10 2001 Quant Results File: TPH95.RES

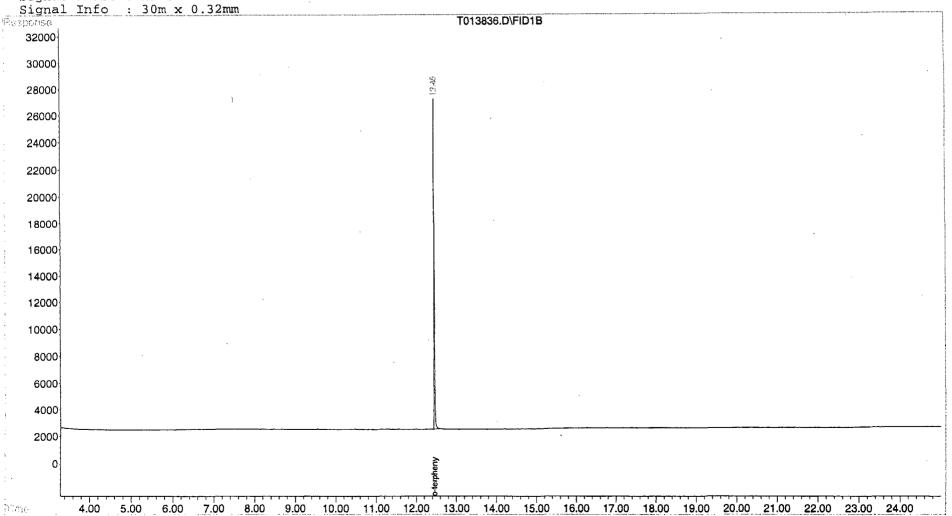
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Ouantitation Report (OT Reviewed)

Vial: 26

Data File : C:\HPCHEM\1\DATA\011119\T013837.D

Acq On : 20 Nov 2001 4:17 am Sample : 1658504s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc

IntFile : TPHCINT.E Quant Time: Nov 20 4:43 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 260720 10.231 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 102.31%#

Target Compounds

Quantitation

Data File : C:\HPCHEM\1\DATA\011119\T013837.D

Vial: 26

Aca On : 20 Nov 2001

Sample : 1658504s Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 20 4:43 2001 Ouant Results File: TPH95.RES

4:17 am

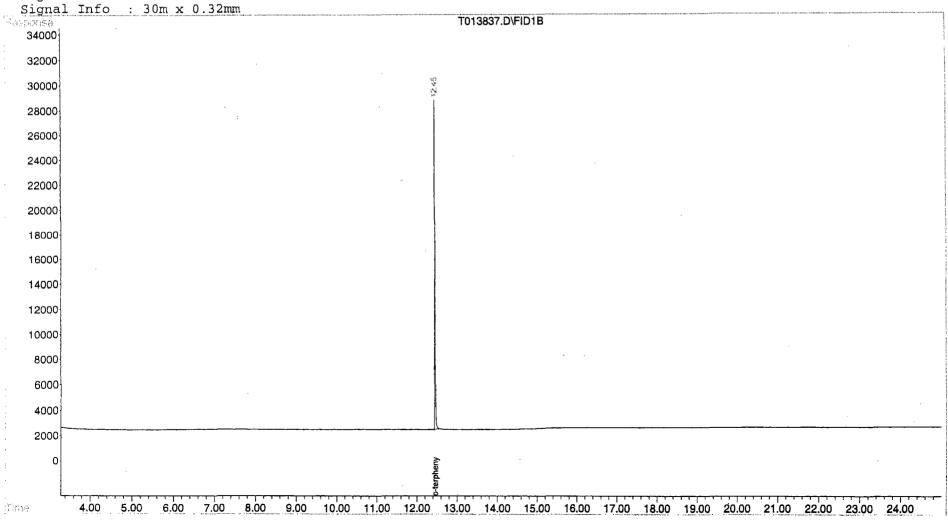
Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013838.D

Vial: 27

Acq On : 20 Nov 2001 4:50 am Sample : 1658505s Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00 Misc

IntFile : TPHCINT.E

Quant Time: Nov 20 8:26 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 252713 9.917 mg/ Spiked Amount 10.000 Range 8 - 13 Recovery = 99.17%# 252713 9.917 mg/L

Target Compounds

22) tC TPHC - total 12.45 2951386 101.794 mg/L m Quantitation (

Data File : C:\HPCHEM\1\DATA\011119\T013838.D

Aca On : 20 Nov 2001 4:50 am

Operator: Skelton : 1658505s Inst : GC/MS Ins

Misc

Sample

Multiplr: 1.00

Vial: 27

: TPHCINT.E IntFile

Ouant Time: Nov 20 8:26 2001 Ouant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

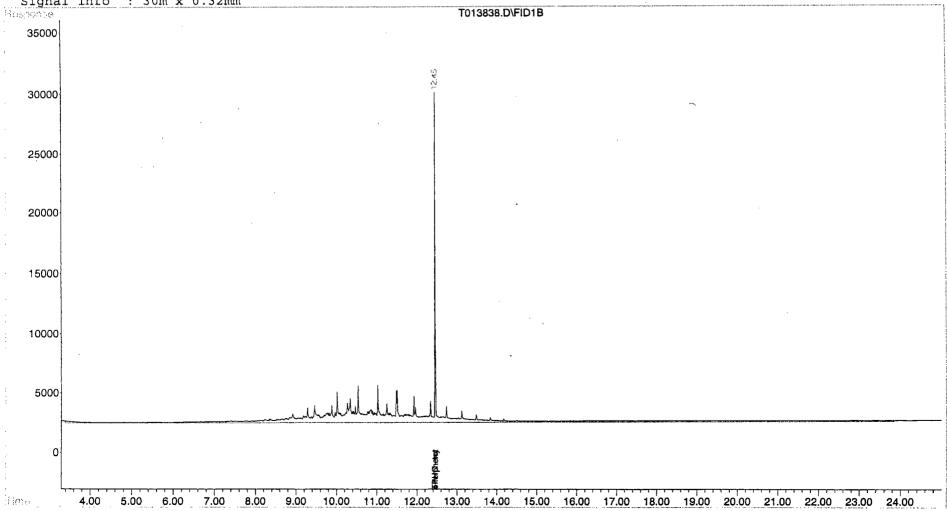
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013839.D

Vial: 28

Acq On : 20 Nov 2001 5:23 am

Operator: Skelton

Sample

: 1658506s

Multiplr: 1.00

44186160 1523.985 mg/L m

/--> ------- 2 -- L

Inst : GC/MS Ins

Misc

IntFile : TPHCINT.E

Quant Time: Nov 20 8:27 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

2) tC TPHC - total

Signal Info : $30m \times 0.32mm$

	Compound			R.T.	Response	Conc Units
	em Monitori		unds	10 45	272200	10.600
	o-terpheny		_	12.45	272209	10.682 mg/L
Spiked A	mount :	10.000	Range	8 - 13	Recovery	= 106.82%#
Targe	t Compound:	9				
. 2) tC	C10			6.96	35826	1.740 mg/L
3) TC	C12			8.81	63020	2.925 mg/L
4) tC	C14			10.01	31738	1.377 mg/L
5) tC	C16			10.99	140517	5.841 mg/L
6) tC	C18			11.50	646197	26.043 mg/L
7) tC	C20			11.96	230727	9.347 mg/L
8) tC	C22			12.65	89338	3.452 mg/L
19) TC	Pristane			11.50	646197	27.138 mg/L
२0) TC	Phytane			11.96	230727	9.022 mg/L

11.50

Ouantitation

Data File : C:\HPCHEM\1\DATA\011119\T013839.D

Acq On : 20 Nov 2001 5:23 am

Operator: Skelton Inst : GC/MS Ins

Sample Misc

: 1658506s

Vial: 28

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 8:27 2001 Quant Results File: TPH95.RES

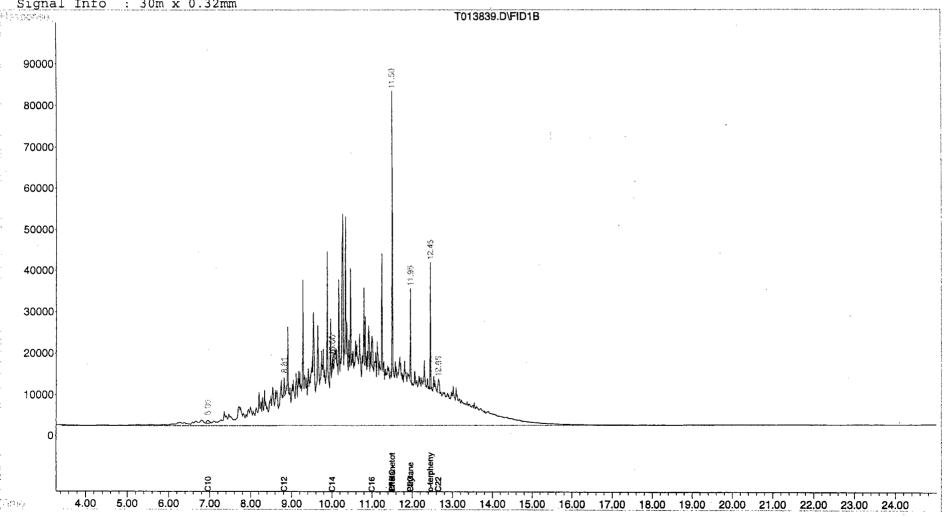
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



0001

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\011119\T013841.D

Vial: 30

Acq On : 20 Nov 2001 6:29 am Sample : 1658507s Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 6:55 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds 21) sC o-terphenyl 268060 10.519 mg/L 12.45 Spiked Amount 10.000 Range 8 - 13 Recovery = 105.19%#

Target Compounds

CABSAA

Ouantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013841.D

Vial: 30

Acg On : 20 Nov 2001 6:29 am

Operator: Skelton

Sample : 1658507s Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 20 6:55 2001 Ouant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

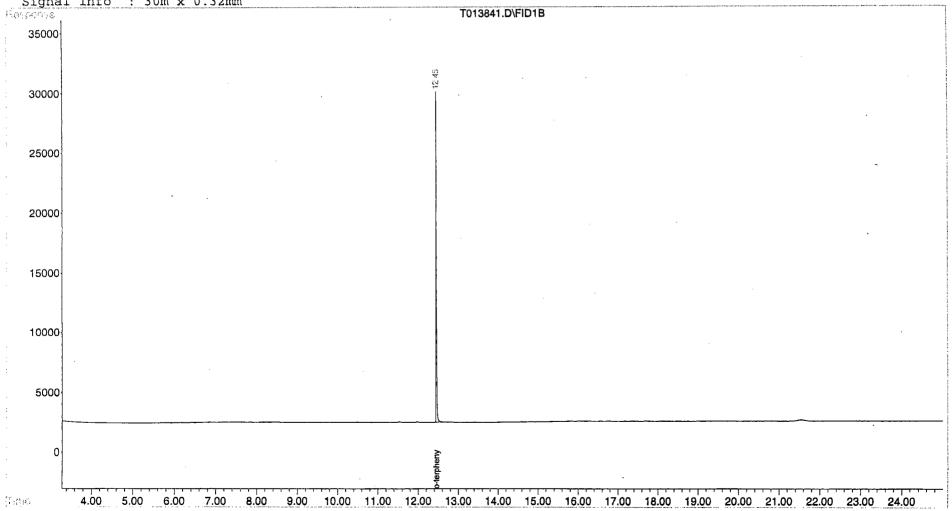
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

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

Report of Analysis

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1617.1-.2

Sample Rec'd: 08/18/94

Analysis Start: 08/24/94

Analysis Comp: 08/24/94

Analysis: 418.1 (TPH)

Matrix: Soil

Analyst: S. Hubbard

Ext. Meth: Sonc.

NJDEPE UST Reg.#: 0081533-87

Closure #: C-93-3888

DICAR #: 94-8-18-1613-35

Location #: Bldg. 611

Lab ID.	Description	%Solid	Result (mg/I	MDL Kg)
1617.1	P-1	86	2450.	69.
1617.2	P-2	87	27.6	5.9
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1616.3dup= 116% 1616.3s= 121% 1616.3sd= 134% RPD=10.0%

Brian K. McKee Laboratory Director

U.S. ARMY FORT MONMOUTH

Nigget Off 8-10 1/19	P.O. #: F	PWS-007				Chain of Custody
Dicar# 94-8-18-/6/3 Project #: C-93-3880 C4	Sampler: ,	0/11-	Date / I	ime	Analysis Parameters	Start:
Customer:	5 Conge	B/ Cuk #	6-18-44	1500		
C. Appleby SELFM-PW-EN	Post Excounty	611 Prelia Sandes				Finish:
SELFM-PW-EN	- UST# 81533-8	7	1		/////	
Phone: X26224	Trus - C-93-38	78A			c/ / / /	Preservation Method
Lab Sample Date/Time	Customer Samp Location/ID Num	le Sample	# of . Bottles	/\range r		Remarks
167. 8-18-94 1500	P-1	Soic	1	<u>V</u>		SA-phs Kept LY°C
	P-2	V	1	4		bottle fra ESS
•	•					Prechavel Lot # 2094
9. 12		·	·			
						Objects - collect
A S						Analyted Dotos Prive
	r V					to Firther Excusting
	· .					t/A- ASAP
Relinquished By (signat	ure) Date / Tim	ne Received E	ly (signatu	ıre)	Shipped By:	
Rélinquished by (signat	ure) Date / Tim	ne Received 1	for Lab by	/ , ,	1	Jate / Time
Note: A drawing depicti of custody.	BACK.		attached or	- drawr	on the rever	se side of this chain
SAI-ENV COC form 01	Pag	ge / of	· - /	Pages	Rev. A	Date: 02 Apr .93

Certification Number 1046

imples tothe take Bldg 611 C. APPKly SECFM- PC-EV back Site LAT/Lon. 3 DANK BAND of Cont. (Visibly Soil)
- SAMPLE token Dhuts Belie 4.4.
Which had a greate odos.

	ugust 24, 1994 Sarah Johnson
0	Blank o MV
:	40.75 5646
	81.5 112 MV
	163 230 HV
	1616.1 2.4V Building, 605
	1616.3 5MV
	1616,3 Dup 6HV
	1616.3 Sple 624V 1616.3 Sple 684V
	16164 OND
<u> </u>	16[6.5 44MV 3 8 8
	1617. 141) Biulding 611
	1617.2 2 10

Report of Analysis

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

Client: U.S. Army

Lab. ID #: 1633.1-.9

DPW, SELFM-PW-EV

Sample Rec'd: 09/06/94

Bldg. 167

Analysis Start: 09/08/94

Ft. Monmouth, NJ 07703

Analysis Comp: 09/08/94

Analysis: 418.1 (TPH)

NJDEPE UST Reg.#: # 87

Matrix: Soil

Closure #:

Analyst: S. Hubbard

DICAR #: 94-8-18-1613-35

Ext. Meth: Sonc.

Location #: Bldg. 611

Lab ID.	Description		%Solid	Result (mg/	
1633.1	Site A, NE Wall	OVA= ND	85	ND	6.6
1633.2	Site B, N Midwall	OVA= ND	81 .	2830.	46.
1633.3	Site C, NW Wall	OVA= ND	82	1160.	6.6
1633.4	Site D, SW Wall	OVA= ND	82	348.	6.6
1633.5	Site E, S Midwall	OVA= ND	83	554.	6.6
1633.6	Site F, SE Wall	OVA= ND	83	752.	6.6
1633.7	Site G, East Wall	OVA= ND	81	143.5	6.6
1633.8	Site H, West Wall	OVA= ND	81	1030.	6.6
1633.9	Site I, dup	OVA= ND	85	47.3	6.6
	·				·
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit
 * = Silica Gel Added, NA = Not Applicable

BATCH dup= 105% BATCH s= 112% BATCH sd= 105% RPD= 6.3%

Brian K. McKee

Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1633.1-.9

Sample Rec'd: 09/06/94

Analysis Start: 09/08/94

Analysis Comp: 09/08/94

Analysis: Munsel

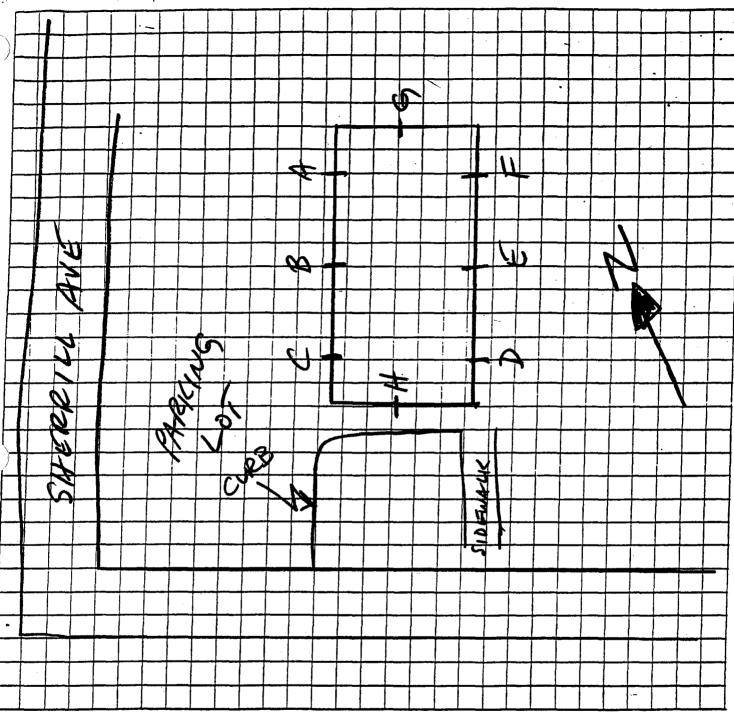
Lab ID#	Soil Color
1633.1	5GY 4/1 Dark Greenish Gray
1633.2	5Y 3/2 Dark Olive Gray
1633.3	5Y 3/2 Dark Olive Gray
1633.4	5Y 3/2 Dark Olive Gray
1633.5	5Y 3/2 Dark Olive Gray
1633.6	5Y 2.5/1 Black
1633.7	5Y 3/2 Dark Olive Gray
1633.8	5Y 3/2 Dark Olive Gray
1633.9	5Y 2.5/1 Black

Brian K. McKee Laboratory Director

SERV-AIR, INC.

oject C-9			Sampler:	8.1	CUT		בט	Dat 194	e /	Time			alys anet					Start	t:
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PROPOSED SITE PLAN.



NOTE: Indicate scale and compass direction.

NORTH WALL EXCAVATED
1 LOADER OF DIRT RENOVED

NO FUEL UNES FOUND

SCALE: 1"= 101
TANK LOCATION

BLDG# 611
TANK # 0081533- 87
TANK SIZE 1000 GALLON
TANK CONTENTS NO. 2 01L

Variable Grand

PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u> </u>	·
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		<u></u>
 IR Spectra submitted for standards, blanks, & samples Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted. Extraction holding time met. 		<u> </u>
(If not met, list number of days exceeded for each sample) 6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		_
Comments:		

Laboratory Authentication Statement

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

Project #1633

Brian K. McKee Laboratory Manager

Report of Analysis

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

Client: U.S. Army

Lab. ID #: 1768.1-.5

DPW, SELFM-PW-EV

Sample Rec'd: 12/16/94

Bldg. 167

Analysis Start: 12/19/94

Ft. Monmouth, NJ 07703

Analysis Comp: 12/20/94

Analysis: 418.1 (TPH)

Soil

NJDEPE UST Req.#:

Matrix:

Closure #: C-93-3888

Analyst: S. Hubbard

DICAR #: 94-8-18-1613-35

Ext. Meth: 3540A Location #: Bldg. 611

Lab ID.	Description		%Solid	Result (mg/l	
1768.1	Site A1, NE. Wall	OVA=5.	88	9.52	8.1
1768.2	Site B1, N. Midwall	OVA=3.	84	29.4	8.1
1768.3	Site C1, NW. Wall	OVA=ND	88	57.8	7.9
1768.4	Site G1, East Wall	OVA=6.	88	ND	7.6
1768.5	Site H1, West Wall	OVA=ND	87	15.9	8.1
M. Bl.	Method Blank		100	ND	7.7

Notes: ND = Not Detected, MDL = Method Detection Limit * = Silica Gel Added, NA = Not Applicable 1762.6S= 122%, 1762.6SD= 114%, RPD= 7.0% 1762.6 Dup=100%

QC Limits: Recovery= 100+/-28%, RPD=19.7%

Brian K. McKee Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1768.1-.5

Sample Rec'd: 12/16/94

Analysis Start: 12/20/94 Analysis Comp: 12/20/94

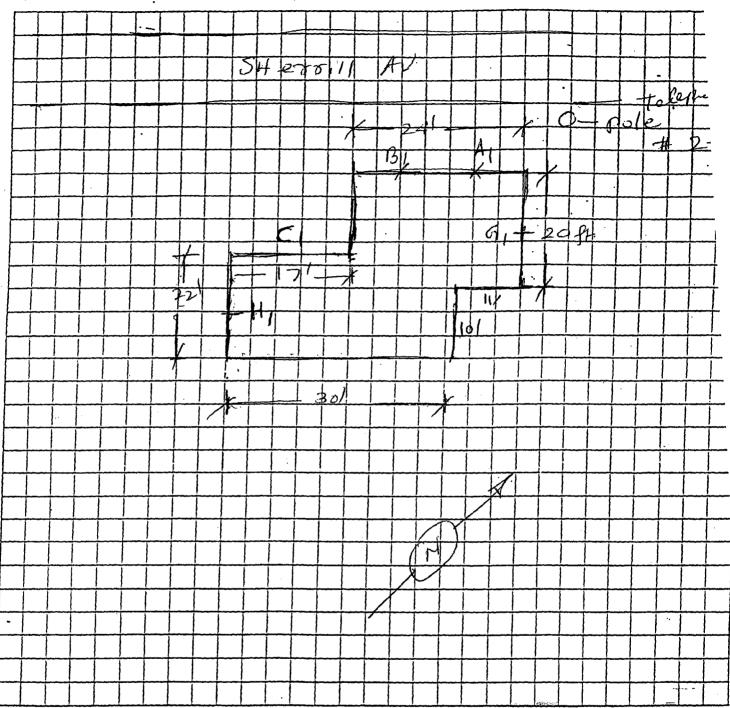
Analysis: Munsel

Lab ID#	Soil Color
1768.1	5 GY 4/1 Dark Greenish Gray
1768.2	5 GY 4/1 Dark Greenish Gray
1768.3	5 GY 4/1 Dark Greenish Gray
1768.4	5 GY 4/1 Dark Greenish Gray
1768.5	5 GY 4/1 Dark Greenish Gray

Brian K. McKee Laboratory Director ARMY FORT MONMOUTH

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	Envior	nmenta	l Labor	atory	•	• •					÷							•			

PROPOSED SITE PLAN



NOTE: Indicate scale and compass direction.

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TANK LOCATION

BLOG# 611

TANK #

TANK SIZE

TANK CONTENTS

185-6970-00

PHC Conformance/Non-conformance Summary Report	<u>No</u>	Yes
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u> </u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		
3. IR Spectra submitted for standards, blanks, & samples		<u> </u>
 Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted. 		NA
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		
Comments:		

Laboratory Authentication Statement

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

Project #1768 B

Brian K. McKee Laboratory Manager

Report of Analysis

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1633.1-.9

Sample Rec'd: 09/06/94

Analysis Start: 09/08/94

Analysis Comp: 09/08/94

Analysis: 418.1 (TPH)

Matrix: Soil

Analyst: S. Hubbard

Ext. Meth: Sonc.

NJDEPE UST Reg.#: # 87

Closure #:

DICAR #: 94-8-18-1613-35

Location #: Bldg. 611

Lab ID.	Description		%Solid	Result (mg/I	
1633.1	Site A, NE Wall	OVA= ND	85	ND	6.6
1633.2	Site B, N Midwall	OVA= ND	81 .	2830.	46.
1633.3	Site C, NW Wall	OVA= ND	82	1160.	6.6
1633.4	Site D, SW Wall	OVA= ND	82	348.	6.6
1633.5	Site E, S Midwall	OVA= ND	83	554.	6.6
1633.6	Site F, SE Wall	OVA= ND	83	752.	6.6
1633.7	Site G, East Wall	OVA= ND	81	143.5	6.6
1633.8	Site H, West Wall	OVA= ND	81	1030.	6.6
1633.9	Site I, dup	OVA= ND	85	47.3	6.6
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

BATCH dup= 105% BATCH s= 112% BATCH sd= 105% RPD= 6.3%

Brian K. McKee Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1633.1-.9

Sample Rec'd: 09/06/94

Analysis Start: 09/08/94

Analysis Comp: 09/08/94

Analysis: Munsel

Lab ID#	Soil Color
1633.1	5GY 4/1 Dark Greenish Gray
1633.2	5Y 3/2 Dark Olive Gray
1633.3	5Y 3/2 Dark Olive Gray
1633.4	5Y 3/2 Dark Olive Gray
1633.5	5Y 3/2 Dark Olive Gray
1633.6	5Y 2.5/1 Black
1633.7	5Y 3/2 Dark Olive Gray
1633.8	5Y 3/2 Dark Olive Gray
1633.9	5Y 2.5/1 Black

Brian K. McKee
Laboratory Director

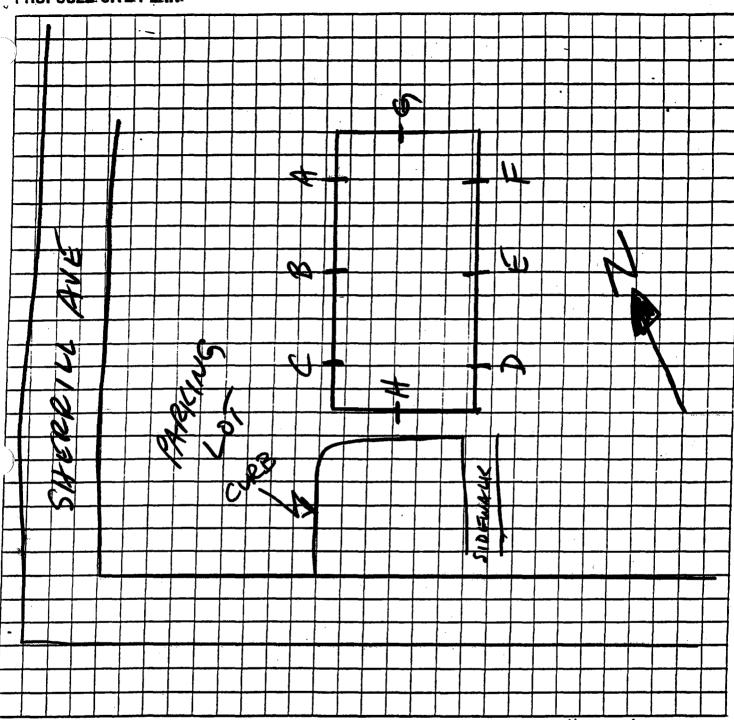
SERV-AIR, INC.

P.O. #: PWS-67 TPHC

Chain of Custody

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sb Sample) Number	Date/	/Time	Cust Locat	tomer ion/ID			Sam Mat	ple rix	# d	of tles	/	Β̈́	SIN					0		emarks		
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PROPOSED SITE PLAN.



NOTE: Indicate scale and compass direction.

REMARKS
NORTH WALL EXCAVATED 1 LOADER OF DIRT RENOVED
NO FUEL UNES FOUND

SCALE: 1"= 101

TANK LOCATION

BLDG# 611

TANK # 0081533- 87

TANK SIZE 1000 GALLON

TANK CONTENTS NO. 2 016

1633.7 1633.8 1633.9 6 M 40.75 Calibration CK 54M medad Blank our 1631.1 25 Building 293 1631.2 1174V 1631.3 11AV 1631.4 42MV 1631.6 142AV Spike Oup method blank ord 1632.1 Bulding \$82 3604V dis (7) 1637.1 1034V 1637-2 15MV (217) Calibration Check. 40.75

PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u> </u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		<u> </u>
		/
3. IR Spectra submitted for standards, blanks, & samples		<u> </u>
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		NA
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)	
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)	_	<u> </u>
Comments:		

Laboratory Authentication Statement

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

Project #1633

Brian K. McKee

Laboratory Manager

Sareh Mubbard U.S. ARMY FOW MONMOUTH 35 40.75 81.5 - 11.0/ Blog. GII Enviormental Laborator sampled 9/6/94 Sample Ext. M.V. Mg/Kg Wet **%**S Dry Munsell Color uethod. 30 ND 0 Blank dark greenigh 1633.1 5,738 6.743 ,85 15 ND del 7 dark of up .2 2,831.4 7.593 6.136 .81 67 .3 1,158.0 5.126 6.213 .82 199 4.976 6050 . 4 1) 15 347.8 .82 58 6.514 .5 553.7 5.400 , tl 5 83 95 Black 752.4 .6 5.655 6.868 .83 1427 8:341 6.767 22 .81 8.346 11 74 1,026.9 6.70 .81 Black 1.274 47.3 $\langle \varphi \rangle$ 6.16 .85

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: UST Program

Bldg. 615

· · · · · · · · · · · · · · · · · · ·				
Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time	Date Received
045 457 51		0-11	Of Collection	444004
615-1/7.5'	1659701	Soil	19-Nov-01 10:00	11/19/01
615-2/7.5'	1659702	Soil	19-Nov-01 10:25	11/19/01
615-3/7.5'	1659703	Soil	19-Nov-01 10:45	11/19/01
615-4/7.5'	1659704	Sail	19-Nov-01 11:00	11/19/01
615-5/7.5'	1659705	Soil	19-Nov-01 11:20	11/19/01
615-FD/7.5'	1659706	Soil	19-Nov-01	11/19/01

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright Date Laboratory Director

1-3001

Table of Contents

Section		<u>Pages</u>
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Results Summary		4
Blank Spike Summary		4
Initial Calibration Summary		5
Continuing Calibration Summary		6-8
Surrogate Results Summary		8
MS/MSD Results Summary		9-10
Raw Sample Data		11-24
Laboratory Deliverable Checklist		25
Laboratory Authentication Statement		26

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
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).	- 40
4 .	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	yes
5.	IR Spectra submitted for standards, blanks and samples.	<u>AU</u>
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	s <u>VS</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes
Additi	ional comments:	
	11-30-01	
Labor	ratory Manager Date	~



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D.DESAi				Project No:	02-125	39				Ana	lysis F	aram	eters		Comments:	
Phone #:	X214	75		Location: 19	BLDG, 6	15		0 <	Τ	%				ŀ		
()DERA	()OMA ()Other	•		FORMER)			300000000000000000000000000000000000000	ρ	(40)					Ú	
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Lab Sam			mple Location	Date	Time	Туре	bottles	15	Ċ	Ď				lei	Remarks / Preservation Metho	d
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Turnaround ti	eport Type: ()Full, ()Reduced, ()Standard, ()Screen / non-certified, ()EDD urnaround time: ()Standard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.															

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

Client:

U.S. Army

Project #:

16597

DPW. SELFM-PW-EV

Location: UST Reg. #:

Bldg. 615

Bldg. 173

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

19-Nov-01

Matrix:

Soil

Date Extracted :

20-Nov-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type :

RTX-5, 0.32mm ID, 30M

Analysis Complete:

21-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1659701	615-1	1.00	15.92	80.84	176	ND
1659702	615-2	1.00	15.90	79.44	179	ND
1659703	615-3	1.00	15.12	79.04	190	ND
1659704	615-4	1.00	15.45	81.25	180	ND
1659705	615-5	1.00	15.47	78.93	185	ND
1659706	615-FD	1.00	15.44	79.12	185	ND
METHOD BLANK	MB-2665	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

	Cali 5 20	bration Files =T013655.D =T013658.D	100 10		3656.D 3657.D	50	=7	r013654	1.D		
٠		Compound		5	100	50	20	10	Avg		%RSD
1) 2) 3) 4) 5) 6) 7) 8) 10) 11) 12) 13) 14) 15) 16) 17) 18)	TC tC tC tC tC tC tC tC tC tC	C40 c42 Pristane Phytane		2.003 2.113 2.299 2.493 2.560 2.514 2.749 2.833 2.890 2.766 2.766 2.766 2.763 2.536 2.536 2.536	2.147 2.213 2.326 2.384 2.472 2.458 2.537 2.572 2.593 2.5620 2.603 2.589 2.655 2.460 2.124 2.306 2.476	2.126 2.208 2.324 2.406 2.471 2.478 2.572 2.606 2.634 2.654 2.654 2.631 2.462 2.148 1.935 2.402 2.516	1.965 2.156 2.268 2.366 2.394 2.435 2.524 2.557 2.598 2.549 2.573 2.602 2.573 2.625 2.199 1.972 2.282 2.487	2.057 2.083 2.306 2.379 2.508 2.458 2.557 2.595 2.636 2.569 2.613 2.599 2.627 2.430 2.178 1.902 2.379 2.554	2.305 2.406 2.481 2.468 2.588 2.633 2.670 2.606 2.658 2.645 2.632 2.665 2.153 2.199 1.964 2.381 2.557	E44 E44 E44 E44 E44 E44 E44 E44 E44	3.79 2.66 1.02 2.12 2.44 1.20 3.55 4.31 4.66 3.51 3.56 2.69 2.97 2.14 1.79 2.14 4.86 4.20 4.43
21) 2)	sC tC	o-terphenyl TPHC - total		2.654 3.562	2.507	2.538	2.739	2.538	2.548	E4 E4	2.41 13.48

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011119\T013851.D

Vial: 40 Operator: Skelton

Acq On : 20 Nov 2001 11:59 am

Inst : GC/MS Ins

Sample : Tstd050s Misc

Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		C8	18.019	21.333 E3	-18.4	113	-0.05
2	tC	C10	20.595	22.301 E3	-8.3	105	-0.01
3		C12	21.549	23.385 E3	-8.5	106	0.00
4	tC	C14	23.048	23.751 E3	-3.1	102	0.00
5	tC	C16	24.057	24.359 E3	-1.3	101	0.00
6	tC	C18	24.812	24.271 E3	2.2	98	0.00
7	tC	C20	24.684	25.016 E3	-1.3	101	0.00
8	tC	C22	25.878	25.865 E3	0.1	101	0.00
. 9	tC	C24	26.326	26.136 E3	0.7	100	0.00
10	tC	C26	26.702	26.415 E3	1.1	100	0.00
11	tC	C28	26.061	25.990 E3	0.3	100	0.00
12	tC	C30	26.583	26.697 E3	-0.4	100	0.00
13	tC	C32	26.447	26.440 E3	0.0	100	0.00
14	tC	C34	26.317	26.342 E3	-0.1	100	0.00
15	tC	C36	26.661	27.330 E3	-2.5	103	0.00
16	tC	C38	24.528	26.234 E3	-7.0	108	0.00
17	tC	C40	21.994	25.278 E3	-14.9	118	-0.01
3	tC	c42	19.638	25.122 E3	-27.9#	130	0.00
)	TC .	Pristane	23.812	23.579 E3	1.0	98	0.00
∠ 0	TC	Phytane	25.573	25.375 E3	0.8	101	0.00
	sC	o-terphenyl	25.484	25.727 E3	-1.0	101	0.00
22	tC	TPHC - total	28.994	28.838 E3	0.5	108	1.45#

Evaluate Continuing Calibration Report

Data File: C:\HPCHEM\1\DATA\011119\T013874.D

Vial: 63

Acq On : 21 Nov 2001 12:35 am Sample : Tstd050s Operator: Skelton Sample Inst : GC/MS Ins Multiplr: 1.00 Misc

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
	tC	C8	18.019	20.845 E3	-15.7	111	-0.06
2	tC	C10	20.595	22.510 E3	-9.3	106	-0.02
	TC	C12	21.549	23.468 E3	-8.9	106	0.00
4	tC	C14	23.048	24.300 E3	-5.4	105	0.00
	tC	C16	24.057	24.924 E3	-3.6	104	0.00
6	tC	C18	24.812	26.088 E3	-5.1	106	0.00
7	tC	.C20	24.684	25.518 E3	-3.4	103	0.00
8	tC	C22	25.878	26.569 E3	-2,7	103	0.00
9	tC	C24	26.326	26.900 E3	-2.2	103	0.00
10	tC	C26	26.702	27.150 E3	-1.7	103	0.00
11	tC	C28	26.061	26.721 E3	-2.5	103	0.00
12	tC	C30	26.583	27.479 E3	-3.4	103	0.00
13	tĊ	c32	26.447	27.239 E3	-3.0	103	0.00
14	tC	C34	26.317	27.149 E3	-3.2	103	0.00
15	tC	C36	26.661	28.199 E3	-5.8	106	-0.01
	tC	C38	24.528	27.068 E3	-10.4	112	-0.02
	tC	C40	21.994	26.208 E3	-19.2	122	-0.02
- 8	tC	c42	19.638	25.939 E3	-32.1#	134	-0.02
)	TC	Pristane	23.812	24.975 E3	-4.9	104	0.00
∠ó	TC	Phytane	25.573	25.985 E3	-1.6	103	0.00
	sC	o-terphenyl	25.484	26.360 E3	-3.4	104	0.00
	tC	TPHC - total	28.994	31.702 E3	-9.3	119	1.73#

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

Client:

U.S. Army

Project #:

16597

DPW. SELFM-PW-EV

Location:

Bldg. 615

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

19-Nov-01

Matrix:

Soil

Date Extracted:

20-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

DMIT = 0.00 ID 001

RTX-5, 0.32mm ID, 30M Analysis Complete:

21-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1659701		10.00	10.35	103.50
1659702		10.00	10.11	101.06
1659703		10.00	10.55	105.53
1659704		10.00	10.20	102.01
1659705		10.00	9.91	99.11
1659706		10.00	10.85	108.54
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<u></u>				
	†	 		
	 		<u> </u>	
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METHOD BLANK	MB-2665	10.00	10.84	108.38

Surrogate Added:

o-Terphenyl

Client:

U.S. Army

Project #:

16597

DPW. SELFM-PW-EV

Location:

Bldg. 615

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

19-Nov-01

Matrix:

Soil

Date Extracted:

20-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

21-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)		QC Limits %
1659701MS	1000	0.00	888.62	88.86	75-125
1659701MSD	1000	0.00	958.95	95.89	75-125

RPD	7.61	20.00

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

Client:

U.S. Army

Project #:

16597

DPW. SELFM-PW-EV

Location:

Bldg. 615

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

Matrix:

Soil

Date Extracted:

19-Nov-01

20-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

21-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-2666	20-Nov-01	1000	868.74	86.87	75-126

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013857.D

Vial: 46

Acq On : 20 Nov 2001 3:19 pm Sample : MB 2665s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 20 15:45 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via: Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound R.T. Response Conc Units

System Monitoring Compounds

henyl 12.45 276181 10.838 mg/ 10.000 Range 8 - 13 Recovery = 108.38%# 21) sC o-terphenyl Spiked Amount 10 276181 10.838 mg/L

Quantitation ort

Vial: 46

Operator: Skelton

Inst : GC/MS Ins
Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011119\T013857.D

Acg On : 20 Nov 2001 3:19 pm

Sample : MB 2665s

Misc :

IntFile : TPHCINT.E

Quant Time: Nov 20 15:45 2001 Quant Results File: TPH95.RES

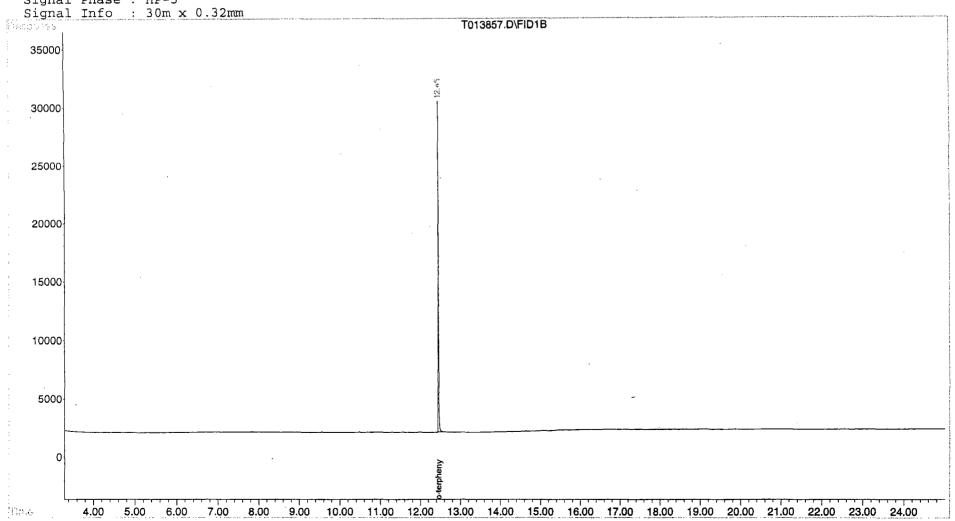
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013859.D

Acq On : 20 Nov 2001 4:25 pm Operator: Skelton : 1659701s Sample Inst : GC/MS Ins

Misc

Multiplr: 1.00

Vial: 48

IntFile : TPHCINT.E

Ouant Time: Nov 20 16:51 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via: Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Conc Units Compound Response ______

System Monitoring Compounds

21) sC o-terphenyl 12.45 263747 10.350 mg. Spiked Amount 10.000 Range 8 - 13 Recovery = 103.50%263747 10.350 mg/L

Ouantitation ort

Data File : C:\HPCHEM\1\DATA\011119\T013859.D

Vial: 48

Aca On : 20 Nov 2001 4:25 pm

Operator: Skelton Inst : GC/MS Ins

Sample Misc

: 1659701s

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 20 16:51 2001 Quant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

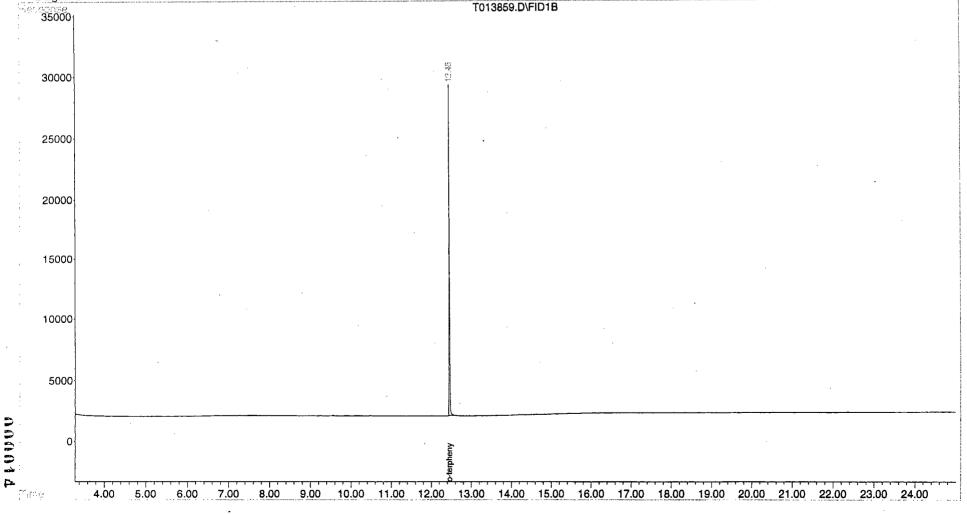
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : 30m x 0.32mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013863.D

Vial: 52

Acq On : 20 Nov 2001 6:37 pm Sample : 1659702s

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc : TPHCINT.E

Quant Time: Nov 20 19:02 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound

R.T.

Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl

12.45

257548 10.106 mg/L

Spiked Amount

henyl 12.45 257548 10.106 mg/ 10.000 Range 8 - 13 Recovery = 101.06%#

Quantitation ort

Data File : C:\HPCHEM\1\DATA\011119\T013863.D

Acg On : 20 Nov 2001 6:37 pm

Operator: Skelton Inst : GC/MS Ins

Vial: 52

Sample : 1659702s Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 20 19:02 2001 Quant Results File: TPH95.RES

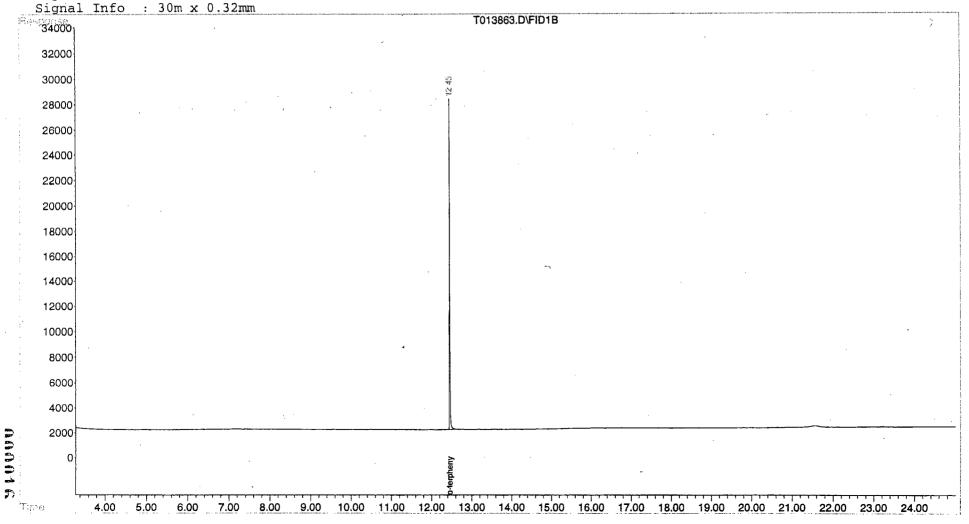
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013864.D

Vial: 53

Acq On : 20 Nov 2001 7:10 pm Sample

Operator: Skelton
Inst : GC/MS Ins

Misc

: 1659703s

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 19:35 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound

R.T. Response Conc Units

System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10

12.45

268925 10.553 mg/L

10.000 Range 8 - 13 Recovery = 105.53%#

Quantitation ort

Data File : C:\HPCHEM\1\DATA\011119\T013864.D

Acq On : 20 Nov 2001 7:10 pm

Vial: 53 Operator: Skelton Inst : GC/MS Ins

Sample : 1

IntFile : TPHCINT.E

Quant Time: Nov 20 19:35 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

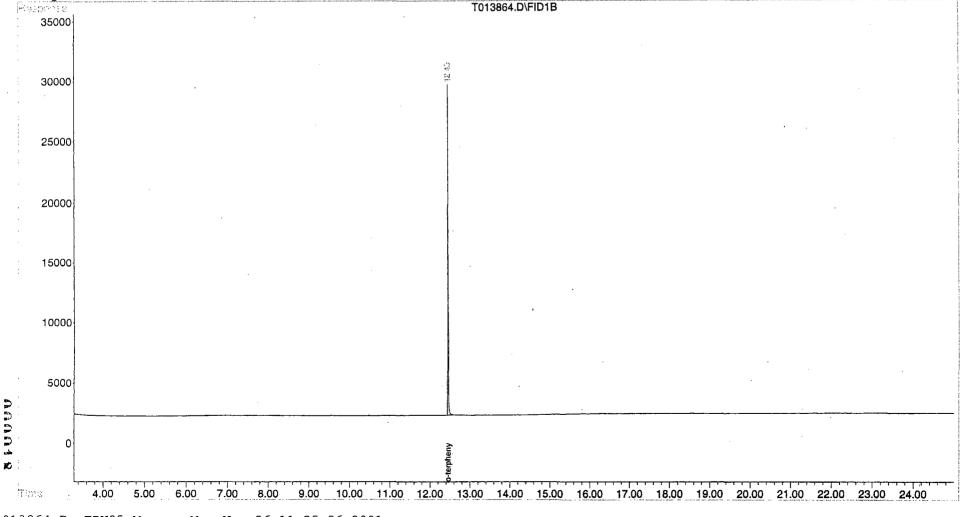
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013865.D

Vial: 54

Acq On : 20 Nov 2001 7:42 pm Sample : 1659704s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc

IntFile : TPHCINT.E Quant Time: Nov 20 20:08 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Compound Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl Spiked Amount 10 12.45 259956 10.201 mg/L 10.000 Range 8 - 13 Recovery = 102.01%#

Ouantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013865.D

: 20 Nov 2001 7:42 pm Aca On

Operator: Skelton Inst : GC/MS Ins

Vial: 54

Misc

Sample

: 1659704s

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 20:08 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

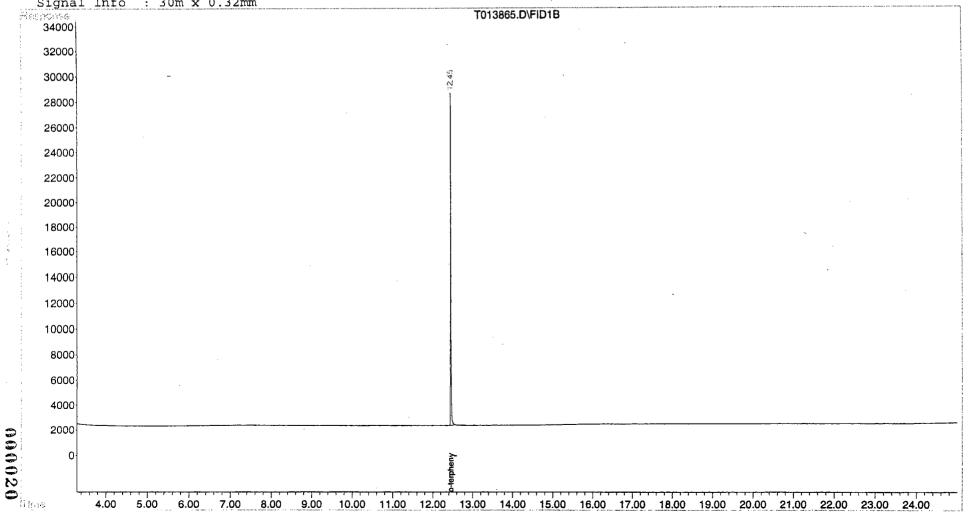
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013866.D

Vial: 55

Acq On : 20 Nov 2001 8:15 pm Operator: Skelton Sample : 1659705s Inst : GC/MS Ins Multiplr: 1.00

Misc Misc : IntFile : TPHCINT.E

Quant Time: Nov 20 20:40 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth : TPH95.M

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

R.T. Compound Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl Spiked Amount 10 12.45 252576 9.911 mg/L henyl 12.45 252576 9.911 mg 10.000 Range 8 - 13 Recovery = 99.11%#

Ouantitation

Vial: 55 Data File : C:\HPCHEM\1\DATA\011119\T013866.D Operator: Skelton : 20 Nov 2001 8:15 pm Sample : 1659705s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E

Quant Time: Nov 20 20:40 2001 Quant Results File: TPH95.RES

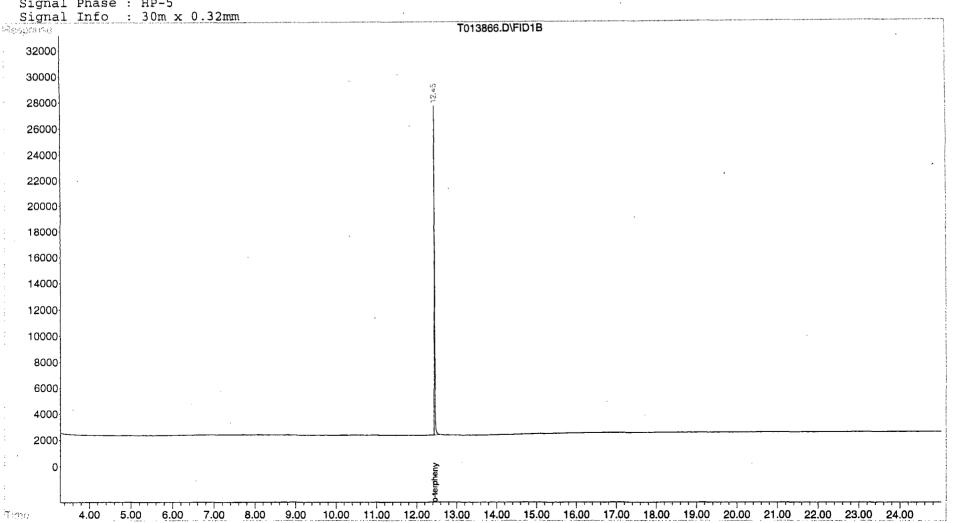
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



AAAA9

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013867.D

Vial: 56

Acq On : 20 Nov 2001 8:48 pm

Operator: Skelton Inst : GC/MS Ins

Sample

: 1659706s

Misc

Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 20 21:13 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration DataAcq Meth : TPH95.M

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

R.T. Compound Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl Spiked Amount 10 12.45 276588 10.854 mg/L enyl 12.45 276588 10.854 mg 10.000 Range 8 - 13 Recovery = 108.54%#

Quantitation or

Data File : C:\HPCHEM\1\DATA\011119\T013867.D

Acg On : 20 Nov 2001 8:48 pm

Vial: 56
Operator: Skelton

Sample : 1659706s

Inst : GC/MS Ins Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Ouant Time: Nov 20 21:13 2001 Ouant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm T013867.D\FID1B Response 35000 30000 25000 20000 15000 10000 5000 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

l.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
2.	Table of Contents submitted
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
4.	Document paginated and legible
5 .	Chain of Custody submitted
6.	Samples submitted to lab within 48 hours of sample collection
7.	Methodology Summary submitted
8.	Laboratory Chronicle and Holding Time Check submitted
9.	Results submitted on a dry weight basis
10. 11.	Method Detection Limits submitted 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 oratory 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-84 for Solid Waste Analysis. I have personally examined the information contained in the report and to the best of my knowledge, I believe that the submitted information is the accurate, complete and meets the above referenced standards where applicable. I aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright Laboratory Manager

Report of Analysis

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

Client: U.S. Army

Lab. ID #: 1634.1-.8

DPW, SELFM-PW-EV

Sample Rec'd: 09/06/94

Bldg. 167

Analysis Start: 09/14/94

Ft. Monmouth, NJ 07703

Analysis Comp: 09/14/94

Analysis: 418.1 (TPH)

NJDEPE UST Reg.#: 0081533-91

Matrix: Soil

Closure #: C93-3908

Analyst: S. Hubbard

DICAR #: 94-8-19-1612-06

Ext. Meth: Sonc. Location #: Bldg. 618

Lab ID.	Description		%Solid	Result (mg/	
1634.1	Site A, NE. Wall	OVA= 18.	78	1050.	6.6
1634.2	Site B, Midwall N.	OVA= 10.	85	1000.	6.6
1634.3	Site C, NW.Wall	OVA= 60.	89	1240.	6.6
1634.4	Site D, SW. Wall	OVA= 10.	81	4390.	6.6
1634.5	Site E, S. Midwall	OVA= 20.	81	5360.	6.6
1634.6	Site F, SE. Wall	OVA= 35.	82	4860.	6.6
1634.7	Site H, Trench	OVA= ND	81	1130.	6.6
1634.8	Site G, Dup	OVA=	77	128.	6.6
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1634.7dup= 102% 1634.7s= 199% 1634.7sd= 200% RPD= 0.4%

Cal Chk = 97%

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1634.1-.8

Sample Rec'd: 09/06/94

Analysis Start: 09/15/94

Analysis Comp: 09/15/94

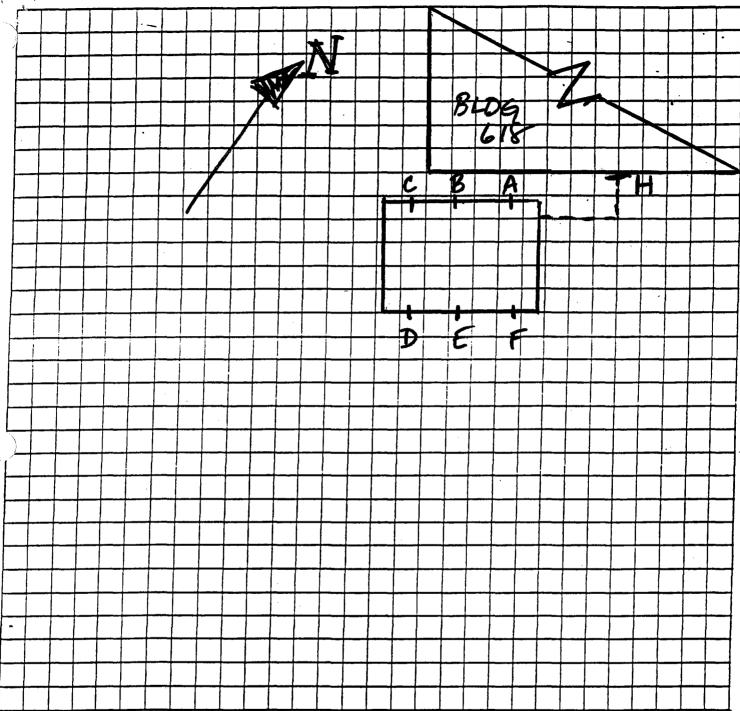
Analysis: Munsel

Lab ID#	Soil Color
1634.1	5Y 4/3 Olive
1634.2	5Y 4/4 Olive
1634.3	2.5Y 4/4 Olive Brown
1634.4	5Y 3/2 Dark Olive Gray
1634.5	5Y 4/3 Olive
1634.6	5Y 4/3 Olive
1634.7	5Y 4/3 Olive
1634.8	5Y 4/3 Olive
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SERV-AIR, INC.

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10ne:968-5	532-	1475	DICAR #94	1-8-19-1	1612-06			1V49	5///			vation Method	
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PROPOSED SITE PLAN.



NOTE: Indicate scale and compass direction.

REMARKS
ERWUNDWATER @ 8'

SCALE! 1"= 10"
TANK LOCATION

BLDG# 618 TANK # 008/533-9/

TANK SIZE SSO GALLONS

TANK CONTENTS NO. 2 816

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PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u>/</u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)	✓	
1634.7 spike + Spike Dup, SPike = 1998 Spike Dup	:200	2
3. IR Spectra submitted for standards, blanks, & samples		<u></u>
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		MA
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		
Comments: Analys ADDED 2X Spike Recovery Was 336. 1 ppm and 334.5 Against 5.0.2 Value of 168 ppm		

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.

Project #1634

Brian K. McKee Laboratory Manager

U.S. ARMY FORT MONMOUTH

Blog 618

Surped 9/6/94 Enviormental Laboratory

Physics

Enviormental Laboratory mple Ext. M.V. Mg/Kg Wet Dry **%**S Munseli Color thool. 30 ND 0 034.1 8.839 1,045.3 6.932 Oleve 175 .78 1,003.0 Oluc .2 .85 15 5.791 4.949 187 Olive 1,240.3 2.5) 5.937 Brown 5.287 .89 234 dork Olive die 7 7.98# 4,3923 6.437 .81 संभ .5 Olive 8,370 5,357.4 6.784 .81 15 133 4 لمنه 15 .82 4,855.1 7.239 5.920 10 122 Olive 1,127.2 6.717 .81 196 8335 15 4.256 15 128.3 5.545 1,144.5 199 81 2,741.7 390 .81 =199% 1120.24.3 2,247.4 391 .81 0.48 4= 1.56 X= 335 22

```
The standard levels and respective mV responses are as follows..

1 concentration = 40.75 response = 59

2 concentration = 81.5 response = 115

3 concentration = 163 response = 234

The Correlation Coefficient is .9999479
The variables for the equation X = [(Y-b)/M] are as follows...

CONC = [((response - 136 )/ 1.432751 )+ 95.08334]
```

Report of Analysis

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

Client: U.S. Army

Lab. ID #: 1648.1-.6

DPW, SELFM-PW-EV

Sample Rec'd: 09/22/94

Bldq. 167

Analysis Start: 09/23/94

Ft. Monmouth, NJ 07703

Analysis Comp: 09/23/94

Analysis: 418.1 (TPH)

NJDEPE UST Reg.#: 0081533-91

Matrix: Soil Closure #: C93-3564

Analyst: S. Hubbard

DICAR #:

Ext. Meth: Sonc.

Location #: Bldg. 618

Lab ID.	Description		%Solid	Result (mg/l	MDL Kg)
1648.1	Site A1	OVA= ND	80	3940.	46.
1648.2	Site B1	OVA= 3.	84	214.	6.6
1648.3	Site C1	OVA= 110.	88	164.	6.6
1648.4	Site D1	OVA= 1.	82	2810.	6.6
1648.5	Site E1	OVA= 4.	83	15.9	6.6
1648.6	Site F1	OVA= 5.	81	33.0	6.6
·					
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit * = Silica Gel Added, NA = Not Applicable

BATCH dup= 80% BATCH s= 84% BATCH sd= 82% RPD= 2.4% Cal Chk = 104%

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1648.1-.6

Sample Rec'd: 09/22/94

Analysis Start: 09/23/94

Analysis Comp: 09/23/94

Analysis: Munsel

Lab ID#	Soil Color
1648.1	5Y 3/2 Dark Olive Gray
1648.2	2.5Y 5/6 Light Olive Gray
1648.3	2.5Y 5/6 Light Olive Gray
1648.4	5Y 3/2 Dark Olive Gray
1648.5	5Y 3/2 Dark Olive Gray
1648.6	5Y 3/2 Dark Olive Gray
	78*1-111

```
The standard levels and respective mV responses are as follows... 1 concentration = 40.75 response = 65 2 concentration = 81.5 response = 121 3 concentration = 163 response = 242

The Correlation Coefficient is .9997946
The variables for the equation X = [(Y-b)/M] are as follows...

CONC = [((response - 142.6667)/ 1.478595) + 95.08334]
```

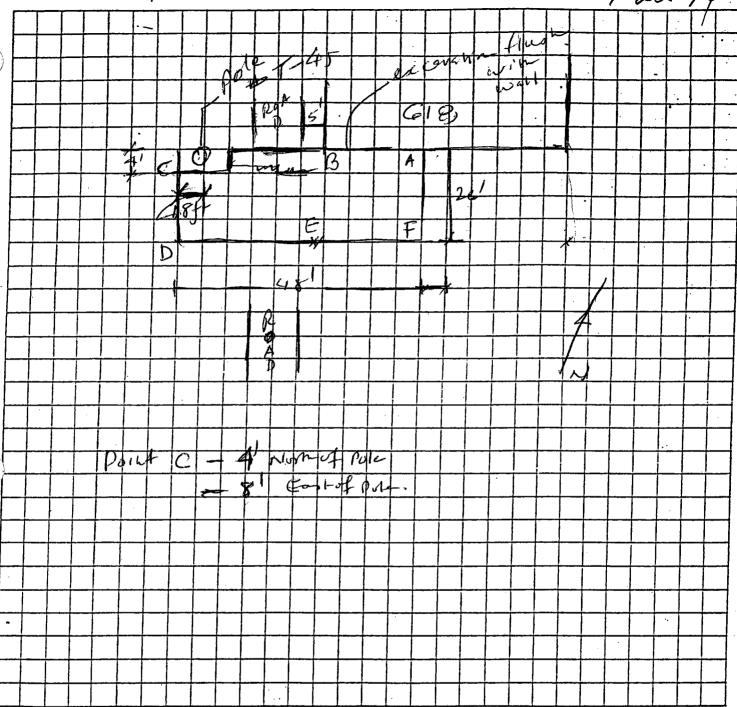
U.S. ARMY FORT MONMOUTH

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Enviornmental Laboratory

SERV-AIR, INC. FORT MONMOUTH, NEW JERSEY Dunker Pea

PROPOSED SITE PLAN



NOTE: Indicate scale and compass direction.

REMARKS		
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S.C	September 23, 1994 Sarah Hubbara
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	Method Blank Blog. 1106 041
	1646,1 8MV
	1646.2 941
	1646.3 56MV
	<u>1646.4</u> 854V
	1646.5 9MV
10	1646.6 7 MV
წ-ი:	1646.6 64V Dup.
TO 58	1646.6 90HV Spk.
٠	1646.6 8841 Dup. Spk.
	"我我们的是最后的,我们们就是一个人的,我们们的一个人,我们就是一个人的,我们就是一个人的。""我们的一个人,我们们们的一个人,我们们们们们们们们们们们们们们们
	1646.8 841
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* :	1647.1 dil 7 135MV
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	1647.3 die 13 1624V
:	Method Blank Bldg, 618
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1.	1648.1 dil 7 1024V
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C 5/2	1648.4 dil 7 7546
>	1648.5 5M
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;	40.75 Cal Check 654V
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PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u> </u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		<u> </u>
2 ID Chartra gubmitted for standards blanks s samples		
3. IR Spectra submitted for standards, blanks, & samples	_	-
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		Ma
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		
· · · · · · · · · · · · · · · · · · ·		
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		<u></u>
Comments:		

Laboratory Authentication Statement

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

Project #1648

Brian K. McKee Laboratory Manager

U.S. ARMY FOR MONMOUTH 9/23/94 Second Cound Sarch Nubband 10:15-Second Kound Sample Ext. M.V. Mg/Kg Wet **%**S Munsell Dry Color 30 O dil 7 3,942.2 1648. 4.909 102 .80 16 24.3 4.858 .2 4.0960 .84 42 163.6 6 132 5.376 34 dist 75 .88 2,806.8 8.381 6.848 .82 15 15.9 7715 11 6.425 .83 8 6.431 7.94 33 .81 4 4 654V

Report of Analysis

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

Client: U.S. Army

Lab. ID #: 1653.1-.2

DPW, SELFM-PW-EV

Sample Rec'd: 09/27/94

Bldg. 167

Analysis Start: 10/03/94

Ft. Monmouth, NJ 07703

Analysis Comp: 10/04/94

Analysis: 418.1 (TPH)

NJDEPE UST Reg.#: 0081533-91 Closure #: C93-3908

Matrix: Soil

DICAR #:

Analyst: S. Hubbard Ext. Meth: Sonc.

Location #: Bldg. 618

Lab ID.	Description		%Solid	Result (mg/	MDL Kg)
1653.1	Site A2, Sidewall	OVA= 320	. 82	2920.	46.
1653.2	Site D2, Sidewall	OVA= 110	. 88	ND	6.6
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		d			
		,			
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1653.2dup= 100% 1653.2s= 102% 1653.2sd= 102% RPD= 0.0%

Cal Chk = 95%

Brian K. McKee

Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1653.1-.2

Sample Rec'd: 09/27/94

Analysis Start: 10/03/94

Analysis Comp: 10/04/94

Analysis: Munsel

Lab ID#	Soil Color
1653.1	5Y 3/2 Dark Olive Gray
1653.2	5Y 4/4 Olive
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1	

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The standard levels and respective mV responses are as follows...

1 concentration = 40.75 response = 53

2 concentration = 81.5 response = 112

3 concentration = 163 response = 232

The Correlation Coefficient is .9996648

The variables for the equation X = [(Y-b)/M] are as follows...

CONC = [((response - 132.3333)/ 1.42574) + 95.08334]
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U.S. ARMY FORT MONMOUTH

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SERV-AIR, INC. FORT MONMOUTH, NEW JERSEY Dunker Pessi 9-22-94 2 2 PROPOSED SITE PLAN 618 Non of Pulc Control port. NOTE: Indicate scale and compass direction. TANK LOCATION REMARKS BLOG# GIR

TANK # \$1533 - 91
TANK SIZE 550 51"

· TANK CONTENTS # 2 Hant-poil

Oct 3, 1994 Sarah Whillier 40.75 53MV 81.5 112MV mished Blank Bldg. 619 04V 1638.1 100 M/ Sil 7 1638.2 1741 1638.3 OHV 1638.4 OHV Mohad Blank Bldg. 618 04 1653.1 70 HV (dil 7) 1653 2 0 MC 1653. 2 OM Duplicate 1653.2 68HV Spike 1653. 2 6840 Dup Spike Calibration Check 40,75 524V Mothod Blank Bly 563 = 1654.1 12AV 1654.2 14MV 1654.3 OMV 1654.4 0 HV 1654.5 OHV 1654, 6 16 MV 5-5654.7 Dul

PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u>√</u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)	_	<u> </u>
3. IR Spectra submitted for standards, blanks, & samples		_
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		<u>N/A</u>
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		
6. Analysis holding time met. (If not met,list number of days exceeded for each sample)		
Comments:		

Laboratory Authentication Statement

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

Project #1653

Brian K. McKee Laboratory Manager

U.S. ARMY FOI MONMOUTH

Enviormental Laberator

•		· •	<u>)</u>					Virtuality	<u>;</u>
Sample	Ext.	M.V.	Mg/Kg	Wet	Dry	% S →	Munsell	Color	
Method. Blank	30	0	ND						
653.1	15	(dil 7)	2,923.1	8.089	6.648	.82	5 y 3/2	dark	
76587	15	0	ND	10.125	8.934	.88	5 Y #	Dame	() <u>0</u>
12	15	0	ND			.88			<u>.</u>
Spx 2	15	68	3785			88			0
50x 2 1653.2	15	68	3185			.88			9 <u>† i</u>
Cal	Wrate	on (Thech	40.75=	52MV	= 38.7	ng/L	1	0
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Report of Analysis

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 173

Ft. Monmouth, NJ 07703

Lab. ID #: 1774.1-.2

Sample Rec'd: 01/04/95

Analysis Start: 01/05/95

Analysis Comp: 01/06/95

Analysis: 418.1 (TPH)

Matrix: Soil

Analyst: S. Hubbard

Ext. Meth: Sox.

NJDEPE UST Reg.#: 81533-91

Closure #: C-93-3908

DICAR #: 94-8-19-1612-06

Location #: Bldg. 618

Lab ID.	Description	%Solid	Result (mg/1	MDL Kg)
1774.1	Site A3, Sidewall OVA=ND	85	35.0	8.3
			-	
				•
		·		
M. Bl.	Method Blank	100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1774.1Dup= 100% 1774.1S= 122% 1774.1SD= 117% RPD= 4.0%

Cal Chk = 91%

Brian K. McKee

Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1774.1

Sample Rec'd: 01/04/95 Analysis Start: 01/05/95

Analysis Comp: 01/06/94

Analysis: Munsel

Lab ID#	Soil Color
Εαυ ΙΣπ	Soil Coloi
1774.1	2.5Y 5/6 Light Olive Brown
177111	2.5 1 5/6 Digit Onvo Blown
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U.S. ARMY FORT MONMOUTH

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Project #:		· .	Sampl	er:	1000),		Date ////		ime 30	,	Ana	lys					Star	t:
Customer: DeSar Phone:			5ite 1 130 81	Name: .00 (533-	/ Ce-f 518 -91 -3908	79-8-19 16/2-06					1		1/8			Finish			
Lab Sample' ID Number	Date	/Time	Cus	tomer	Sample Number		Sample Matrix	# of Bottles			//	/ (°) / t			/			Remarks	Method
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Relinquished	By (:	signatu	ire)	Date /	Time	1	Ceived 1	for Lab	by	(sic	gnal	ure	·):		- }		/ Time		
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SAI-ENV COC Envior	1	oı al Labor	atory		Page		4 01	}-		Page	25	,	Re	·v.	A	Dat	e: 02 A	pr 93	

January. 6, 1995 0735 Sarah Stubbard -- 2CM/M----500 - MV=CAL-0 5+d 40.75 62 HV R. 9996 Std 81.5 117MV Aldg Std 163 2474V method Blank OMV - 17741 4 MV-9 1774.1 44V duplicate 1774.1 55 MV spike 1774.1 53 HV dup spike Lot 91026 # 1 2841 die 7 Lot 91026 #2 62W 207 Cal Chack 81.5 Std 111 MV

THE STREET

PHC Conformance/Non-conformance Summary Report	<u>No</u>	Yes
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank		· · ·
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		
3. IR Spectra submitted for standards, blanks, & samples		
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		JA,
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		
6. Analysis holding time met. (If not met,list number of days exceeded for each sample)	· —	<u>/</u>
Comments:		

Laboratory Authentication Statement

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

Project #1774

Brian K. McKee Laboratory Manager

Report of Analysis

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1638.1-

Sample Rec'd: 09/09/

Analysis Start: 09/14/

Analysis Comp: 09/14/

Analysis: 418.1 (TPH)

Matrix: Soil

Analyst: S. Hubbard Ext. Meth: Sonc.

NJDEPE UST Reg.#: 0081533-92

Closure #: C93-3891 DICAR #: 94-8-24-1320-18

Location #: Bldg. 619

Lab ID.	Description		%Solid	Result (mg/l	
1638.1	Site E1	OVA= 1.	83	543.	
1638.2	Site F1	OVA= ND	91	113.	
1638.3	Site C1	OVA= ND	.85	45.1	
1638.4	Site B1	OVA= ND	84	84.4	
M. Bl.	Method Blank		100	ND	

Notes: ND = Not Detected, MDL = Method Detection Limit * = Silica Gel Added, NA = Not Applicable

Batch dup= 102% Batch s= 199% Batch sd= 200% RPD= 0.4%

Cal Chk = 97%

Brian K. McKee

Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1638.1-.4

Sample Rec'd: 09/09/94 Analysis Start: 09/14/94

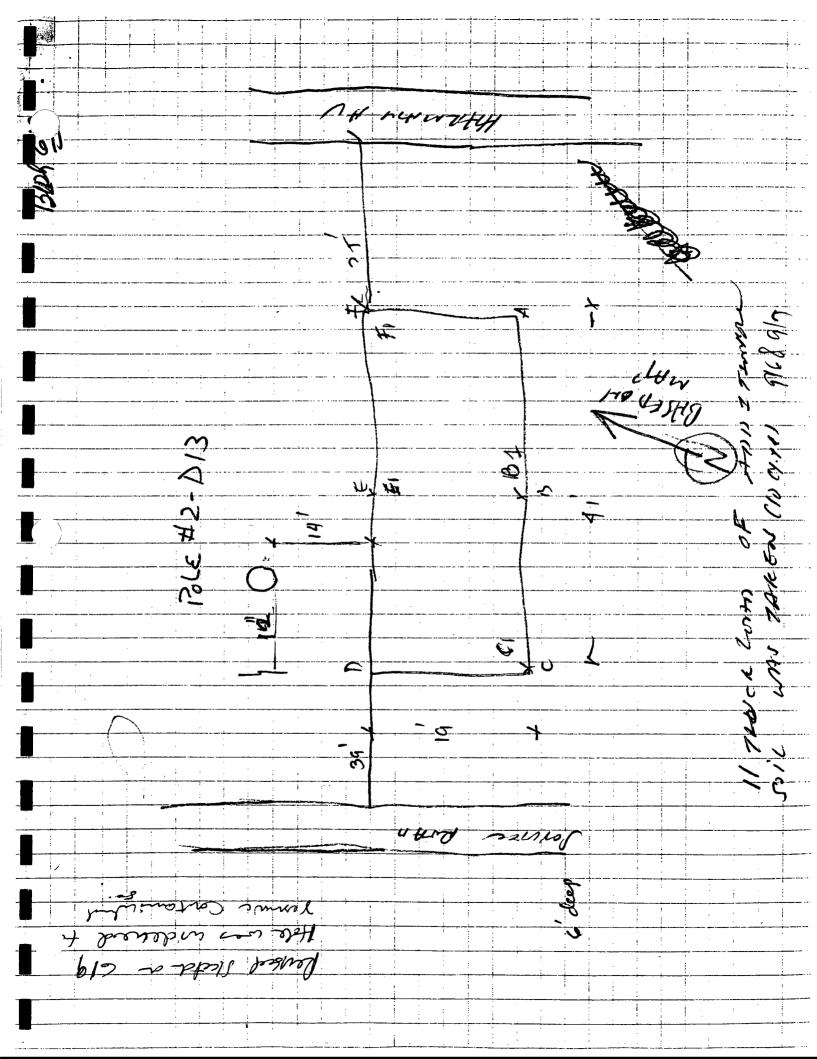
Analysis Comp: 09/14/94

Analysis: Munsel

Lab ID#	Soil Color
1638.1	5Y 3/2 Dark Olive Gray
1638.2	5Y 4/3 Olive
1638.3	5Y 5/6 Olive
1638.4	5Y 5/6 Olive
	,

U.S. ARMY FORT MONMOUTH

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PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	✓	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)	\checkmark	
1634.7 (Batch spike) = 1992, 1634.7 (Batch S. Dup) =	200Z	,
3. IR Spectra submitted for standards, blanks, & samples		
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	_	4/19
5. Extraction holding time met. (If not met, list number of days exceeded for each sample) —	
		/
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		
Comments: Analyst ADDED 2x Spike product Recovery WAS 334.5 ppm + 336.1ppm Against An SOP Value of 162 ppm		

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.

Project #1638

Brian K. McKee Laboratory Manager 40.75 - 3 81.5 - 112 163 - 232 pagab

U.S. ARMY FOI MONMOUTH Oct. 3, 1994

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Report of Analysis

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

Client: U.S. Army

DPW, SELFM-PW-EV Bldq. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1638.1-.4

Sample Rec'd: 09/09/94

Analysis Start: 10/03/94 Analysis Comp: 10/04/94

Analysis: 418.1 (TPH)

Matrix: Soil

Analyst: S. Hubbard

Ext. Meth: Sonc.

NJDEPE UST Reg.#: 0081533-92

Closure #: **C93-3891**

DICAR #: 94-8-24-1320-18

Location #: Bldg. 619

Lab ID.	Description		%Solid	Result (mg/	MDL Kg)
1638.1	Site E1,	OVA= 1.	86	11800.	139
1638.2	Site F1,	OVA= ND.	91	104.	6.6
1638.3	Site C1,	OVA= ND.	87	ND	6.6
1638.4	Site B1,	OVA= ND.	86	ND	6.6
				-	
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

Batch dup= 100% Batch s= 102% Batch sd= 102% RPD= 0.0%

Cal Chk = 95%

Brian K. McKee Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1638.1-.4

Sample Rec'd: 09/09/94

Analysis Start: 09/14/94

Analysis Comp: 09/14/94

Analysis: Munsel

Lab ID#	Soil Color
1638.1	5Y 3/2 Dark Olive Gray
1638.2	5Y 4/3 Olive
1638.3	5Y 5/6 Olive
1638.4	5Ÿ 5/6 Olive

Brian K. McKee

Laboratory Director

U.S. ARMY FORT MONMOUTH

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Enviornmental Laboratory

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PHC Conformance/Non-conformance Summary Report	<u>No</u>	Yes
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u>√</u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		_
3. IR Spectra submitted for standards, blanks, & samples 4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.	_	<u>/</u> <u>//</u>
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		
Comments:	•	

Laboratory Authentication Statement

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

Project #1638

Brian K. McKee

Laboratory Manager

```
The standard levels and respective mV responses are as follows...

1 concentration = 40.75 response = 53

2 concentration = 81.5 response = 112

3 concentration = 163 response = 232

The Correlation Coefficient is .9996648

The variables for the equation X = [(Y-b)/M] are as follows...

CONC = [((response - 132.3333 )/ 1.42574 )+ 95.08334 ]
```

40.75 - 59 81.5 - 115 163 - 234 P

U.S. ARMY FORT MONMOUTH 9-14-9

Enviormental Laboratory Sample Ext. M.V. Mg/Kg Wet Dry **%**S Munseil Color BLank 30 Dark Olive Gray 10 543.4 1638.1 6664 5.565 .83 113.7 22 . 2 5.396 .91 487 54 5 5.255 8 45.1 .85 4.470 64 g Olive 84.4 6.633 .84 5.599

```
The standard levels and respective mV responses are as follows..

1 concentration = 40.75 response = 59

2 concentration = 81.5 response = 115

3 concentration = 163 response = 234

The Correlation Coefficient is .9999479
The variables for the equation X = [(Y-b)/M] are as follows...

CONC = [((response - 136 )/ 1.432751 )+ 95.08334]
```

Report of Analysis

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldq. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1620.1-.8

Sample Rec'd: 08/25/94

Analysis Start: 08/31/94

Analysis Comp: 08/31/94

Analysis: 418.1 (TPH)

Matrix: So:

Soil

Analyst: S. Hubbard Ext. Meth: Sonc.

NJDEPE UST Reg.#: 0081533-92

Closure #: C-93-3891

DICAR #: 94-8-24-1320-18

Location #: Bldg. 619

Lab ID.	Description		%Solid	Result (mg/l	
1620.1	Site A, NE	OVA= 6.	93	154.	6.6
1620.2	Site B, S	OVA= 5.	89	1450.	46.
1620.3	Site C, SE	OVA= 30.	92	70.6	6.6
1620.4	Site D, SW	OVA= 3.	87	555.	6.6
1620.5	Site E, N	OVA= 8.	91	858.	6.6
1620.6	Site F, NW	OVA= 7.	83	3060.	46.
1620.7	Site G (dup) NE	OVA= 6.	86	59.5	6.6
1620.8	Site H, Feed Lines	OVA= ND	88	37.3	6.6
		,			
			·		
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1620.4dup= 109% 1620.4s= 117% 1620.4sd= 122% RPD= 4.0%

Brian K. McKee Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1620.1-.8

Sample Rec'd: 08/25/94

Analysis Start: 08/31/94

Analysis Comp: 08/31/94

Analysis: Munsel

Lab ID#	Soil Color
1620.1	2.5Y 4/3 Olive Brown
1620.2	2.5Y 4/3 Olive Brown
1620.3	2.5Y 4/3 Olive Brown
1620.4	2.5Y 4/3 Olive Brown
1620.5	2.5Y 3/2 Very Dark Grayish Brown
1620.6	2.5Y 3/1 Very Dark Gray
1620.7	2.5Y 4/3 Olive Brown
1620.8	5Y 4/3 Olive

Brian K. McKee Laboratory Director

U.S. ARMY FOFT MONMOUTH

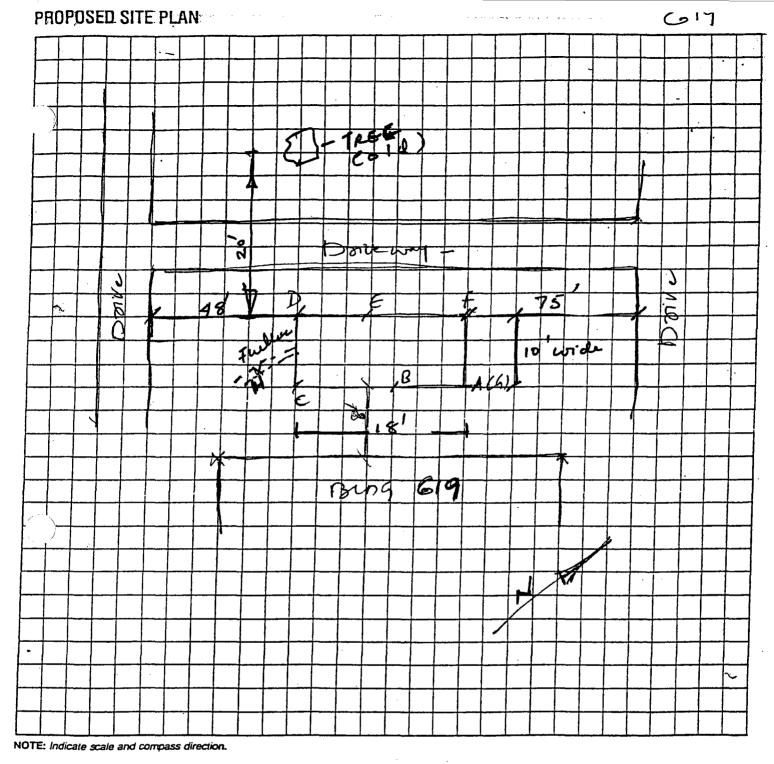
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Enviornmental Laboratory

* Corrections made by sample custodian.



REMAR	RKS	:				
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TANK LOCATION

BLDG# G19

TANK # 92

TANK SIZE 1000

TANK CONTENTS #2 1 | Poly of)

195-6970--00

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PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u> </u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		<u></u>
 IR Spectra submitted for standards, blanks, & samples Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted. Extraction holding time met. 		
(If not met, list number of days exceeded for each sample 6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		
Comments:		

Laboratory Authentication Statement

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

Project #1620

Brian K. McKee Laboratory Manager 40.75 - 58 81. - 116 163 - 237

U.S. ARMY FORT MONMOUTH

1155 Sarah Mullion

Enviormental Laboratory

Sample	Ext.	M.V.	Mg/Kg	Wet	Dry	% S	Munsell	Color
Blank	30	0	ND					
1620.1	15	30	153.7	4.083	3.789	.93	2.5Y = 3	Olive Brown
.2	15	39	1449.1	5.989	5.328	.89	2.57 3	Olive Brown
.3	15	13	70.6	6.192	5, 685	.92	2.57 × 3	11
, 4	15	104	554.60	8.558	7.452	.87	2.54 =	11
Dup 4	15	114	6172			.87		
SpK .4	15	225	1192.719	1H3		87		
Dup. Spk. 4	15	230	1 219.1 199.	35		, 87		
. 5	15	169	857.9	4.736	4.318	.91	254 3	yere dark
.6	15	78 die 7	3,062.9	10.215	8.496	.83	2-5√ =	very dark
.7	15	10	59,5	7.310	6.282	.86	25/3	Bour
8.4	15	6 MV	37,3	7.240	6.377	.88	5Y 4/3	Quie
MHEN. 1600		·						
			·	× 195	37			
				3	7.92			
			-					

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 619

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
T. B.	1650401	Methanol	12-Oct-01	10/12/01
619E/8'	1650402	Soil	12-Oct-01 10:23	10/12/01
619F/8'	1650403	Soil	12-Oct-01 10:50	10/12/01
F. D.	1650404	Soil	12-Oct-01	10/12/01

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright/Date
Laboratory Director

10-19-01

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CHAIN OF CUSTODY

Fort Monmouth Envi nmental 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

Chain of Custody Record

NJDEP Certification #13461

Customer: D.	Project No:	01-00	01				Ana	lysis l	Param	eters			Comments:		
Phone #: XQ 14/7, ()DERA (NOMA (Location: BLDG, 619 (FOLMER)		V T %		9,5	%									
	npany: Manu Laura			Sample	#	A +	I U	301HO					N		
LIMS/Work Order#	Sample Location	Date	Time	Туре	bottles	0.0000000000000000000000000000000000000	O	10					PPM	Remarks / Preservati	on Method
16504 01	T. B.	10-12-01		метн	1	×							-	2868	240c
- D2	619E, 8'	11	1023	Soil	2	<u>×</u>	X						700	2869	11
03	619 F 8') (1050	14	2	×	×		,			ļ <u>.</u>	5	2870	l,
04	F.D.			lι	10	11	11						_	2871	(}
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Relinquished by (signatur	re): Date/Time: 1455	Received by	(signature):	L	Reline	quished	by (sig	nature)	:	Date/	Time:	Recei	ved by	(signature):	
Relinquished by (signatur	re): Date/Time:				equished by (signature): Date/Time: Reco				Recei	eived by (signature):					
Report Type: ()Full, Reduced, ()Standard, ()Screen / non-certified, ()EDD Remarks: Turnaround time: ()Standard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.															

METHOD SUMMARY

Andread of Parket

Method Summary

NJDEP Method 8260 Gas Chromatographic Determination of Volatiles in Soil

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 is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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

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

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

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

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

LABORATORY CHRONICLE

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Laboratory Chronicle

Lab ID: 16504

Site: Bldg. 619

Date Sampled

10/12/01

Date

Hold Time

Receipt/Refrigeration

10/12/01

NA

NA

Extractions

1. TPHC

10/15/01

14 days

Analyses

2. TPHC

1. Volatile Organics

10/15/01 10/16/01 14 days 40 days

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ing and

CONFORMANCE-NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

			Indicate Yes, No, N/A
1.	Chromatograms labele	d/Compounds identified	
	(Field samples and		yes_
2.	Retention times for chr	omatograms provided	yes
3.	GC/MS Tune Specifica	utions	·
	a.	BFB Meet Criteria	Jes_
	b . 1	DFTPP Meet Criteria	NA
4.	GC/MS Tuning Freque series and 12 hours for	ency – Performed every 24 hours for 600 8000 series	Yes
5.	analysis and continuing	nitial Calibration performed before sample g calibration performed within 24 hours of 0 series and 12 hours for 8000 series	Jes
6.	GC/MS Calibration rec		
	•	Calibration Check Compounds Meet Criteria	· laC
		System Performance Check Compounds Meet Criteria	Les
7.	Blank Contamination -	If yes, List compounds and concentrations in each blank:	no
	a . '	VOA Fraction	
	b . 1	B/N Fraction NA	
	C.	Acid Fraction NA	
8.	Surrogate Recoveries N	Meet Criteria	yes
	If not met, list thosoutside the accepta	se compounds and their recoveries, which fall able range:	·
	a . '	VOA Fraction	
	b . 1	B/N Fraction NA	
	· C.	Acid Fraction NA	
	If not met, were th as "estimated"?	e calculations checked and the results qualified	
9.	Matrix Spike/Matrix St	pike Duplicate Recoveries Meet Criteria	\\$P <
		ompounds and their recoveries, which fall	7
	outside the acceptable		
	a.	VOA Fraction	
		3/N Fraction Off	
		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) **VOA Fraction** a. B/N Fraction b. **Acid Fraction** C. 11. Extraction Holding Time Met If not met, list the number of days exceeded for each sample: 12. Analysis Holding Time Met 1 1 May 2 Sept 25 1 1 1 1 If not met, list the number of days exceeded for each sample: Additional Comments: Laboratory Manager:

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No. N/A
1.	Method Detection Limits provided.	- 462
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).	- <u>\usames </u>
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- <u>ycs</u>
5.	IR Spectra submitted for standards, blanks and samples.	
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes
Additi	ional comments:	
	10-19-01	
Labor	ratory Manager Date	

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL: Method Detection Limit

J: Compound identified below detection limit

B: Compound found in blank

D : Results are from a dilution of the sample
 U : Compound searched for but not detected
 E : Compound exceeds calibration limit

PQL: Practical Quantitation Limit

NLE: No limit established

RT : Retention time

1A

Soil Extract Volume: 25000 (uL)

VOLATILE ORGANICS ANALYSIS DATA SHEET

F	EL	D.	ID
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Soil Aliquot Volume: 125 (uL)

TL			NJDEP #	13461	MB
01	Case No.:	16504	_		DG No.:
SOIL			Lal	b Sample ID:	MB
10.0	(g/ml)	<u>G</u>	Lal	b File ID:	VC007242.D
MED			Da	te Received:	10/12/01
c. <u>0</u>			Da	te Analyzed:	10/15/01
502.2 ID:	<u>0.25</u> (n	nm)	Dil	ution Factor:	1.0
	SOIL 10.0 MED c. 0	01	O1	SOIL La 10.0 (g/ml) G La MED Da c. 0 Da	O1 Case No.: 16504 Location: 619 S SOIL Lab Sample ID: 10.0 (g/ml) G Lab File ID: MED Date Received: c. 0 Date Analyzed:

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	Ü
1634044	Methyl-tert-Butyl ether	300	Ü
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	Ü
74-87-3	Chloromethane	100	د
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	Ü
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	Ū
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	C
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

IOV	ATII F	ORGANICS	ANALYSIS	DATA	SHEET
$^{v}\mathbf{\mathbf{\nabla}}$ L		CITALINO		תות	

FIEL	D	ID.
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Lab Name:	FMETL				NJDEP#	13461	IVID	
Lab Hallo.	INILIL				140DLI π	10701	_	
Project:	010001		Case No.:	16504	Location	n: <u>619</u> S	DG No.:	
Matrix: (soil/v	vater)	SOIL			Lab	Sample ID:	МВ	
Sample wt/vo	ol:	10.0	(g/ml)	G	Lab	File ID:	VC007242.D	
Level: (low/n	ned)	MED			Dat	te Received:	10/12/01	
% Moisture: r	not dec.	0			Dat	te Analyzed:	10/15/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (m	ım)	Dilu	ution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)		Soi	l Aliquot Volu	ıme: <u>125</u>	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

|--|

	1 L	MIAIIVEELIDENI	II ILD COMFOUNDS			
Lab Name:	FMETL		NJDEP # <u>13461</u>	L_	МВ	
Project:	010001	Case No.: 1650	04 Location: 619	_ SDG N	lo.:	
Matrix: (soil/	water) <u>SO</u>	<u>L</u>	Lab Sample	ID: MB	·	
Sample wt/ve	ol: <u>10.</u> 0) (g/ml) <u>G</u>	Lab File ID:	VC	07242.D	
Level: (low/r	ned) <u>ME</u>	D	Date Receiv	ed: <u>10/1</u>	2/01	
% Moisture:	not dec. 0		Date Analyz	ed: <u>10/1</u>	5/01	
GC Column:	Rtx502.2	D: <u>0.25</u> (mm)	Dilution Fact	tor: <u>1.0</u>		
Soil Extract \	/olume: <u>2500</u>	00 (uL)	Soil Aliquot	Volume:	125	(uL)
Number TiCs	s found:	0	CONCENTRATION UNI (ug/L or ug/Kg) UG/			
CAS NO.	CC	MPOUND NAME	RT	EST. C	ONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

F	IEL	D.	ID
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Lab Name:	FMETL				NJDEP # <u>13461</u>		Trip Blank	
Project:	010001		Case No.: 1	6504	Location: 619	SD	G No.:	
Matrix: (soil/	water)	SOIL	<u>-</u>		Lab Sample II	D: <u>1</u>	650401	
Sample wt/ve	ol:	10.0	(g/ml) <u>(</u>	G	Lab File ID:	<u>\</u>	/C007243.D	
Level: (low/r	ned)	MED	<u>_</u>		Date Received	d: <u>1</u>	0/12/01	
% Moisture:	not dec.	0			Date Analyzed	d: <u>1</u>	0/15/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mn	n)	Dilution Facto	r: <u>1</u>	.0	
Soil Extract \	/olume:	25000	(uL)		Soil Aliquot Vo	olum	ie: 125	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	Ü
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	780	
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	Ū
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	Ū
127-18-4	Tetrachloroethene	100	Ü
591-78-6	2-Hexanone	200	Ü
126-48-1	Dibromochloromethane	200	Ū
108-90-7	Chlorobenzene	100	Ü
100-41-4	Ethylbenzene	200	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FI	EL	D	ID
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Lab Name:	FMETL			NJDEP # 13461		The blank	,
Project:	010001		Case No.: 16504	Location: 619	SE	OG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample	ID:	1650401	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:		VC007243.D	
Level: (low/m	ned)	MED		Date Receiv	ed:	10/12/01	
% Moisture: r	not dec.	0		Date Analyz	ed:	10/15/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Fact	or:	1.0	
Soil Extract V	/olume:	25000	· (uL)	Soil Aliquot	/olur	ne: 125	(uL

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		300	U
1330-20-7	o-Xylene		200	U
100-42-5	Styrene		200	U
75-25-2	Bromoform		200	U
79-34-5	1,1,2,2-TetrachI	oroethane	200	U
541-73-1	1,3-Dichloroben	zene	300	U
106-46-7	1,4-Dichloroben	zene	300	U
95-50-1	1,2-Dichloroben	zene	300	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

	FII	ELD	ID
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			- 1		
Lab Name: FMETL		NJDEP # 13461	[Trip Bla	ank
Project: <u>010001</u>	Case No.: 165	04 Location: 619	SDG	a No.:	
Matrix: (soil/water)	SOIL	Lab Sample	ID: <u>16</u>	550401	
Sample wt/vol:	10.0 (g/ml) G	Lab File ID:	V	C007243.D	
Level: (low/med)	MED	Date Receive	ed: <u>10</u>	0/12/01	
% Moisture: not dec.	0	Date Analyze	ed: <u>10</u>	0/15/01	
GC Column: Rtx50	2.2 ID: <u>0.25</u> (mm)	Dilution Factor	or: <u>1.</u>	0	
Soil Extract Volume:	25000 (uL)	Soil Aliquot V	/olume	e: <u>125</u>	(uL)
Number TICs found:	0	CONCENTRATION UNIT	_	_	
CAS NO.	COMPOUND NAME	RT	EST.	CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD	ID
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				619E
Lab Name:	FMETL	NJDEP#	13461	
		-	 	

 Project:
 010001
 Case No.:
 16504
 Location:
 619
 SDG No.:

 Matrix:
 (soil/water)
 SOIL
 Lab Sample ID:
 1650402

Sample wt/vol: 10.9 (g/ml) G Lab File ID: VC007244.D

Level: (low/med) MED Date Received: 10/12/01

 % Moisture: not dec.
 22.53
 Date Analyzed: 10/15/01

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	830	U
107131	Acrylonitrile	830	U
75650	tert-Butyl alcohol	1500	U
1634044	Methyl-tert-Butyl ether	360	U
108203	Di-isopropyl ether	240	U
75718	Dichlorodifluoromethane	470	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	360	U
74-83-9	Bromomethane	240	U
75-00-3	Chloroethane	360	U
75-69-4	Trichlorofluoromethane	240	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	240	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	240	U
156-60-5	trans-1,2-Dichloroethene	240	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	360	U
78-93-3	2-Butanone	360	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	870	
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	. 240	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	240	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	C
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	240	C
10061-01-5	cis-1,3-Dichloropropene	120	C
108-10-1	4-Methyl-2-Pentanone	240	<u>C</u>
108-88-3	Toluene	120	C
10061-02-6	trans-1,3-Dichloropropene	240	U
79-00-5	1,1,2-Trichloroethane	240	U
127-18-4	Tetrachloroethene	120	U
591-78-6	2-Hexanone	240	U
126-48-1	Dibromochloromethane	240	U
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	240	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FI	Εl	_D	ID.
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	-				0	619E	
Lab Name:	FMETL			NJDEP#	13461	_ 013L	
Project:	010001		Case No.: 16504	Location	n: <u>619</u> S	DG No.:	
Matrix: (soil/w	vater)	SOIL		Lat	Sample ID:	1650402	
Sample wt/vo	ol:	10.9	(g/ml) <u>G</u>	_ Lab	File ID:	VC007244.D	
Level: (low/m	ned)	MED		Dat	te Received:	10/12/01	
% Moisture: r	not dec.	22.53	<u> </u>	Dat	te Analyzed:	10/15/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilu	ution Factor:	1.0	,
Soil Extract V	olume: 2	25000	(uL)	Soi	l Aliquot Volu	me: 125	(uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		360	U
1330-20-7	o-Xylene		240	U
100-42-5	Styrene		240	U
75-25-2	Bromoform		240	U
79-34-5	1,1,2,2-Tetrachl	oroethane	240	U
541-73-1	1,3-Dichloroben	zene	360	U
106-46-7	1,4-Dichloroben	zene	360	U
95-50-1	1,2-Dichloroben	zene	360	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

TENTATIVELT IDENTIFIED CONFOON								_
Lab Name:	FMETL			NJDEP	# 13461		619	
Project:	010001		Case No.: 1650	04 Locat	ion: <u>619</u>	SD	G No.:	
Matrix: (soil/	water)	SOIL		L	ab Sampl	e ID: _1	650402	
Sample wt/ve	ol:	10.9	(g/ml) <u>G</u>		₋ab File ID	: <u>\</u>	/C007244.D	1
Level: (low/r	ned)	MED		[Date Recei	ved: 1	0/12/01	<u>.</u> _
% Moisture:	not dec.	22.53			Date Analy	zed: 1	0/15/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	[Dilution Fa	ctor: 1	.0	
Soil Extract \	Volume:	25000	(uL)	5	Soil Aliquot	t Volum	e: <u>125</u>	(uL)
Number TICs	s found:	0		CONCENTRA (ug/L or ug/K		IITS: 3/KG		
CAS NO.		COMF	POUND NAME		RT	EST	. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD II	D
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Lab Name:	FMETL				NJDEP#	13461		
Project:	010001		ase No.:	16504	Location	n: <u>619</u> S	DG No.:	
Matrix: (soil/v	vater)	SOIL			Lal	Sample ID:	1650403	
Sample wt/vo	ol:	1.4	(g/ml)	G	Lat	File ID:	VC007245.D	
Level: (low/n	ned)	MED			Da	te Received:	10/12/01	
% Moisture: r	not dec.	22.27			Dat	te Analyzed:	10/15/01	
GC Column:	Rtx502	2.2 ID: (0.25 (m	ım)	Dilu	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)		Soi	l Aliquot Volu	me: 125	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	6300	U
107131	Acrylonitrile	6300	J
75650	tert-Butyl alcohol	12000	2
1634044	Methyl-tert-Butyl ether	2700	J
108203	Di-isopropyl ether	1800	Ú
75718	Dichlorodifluoromethane	3600	U
74-87-3	Chloromethane	900	U
75-01-4	Vinyl Chloride	2700	U
74-83-9	Bromomethane	1800	U
75-00-3	Chloroethane	2700	U
75-69-4	Trichlorofluoromethane	1800	U
75-35-4	1,1-Dichloroethene	900	Ü
67-64-1	Acetone	1800	U
75-15-0	Carbon Disulfide	900	U
75-09-2	Methylene Chloride	1800	U
156-60-5	trans-1,2-Dichloroethene	1800	U
75-35-3	1,1-Dichloroethane	900	U
108-05-4	Vinyl Acetate	2700	U
78-93-3	2-Butanone	2700	U
	cis-1,2-Dichloroethene	900	U
67-66-3	Chloroform	6800	
75-55-6	1,1,1-Trichloroethane	900	U
56-23-5	Carbon Tetrachloride	1800	U
71-43-2	Benzene	900	U
107-06-2	1,2-Dichloroethane	1800	U
79-01-6	Trichloroethene	900	U
78-87-5	1,2-Dichloropropane	900	U
75-27-4	Bromodichloromethane	900	U
110-75-8	2-Chloroethyl vinyl ether	1800	U
10061-01-5	cis-1,3-Dichloropropene	900	U
108-10-1	4-Methyl-2-Pentanone	1800	U
108-88-3	Toluene	900	U
10061-02-6	trans-1,3-Dichloropropene	1800	U
79-00-5	1,1,2-Trichloroethane	1800	U
127-18-4	Tetrachloroethene	900	U
591-78-6	2-Hexanone	1800	U
126-48-1	Dibromochloromethane	1800	U
108-90-7	Chlorobenzene	900	Ù
100-41-4	Ethylbenzene	1800	Ü

1Δ

VOLATILE ORGANICS ANALYSIS DATA SHEET

	F	IEL	D.	IC
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Lab Name:	FMETL			NJDEP#	13461	619F	
Project:	010001		Case No.: 16504	Location	n: <u>619</u> SI	DG No.:	
Matrix: (soil/w	vater)	SOIL		Lat	Sample ID:	1650403	
Sample wt/vo	ol:	1.4	(g/ml) <u>G</u>	Lat	File ID:	VC007245.D	
Level: (low/m	ned)	MED		Dat	te Received:	10/12/01	
% Moisture: r	not dec.	22.27		Dat	te Analyzed:	10/15/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilu	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soi	l Aliquot Volu	me: <u>125</u>	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg) <u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes	2700	U
1330-20-7	o-Xylene	1800	U
100-42-5	Styrene	1800	U
75-25-2	Bromoform	1800	U
79-34-5	1,1,2,2-Tetrachloroethane	1800	U
541-73-1	1,3-Dichlorobenzene	2700	U
106-46-7	1,4-Dichlorobenzene	2700	U
95-50-1	1,2-Dichlorobenzene	2700	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

							_
Lab Name: FMI	ETL		NJDEP	# 13461		619F	-
Project: 010	001	Case No.: 1650	04 Locat	ion: 619	SD	G No.:	
Matrix: (soil/wate) SOIL	<u></u>	· I	_ab Sample	e ID: 1	650403	
Sample wt/vol:	1.4	(g/ml) <u>G</u>	l	ab File ID	: <u>\</u>	/C007245.D	
Level: (low/med)	MED		[Date Recei	ved: <u>1</u>	0/12/01	
% Moisture: not d	ec. <u>22.27</u>		ī	Date Analy	zed: <u>1</u>	0/15/01	
GC Column: Rt	x502.2 ID:	0.25 (mm)	[Dilution Fac	ctor: 1	.0	<u> </u>
Soil Extract Volun	ne: <u>25000</u>	(uL)	(Soil Aliquot	Volum	ne: 125	(uL
Number TIÇs four	nd: <u>0</u>		CONCENTR (ug/L or ug/K		IITS: i/KG		·
CAS NO.	СОМР	OUND NAME		RT	EST	CONC.	Q

FIELD ID.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NJDEP # 13461

Lab Name:	LIMEIL			_ NJDEP #	_	
Project:	010001		Case No.: 16504	Location: 619 S	SDG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1650404	
Sample wt/vo	ol:	9.3	(g/ml) <u>G</u>	Lab File ID:	VC007246.D	-
Level: (low/n	ned)	MED	· · · · · ·	Date Received:	10/12/01	_
% Moisture: r	not dec.	22.28	· .	Date Analyzed:	10/15/01	_
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	ıme: <u>125</u>	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	970	U
107131	Acrylonitrile	970	ט
75650	tert-Butyl alcohol	1800	J
1634044	Methyl-tert-Butyl ether	410	υ
108203	Di-isopropyl ether	280	J
75718	Dichlorodifluoromethane	550	U
74-87-3	Chloromethane	140	U
75-01-4	Vinyl Chloride	410	U
74-83-9	Bromomethane	280	U
75-00-3	Chloroethane	410	U
75-69-4	Trichlorofluoromethane	280	U
75-35-4	1,1-Dichloroethene	140	U
67-64-1	Acetone	280	U
75-15-0	Carbon Disulfide	140	U
75-09-2	Methylene Chloride	280	U
156-60-5	trans-1,2-Dichloroethene	280	U
75-35-3	1,1-Dichloroethane	140	U
108-05-4	Vinyl Acetate	410	U
78-93-3	2-Butanone	410	U
	cis-1,2-Dichloroethene	140	U
67-66-3	Chloroform	1100	
75-55-6	1,1,1-Trichloroethane	140	U
56-23-5	Carbon Tetrachloride	280	U
71-43-2	Benzene	140	U
107-06-2	1,2-Dichloroethane	280	Ų
79-01-6	Trichloroethene	140	U
78-87-5	1,2-Dichloropropane	140	U
75-27-4	Bromodichloromethane	140	U
110-75-8	2-Chloroethyl vinyl ether	280	U
10061-01-5	cis-1,3-Dichloropropene	140	U
108-10-1	4-Methyl-2-Pentanone	280	U
108-88-3	Toluene	140	U
10061-02-6	trans-1,3-Dichloropropene	280	U
79-00-5	1,1,2-Trichloroethane	280	Ū
127-18-4	Tetrachloroethene	140	U
591-78-6	2-Hexanone	280	Ū
126-48-1	Dibromochloromethane	280	U
108-90-7	Chlorobenzene	140	U
100-41-4	Ethylbenzene	280	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Field Dupe Lab Name: **FMETL** NJDEP # 13461 Project: 010001 SDG No.: Case No.: 16504 Location: 619 SOIL Lab Sample ID: 1650404 Matrix: (soil/water) Sample wt/vol: 9.3 (g/ml) G Lab File ID: VC007246.D Level: (low/med) MED Date Received: 10/12/01 % Moisture: not dec. 22.28 Date Analyzed: 10/15/01

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

GC Column: Rtx502.2 ID: 0.25 (mm)

CONCENTRATION UNITS:

Dilution Factor: 1.0

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	·	410	U
1330-20-7	o-Xylene		280	C
100-42-5	Styrene		280	С
75-25-2	Bromoform		280	U
79-34-5	1,1,2,2-Tetrachle	oroethane	280	U
541-73-1	1,3-Dichloroben	zene	410	U
106-46-7	1,4-Dichloroben	zene	410	U
95-50-1	1,2-Dichloroben	zene	410	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELI	D ID
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Lab Name: FME	L	NJDEP # 13461	Field Dup	е
Project: 01000	01 Case No.: 165	504 Location: 619	SDG No.:	
Matrix: (soil/water)	SOIL	Lab Sample	ID: 1650404	
Sample wt/vol:	9.3 (g/ml) G	Lab File ID:	VC007246.D	_
Level: (low/med)	MED	Date Receive	ed: 10/12/01	_
% Moisture: not ded	22.28	Date Analyze	ed: 10/15/01	_
GC Column: Rtx	502.2 ID: 0.25 (mm)	Dilution Fact	or: 1.0	_
Soil Extract Volume	: <u>25000</u> (uL)	Soil Aliquot \	Volume: 125	(uL
Number TICs found	:0	CONCENTRATION UNIT	,	
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		NJDEP#	13461	<u>_</u>	
Project:	010001	Case No.: 165	Location	n: <u>619</u>	SDG N	lo.:
Lab File ID:	VC006893.)	BF	B Injection	Date:	8/31/01
Instrument II	D: GCMSVoa		BF	B Injection	Time:	10:29
GC Column:	Rtx502.2): 0.25 (mm) He	ated Purge	: (Y/N)	N

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

1-Value is % mass 174

2-Value is % mass 176

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

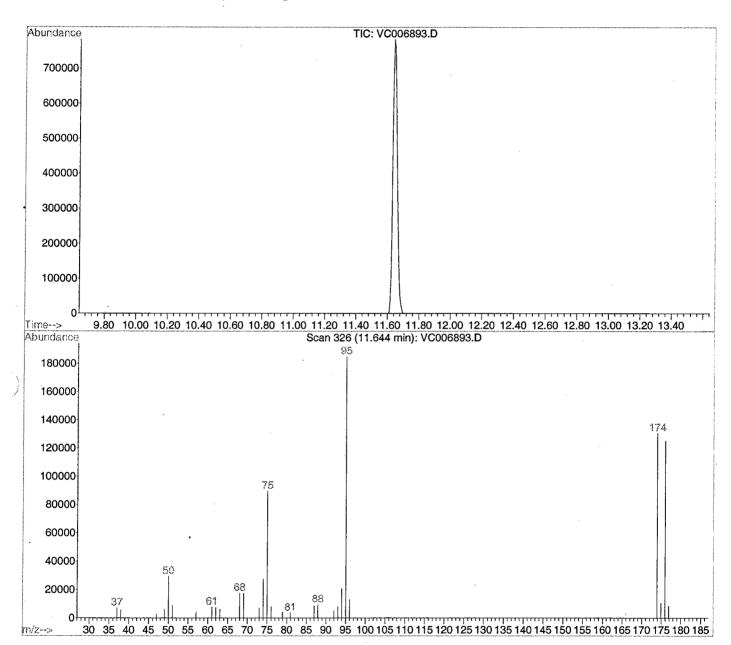
		LAB	LAB	DATE	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD100	VSTD100	VC006894.D	8/31/01	11:15
02	VSTD050	VSTD050	VC006895.D	8/31/01	11:55
03	VSTD020	VSTD020	VC006896.D	8/31/01	12:36
04	VSTD010	VSTD010	VC006897.D	8/31/01	13:16
05	VSTD005	VSTD005	VC006898.D	8/31/01	13:57

Data File: D:\HPCHEM\1\DATA\010831\VC006893.D

Vial: 4 : 31 Aug 2001 10:29 am Operator: Skelton : BFB Tune Sample Inst : GC/MS Ins Misc : BFB Tune Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 326

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
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 9 101	15.9 48.4 100.0 6.9 0.0 70.6 8.0 95.9 6.7	29320 89528 184896 12781 0 130600 10467 125288 8401	PASS PASS PASS PASS PASS PASS PASS PASS

Response Factor Report GC/MS Ins : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 15 14:30:38 2001 Response via: Initial Calibration Calibration Files 5 =VC006898.D 50 =VC006895.D 10 =VC006897.D =VC006896.D 100 =VC006894.D 50 5 10 Compound 20 100 Ανα %RSD -----ISTD-----1) T Bromochloromethane Acrolein 0.233 0.199 0.223 0.201 0.098 0.191 28.30 Acrylonitrile 1.057 0.953 1.035 0.852 0.979 0.975 8.25 tert-Butyl alcohol 0.116 0.046 0.087 0.073 0.087 0.082 31.16 2) t 3) t 4) t 5) t Methyl-tert-Butyl eth 5.609 4.635 4.932 4.291 5.560 5.006 11.50 Di-isopropyl ether 1.796 1.161 1.428 1.351 1.800 1.508 Dichlorodifluorometha 3.985 3.825 3.776 3.236 3.631 3.691 Chloromethane 3.396 3.353 3.399 2.702 3.019 3.174 Vinyl Chloride 2.757 3.182 2.985 2.438 2.621 2.797 6) t 7) T 8) TP 9.69 2.757 3.182 2.985 2.438 2.621 2.797 9) TC Vinyl Chloride

 Vinyl Chloride
 2.757 3.162 2.363 2.362 2.362

 Bromomethane
 1.701 1.648 1.697 1.410 1.539 1.599

 Chloroethane
 1.763 1.725 1.701 1.464 1.733 1.677

 10.50 10) T 7.76 11) T 12) T Trichlorofluoromethan 3.885 4.050 3.905 3.303 3.803 3.789 7.55 13) MC 1,1-Dichloroethene 3.182 2.768 2.981 2.536 3.170 2.927 9.43 Acetone 0.563 0.638 0.650 0.444 0.550 0.569 Carbon Disulfide 7.685 7.422 7.464 6.323 7.457 7.270 Methylene Chloride 2.325 2.446 2.335 1.942 2.257 2.261 14) T 14.53 15) T 7.43 16) T trans-1,2-Dichloroeth 3.000 2.816 2.826 2.430 2.978 2.810 17) T 8.14 1,1-Dichloroethane 3.961 3.821 3.818 3.247 3.893 3.748 18) TP Vinyl Acetate 4.058 2.770 3.319 2.936 4.087 3.434 2-Butanone 0.723 0.358 0.583 0.482 0.730 0.575 19) т 17.94 20) T cis-1,2-Dichloroethen 2.937 2.449 2.667 2.265 2.912 2.646 21) T 11.02 Chloroform 3.720 3.783 3.740 3.084 3.641 3.594 1,1,1-Trichloroethane 3.066 2.870 2.910 2.483 3.043 2.874 Carbon Tetrachloride 2.705 2.517 2.589 2.163 2.671 2.529 22) TC Chloroform 23) т 8.15 $\mathbf{T}^{-}f^{+}$ 8.59 1,2-Dichloroethane-d4 2.311 2.384 2.348 2.335 2.293 2.334 26) I 1,4-Difluorobenzene ----ISTD----Benzene 1.385 1.348 1.378 1.151 1.324 1.317 1,2-Dichloroethane 0.403 0.400 0.405 0.332 0.394 0.387 Trichloroethene 0.321 0.224 0.327 0.327 0.328 27) TM Benzene 28) Т 7.97 29) TM 0.321 0.294 0.307 0.259 0.314 0.299 1,2-Dichloropropane 0.333 0.308 0.322 0.269 0.328 0.312 30) TC 8.24 31) T Bromodichloromethane 0.405 0.380 0.391 0.329 0.402 0.381 32) T 2-Chloroethyl vinyl e 0.114 0.100 0.108 0.093 0.112 0.105 33) T cis-1,3-Dichloroprope 0.523 0.389 0.448 0.393 0.523 0.455 4-Methyl-2-Pentanone 0.104 0.046 0.079 0.072 0.102 0.080 34) T 29.68 Toluene-d8 1.182 1.191 1.190 1.186 1.183 1.187 35) S 0.35 36) TCM Toluene 1.393 1.360 1.387 1.158 1.313 1.322 37) I Chlorobenzene-d5 ----ISTD----trans-1,3-Dichloropro 1.873 1.424 1.574 1.380 1.851 1.620 14.30 38) T 1,1,2-Trichloroethane 1.154 1.121 1.132 0.943 1.094 1.089 39) T 7.75 Tetrachloroethene 1.172 1.111 1.124 0.940 1.127 1.095 40) T 0.526 0.283 0.389 0.352 0.523 0.415

41) T

42) T

49) S

51) T 52) T

50) TP

2-Hexanone

Dibromochloromethane 1.097 0.963 0.993 0.835 1.076 0.993

Bromofluorobenzene 1.686 1.637 1.645 1.663 1.720 1.670

1,1,2,2-Tetrachloroet 1.508 1.479 1.509 1.236 1.423 1.431

1,3-Dichlorobenzene 2.488 2.099 2.238 1.968 2.427 2.244 1,4-Dichlorobenzene 2.588 2.254 2.416 2.121 2.527 2.381 1,2-Dichlorobenzene 2.384 2.171 2.261 1.937 2.320 2.215

 42) T
 Dibromocniforomethane
 1.097 0.963 0.993 0.835 1.076 0.993

 43) TMP Chlorobenzene
 3.416 3.466 3.452 2.845 3.236 3.283

 44) TC Ethylbenzene
 6.017 5.714 5.928 4.970 5.549 5.636

 45) T m+p-Xylenes
 2.311 2.221 2.279 1.912 2.174 2.179

 46) T o-Xylene
 4.369 3.370 3.876 3.435 4.177 3.845

 47) T Styrene
 3.872 3.250 3.593 3.077 3.723 3.503

 48) TP Bromoform
 0.725 0.560 0.618 0.535 0.719 0.632

25.81

10.52

11.48

9.72

8.10

7.97

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP # 13461

Project: 010001 Case No.: 16504 Location: 619 SDG No.:

Lab File ID: VC007240.D BFB Injection Date: 10/15/01

Instrument ID: GCMSVoa BFB Injection Time: 11:43
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	15.1
75	30.0 - 66.0% of mass 95	45.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	65.6
175	4.0 - 9.0% of mass 174	4.7 (7.2)1
176	93.0 - 101.0% of mass 174	63.2 (96.4)1
177	5.0 - 9.0% of mass 176	4.2 (6.6)2

1-Value is % mass 174

2-Value is % mass 176

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

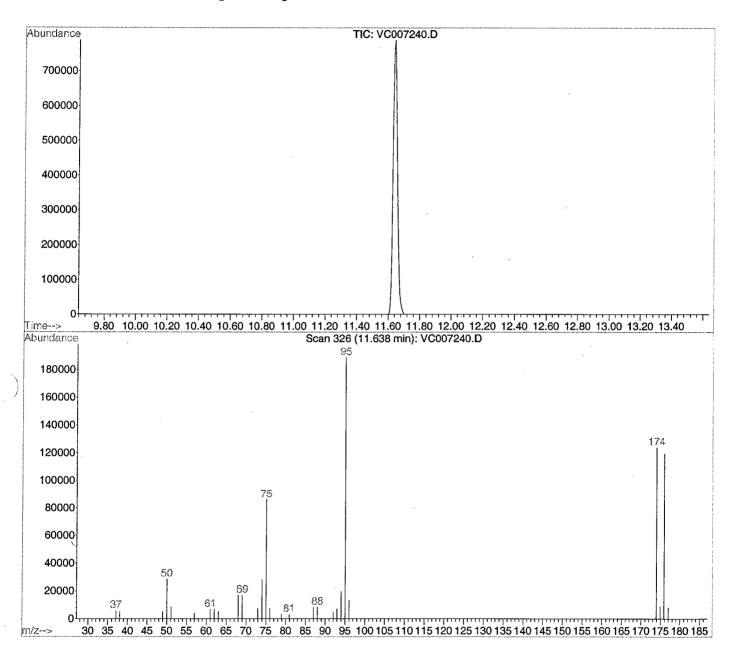
		LAB	LAB	DATE	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VC007241.D	10/15/01	12:18
02	MB	MB	VC007242.D	10/15/01	15:03
03	TRIP BLANK	1650401	VC007243.D	10/15/01	15:59
04	619E	1650402	VC007244.D	10/15/01	16:39
05	619F	1650403	VC007245.D	10/15/01	17:19
06	FIELD DUPE	1650404	VC007246.D	10/15/01	18:00
07	MS	1650403 MS	VC007247.D	10/15/01	18:41
08	MSD	1650403 MSD	VC007248.D	10/15/01	19:22

Data File : D:\HPCHEM\1\DATA\011015\VC007240.D

Vial: 1 Acq On : 15 Oct 2001 11:43 am Operator: Skelton : BFB Tune Sample : GC/MS Ins Inst Misc : BFB Tune Multiplr: 1.00

MS Integration Params: RTEINT.P

: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 326

	Target Mass	Rel. to	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
Ī	50	 95	15	40	15.1	28536	PASS
	75	95	30	60	45.6	86096	PASS
	95	95	100	100	100.0	188992	PASS
	96	95	5	9	7.0	13182	PASS
	173	174	0.00	2	0.0	0	PASS
٨.	174	95	50	100	65.6	123888	PASS
.	175	174	5	9	7.2	8968	PASS
-	176	174	95	101	96.4	119432	PASS
	177	176	5	9	6.6	7933	PASS

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\011015\VC007241.D

Acq On : 15 Oct 2001 12:18 pm Operator: Skelton Sample : Vstd020 Misc : Vstd020 Inst : GC/MS Ins Multiplr: 1.00

Misc

MS Integration Params: RTEINT.P

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 15 14:30:38 2001

Response via: Multiple Level Calibration

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

	Compound	AvgRF	CCRF	%Dev Area% Dev(min)
1 2 3 4 5 6 7 8 9 TT TT MC TT MC MC TT MC MC TT MC MC MC MC MC MC MC MC MC MC MC MC MC	Bromochloromethane Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl ether Di-isopropyl ether Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethene Acetone Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate 2-Butanone cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane	1.000 0.191 0.975 0.082 5.006 1.508 3.691 3.174 2.797 1.599 1.677 3.789 2.927 0.569 7.270	1.000 0.380 0.941 0.113 4.988 1.589 2.745 2.565 2.351 1.558 1.558 2.794 0.769 6.693 2.121 2.584 3.493 3.587 0.693 2.579 3.383 2.778 2.429 2.158	0.0 87 0.00 -99.0# 165 0.00 3.5 96 0.00 -37.8# 135 0.00 0.4 102 0.00 -5.4 103 0.00 25.6# 74 0.00 19.2 83 0.00 15.9 84 0.00 2.6 97 0.00 8.5 92 0.00 6.4 94 0.00 4.5 96 0.00 -35.1# 151 0.00 7.9 92 0.00 6.2 95 0.00 8.0 93 0.00 6.8 94 0.00 -4.5 107 0.00 -20.5 125 0.00 2.5 99 0.00 5.9 96 0.00 3.3 98 0.00 4.0 98 0.00 7.5 81 0.00
26 I 27 TM 28 T 29 TM 30 TC 31 T 32 T 33 T 34 T 35 S 36 TCM	1,4-Difluorobenzene Benzene 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone Toluene-d8 Toluene	1.000 1.317 0.387 0.299 0.312 0.381 0.105 0.455 0.080 1.187 1.322	1.000 1.199 0.348 0.285 0.288 0.347 0.095 0.442 0.089 1.123 1.192	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
37 I 38 T 39 T 40 T 41 T 42 T 43 TMP 44 TC 45 T 48 TP 49 S 15 T 53 T	Chlorobenzene-d5 trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	1.000 1.620 1.089 1.095 0.415 0.993 3.283 5.636 2.179 3.845 3.503 0.632 1.670 1.431 2.244 2.381 2.215	1.000 1.488 0.954 0.961 0.438 0.880 2.810 4.918 1.887 3.513 2.631 0.535 1.611 1.234 1.917 1.957	0.0 95 0.00 8.1 102 0.00 12.4 96 0.00 12.2 97 0.00 -5.5 118 0.00 11.4 100 0.00 14.4 94 0.00 12.7 94 0.00 13.4 94 0.00 8.6 97 0.00 24.9 81 0.00 15.3 95 0.00 3.5 92 0.00 13.8 95 0.00 14.6 92 0.00 17.8 87 0.00 17.9 89 0.00

VOLATILE METHOD BLANK SUMMARY

FIELD IC	F	IEL	.D	ID
----------	---	-----	----	----

Lab Name:	FMETL		NJDEP # 13461	МВ
Project:	010001	Case No.: 16504	Location: 619 SD	G No.:
Lab File ID:	VC007242.	<u>D</u>	Lab Sample ID: 1	ИB
Date Analyze	ed: <u>10/15/01</u>		Time Analyzed: 1	5:03
GC Column:	Rtx502.2 ID:	0.25 (mm)	Heated Purge: (Y	//N) <u>N</u>

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

		LAB	LAB	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED
01	TRIP BLANK	1650401	VC007243.D	15:59
02	619E	1650402	VC007244.D	16:39
03	619F	1650403	VC007245.D	17:19
04	FIELD DUPE	1650404	VC007246.D	18:00
05	MS	1650403 MS	VC007247.D	18:41
06	MSD	1650403 MSD	VC007248.D	19:22

COMMENTS:	

Instrument ID: GCMSVoa

2B SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:

FMETL

Project

01-0001

NJDEP#

13461

Location

Bldg.619

	EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB
01	MB	96.0	93.0	94.0
02	TRIP BLANK	101.7	87.3	91.3
03	619E	94.0	83.3	89.0
04	619F	94.0	83.7	89.7
05	FIELD DUPE	89.0	79.3	84.7

SMC1 1,2-DCE-d4

1,2-Dichloroethane-d4

SMC2 Tol-d8

Toluene-d8

SMC3 BFB

Bromofluorobenzene

D System Monitoring Compounds diluted out

Spike Recovery and RPD Summary Report - Soil

Method : D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 15 14:30:38 2001 Title

Response via : Initial Calibration

¬n-Spiked Sample: VC007245.D

Spike Spike

Sample Duplicate Sample

File ID: VC007247.D Sample: 1650403 MS Acq Time: 15 Oct 2001 6:41 pm VC007248.D 1650403 MSD

15 Oct 2001 7:22 pm

Compound	Sample Conc	Spike Adđed	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene	0.0 0.0 0.0 0.0	20 20 20 20 20 20	22 21 21 21 21 19	19 18 19 19	109 104 107 105 97	96 91 94 93 87	13 13 12 12 11	22 21 24 21 21	59-172 66-142 62-137 59-139 60-133

- Fails Limit Check

M362449.M Wed Oct 17 11:25:18 2001

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Instrument ID: GCMSVoa Time Analyzed: 12:18

GC Column: Rtx502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

ſ		IS1BCM AREA #	RT #	IS2DFB AREA #	BT #	IS3CBZ AREA #	RT #
}		ANEA #	<u>пі #</u>	ANEA #	# וח	ANEA #	חו #
	12 HOUR STD	373903	16.70	2648022	19.42	729062	27.24
	UPPER LIMIT	747806	17.20	5296044	19.92	1458124	27.74
	LOWER LIMIT	186952	16.20	1324011	18.92	364531	26.74
İ	FIELD ID.						
01	МВ	352777	16.70	2495060	19.42	680029	27.25
02	TRIP BLANK	352155	16.69	2567449	19.42	722641	27.25
03	619E	351415	16.69	2528752	19.42	700445	27.24
04	619F	356721	16.69	2565234	19.42	711995	27.25
05	FIELD DUPE	361238	16.69	2616329	19.42	734453	27.25
06	MS	358475	16.69	2591576	19.42	735206	27.25
07	MSD	365658	16.70	2634430	19.42	742481	27.25

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

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

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

Quantitation Report (OT Reviewed) Data File : D:\HPCHEM\1\DATA\011015\VC007242.D Vial: 1 Acq On : 15 Oct 2001 3:03 pm Operator: Skelton : MB Sample Misc Inst : GC/MS Ins : MB Multiplr: 1.00 MS Integration Params: RTEINT.P Quant Time: Oct 15 15:39 2001 Quant Results File: M362449.RES uant Method: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title: Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update: Mon Oct 15 14:30:38 2001 Response via : Initial Calibration DataAcq Meth: M362449 R.T. QIon Response Conc Units Dev(Min) Internal Standards ______ 1) Bromochloromethane 16.70 128 352777 30.00 ug/L 0.00 26) 1,4-Difluorobenzene 19.42 114 2495060 30.00 ug/L 0.00 37) Chlorobenzene-d5 27.25 119 680029 30.00 ug/L 0.00 System Monitoring Compounds 18.30 65 794526 28.94 ug/L Range 70 - 121 Recovery = 96.47% 23.42 98 2760873 27.98 ug/L 25) 1,2-Dichloroethane-d4 0.00 Spiked Amount 30.000 35) Toluene-d8 0.00 30.000 Range 81 - 117 Range 81 - 117 Recovery = 93.27% 30.25 95 1062798 28.07 ug/L Spiked Amount 49) Bromofluorobenzene 0.00 Spiked Amount 30.000 Range 74 - 121 Recovery = 93.57% Target Compounds Ovalue

^{(#) =} qualifier out of range (m) = manual integration VC007242.D M362449.M Wed Oct 17 10:59:51 2001

Data File: D:\HPCHEM\1\DATA\011015\VC007242.D

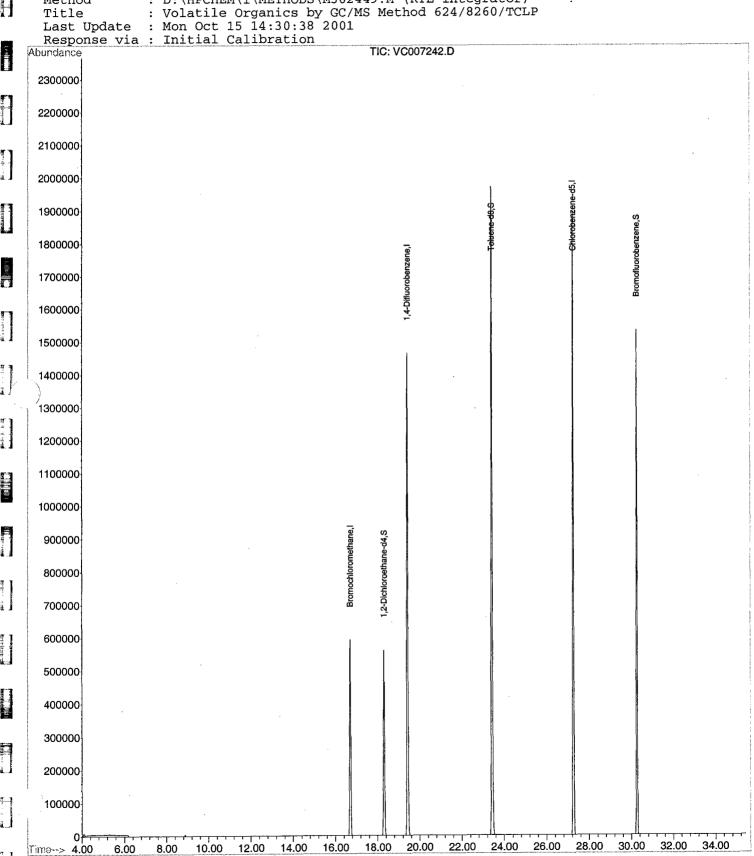
Vial: 1 Operator: Skelton Acq On : 15 Oct 2001 3:03 pm : GC/MS Ins : MB Inst Sample

Multiplr: 1.00 Misc : MB

MS Integration Params: RTEINT.P Quant Time: Oct 15 15:39 2001

Quant Results File: M362449.RES

: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) Method Title



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007243.D

Acq On

Vial: 1 : 15 Oct 2001 3:59 pm : 1650401 : Trip Blank Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc MS Integration Params: RTEINT.P

Quant Time: Oct 17 10:57 2001 Quant Results File: M362449.RES

Quant Method: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title: Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update: Mon Oct 15 14:30:38 2001
Response via: Initial Calibration
DataAcq Meth: M362449

Sample

IJ	Internal Standards	R.T.	QIon	Response	Conc U	nits I	Dev(Min)
	1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 19.42 27.25	114	352155 2567449 722641	30.00 30.00 30.00	ug/L	
F	System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000	18.30 Range 70		2751860 Recove			0.00 77%#
Mintro actions and the second	35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	23.42 Range 81	98 - 117 95	8880673 Recove 3671605	87.45 ery = 91.27	ug/L 291.5 ug/L	0.00 50%# 0.00
	Target Compounds 22) Chloroform	16.23	83	327406	7.76	ug/L	Qvalue 97

Data File: D:\HPCHEM\1\DATA\011015\VC007243.D

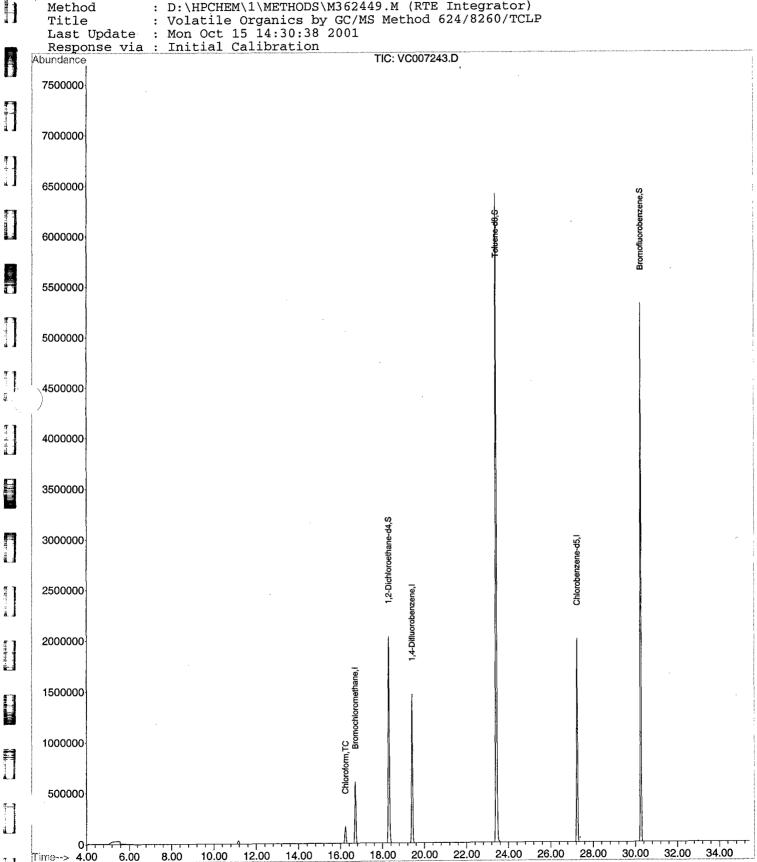
Vial: 1 Operator: Skelton Acq On : 15 Oct 2001 3:59 pm : GC/MS Ins Inst Sample : 1650401 Multiplr: 1.00

Misc : Trip Blank

MS Integration Params: RTEINT.P

Quant Results File: M362449.RES Quant Time: Oct 17 10:57 2001

: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007244.D

Vial: 2 Operator: Skelton Acq On : 15 Oct 2001 4:39 pm Sample Inst : GC/MS Ins

: 1650402 : 619E Misc Multiplr: 1.00

MS Integration Params: RTEINT.P Quant Time: Oct 17 10:57 2001

Quant Results File: M362449.RES

uant Method: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title: Volatile Organics by GC/MS Method 624/8260/TCL Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 15 14:30:38 2001
Response via : Initial Calibration
DataAcq Meth : M362449

Internal Standards	R.T.	QIon	Response	Conc Ur	nits 1	Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 19.42 27.24	114	351415 2528752 700445	30.00 30.00 30.00	ug/L	0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000	Range 70 23.42 Range 81	- 121 98 - 117	8390173 Recove	83.89 ery =	311.8 ug/L 279.0	87%# 0.00 63%#
49) Bromofluorobenzene Spiked Amount 30.000	30.25 Range 74		3479803 Recove		ug/L 297.	
Target Compounds 22) Chloroform	16.23	83	308367	7.33	ug/L	Qvalue 99

Data File: D:\HPCHEM\1\DATA\011015\VC007244.D

: 15 Oct 2001 4:39 pm

Vial: 2 Operator: Skelton : GC/MS Ins Inst

Sample : 1650402 Misc

Acq On

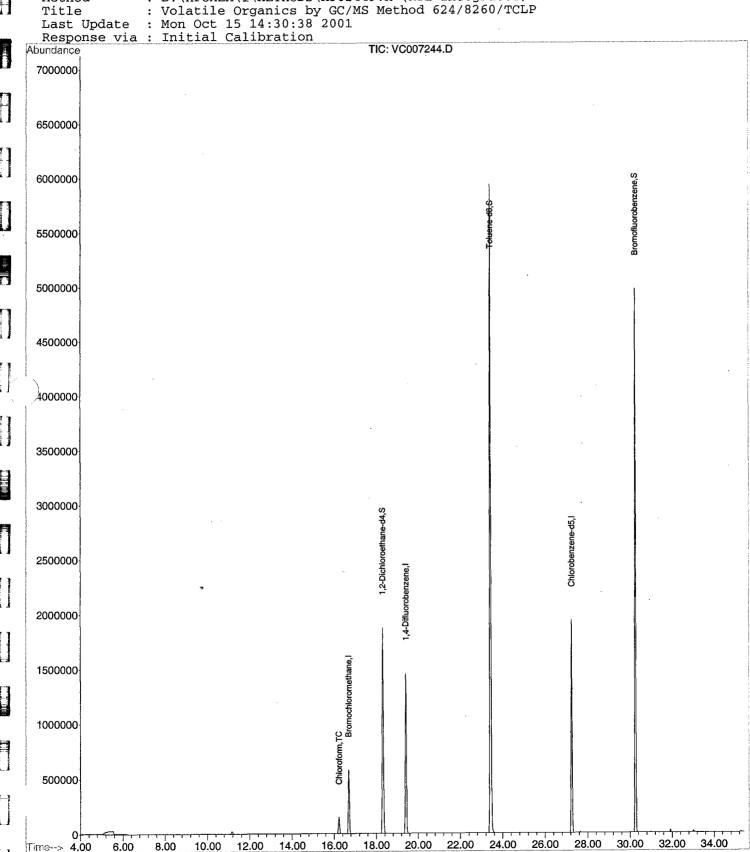
: 619E

Multiplr: 1.00

Quant Results File: M362449.RES

MS Integration Params: RTEINT.P Quant Time: Oct 17 10:57 2001

: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)



(OT Reviewed) Ouantitation Report Data File : D:\HPCHEM\1\DATA\011015\VC007245.D Vial: 3 Acq On : 15 Oct 2001 5:19 pm Operator: Skelton Sample : 1650403 Inst : GC/MS Ins Misc : 619F Multiplr: 1.00 MS Integration Params: RTEINT.P Quant Time: Oct 17 10:58 2001 Ouant Results File: M362449.RES Quant Method: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title: Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 15 14:30:38 2001 Response via : Initial Calibration DataAcq Meth: M362449 Internal Standards R.T. QIon Response Conc Units Dev(Min) _______ _____ 16.69 128 356721 30.00 ug/L 1) Bromochloromethane 19.42 114 30.00 ug/L 30.00 ug/L 2565234 26) 1,4-Difluorobenzene 0.00 27.25 119 37) Chlorobenzene-d5 711995 0.00 System Monitoring Compounds 25) 1,2-Dichloroethane-d4 18.30 65 2598096 93.60 ug/L 0.00 Range 70 - 121 Recovery = 312.00%# 23.42 98 8558374 84.35 ug/L 0.00 Spiked Amount 30.000 35) Toluene-d8 Range 81 - 117 Recovery = 281.17%# Spiked Amount 30.000

Range 74 - 121

16.23

83

49) Bromofluorobenzene

30.000

Spiked Amount

Target Compounds

22) Chloroform

30.25 95 3550775 89.59 ug/L 0.00

323213

Recovery = 298.63%

7.56 ug/L

Qvalue

Data File : D:\HPCHEM\1\DATA\011015\VC007245.D

Acq On : 15 Oct 2001 5:19 pm

Vial: 3 Operator: Skelton

Sample : 1650403

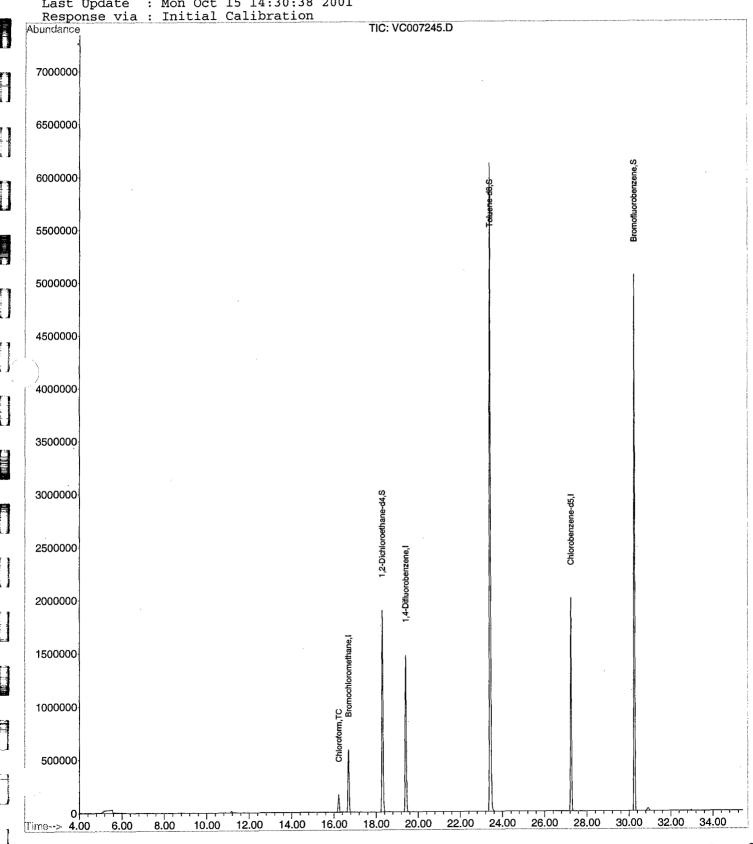
Misc : 619F

: GC/MS Ins Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Results File: M362449.RES Quant Time: Oct 17 10:58 2001

: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 15 14:30:38 2001



(QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011015\VC007246.D

Vial: 4

Acq On : 15 Oct 2001 6:00 pm : 1650404 : Field Dupe Sample

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc MS Integration Params: RTEINT.P

Quant Time: Oct 15 18:36 2001

Quant Results File: M362449.RES

Quant Method: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator)
Title: Volatile Organics by GC/MS Method 624/8260/TCL Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 15 14:30:38 2001

Response via: Initial Calibration

DataAcq Meth: M362449

Internal Standards		R.T.	QIon	Response	Conc U	nits :	Dev(Min)
1) Bromochloromet 26) 1,4-Difluorobe 37) Chlorobenzene-	nzene	16.69 19.42 27.25	128 114 119	361238 2616329 734453	30.00 30.00 30.00	ug/L	0.00
System Monitoring C 25) 1,2-Dichloroet Spiked Amount 35) Toluene-d8 Spiked Amount 49) Bromofluoroben Spiked Amount	hane-d4 30.000 30.000 zene	Range 70 23.42 Range 81	- 121 98 - 117 95	8314696 Recove 3480378	ery = 80.35 ery = 85.12	296. ug/L 267.	97%# 0.00 83%# 0.00
Target Compounds 22) Chloroform	30.000	16.23	83	349618	-1	ug/L	Qvalue

Data File: D:\HPCHEM\1\DATA\011015\VC007246.D

: 15 Oct 2001 6:00 pm Operator: Skelton : GC/MS Ins Inst

Vial: 4

Sample Misc : Field Dupe

Acq On

Multiplr: 1.00

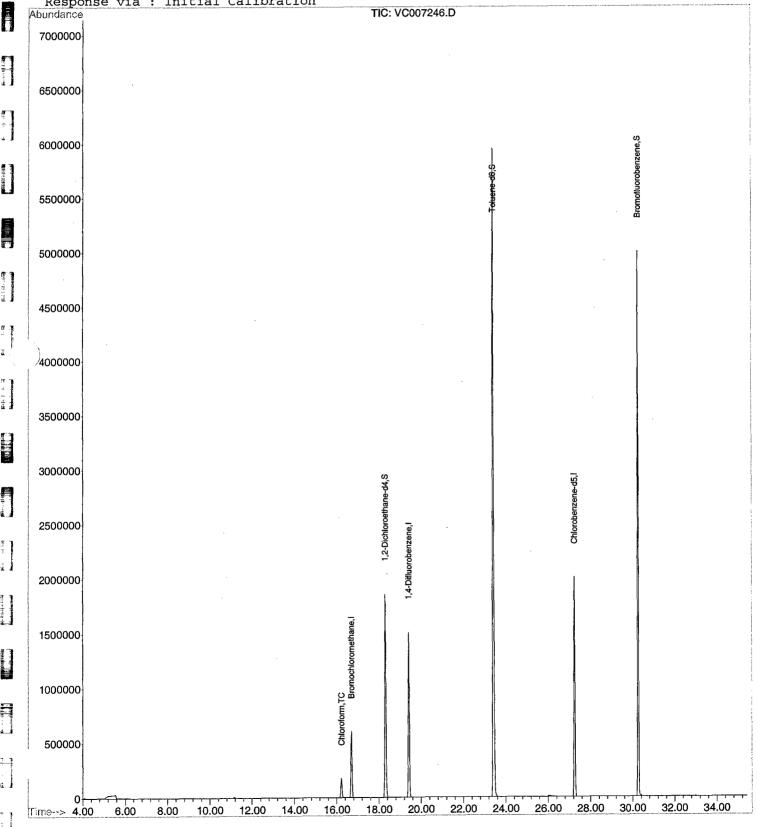
Quant Results File: M362449.RES

MS Integration Params: RTEINT.P Quant Time: Oct 15 18:36 2001

: 1650404

: D:\HPCHEM\1\METHODS\M362449.M (RTE Integrator) Method

Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 15 14:30:38 2001 Response via: Initial Calibration TIC: VC007246.D Abundance



TPHC

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

Client:

U.S. Army

Project #:

16504

DPW. SELFM-PW-EV

Location:

Bldg.619

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

12-Oct-01

Matrix:

Date Extracted:

15-Oct-01

Soil

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

16-Oct-01

Injection Volume:

1 uL

Analyst:

B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1650402	619E	1.00	15.37	77.47	190	701.82
1650403	619F	1.00	15.37	77.73	190	295.13
1650404	F.D	1.00	15.87	77.72	184	220.44
					,	······································
METHOD BLANK	MB-2515	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Zalibration Files =T013655.D 100 =T013654.D =T013656.D 50 20 =T013658.D 10 =T013657.D

		Compound	5	100	50	20	10	Avg		%RSD
1)	tC	C8	1.744	1.887				1.802		4.30
2)	tC	C10	2.003	2.147	2.126	1.965	2.057	2.060	E4	3.79
3)	TC	C12	2.113	2.213	2.208	2.156	2.083	2.155	${ t E4}$	2.66
4)	tC	C14	2.299	2.326	2.324	2.268	2.306	2.305	E4	1.02
3) 14) 5)	tC	C16	2.493	2.384	2.406	2.366	2.379	2.406	E4	2.12
	tC	C18	2.560	2.472	2.471	2.394	2.508	2.481	E4	2.44
a 7)	tC	C20	2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
÷ (8)	tC	C22	2.749	2.537	2.572	2.524	2.557	2.588	E4	3.55
	tC	C24	2.833	2.572	2.606	2.557	2.595	2.633	E4	4.31
	tC	C26	2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
<u>-1</u> 1)	tC	C28	2.766	2.550	2.598	2.549	2.569	2.606	E4	3.51
2)	tC	C30	2.816	2.620	2.673	2.602	2.581	2.658	E4	3.56
pp -	tC	C32	2.764					2.645	E4	2.69
	tĊ	C34	2.766	2.589	2.631	2.573	2.599	2.632	E4	.2.97
15)	tC	C36	2.763	2.655	2.663	2.622	2.627	2.666	E4	2.14
2 .6)	tC	C3.8					2.430			1.79
	tC	C40	2.197	2.275	2.148	2.199	2.178	2.199	E4	2.14
	tC	C42	1.886	2.124	1.935	1.972	1.902	1.964	E4	4.86
101	TC	Pristane	2.536					2.381	E4	4.20
÷ -	TC		2.753						E4	4.43
	sC		2.654						E4	2.41
	tC	TPHC - total	3.562						E4	13.48

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013669.D

Acq On : 15 Oct 2001 7:43 pm Sample : Tstd050 Misc : 50 PPM STD Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Multiple Level Calibration

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

1		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC		18.019	19.014 E3	-5.5	101	0.01
2	tC	C10	20.595	22.377 E3	-8.7	105	0.00
_{47 18} 3	TC	C12	21.549	23.085 E3	-7.1	105	0.00
4	tC	C14	23.048	24.180 E3	-4.9	104	0.00
د ا د	tC	C16	24.057	24.776 E3	-3.0	103	0.00
6	tC	C18	24.812	25.012 E3	-0.8	101	0.00
7	tC	C20	24.684	25.466 E3	-3.2	103	0.00
8 9	tC	C22	25.878	26.348 E3	-1.8	102	0.00
9	tC	C24	26.326	26.670 E3	-1.3	102	0.00
10	tC	C26	26.702	26.927 E3	-0.8	102	0.00
_11	tC	C28	26.061	26.495 E3	-1.7	102	0.00
11 2	tC	C30	26.583	27.243 E3	-2.5	102	0.00
1.3	tC	C32	26.447	26.985 E3	-2.0	102	0.00
14	tC	C34	26.317	26.921 E3	-2.3	102	0.00
_15	tC	C36	26.661	27.874 E3	-4.5	105	0.00
15 16	tC	C38	24.528	26.428 E3	-7.7	109	0.00
. 7	tC	C40	21.994	25.099 E3	-14.1	117	0.00
18	tC	c42	19.638	24.199 E3	-23.2	125	0.00
_1 9	TC	Pristane	23.812	24.046 E3	-1.0	100	0.00
3 80	TC	Phytane	25.573	25.856 E3	-1.1	103	0.00
- ¥	C	o-terphenyl	25.484	26.125 E3	-2.5	103	0.00
4	¿С	TPHC - total	28.994	28.793 E3	0.7	108	0.28

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013680.D

Vial: 27

Acq On : 16 Oct 2001 1:49 am
Sample : Tstd050
Misc : 50 PPM STD
IntFile : TPHCINT.E Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
	tC	C8	18.019	18.377 E3	-2.0	97	0.00
2	tC	C10	20.595	21.602 E3	-4.9	102	0.00
₄₇ 3	TC	C12	21.549	22.362 E3	-3.8	101	0.00
4	tC	C14	23.048	23.537 E3	-2.1	101	0.00
į j 5	tC	C16	24.057	24.206 E3	-0.6	101	0.00
6	tC	C18	24.812	25.449 E3	-2.6	103	0.00
₅₃ 7	tC	C20	24.684	24.900 E3	-0.9	100	0.00
8 9	tC	C22	25.878	25.708 E3	0.7	100	0.00
	tC	C24	26.326	26.033 E3	1.1	100	0.00
10	tC	C26	26.702	26.298 E3	1.5	100	0.00
11	tC	C28	26.061	25.816 E3	0.9	99	0.00
<u>₹</u> L2	tC	C30	26.583	26.526 E3	0.2	99	0.00
[] 3	tC	C32	26.447	26.300 E3	0.6	99	0.00
14	tC	C34	26.317	26.214 E3	0.4	100	0.00
_15	tC	C36	26.661	27.110 E3	-1.7	102	0.00
- 16	tC	C38	24.528	25.753 E3	-5.0	106	0.00
16	tC	C40	21.994	24.509 E3	-11.4	114	0.00
18	tC	c42	19.638	23.560 E3	-20.0	122	0.00
19 20	TC	Pristane	23.812	23.703 E3	0.5	99	0.00
÷ \$0	TC	Phytane	25.573	25.161 E3	1.6	100	0.00
ī.	}C	o-terphenyl	25.484	25.505 E3	-0.1	100	0.00
Ž	ćС	TPHC - total	28.994	27.463 E3	5.3	103	-0.95#

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

Client:

U.S. Army

Project #:

16504

DPW. SELFM-PW-EV

Location:

Bldg.619

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

12-Oct-01

Matrix:

Soil

Date Extracted:

15-Oct-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1650402		10.00	9.06	90.63
1650403		10.00	9.10	90.98
1650404		10.00	8.45	84.54
			=-	
				·
	·			
				· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·				
METHOD BLANK	MB-2515	10.00	11.26	112.64

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16504

DPW. SELFM-PW-EV

Location:

Bldg.619

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

12-Oct-01

Matrix:

Soil

Date Extracted:

15-Oct-01

Inst. ID.

GC TPHC INST. #1 RTX-5, 0.32mm ID, 30M **Extraction Method: Analysis Complete:**

Shake

Column Type:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1650241MS	1000	0.00	924.95	92.50	75-125
1650241MSD	1000	0.00	961.53	96.15	75-125

RPD	3.88	20.00

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

Client:

U.S. Army

Project #:

16504

DPW. SELFM-PW-EV

Location:

Bldg.619

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

12-Oct-01

Matrix:

Soil

Date Extracted:

....

Inst. ID.

JUII

Date Extracted:

15-Oct-01

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-2516	15-Oct-01	1000	827.43	82.74	75-125

(QT Reviewed) Quantitation Report Data File : C:\HPCHEM\1\DATA\011015\T013659.D Vial: 6 Acq On : 15 Oct 2001 2:05 pm Operator: B.Patel : MB-2515 Sample Inst : GC/MS Ins Misc : Multipl: IntFile : TPHCINT.E Quant Time: Oct 15 15:05 2001 Quant Results File: TPH95.RES Misc Multiplr: 1.00 Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via : Initial Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : 30m x 0.32mm Compound R.T. Response Conc Units System Monitoring Compounds yl 12.45 287051 11.264 mg/L 10.000 Range 8 - 13 Recovery = 112.64%# 21) sC o-terphenyl Spiked Amount Target Compounds

Data le : C:\HPCHEM\1\DATA\011015\T013659.D ial: 6 Acq On : 15 Oct 2001 2:05 pm Operator: B.Patel Sample : MB-2515 Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 15 15:05 2001 Quant Results File: TPH95.RES Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase: HP-5 Signal Info : $30m \times 0.32mm$ Response T013659.D\FID1B 35000 30000 25000 20000 15000 10000 5000 0 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Time

000057

Quantitation Report (QT Reviewed)

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011015\T013674.D

Vial: 21 Acq On : 15 Oct 2001 10:30 pm Operator: B.Patel Sample : 1650402s Inst : GC/MS Ins

Misc

IntFile : TPHCINT.E Quant Time: Oct 16 7:50 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

	Compound		Response	Conc Units		
¥7						-
ا د	System Monitoring Compo	unds				
	21) sC o-terphenyl		12.45	230960	9.063 mg/L	
advista.	Spiked Amount 10.000 Target Compounds	Range	8 - 13	Recovery	= 90.63%#	
	Target Compounds					
	4) tC C14		10.01	42162	1.829 mg/L	
	5) tC C16		11.02	43908	1.825 mg/L	
F F (1)	22) tC TPHC - total		12.45	4846041	167.140 mg/L m	

__ial: 21 Data le : C:\HPCHEM\1\DATA\011015\T013674.D Acq On : 15 Oct 2001 10:30 pm Operator: B.Patel Sample : 1650402s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Ouant Time: Oct 16 7:50 2001 Ouant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration DataAcq Meth : TPH95.M Volume Inj. : 1 ul Signal Phase: HP-5 Signal Info : $30m \times 0.32mm$ Response T013674.D\FID1B 32000 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 00005 4000 2000 7.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 4.00 5.00 6.00 8.00 9.00 10.00 Time

Quantitation Report (QT Reviewed)

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011015\T013675.D

Vial: 22 Acq On : 15 Oct 2001 11:03 pm Sample : 1650403s Misc : IntFile : TPHCINT.E Operator: B.Patel Inst : GC/MS Ins

Quant Time: Oct 16 8:31 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds
21) sC o-terphenyl 12.45 231853 9.098 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 90.98%#

Target Compounds

22) tC TPHC - total 12.45 2044591 70.518 mg/L m

Data .le : C:\HPCHEM\1\DATA\011015\T013675.D /ial: 22 Acq On : 15 Oct 2001 11:03 pm Operator: B.Patel Sample : 1650403s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 16 8:31 2001 Quant Results File: TPH95.RES Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase: HP-5 Signal Info : $30m \times 0.32mm$ T013675.D\FID1B Response 32000 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 4000 2000 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 4.00 5.00 7.00 8.00

(QT Reviewed) Quantitation Report Data File : C:\HPCHEM\1\DATA\011015\T013676.D Vial: 23 Acq On : 15 Oct 2001 11:36 pm Sample : 1650404s Operator: B.Patel Inst : GC/MS Ins Misc : IntFile : TPHCINT.E Multiplr: 1.00 Quant Time: Oct 16 8:31 2001 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via : Initial Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : 30m x 0.32mm

Compound R.T. Response Conc Units

System Monitoring Compounds
21) sC o-terpheny1 12.45 215448 8.454 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 84.54%#

Target Compounds
22) tC TPHC - total 12.45 1576575 54.376 mg/L m

(f)=RT Delta > 1/2 Window T013676.D TPH95.M Tue Oct 16 08:37:31 2001 (m)=manual int. 000062 Page 1

Oua at Rep __ial: 23 Data le : C:\HPCHEM\1\DATA\011015\T013676.D Acq On : 15 Oct 2001 11:36 pm Operator: B.Patel Sample : 1650404s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 16 8:31 2001 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcq Meth: TPH95.M Volume Ini. : 1 ul Signal Phase: HP-5 Signal Info : $30m \times 0.32mm$ Response T013676.D\FID1B 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 90006 4000 2000 5.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 4.00 6.00 7.00 8.00 Time

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted
Table of Contents submitted
Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted
Document paginated and legible
Chain of Custody submitted
Samples submitted to lab within 48 hours of sample collection
Methodology Summary submitted
Laboratory Chronicle and Holding Time Check submitted
Results submitted on a dry weight basis
Method Detection Limits submitted 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 e 10 / 14 / 0 (oratory 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

Report of Analysis

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

Client: U.S. Army

Lab. ID #: 1624.1-.8

DPW, SELFM-PW-EV

Sample Rec'd: 08/26/94

Bldq. 167

Analysis Start: 08/31/94

Ft. Monmouth, NJ 07703

Analysis Comp: 08/31/94

Analysis: 418.1 (TPH)

NJDEPE UST Req.#: 0081533-94

Matrix: Analyst:

Soil

Closure #:

DICAR #: Location #: Bldg. 621

S. Hubbard Ext. Meth: Sonc.

Lab ID. Result MDL Description %Solid (mq/Kq)1624.1 Site A, Sidewall OVA= ND 6.6 84 ND 1624.2 Site B, Sidewall OVA= ND 84 ND 6.6 1624.3 Site C, Sidewall OVA= ND ND6.6 83 Site D, Sidewall 1624.4 6.6 OVA= ND 85 ND1624.5 Site E, Sidewall OVA= ND 84 42.3 6.6 1624.6 Site F, Sidewall OVA= ND 87 ND 6.6 Site G (dup of A) 36.5 6.6 1624.7 OVA= ND 85 1624.8 Site H, Feed Line OVA= ND 88 174.3 6.6 M. Bl. Method Blank 3.3 100 ND

Notes: ND = Not Detected, MDL = Method Detection Limit * = Silica Gel Added, NA = Not Applicable

BATCH dup= 115% BATCH s= 116% BATCH sd= 115% RPD= 0.8%

Brian K. McKee

Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1624.1-.8

Sample Rec'd: 08/25/94

Analysis Start: 08/31/94

Analysis Comp: 08/31/94

Analysis: Munsel

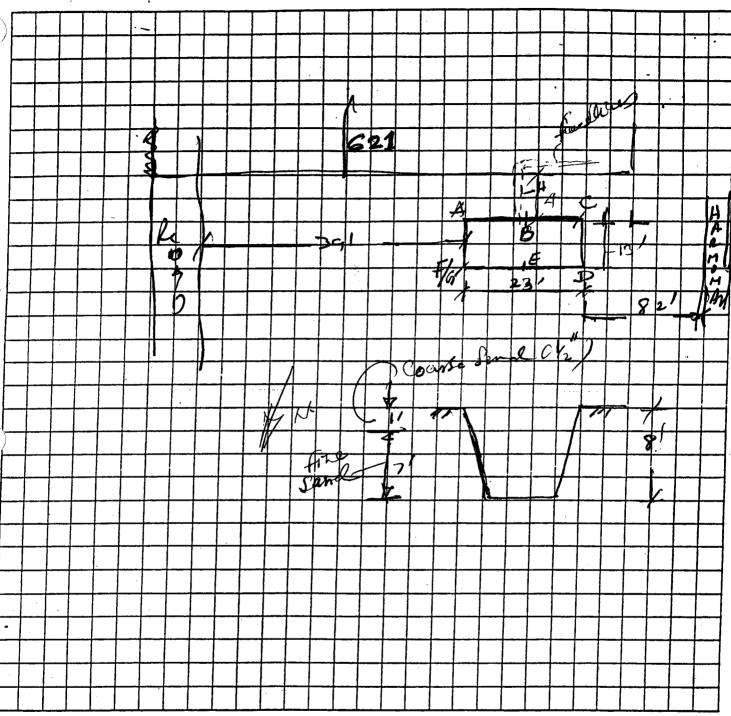
Lab ID#	Soil Color
1624.1	2.5Y 5/6 Light Olive Brown
1624.2	2.5Y 5/6 Light Olive Brown
1624.3	2.5Y 5/6 Light Olive Brown
1624.4	2.5Y 5/6 Light Olive Brown
1624.5	2.5Y 5/6 Light Olive Brown
1624.6	2.5Y 5/6 Light Olive Brown
1624.7	2.5Y 5/6 Light Olive Brown
1624.8	2.5Y 3/2 Very Dark Grayish Brown
*	

Brian K. McKee Laboratory Director

U.S. ARMY FORT MONMOUTH

	•			P.O. #	:									Chain c	of Custod	4
Project #:90	1-8-	25-130	Samp	ler:	/cut	 	Date /		e		naly rame	sis ters	<u> </u>	<u></u>	Star	t:
Customer:	Desa	·			621 81533.		8/26	120			1		7		Fini	sh:
Phone:				1 00	8.13.33.	-9 9].			X		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	//		Prese	rvation Method
Lab Sample ID Number	Date/	/Time	Cu: Local	stomer ion/ID	Sample Number	Sample Matrix	# of Bottles		/\				//	OJK .	Remarks	1
1624.1	8/26	10-59	Sik A	3 ide	m e l	Soil	1		1	1 2			. 7	Del	ban 24	
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Relinquished	By (:	signatı	ıre)	Date /	Time R	eceived	By (signa	ature	·>	Sh	ippe	d By:				
Relinquished	By (:	signatu	ıre)	Date /	Time Re	eceived (for Lab t	by (s	ign	atu	re):		Dat	e / Time	36	
Note: A draw of cus	ing d tody.	epictir	ng sam	ole loc	ation sh	ould be	attached	or c	Iraw	n o	n th	e rev	erse	side o	f this ch	ain
SRI-ENV COC	form	01			Page		f/_	Pa	iges		F	lev. A	De	te: 02 f	1pr.93	
Envior	nmenta	al Laboi	ratory											•	•	

PROPOSED SITE PLAN



NOTE: Indicate scale and compass direction

REMARKS		
Ar	(DUP)	OFF

TANK LOCATION

BLDG# 621
TANK # 94
TANK SIZE 1000
TANK CONTENTS #2 61

7.501.1007 Sep 0.0.7

PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u> </u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		_
3. IR Spectra submitted for standards, blanks, & samples	_	
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		<u>JA</u>
5. Extraction holding time met. (If not met, list number of days exceeded for each sample	:) —	
6. Analysis holding time met. (If not met, list number of days exceeded for each sample)		
Comments:		

Laboratory Authentication Statement

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

Project #1624

Brian K. McKee

Laboratory Manager

81:5-111 p.9990

U.S. ARMY FOO MONMOUTH

8-31-94 Sarah Abbuland

13 ldg 621

Enviormental Laboratory

Sample	Ext.	M.V.	Mg/Kg	Wet	Dry	%S	Munsell	Color
								00.01
Blank	0	0	ND.					Digit Cline
1624.1	15	0	ND	4.698	3.956	,84	25/5	Brown
1 ,2	(5)	0	ND	7.082	5.918	.84	2.5Y 6	Brown Jugth Olive Brown
, 3	15	0	ND	6.402	5,349	.83	2.57 5	Jight Olin
4	15	. 0	ND	5.407	4.614	.95	2.54 8	((
1.5	15	3	42.3	6.261	5,245	,84	2.5Y =	٠ ٨
1.6	15	0	مير	4067	3.529	.87	2.5 y 5	A
.7	15	2	36.5	5.690	4.844	185	2.54 2	٨
V 8	15	29	174.3	4874	4.`277	80	25/3	very dark
• •	,					•		
						·		

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING **CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**



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

Bldg. 634

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
634-1/7'	1659801	Soil	19-Nov-01 13:30	11/19/01
634-2/7'	1659802	Soil	19-Nov-01 13:50	11/19/01
634-3/7"	1659803	Soil	19-Nov-01 14:12	11/19/01
634-4/7'	1659804	Soil	19-Nov-01 14:25	11/19/01
634-5/7'	1659805	Soil	19-Nov-01 14:45	11/19/01
634-FD/7'	1659806	Soil	19-Nov-01	11/19/01
T.B.	1659807	Methanol	19-Nov-01	11/19/01

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

ENCLOSURE: CHAIN OF CUSTODY **RESULTS**

Daniel Wright/Date

Laboratory Director

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: D. De	SAİ	Project No:	02-125	539	·	Analysis Parameters				Comments:					
Phone #:	Location: BLDG, 634			٧	Т	%					Ц				
()DERA (V)OMA ()C	Other:		FORMER	•		0 A	ρ	s O					N		
Samplers Name / Compa	any: Mare LAURA - T	TUS-PWS 07 S		Sample	#	+	+ 17				u		u		
Lab Sample I.D.	Sample Location	Date	Time	Туре	bottles	15		AH2					(PM)	Remarks / Preservation N	lethod
10598 a 6	34-1 7	11-19-01	1330	SoiL	2	$\boldsymbol{\lambda}$	X	×					50	2957	400
026	34.2 7'	11	1350	lı .	2	X	X	X	,				70	2958	1,
1 03 6	34-3 71	u	1412	- 11	2	K	X	X					450	2959	1,
04 6	34-4 7'	(1	1425	11	2	×	X	X					50	2960	11
056	34-5 71	11	1445	11	2	X	X	X					70	2961	1/
066	34-FD 71	11		11	2	×	×	×					_	2967	11
07	T.B.	1(WETH	1	X								2956	U.
	· · · · · · · · · · · · · · · · · · ·														
Relinquished by (signature): Date/Time: Received by (sign				Wi	Relinquished by (signature):			r.	Date/Time: Received by (signature):						
Relinquished by (signature): Date/Time: Received by			signature):		Relinq	uished	by (sig	nature):	·	Date/	Time:	Receive	ed by (signature):	
Report Type: ()Full, ()Reduced, ()Standard, ()Screen / non-certified, ()EDD Turnaround time: ()Standard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.						Remai	ks:								

METHOD SUMMARY

Method Summary

NJDEP Method 8260 Gas Chromatographic Determination of Volatiles in Soil

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 is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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

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

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

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

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

CONFORMANCE-NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

		Indicate Yes, No, N/A
1.	Chromatograms labeled/Compounds identified	
١.	(Field samples and method blanks)	<u>yes</u>
2.	2. Retention times for chromatograms provided	yes
3.	3. GC/MS Tune Specifications	
	a. BFB Meet Criteria	yes
	b. DFTPP Meet Criteria	_WA_
4.	4. GC/MS Tuning Frequency – Performed every 24 hours for series and 12 hours for 8000 series	600
5.	 GC/MS Calibration – Initial Calibration performed before sanalysis and continuing calibration performed within 24 hos sample analysis for 600 series and 12 hours for 8000 series 	ample urs of
6 .	5. GC/MS Calibration requirements	•
	a. Calibration Check Compounds Meet	Criteria
	b. System Performance Check Compou	nds Meet Criteria
7.	7. Blank Contamination - If yes, List compounds and concent	rations in each blank:
	a VOA Fraction 30CB 405, 14 DCB.	SKS 1,2DCB 4R5
	b. B/N Fraction A)A	
	c. Acid Fraction NA	
8.	3 Surrogate Recoveries Meet Criteria	Yes
	If not met, list those compounds and their recoveries, voutside the acceptable range:	which fall
	a. VOA Fraction	
	b. B/N Fraction NA	
	c. Acid Fraction NA	
	If not met, were the calculations checked and the result as "estimated"?	ts qualified
9.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Crit	eria A
7 .	(If not met, list those compounds and their recoveries, which	th fall
	outside the acceptable range)	
	a. VOA Fraction TCE 143% MS	
	b. B/N FractionNA	· · · · · · · · · · · · · · · · · · ·
	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	ge)
	a. VOA Fraction	
	b. B/N Fraction NA	<u> </u>
	c. Acid Fraction NA	
11.	Extraction Holding Time Met	NA
	If not met, list the number of days exceeded for each sample:	
12.	Analysis Holding Time Met	- yes
	If not met, list the number of days exceeded for each sample:	
Add	ditional Comments:	
Labo	poratory Manager Date: 12-6	5-01

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No. N//
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).	n Yes
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- <u>40°</u>
5 .	IR Spectra submitted for standards, blanks and samples.	- NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>Ve</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	-yes
Addi	itional comments:	
Lahr	pratory Manager Date	

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16598

Site: Bldg. 634

Date **Hold Time Date Sampled** 11/19/01 NA Receipt/Refrigeration 11/19/01 NA **Extractions** 1. TPHC 11/20/01 14 days **Analyses** 1. VOA 11/26/01 14 days 2. TPHC 11/21/01 40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL: Method Detection Limit

J: Compound identified below detection limit

B: Compound found in blank

D : Results are from a dilution of the sample
 U : Compound searched for but not detected
 E : Compound exceeds calibration limit

POL: Practical Quantitation Limit

NLE: No limit established RT: Retention time

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 26Nov01

Lab Name: **FMETL** NJDEP # 13461 0212539 SDG No.: Project: Case No.: 16598 Location: 634 Matrix: (soil/water) SOIL Lab Sample ID: MB Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007463.D Level: (low/med) MED Date Received: 1/19/01 % Moisture: not dec. 0 Date Analyzed: 11/26/01 GC Column: Rtx502.2 ID: 0.25 Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	٦
1634044	Methyl-tert-Butyl ether	300	C
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	Ū
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	Ü
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	Ü
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	Ü
108-88-3	Toluene	100	Ū
10061-02-6	trans-1,3-Dichloropropene	200	Ü
79-00-5	1,1,2-Trichloroethane	200	Ü
127-18-4	Tetrachloroethene	100	Ü
591-78-6	2-Hexanone	200	Ü
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U
100 71 7	Luijibonzono		

VOLATILE ORGANICS ANALYSIS DATA SHEET

F	EL	D.	ID.
Н	EL	U.	ID.

MB 26Nov01 Lab Name: **FMETL** NJDEP # 13461 0212539 SDG No.: Project: Case No.: 16598 Location: 634 SOIL Lab Sample ID: MB Matrix: (soil/water) Sample wt/vol: 10.0 (g/ml) G Lab File ID: VC007463.D MED Level: (low/med) Date Received: 1/19/01 % Moisture: not dec. 0 Date Analyzed: 11/26/01 Rtx502.2 ID: 0.25 GC Column: Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	<u>.</u>	Q
1330-20-7	m+p-Xylenes			300	U
1330-20-7	o-Xylene		200	U	
100-42-5	Styrene			200	U
75-25-2	Bromoform		200	U	
79-34-5	1,1,2,2-Tetrachloroe		200	U	
541-73-1	1,3-Dichlorobenzen		40	J	
106-46-7	1,4-Dichlorobenzen	θ		38	J
95-50-1	1.2-Dichlorobenzen	e		48	J

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD	ID
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Lab Name:	FMETL			NJDE	EP# 13461		MB 26No	1000
Project:	021253	9 (Case No.: 165	i98 Lo	cation: 634	SD	G No.:	
Matrix: (soil/	water)	SOIL	. 		Lab Sample	• ID: <u>I</u>	ИΒ	
Sample wt/ve	ol:	10.0	(g/ml) <u>G</u>		Lab File ID:	_	VC007463.D	<u>-</u>
Level: (low/r	ned)	MED			Date Receiv	ved: _1	1/19/01	
% Moisture:	not dec.	0			Date Analyz	zed: 1	1/26/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)		Dilution Fac	tor: _1	1.0	
Soil Extract \	Volume:	25000	(uL)		Soil Aliquot	Volum	ne: 125	(uL)
Number TICs	s found:	0		CONCEN' (ug/L or u	TRATION UN g/Kg) UG	ITS: /KG		
CAS NO.		СОМР	OUND NAME		RT	EST	CONC.	Q

COMPOUND

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID	F
----------	---

Q

Lab Name:	FMETL				NJDEP #	13461	634-1	
Project:	0212539		Case No.: 16598		Location: 634 SI		DG No.:	
Matrix: (soil/w	ater)	SOIL			Lal	b Sample ID:	1659801	
Sample wt/vol	l:	10.1	(g/ml)	<u>G</u>	_ Lal	b File ID:	VC007471.D	
Level: (low/m	ed)	MED			Da	te Received:	1/19/01	
% Moisture: n	ot dec.	25.32			Da	te Analyzed:	11/26/01	
GC Column:	Rtx502	2.2 ID:	0.25 (m	nm)	Dil	ution Factor:	1.0	-
Soil Extract Vo	olume:	25000	(uL)		So	il Aliquot Volu	me: 125	(uL

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

0,10,110.	(4920.19/19/		•
107028	Acrolein	920	U
107131	Acrylonitrile	920	U
75650	tert-Butyl alcohol	1700	U
1634044	Methyl-tert-Butyl ether	400	U
108203	Di-isopropyl ether	260	<u>U</u>
75718	Dichlorodifluoromethane	530	U
74-87-3	Chloromethane	130	<u> </u>
75-01-4	Vinyl Chloride	400	<u> </u>
74-83-9	Bromomethane	260	U_
75-00-3	Chloroethane	400	U_
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	130	U
67-64-1	Acetone	260	U
75-15-0	Carbon Disulfide	130	U_
75-09-2	Methylene Chloride	250	J
156-60-5	trans-1,2-Dichloroethene	260	U
75-35-3	1,1-Dichloroethane	130	U
108-05-4	Vinyl Acetate	400	U
78-93-3	2-Butanone	400	U
	cis-1,2-Dichloroethene	130	U
67-66-3	Chloroform	130	U
75-55-6	1,1,1-Trichloroethane	130	U
56-23-5	Carbon Tetrachloride	260	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	260	<u>U</u>
79-01-6	Trichloroethene	130	U
78-87-5	1,2-Dichloropropane	130	U
75-27-4	Bromodichloromethane	130	U
110-75-8	2-Chloroethyl vinyl ether	260	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-10-1	4-Methyl-2-Pentanone	260	U
108-88-3	Toluene	130	Ū
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	130	Ü
591-78-6	2-Hexanone	260	Ū
126-48-1	Dibromochloromethane	260	Ū
108-90-7	Chlorobenzene	130	Ü
100-41-4	Ethylbenzene	260	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP # 13461	634-1	
Project:	0212539	9 (Case No.: 16598		DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1659801	
Sample wt/vo	ol:	10.1	(g/ml) <u>G</u>	Lab File ID:	VC007471.D	
Level: (low/n	ned)	MED		Date Received:	1/19/01	
% Moisture: ı	not dec.	25.32	· · · · · · · · · · · · · · · · · · ·	Date Analyzed:	11/26/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	me: <u>125</u>	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	400	U
1330-20-7	o-Xylene	260	U
100-42-5	Styrene	260	U
75-25-2	Bromoform	260	·U
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1.2-Dichlorobenzene	400	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.	
634-1	

						l 634-1	1 1
Lab Name:	FMETL		NJDEP	# 13461			·
Project:	0212539	Case No.: 16598	Locat	ion: <u>634</u>	SD	G No.:	
Matrix: (soil/	water) SOIL		L	ab Sample	ID: 1	659801	· —————
Sample wt/v	ol: <u>10.1</u>	(g/ml) <u>G</u>	L	ab File ID:	<u>\</u>	/C007471.D	
Level: (low/r	med) MED		ľ	Date Recei	ved: <u>1</u>	/19/01	
% Moisture:	not dec. <u>25.32</u>		C	Date Analyz	ed: 1	1/26/01	
GC Column:	Rtx502.2 ID	0.25 (mm)	[Dilution Fac	tor: 1	.0	
Soil Extract \	Volume: 25000	(uL)	5	Soil Aliquot	Volum	ie: <u>125</u>	(uL)
Number TIC	s found: . (CONCENTR (ug/L or ug/K		ITS: /KG		
CAS NO.	COM	POUND NAME		RT	EST	. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

634-2 Lab Name: **FMETL** NJDEP # 13461 Case No.: 16598 Project: 0212539 Location: 634 SDG No.: Lab Sample ID: 1659802 Matrix: (soil/water) SOIL Sample wt/vol: 10.4 (g/ml) G Lab File ID: VC007472.D Level: (low/med) MED Date Received: 1/19/01 % Moisture: not dec. 22.07 Date Analyzed: 11/26/01 GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 125 (uL) (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	870	U
107131	Acrylonitrile	870	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	370	Ū
108203	Di-isopropyl ether	250	U
75718	Dichlorodifluoromethane	500	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	370	٥
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	250	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	280	
156-60-5	trans-1,2-Dichloroethene	250	U
75-35-3	1,1-Dichloroethane	120	U.
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	120	Ū
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	120	Ū
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	250	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	250	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	250	Ü
79-00-5	1,1,2-Trichloroethane	250	Ū
127-18-4	Tetrachloroethene	120	Ū
591-78-6	2-Hexanone	250	Ü
126-48-1	Dibromochloromethane	250	Ŭ
108-90-7	Chlorobenzene	120	Ū
100-41-4	Ethylbenzene	250	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

	. •	OLATIL	LONGAN	IOO AIVAL	TOIO DATA	OFILL	634-2	1
Lab Name:	FMETL				NJDEP#	13461		
Project:	0212539)	Case No.:	16598	Location	: <u>634</u> S	DG No.:	
Matrix: (soil/w	vater)	SOIL			Lat	Sample ID:	1659802	
Sample wt/vo	d:	10.4	(g/ml)	G	Lat	File ID:	VC007472.D	
Level: (low/m	ned)	MED			Dat	te Received:	1/19/01	
% Moisture: r	ot dec.	22.07	····		Dat	te Analyzed:	11/26/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (n	nm)	Dilu	ution Factor:	1.0	
Soil Extract V	olume: 3	25000_	(uL)		Soi	i Aliquot Volu	me: 125	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	370	U
1330-20-7	o-Xylene	250	U
100-42-5	Styrene	250	Ū
75-25-2	Bromoform	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1.2-Dichlorobenzene	370	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD	D.
6	34-2

Lab Name:	FMETL	•		NJDEP	# 13461		634-2	2
Project:	021253	19	Case No.: 165	98 Locat	ion: 634	s	DG No.:	·
Matrix: (soil/	water)	SOIL		i	_ab Sampl	e ID:	1659802	
Sample wt/v	ol:	10.4	(g/ml) <u>G</u>		_ab File ID):	VC007472.D	
Level: (low/r	med)	MED		Į	Date Rece	ived:	1/19/01	
% Moisture:	not dec.	22.07		ľ	Date Analy	zed:	11/26/01	
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)		Dilution Fa	ctor:	1.0	
Soil Extract	Volume:	25000	(uL)	5	Soil Aliquo	t Volu	ıme: 125	(uL)
Number TIC	s found:	0)	CONCENTR (ug/L or ug/K		NTS: G/KG		
CAS NO.		СОМ	POUND NAME		RT	ES	ST. CONC.	Q

(uL)

Soil Extract Volume: 25000

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID

(uL)

634-3 Lab Name: **FMETL** NJDEP # 13461 SDG No.: Project: 0212539 Case No.: 16598 Location: 634 Lab Sample ID: 1659803 Matrix: (soil/water) SOIL Sample wt/vol: 10.2 (g/ml) G Lab File ID: VC007473.D Level: (low/med) MED Date Received: 1/19/01 % Moisture: not dec. 21.32 Date Analyzed: 11/26/01 Rtx502.2 ID: 0.25 GC Column: (mm) Dilution Factor: 1.0

CONCENTRATION UNITS:

Soil Aliquot Volume: 125

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	870	U
107131	Acrylonitrile	870	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	370	U
108203	Di-isopropyl ether	250	U
75718	Dichlorodifluoromethane	500	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	370	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	250	U
75-15-0	Carbon Disulfide	120	Ü
75-09-2	Methylene Chloride	290	
156-60-5	trans-1,2-Dichloroethene	250	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U_
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	120	Ų
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	250	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	250	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	120	Ū
591-78-6	2-Hexanone	250	Ü
126-48-1	Dibromochloromethane	250	Ü
108-90-7	Chlorobenzene	120	Ŭ
100-41-4	Ethylbenzene	250	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP # 13461	634-3	
Project:	0212539	9	Case No.: 16598	Location: 634 S	DG No.:	
Matrix: (soil/v	water)	SOIL		Lab Sample ID:	1659803	
Sample wt/vo	ol:	10.2	(g/ml) <u>G</u>	Lab File ID:	VC007473.D	
Level: (low/n	ned)	MED		Date Received:	1/19/01	
% Moisture:	not dec.	21.32	· .	Date Analyzed:	11/26/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	ıme: 125	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	37	70 U
1330-20-7	o-Xylene	25	50 U
100-42-5	Styrene	25	50 U
75-25-2	Bromoform	25	50 U
79-34-5	1,1,2,2-Tetrachloroethane	25	50 U
541-73-1	1,3-Dichlorobenzene	37	70 U
106-46-7	1,4-Dichlorobenzene	37	70 U
95-50-1	1.2-Dichlorobenzene	37	70 U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

		TENT	ATIVELY IDENT	IFIED COMPO	DUNDS				
Lab Name:	FMETL			NJDEP :	# 13461		6	34-3	
Project:	021253	9	Case No.: 1659	8 Locati	on: <u>634</u>	_ s	DG No.:		
Matrix: (soil/	water)	SOIL		Ĺ	ab Sample	D:	1659803		
Sample wt/vo	ol:	10.2	(g/ml) <u>G</u>	L	ab File ID:		VC00747	3.D	_
Level: (low/r	ned)	MED	· ·		ate Receiv	ved:	1/19/01		_
% Moisture:	not dec.	21.32		E	ate Analyz	zed:	11/26/01		_
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)		ilution Fac	tor:	1.0		_
Soil Extract \	/olume:	25000	(uL)	8	Soil Aliquot	Volu	me: <u>125</u>		(uL)
Number TICs	s found:	0		CONCENTRA (ug/L or ug/K		ITS: /KG	 -		
CAS NO.		COMF	OUND NAME		RT	ES	ST. CONC.		Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

NJDEP # 13461 634-4

Matrix: (soil/water) SOIL Lab Sample ID: 1659804

FMETL

Lab Name:

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VC007474.D Level: (low/med) MED Date Received: 1/19/01

% Moisture: not dec. 23.31 Date Analyzed: 11/26/01

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	860	U
107131	Acrylonitrile	860	Ü
75650	tert-Butyl alcohol	1600	Ū
1634044	Methyl-tert-Butyl ether	370	Ų ·
108203	Di-isopropyl ether	240	U
75718	Dichlorodifluoromethane	490	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	370	U
74-83-9	Bromomethane	240	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	240	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	240	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	330	
156-60-5	trans-1,2-Dichloroethene	240	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U_
	cis-1,2-Dichloroethene	120	Ú
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	240	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	240	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	240	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	240	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	240	U
79-00-5	1,1,2-Trichloroethane	240	U
127-18-4	Tetrachloroethene	120	U
591-78-6	2-Hexanone	240	U
126-48-1	Dibromochloromethane	240	Ū
108-90-7	Chlorobenzene	120	Ü
100-41-4	Ethylbenzene	240	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

		_				-	634-4	
Lab Name:	FMETL				NJDEP#	13461		
Project:	0212539	9	Case No.:	16598	Location	n: <u>634</u> S	DG No.:	
Matrix: (soil/	water)	SOIL			Lal	b Sample ID:	1659804	
Sample wt/vo	of:	10.6	(g/ml)	G	Lai	b File ID:	VC007474.D	
Level: (low/r	ned)	MED	· · · · · · · · ·		Da	te Received:	1/19/01	
% Moisture:	not dec.	23.31			Da	te Analyzed:	11/26/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (m	ım)	Dil	ution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)		So	il Aliquot Volu	ıme: <u>125</u>	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	370	U
1330-20-7	o-Xylene	240	U
100-42-5	Styrene	240	U
75-25-2	Bromoform	240	U
79-34-5	1,1,2,2-Tetrachloroethane	240	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

F	EL	D.	ID.
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Lab Name:	FMETL	, 		NJDEP #	13461		634	-4
Project:	021253	9	Case No.: 1659	98 Location	on: <u>634</u>	S	DG No.:	
Matrix: (soil/	water)	SOIL		L	ab Sample	e ID:	1659804	
Sample wt/ve	ol:	10.6	(g/ml) <u>G</u>	L	ab File ID	:	VC007474.I	D
Level: (low/r	ned)	MED		D	ate Recei	ved:	1/19/01	
% Moisture:	not dec.	23.31		D	ate Analy	zed:	11/26/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	D	ilution Fa	ctor:	1.0	
Soil Extract \	√olume:	25000	(uL)	S	oil Aliquot	Volu	me: <u>125</u>	(uL)
Number TICs	s found:	0	I	CONCENTRA (ug/L or ug/Kg		IITS: I/KG		
CAS NO.		COM	POUND NAME	-	RT	ES	ST. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

F	Ε	LD)	D

				634-5
Lab Name:	FMETL	NJDEP#	13461	

 Project:
 0212539
 Case No.:
 16598
 Location:
 634
 SDG No.:

 Matrix:
 (soil/water)
 SOIL
 Lab Sample ID:
 1659805

Matrix: (soil/water) SOIL Lab Sample ID: 1659805
Sample wt/vol: 10.2 (g/ml) G Lab File ID: VC007475.D

Level: (low/med) MED Date Received: 1/19/01

% Moisture: not dec. 19.38 Date Analyzed: 11/26/01

GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	850	U
107131	Acrylonitrile	850	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	360	U
108203	Di-isopropyl ether	240	J
75718	Dichlorodifluoromethane	480	د
74-87-3	Chloromethane	120	J
75-01-4	Vinyl Chloride	360	U
74-83-9	Bromomethane	240	٦
75-00-3	Chloroethane	360	U
75-69-4	Trichlorofluoromethane	240	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	240	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	400	
156-60-5	trans-1,2-Dichloroethene	240	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	360	U
78-93-3	2-Butanone	360	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	240	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	240	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	240	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	240	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	240	U
79-00-5	1,1,2-Trichloroethane	240	Ū
127-18-4	Tetrachloroethene	120	Ü
591-78-6	2-Hexanone	240	Ü
126-48-1	Dibromochloromethane	240	Ŭ
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	240	- Ŭ

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD II	U
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					1 034-3	
Lab Name:	FMETL			NJDEP # 13461		
Project:	0212539	Case	No.: 16598	Location: 634	SDG No.:	
Matrix: (soil/w	vater) <u>S</u>	OIL		Lab Sample ID): 1659805	
Sample wt/vo	ol: <u>10</u>	0.2	(g/ml) G	_ Lab File ID:	VC007475.D	
Level: (low/m	ned) <u>M</u>	ED		Date Received	l: <u>1/19/01</u>	
% Moisture: r	not dec. 19	9.38		Date Analyzed	11/26/01	
GC Column:	Rtx502.2	ID: <u>0.25</u>	(mm)	Dilution Factor	: 1.0	
Soil Extract V	olume: 25	000	(uL)	Soil Aliquot Vo	lume: 125	(uL)

CAS NO.	COMPOUND (ug/L or	r ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		360	U
1330-20-7	o-Xylene		240	U
100-42-5	Styrene		240	Ü
75-25-2	Bromoform		240	U
79-34-5	1,1,2,2-Tetrachloroethane		240	U
541-73-1	1,3-Dichlorobenzene		360	U
106-46-7	1,4-Dichlorobenzene		360	U
95-50-1	1,2-Dichlorobenzene		360	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FI	EL	.D	ID.		
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Lab Name:	FMETL			JDEP#	13461		634-	•
Project:	021253	9 Case No	o.: <u>16598</u>	Location	n: <u>634</u>	_ s	DG No.:	
Matrix: (soil/	water)	SOIL		Lal	b Sample	ID:	1659805	
Sample wt/v	ol:	10.2 (g/r	ml) <u>G</u>	Lal	b File ID:		VC007475.D	
Level: (low/r	ned)	MED		Da	te Receiv	/ed:	1/19/01	
% Moisture:	not dec.	19.38	_	Da	te Analyz	ed:	11/26/01	
GC Column:	Rtx50	2.2 ID: <u>0.25</u>	(mm)	Dil	ution Fac	tor:	1.0	
Soil Extract \	/olume:	<u>25000</u> (ul	L)	So	il Aliquot	Volu	me: <u>125</u>	(uL)
Number TIC	s found:	0		CENTRAT	TION UNI UG/			
CAS NO.		COMPOUND	NAME		RT	ES	ST. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name: FMETL NJDEP # 13461 634-FD

Matrix: (soil/water) SOIL Lab Sample ID: 1659806

Sample wt/vol: 10.2 (g/ml) G Lab File ID: VC007476.D Level: (low/med) MED Date Received: 1/19/01

% Moisture: not dec. 21.9 Date Analyzed: 11/26/01

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	880	U
107131	Acrylonitrile	880	Ü
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	380	U
108203	Di-isopropyl ether	250	U
75718	Dichlorodifluoromethane	500	U
74-87-3	Chloromethane	130	U
75-01-4	Vinyl Chloride	380	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	380	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	130	U
67-64-1	Acetone	250	U
75-15-0	Carbon Disulfide	130	U
75-09-2	Methylene Chloride	490	-
156-60-5	trans-1,2-Dichloroethene	250	Ū
75-35-3	1,1-Dichloroethane	130	U
108-05-4	Vinyl Acetate	380	U
78-93-3	2-Butanone	380	U
	cis-1,2-Dichloroethene	130	U
67-66-3	Chloroform	130	U
75-55-6	1,1,1-Trichloroethane	130	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	130	U
78-87-5	1,2-Dichloropropane	130	U
75-27-4	Bromodichloromethane	130	U
110-75-8	2-Chloroethyl vinyl ether	250	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-10-1	4-Methyl-2-Pentanone	250	U
108-88-3	Toluene	130	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	Ū
127-18-4	Tetrachloroethene	130	Ū
591-78-6	2-Hexanone	250	Ü
126-48-1	Dibromochloromethane	250	Ü
108-90-7	Chlorobenzene	130	U
100-41-4	Ethylbenzene	250	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FII	EL	D	ID
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Lab Name:	FMETL			NJDEP # 13461	634-FD	
Project:	0212539)	Case No.: 16598	Location: 634 S	DG No.:	
Matrix: (soil/	water)	SOIL	————	Lab Sample ID:	1659806	
Sample wt/ve	ol:	10.2	(g/ml) <u>G</u>	Lab File ID:	VC007476.D	
Level: (low/r	ned)	MED		Date Received:	1/19/01	
% Moisture:	not dec.	21.9		Date Analyzed:	11/26/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume: 2	25000	(uL)	Soil Aliquot Volu	ıme: <u>125</u>	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	380	U
1330-20-7	o-Xylene	250	U
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
95-50-1	1,2-Dichlorobenzene	380	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

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	634-FD		
s	DG No.:		
le ID:	1659806		
) :	VC007476.D		
ived:	1/19/01		
/zed:	11/26/01		
ctor:	1.0		
t Volu	me: 125	(uL)	
VITS:			
~ # / ~			

EST. CONC.

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Lab Name: FME	ΓL	·	NJDEP# 13461	634-FD	
Project: 0212	539 C	ase No.: 16598	Location: 634	SDG No.:	
Matrix: (soil/water)	SOIL		Lab Sample ID:	1659806	
Sample wt/vol:	10.2	(g/ml) G	Lab File ID:	VC007476.D	
Level: (low/med)	MED		Date Received:	1/19/01	
% Moisture: not de	c. <u>21.9</u>		Date Analyzed:	11/26/01	
GC Column: Rtx	502.2 ID: <u>0</u>).25_ (mm)	Dilution Factor:	1.0	
Soil Extract Volume	25000	(uL)	Soil Aliquot Vol	ume: 125	(uL)
Number TICs found	l: <u> </u>		NCENTRATION UNITS: //L or ug/Kg) UG/KG		

COMPOUND NAME

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD) ID
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Lab Name:	FMETL			NJDEP # 13461	ТВ]
Project:	021253	9	Case No.: 16598	Location: 634 S	DG No.:	
Matrix: (soil/	water)	SOIL		Lab Sample ID:	1659807	
Sample wt/v	ol:	10.0	(g/ml) G	Lab File ID:	VC007470.D	_
Level: (low/i	med)	MED		Date Received:	1/19/01	_
% Moisture:	not dec.	0		Date Analyzed:	11/26/01	_
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	_
Soil Extract \	Volume:	25000	(uL)	Soil Aliquot Volu	me: 125	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700 .	Ŭ
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U_
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	170	J
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	Ū
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	Ū
100-41-4	Ethylbenzene	200	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

F	ΙEΙ	_D	ID	١.

Lab Name:	FMETL			NJDEP # 13461	ТВ	
Project:	021253	9	Case No.: 16598	Location: 634 SI	DG No.:	
Matrix: (soil/	water)	SOIL	_ _	Lab Sample ID:	1659807	
Sample wt/v	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC007470.D	
Level: (low/i	med)	MED		Date Received:	1/19/01	
% Moisture:	not dec.	0		Date Analyzed:	11/26/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract \	Volume:	25000	(uL)	Soil Aliquot Volu	me: 125	(uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			300	U
1330-20-7	o-Xylene			200	U
100-42-5	Styrene			200	U
75-25-2	Bromoform			200	U
79-34-5	1,1,2,2-Tetrachic	roethane		200	U
541-73-1	1,3-Dichlorobenz	ene		300	U
106-46-7	1,4-Dichlorobenz	ene		300	U
95-50-1	1,2-Dichlorobenz	ene		300	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.	
ТВ	

Lab Name:	FMETL			NJDEP	# 13	461		ТВ	
Project:	021253	9	Case No.: 165	98 Locat	ion: <u>6</u>	34	SDG	No.:	
Matrix: (soil/	water)	SOIL		l	.ab Sa	ımple II	D: <u>16</u>	59807	
Sample wt/v	ol:	10.0	(g/ml) <u>G</u>	l	.ab Fil	e ID:	VC	007470.D	
Level: (low/r	med)	MED		I	Date R	eceive	d: <u>1/</u> 1	19/01	
% Moisture:	not dec.	0	·	[Date A	nalyzed	d: <u>11</u>	/26/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)		Dilution	n Facto	r: <u>1.0</u>)	
Soil Extract	Volume:	25000	(uL)	9	Soil Ali	quot Vo	olume	: 125	(uL)
Number TIC	s found:	0	·	CONCENTR (ug/L or ug/K		UNITS			
CAS NO.		COM	POUND NAME		R.	г	EST.	CONC.	Q

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

NJDEP # 13461 Lab Name: **FMETL** Project: Case No.: 16598 Location: 634 SDG No.: 0212539 BFB Injection Date: 11/15/01 Lab File ID: VC007374.D BFB Injection Time: 14:10 Instrument ID: **GCMSVoa** Heated Purge: (Y/N) GC Column: Rtx502.2 ID: 0.25 (mm) Ν

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	16.7
75	30.0 - 66.0% of mass 95	47.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	71.0
175	4.0 - 9.0% of mass 174	5.0 (7.1)1
176	93.0 - 101.0% of mass 174	69.5 (97.8)1
177	5.0 - 9.0% of mass 176	4.5 (6.4)2

1-Value is % mass 174

2-Value is % mass 176

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

		LAB	LAB	DATE	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD100	VSTD100	VC007375.D	11/15/01	14:54
02	VSTD050	VSTD050	VC007376.D	11/15/01	15:34
03	VSTD020	VSTD020	VC007377.D	11/15/01	16:15
04	VSTD010	VSTD010	VC007378.D	11/15/01	16:55
05	VSTD005	VSTD005	VC007379.D	11/15/01	17:36

: GC/MS Ins

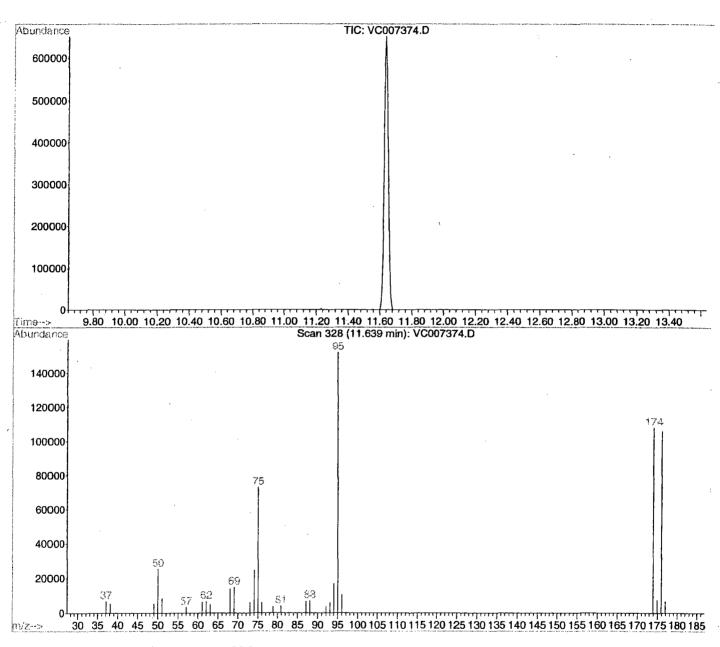
Data File : D:\HPCHEM\1\DATA\011115\VC007374.D

Vial: 3 : 15 Nov 2001 2:10 pm Operator: Skelton

Acq On Sample : BFB Tune Multiplr: 1.00 Misc : BFB Tune

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 328

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.7	25472	PASS
75	95	30	60	47.9	73008	PASS
95	95	100	100	100.0	152320	PASS
96	95	5	9	6.9	10513	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	71.0	108168	PASS
175	174	5	9	7.1	7632	PASS
176	174	95	101	97.8	105832	PASS
177	176	5	9	6.4	6788	PASS

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 04 14:36:27 2001
Response via : Initial Calibration

Calibration Files

=VC007376.D 5 50 =VC007379.D 10 =VC007378.D

20 =VC007377.D 100 =VC007375.D

		•						•	
		Compound	50	5	10	20	100	Avg	%RSD
1)	I	Bromochloromethane			I	STD			
2)	t	Acrolein	0.429	0.427	0.461	0.464	0.434	0.443	4.09
	t	Acrylonitrile				1.204			4.75
4)		tert-Butyl alcohol				0.161			10.58
5)	t	Methyl-tert-Butyl eth							3.31
6) 7)	t T	Di-isopropyl ether Dichlorodifluorometha	1./35	1.34/	1.6/5	1.719	1.743	1.640	10.79
8)	TP	Chloromethane	2.40J	3 086	2.422	3 107	2.333	3.097	4.70 3.95
9)	TC	Vinyl Chloride				3.100			4.12
10)	T	Bromomethane				1.530			5.19
11)	${f T}$	Chloroethane				1.631			1.59
12)	${f T}$	Trichlorofluoromethan	3.356	3.328	3.516	3.497	3.350	3.409	2.63
13)	MC	1,1-Dichloroethene				3.161			3.49
14)	T	Acetone	0.832	1.438	1.040	0.918	0.798	1.005	25.78
15)	T	Carbon Disulfide				7.334			2.19
16) 17)	T T	Methylene Chloride trans-1,2-Dichloroeth				2.233			3.94
18)	TP	1,1-Dichloroethane	3 813	3 815	4 070	3.939	3 782	2.912	2.55 3.10
19)	T	Vinyl Acetate	4.599	3.967	4.592	4.691	4.747	4 519	6.98
20)	$ar{ extbf{T}}$	2-Butanone	1.020	0.794	0.912	0.998	1.019	0.949	10.22
21)	Ť	cis-1,2-Dichloroethen	2.867	2.775	2.981	2.955	2.861	2.888	
22)	TC	Chloroform	3.431	3.478	3,654	3.612	3.405	3.516	3.16
23)	${f T}$	1,1,1-Trichloroethane							2.96
24)	\mathbf{T}	Carbon Tetrachloride				2.435			3.48
25)	S	1,2-Dichloroethane-d4	2.198	2.252	2.267	2.256	2.211	2.237	1.37
26)	I	1,4-Difluorobenzene			T	STD			
27)	TM	Benzene				1.367			4.02
28)	\mathbf{T}	1,2-Dichloroethane				0.400			3.21
29)	TM	Trichloroethene	0.310					0.305	
30)	TC	1,2-Dichloropropane				0.339			2.43
31)	${f T}$	Bromodichloromethane				0.385			1.79
32)	Ţ	2-Chloroethyl vinyl e							12.79
33)	Т	cis-1,3-Dichloroprope							4.79
34)	T S	4-Methyl-2-Pentanone Toluene-d8				0.124 1.156			10.55
35) 36)		Toluene				1.365			$0.86 \\ 4.41$
301	r CM	Totaene	1.270	1.500	1.500	1.505	1.237	1.327	4.41
37)	I	Chlorobenzene-d5			IS	STD			
38)	${f T}$	trans-1,3-Dichloropro							2.31
39)	${f T}$	1,1,2-Trichloroethane	1.032	1.011	1.105	1.076	0.999	1.045	4.26
40)	\mathbf{T}		1.068	1.074	1.131	1.120	1.040	1.086	3.49
41)	T	2-Hexanone				0.703			8.36
42)	T	Dibromochloromethane				0.988			3.74
43)		Chlorobenzene				3.297			5.59
44) 45)	TC T	Ethylbenzene m+p-Xylenes				5.643 2.237			$\frac{4.22}{3.98}$
46)	T	=_ = = ==				4.177			3.28
47)	Ť	o-Xylene Styrene				3.813			5.65
48)	TP	Bromoform				0.638			8.39
49)	s	Bromofluorobenzene				1.564			1.72
50)	ΤP	1,1,2,2-Tetrachloroet							4.65
1)	T					2.455			3.67
<i>5</i> 2)	\mathbf{T}	1,4-Dichlorobenzene	2.476	2.470	2.584	2.542	2.347	2.484	3.63
53)	T	1,2-Dichlorobenzene	2.282	2.308	2.380	2.347	2.169	2.297	3.51

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name: FMETL NJDEP # 13461

Lab File ID: VC007460.D BFB Injection Date: 11/26/01

Instrument ID: GCMSVoa BFB Injection Time: 8:53

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	15.4
75	30.0 - 66.0% of mass 95	45.1
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	68.7
175	4.0 - 9.0% of mass 174	5.2 (7.6)1
176	93.0 - 101.0% of mass 174	66.6 (97.1)1
177	5.0 - 9.0% of mass 176	4.6 (6.9)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	VSTD020	VSTD020	VC007461.D	11/26/01	9:29
02	MB 26NOV01	МВ	VC007463.D	11/26/01	11:06
03	ТВ	1659807	VC007470.D	11/26/01	16:10
04	634-1	1659801	VC007471.D	11/26/01	16:50
05	634-2	1659802	VC007472.D	11/26/01	17:31
06	634-3	1659803	VC007473.D	11/26/01	18:11
07[634-4	1659804	VC007474.D	11/26/01	18:51
08	634-5	1659805	VC007475.D	11/26/01	19:32
09	634-FD	1659806	VC007476.D	11/26/01	20:12

Data File : D:\HPCHEM\1\DATA\011126\VC007460.D

Acq On : 26 Nov 2001 8:53 am

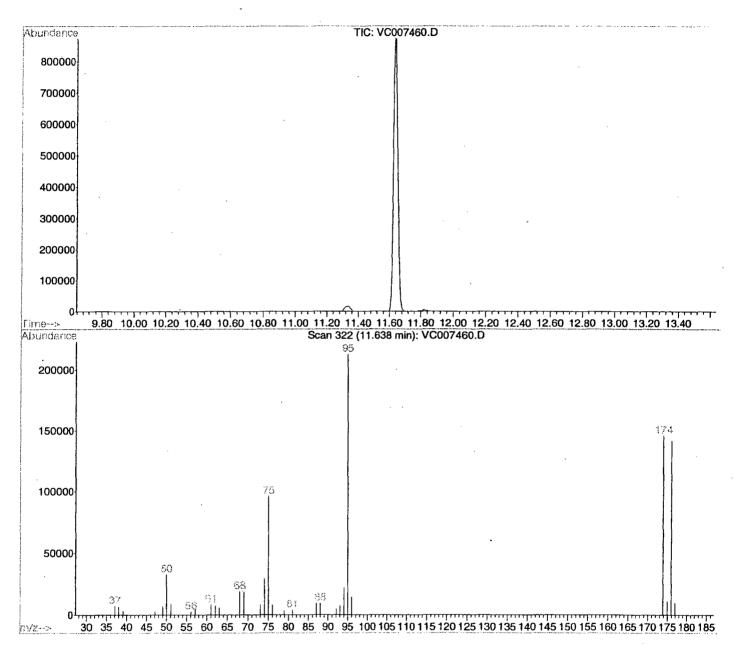
Vial: 12 Operator: Skelton Inst : GC/MS Ins

Sample Misc : BFB Tune : BFB tune

Multiplr: 1.00

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 322

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
Ī	50	95	15	40	15.4	32728	PASS
-	75	95	30	60	45.1	95968	PASS
- [95	95	100	100	100.0	212736	PASS
	96	95	5	9	6.8	14373	PASS
ı	173	174	0.00	2	. 0.0	0	PASS
	174	95	50	100	68.7	146048	PASS
	175	174	5	9	7.6	11123	PASS
-	176	174	95	101.	97.1	141760	PASS
	177	176	5	9	6.9	9827	PASS
•			•				

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\011126\VC007461.D Vial: 12

Operator: Skelton Acq On : 26 Nov 2001 9:29 am Sample : Vstd020 Misc : Vstd020 Inst : GC/MS Ins Multiplr: 1.00

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 04 14:36:27 2001

Response via : Multiple Level Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0	151	0.00
2 t	Acrolein	0.443	0.381	14.0		0.00
3 t	Acrylonitrile	1.151	0.961	16.5		0.00
4 t	tert-Butyl alcohol	0.149	0.144			0.00
5 t	Methyl-tert-Butyl ether	5.637	5.660	-0.4		0.00
6 t	Di-isopropyl ether	1.640	1.753	-6.9		0.00
7 T	Dichlorodifluoromethane	2.405	2.228	7.4 17.3		0.00 0.00
8 TP	Chloromethane	3.097 3.029	2.560 2.326			0.00
9 TC 10 T	Vinyl Chloride Bromomethane	1.492	2.326 1.465	1.8		0.00
10 T	Chloroethane	1.601	1.508	5.8		0.00
12 T	Trichlorofluoromethane	3.409	3.506	-2.8		0.00
13 MC	1,1-Dichloroethene	3.080	2.756	10.5		0.00
14 T	Acetone	1.005	1.134	-12.8	187	0.00
15 T	Carbon Disulfide	7.209	6.653	7.7		0.00
16 T	Methylene Chloride	2.210	2.056	7.0		0.00
17 T	trans-1,2-Dichloroethene	2.912		12.2		0.00
18 TP	1,1-Dichloroethane	3.884	3.453	11.1		0.00
)9 T	Vinyl Acetate	4.519	3.720	17.7		0.00
∠0 T	2-Butanone	0.949	0.915	3.6		-0.01 0.00
21 T	cis-1,2-Dichloroethene	2.888 3.516	2.577 3.293	10.8 6.3		0.00
22 TC 23 T	Chloroform 1,1,1-Trichloroethane	2.785	2.807	-0.8		0.00
23 T	Carbon Tetrachloride	2.376	2.370	0.3		0.00
25 S	1,2-Dichloroethane-d4	2.237	2.184	2.4		0.00
26 I	1,4-Difluorobenzene	1.000	1.000	0.0	159	0.00
27 TM	Benzene	1.345	1.145	14.9		0.00
28 Т	1,2-Dichloroethane	0.391	0.331	15.3		0.00
29 TM	Trichloroethene	0.305	0.282	7.5		0.00
30 TC	1,2-Dichloropropane	0.334	0.285	14.7		0.00
31 T	Bromodichloromethane	0.379	0.336	11.3		0.00
32 T	2-Chloroethyl vinyl ether	0.102	0.088	13.7 9.4		0.00 0.00
33 T	cis-1,3-Dichloropropene	0.491 0.113	0.445 0.097	14.2		0.00
34 T 35 S	4-Methyl-2-Pentanone Toluene-d8	1.150	1.145	0.4		0.00
35 S 36 TCM	Toluene Toluene	1.327	1.149	13.4		0.00
30 ICM	•					
37 I	Chlorobenzene-d5	1.000	1.000	0.0		0.00
38 T	trans-1,3-Dichloropropene		1.473	14.3		0.00
39 T	1,1,2-Trichloroethane	1.045	0.888	15.0		0.00
40 T	Tetrachloroethene	1.086 0.674	0.930	14.4		0.00
41 T	2-Hexanone	0.674	0.558	17.2 13.1		0.00
42 T	Dibromochloromethane	3.218	0.840 2.656	17.5		0.00
43 TMP	Chlorobenzene	5.526	4.661	15.7		0.00
44 TC	Ethylbenzene	2.204	1.835	16.7		0.00
45 T	<pre>m+p-Xylenes o-Xylene</pre>	4.076	3.523	13.6		0.00
46 T 7 T	Styrene	3.650	2.758	24.4		0.00
J TP	Bromoform	0.619	0.518	16.3		0.00
49 S	Bromofluorobenzene	1.582	1.635	-3.4		0.00
50 TP	1,1,2,2-Tetrachloroethane	1.494	1.162	22.2		0.00
51 T	1,3-Dichlorobenzene	2.402	1.946	19.0	131	0.00
52 T	1,4-Dichlorobenzene	2.484	1.981	20.2	129	0.00
53 T	1,2-Dichlorobenzene	2.297	1.832	20.2		0.00

4A VOLATILE METHOD BLANK SUMMARY

FIELD I).
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Lab Name:	FMETL		NJDEP# 13461	MB 26Nov01
Project:	0212539	Case No.: 16598	Location: 634	SDG No.:
Lab File ID:	VC00746	3.D	Lab Sample II	D: MB
Date Analyz	ed: 11/26/01		Time Analyzed	d: 11:06
GC Column:	Rtx502.2	D: <u>0.25</u> (mm)	Heated Purge	e: (Y/N) N
Instrument II	D. GCMSVo	.		

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

		LAB	LAB	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED
01	ТВ	1659807	VC007470.D	16:10
02	634-1	1659801	VC007471.D	16:50
03	634-2	1659802	VC007472.D	17:31
04	634-3	1659803	VC007473.D	18:11
05	634-4	1659804	VC007474.D	18:51
06	634-5	1659805	VC007475.D	19:32
07	634-FD	1659806	VC007476.D	20:12

COMMENTS:		

2B SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

FMETL Lab Name: **Project** UST NJDEP# Case No.: 16598 13461 Location 634

EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB
01 MB	99.0	98.0	102.0
02 634-1	106.7	93.3	103.0
03 634-2	112.3	99.7	109.0
04 634-3	111.7	99.0	109.3
05 634-4	111.0	96.3	106.3
06 634-5	113.7	98.3	109.0
07 634-FD	106.7	93.3	102.0
09 Trip Blank	122.7	105.7	114.3

SMC1 1,2-DCE-d4

1,2-Dichloroethane-d4

SMC2 Tol-d8

Toluene-d8

SMC3 BFB

Bromofluorobenzene

D System Monitoring Compounds diluted out

Spike Recovery and RPD Summary Report - Soil

Method

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 04 14:36:27 2001
Response via : Initial Calibration

Non-Spiked Sample: VC007475.D

Spike Sample Spike

Duplicate Sample

File ID : VC007477.D

VC007478.D

Sample : 1659805 ms Acq Time: 26 Nov 2001 8:53 pm

1659805 msd

26 Nov 2001 9:33 pm

Compound	Sample Spik Conc Adde	_	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene	0.0 20 0.0 20 0.0 20 0.0 20 0.0 20	26 29 27	25 23 25 24 23	141 132 143# 137 127	124 117 126 121 114	13 12 13 12 11	22 21 24 21 21	59-172 66-142 62-137 59-139 60-133

- Fails Limit Check

M362451.M

Wed Dec 05 08:55:16 2001

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

 Lab Name:
 FMETL
 NJDEP # 13461

 Project:
 0212539
 Case No.: 16598
 Location: 634
 SDG No.:

 Lab File ID (Standard):
 VC007461.D
 Date Analyzed: 11/26/01

Instrument ID: GCMSVoa Time Analyzed: 9:29

GC Column: Rtx502.2 ID: 0.25 (mm) Heated Purge: (Y/N) N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	377637	16.69	2726556	19.42	769324	27.24
ļ	UPPER LIMIT	755274	17.19	5453112	19.92	1538648	27.74
ĺ	LOWER LIMIT	188819	16.19	1363278	18.92	384662	26.74
	FIELD ID.						
01	MB 26NOV01	343704	16.70	2468066	19.42	684484	27.25
02	ТВ	346914	16.69	2575513	19.41	738872	27.24
03	634-1	354473	16.69	2653260	19.41	749272	27.24
04	634-2	352005	16.69	2596392	19.41	742459	27.25
05	634-3	351524	16.69	2589568	19.41	731218	27.24
06	634-4	352996	16.69	2651859	19.41	747841	27.25
07	634-5	345319	16.69	2602406	19.41	732911	27.25
80	634-FD	353171	16.69	2649087	19.41	754928	27.25

IS1 BCM = Bromochloromethane IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

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

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

^{*} Values outside of contract required QC limits

(QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011126\VC007463.D

Acq On : 26 Nov 2001 11:06 am

: MB Sample

Vial: 13 Operator: Skelton

Inst : GC/MS Ins Multiplr: 1.00

Misc : MB MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:35 2001

Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Nov 26 11:35:58 2001

Response via: Initial Calibration DataAcq Meth: M362451

Internal Standards	R.T. QIon	Response Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.70 128 19.42 114 27.25 119	343704 30.00 2468066 30.00 684484 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	18.30 65 Range 70 - 121 23.42 98 Range 81 - 117 30.25 95 Range 74 - 121	Recovery = 2792768 29.52 Recovery = 1107708 30.69	98.67% ug/L 0.00 98.40%

Target Compounds

Ovalue

Data File : D:\HPCHEM\1\DATA\011126\VC007463.D

Vial: 13

: 26 Nov 2001 11:06 am Acq On

Operator: Skelton Inst : GC/MS Ins

Sample : MB Misc

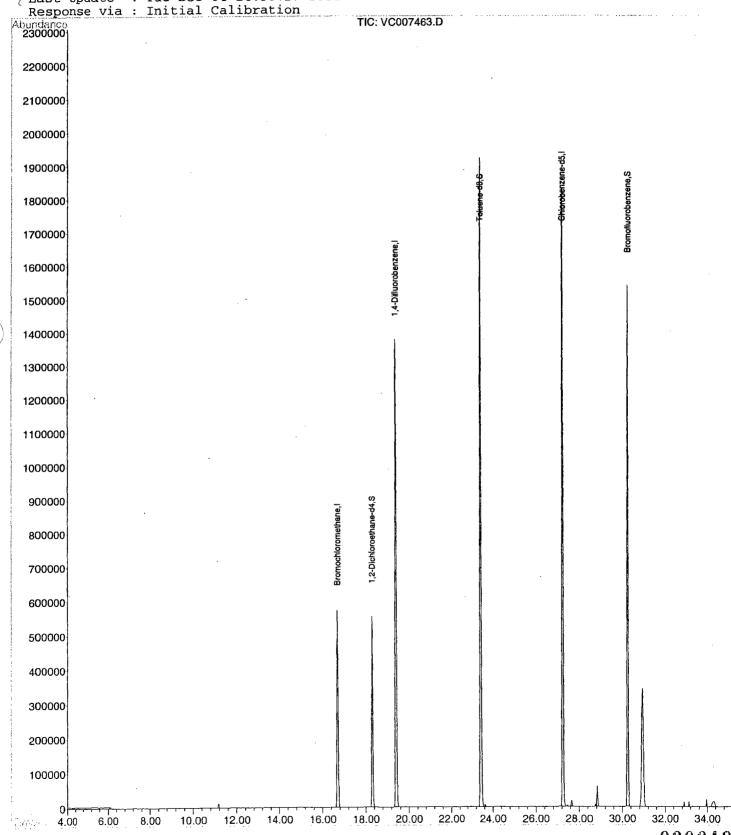
Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:35 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



(QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011126\VC007471.D

Acq On : 26 Nov 2001 4:50 pm

: 1659801 Sample

Misc

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Vial: 2

MS Integration Params: ACETONE.P

Quant Time: Nov 26 17:26 2001

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T. QIon	Response Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 128 19.41 114 27.24 119	354473 30.00 2653260 30.00 749272 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 70 - 121 23.42 98 Range 81 - 11 30.25 95	Recovery =	350.20%# ug/L 0.00 310.40%# ug/L 0.00
Target Compounds 16) Methylene Chloride	11.16 84	50198 1.92	Qvalue ug/L 85

Data File : D:\HPCHEM\1\DATA\011126\VC007471.D 4:50 pm

Vial: 2

: 26 Nov 2001 Acq On

Operator: Skelton Inst : GC/MS Ins

Sample

: 1659801

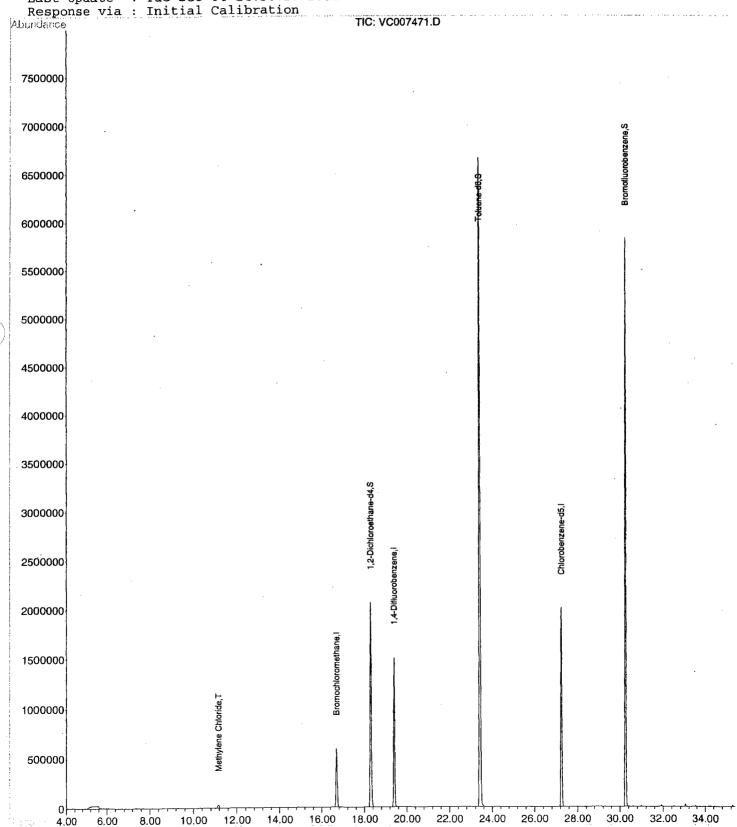
Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Nov 26 17:26 2001

Ouant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



Quantitation Report (QT Reviewed)

Vial: 3

Data File: D:\HPCHEM\1\DATA\011126\VC007472.D

Acq On 5:31 pm

: 26 Nov 2001 : 1659802 Operator: Skelton Sample Inst : GC/MS Ins Multiplr: 1.00

Misc

MS Integration Params: ACETONE.P Quant Time: Nov 26 18:06 2001 Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration
DataAcq Meth : M362451

Internal Standards		R.T.	QIon	Response	Conc Un	nits	Dev(Min)	
1) Bromochlorome	thane	16.69	128	352005	30.00	ug/L	0.00	
26) 1,4-Difluorob	enzene	19.41	114	2596392	30.00	ug/L	0.00	
37) Chlorobenzene	:-d5	27.25	119	742459	30.00	ug/L	0.00	
System Monitoring Compounds								
25) 1,2-Dichloroe	thane-d4	18.30	65	2885793	109.95	ug/L	0.00	
Spiked Amount	30.000	Range 70	- 121	Recove	ery =	366.	50%#	
35) Toluene-d8		23.42	98	9833915	98.80	ug/L	0.00	
Spiked Amount	30.000	Range 81	~ 117	Recove	ery =	32̃9.	33%#	
49) Bromofluorobe	nzene	30.25	95	4192889	107.08	ug/L	0.00	
Spiked Amount	30.000	Range 74	- 121	Recove	ery =	356.	938#	
Target Compounds							Ovalue	
16) Methylene Chl	oride	11.16	84	57899	2.23	ug/L	~	

Data File : D:\HPCHEM\1\DATA\011126\VC007472.D

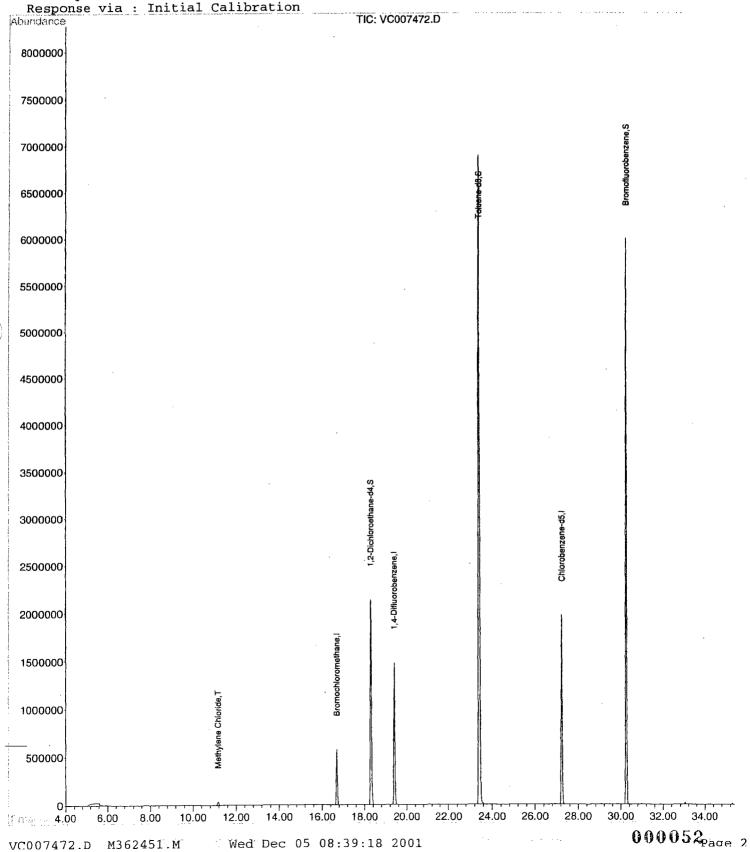
Vial: 3

Operator: Skelton Acq On : 26 Nov 2001 5:31 pm Inst : GC/MS Ins Sample : 1659802 Multiplr: 1.00 Misc

MS Integration Params: ACETONE.P

Quant Time: Nov 26 18:06 2001 Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



Wed Dec 05 08:39:18 2001

VC007472.D M362451.M

Quantitation Report (QT Reviewed)

Vial: 4

Data File : D:\HPCHEM\1\DATA\011126\VC007473.D

Acq On

: 26 Nov 2001 6:11 pm : 1659803 Operator: Skelton Sample Inst : GC/MS Ins Multiplr: 1.00

Misc MS Integration Params: ACETONE.P

Quant Time: Nov 26 18:46 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc U	nits I	Dev(Min)
1) Bromochloromethane	16.69	128	351524	30.00		0.00
26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	19.41 27.24	$\frac{114}{119}$	2589568 731218	30.00 30.00		-0.01
,					3,	
System Monitoring Compounds 25) 1,2-Dichloroethane-d4	18.30	65	2869043	109 46	ua/L	0.00
Spiked Amount 30.000	Range 70		Recove	ery =	364.8	378#
35) Toluene-d8	23.42					
Spiked Amount 30.000 49) Bromofluorobenzene	Range 81	95		-		### 0.00
Spiked Amount 30.000	Range 74					
Target Compounds	•			*		Ovalue
16) Methylene Chloride	11.16	84	61053	2.36	ug/L	90

Data File : D:\HPCHEM\1\DATA\011126\VC007473.D

Vial: 4

Acq On : 26 Nov 2001 Operator: Skelton Inst : GC/MS Ins

Sample : 1659803

Multiplr: 1.00

Misc

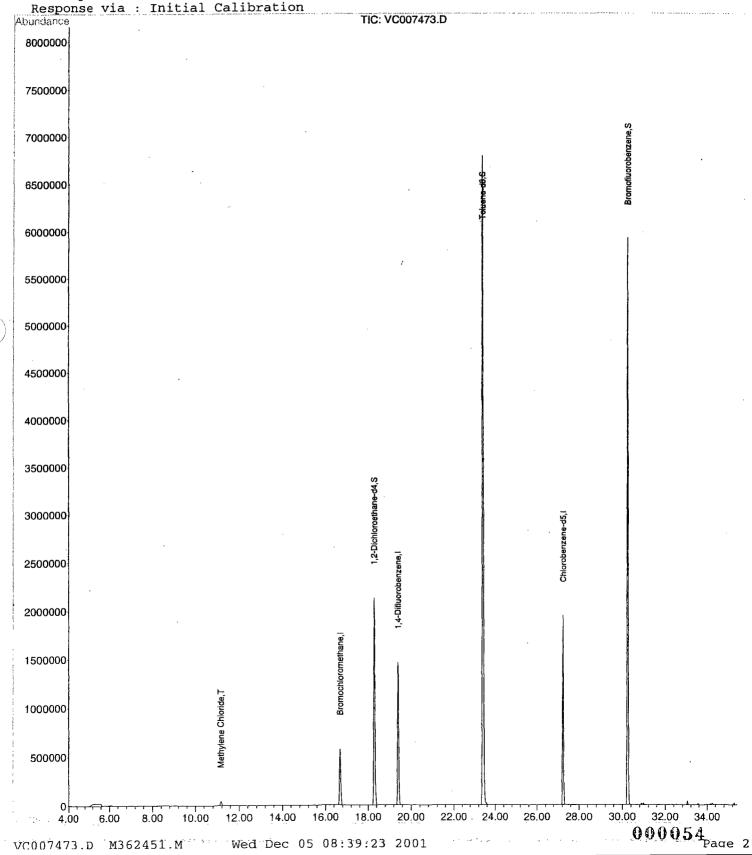
MS Integration Params: ACETONE.P

VC007473.D M362451.M Wed Dec 05 08:39:23 2001

Quant Time: Nov 26 18:46 2001 Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Tue Dec 04 14:36:27 2001



(QT Reviewed)

Data File : D:\HPCHEM\1\DATA\011126\VC007474.D

Acq On : 26 Nov 2001 6:51 pm

Sample

: 1659804

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Vial: 5

MS Integration Params: ACETONE.P Quant Time: Nov 26 19:27 2001

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Nov 26 11:35:58 2001

Response via: Initial Calibration DataAcq Meth: M362451

Misc

Internal Standards	к.т.	QIon	Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 19.41 27.25	128 114 119	352996 2651859 747841	30.00 30.00 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4			2864275	108.82	ug/L 0.00
Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000	Range 70 23.42 Range 81	98	9714563	95.56	
49) Bromofluorobenzene Spiked Amount 30.000	30.25 Range 74	95 - 121			ug/L 0.00 348.53%#
Target Compounds 16) Methylene Chloride	11.16	84	69448	2.67	Qvalue ug/L 90

Data File : D:\HPCHEM\1\DATA\011126\VC007474.D

Vial: 5

Acq On : 26 Nov 2001 Operator: Skelton Inst : GC/MS Ins

Sample : 1659804

Method

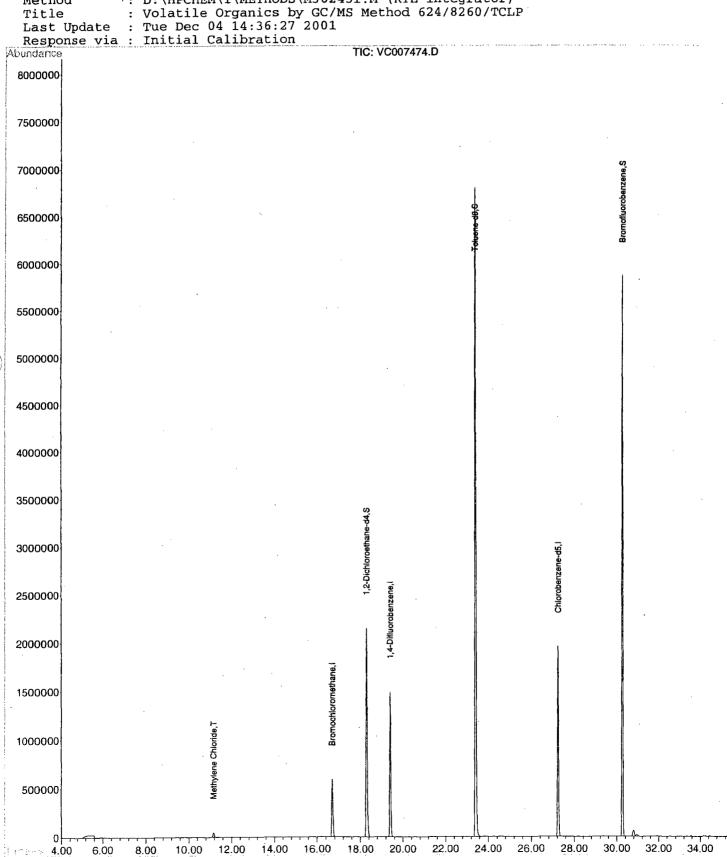
Multiplr: 1.00

Misc

MS Integration Params: ACETONE.P Quant Time: Nov 26 19:27 2001

Ouant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)



(OT Reviewed)

Vial: 6

Data File : D:\HPCHEM\1\DATA\011126\VC007475.D

Acq On : 26 Nov 2001 7:32 pm

Operator: Skelton Sample : 1659805 Inst : GC/MS Ins Multiplr: 1.00

Misc MS Integration Params: ACETONE.P

Quant Time: Nov 26 20:08 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 19.41	114	345319 2602406 732911	30.00 30.00 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4			2864226		-
Spiked Amount 30.000 35) Toluene-d8	Range 70 23.42	- 121 98	Recove 9735671	ery = 97.59	370.80%# ug/L 0.00
Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 81 30.25 Range 74	95	4135722	107.00	ug/L 0.00
Target Compounds 16) Methylene Chloride	11.16	84	83594	_	Qvalue ug/L 83

Data File : D:\HPCHEM\1\DATA\011126\VC007475.D

Vial: 6

: 26 Nov 2001 : 1659805 7:32 pm Acq On

Operator: Skelton

Sample Misc

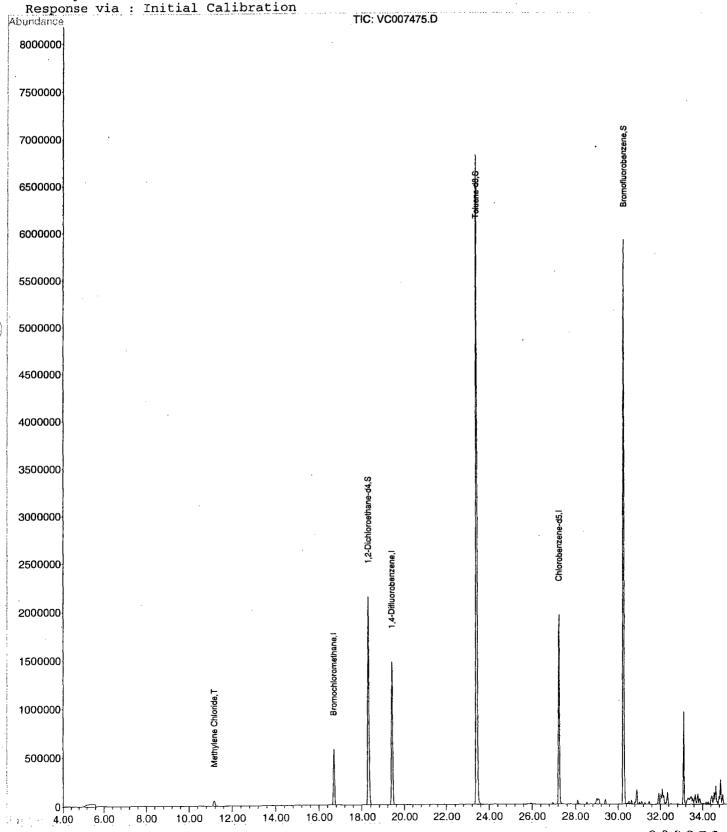
Inst : GC/MS Ins Multiplr: 1.00

MS Integration Params: ACETONE.P

Ouant Time: Nov 26 20:08 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



Quantitation Report (OT Reviewed)

Vial: 7

Data File : D:\HPCHEM\1\DATA\011126\VC007476.D

Acq On : 26 Nov 2001 8:12 pm

Operator: Skelton Sample : 1659806 Inst : GC/MS Ins Multiplr: 1.00

Misc MS Integration Params: ACETONE.P

Quant Time: Nov 26 20:48 2001 Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane	16.69	128	353171	30.00	ug/L	0.00
26) 1,4-Difluorobenzen	19.41	114	2649087	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.25	119	754928	30.00	ug/L	0.00
System Monitoring Compo		65	2765500	105.00	,_	
25) 1,2-Dichloroethane			2765599			0.00
Spiked Amount 30.						
35) Toluene-d8	23.42	98	9456454	93.12	ug/L	0.00
Spiked Amount 30.	00 Range 81	- 117	Recove	ry =	310.40%#	
49) Bromofluorobenzene	30.25	95	4018809	$\bar{1}00.94$	ug/L	0.00
Spiked Amount 30.	00 Range 74					
Target Compounds					0va	lue
16) Methylene Chloride	11.16	84	101759	3.91	ug/L	80

Data File : D:\HPCHEM\1\DATA\011126\VC007476.D

Vial: 7

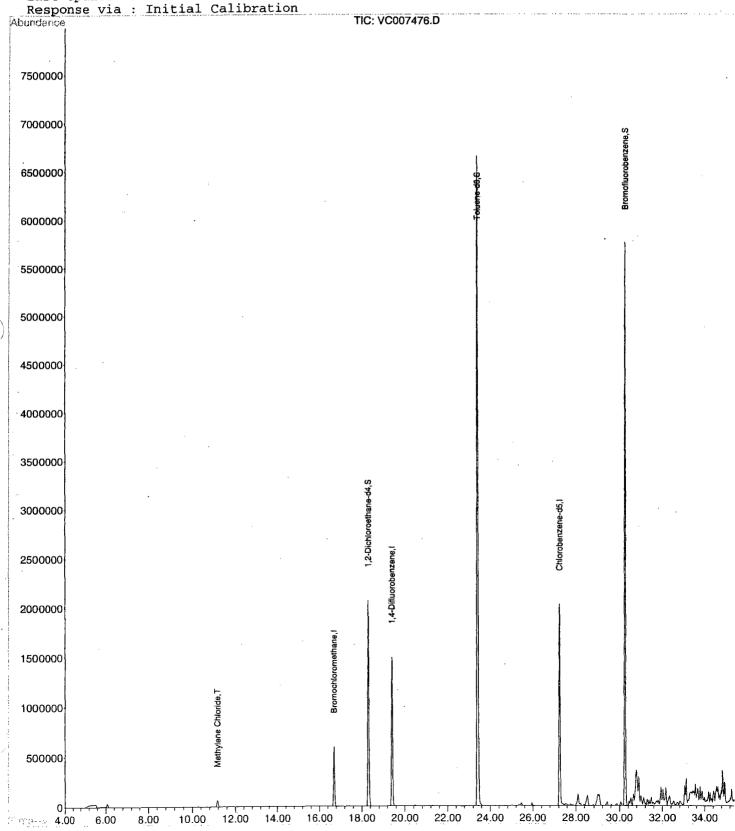
: 26 Nov 2001 Operator: Skelton 8:12 pm Acq On Inst : GC/MS Ins Sample : 1659806 Multiplr: 1.00 Misc

MS Integration Params: ACETONE.P

Quant Time: Nov 26 20:48 2001 Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Tue Dec 04 14:36:27 2001



Quantitation Report (OT Reviewed)

Vial: 1

Data File: D:\HPCHEM\1\DATA\011126\VC007470.D

Acq On : 26 Nov 2001 4:10 pm Operator: Skelton Sample : 1659807 Inst : GC/MS Ins Misc Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Nov 26 16:45 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Nov 26 11:35:58 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc Ur	nits 1	Dev(Min)
1) Bromochloromethane	16.69	128	346914	30.00	ug/L	0.00
26) 1,4-Difluorobenzene	19.41	114	2575513	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.24	119	738872	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.30	65	3087676	119.37	ug/L	0.00
Spiked Amount 30.000	Range 70	- 121	Recove	ery =	397.	90%#
35) Toluene-d8	23.42	98	10279622	104.11	ug/L	0.00
Spiked Amount 30.000	Range 81	- 117	7 Recove	ery =	347.	03ቄ#
49) Bromofluorobenzene	30.25	· 95	4359477	111.88	ug/L	0.00
Spiked Amount 30.000	Range 74	- 121	l Recove	ery =	372.	93%#
Target Compounds						Ovalue
16) Methylene Chloride	11.15	84	43903	1.72	ug/L	87

Data File : D:\HPCHEM\1\DATA\011126\VC007470.D

Vial: 1

: 26 Nov 2001 4:10 pm Acq On

Operator: Skelton Inst

Sample : 1659807

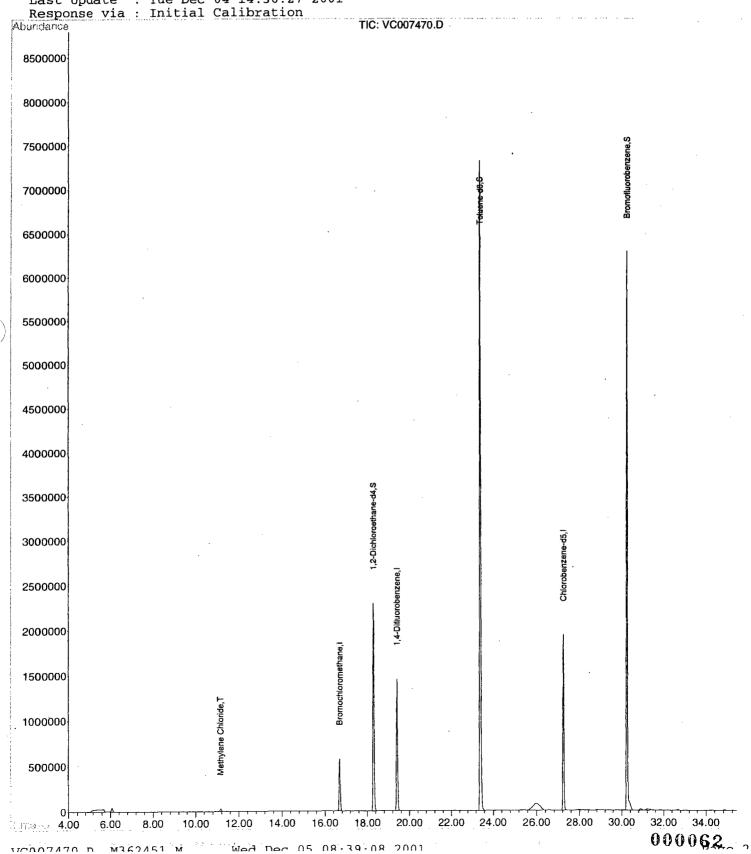
: GC/MS Ins Multiplr: 1.00

Misc MS Integration Params: ACETONE.P

Quant Time: Nov 26 16:45 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



TPHC

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

Client:

U.S. Army

Project #:

16598

DPW. SELFM-PW-EV

Location: UST Reg. #:

Bldg. 634

Bldg. 173

Ft. Monmouth, NJ 07703

OQA-QAM-025

Date Received:

19-Nov-01

Analysis: Matrix:

Soil

Date Extracted:

20-Nov-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

21-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1659801	634-1	1.00	15.72	74.68	193	ND
1659802	634-2	1.00	15.17	77.93	192	ND
1659803	634-3	1.00	15.78	78.68	182	713.28
1659804	634-4	1.00	15.73	76.69	188	ND
1659805	634-5	1.00	15.55	80.62	181	721.34
1659806	634-FD	1.00	15.68	, 78.10	185	1079.28
				· · · · · ·		- 1500 - 111 - 121
	· · · · · · · · · · · · · · · · · · ·					
	· · · · · · · · · · · · · · · · · · ·					
METHOD BLANK	MB-2665	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

5			100 10		3656.D 3657.D	50	. =7	r01365	4.D		
		Compound		5	100	50	20	10	Avg		%RSD
5) 6) 7) 8) 9) 10) 11) 12) 13) 14) 15) 16) 17) 18)	+CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	C16 C18 C20 C22 C24 C26 C28 C30 C32 C34 C36		2.003 2.113 2.299 2.493 2.560 2.514 2.749 2.833 2.890 2.766 2.766 2.766 2.763 2.597 1.886	2.147 2.213 2.326 2.384 2.472 2.458 2.537 2.572 2.593 2.620 2.603 2.589 2.655 2.466 2.275 2.124	2.126 2.208 2.324 2.406 2.471 2.478 2.572 2.606 2.634 2.654 2.654 2.631 2.462 2.148 1.935	1.965 2.156 2.268 2.366 2.394 2.435 2.557 2.598 2.549 2.573 2.602 2.573 2.622 2.199 1.972	2.057 2.083 2.306 2.379 2.508 2.458 2.557 2.595 2.636 2.569 2.613 2.599 2.627 2.178 1.902	2.406 2.481 2.468 2.588 2.670 2.606 2.658 2.645 2.663 2.199 1.964	E4 E4 E4 E4 E4 E4 E4 E4 E4 E4 E4 E4 E4	3.79 2.66 1.02 2.12 2.44 1.20 3.55 4.31 4.66 3.51 3.569 2.97 2.14 1.79 2.14
21)	sC	o-terphenyl		2.654	2.507	2.538	2.504	2.538	2.548	E4	2.41

Response Factor Report GC/MS Ins

3.562 2.604 2.659 2.739 2.933 2.899 E4

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

	_	5	bration Files =T013655.D =T013658.D	100 10		3656.D 3657.D	50	. =[T,013654	4 . D		
			Compound		5	100	50	20	10	Avg		%RSD
-	4) 5) 6) 7) 8) 9) 10) 11) 12) 13) 14) 15) 16) 17)		C12 C14 C16 C18 C20 C22 C24 C26 C28 C30 C32 C34 C36 C38 C40 C42		2.003 2.113 2.299 2.493 2.560 2.514 2.749 2.833 2.890 2.766 2.766 2.763 2.526 2.197 1.886 2.536	2.147 2.213 2.326 2.384 2.472 2.458 2.537 2.572 2.593 2.620 2.603 2.589 2.655 2.460 2.275 2.124 2.306	2.126 2.208 2.324 2.406 2.471 2.478 2.572 2.606 2.634 2.654 2.631 2.663 2.422 2.148 2.148 2.935	1.965 2.156 2.268 2.366 2.394 2.435 2.524 2.557 2.598 2.549 2.573 2.602 2.425 2.199 2.199 2.282	2.057 2.083 2.306 2.379 2.508 2.458 2.557 2.595 2.636 2.569 2.581 2.627 2.430 2.178 2.178 2.379	1.802 2.060 2.155 2.305 2.406 2.481 2.588 2.670 2.606 2.658 2.645 2.645 2.6666 2.453 2.199 1.964 2.381	E	3.79 2.66 1.02 2.12 2.44 1.20 3.55 4.31 4.66 3.51 3.56 2.69 2.97 2.14 4.86 4.20
	20)	TC sC	Phytane o-terphenyl		2.753 2.654	2.476 2.507	2.516 2.538	2.487 2.504	2.554 2.538	2.557 2.548	E4 E4	4.43 2.41
	7=:		mmrra la la la la la la la la la la la la la		2 562	2 604	2 650	2 720	3 033	2 200	T 1	13 // 0

2) tC

TPHC - total

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011119\T013851.D
Acq On : 20 Nov 2001 11:59 am Vial: 40 Operator: Skelton

: Tstd050s Sample Inst : GC/MS Ins Multiplr: 1.00

Misc IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

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

	•	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	21.333 E3	-18.4	113	-0.05
2	tC	C10	20.595	22.301 E3	-8.3	105	-0.01
3	TC	C12	21.549	23.385 E3	-8.5	106	0.00
4	tC	C14	23.048	23.751 E3	-3.1	102	0.00
5	tC	C16	24.057	24.359 E3	-1.3	101	0.00
6	tC	C18	24.812	24.271 E3	2.2	98	0.00
7	tC	C20	24.684	25.016 E3	-1.3	101	0.00
8	tC	C22	25.878	25.865 E3	0.1	101	0.00
9	tC	C24	26.326	26.136 E3	0.7	100	0.00
10	tC	C26	26.702	26.415 E3	1.1	100	0.00
11	tC	C28	26.061	25.990 E3	0.3	100	0.00
12	tC	C30	26,583	26.697 E3	-0.4	100	0.00
13	tC	C32	26.447	26.440 E3	0.0	100	0.00
14	tC	. C34	26.317	26.342 E3	-0.1	100	0.00
15	tC	C36	26.661	27.330 E3	-2.5	103	0.00
16	tC	C38	24.528	26.234 E3	-7.0	108	0.00
17	tC	C40	21.994	25.278 E3	-14.9	118	-0.01
18	tC	c42	19.638	25.122 E3	-27.9#	130	0.00
/19	TC	Pristane	23.812	23.579 E3	1.0	98	0.00
20	TC	Phytane	25.573	25.375 E3	0.8	101	0.00
21	sC	o-terphenyl	25.484	25.727 E3	-1.0	101	0.00
22	tC	TPHC - total	28.994	28.838 E3	0.5	108	1.45#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011119\T013862.D
Acq On : 20 Nov 2001 6:04 pm
Sample : Tstd050
Misc : Vial: 51 Operator: Skelton Inst : GC/MS Ins
Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

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

		Dev(min)
		-0.06
		-0.01
		0.00
	103	0.00
3 -2.0	102	0.00
E3 -0.7	101	0.00
E3 -1.8	101	0.00
3 -0.9	101	0.00
3 -0.4	101	0.00
0.1	101	0.00
3 -0.9	101	0.00
E3 -1.6		0.00
3 -1.2		0.00
23 -1.3		0.00
		0.00
_		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		1.45#
	-8.7 -8.1 -4.0 -32.0 -30.7 -31.8 -0.9 -0.4 0.1 -0.9 -1.6 -1.2 -1.3 -3.9 -8.3 -16.8 -29.3# -2.1 -0.7	3 -8.7 105 3 -8.1 106 3 -4.0 103 3 -2.0 102 3 -0.7 101 3 -1.8 101 3 -0.9 101 3 -0.4 101 3 -0.9 101 3 -1.6 101 3 -1.2 101 3 -1.3 101 3 -3.9 104 3 -8.3 110 3 -8.3 120 3 -29.3# 131 3 -2.1 101 3 -0.7 102 3 -1.7 102

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011119\T013874.D

Acq On : 21 Nov 2001 12:35 am Sample : Tstd050s Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00 Misc

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 tC 2 tC 3 TC 4 tC 5 tC 6 tC 7 tC 8 tC 9 tC 10 tC 11 tC 12 tC 13 tC 14 tC 15 tC	Compound C8 C10 C12 C14 C16 C18 C20 C22 C24 C26 C28 C30 C32 C34 C36 C38 C40	18.019 20.595 21.549 23.048 24.057 24.812 24.684 25.878 26.326 26.702 26.061 26.583 26.447 26.317 26.661 24.528 21.994	20.845 E3 22.510 E3 23.468 E3 24.300 E3 24.924 E3 26.088 E3 25.518 E3 26.569 E3 27.150 E3 27.150 E3 27.479 E3 27.479 E3 27.479 E3 27.479 E3 27.479 E3 27.479 E3 27.479 E3 27.149 E3 27.149 E3 28.199 E3 27.068 E3 26.208 E3	-15.7 -9.3 -8.9 -5.4 -3.6 -5.1 -3.4 -2.7 -2.2 -1.7 -2.5 -3.4 -3.0 -3.2 -5.8 -10.4 -19.2	111 106 106 105 104 106 103 103 103 103 103 103 103 103 104 105 104 105 105 105 105 106 105 106 106 106 106 106 106 106 106 106 106	
18 tC 19 TC 20 TC 21 sC 22 tC	c42 Pristane Phytane o-terphenyl TPHC - total	19.638 23.812 25.573 25.484 28.994	25.939 E3 24.975 E3 25.985 E3 26.360 E3 31.702 E3	-32.1# -4.9 -1.6 -3.4 -9.3	134 104 103 104 119	-0.02 0.00 0.00 0.00 1.73#

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

Client:

U.S. Army

Project #:

16598

DPW. SELFM-PW-EV

Location:

Bldg. 634

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

19-Nov-01

Matrix:

Soil

Date Extracted:

10-1101-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

20-Nov-01

Column Type :

GC TPHC INST. #1

RTX-5, 0.32mm ID, 30M Analysis Complete:

Shake 21-Nov-01

Injection Volume :

1uL

Analyst:

Skelton

Sample ⁄		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1659801		10.00	10.41	104.13
1659802		10.00	10.40	103.96
1659803		10.00	10.87	108.65
1659804		10.00	10.19	101.87
1659805		10.00	12.59	125.89
1659806		10.00	10.29	102.93
METHOD BLANK	MB-2665	10.00	10.84	108.38

Surrogate Added:

o-Terphenyl

Client:

U.S. Army

Project #:

16598

DPW. SELFM-PW-EV

Location:

Bldg. 634

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

19-Nov-01

Matrix:

Soil

Date Extracted:

Inst. ID.

20-Nov-01

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

21-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1659701MS	1000	0.00	888.62	88.86	75-125
1659701MSD	1000	0.00	958.95	95.89	75-125

RPD	7.61	20.00

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

Client:

U.S. Army

Project #:

16598

DPW. SELFM-PW-EV

Location:

Bldg. 634

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received :

19-Nov-01

Matrix:

Soil

Date Extracted :

20-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

21-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-2666	20-Nov-01	1000	868.74	86.87	75-126

Quantitation Report (QT Reviewed)

Vial: 46

Data File : C:\HPCHEM\1\DATA\011119\T013857.D
Acq On : 20 Nov 2001 3:19 pm
Sample : MB 2665s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 20 15:45 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 276181 10.838 mg/ Spiked Amount 10.000 Range 8 - 13 Recovery = 108.38%# 276181 10.838 mg/L

Target Compounds

Ouantitation __port

Data File : C:\HPCHEM\1\DATA\011119\T013857.D Acq On

: 20 Nov 2001 3:19 pm

Vial: 46 Operator: Skelton

: MB 2665s Sample

Inst : GC/MS Ins Multiplr: 1.00

Misc

00007

IntFile : TPHCINT.E

Quant Time: Nov 20 15:45 2001 Quant Results File: TPH95.RES

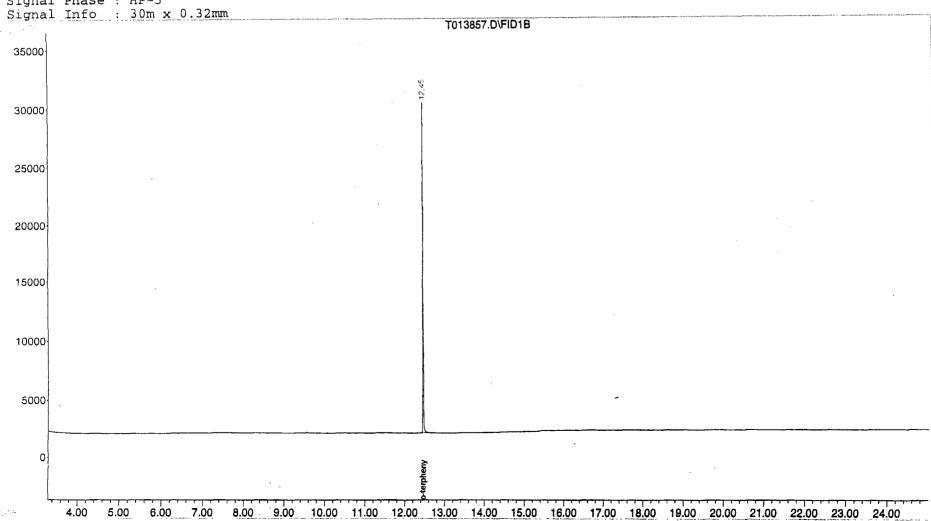
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



(OT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\011119\T013868.D

Vial: 57

Acq On : 20 Nov 2001 9:20 pm Operator: Skelton : GC/MS Ins : 1659801s Sample Inst Misc Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 20 21:46 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via: Initial Calibration

DataAcq Meth : TPH95.M

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

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl Spiked Amount 10 12.45 265370 10.413 mg/L 10.000 Range 8 - 13 Recovery = 104.13%#

Target Compounds

Ouantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013868.D

Acq On : 20 Nov 2001 9:20 pm

Vial: 57 Operator: Skelton Inst : GC/MS Ins

Sample · 1659801s

Multiplr: 1,00

Misc

IntFile : TPHCINT.E

Quant Time: Nov 20 21:46 2001 Quant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

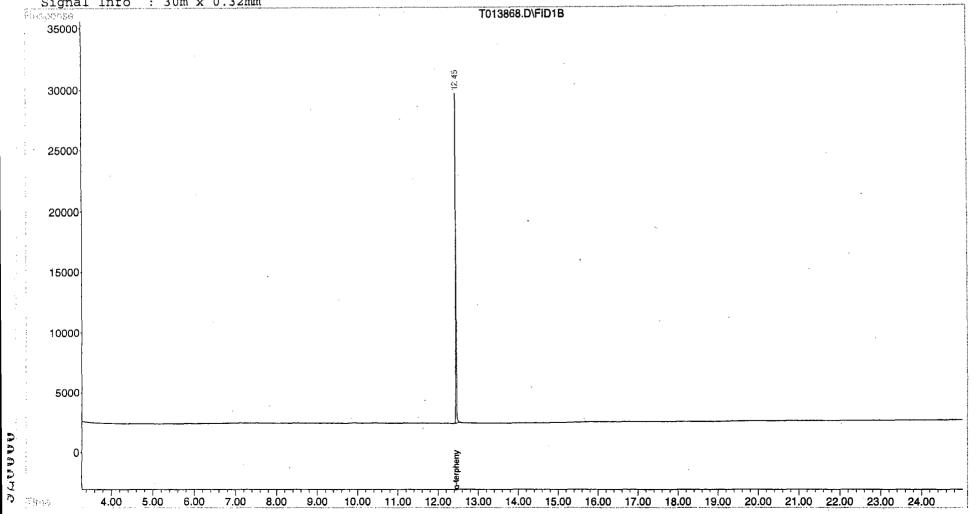
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcg Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013869.D

Vial: 58

Acq On : 20 Nov 2001 9:53 pm Sample : 1659802s

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc

IntFile : TPHCINT.E

Quant Time: Nov 20 22:18 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

12.45 21) sC o-terphenyl 264919 10.396 mg/L 10.000 Range 8 - 13 Recovery = 103.96%Spiked Amount

Target Compounds

Data File : C:\HPCHEM\1\DATA\011119\T013869.D

Acg On : 20 Nov 2001 9:53 pm

Vial: 58
Operator: Skelton
Inst : GC/MS Ins

Sample : 1659802s

Multiplr: 1.00

Misc IntFile

: TPHCINT.E

Quant Time: Nov 20 22:18 2001 Quant Results File: TPH95.RES

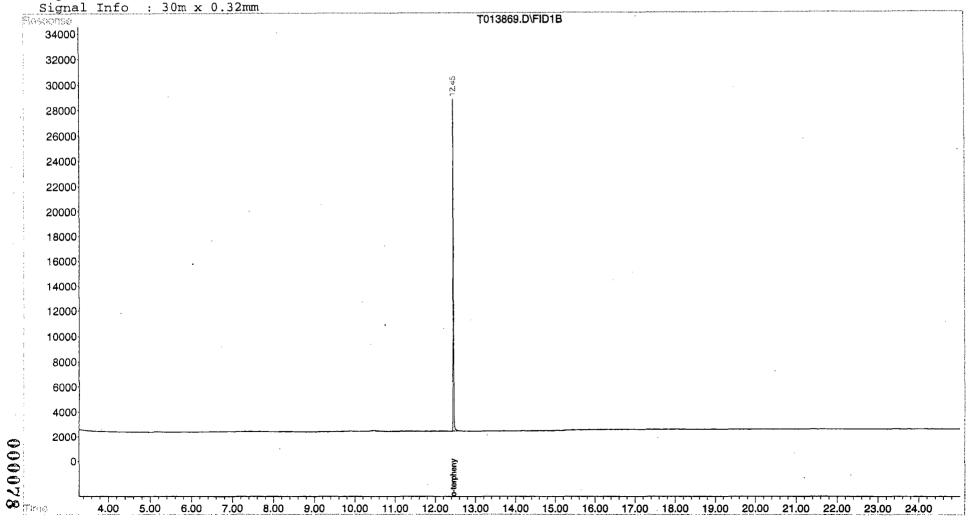
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcg Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013870.D

Vial: 59

Acq On : 20 Nov 2001 10:25 pm Sample : 1659803s

Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 21 8:45 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update: Wed Oct 24 13:32:50 2001
Response via: Initial Calibration
DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound	R.T.	Response	Conc Units
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 8 - 13	276886 Recovery	10.865 mg/L = 108.65%#
Target Compounds 3) TC C12 4) tC C14 5) tC C16 6) tC C18 7) tC C20 19) TC Pristane 20) TC Phytane 22) tC TPHC - total	8.82 10.00 11.01 11.47 11.91 11.47 11.91	31726 70451 70799 40292 43198 40292 43198 5135312	1.472 mg/L 3.057 mg/L 2.943 mg/L 1.624 mg/L 1.750 mg/L 1.692 mg/L 1.689 mg/L 177.117 mg/L m

Data File : C:\HPCHEM\1\DATA\011119\T013870.D

Acg On : 20 Nov 2001 10:25 pm

Vial: 59 Operator: Skelton

Multiplr: 1.00

Sample : 1659803s

Inst : GC/MS Ins

Misc

:

IntFile : TPHCINT.E

Quant Time: Nov 21 8:45 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

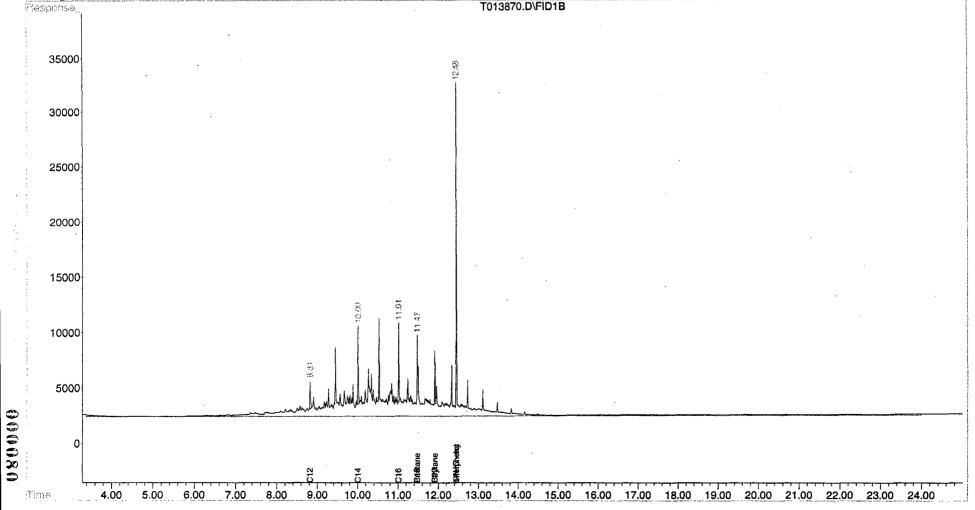
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013871.D

Vial: 60

Acq On : 20 Nov 2001 10:58 pm Sample : 1659804s

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 20 23:23 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

259608 10.187 mg/L 12.45 21) sC o-terphenyl 10.000 Range 8 - 13 Recovery = 101.87%# Spiked Amount

Target Compounds

Data File : C:\HPCHEM\1\DATA\011119\T013871.D

Acg On : 20 Nov 2001 10:58 pm

Vial: 60 Operator: Skelton

Sample : 1659804s

Inst : GC/MS Ins

Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 23:23 2001 Quant Results File: TPH95.RES

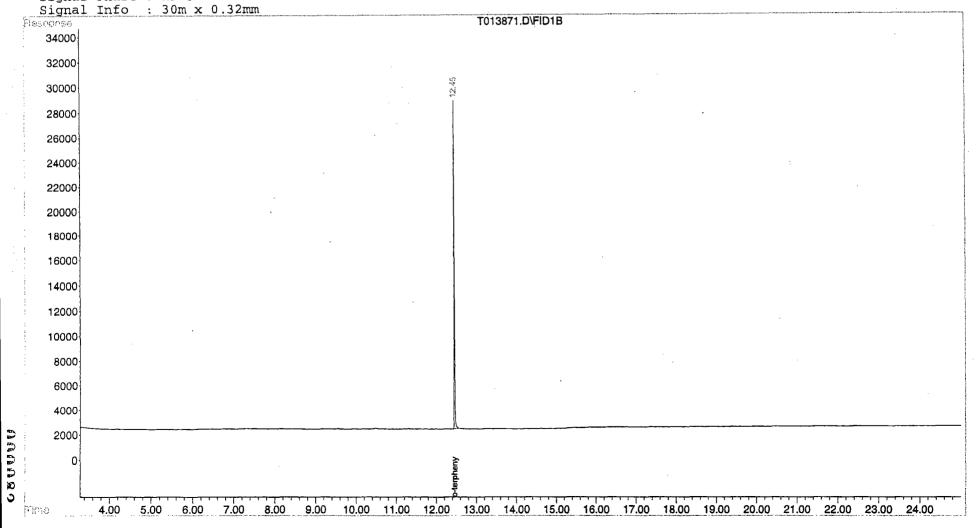
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013872.D

Vial: 61

Acq On : 20 Nov 2001 11:30 pm

Operator: Skelton Inst : GC/MS Ins

Sample : 1659805s Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 21 8:46 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

4 10 --- 3

Compound	R.T.	Response	Conc Units
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 8 - 13	320806 Recovery	12.589 mg/L m = 125.89%#
Target Compounds			
3) TC C12	8.82	35783	1.661 mg/L
4) tC C14	10.00	62406	2.708 mg/L
5) tC C16	11.01	60560	2.517 mg/L
7) tC C20	11.91	38229	1.549 mg/L
20) TC Phytane	11.91	38229	1.495 mg/L
22) tC TPHC - total	12.45	5243826	180.860 mg/L m

Ouantitation port

Vial: 61

Data File: C:\HPCHEM\1\DATA\011119\T013872.D

Aca On : 20 Nov 2001 11:30 pm

Operator: Skelton : 1659805s : GC/MS Ins Multiplr: 1.00

Misc

Sample

IntFile : TPHCINT.E

Quant Time: Nov 21 8:46 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : 30m x 0.32mm T013872.D\FID1B Pesconse 45000 40000 35000 30000 25000 20000 15000 10000 5000 80000 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013873.D

Vial: 62

Acq On : 21 Nov 2001 12:03 am Sample : 1659806s

Sample

Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 21 8:46 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 8 - 13	262304 Recovery	10.293 mg/L = 102.93%#	
Target Compounds 3) TC C12 4) tC C14 5) tC C16 6) tC C18 7) tC C20 19) TC Pristane 20) TC Phytane 22) tC TPHC - total	8.81 10.00 11.01 11.47 11.91 11.47 11.91	41250 88501 88976 50693 53901 50693 53901 7664184	1.914 mg/L 3.840 mg/L 3.699 mg/L 2.043 mg/L 2.184 mg/L 2.129 mg/L 2.108 mg/L 264.339 mg/L	m

Quantitation port

Data File : C:\HPCHEM\1\DATA\011119\T013873.D

Acg On : 21 Nov 2001 12:03 am

Operator: Skelton
Inst : GC/MS Ins

Misc

Sample

: 1659806s

Multiplr: 1.00

Vial: 62

IntFile : TPHCINT.E

Quant Time: Nov 21 8:46 2001 Quant Results File: TPH95.RES

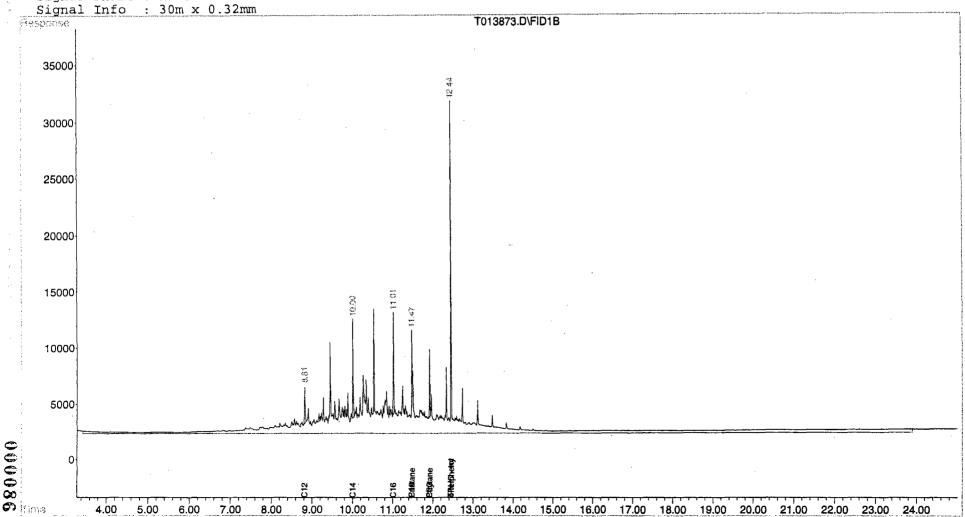
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

1.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	<u></u>
2.	Table of Contents submitted	
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	
4.	Document paginated and legible	
5.	Chain of Custody submitted	
6 .	Samples submitted to lab within 48 hours of sample collection	~
7.	Methodology Summary submitted	
8.	Laboratory Chronicle and Holding Time Check submitted	
9.	Results submitted on a dry weight basis	
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Date	Laboratory Manager or Environmental Consultant's Signature	55

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

Laboratory Certification #13461

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 638

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
638-1/8'	1650801	Soil	13-Oct-01 09:30	10/15/01
638-2/8'	1650802	Soil	13-Oct-01 09:45	10/15/01
638-3/8'	1650803	Soil	13-Oct-01 10:00	10/15/01
638-4/8'	1650804	Soil	13-Oct-01 10:15	10/15/01
638-5/8'	1650805	Soil	13-Oct-01 10:28	10/15/01
F. D./8'	1650806	Soil	13-Oct-01	10/15/01

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY RESULTS

> Daniel Wright/Date Laboratory Director

10-19-01

Table of Contents

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		indicate Yes, No, N/A
1.	Method Detection Limits provided.	103, 140, 147A
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	<u>No</u>
3 .	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	1 405
4 .	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- <u>Yes</u>
5 .	IR Spectra submitted for standards, blanks and samples.	NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>46</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes_
Addi	itional comments:	_
	10-19-61	
Labo	oratory Manager Date	



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D. 1	DESAT	Project No:	01-000	1		Analysis Parameters								Comments:
Phone #: XQ/~	175	Location:	BLOG.	638		T % 1								
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LIMS/Work Order#	Sample Location	Date	1		Type bottles		ێ						PPM	Remarks / Preservation Method
1 14508 QI	638-1 8'	10-13-01	0930	SOIL	1	X	X						500	2400
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Relinquished by (signatur		Received by (UJ .	Relino	luished	by (sig	nature)		Date/	Time:	Recei	ved by	(signature):
eport Type: ()Full, ()Reduced, ()Standard, ()Screen / non-certified, ()EDD Remarks: H20 = 8.5 ' urnaround time: ()Standard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.														

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

Client:

U.S. Army

Project #:

16508

DPW. SELFM-PW-EV

Location:

Bldg.638

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

13-Oct-01

Matrix:

Soil

Date Extracted:

15-Oct-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1650801	638-1	1.00	15.04	77.45	194	ND
1650802	638-2	1.00	15.87	76.77	186	ND
1650803	638-3	1.00	15.32	80.13	185	ND
1650804	638-4	1.00	15.46	78.95	186	ND
1650805	638-5	1.00	15.45	77.07	190	ND
1650806	FD	1.00	15.35	77.28	191	ND
METHOD BLANK	MB-2519	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001

Calibration Files

=T013655.D 100 =T013656.D 50 =T013654.D 5 .

20 =T013658.D 10 =T013657.D

		Compound	5	100	50	20	10	Avg		%RSD
1)	tC	C8 C10 C12 C14 C16	1.744	1.887	1.886	1.754	1.738	1.802	E4	4.30
	tC	C10	2.003	2.147	2.126	1.965	2.057	2.060	E4	3.79
3)	TC	C12	2.113	2.213	2.208	2.156	2.083	2.155	E4	2.66
	tC	C14	2.299	2.326	2.324	2.268	2.306	2.305	E4	1.02
		C16	2.493	2.384	2.406	2.366	2.379	2.406	E4	2.12
-	tC	C18 . C20	2.560	2.472	2.471	2.394	2.508	2.481	E4	2.44
_		. C20	2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
•	tC	C22 C24	2.749	2.537	2.572	2.524	2.557	2.588	E4	3.55
-	tC	C24	2.833	2.572	2.606	2.557	2.595	2.633	E4	4.31
10)		C26 C28	2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
11)		C28	2.766	2.550	2.598	2.549	2.569	2.606	E4	3.51
12)	tC	C30 .C32	2.816	2.620	2.673	2.602	2.581	2.658	E4	3.56
13)	tC	.C32	2.764	2.603	2.654	2.589	2.613	2.645	E4	2.69
14)	tC	C34	2.766	2.589	2.631	2.573	2.599	2.632	E4	2.97
15)	tC	C36	2.763	2.655	2.663	2.622	2.627	2.666	E4	2.14
16)	tC	C38	2.526	2.460	2.422	2.425	2.430	2.453	E4	1.79
17)	tC	C40 C42	2.197	2.275	2.148	2.199	2.178	2.199	E4	2.14
18)	tC	c42	1.886	2.124	1.935	1.972	1.902	1.964	E4	4.86
19)	TC	Pristane	2.536	2.306	2.402	2.282	2.379	2.381	E4	4.20
20)	TC	Phytane	2.753	2.476	2.516	2.487	2.554	2.557	E4	4.43
21)	sC	Phytane o-terphenyl	2.654	2.507	2.538	2.504	2.538	2.548	E4	2.41
22)	tC:	TPHC - total	3.562	2.604	2.659	2.739	2.933	2.899	E4	13.48

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013680.D

Acq On : 16 Oct 2001 1:49 am

Vial: 27 Operator: B.Patel Inst : GC/MS Ins

Sample Misc : 50 PPM STD Multiplr: 1.00

: TPHCINT.E IntFile

: Tstd050

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 2	tC tC	C8 C10	18.019 20.595	18.377 E3 21.602 E3	-2.0 -4.9	97 102	0.00
3		C12	21.549	22.362 E3	-3.8	101	0.00
4	tC	C14	23.048	23.537 E3	-2.1	101	0.00
5	tC	C16	24.057	24.206 E3	-0.6	101	0.00
6	tC	C18	24.812	25.449 E3	-2.6	103	0.00
7	tC	C20	24.684	24.900 E3	-0.9	100	0.00
8	tC	C22	25.878	25.708 E3	0.7	100	0.00
9	tC	C24	26.326	26.033 E3	1.1	100	0.00
10	tC	C26	26.702	26.298 E3	1.5	100	0.00
11	tC	C28	26.061	25.816 E3	0.9	. 99	0.00
12	tC	C30	26.583	26.526 E3	0.2	99	0.00
13	tC	C32	26.447	26.300 E3	0.6	99	0.00
14	tC	C34	26.317	26.214 E3	0.4	100	0.00
15	tC	C36	26.661	27.110 E3	-1.7	102	0.00
16	tC	C38	24.528	25.753 E3	-5.0	106	0.00
17	tC	C40	21.994	24.509 E3	-11.4	114	0.00
18	tC	c42	19.638	23.560 E3.	-20.0	122	0.00
1.9	TC	Pristane	23.812 .	23.703 E3	0.5	99	0.00
-)	TC	Phytane	25.573	25.161 E3	1.6	100	0.00
$\angle 1$	sC	o-terphenyl	25.484	25.505 E3	-0.1	100	0.00
22	tC	TPHC - total	28.994	27.463 E3	5.3	103	-0.95#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013691.D

Vial: 38 Operator: B.Patel : 16 Oct 2001 7:53 am Acq On : Tstd050 Inst : GC/MS Ins Sample

Misc Multiplr: 1.00

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

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

		Compound		AvgRF	CCRF		%Dev	Area%	Dev(min)
1	tC	C8 -		18.019	18.508		-2.7	98	0.00
2	tC	C10		20.595	21.645	E3	-5.1	102	0.00
3	TC	C12		21.549	22.587	E3	-4.8	102	0.00
4	tC	C14		23.048	23.954	E3	-3.9	103	0.00
5	tC	C16		24.057	24.677	E3	-2.6	103	0.00
6	tC	C18		24.812	24.781	E3	0.1	100	0.00
7	tC	C20		24.684	25.412	E3	-2.9	103	0.00
8	tC	C22		25.878	26.192	E3	-1.2	102	0.00
9	tC	C24		26.326	26.528	E3	-0.8	102	0.00
10	tC	C26		26.702	26.758	E3	-0.2	102	0.00
11	tC	C28		26.061	26.272	E3	-0.8	101	0.00
12	tC	C30	* 4 *	26.583	26.943	E 3	-1.4	101	0.00
13	tC	C32		26.447	26.675	E3	-0.9	100	0.00
14	tC	C34		26.317	26.560	E3	-0.9	101	0.00
15	tC	C36		26.661	27.443	E3	-2.9	103	0.00
16	tC	C38		24.528	25.998	E3	-6.0	107	0.00
17	tC	C40		21.994	24.561	E3	-11.7	114	-0.01
18	tC	c42 ·		19.638	23.252	E3	-18.4	120	0.00
1,9	TC	Pristane	•	23.812	23.971	E3	-0.7	100	0.00 -
)	TC	Phytane		25.573	25.721	E3	-0.6	102	0.00
∠1́	sC	o-terphenyl	•	25.484	25.988	E3	-2.0	102	0.00
22	tC	TPHC - total		28.994	27.291	E3	5.9	103	1.02#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013702.D

Vial: 49 Acq On : 16 Oct 2001 2:02 pm Operator: B.Patel Sample : Tstd050 Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

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

Max. RRF Dev : 15%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	18.632 E3	-3.4	99	0.00
2	tC	C10	20.595	22.169 E3	-7.6	104	0.00
3	TC	C12	21.549	23.089 E3	-7.1	105	0.00
4	tC	C14	23.048	24.435 E3	-6.0	105	0.00
5	tC	C16	24.057	25.180 E3	-4.7	105	0.00
6.	tC	C18	24.812	26.378 E3	-6.3	107	0.00
7	tC	C20	24.684	26.011 E3	-5.4	105	0.00
8	tC	C22	25.878	26.755 E3	-3.4	104	0.00
9	tC	C24	26.326	27.054 E3	-2.8	104	0.00
10	tC	C26	26.702	27.246 E3	-2.0	103	0.00
11	tC	C28	26.061	26.758 E3	-2.7	103	0.00
12	tC	C30	26.583	27.484 E3	-3.4	103	0.00
13	tC	C32	26.447	27.211 E3	-2.9	103	0.00
14	tC	C34	26.317	27.042 E3	-2.8	103	0.00
15	tC'	C36	26.661	27.851 E3	-4.5	105	0.00
16	tC	C38	24.528	26.291 E3	-7.2	109	0.00
17	tC	C40	21.994	24.624 E3	-12.0	115	0.00
18	tC	c42 ·	19.638	22.774 E3	-16.0	118	0.00
1,9	TC	Pristane	23.812	24.656 E3	-3.5	103	0.00
)	TC	Phytane	25.573	26.295 E3	-2.8	104	0.00
z 1	sC	o-terphenyl	25.484	26.527 E3	-4.1	105	0.00
22	tC	TPHC - total	28.994	27.626 E3	4.7	104	0.00

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

Client:

U.S. Army

Project #:

16508

DPW. SELFM-PW-EV

Location:

Bldg.638

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

13-Oct-01

Matrix:

Date Extracted:

Soil

15-Oct-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake 16-Oct-01

Column Type:

Injection Volume:

RTX-5, 0.32mm ID, 30M Analysis Complete:

Analyst:

B.Patel

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1650801		10.00	10.48	104.77
1650802		10.00	9.58	95.76
1650803		10.00	9.07	90.69
1650804		10.00	12.88	128.78
1650805		10.00	8.51	85.06
1650806		10.00	8.87	88.73
METHOD BLANK	MB-2519	10.00	10.39	103.90

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16508

DPW. SELFM-PW-EV

Location:

Bldg.638

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

13-Oct-01

Matrix:

Soil

Date Extracted:

Inst. ID.

GC TPHC INST. #1

15-Oct-01

Column Type:

RTX-5, 0.32mm ID, 30M

Extraction Method: Analysis Complete:

Shake 16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-2520	15-Oct-01	1000	806.30	80.63	75-125

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

Client:

U.S. Army

Project #:

16508

DPW. SELFM-PW-EV

Location:

Bldg.638

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received :

13-Oct-01

Matrix:

Soil

Date Extracted :

10-000-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

15-Oct-01

Column Type :

RTX-5, 0.32mm ID, 30M

Analysis Complete:

Shake 16-Oct-01

Injection Volume :

1uL

Analyst:

B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	nt Matrix Spike Perce Amount (ppm) Recove		QC Limits %
1650602MS	1000	0.00	839.28	83.93	75-125
1650602MSD	1000	0.00	853.53	85.35	75-125

RPD	1.68	20.00

Quantitation Report (QT Reviewed)

Vial: 32

Data File : C:\HPCHEM\1\DATA\011015\T013685.D

Acq On : 16 Oct 2001 4:34 am Operator: B.Patel : MB-2519 Sample Inst : GC/MS Ins Multiplr: 1.00

Misc

Misc : IntFile : TPHCINT.E

Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration

DataAcq Meth : TPH95.M

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

R.T. Compound Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 264784 10.390 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 103.90%#

Target Compounds

Data File : C:\HPCHEM\1\DATA\011015\T013685.D

Acg On : 16 Oct 2001 4:34 am

Vial: 32 Operator: B.Patel

Sample : MB-2519

Inst : GC/MS Ins Multiplr: 1.00

Misc

IntFile : TPHCINT.E

Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

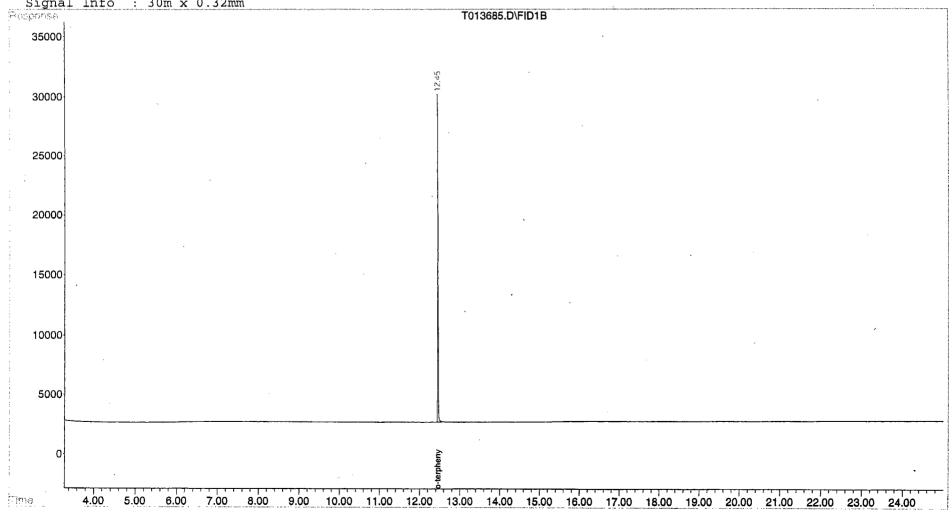
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Ini. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



00001

(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\011015\T013694.D

Vial: 41 Acq On : 16 Oct 2001 9:33 am Operator: B. Patel Sample : 1650801s Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 16 10:29 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 266988 10.477 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 104.77%#

Target Compounds

Quantitati leport

Data File : C:\HPCHEM\1\DATA\011015\T013694.D

.cg On : 16 Oct 2001 9:33 am

9:33 am Operator: B.Patel
Inst : GC/MS Ins

Sample : 1650801s Misc :

Multiplr: 1.00

Vial: 41

IntFile : TPHCINT.E

Quant Time: Oct 16 10:29 2001 Quant Results File: TPH95.RES

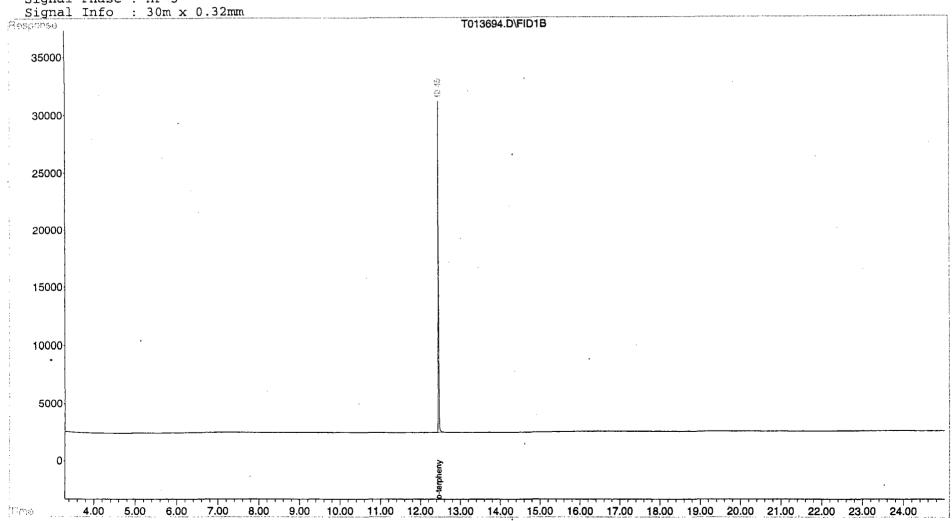
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



anaat

Quantitation Report (QT Reviewed)

Vial: 42

Data File : C:\HPCHEM\1\DATA\011015\T013695.D

Acq On : 16 Oct 2001 10:07 am Sample : 1650802s Misc : Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 16 10:33 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 244029 9.576 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 95.76%#

Target Compounds

Ouantitati

Vial: 42

Multiplr: 1.00

Operator: B.Patel Inst : GC/MS Ins

Data File : C:\HPCHEM\1\DATA\011015\T013695.D

Acq On : 16 Oct 2001 10:07 am

· 1650802s

Misc IntFile : TPHCINT.E

Sample

Quant Time: Oct 16 10:33 2001 Quant Results File: TPH95.RES

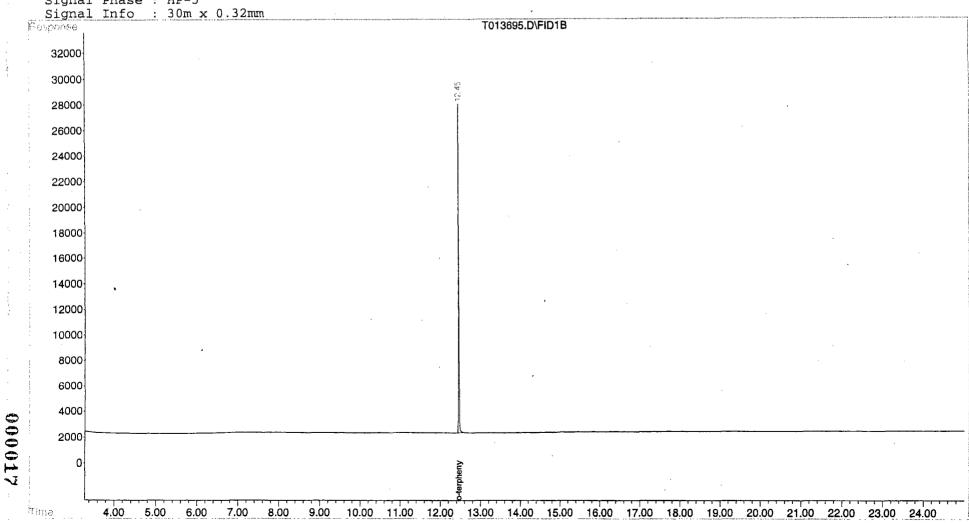
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcg Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013696.D

Vial: 43 Acq On : 16 Oct 2001 10:41 am Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

Sample : 1650803s Misc : IntFile : TPHCINT.E

Quant Time: Oct 16 11:16 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds 21) sC o-terphenyl 12.45 231115 9.069 mg/L Spiked Amount 10.000 Range 8-13 Recovery = 90.69%

Target Compounds

Quantitati leport

Data File : C:\HPCHEM\1\DATA\011015\T013696.D

Acg On : 16 Oct 2001 10:41 am

Vial: 43
Operator: B.Patel
Inst : GC/MS Ins

Sample : 1650803s Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 16 11:16 2001 Quant Results File: TPH95.RES

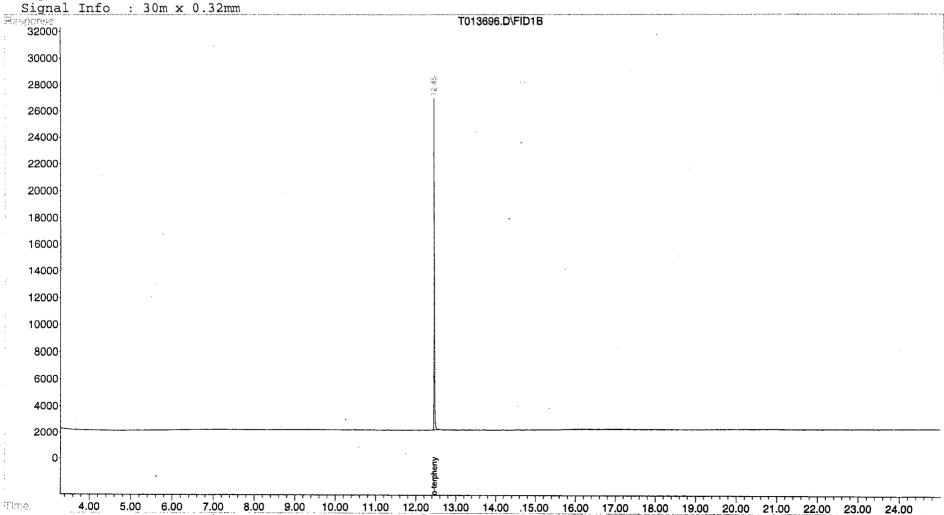
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



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Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013697.D

Vial: 44 Acq On : 16 Oct 2001 11:15 am

Operator: B.Patel : 1650804s Sample Inst : GC/MS Ins Multiplr: 1.00

Misc Misc : IntFile : TPHCINT.E

Quant Time: Oct 16 15:01 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

71 12.45 328173 12.878 mg/L 10.000 Range 8 - 13 Recovery = 128.78%# 21) sC o-terphenyl Spiked Amount

Target Compounds

Ouantitatic eport

Data File : C:\HPCHEM\1\DATA\011015\T013697.D

: 16 Oct 2001 11:15 am Aca On

Vial: 44 Operator: B.Patel Inst : GC/MS Ins

Sample : 1650804s Misc

Multiplr: 1.00

IntFile

: TPHCINT.E

Quant Time: Oct 16 15:01 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

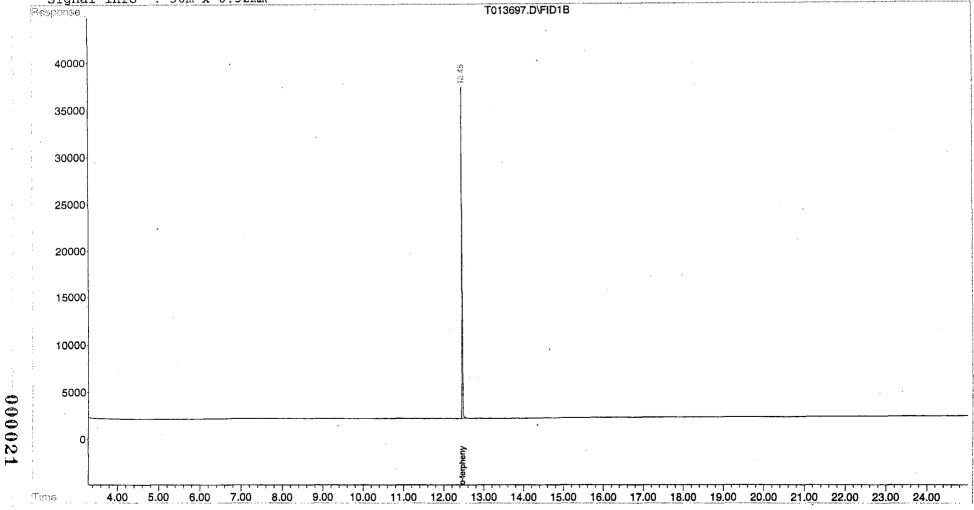
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



Quantitation Report (QT Reviewed)

Vial: 45

Data File : C:\HPCHEM\1\DATA\011015\T013698.D

Acq On : 16 Oct 2001 11:49 am Sample : 1650805s Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00 Misc Misc : IntFile : TPHCINT.E

Quant Time: Oct 16 15:02 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

henyl 12.45 216764 8.506 mg/L 10.000 Range 8 - 13 Recovery = 85.06%# 21) sC o-terphenyl Spiked Amount 10.

Target Compounds

Ouantitati leport

Data File : C:\HPCHEM\1\DATA\011015\T013698.D

Acq On : 16 Oct 2001 11:49 am

Vial: 45 Operator: B.Patel Inst : GC/MS Ins

Misc

Sample

: 1650805s

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Oct 16 15:02 2001 Ouant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

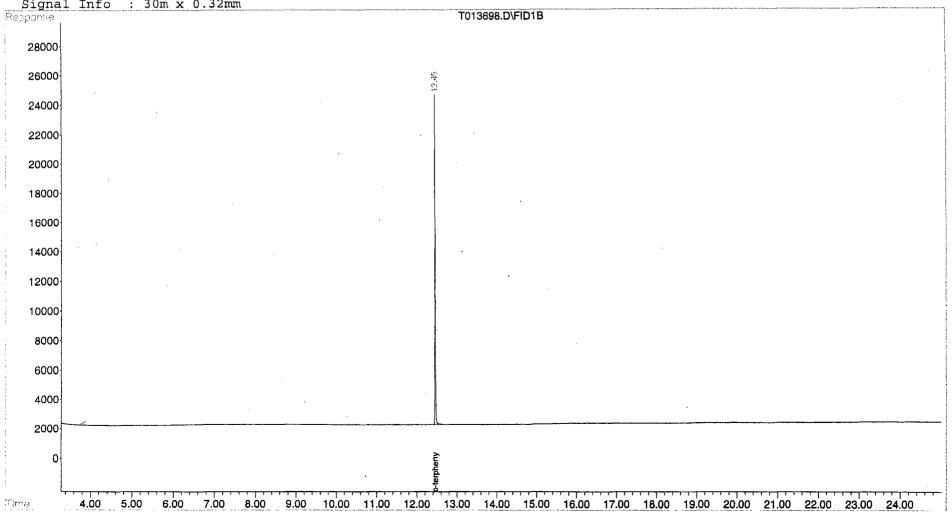
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013699.D

Vial: 46

Acq On : 16 Oct 2001 12:23 pm Sample : 1650806s Misc : Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 16 15:02 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 226111 8.8/5 mg/ Spiked Amount 10.000 Range 8 - 13 Recovery = 88.73%# 12.45 226111 8.873 mg/L

Target Compounds

Quantitat: Report

Data File : C:\HPCHEM\1\DATA\011015\T013699.D

Acg On : 16 Oct 2001 12:23 pm

Operator: B.Patel
Inst : GC/MS Ins

Misc

Sample

: 1650806s

Multiplr: 1.00

Vial: 46

IntFile : TPHCINT.E

Quant Time: Oct 16 15:02 2001 Quant Results File: TPH95.RES

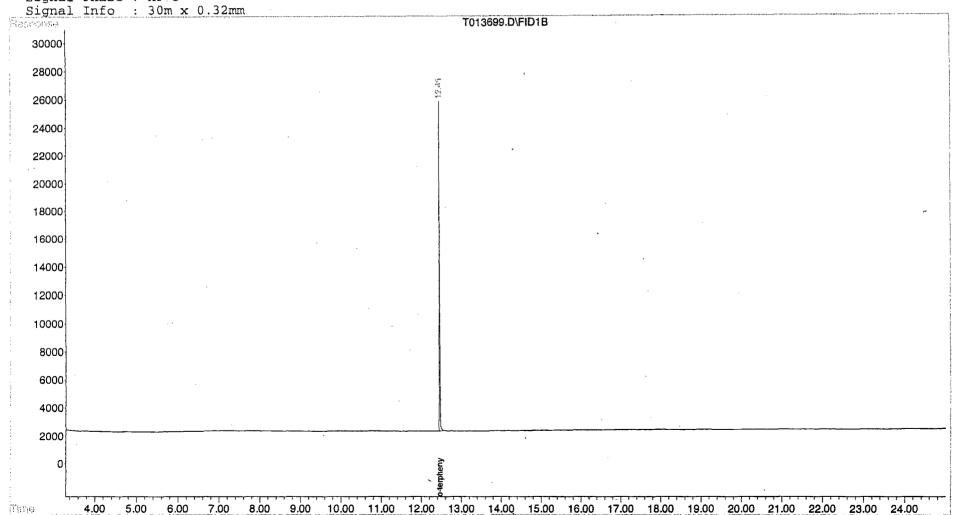
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

Į.	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	<u> </u>
5 .	Chain of Custody submitted	_
6.	Samples submitted to lab within 48 hours of sample collection	
7 .	Methodology Summary submitted	_
8.	Laboratory Chronicle and Holding Time Check submitted	_
9 .	Results submitted on a dry weight basis	_
10. 11.	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Date	Laboratory Manager or Environmental Consultant's Signature	

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

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-84 for Solid Waste Analysis. I have personally examined the information contained in the report and to the best of my knowledge, I believe that the submitted information is the accurate, complete and meets the above referenced standards where applicable. I aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright Laboratory Manager

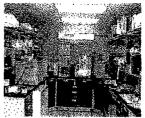
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 639

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
639-1/8'	1650901	Soil	13-Oct-01 10:50	10/15/01
639-2/8'	. 1650902	Soil"	13-Oct-01 11:05	10/15/01
639-3/8'	1650903	Soil	13-Oct-01 11:19	10/15/01
639-4/8'	1650904	Soil	13-Oct-01 11:25	10/15/01
639-5/8'	1650905	Soil	13-Oct-01 11:35	10/15/01
F. D./8'	1650906	Soil	13-Oct-01	10/15/01

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY RESULTS

> Daniel Wright/Date Laboratory Director

10-19-01

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MS/MSD Results Summary	11-12
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Method Summary

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

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
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
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- Mes
5 .	IR Spectra submitted for standards, blanks and samples.	<u>NA</u>
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	s Ves
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	Yes
Addi:	tional comments:	
<u> </u>		
	10-19-01	
Labo	ratory Manager Date	



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D.	DESAI	Project No:	01-000	7				Ana	lysis I	Param	eters			Comments:
Phone #: 12 /	475	Location: B	616.6	39		7	%							
()DERA (JOMA	()Other:		FORMER			F	So							
Samplers Name / C	ompany: MARK LAURA	TUS- PA	WS 07	Sample	#	H	L T							
LIMS/Work Order#		Date	Time	Туре	bottles	O	10.5							Remarks / Preservation Method
110504 01	639-1 8'	10-13-01	1050	SOIL	1	X	X							2400
00	2639-2 81	1/	1105	11	10	365	1)							1,
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Relinquished by (signature): Date/Time: Received by (signature): Relinquished by (signature): Date/Time: Received by (signature):			signature):											
Report Type: ()Full (/ non-certified	()EDD		l	Rema	rke.	H2	<u> </u>	9. C	/	·		
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Report of Analysis U.S.Army, Fort Monmouth Environmental Laboratory **NJDEP Certification # 13461**

Client:

U.S. Army

Project #:

16509

DPW. SELFM-PW-EV

Location:

Bldg.639

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

13-Oct-01

Matrix:

Soil

Date Extracted:

15-Oct-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method: Analysis Complete:

Shake 16-Oct-01

Column Type:

RTX-5, 0.32mm ID, 30M

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1650901	639-1	1.00	15.08	74.50	202	ND
1650902	639-2	1.00	15.02	73.95	204	ND
1650903	639-3	1.00	15.75	78.49	183	ND
1650904	639-4	1.00	15.10	75.86	198	ND
1650905	639-5	1.00	15.37	79.46	185	ND
1650906	FD	1.00	15.05	73.99	203	ND
METHOD BLANK	MB-2519	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001

Cali	bration	Files

5 20 =T013655.D 100 =T013656.D 50 =T013654.D

=T013658.D 10 =T013657.D

		Compound	 5	100	50	20	10	Avg		%RSD
1)	tC	C8	1.744	1.887	1.886	1.754	1.738	1.802	E4	4.30
2)	tC	C10	2.003	2.147	2.126	1.965	2.057	2.060	E4	3.79
3)	TC	C12	2.113	2.213	2.208	2.156	2.083	2.155	E4	2.66
4)	ťC	C14	2.299	2.326	2.324	2.268	2.306	2.305	E4	1.02
5)	tC	C16	2.493	2.384	2.406	2.366	2.379	2.406	E4	2.12
6)	tC	C18						2.481		2.44
7)	tC	C20	2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
8)	tC	C22	2.749	2.537	2.572	2.524	2.557	2.588	E4	3.55
9)	tC	C24	2.833	2.572	2.606	2.557	2.595	2.633	E4	4.31
10)	tC	C26	2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
11)	tC	C28	2.766	2.550	2.598	2.549	2.569	2.606	E4	3.51
12)	tC	C30	2.816	2.620	2.673	2.602	2.581	2.658	E4	3.56
13)	tC	C32	 2.764	2.603	2.654	2.589	2.613	2.645	E4	2.69
14)	tC	C34	2.766	2.589	2.631	2.573	2.599	2.632	E4	2.97
15)	tC	C36	2.763	2.655	2.663	2.622	2.627	2.666	E4	2.14
16)	tC	C38	2.526	2.460	2.422	2.425	2.430	2.453	E4	1.79
17)	tC	C40	2.197	2.275	2.148	2.199	2.178	2.199	E4	2.14
18)	tC	c42	1.886	2.124	1.935	1.972	1.902	1.964	E4	4.86
19)	TC	Pristane	2.536	2.306	2.402	2.282	2.379	2.381	E4	4.20
20)	TC	Phytane	2.753	2.476	2.516	2.487	2.554	2.557	E4	4.43
21)	sC	o-terphenyl	2.654	2.507	2.538	2.504	2.538	2.548	E4	2.41
22)	tC	TPHC - total	3.562	2.604	2.659	2.739	2.933	2.899	E4	13.48

Data File : C:\HPCHEM\1\DATA\011015\T013680.D

Vial: 27

: 16 Oct 2001 1:49 am Acq On Operator: B.Patel : Tstd050 Inst : GC/MS Ins Sample : 50 PPM STD Misc Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	18.377 E3	-2.0	97	0.00
2	tC	C10	20.595	21.602 E3	-4.9	102	0.00
3	TC	C12	21.549	22.362 E3	-3.8	101	0.00
4	tC.	C14	23.048	23.537 E3	-2.1	101	0.00
5	tC	C16	24.057	24.206 E3	-0.6	101	0.00
6	tC	C18	24.812	25.449 E3	-2.6	103	0.00
7	tC	C20	24.684	24.900 E3	-0.9	100	0.00
8	tC	C22	25.878	25.708 E3	0.7	100	0.00
9	tC	C24	26.326	26.033 E3	1.1	100	0.00
10	tC	C26	26.702	26.298 E3	1.5	100	0.00
11	tC	C28	26.061	25.816 E3	0.9	99	0.00
12	tC	C30	26.583	26.526 E3	0.2	99	0.00
13	tC	C32	26.447	26.300 E3	0.6	99	0.00
14	tC	C34	26.317	26.214 E3	0.4	100	0.00
15	tC	C36	26.661	27.110 E3	-1.7	102	0.00
16	tC	C38	24.528	25.753 E3	-5.0	106	0.00
17	tC	C40	21.994	24.509 E3	-11.4	114	0.00
18	tC	c42	19.638	23.560 E3	-20.0	122	0.00
1,9	TC	Pristane	23.812	23.703 E3	0.5	99	0.00
)	TC	Phytane	25.573	25.161 E3	1.6	100	0.00
∠1	sC	o-terphenyl	25.484	25.505 E3	-0.1	100	0.00
22	tC	TPHC - total	28.994	27.463 E3	5.3	103	-0.95#

Data File : C:\HPCHEM\1\DATA\011015\T013691.D

Vial: 38 Acq On : 16 Oct 2001 7:53 am

Sample : Tstd050 Operator: B.Patel Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

		Compound		wgRF CCRF		%Dev	Area%	Dev(min)
1 2 3 4 5 6	tC TC tC tC	C8 C10 C12 C14 C16 C18	20 21 23 . 24 24	3.019 18.508 0.595 21.645 0.549 22.587 0.048 23.954 0.057 24.677 0.812 24.781 0.684 25.412	E3 E3 E3 E3 E3	-2.7 -5.1 -4.8 -3.9 -2.6 0.1	98 102 102 103 103	0.00 0.00 0.00 0.00 0.00
7 8 9	tC tC	C20 C22 C24	25 26	3.878 26.192 3.326 26.528	E3 E3	-2.9 -1.2 -0.8	103 102 102	0.00 0.00 0.00
10 11 12	tC tC	C26 C28 C30	2 <i>6</i> 2 <i>6</i>	5.702 26.758 5.061 26.272 5.583 26.943	E3 E3	-0.2 -0.8 -1.4	102 101 101	0.00 0.00 0.00
13 14 15 16	tC tC tC	C32 C34 C36 C38	2 <i>6</i> 2 <i>6</i>	.447 26.675 .317 26.560 .661 27.443 .528 25.998		-0.9 -0.9 -2.9 -6.0	100 101 103 107	0.00 0.00 0.00 0.00
17 18 19	tC tC TC TC	C40 c42 Pristane Phytane o-terphenyl	21 19 23 25	.994 24.561 .638 23.252 .812 23.971 .573 25.721 .484 25.988	E3 E3 E3 E3	-11.7 -18.4 -0.7 -0.6	114 120 100 102 102	$ \begin{array}{c} -0.01 \\ 0.00 \\ 0.00 \\ 0.00 \end{array} $
_1 22	sC tC	TPHC - total		.994 27.291	E3	-2.0 5.9	102	0.00 1.02#

Data File : C:\HPCHEM\1\DATA\011015\T013702.D

Vial: 49

Acq On : 16 Oct 2001 2:02 pm Operator: B.Patel Sample : Tstd050 Inst : GC/MS Ins Multiplr: 1.00

Misc

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

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

Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	Č8	18.019	18.632 E3	-3.4	99	0.00
2	tC	C10	20.595	22.169 E3	-7.6	104	0.00
3	TC	C12	21.549	23.089 E3	-7.1	105	0.00
4	tC	C14	23.048	24.435 E3	-6.0	105	0.00
5	tC	C16	24.057	25.180 E3	-4.7	105	0.00
6	tC	C18	24.812	26.378 E3	-6.3	107	0.00
7	tC	C20	24.684	26.011 E3	-5.4	105	0.00
8	tC	C22	25.878	26.755 E3	-3.4	104	0.00
9	tC	C24	26.326	27.054 E3	-2.8	104	0.00
10	tC	C26	26.702	27.246 E3	-2.0	103	0.00
11	tC	C28	26.061	26.758 E3	-2.7	103	0.00
12	tC	C30 .	26.583	27.484 E3	-3.4	103	0.00
13	tC	C32	26.447	27.211 E3	-2.9	103	0.00
14	tC	C34	26.317	27.042 E3	-2.8	103	0.00
15	tC	C36	26.661	27.851 E3	-4.5	105	0.00
16	tC	C38	24.528	26.291 E3	-7.2	109	0.00
17	tC	C40	21.994	24.624 E3	-12.0	115	0.00
18	tC	c42	19.638	22.774 E3-	-16.0	118	0.00
19	TC	Pristane '	23.812	24.656 E3	3.5	·103	0.00
1	TC	Phytane	25.573	26.295 E3	-2.8	104	0.00
4	sC	o-terphenyl	25.484	26.527 E3	-4.1	105	0.00
22	tC	TPHC - total	28.994	27.626 E3	4.7	104	0.00

Vial: 11

Data File : C:\HPCHEM\1\DATA\011015\T013713.D

Acq On : 16 Oct 2001 8:07 pm Operator: B.Patel : Tstd050 Sample Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area% Dev	(min)
1		C8	18.019	19.052 E3	-5.7		00
2	tC	C10	20.595	20.931 E3	-1.6		00
3	TC	C12	21.549	22.928 E3	-6.4		00
4	tC	C14	23.048	24.345 E3	-5.6	105 0.	00
5	tC	C16	24.057	25.134 E3	-4.5	104 0.	00
6	tC	C18	24.812	26.209 E3	-5.6	106 0.	00
7	tC	C20	24.684	25.831 E3	-4.6	104 0.	00
8	tC	C22	25.878	26.778 E3	-3.5	104 0.	00
9	tC	C24	26.326	27.174 E3	-3.2	104 0.	0.0
10	tC	C26	26.702	27.410 E3	-2.7	104 0.	00
11	tC	C28	26.061	26.962 E3	-3.5	104 0.	00
12	tC	C30	26.583	27.669 E3	-4.1	104 0.	00
13	tC	C32	26.447	27.437 E3	-3.7	103 0.	00
14	tC	C34	26.317	27.299 E3	-3.7	104 0.	00
15	tC	C36	26.661	28.259 E3	-6.0	106 0.	00
16	tC	C38	24.528	26.926 E3	-9.8	111 0.	00
17	tC	C40	21.994	25.609 E3	-16.4	119 0.	00
18	tC	c42	19.638	24.540 E3	-25.0	127 0.	0.0
1,9	TC	Pristane	23.812	24.898 E3	·-4.6		00
)	TC	Phytane	25.573	26.107 E3	-2.1		00
1.4	sC	o-terphenyl	25.484	26.489 E3	-3.9		00
22	tC	TPHC - total	28.994	28.360 E3	2.2		00

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

Client:

U.S. Army

Project #:

16509

DPW. SELFM-PW-EV

Location:

Bldg.639

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

13-Oct-01

Matrix:

Soil

Date Extracted :

15-Oct-01

Inst. ID.

00...

Extraction Method :

Shake

msw 15.

GC TPHC INST. #1

RTX-5, 0.32mm ID, 30M Analysis Complete:

16-Oct-01

Column Type : Injection Volume :

1uL

Analyst:

B.Patel

			Amount	
Sample		Surrogate Added (ppm)	Bassussa	Percent Recovery
1650901		10.00	9.85	98.53
1650902		10.00	9.51	95.09
1650903	<u>-</u>	10.00	8.76	87.61
1650904		10.00	8.82	88.24
1650905		10.00	8.38	83.75
1650906		10.00	8.88	88.76
	•			
· · · · · · · · · · · · · · · · · · ·				
METHOD BLANK	MB-2519	10.00	10.39	103.90

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16509

DPW. SELFM-PW-EV

Location:

Bldg.639

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

Matrix:

Soil

13-Oct-01

Inst. ID.

Date Extracted:

15-Oct-01

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1650602MS	1000	0.00	839.28	83.93	75-125
1650602MSD	1000	0.00	853.53	85.35	. 75-125

RPD	1.68	20.00

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

Client:

U.S. Army

Project # :

16509

DPW. SELFM-PW-EV

Location:

Bldg.639

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received :

13-Oct-01

Matrix:

Soil

Date Extracted:

10-001-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

15-Oct-01

Column Type :

RTX-5, 0.32mm ID, 30M

Analysis Complete :

Shake 16-Oct-01

Injection Volume :

1uL

Analyst:

B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits
LCS-2520	15-Oct-01	1000	806.30	80.63	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013685.D

Vial: 32 Acq On : 16 Oct 2001 4:34 am Sample : MB-2519 Misc : IntFile : TPHCINT.E Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration

DataAcg Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 264784 10.390 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 103.90%#

Target Compounds

Ouantitat | Report

Data File : C:\HPCHEM\1\DATA\011015\T013685.D Acq On

: 16 Oct 2001 4:34 am

Vial: 32 Operator: B.Patel : GC/MS Ins

: MB-2519 Sample Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 16 8:33 2001 Quant Results File: TPH95.RES

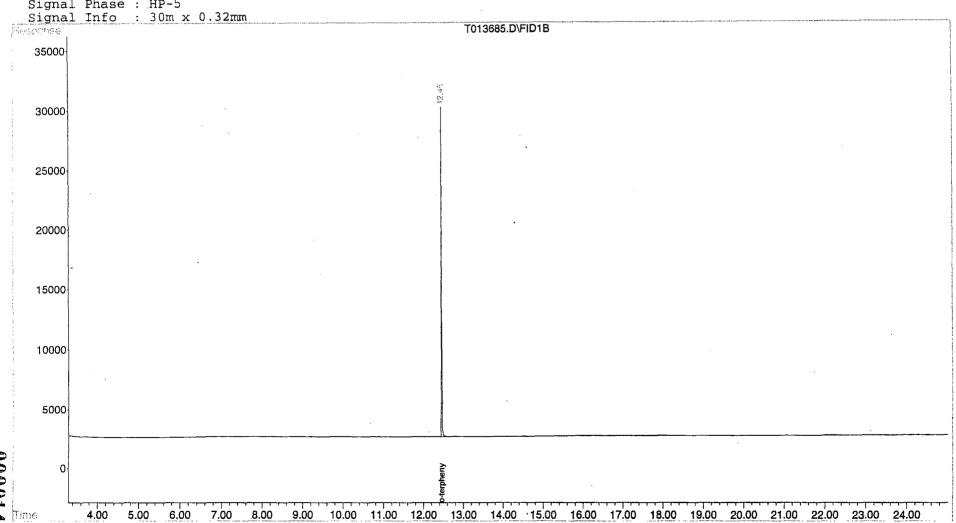
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5



Quantitation Report (OT Reviewed)

Vial: 47

Data File : C:\HPCHEM\1\DATA\011015\T013700.D

Operator: B.Patel

Acq On : 16 Oct 2001 12:56 pm Sample : 1650901s Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Oct 16 15:02 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 251091 9.853 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 98.53%#

Target Compounds

Quantitat: Report

Data File : C:\HPCHEM\1\DATA\011015\T013700.D

Acq On : 16 Oct 2001 12:56 pm

Operator: B.Patel
Inst : GC/MS Ins

Vial: 47

Sample : Misc :

IntFile : TPHCINT.E

Quant Time: Oct 16 15:02 2001 Quant Results File: TPH95.RES

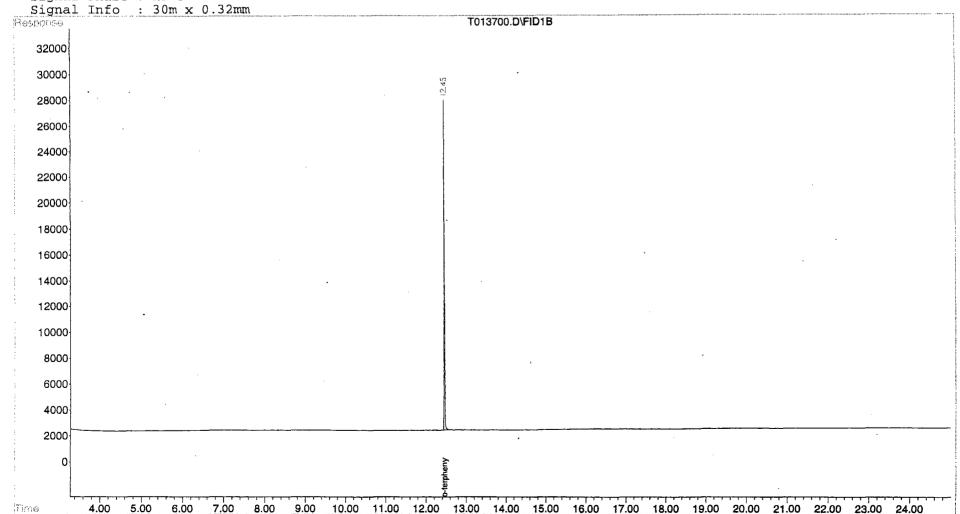
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013701.D

Vial: 48

Acq On : 16 Oct 2001 1:29 pm Sample : 1650902s Misc : IntFile : TPHCINT.E Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00

Quant Time: Oct 16 15:02 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 242324 9.509 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 95.09%#

Target Compounds

Ouantitat Report

Data File : C:\HPCHEM\1\DATA\011015\T013701.D

Acq On : 16 Oct 2001 1:29 pm

Vial: 48 Operator: B.Patel Inst : GC/MS Ins

: 1650902s Misc

Multiplr: 1.00

Sample

IntFile : TPHCINT.E

Ouant Time: Oct 16 15:02 2001 Quant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

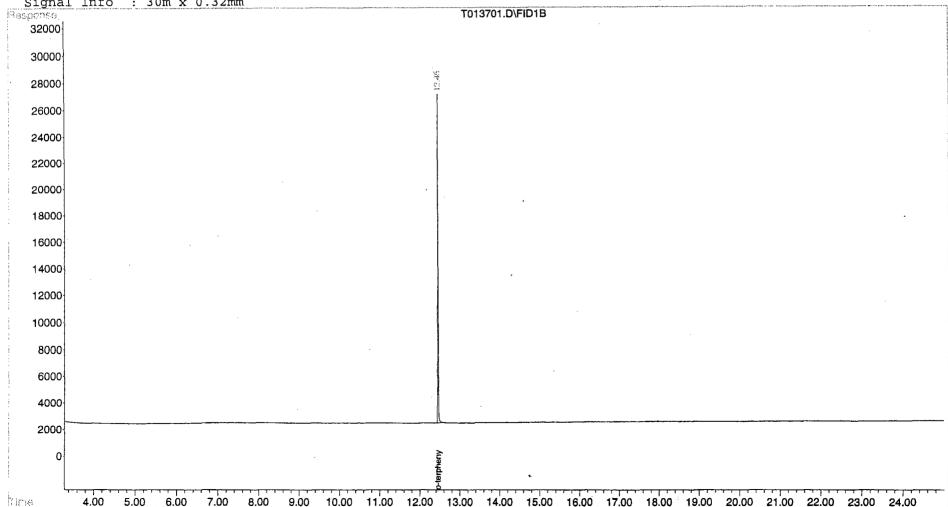
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



000018

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013703.D

Vial: 1 Operator: B.Patel

Acq On : 16 Oct 2001 2:35 pm Sample : 1650903s Inst : GC/MS Ins Multiplr: 1.00

Misc IntFile : TPHCINT.E

Quant Time: Oct 16 15:03 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5 Signal Info : 30m x 0.32mm

R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 223264 8.761 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 87.61%#

Target Compounds

Ouantitat. Report

Data File : C:\HPCHEM\1\DATA\011015\T013703.D

: 16 Oct 2001 2:35 pm Acq On

Vial: 1 Operator: B.Patel Inst : GC/MS Ins

Sample Misc

: 1650903s

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 16 15:03 2001 Quant Results File: TPH95.RES

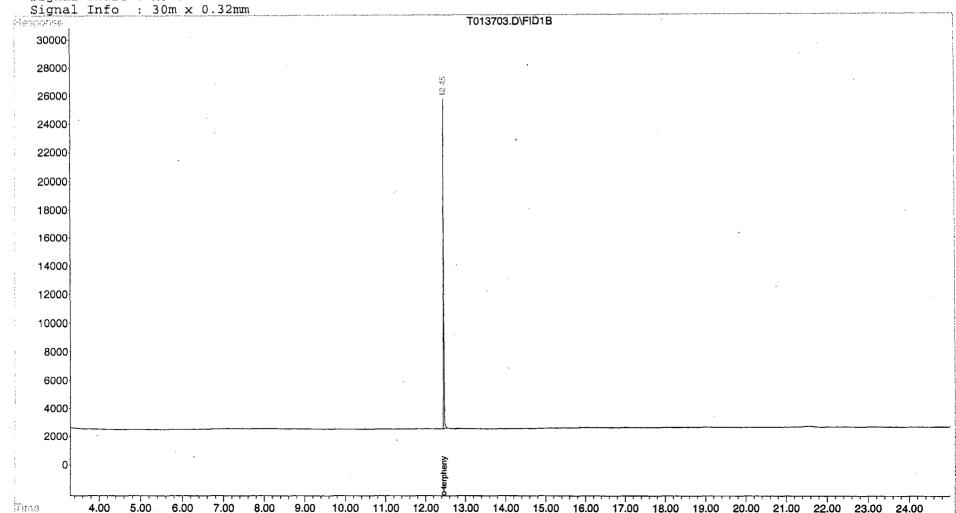
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5



Quantitation Report (OT Reviewed)

Vial: 2

Data File : C:\HPCHEM\1\DATA\011015\T013704.D

Acq On : 16 Oct 2001 3:09 pm Sample : 1650904s Misc : IntFile : TPHCINT.E Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

Quant Time: Oct 17 7:53 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 21) sC o-terphenyl 12.45 224875 8.824 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 88.24%#

Target Compounds

Quantitati Report

Data File : C:\HPCHEM\1\DATA\011015\T013704.D

Acq On : 16 Oct 2001 3:09 pm

Operator: B.Patel
Inst : GC/MS Ins

Sample : 1650904s

Multiplr: 1.00

Vial: 2

Misc :

IntFile : TPHCINT.E

Quant Time: Oct 17 7:53 2001 Quant Results File: TPH95.RES

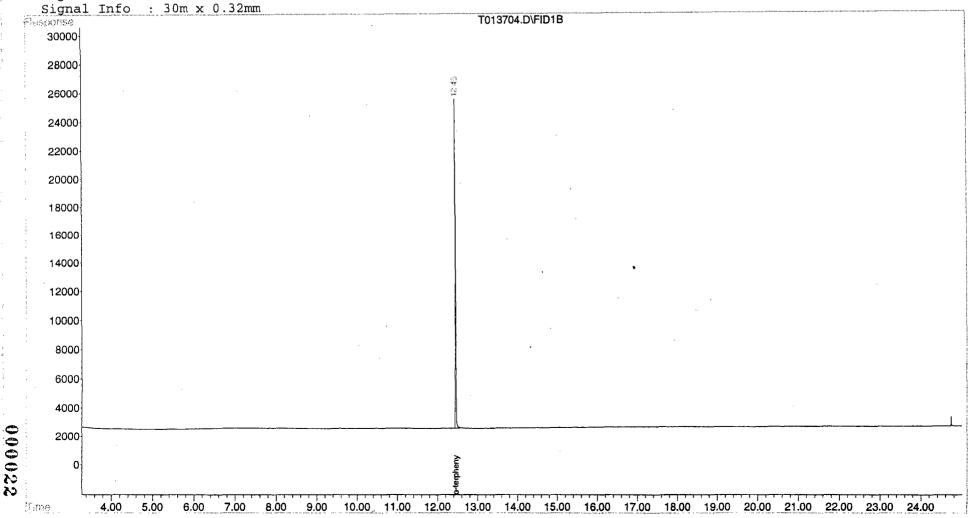
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013705.D

Vial: 3

Acq On : 16 Oct 2001 3:42 pm Sample : 1650905s Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00

Misc IntFile : TPHCINT.E

Quant Time: Oct 17 7:54 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

213414 8.375 mg/L 21) sC o-terphenyl 12.45 213414 8.375 mg Spiked Amount 10.000 Range 8 - 13 Recovery = 83.75%# 12.45

Target Compounds 22) tC TPHC - total

12.45 952762 32.861 mg/L m Ouantitat: Report

Data File : C:\HPCHEM\1\DATA\011015\T013705.D

Vial: 3

Acq On : 16 Oct 2001 3:42 pm

Operator: B.Patel Inst : GC/MS Ins

Sample : 1650905s

Multiplr: 1.00

Misc

IntFile : TPHCINT.E Quant Time: Oct 17 7:54 2001 Quant Results File: TPH95.RES

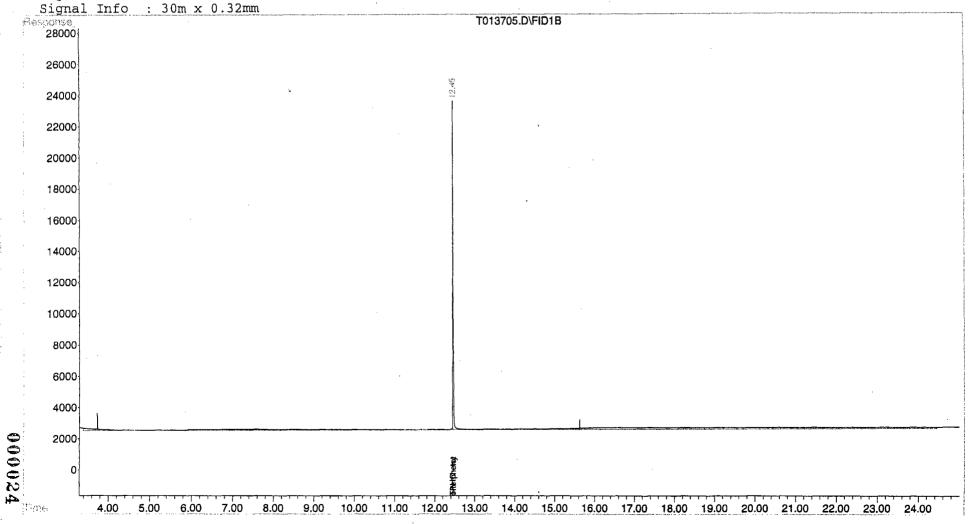
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011015\T013706.D

Vial: 4 Operator: B.Patel

Acq On : 16 Oct 2001 4:15 pm Sample : 1650906s Inst : GC/MS Ins Multiplr: 1.00

Misc IntFile : TPHCINT.E

Quant Time: Oct 17 7:54 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 226203 8.876 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 88.76%#

Target Compounds

Ouantitat: Report

Data File : C:\HPCHEM\1\DATA\011015\T013706.D

Vial: 4

Acq On : 16 Oct 2001 4:15 pm : 1650906s

Operator: B.Patel : GC/MS Ins

Sample Misc

Multiplr: 1.00

IntFile : TPHCINT.E Quant Time: Oct 17 7:54 2001 Quant Results File: TPH95.RES

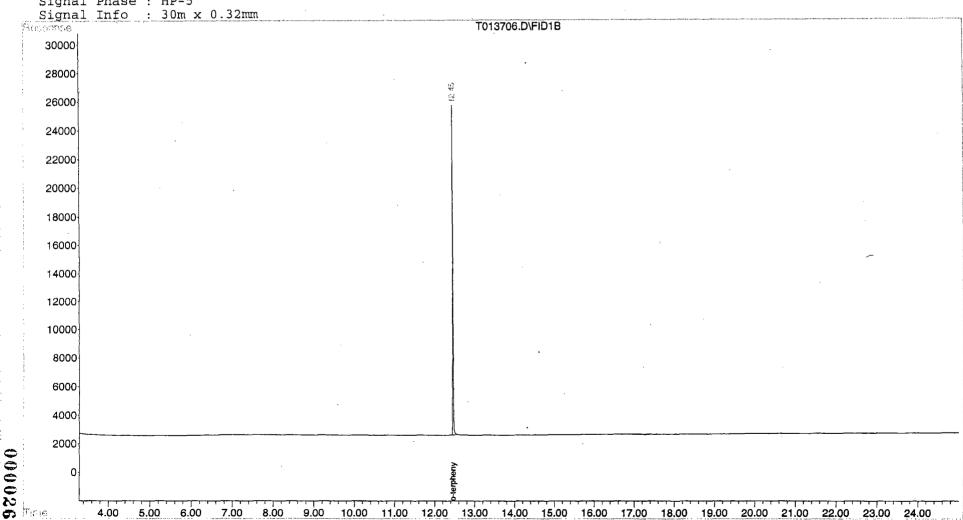
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Ini. : 1 ul Signal Phase : HP-5



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

I.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	e.		
2.	Table of Contents submitted		. s <u>. / </u>	
3.	Summary Sheets listing analytical results for all targeted and non-tan compounds submitted	geted	_	
4.	Document paginated and legible			
5 .	Chain of Custody submitted	1,		
6 .	Samples submitted to lab within 48 hours of sample collection			
7.	Methodology Summary submitted			
8.	Laboratory Chronicle and Holding Time Check submitted			
9.	Results submitted on a dry weight basis			
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP		<u>/</u>	
	Laboratory Manager or Environmental Consultant's Signature e io / 19/ or oratory 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-82 for Solid Waste Analysis. I have personally examined the information contained in t report and to the best of my knowledge, I believe that the submitted information is tr accurate, complete and meets the above referenced standards where applicable. I aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-4359 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: UST Program

Bldg. 640

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
640-1/6'	1656701	Soil	08-Nov-01 10:28	11/08/01
640-2/8.5'	1656702	Soil	08-Nov-01 10:50	11/08/01
640-3/6'	1656703	Soil	08-Nov-01 11:20	11/08/01
640-4/8.5'	1656704	Soil	08-Nov-01 11:41	11/08/01
640-5/8.5'	1656705	Soil	08-Nov-01 12:00	11/08/01
FD/6'	1656706	Soil	08-Nov-01	11/08/01
T.B.	1656707	Methanol	08-Nov-01	11/08/01

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright Date

Laboratory Director

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: D. Desai Project No: Analysis Parameters									Comments:				
Phone #: XQ /475	Location: BLOG.	640		V	4	<i>%</i>					Н		
()DERA (V)OMA ()Other:	(FARMEN			700	f	Ś					N		
Samplers Name / Company: Mark Laura -	TVS-PWS07	Sample	#	4	H	SOUTE					U		,
LIMS/Work Order # Sample Location	Date Time	Туре	bottles	15)	j D					(РРМ)	Remarks / Preservatio	n Method
165/67 1 640-1 6'	11-8-01 1028	SOIL	2	×	×	×	15-0				700	2909	240¢
7 640-2 8,5	" 1050	(,	2	×	×	X	15.2	4			300	2910	11
1 3 640-3 6'	" 1120	1	2	X	X	X	15-18			<u> </u>	900	2911	/(
4 640-4 8.5		11	2	\times	×	\times	15-05				200	2912	11
5 640 -5 8.5	1 1200	u	2	X	X	X	15-10	15.08	15:27	<u> </u>	100	2913	\$1
6 FD- 6'	11	11	2	\times	×	X	15.08					2914	11
7 T.B.	11 -	METH.	1	X				<u> </u>		ļ		2908	
			<u> </u>										
			<u> </u>								<u> </u>		
			<u> </u>										
Relinquished by (signature): Date/Time: Received by (signature): Relinquished by (signat			inquished by (signature):			Date/Time: Received by			ved by (signature):	İ		
				nquished by (signature): Date/Time: Received by (signature):					signature):				
Report Type: ()Full, Reduced, Standard, ()Screen / non-certified, ()EDD Remarks: H 20 = 9' Turnaround time: (Standard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.													

METHOD SUMMARY

Method Summary

NJDEP Method 8260 Gas Chromatographic Determination of Volatiles in Soil

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 is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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

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

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

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

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

CONFORMANCE-NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

			Indicate Yes, No, N/A
1.	Chromatograms la	peled/Compounds identified	
	(Field samples	and method blanks)	<u> 405</u>
2 .	Retention times for	chromatograms provided	yes
3.	GC/MS Tune Spec	ifications	
	a .	BFB Meet Criteria	yes
	b .	DFTPP Meet Criteria	<u> NA</u>
4.	GC/MS Tuning Froseries and 12 hours	equency – Performed every 24 hours for 600 for 8000 series	705
5 .		- Initial Calibration performed before sample	•
	sample analysis for	uing calibration performed within 24 hours of 600 series and 12 hours for 8000 series	<u> yes</u>
6.	GC/MS Calibration	requirements	
	a.	Calibration Check Compounds Meet Criteria	<u> y23</u>
	b .	System Performance Check Compounds Meet Criteria	<u> 7es</u>
7 .	Blank Contaminati	on - If yes, List compounds and concentrations in each blank:	No_
	a.	VOA Fraction	
	b .	B/N Fraction	
	C.	Acid Fraction MA	
8.	Surrogate Recover	ies Meet Criteria	yes_
-		those compounds and their recoveries, which fall ceptable range:	
	a .	VOA Fraction	
	b .	B/N Fraction NA	
	C.	Acid Fraction NA	
	If not met, we as "estimated"	re the calculations checked and the results qualified?	
9.	Matrix Spike/Matr	ix Spike Duplicate Recoveries Meet Criteria	yes
		se compounds and their recoveries, which fall	
	outside the accepta		
	a.	VOA Fraction	
	ь.	B/N Fraction	
	С	Acid Fraction NA	

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

					Indicate Yes, No, N/A
10.		Area/Retention Time Sose compounds, which		riteria the acceptable range)	405
	a.	VOA Fraction			
	Ъ.	B/N Fraction		~	
	C.	Acid Fraction	NA		
11.	Extraction Holdin	g Time Met			<u>au</u>
	If not met, list the	number of days exce	eded for each	a sample:	
12.	Analysis Holding	Time Met			425
	•	number of days excee		sample:	t
Add	itional Comments:				
	<u> </u>				
Labo	oratory Manager:			Date: //~20-01	

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
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
4 .	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	yes_
5 .	IR Spectra submitted for standards, blanks and samples.	NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	s Ves
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes
Addil	tional comments:	-
	11-70-01 Data	
Labo	oratory Manager Date	

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16567

Site: Bldg. 640

Hold Time Date **Date Sampled** 11/08/01 NA Receipt/Refrigeration 11/08/01 NA **Extractions** 14 days 1. TPHC 11/08/01 **Analyses** 1. Volatile Organics 14 days 11/09/01 2. TPHC 11/09/01 40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL: Method Detection Limit

J: Compound identified below detection limit

B: Compound found in blank

D : Results are from a dilution of the sample
 U : Compound searched for but not detected
 E : Compound exceeds calibration limit

PQL: Practical Quantitation Limit

NLE: No limit established

RT: Retention time

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

MB 9Nov01 Lab Name: **FMETL** Project: 010001 NJDEP#: 13461 Case No.: 16567 Location: 640 SDG No.: SOIL Matrix: (soil/water) Lab Sample ID: MB Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB010375.D Level: (low/med) MED Date Received: 11/8/01 % Moisture: not dec. 0 Date Analyzed: 11/9/01 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	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	Ü
127-18-4	Tetrachloroethene	100	Ū
591-78-6	2-Hexanone	200	Ü
124-48-1	Dibromochloromethane	200	Ŭ
108-90-7	Chlorobenzene	100	Ü
100-30-7	Ethylbenzene	200	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

MB 9Nov01

Lab Name: **FMETL** Project: 010001 NJDEP#: 13461 Case No.: 16567 SDG No.: Location: 640 SOIL Matrix: (soil/water) Lab Sample ID: MB Sample wt/vol: (g/ml) G Lab File ID: 10.0 VB010375.D Level: (low/med) MED Date Received: 11/8/01 % Moisture: not dec. Date Analyzed: 11/9/01 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	g/L or ug/Kg)	UG/KG	<u> </u>	Q
1330-20-7	m+p-Xylenes			300	U
95-47-6	o-Xylene			200	U
100-42-5	Styrene			200	U
75-25-2	Bromoform			200	U
79-34-5	1,1,2,2-Tetrachloroeth	ane		200	U
541-73-1	1,3-Dichlorobenzene			300	U
106-46-7	1,4-Dichlorobenzene			300	U
95-50-1	1,2-Dichlorobenzene			300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID.
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Lab Name:	FMETL		Project:	010001		IMD 3140	1001
NJDEP#:	13461	Case No.: 165	67 Locat	ion: <u>640</u>	_ SD	G No.:	
Matrix: (soil/	water)	SOIL		ab Sample	∍ ID: <u>N</u>	ИВ	
Sample wt/v	ol:	10.0 (g/ml) G		.ab File ID:	<u> </u>	/B010375.D	
Level: (low/i	med)	MED	Į	Date Recei	ved: 1	1/8/01	
% Moisture:	not dec.	0		Date Analyz	zed: 1	1/9/01	
GC Column:	RTX5	02. ID: <u>0.25</u> (mm)	i	Dilution Fac	ctor: 1	1.0	
Soil Extract \	Volume:	25000 (uL)	•	Soil Aliquot	Volum	ne: 125	(uL)
Number TIC	s found:	0	CONCENTR (ug/L or ug/K		ITS: /KG		
CAS NO.		COMPOUND NAME		RT	EST	. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

640-1 Lab Name: **FMETL** Project: 010001 NJDEP#: 13461 Location: 640 SDG No.: Case No.: 16567 Lab Sample ID: 1656701 SOIL Matrix: (soil/water) Lab File ID: Sample wt/vol: 10.5 (g/ml) G VB010377.D Level: (low/med) MED Date Received: 11/8/01 % Moisture: not dec. 22.26 Date Analyzed: 11/9/01 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	860	U
107131	Acrylonitrile	860	U
75650	tert-Butyl alcohol	1600	· U
1634044	Methyl-tert-Butyl ether	370	U
108203	Di-isopropyl ether	240	U
75718	Dichlorodifluoromethane	490	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	370	U
74-83-9	Bromomethane	240	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	240	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	240	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	1500	
156-60-5	trans-1,2-Dichloroethene	240	U
75-34-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U
156-59-2	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
71-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	240	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	240	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
124-48-1	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	240	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	240	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	240	U
79-00-5	1,1,2-Trichloroethane	240	U
127-18-4	Tetrachloroethene	120	U
591-78-6	2-Hexanone	240	Ū
124-48-1	Dibromochloromethane	240	U
108-90-7	Chlorobenzene	120	Ü
100-41-4	Ethylbenzene	240	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Lab Name:	FMETL			Project:	010001	640-1	
NJDEP#:	13461		Case No.: 16567	Locatio	on: 640 S	DG No.:	
Matrix: (soil/\	water)	SOIL		La	ab Sample ID:	1656701	
Sample wt/v	ol:	10.5	(g/ml) <u>G</u>	La	ab File ID:	VB010377.D	
Level: (low/r	ned)	MED		Da	ate Received:	11/8/01	
% Moisture:	not dec.	22.26		Da	ate Analyzed:	11/9/01	
GC Column:	RTX50	02. ID:	0.25 (mm)	Di	lution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	So	oil Aliquot Volu	ıme: <u>12</u> 5	(uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	370	U
95-47-6	o-Xylene	240	U
100-42-5	Styrene	240	U
75-25-2	Bromoform	240	U
79-34-5	1,1,2,2-Tetrachloroethane	240	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Lab Name:	FMETL		Pro	ject:	010001		640-	5
NJDEP#:	13461	Case No.:	16567 L	.ocatio	n: 640	SDO	3 No.:	
Matrix: (soil/	water)	SOIL		La	b Sample	ID: 1	656705	
Sample wt/ve	ol:	9.9 (g/ml)	<u>G</u>	La	b File ID:	V	B010381.D)
Level: (low/r	ned)	MED		Da	te Receiv	ed: 1	1/8/01	
% Moisture:	not dec.	27.1		Da	te Analyz	ed: <u>1</u>	1/9/01	
GC Column:	RTX5	02. ID: <u>0.25</u> (r	nm)	Dil	ution Fac	tor: 1	.0	
Soil Extract \	√olume:	25000 (uL)		So	il Aliquot	Volum	e: 125	(uL)
Number TICs	s found:	1	CONCE (ug/L or		rion uni ug/			
CAS NO.		COMPOUND NA	ME		RT	EST.	CONC.	Q
1.		unknown			34.45		1500	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab II)
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Lab Name:	FMETL			Project:	010001	FD	
NJDEP#:	13461		Case No.: 16567	 Locatio	n: 640 S	BDG No.:	
Matrix: (soil/v	vater)	SOIL		La	b Sample ID:	1656706	
Sample wt/vo	ol:	10.0	(g/ml) G	_ La	b File ID:	VB010382.D	_
Level: (low/n	ned)	MED		Da	ate Received:	11/8/01	_
% Moisture: r	not dec.	25.74		Da	ate Analyzed:	11/9/01	_
GC Column:	RTX50	02. ID:	0.25 (mm)	Di	lution Factor:	1.0	-
Soil Extract V	/olume:	25000	(uL)	So	oil Aliquot Volu	ume: 125	(uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	950	U
107131	Acrylonitrile	950	U
75650	tert-Butyl alcohol	1800	U
1634044	Methyl-tert-Butyl ether	410	U
108203	Di-isopropyl ether	270	U
75718	Dichlorodifluoromethane	540	U
74-87-3	Chloromethane	140	U
75-01-4	Vinyl Chloride	410	U
74-83-9	Bromomethane	270	U
75-00-3	Chloroethane	410	U
75-69-4	Trichlorofluoromethane	270	U
75-35-4	1,1-Dichloroethene	140	U
67-64-1	Acetone	270	U
75-15-0	Carbon Disulfide	140	U
75-09-2	Methylene Chloride	270	J
156-60-5	trans-1,2-Dichloroethene	270	U
75-34-3	1,1-Dichloroethane	140	U
108-05-4	Vinyl Acetate	410	U
78-93-3	2-Butanone	410	U
156-59-2	cis-1,2-Dichloroethene	140	U
67-66-3	Chloroform	140	U
71-55-6	1,1,1-Trichloroethane	140	U
56-23-5	Carbon Tetrachloride	270	U
71-43-2	Benzene	140	U
107-06-2	1,2-Dichloroethane	270	U
79-01-6	Trichloroethene	140	U
78-87-5	1,2-Dichloropropane	. 140	U
124-48-1	Bromodichloromethane	140	U
110-75-8	2-Chloroethyl vinyl ether	270	U
10061-01-5	cis-1,3-Dichloropropene	140	U
108-10-1	4-Methyl-2-Pentanone	270	U
108-88-3	Toluene	140	U
10061-02-6	trans-1,3-Dichloropropene	270	U
79-00-5	1,1,2-Trichloroethane	270	U
127-18-4	Tetrachloroethene	140	U
591-78-6	2-Hexanone	270	U
124-48-1	Dibromochloromethane	270	U
108-90-7	Chlorobenzene	140	Ū
100-41-4	Ethylbenzene	270	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

FD Lab Name: **FMETL** Project: 010001 NJDEP#: Case No.: 16567 Location: 640 SDG No.: 13461 Lab Sample ID: 1656706 Matrix: (soil/water) SOIL Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB010382.D Date Received: 11/8/01 Level: (low/med) MED 25.74 Date Analyzed: 11/9/01 % Moisture: not dec.

GC Column: RTX502. ID: 0.25 (mm)

Dilution Factor: 1.0

UG/KG

Soil Extract Volume: 25000

CAS NO.

) (uL)

COMPOUND

Soil Aliquot Volume: 125 (uL)

Q

CONCENTRATION UNITS:

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	410	U
95-47-6	o-Xylene	270	U
100-42-5	Styrene	270	U
75-25-2	Bromoform	270	U
79-34-5	1,1,2,2-Tetrachloroethane	270	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID.
Lab	IU.

Lab Name:	FMETL			Project:	010001	FD	
NJDEP#:	13461		Case No.: 16567	Locatio	n: <u>640</u> S	DG No.:	
Matrix: (soil/v	water)	SOIL		La	b Sample ID:	1656706	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	La	b File ID:	VB010382.D	_
Level: (low/n	ned)	MED	<u> </u>	Da	ate Received:	11/8/01	_
% Moisture:	not dec.	25.74	· 	Da	ate Analyzed:	11/9/01	_
GC Column:	RTX50	02. ID:	0.25 (mm)	Di	lution Factor:	1.0	_
Soil Extract V	/olume:	25000	(uL)	Sc	oil Aliquot Volu	ıme: 125	- (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/KG

Number TICs found: 10

		1		1
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 005911-04-6	Nonane, 3-methyl-	28.21	7900	JN
2.	unknown	28.63	5900	J
3.	unknown	29.09	20000	J
4.	unknown	30.16	7500	J
5. 001678-93-9	Cyclohexane, butyl-	32.28	6800	JN
6.	unknown	32.90	6000	J
7. 001074-43-7	Benzene, 1-methyl-3-propyl-	33.47	11000	JN
8.	unknown	33.64	8700	J
9.	unknown	33.76	8100	J
10.	unknown	34.54	6800	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Lab Name:	FMETL			Project:	010001	ТВ	
NJDEP#:	13461		Case No.: 16567	Locatio	n: <u>640</u> S	DG No.:	
Matrix: (soil/v	water)	SOIL		La	ıb Sample ID:	1656707	
Sample wt/vo	ol:	10.0	(g/ml) G	La	ıb File ID:	VB010383.D	
Level: (low/r	ned)	MED	·	Da	ate Received:	11/8/01	
% Moisture: ı	not dec.	0		Da	ate Analyzed:	11/9/01	
GC Column:	RTX5	02. ID:	0.25 (mm)	Di	lution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	Sc	oil Aliquot Volu	ıme: <u>125</u>	(uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	J
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	J
75-01-4	Vinyl Chloride	300	J
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
156-59-2	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	Ų
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	, Ū
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	Ū
108-90-7	Chlorobenzene	100	Ŭ
100-41-4	Ethylbenzene	200	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Q

ТВ Lab Name: **FMETL** Project: 010001 SDG No.: NJDEP#: 13461 Case No.: 16567 Location: 640 SOIL Lab Sample ID: 1656707 Matrix: (soil/water) Lab File ID: Sample wt/vol: 10.0 (g/ml) G VB010383.D Level: (low/med) MED Date Received: 11/8/01 % Moisture: not dec. 0 Date Analyzed: 11/9/01 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Aliquot Volume: 125 Soil Extract Volume: 25000 (uL) (uL)

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	Ū
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1.2-Dichlorobenzene	300	U

COMPOUND

CAS NO.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID.
Lab	ID

Lab Name:	FMETL				Project:	010001	ТВ	
NJDEP#:	13461		Case No.:	16567	Locatio	n: <u>640</u> S	DG No.:	
Matrix: (soil/w	ater)	SOIL			La	b Sample ID:	1656707	
Sample wt/vo	l:	10.0	(g/ml)	G	_ La	b File ID:	VB010383.D	
Level: (low/m	ned)	MED			Da	ite Received:	11/8/01	
% Moisture: n	ot dec.	0			Da	te Analyzed:	11/9/01	
GC Column:	RTX50	02. ID:	<u>0.25</u> (n	nm)	[.] Di	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)		Sc	oil Aliquot Volu	ıme: <u>125</u>	(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/KG

Number TICs found: 10

		 		
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	27.86	5200	J
2.	unknown	29.68	3100	J
3.	unknown	31.08	3700	J
4.	unknown	31.62	4800	J
5.	unknown	32.41	5200	J
6.	unknown	33.23	3700	J
7.	unknown	33.40	2400	J
8.	unknown	34.11	3700	J
9.	unknown	34.46	7600	J
10.	unknown	34.59	4700	J

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

 Lab Name:
 FMETL
 Project:
 010001

 NJDEP#:
 13461
 Case No.:
 16567
 Location:
 640
 SDG No.:

 Lab File ID:
 VB010373.D
 BFB Injection Date:
 11/9/01

 Instrument ID:
 GCMS#2
 BFB Injection Time:
 10:42

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	15.6
75	30.0 - 66.0% of mass 95	51.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	86.4
175	4.0 - 9.0% of mass 174	7.6 (8.8)1
176	93.0 - 101.0% of mass 174	83.5 (96.7)1
177	5.0 - 9.0% of mass 176	5.1 (6.1)2

1-Value is % mass 174

2-Value is % mass 176

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

ſ		LAB	LAB	DATE	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010374.D	11/9/01	11:11
02	MB 9NOV01	MB	VB010375.D	11/9/01	12:04
03	640-1	1656701	VB010377.D	11/9/01	13:41
04	640-2	1656702	VB010378.D	11/9/01	14:22
05	640-3	1656703	VB010379.D	11/9/01	15:03
06	640-4	1656704	VB010380.D	11/9/01	15:44
07	640-5	1656705	VB010381.D	11/9/01	16:25
08	FD	1656706	VB010382.D	11/9/01	17:06
09	TB	1656707	VB010383.D	11/9/01	17:47
10	640-5 MS	1656705 MS	VB010384.D	11/9/01	18:28
11	640-5 MSD	1656705 MSD	VB010385.D	11/9/01	19:09

Data File : C:\HPCHEM\1\DATA\011109\VB010373.D

Acq On : 9 Nov 2001 10:42 am

: BFB Tune

Vial: 1 Operator: Skelton Inst : GC VOA 2

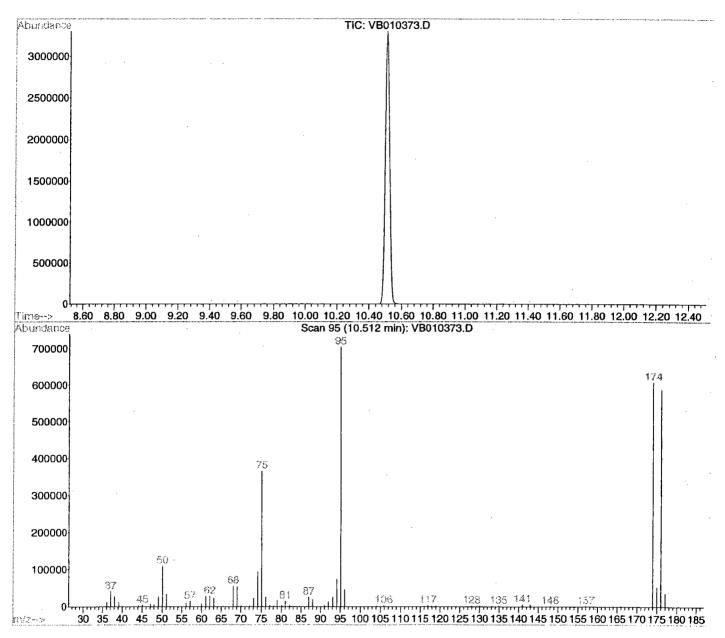
Multiplr: 1.00

: BFB Tune MS Integration Params: TBA.P

Sample

Misc

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 95

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
Ī	50	95	15	40	15.6	110280	PASS
	75	95	30	60	51.9	366016	PASS
	95	95	100	100	100.0	705344	PASS
İ	96	95	5	9	6.6	46640	PASS
- }	173	174	0.00	2	0.0	0	PASS
İ	174	95	50	100	86.4	609216	PASS
-	175	174	5	9	8.8	53472	PASS
	176	174	95	101	96.7	588864	PASS
	177	176	5	. 9	6.1	36104	PASS

Evaluate Continuing Calibration Report

Vial: 2

Data File : C:\HPCHEM\1\DATA\011109\VB010374.D

: 9 Nov 2001 11:11 am Operator: Skelton Inst : GC VOA 2 Acq On : Vstd020 Sample Misc : Vstd020 Multiplr: 1.00

MS Integration Params: TBA.P

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Nov 09 12:28:31 2001

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev Area% Dev(min)
1 t t t t t T P T T T T T T T T T T T T T	Bromochloromethane Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl ether Di-isopropyl ether Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Trichlorofluoromethane Trichlorofluoromethane 1,1-Dichloroethene Acetone Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate 2-Butanone cis-1,2-Dichloroethene Chloroform	1.000 0.212 0.709 0.132 4.909 1.413 2.522 2.439 2.453 1,356 1.297 3.761 2.821 0.772 5.318 1.852 2.484 2.843 3.397 0.768 2.495 3.142	1.000 0.260 0.810 0.174 5.782 1.680 1.985 2.384 2.419 1.343 1.398 3.868 3.302 0.842 5.503 2.062 2.882 3.501 4.278 0.953 2.949 3.632	0.0 72 0.00 -22.6 105 0.00
23 T 24 T 25 S	1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane-d4	2.597 2.153 2.334	3.058 2.637 2.389	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
26 I 27 TM 28 T 29 TM 30 TC 31 T 32 T 33 T 34 T 35 S 36 TCM	1,4-Difluorobenzene Benzene 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone Toluene-d8 Toluene	1.000 1.023 0.377 0.290 0.252 0.310 0.096 0.370 0.076 1.143 1.137	1.000 1.154 0.438 0.342 0.302 0.361 0.111 0.436 0.096 1.215 1.326	0.0 73 0.00 -12.8 98 0.00 -16.2 100 0.00 -17.9 101 0.00 -19.8 104 0.00 -16.5 100 0.00 -15.6 102 0.00 -17.8 104 0.00 -26.3# 104 0.00 -6.3 77 0.00 -16.6 99 0.00
37 I 38 T 39 T 40 T 41 T 42 T 43 TMP 44 TC 45 T 46 T 47 T 7 S 7 TP 51 T 52 T 53 T	Chlorobenzene-d5 trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	0.850 1.180	1.000 1.452 0.939 1.263 0.636 0.887 3.111 5.419 1.920 4.114 3.417 0.481 1.735 1.189 2.587 2.732 2.755	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$

^{(#) =} Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011109\VB010374.D

: 9 Nov 2001 11:11 am : Vstd020 : Vstd020 Acq On

Vial: 2 Operator: Skelton

Sample

Inst : GC VOA 2

Misc

Multiplr: 1.00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Nov 09 12:28:31 2001

Response via : Multiple Level Calibration

0.050 Min. Rel. Area : 25% Max. R.T. Dev 0.50min 25% Max. Rel. Area : 200% Min. RRF : 0.0 Max. RRF Dev : 25%

	Compound	AvgRF	CCRF		Dev(min)
54 t	Napthalene		4.361	-17.6	0.00

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		_ Project:	010001	_
NJDEP#:	13461	Case No.: 16567	Locatio	n: <u>640</u> S	DG No.:
Lab File ID:	VB010244.	<u>.</u>	BF	B Injection Da	ate: 10/24/01
Instrument II	D: GCMS#2		BF	B Injection Ti	me: <u>14:50</u>
GC Column:	RTX502.2	D: 0.25 (mm)	He	eated Purge: (Y/N) N

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	15.4
75	30.0 - 66.0% of mass 95	48.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	84.8
175	4.0 - 9.0% of mass 174	6.7 (7.8)1
176	93.0 - 101.0% of mass 174	83.1 (98.0)1
177	5.0 - 9.0% of mass 176	5.7 (6.9)2

¹⁻Value is % mass 174

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

ſ		LAB	LAB	DATE	TIME
ľ	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010245.D	10/24/01	15:18
02	VSTD100	VSTD100	VB010246.D	10/24/01	16:12
03	VSTD050	VSTD050	VB010247.D	10/24/01	16:57
04	VSTD010	VSTD010	VB010248.D	10/24/01	17:42
05	VSTD005	VSTD005	VB010249.D	10/24/01	18:26

²⁻Value is % mass 176

Data File : C:\HPCHEM\1\DATA\011024\VB010244.D

: 24 Oct 2001 2:50 pm Acq On

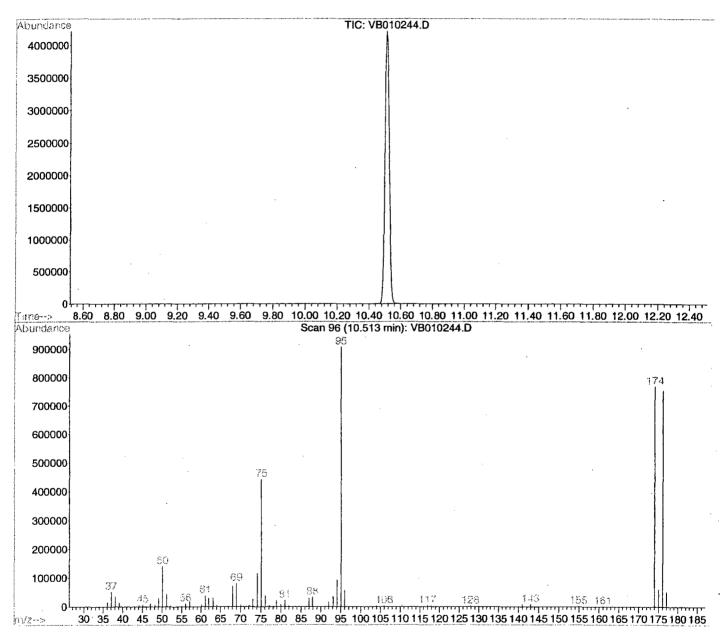
Sample : BFB Tune Misc : BFB Tune

Vial: 1

Operator: Skelton : GC VOA 2 Inst Multiplr: 1.00

MS Integration Params: TBA.P

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title



Spectrum Information: Scan 96

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
Ī	50	95	15	40	15.4	139904	PASS
1	75	95	30	60	48.7	442432	PASS
	95	95	100	100	100.0	908672	PASS
ı	96	95	5	9	6.3	57112	PASS
	173	174	0.00	2	0.0	0	PASS
İ	174	95	50	100	84.8	770432	PASS
-	175	174	5	9	7.8	60448	PASS
ı	176	174	95	101	98.0	755200	PASS
ŀ	177	176	5	9	6.9	51944	PASS
'		•	•		· 		<u> </u>

Response Factor Report GC VOA 2

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Nov 09 12:28:31 2001
Response via : Initial Calibration

Calibration Files

100 =VB010246.D 50 =VB010247.D ' =VB010245.D

10 =VB010248.D 5 =VB010249.D

		Compound	100	50	20	10	5	Avg	%RSD
	Ι	Bromochloromethane							
2)		Acrolein					0.230		10.43
3) 4)		Acrylonitrile tert-Butyl alcohol					0.782 0.139		$10.44 \\ 10.92$
5)		Methyl-tert-Butyl eth							10.74
6)	t	Di-isopropyl ether	1.585	1.430	1.150	1.492	1.409	1.413	11.47
7)	T_	Dichlorodifluorometha							9.31
8)	TP	Chloromethane					2.739 2.712		12.47
9) 10)	TC T	Vinyl Chloride Bromomethane					1.711		11.65 16.89
11)	T	Chloroethane					1.404		9.57
12)	${f T}$	Trichlorofluoromethan	4.027	3.675	3.129	3.933	4.039	3.761	10.16
13)	MC	1,1-Dichloroethene					2.908		10.81
14)	T	Acetone					1.163		31.18
15) 16)	T T	Carbon Disulfide Methylene Chloride					5.624 2.096		10.82 12.68
17)	Ť	trans-1,2-Dichloroeth							12.40
18)	TP	1,1-Dichloroethane	3.070	2.789	2.474	2.948	2.937	2.843	8.07
19)	T	Vinyl Acetate					3.091		13.05
20)	T	2-Butanone					0.780		6.33
21)	T TC	cis-1,2-Dichloroethen Chloroform					3.474		12.15 10.89
23)	T	1,1,1-Trichloroethane							9.92
24)	${f T}$	Carbon Tetrachloride	2.459	2.206	1.799	2.229	2.074	2.153	11.22
25)	S	1,2-Dichloroethane-d4	2.218	2.370	2.311	2.358	2.413	2.334	3.18
26)	I	1,4-Difluorobenzene				:mp			
27)	TM	Benzene					1.097		10.14
28)	T	1,2-Dichloroethane	0.401	0.358	0.319	0.407	0.401	0.377	10.05
29)	TM	Trichloroethene					0.304		9.82
30)	TC	1,2-Dichloropropane					0.268		10.17
31) 32)	T T	Bromodichloromethane 2-Chloroethyl vinyl e					0.309		10.36 11.01
33)	T	cis-1,3-Dichloroprope							12.28
34)	T	4-Methyl-2-Pentanone					0.073		9.38
35)	S	Toluene-d8					1.153		0.69
36)	TCM	Toluene	1.171	1.096	0.976	1.210	1.230	1.137	9.10
37)	I	Chlorobenzene-d5			TS	STD			
38)	$\overline{\mathbf{T}}$	trans-1,3-Dichloropro							14.70
39)	T	1,1,2-Trichloroethane	0.918	0.823	0.732	0.910	0.869	0.850	8.96
40)	\mathbf{T}							1.180	11.54
41)	T	2-Hexanone					0.484		10.70
42) 43)	T	Dibromochloromethane Chlorobenzene					0.760 2.919		13.01 8.63
44)	TC	Ethylbenzene					5.087		8.81
45)	T	m+p-Xylenes					1.795		9.15
46)	\mathbf{T}	o-Xylene	4.001	3.672	3.146	3.933	3.849	3.720	9.24
47)	\mathbf{T}	Styrene					3.066		8.89
48)	TP	Bromoform					0.406		22.74
49)	S	Bromofluorobenzene					1.628		2.20
50) 51)	${f TP}$	1,1,2,2-Tetrachloroet 1,3-Dichlorobenzene					2.537		9.60 9.93
(2)	T	1,4-Dichlorobenzene					2.681		10.29
ź3)	T	1,2-Dichlorobenzene					2.516		9.97
54)	t	Napthalene	3.928	3.809	3.064	3.989	3.747	3.707	10.04
		·							

VOLATILE METHOD BLANK SUMMARY

Lab ID.

Lab Name:	FMETL		Project:	010001	MB 9Nov01
NJDEP#:	13461	Case No.: 16567	Locatio	n: 640 SI	DG No.:
Lab File ID:	VB010375.	D .	La	ib Sample ID:	MB
Date Analyze	ed: 11/9/01	· 	Ti	me Analyzed:	12:04
GC Column:	RTX502. ID	: <u>0.25</u> (mm)	Н	leated Purge: (Y/N) <u>N</u>
Instrument ID	D: GCMS#2				

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

	Lab ID.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	640-1	1656701	VB010377.D	13:41
02	640-2	1656702	VB010378.D	14:22
03	640-3	1656703	VB010379.D	15:03
04	640-4	1656704	VB010380.D	15:44
05	640-5	1656705	VB010381.D	16:25
06	FD	1656706	VB010382.D	17:06
07	TB	1656707	VB010383.D	17:47
08	640-5 MS	1656705 MS	VB010384.D	18:28
09	640-5 MSD	1656705 MSD	VB010385.D	19:09

COMMENTS:				

2B SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Project Lab Name: **FMETL** 10001 Case No.: 16567 640 13461 Location NJDEP#

EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB
MB	101.0	105.0	101.0
640-1	114.3	95.0	101.3
640-2	124.7	100.0	87.3
640-3	125.3	101.3	109.0
640-4	111.7	95.7	84.0
640-5	114.0	99.3	100.7
FD	123.3	105.3	115.0
TB	129.3	108.0	101.3

SMC1 1,2-DCE-d4

1,2-Dichloroethane-d4

SMC2 Tol-d8

Toluene-d8

SMC3 BFB

Bromofluorobenzene

D System Monitoring Compounds diluted out

Spike Recovery and RPD Summary Report - Soil

Method

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Nov 09 12:28:31 2001
Response via : Initial Calibration

Non-Spiked Sample: VB010383.D

Spike	
Sample	

Spike Duplicate Sample

VB010385.D

File ID: VB010384.D Sample: 1656705 MS Acq Time: 9 Nov 2001 6:28 pm

1656705 MSD 9 Nov 2001

7:09 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene	0.0 0.0 0.0 0.0	20 20 20 20 20 20	25 24 24 24 23	25 24 24 24 22	126 118 122 120 117	127 118 120 121 112	0 0 1 1 5	22 21 24 21 21	59-172 66-142 62-137 59-139 60-133

^{# -} Fails Limit Check

M262NAP.M

Fri Nov 16 10:46:30 2001

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

 Lab Name:
 FMETL
 Project:
 010001

 NJDEP#:
 13461
 Case No.:
 16567
 Location:
 640
 SDG No.:

 Lab File ID (Standard):
 VB010374.D
 Date Analyzed:
 11/9/01

Instrument ID: GCMS#2 Time Analyzed: 11:11

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

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	452351	16.76	3143900	19.49	878614	27.33
	UPPER LIMIT	904702	17.26	6287800	19.99	1757228	27.83
[LOWER LIMIT	226176	16.26	1571950	18.99	439307	26.83
ĺ							
]	Lab ID.						
01	MB 9NOV01	446112	16.76	3153629	19.49	875141	27.32
02	640-1	427313	16.76	3237418	19.48	884862	27.32
03	640-2	427614	16.77	3284846	19.48	1061378	27.33
04	640-3	414098	16.77	3264066	19.48	878234	27.33
05	640-4	420786	16.76	3180182	19.48	980623	27.33
06	640-5	421412	16.76	3133009	19.48	878703	27.33
07	FD	416736	16.76	3141072	19.48	862214	27.32
08	ТВ	417069	16.77	3139149	19.48	932757	27.33
09	640-5 MS	412839	16.76	3170448	19.48	852469	27.32
10	640-5 MSD	416894	16.77	3149568	19.48	889095	27.33

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

(QT Reviewed)

Data File: C:\HPCHEM\1\DATA\011109\VB010375.D

Acq On : 9 Nov 2001 12:04 pm Sample : MB

: MB

Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00

Vial: 2

MS Integration Params: TBA.P J Quant Time: Nov 9 12:44 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Nov 09 12:28:31 2001
Response via : Initial Calibration

DataAcq Meth : M262NAP

Sample

Misc

Internal Standards	R.T. QIon	Response Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.76 128 19.49 114 27.32 119	446112 30.00 3153629 30.00 875141 30.00	ug/L 0.00
System Monitoring Compounds			
25) 1,2-Dichloroethane-d4	18.36 65	1056212 30.43	ug/L 0.00
Spiked Amount 30.000	Range 70 - 123	Recovery =	101.43%
35) Toluene-d8	23.50 98	3776025 31.42	ug/L 0.00
Spiked Amount 30.000	Range 81 - 117	Recovery =	104.73%
49) Bromofluorobenzene	30.34 95	1469950 30.17	ug/L 0.00
Spiked Amount 30.000	Range 74 - 121	Recovery =	100.57%

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA\011109\VB010375.D

Vial: 2 : 9 Nov 2001 12:04 pm

Sample : MB Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00

Misc : MB

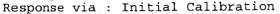
Acq On

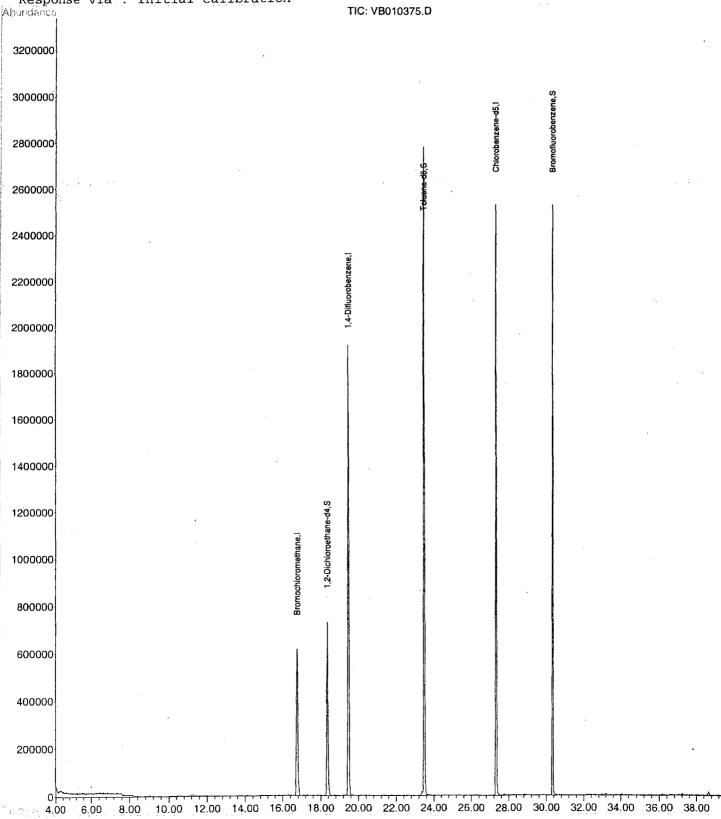
MS Integration Params: TBA.P Quant Time: Nov 9 12:44 2001

Ouant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Fri Nov 09 12:28:31 2001





(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\VB010377.D

Acq On : 9 Nov 2001 1:41 pm

Vial: 1 Operator: Skelton

: 1656701 Sample Misc : 640-1

Inst : GC VOA 2

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 13 14:15 2001

Quant Results File: M262NAP.RES

Quant Method: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Fri Nov 09 12:28:31 2001 Response via : Initial Calibration DataAcq Meth : M262NAP

Internal Standards		R.T.	QIon	Response	Conc U	nits	Dev(Min)
1) Bromochloromet 26) 1,4-Difluorobe	enzene -	16.76 19.48	114	3237418	30.00	_	
37) Chlorobenzene-	-d5	27.32	119	884862	30.00	ug/L	0.00
System Monitoring (
25) 1,2-Dichloroet				3717300			
Spiked Amount	30.000			1 Recov			
35) Toluene-d8		23.50	98	11643815	94.37	ug/L	0.00
Spiked Amount	30.000	Range 81	. – 11'	7 Recov	ery =	314.	578#
49) Bromofluorober	nzene	30.34	95	4936678	100.21	ug/L	0.00
Spiked Amount	30.000	Range 74	- 12	1 Recov	ery =	334.	03%#
Target Compounds		11 0	. 04	226765	10.20	/-	Qvalue
16) Methylene Chlo	oriae	11.26	84	326765m	12.39	ug/L	

^{(#) =} qualifier out of range (m) = manual integration VB010377.D M262NAP.M Fri Nov 16 10:35:40 2001

Data File : C:\HPCHEM\1\DATA\011109\VB010377.D

Acq On : 9 Nov 2001 1:41 pm

Vial: 1
Operator: Skelton
Inst : GC VOA 2

Sample : 1656701 Misc : 640-1

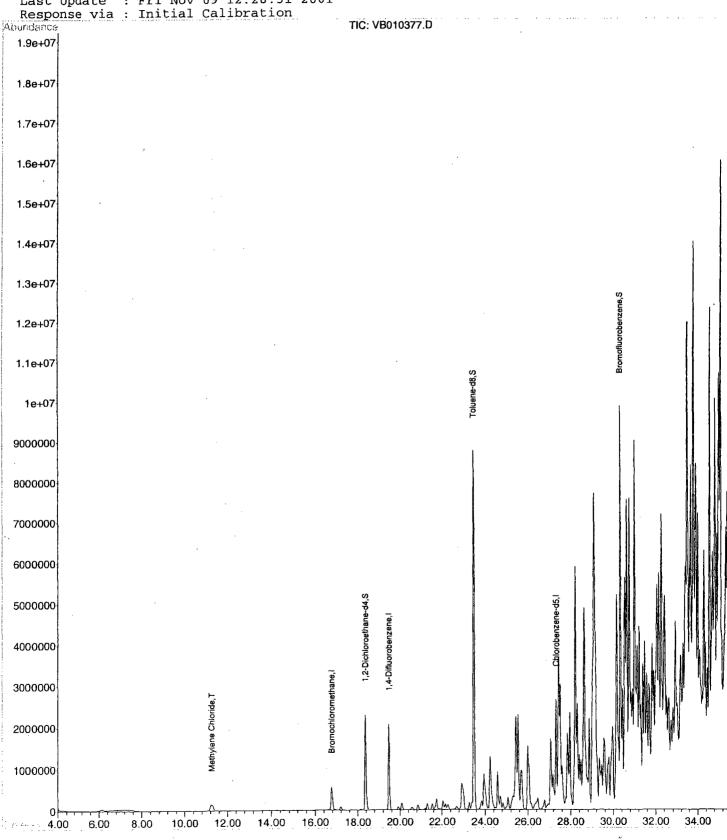
Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 13 14:15 2001

Quant Results File: M262NAP.RES

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Fri Nov 09 12:28:31 2001



(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\VB010378.D

Vial: 2 Operator: Skelton

Acq On : 9 Nov 2001 2:22 pm Sample : 1656702 Misc : 640-2

Inst : GC VOA 2

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 16 10:32 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Nov 09 12:28:31 2001
Response via : Initial Calibration

DataAcq Meth: M262NAP

Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene	16.77 19.48	128 114	427614 3284846	30.00	_	
37) Chlorobenzene-d5	27.33	119	1061378	30.00		
System Monitoring Compounds						
25) 1,2-Dichloroethane-d4	18.37	65	4033430	121.24	ug/L	0.00
Spiked Amount 30.000	Range 70	- 121	Recove	ery =	404.	138#
35) Toluene-d8	23.50	98	12411764	99.14	ug/L	0.00
Spiked Amount 30.000	Range 81	- 117	Recove	ery =	330.	478#
49) Bromofluorobenzene	30.34	.95	5178747	87.64	ug/L	0.00
Spiked Amount 30.000	Range 74	- 121	Recove	ery =	292.	13%#
Target Compounds						Qvalue
16) Methylene Chloride	11.31	84	143921m	5.45	ug/L	

Data File: C:\HPCHEM\1\DATA\011109\VB010378.D

Acq On : 9 Nov 2001 2:22 pm

Vial: 2 Operator: Skelton Inst : GC VOA 2

Sample : 1656702 Misc : 640-2

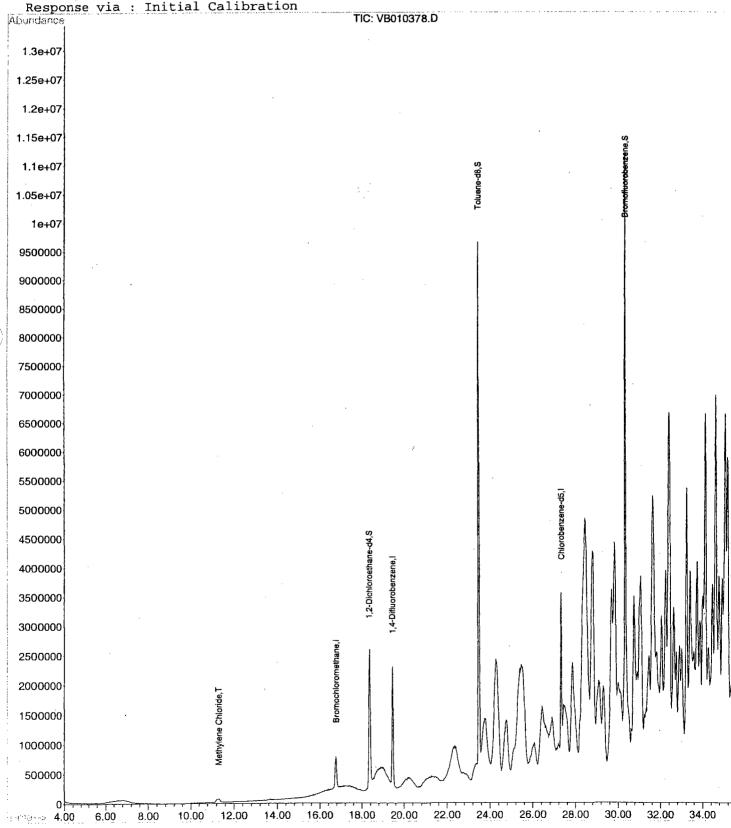
Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 16 10:32 2001

Quant Results File: M262NAP.RES

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Fri Nov 09 12:28:31 2001



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\VB010379.D

Vial: 3 Acq On : 9 Nov 2001 3:03 pm Operator: Skelton : 1656703 Sample Inst : GC VOA 2

Misc : 640-3 Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 16 10:32 2001 Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Fri Nov 09 12:28:31 2001

Response via : Initial Calibration DataAcq Meth: M262NAP

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev(Min)
1) Bromochloromethane	16.77	128	414098	30.00	ug/L	0.01
26) 1.4-Difluorobenzene	19.48	114	3264066	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.33	119	878234	30.00	ug/L	0.00
System Monitoring Compounds	40.25		2005406			
<pre>25) 1,2-Dichloroethane-d4</pre>			3927486	-	J .	_
Spiked Amount 30.000	Range 70	- 121	Recove	ery =	406.33%#	
35) Toluene-d8	23.50	98	12466143	100.21	ug/L	0.00
Spiked Amount 30.000	Range 81	- 117	Recove	ery =	334.03%#	
49) Bromofluorobenzene	30.34	95	5241374	107.20	ug/L	0.00
Spiked Amount 30.000	Range 74	- 121	Recove	ery =	357.33%#	
Target Compounds					Ova	lue
16) Methylene Chloride	11.25	84	96975	3.79	ua/L	71

Data File : C:\HPCHEM\1\DATA\011109\VB010379.D

9 Nov 2001 3:03 pm Acq On :

Vial: 3 Operator: Skelton : GC VOA 2 Inst

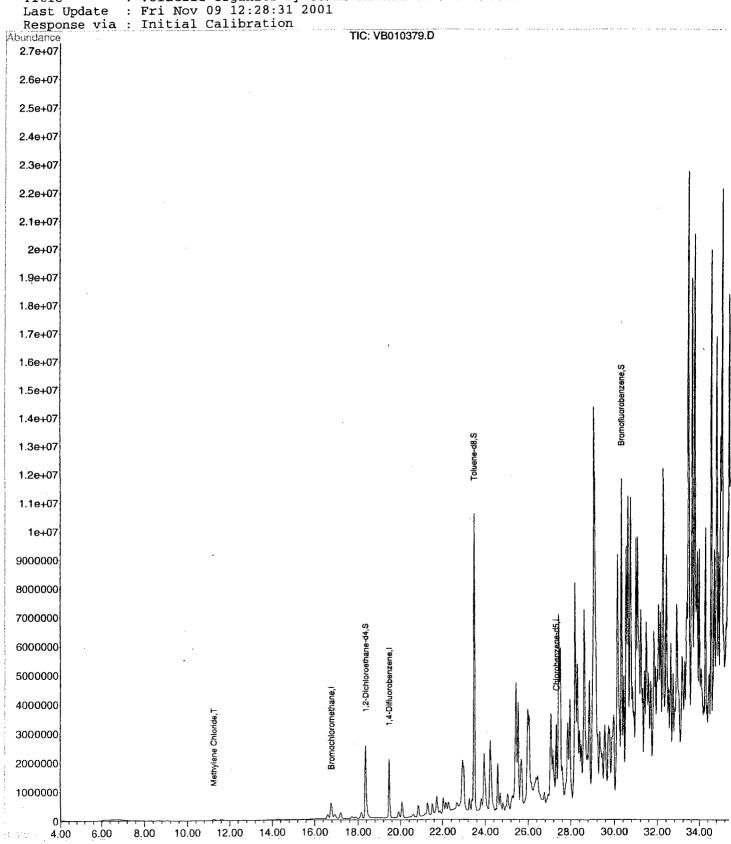
Sample : 1656703 Misc : 640-3

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 16 10:32 2001

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\VB010380.D

Vial: 4

Acq On : 9 Nov 2001 3:44 pm Operator: Skelton Sample : 1656704 Inst : GC VOA 2 Misc : 640-4 Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 16 10:33 2001 Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Nov 09 12:28:31 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T. Q	Ion Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane		128 420786	30.00	J .
26) 1,4-Difluorobenzene 37) Chlorobenzene-d5		114 3180182 119 980623	30.00	
37, chrorobellzene us	27.33	113 300023	30.00	ug/L 0.00
System Monitoring Compounds				
25) 1,2-Dichloroethane-d4	18.36	65 3587 <i>77</i> 0	109.59	ug/L 0.00
Spiked Amount 30.000	Range 70 -	121 Recove	ry =	365.30%#
35) Toluene-d8	23.50	98 11513802	94.99	ug/L 0.00
Spiked Amount 30.000	Range 81 -	117 Recove	ry =	316.63%#
49) Bromofluorobenzene	30.34	95 4611187	84.46	ug/L 0.00
Spiked Amount 30.000	Range 74 -	121 Recove	ery =	281.53%#
Target Compounds				Ovalue
16) Methylene Chloride	11.30	84 74413m	2.86	~

Data File : C:\HPCHEM\1\DATA\011109\VB010380.D

: 9 Nov 2001 : 1656704 3:44 pm Acq On

Vial: 4 Operator: Skelton Inst : GC VOA 2

Sample Misc : 640-4

Title

Multiplr: 1.00

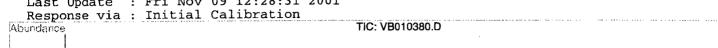
MS Integration Params: TBA.P Quant Time: Nov 16 10:33 2001

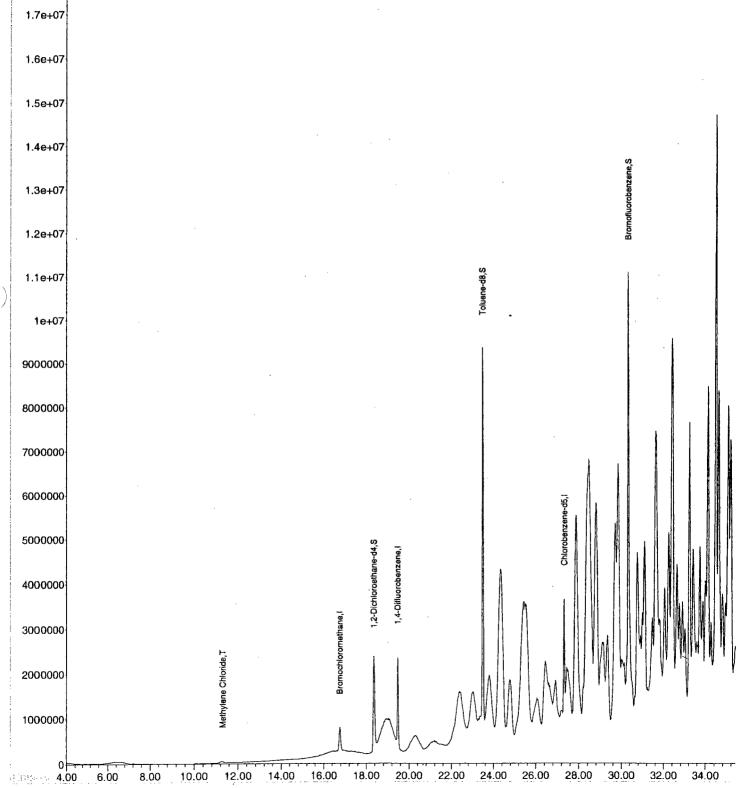
Quant Results File: M262NAP.RES

Method

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Fri Nov 09 12:28:31 2001





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\VB010381.D

Vial: 5

: 9 Nov 2001 4:25 pm : 1656705 Operator: Skelton Acq On Sample Inst : GC VOA 2 : 640-5 Multiplr: 1.00 Misc

MS Integration Params: TBA.P Quant Time: Nov 16 10:33 2001 Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Nov 09 12:28:31 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T.	QIon	Response	Conc U	nits I	Dev(Min)
1) Bromochloromethane	16.76	128	421412	30.00		0.00
<pre>26) 1,4-Difluorobenzene</pre>	19.48	114	3133009	30.00	ug/L	0.00
37) Chlorobenzene-d5	27.33	119	878703	30.00	ug/L	0.00
System Monitoring Compounds						
25) 1.2-Dichloroethane-d4	18.37	65	3659649	111.62	ug/L	0.00
Spiked Amount 30.000	Range 70		l Recove		_	
35) Toluene-d8	23.50	98	11751966	98.42	ug/L	0.00
Spiked Amount 30.000	Range 81	- 117	7 Recove	ery =	328.0)7ቄ#
49) Bromofluorobenzene	30.34	95	4865967	99.47	ug/L	0.00
Spiked Amount 30.000	Range 74	- 121	Recove	ery =	331.5	578#
Target Compounds						Ovalue ·
16) Methylene Chloride	11.27	84	61335	2.36	ug/L	59

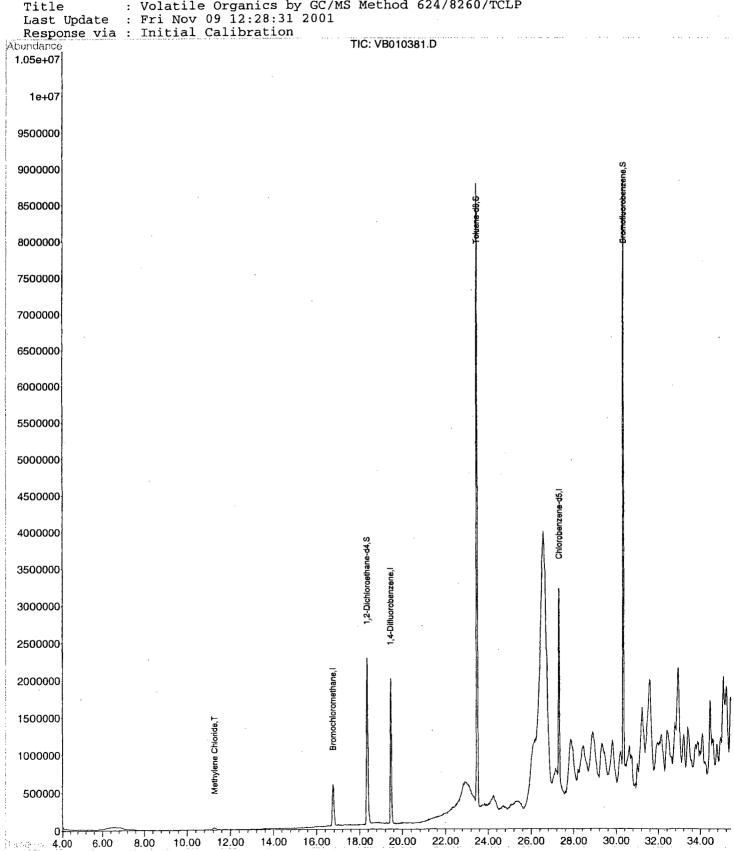
Data File : C:\HPCHEM\1\DATA\011109\VB010381.D

Acq On : 9 Nov 2001 4:25 pm Sample : 1656705 Vial: 5
Operator: Skelton
Inst : GC VOA 2
Multiplr: 1.00

Sample: 1656705 Misc: 640-5 MS Integration Params: TBA.P Quant Time: Nov 16 10:33 2001

Quant Results File: M262NAP.RES

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\VB010382.D

Vial: 6 : 9 Nov 2001 5:06 pm Operator: Skelton Acq On : 1656706 Sample Inst : GC VOA 2

Misc : FD Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 16 10:33 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Fri Nov 09 12:28:31 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T. Q	Ion Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane	16.76	128 416736	30.00	ug/L 0.00
26) 1,4-Difluorobenzene	19.48	114 3141072	30.00	ug/L 0.00
37) Chlorobenzene-d5	27.32	119 862214	30.00	ug/L 0.00
System Monitoring Compounds	10 27	65 3888603	110 02	v~/T 0 00
25) 1,2-Dichloroethane-d4				-
Spiked Amount 30.000	-	121 Recove		
35) Toluene-d8		98 12435750		
Spiked Amount 30.000	Range 81 -	117 Recove	ery =	346.27%#
49) Bromofluorobenzene	30.34	95 5400751	112.51	ug/L 0.00
Spiked Amount 30.000	Range 74 -	121 Recove	ry =	375.03%#
Target Compounds				Qvalue
16) Methylene Chloride	11.22	84 51105m	1.99	ug/L

^{(#) =} qualifier out of range (m) = manual integration * VB010382.D M262NAP.M Fri Nov 16 10:36:05 2001

Data File : C:\HPCHEM\1\DATA\011109\VB010382.D

Acq On : 9 Nov 2001 5:06 pm

Vial: 6 Operator: Skelton Inst : GC VOA 2

Sample Misc

: 1656706

Multiplr: 1.00

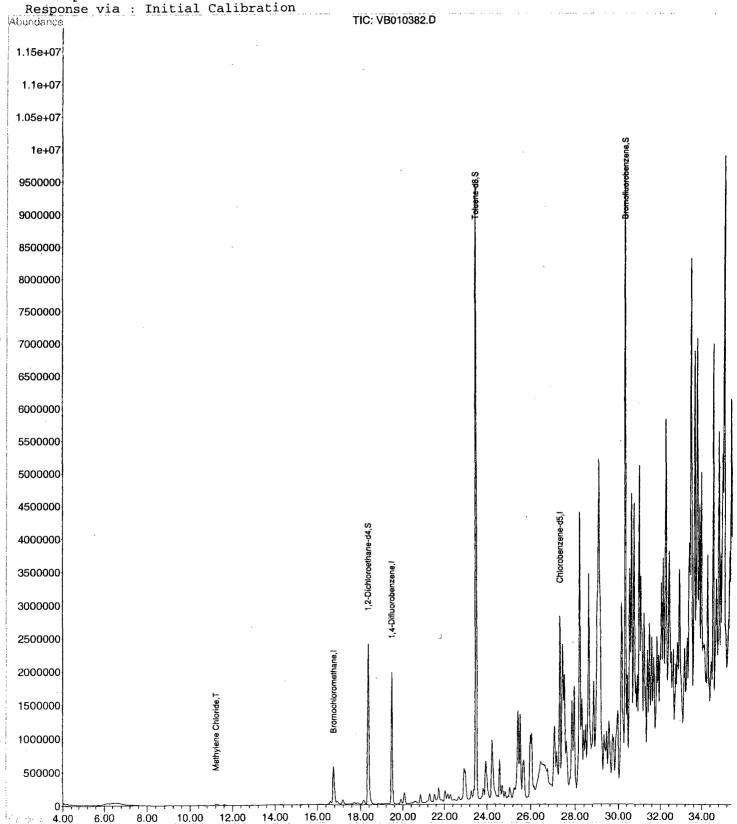
MS Integration Params: TBA.P Quant Time: Nov 16 10:33 2001

: FD

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP

Title Last Update : Fri Nov 09 12:28:31 2001



(QT Reviewed)

Data File: C:\HPCHEM\1\DATA\011109\VB010383.D

Acq On : 9 Nov 2001 Sample : 1656707 5:47 pm

Misc : TB

MS Integration Params: TBA.P Quant Time: Nov 16 10:34 2001

Operator: Skelton : GC VOA 2 Inst

Vial: 7

Multiplr: 1.00

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Fri Nov 09 12:28:31 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T. QIon Response Conc Units Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.77 128 417069 30.00 ug/L 0.01 19.48 114 3139149 30.00 ug/L 0.00 27.33 119 932757 30.00 ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	18.37 65 4064424 125.26 ug/L 0.00 Range 70 - 121 Recovery = 417.53%# 23.50 98 12702415 106.17 ug/L 0.00 Range 81 - 117 Recovery = 353.90%# 30.34 95 5201227 100.16 ug/L 0.00 Range 74 - 121 Recovery = 333.87%#

Target Compounds

Ovalue

Data File: C:\HPCHEM\1\DATA\011109\VB010383.D

Vial: 7 : 9 Nov 2001 5:47 pm Operator: Skelton Acq On Inst : GC VOA 2 Sample : 1656707

: TB Multiplr: 1.00 Misc

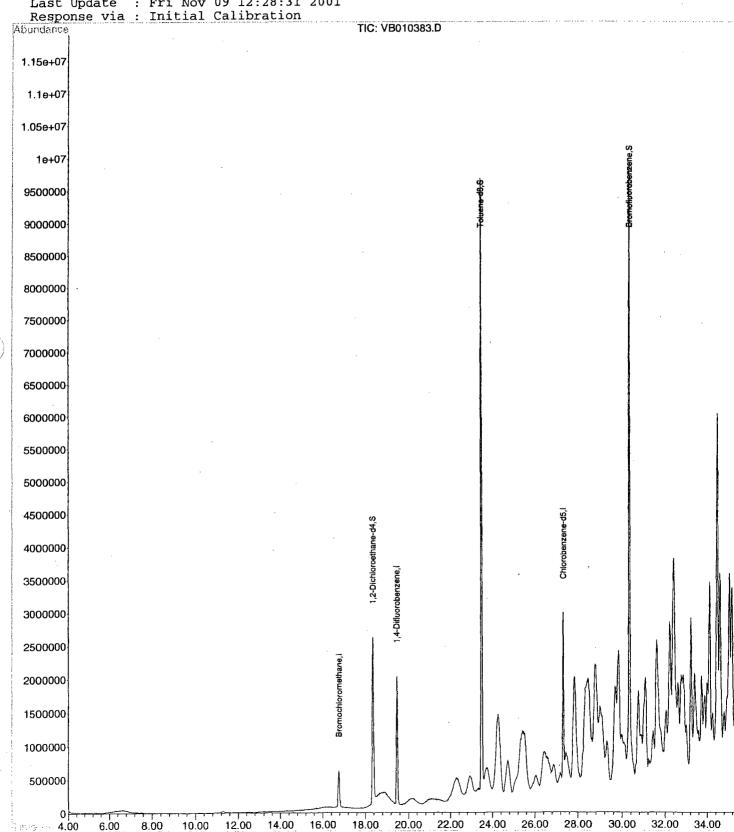
MS Integration Params: TBA.P

VB010383.D M262NAP M

Quant Results File: M262NAP.RES Quant Time: Nov 16 10:34 2001

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Fri Nov 09 12:28:31 2001



Fri. Nov 16 10:36:11 2001

000063 Page 2

TPHC

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

Client:

U.S. Army

Project #:

16567

DPW. SELFM-PW-EV

Location:

Bldg.640

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

08-Nov-01

Matrix:

Soil

Date Extracted:

08-Nov-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

09-Nov-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1656701	640-1	5.00	15.05	77.74	194	10757.05
1656702	640-2	1.00	15.24	73.95	201	287.44
1656703	640-3	1.00	15.18	73.50	203	2478.86
1656704	640-4	1.00	15.05	73.05	206	240.79
1656705	640-5	1.00	15.10	72.90	206	262.25
1656706	F.D.	1.00	15.08	74.25	202	2922.48
METHOD BLANK	MB-011108	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

2.763 2.655 2.663 2.622 2.627 2.666 E4

2.526 2.460 2.422 2.425 2.430 2.453 E4 2.197 2.275 2.148 2.199 2.178 2.199 E4

1.886 2.124 1.935 1.972 1.902 1.964 E4 2.536 2.306 2.402 2.282 2.379 2.381 E4 2.753 2.476 2.516 2.487 2.554 2.557 E4

2.654 2.507 2.538 2.504 2.538 2.548 E4

3.562 2.604 2.659 2.739 2.933 2.899 E4

2.14

1.79

2.14

4.86

4.20

4.43

2.41

13.48

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

	5	bration Files =T013655.D	100		3656.D	50	='	r01365	4.D		
	20	=T013658.D	10	=T013	3657.D						
		Compound		5	100	50	20	10	Avg		%RSD
1)	tC	C8		1.744	1.887	1.886	1.754	1.738	1.802	E4	4.30
2)	tC	C10		2.003	2.147	2.126	1.965	2.057	2.060	E4	3.79
3)	TC	C12		2.113	2.213	2.208	2.156	2.083	2.155	E4	2.66
4)	tC	C14		2.299	2.326	2.324	2.268	2.306	2.305	E4	1.02
5)	tC	C16		2.493	2.384	2.406	2.366	2.379	2.406	E4	2.12
6)	tC	C18		2.560	2.472	2.471	2.394	2.508	2.481	E4	2.44
7)	tC	C20		2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
8)	tC	C22		2.749	2.537	2.572	2.524	2.557	2.588	E4	3.55
9)	tC	C24		2.833	2.572	2.606	2.557	2.595	2.633	E4	4.31
10)	tC	C26		2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
11)	tC	C28		2.766	2.550	2.598	2.549	2.569	2.606	E4	3.51
12)	tC	C30		2.816	2.620	2.673	2.602	2.581	2.658	E4	3.56
13)	tC	C32		2.764	2.603	2.654	2.589	2.613	2.645	$\mathbf{E4}$	2.69
14)	tC	C34		2.766	2.589	2.631	2.573	2.599	2.632	E4	2.97

15) tC

16) tC

17) tC

18) tC

20) TC

21) sC

22) tC

TC

19)

C36

C38

C40

c42

Pristane

o-terphenyl

TPHC - total

Phytane

Evaluate Continuing Calibration Report

Data File: C:\HPCHEM\1\DATA\011109\T013791.D

Vial: 1 : 9 Nov 2001 10:24 am Acq On Operator: B.Patel Sample : Tstd050 Inst : GC/MS Ins Multiplr: 1.00

: 50 ppm std Misc IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

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

Max. RRF Dev : 15%

		Compound	AvgRF	CCRF	%Dev	Area% D	ev(min)
1	tC	C8	18.019	21.143 E3	-17.3	112 -	0.04
2	tC	C10	20.595	23.176 E3	-12.5	10 9	0.00
3	TC	C12	21.549	22.976 E3	-6.6	104	0.00
4	tC	C14	23.048	23.720 E3	-2.9	102	0.00
5	tC	C16	24.057	24.312 E3	-1.1	101	0.00
6	tC	C18	24.812	23.921 E3	3.6	97	0.00
7	tC	C20	24.684	25.003 E3	-1.3	101	0.00
8	tC	C22	25.878	25.812 E3	0.3	100	0.00
9	tC	C24	26.326	26.092 E3	0.9	100	0.00
10	tC	C26	26.702	26.312 E3	1.5	100	0.00
11	tC	C28	26.061	25.953 E3	0.4	100	0.00
12	tC	C30	26.583	26.597 E3	-0.1	99	0.00
13	tC	C32	26.447	26.315 E3	0.5	99	0.00
14	tC	C34	26.317	26.057 E3	1.0	99	0.00
15	tC	C36	26.661	26.783 E3	-0.5	101	0.00
16	tC	C38	24.528	24.986 E3	-1.9	103	0.00
17	tC	C40	21.994	22.898 E3	-4.1	107	0.00
18	tC	c42	19.638	19.999 E3	-1.8	103	0.00
1.9	TC	Pristane	23.812	23.897 E3	-0.4	99	0.00
)	TC	Phytane	25.573	25.292 E3	1.1	101	0.0.0
1ُـم	sC	o-terphenyl	25.484	25.359 E3	0.5	100	0.00
22	tC	TPHC - total	28.994	30.788 E3	-6.2	116	0.02

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011109\T013802.D

Vial: 12 : 9 Nov 2001 4:29 pm Operator: B.Patel Acq On : Tstd050 Sample Inst : GC/MS Ins Multiplr: 1.00

Misc : 50 ppm std IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

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

Max. RRF Dev : 15%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 tC 2 tC 3 TC 4 tC 5 tC	C10 C12 C14 C16	18.019 20.595 21.549 23.048 24.057 24.812	21.614 E3 23.597 E3 23.528 E3 24.130 E3 24.816 E3 26.661 E3	-20.0 -14.6 -9.2 -4.7 -3.2 -7.5	115 111 107 104 103 108	-0.05 0.00 0.00 0.00 0.00
7 t0 8 t0 9 t0	C22 C24	24.684 25.878 26.326 26.702	25.504 E3 26.340 E3 26.671 E3 26.957 E3	-3.3 -1.8 -1.3 -1.0	103 102 102 102	0.00 0.00 0.00 0.00
11 to 12 to 13 to 14 to	C28 C30 C32	26.061 26.583 26.447 26.317	26.517 E3 27.258 E3 27.063 E3 26.923 E3	-1.7 -2.5 -2.3 -2.3	102 102 102 102	0.00 0.00 0.00 0.00
15 to 16 to 17 to 18 to	C36 C38 C40 c42	26.661 24.528 21.994 19.638	27.988 E3 26.819 E3 25.842 E3 25.515 E3	-5.0 -9.3 -17.5 -29.9#	105 111 120 132	0.00 0.00 0.00 0.00
9 TC 21 sC 22 tC	Phytane o-terphenyl	23.812 25.573 25.484 28.994	23.807 E3 25.882 E3 26.144 E3 28.412 E3	$ \begin{array}{c} 0.0 \\ -1.2 \\ -2.6 \\ 2.0 \end{array} $	99 103 103 107	0.00 0.00 0.00 1.73#

Evaluate Continuing Calibration Report

Data File: C:\HPCHEM\1\DATA\011109\T013804.D

Vial: 12 : 9 Nov 2001 5:35 pm Operator: B.Patel Acq On Inst : GC/MS Ins Multiplr: 1.00 Sample : Tstd050

Misc : 1:5 dilution IntFile : TPHCINT.E Misc

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	21.453 E3	-19.1	114	-0.05
2	tC	C10	20.595	23.423 E3	-13.7	110	-0.01
3	TC	C12	21.549	23.327 E3	-8.3	106	0.00
4	tC	C14	23.048	24.014 E3	-4.2	103	0.00
. 5	tC	C16	24.057	24.771 E3	-3.0	103	0.00
6	tC	C18	24.812	26.485 E3	-6.7	107	0.00
7	tC	C20	24.684	25.477 E3	-3.2	103	0.00
8	tC	C22	25.878	26.346 E3	-1.8	102	0.00
9	tC	C24	26.326	26.664 E3	-1.3	102	0.00
10	tC	C26	26.702	26.944 E3	-0.9	102	0.00
11	tC	C28	26.061	26.518 E3	-1.8	102	0.00
12	tC	C30	26.583	27.256 E3	-2.5	102	0.00
13	tC	C32	26.447	27.034 E3	-2.2	102	0.00
14	tC	C34	26.317	26.926 E3	-2.3	102	0.00
15	tC	C36	26.661	27.966 E3	-4.9	105	0.00
16	tC	C38	24.528	26.839 E3	-9.4	111	0.00
17	tC	C40	21.994	25.894 E3	-17.7	121	0.00
18	tC	c42	19.638	25.562 E3	-30.2#	132	0.00
- 9	TC	Pristane	23.812	23.841 E3	-0.1	99	0.00
)	TC	Phytane	25.573	25.853 E3	-1.1	103	0.00
2 1	sC	o-terphenyl	25.484	26.086 E3	-2.4	103	0.00
22	tC	TPHC - total	28.994	28.719 E3	0.9	108	1.45#

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

Client:

U.S. Army

Project #:

16567

DPW. SELFM-PW-EV

Location:

Bldg.640

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

8-Nov-01

Matrix:

Soil

Date Extracted:

8-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

9-Nov-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1656701		 10.00	10.34	103.37
1656702		 10.00	10.08	100.84
1656703		10.00	10.75	107.51
1656704		10.00	10.83	108.25
1656705		 10.00	11.48	114.76
1656706		 10.00	10.59	105.92
	·			
				·
METHOD BLANK	MB-011108	10.00	10.57	105.73

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16567

DPW. SELFM-PW-EV

Location:

Bldg.640

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

8-Nov-01

Matrix:

Soil

Date Extracted:

8-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

8-Nov-01 Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete :

9-Nov-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1656705MS	1000	57.74	1086.25	102.85	75-125
1656705MSD	1000	57.74	920.21	86.25	75-125

RPD	17.56	20.00

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

Client:

U.S. Army

Project #:

16567

DPW. SELFM-PW-EV

Location:

Bldg.640

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received :

8-Nov-01

Matrix:

Soil

Date Extracted :

0 1107 01

Inst. ID.

GC TPHC INST. #1

Date Extracted:

8-Nov-01

mst. m.

RTX-5, 0.32mm ID, 30M

Extraction Method: Analysis Complete: Shake

Column Type:

Injection Volume:

1uL

Analyst:

9-Nov-01 B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-011108	08-Nov-01	1000	934,67	93.47	75-125

Quantitation Report (Not Reviewed)

Vial: 2

Data File : C:\HPCHEM\1\DATA\011109\T013792.D

Acq On : 9 Nov 2001 10:56 am Sample : MB-011108 Operator: B.Patel Inst : GC/MS Ins

Misc : IntFile : TPHCINT.E Multiplr: 1.00

Quant Time: Nov 9 11:22 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

71 12.45 269427 10.573 mg/L 10.000 Range 8 - 13 Recovery = 105.73%# 21) sC o-terphenyl Spiked Amount

Target Compounds

Ouantitati eport Vial: 2 Data File: C:\HPCHEM\1\DATA\011109\T013792.D Acq On : 9 Nov 2001 10:56 am Operator: B.Patel Inst : GC/MS Ins Sample : MB-011108 Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Nov 9 11:22 2001 Quant Results File: TPH95.RES Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) : TPHC Calibration 06/05/97 21 peaks Title Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration DataAcq Meth: TPH95.M Volume Ini. : 1 ul Signal Phase : HP-5 Signal Info : $30m \times 0.32mm$ T013792.D\FID1B E105.10115-9 35000 30000 25000 20000 15000 10000 5000

9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00

7.00

8.00

4.00

5.00

BARBA

-Time

Quantitation Report (QT Reviewed)

Vial: 4

Data File : C:\HPCHEM\1\DATA\011109\T013794.D

Acq On : 9 Nov 2001 12:03 pm Operator: B.Patel : 1656701s Sample Inst : GC/MS Ins

Misc Multiplr: 1.00 Misc : IntFile : TPHCINT.E

Quant Time: Nov 9 12:45 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound	R.T.	Response Conc Units
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 8 - 13	263411 10.337 mg/L Recovery = 103.37%#
Target Compounds		•
2) tC C10	6.96	90516 4.395 mg/L
3) TC C12	8.81	123067 5.711 mg/L
4) tC C14	10.01	82917 3.598 mg/L
5) tC C16	11.01	113403 4.714 mg/L
6) tC C18	11.48	34868 1.405 mg/L
7) tC C20	11.91	85777 3.475 mg/L
8) tC C22	12.73	66660 2.576 mg/L
9) tC C24	13.54	41775 1.587 mg/L
19) TC Pristane	11.50	530882 22.295 mg/L
20) TC Phytane	11.96	208388 8.149 mg/L
2) tC TPHC - total	11.50	66990325 2310.504 mg/L m

Ouantitati

Data File : C:\HPCHEM\1\DATA\011109\T013794.D

Acq On : 9 Nov 2001 12:03 pm Sample : 1656701s

Operator: B. Patel Inst : GC/MS Ins

Misc

Multiplr: 1.00

Vial: 4

IntFile : TPHCINT.E

Quant Time: Nov 9 12:45 2001 Quant Results File: TPH95.RES

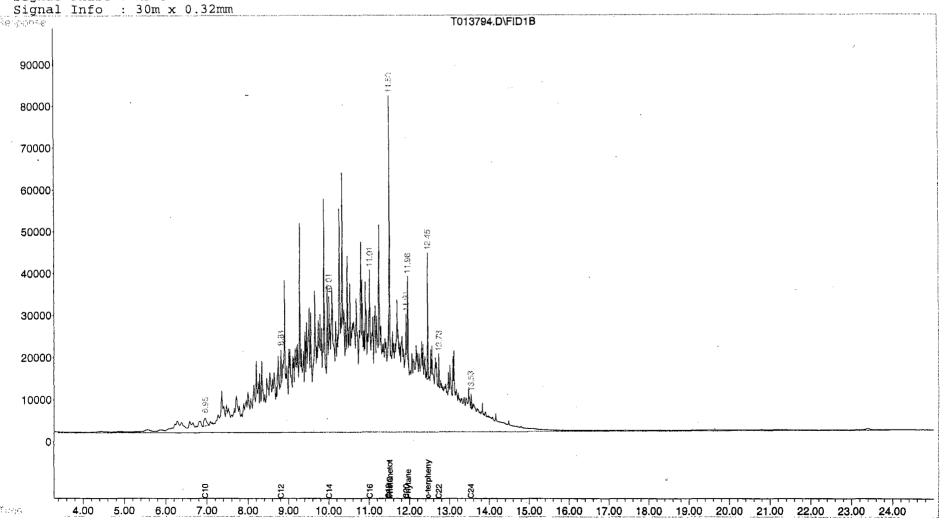
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\T013803.D Vial: 13 Acq On : 9 Nov 2001 5:02 pm Operator: B.Patel

Sample : 1656701 (1:5) Inst : GC/MS Ins Multiplr: 1.00

Misc : 1:5 dilution IntFile : TPHCINT.E

Quant Time: Nov 14 9:37 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound	R.T.	Response	Conc Units
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 8 - 13	53534 Recovery =	J.
Target Compounds 3) TC C12 4) tC C14 5) tC C16 6) tC C18 7) tC C20	8.90	40927	1.899 mg/L
	9.96	36745	1.594 mg/L
	11.01	50004	2.079 mg/L
	11.50	110761	4.464 mg/L
	11.95	42245	1.711 mg/L
19) TC Pristane	11.50	110761	4.652 mg/L
20) TC Phytane	11.95	42245	1.652 mg/L
22) tC TPHC - total	11.50	14595571	503.403 mg/L m

Quantitatic

Data File : C:\HPCHEM\1\DATA\011109\T013803.D

Vial: 13

Acq On : 9 Nov 2001 5:02 pm Sample : 1656701 (1:5)

Operator: B.Patel Inst : GC/MS Ins

Misc : 1:5 dilution

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 14 9:37 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

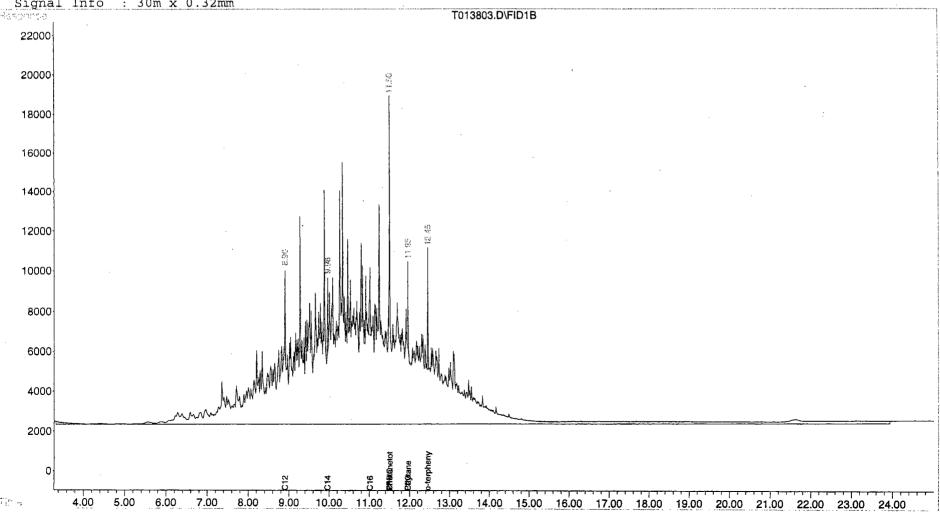
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\T013795.D

Vial: 5

Acq On : 9 Nov 2001 12:36 pm Sample : 1656702s Operator: B.Patel Inst : GC/MS Ins

Misc : IntFile : TPHCINT.E Multiplr: 1.00

Quant Time: Nov 9 14:18 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Compound Response Conc Units System Monitoring Compounds System Monitoring Compounds
21) sC o-terphenyl 12.45 256983 10.084 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 100.84%# Target Compounds 22) tC TPHC - total 12.45 1878327 64.784 mg/L m Quantitati | leport

Vial: 5

Data File : C:\HPCHEM\1\DATA\011109\T013795.D

: 9 Nov 2001 12:36 pm

Operator: B.Patel Inst : GC/MS Ins

Misc

Aca On

Sample

Multiplr: 1.00

IntFile : TPHCINT.E

: 1656702s

Quant Time: Nov 9 14:18 2001 Quant Results File: TPH95.RES

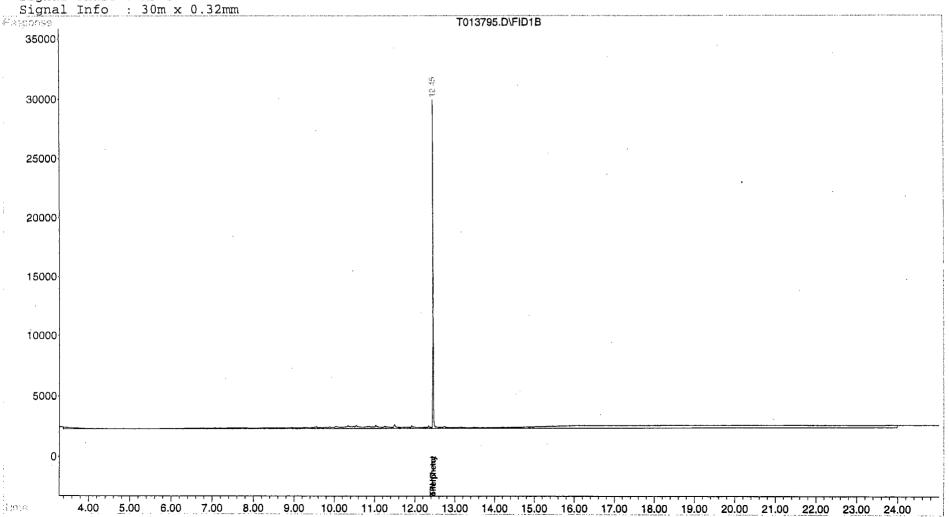
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\T013796.D

Vial: 6 Acq On : 9 Nov 2001 1:09 pm Operator: B.Patel : 1656703s Inst : GC/MS Ins Sample

Misc Multiplr: 1.00 Misc : TPHCINT.E

Quant Time: Nov 9 14:19 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth : TPH95.M

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

Compound	d 		R.T.	Response	Conc Units	
System Monitor 21) sC o-terpher Spiked Amount		unds Range	12.45 8 - 13	273970 Recovery	10.751 mg/L = 107.51%#	
Target Compour 3) TC C12 4) tC C14 5) tC C16 6) tC C18 7) tC C20 8) tC C22 9) tC C24 19) TC Pristane 20) TC Phytane 32) tC TPHC - to		·	8.81 10.01 11.02 11.48 11.91 12.73 13.47 11.50 11.95 12.45	100189 211289 219895 111935 135737 77422 33049 70644 40638	4.649 mg/L 9.167 mg/L 9.141 mg/L 4.511 mg/L 5.499 mg/L 2.992 mg/L 1.255 mg/L 2.967 mg/L 1.589 mg/L 553.143 mg/L	

Data File : C:\HPCHEM\1\DATA\011109\T013796.D

Vial: 6

Acq On : 9 Nov 2001

Operator: B.Patel
Inst : GC/MS Ins

Sample : 1656703s Misc :

Multiplr: 1.00

IntFile

: TPHCINT.E

Quant Time: Nov 9 14:19 2001 Quant Results File: TPH95.RES

1:09 pm

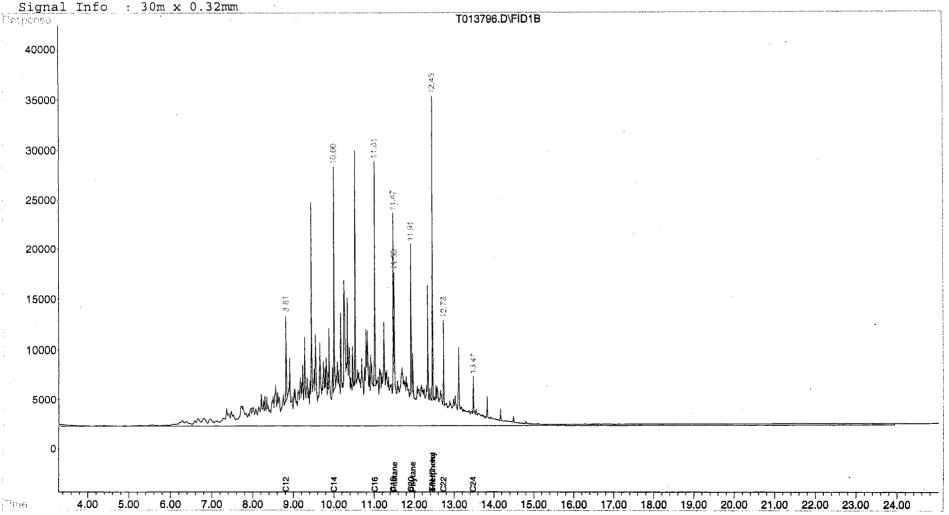
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



00008

Quantitation Report (QT Reviewed)

Vial: 7

Data File : C:\HPCHEM\1\DATA\011109\T013797.D

Acq On : 9 Nov 2001 1:42 pm Sample : 1656704s Misc : Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 9 14:19 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 275855 10.825 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 108.25%#

Target Compounds

22) tC TPHC - total 12.45 1535109 52.946 mg/L m Quantitati .epor

Data File : C:\HPCHEM\1\DATA\011109\T013797.D

Acq On : 9 Nov 2001 1:42 pm

Vial: 7
Operator: B.Patel
Inst : GC/MS Ins

Sample : 1656704s

Multiplr: 1.00

Misc

IntFile : TPHCINT.E

Quant Time: Nov 9 14:19 2001 Quant Results File: TPH95.RES

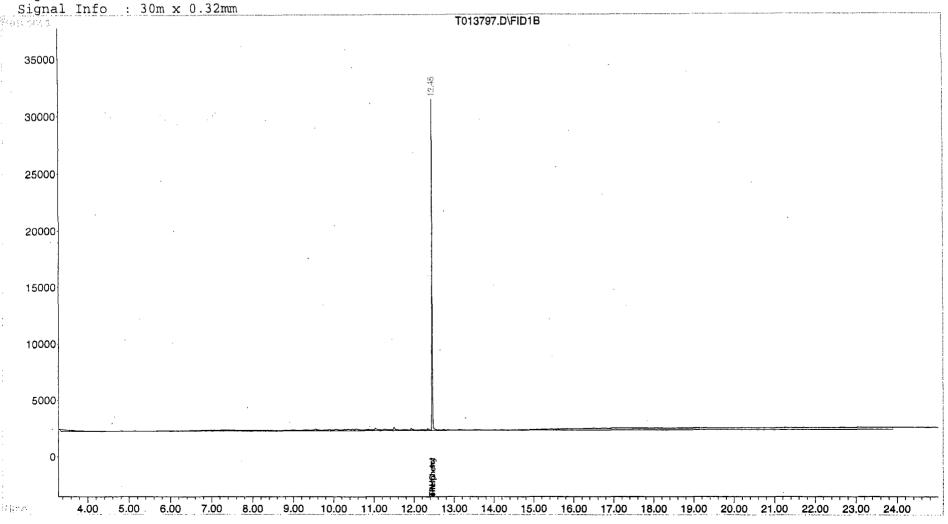
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcg Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



000084

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\T013798.D

Vial: 8 Acq On : 9 Nov 2001 2:16 pm Sample : 1656705s
Misc : Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 9 15:48 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 292453 11.476 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 114.76%#

Target Compounds

22) tC TPHC - total 12.45 1674037 57.738 mg/L m Ouantitati 'eport

Data File : C:\HPCHEM\1\DATA\011109\T013798.D

Aca On : 9 Nov 2001 2:16 pm

Vial: 8 Operator: B.Patel Inst : GC/MS Ins

Misc

: 1656705s

Multiplr: 1.00

Sample

IntFile : TPHCINT.E

Ouant Time: Nov 9 15:48 2001 Ouant Results File: TPH95.RES

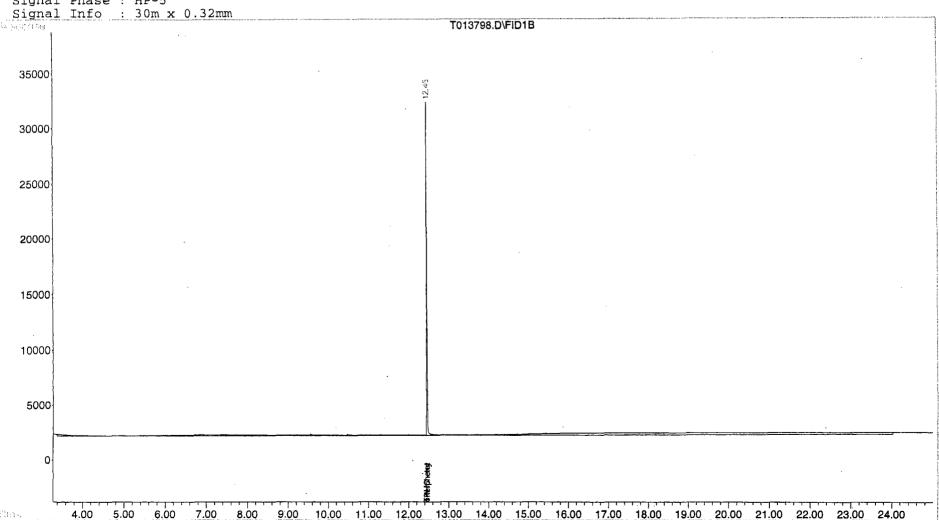
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011109\T013801.D

Vial: 11 Acq On : 9 Nov 2001 3:55 pm Sample : 1656706s Operator: B.Patel

Inst : GC/MS Ins Multiplr: 1.00 Misc

Misc : IntFile : TPHCINT.E

Quant Time: Nov 14 9:34 2001 Quant Results File: TPH95.RES

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 21) sC o-terphenyl Spiked Amount 10.000 Range	12.45 8 - 13	269911 Recovery	10.592 mg/L = 105.92%#	
Target Compounds 3) TC C12 4) tC C14 5) tC C16 6) tC C18 7) tC C20 8) tC C22 9) tC C24 19) TC Pristane 20) TC Phytane	8.81 10.01 11.01 11.48 11.91 12.73 13.47 11.50 11.95	106569 239241 245547 131351 133147 71729 32440 88205 48250	4.946 mg/L 10.380 mg/L 10.207 mg/L 5.294 mg/L 5.394 mg/L 2.772 mg/L 1.232 mg/L 3.704 mg/L 1.887 mg/L	
2) tC TPHC - total	12.45	18975639	654.472 mg/L m	ı

Data File : C:\HPCHEM\1\DATA\011109\T013801.D

: 9 Nov 2001 3:55 pm

Vial: 11
Operator: B.Patel
Inst : GC/MS Ins

Sample : 1656706s

Multiplr: 1.00

Misc :

Acq On

IntFile : TPHCINT.E

Quant Time: Nov 14 9:34 2001 Quant Results File: TPH95.RES

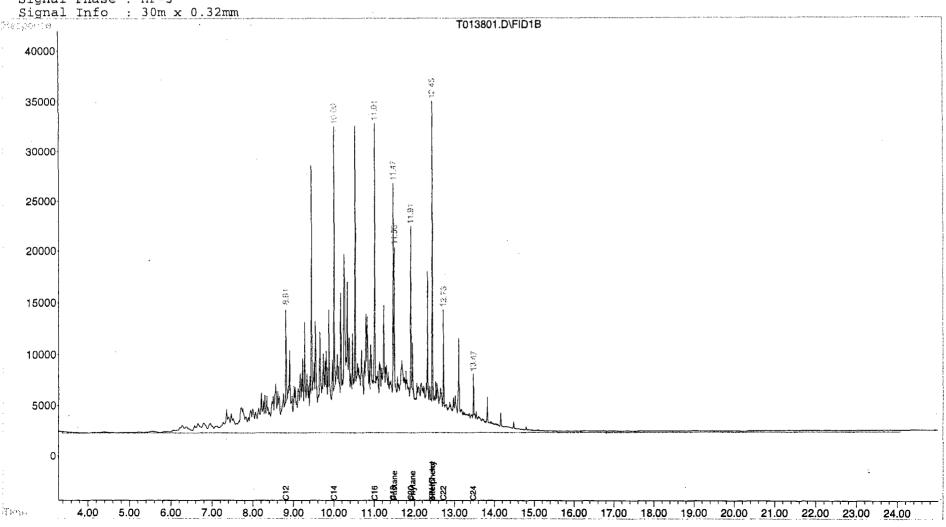
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Certification #13461

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

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-4359 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: UST Program

Bldg. 641

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
641-1 8.5'	1653901	Soil	26-Oct-01 14:00	10/26/01
641-2 8.5'	1653902	Soil	26-Oct-01 14:30	10/26/01
641-3 8.5'	1653903	Soil	26-Oct-01 14:50	10/26/01
641-4 8.5'	1653904	Soil	26-Oct-01 15:04	10/26/01
641-5 8.5'	1653905	Soil	26-Oct-01 15:17	10/26/01
FD 8.5'	1653906	Soil	26-Oct-01	10/26/01

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

> Daniel Wright/Date Laboratory Director

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: D. DE S.A. Project No: 01-0001			Analysis Parameters Comments:					Comments:							
Phone #: \\ \(\) /4	75		ے :Location	scae- u	41		11	T	%					Ц	
()DERA (JOMA (Other:_						V04+	۴	' MO					N	
Samplers Name / Cor	npany: ///	war Loturs A -	TUS-PW	507	Sample	#	<u>#</u>	He	VIO UT					И	
LIMS/Work Order#	ŀ	le Location	Date	Time	Туре	bottles	15		D					PPM	Remarks / Preservation Method
1 16539 01	641-1	8.5'	10-28-01	1400	Soil	1		×	X					0	edoc
02		. 11	ri	1430	11	2	X	X	X					250	2904 11
03			И	1450	j)	1		X	X					0	11
04	641-4	f 11		1504	11	1		X	X					0	1/
	641-5		67	1517	老张	2	X	X	X					100	2905 11
06	FO	i r	n /	_	6 6	1		X	X						eyec.
										- 1					
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												·			
		<u>, , , , , , , , , , , , , , , , , , , </u>													
Relinquished by (signatur	ге):	Date/Time:	Received by	(signature):		Relin	quished	by (sig	nature):		Date/	Time:	Receiv	ed by ((signature):
Markagen	it	26-01 1540	(J. Ul	levin	4										
Relinquished by (signatur	ге):	Date/Time:	Received by ((signature);		Reline	quished	by (sig	nature):		Date/	Time:	Receiv	ed by	(signature):
1)_/	<u> </u>	V											
Report Type: ()Full, ()	Keduced,	standard, ()Screen	n / non-certified	i, (_)EDD			Rema	rks:							
Turnaround time: (Stan	clard 3 wks, ()Rush Days,	()ASAP Ver	balHrs.			1								

000002

METHOD SUMMARY

Method Summary

NJDEP Method 8260 Gas Chromatographic Determination of Volatiles in Soil

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 is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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

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

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

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

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

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16539

Site: Bldg. 641

Hold Time Date NA **Date Sampled** 10/26/01 Receipt/Refrigeration 10/26/01 NA **Extractions** 1. TPHC 10/29/01 14 days Analyses 40 days 1. TPHC 10/30/01 14 days 2. VOA 10/29/01

CONFORMANCE-NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

				Indicate Yes, No, N/
1.	Chromatograms labeled/Co	mpounds identifie	ed	
•.	(Field samples and me		·	yes
2.	Retention times for chroma	tograms provided	·	jes
3.	GC/MS Tune Specification	S		•
	a. BFB	Meet Criteria		Ves
	b. DFT	PP Meet Criteria		ACI
4.	GC/MS Tuning Frequency series and 12 hours for 800		y 24 hours for 600	405
5.	GC/MS Calibration - Initia	l Calibration perfi	ormed before sample	1
J .	analysis and continuing cal			
	sample analysis for 600 ser			-Ves
6.	GC/MS Calibration require	ments		
	a. Cali	oration Check Cor	npounds Meet Criteria	Ves
	b. Syst	em Performance C	Check Compounds Meet Criteria	Vas
7.	Blank Contamination - If y	es, List compound	ds and concentrations in each blank:	_No_
	a. VO	Fraction		•
	ь. В/N	Fraction NA		
	c. Acid	Fraction NA		
8.	Surrogate Recoveries Meet	Criteria	•	Yes
	If not met, list those coutside the acceptable		ir recoveries, which fall	
	a. VO	Fraction		
	b. В/N	Fraction NA		
	c. Acid	Fraction NA		
	If not met, were the ca	culations checked	and the results qualified	
9.	Matrix Spike/Matrix Spike	Duplicate Recove	eries Meet Criteria	\1es
	(If not met, list those comp			-
	outside the acceptable rang	e)		
	a. VOA	Fraction		
		Fraction WA		
		Fraction NA		

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

			Indicate Yes, No, N/A
10.	Internal Standard Area/Retention Time Shift Med (If not met, list those compounds, which fall out		40
	a. VOA Fraction	·	
	b. B/N Fraction NA		
	c. Acid Fraction NA		
11.	Extraction Holding Time Met		<u>NA</u>
	If not met, list the number of days exceeded for	each sample:	
12.	Analysis Holding Time Met	·	yes
	If not met, list the number of days exceeded for a	each sample:	,
Add	ditional Comments:		,
Lab	poratory Manager	Date! 1-70-01	

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	NO NO
3 .	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- <u> </u>
4 .	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- <u>NOS</u>
5 .	IR Spectra submitted for standards, blanks and samples.	- AU
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	s YCS
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	<u>Ycs</u>
Addi	tional comments:	
-		_
Labo	pratory Manager Date	

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL: Method Detection Limit

J: Compound identified below detection limit

B: Compound found in blank

D: Results are from a dilution of the sample
 U: Compound searched for but not detected
 E: Compound exceeds calibration limit

PQL: Practical Quantitation Limit

NLE: No limit established

RT: Retention time

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab	ID
-----	----

Lab Name:	FMETL			Project:	010001		
NJDEP#:	13461		Case No.: 16539	Location	n: <u>641</u> SI	DG No.:	
Matrix: (soil/w	rater)	SOIL		La	b Sample ID:	МВ	
Sample wt/vo	1:	10.0	(g/ml) <u>G</u>	La	b File ID:	VB010306.D	
Level: (low/m	red)	MED		Da	ite Received:	10/26/01	
% Moisture: n	ot dec.	0		Da	ite Analyzed:	10/29/01	
GC Column:	RTX50	2. ID:	<u>0.25</u> (mm)	Dil	ution Factor:	1.0	
Soil Extract V	olume: 2	25000	(uL)	So	il Aliquot Volu	me: <u>125</u>	(uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	Ü
78-93-3	2-Butanone	300	J
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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

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						I IVID	
Lab Name:	FMETL			Project:	010001	_	
NJDEP#:	13461	(Case No.: 16539	Location	n: <u>641</u> SI	DG No.:	
Matrix: (soil/w	ater)	SOIL		La	b Sample ID:	МВ	
Sample wt/vo	d:	10.0	(g/ml) <u>G</u>	La	b File ID:	VB010306.D	
Level: (low/m	ned)	MED		Da	te Received:	10/26/01	
% Moisture: n	ot dec.	0		Da	ite Analyzed:	10/29/01	
GC Column:	RTX50	2. ID:	0.25 (mm)	Dil	ution Factor:	1.0	
Soil Extract V	olume: 2	25000	(uL)	So	il Aliquot Volu	me: 125	(uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG		Q
1330-20-7	m+p-Xylenes			300	U
95-47-6	o-Xylene			200	U
100-42-5	Styrene			200	U
75-25-2	Bromoform			200	U
79-34-5	1,1,2,2-Tetrachloro	ethane		200	U
541-73-1	1,3-Dichlorobenzer	ne		300	U
106-46-7	1,4-Dichlorobenzer	ne		300	U
95-50-1	1,2-Dichlorobenzer	ne		300	U
91-20-3	Napthalene			100	U

1E

COMPOUND NAME

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

	'		LE ORGANIC					La	b ID.		
Lab Names	CMETI	TENT	ATIVELY IDI	ENTIFIEI					N	/B	
Lab Name:	FMETL				Project:	010	0001	_			
NJDEP#:	13461		Case No.: 1	6539	Locatio	on: <u>6</u> 4	41 \$	SDG N	lo.:		
Matrix: (soil/v	vater)	SOIL			La	ab Sa	mpie ID	: <u>MB</u>			
Sample wt/vo	ol:	10.0	(g/ml) <u>(</u>	G	La	ab File	e ID:	VB0	10306	.D	
Level: (low/n	ned)	MED			Da	ate R	eceived	10/2	6/01		
% Moisture: r	not dec.	0			Da	ate Ar	nalyzed:	10/2	9/01		
GC Column:	RTX50	<u>)2.</u> ID:	<u>0.25</u> (mn	n)	Di	ilution	Factor:	1.0			
Soil Extract V	'olume:	25000	(uL)		Sc	oil Alic	quot Vol	ume:	125		(uL)
					NCENTRA L or ug/Kg		UNITS:	_			
Number TICs	found:	0		(-9/		''		·			

EST. CONC.

Q

RT

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab	ID
-----	----

Lab Name:	FMETL				Project:	010001	641-2	
NJDEP#:	13461		Case No.: 1	6539	Location	n: 641 S	DG No.:	
Matrix: (soil/	water)	SOIL			La	b Sample ID:	1653902	
Sample wt/vo	ol:	9.7	(g/ml) <u>(</u>	G	La	b File ID:	VB010309.D	_
Level: (low/r	ned)	MED			Da	te Received:	10/26/01	_
% Moisture:	not dec.	20.45			Da	te Analyzed:	10/29/01	_
GC Column:	RTX50	02. ID:	<u>0.25</u> (mm	n)	Dil	ution Factor:	1.0	-
Soil Extract \	/olume:	25000	(uL)		So	il Aliquot Volu	me: 125	(u

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	·	900	U
107131	Acrylonitrile		900	U
75650	tert-Butyl alcoho	ol	1700	U
1634044	Methyl-tert-Buty	l ether	390	U
108203	Di-isopropyl eth	er	260	U
75718	Dichlorodifluoro	methane	510	U
74-87-3	Chloromethane		130	U
75-01-4	Vinyl Chloride		390	U
74-83-9	Bromomethane		260	U
75-00-3	Chloroethane		390	U
75-69-4	Trichlorofluorom	ethane	260	U
75-35-4	1,1-Dichloroethe	ene	130	U
67-64-1	Acetone		260	U
75-15-0	Carbon Disulfide		130	U
75-09-2	Methylene Chlo	ride	260	U
156-60-5	trans-1,2-Dichlo	roethene	260	U
75-34-3	1,1-Dichloroetha	ane	130	U
108-05-4	Vinyl Acetate		390	U
78-93-3	2-Butanone			U
156-59-2	cis-1,2-Dichloro	ethene	130	U
67-66-3	Chloroform		130	Ū
71-55-6	1,1,1-Trichloroe	thane	130	U
56-23-5	Carbon Tetrach		260	U
71-43-2	Benzene		130	U
107-06-2	1,2-Dichloroetha	ane	260	U
79-01-6	Trichloroethene		130	U
78-87-5	1,2-Dichloropro		130	U
124-48-1	Bromodichloron		130	Ü
110-75-8	2-Chloroethyl vi		260	Ū
10061-01-5	cis-1,3-Dichloro		130	Ū
108-10-1	4-Methyl-2-Pent		260	Ū
108-88-3	Toluene		130	Ü
10061-02-6	trans-1,3-Dichlo	ropropene	260	Ü
79-00-5	1,1,2-Trichloroe		260	Ū
127-18-4	Tetrachloroethe		130	Ü
591-78-6	2-Hexanone		260	U
124-48-1	Dibromochlorom	nethane	260	Ü
108-90-7	Chlorobenzene	iomano	130	Ū
100-41-4	Ethylbenzene		260	Ü

1A

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Q

					1 041-2	
Lab Name:	FMETL			Project: 010001		
NJDEP#:	13461		Case No.: 16539	Location: 641	SDG No.:	
Matrix: (soil/w	vater)	SOIL		Lab Sample ID:	1653902	
Sample wt/vo	ol:	9.7	(g/ml) <u>G</u>	Lab File ID:	VB010309.D	
Level: (low/m	ned)	MED		Date Received:	10/26/01	
% Moisture: r	ot dec.	20.45		Date Analyzed:	10/29/01	
GC Column:	RTX50	2. ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume: 2	25000	(uL)	Soil Aliquot Vol	ume: 125	(uL

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/KG

1330-20-7	m+p-Xylenes	390	н
95-47-6	o-Xylene	260	Ü
100-42-5	Styrene	260	J
75-25-2	Bromoform	260	כ
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	390	J
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
91-20-3	Napthalene	130	U

COMPOUND

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

D.

Lab Name:	FMETL				Project:	010001	641-2	
NJDEP#:	13461	с	ase No.:	16539	Location	n: <u>641</u> S	DG No.:	
Matrix: (soil/w	vater)	SOIL			Lat	Sample ID:	1653902	
Sample wt/vo	ol:	9.7	_ (g/ml)	G	Lat	File ID:	VB010309.D	
Level: (low/m	ned)	MED			Da	te Received:	10/26/01	
% Moisture: r	not dec.	20.45			Da	te Analyzed:	10/29/01	
GC Column:	RTX50	<u>)2.</u> ID: <u>C</u>).25 (m	nm)	Dilu	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)		Soi	il Aliquot Volu	me: <u>125</u>	(uL

CONCENTRATION UNITS:

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

Number TICs found: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	29.10	1400	J
2. 017301-94-9	Nonane, 4-methyl-	29.16	970	JN
3.	unknown	30.75	920	J
4. 002847-72-5	Decane, 4-methyl-	31.00	2100	JN
5.	unknown	31.66	900	J
6.	unknown	32.04	1200	J
7.	unknown	32.14	920	J
8.	unknown	32.26	2000	J
9.	unknown	33.76	1100	J
10.	unknown	33.90	1100	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

641-5 Lab Name: **FMETL** Project: 010001 SDG No.: NJDEP#: 13461 Case No.: 16539 Location: 641 Matrix: (soil/water) SOIL Lab Sample ID: 1653905 Sample wt/vol: 9.9 Lab File ID: (g/ml) G VB010310.D Date Received: 10/26/01 Level: (low/med) MED % Moisture: not dec. 27.24 Date Analyzed: 10/29/01 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	970	U
107131	Acrylonitrile	970	U
75650	tert-Butyl alcohol	1800	U
1634044	Methyl-tert-Butyl ether	420	U
108203	Di-isopropyl ether	280	U
75718	Dichlorodifluoromethane	550	U
74-87-3	Chloromethane	140	U
75-01-4	Vinyl Chloride	420	U
74-83-9	Bromomethane	280	U
75-00-3	Chloroethane	420	U
75-69-4	Trichlorofluoromethane	280	U
75-35-4	1,1-Dichloroethene	140	U
67-64-1	Acetone	280	U
75-15-0	Carbon Disulfide	140	U
75-09-2	Methylene Chloride	280	U
156-60-5	trans-1,2-Dichloroethene	280	U
75-34-3	1,1-Dichloroethane	140	Ū
108-05-4	Vinyl Acetate	420	U
78-93-3	2-Butanone	420	U
156-59-2	cis-1,2-Dichloroethene	140	U
67-66-3	Chloroform	140	U
71-55-6	1,1,1-Trichloroethane	140	U
56-23-5	Carbon Tetrachloride	280	U
71-43-2	Benzene	140	U
107-06-2	1,2-Dichloroethane	280	Ū
79-01-6	Trichloroethene	140	U
78 - 87-5	1,2-Dichloropropane	140	U
124-48-1	Bromodichloromethane	140	· U
110-75-8	2-Chloroethyl vinyl ether	280	Ü
10061-01-5	cis-1,3-Dichloropropene	140	Ü
108-10-1	4-Methyl-2-Pentanone	280	Ü
108-88-3	Toluene	140	Ū
10061-02-6	trans-1,3-Dichloropropene	280	Ū
79-00-5	1,1,2-Trichloroethane	280	- ŭ
127-18-4	Tetrachloroethene	140	Ü
591-78-6	2-Hexanone	280	U
124-48-1	Dibromochloromethane	280	U
108-90-7	Chlorobenzene	140	Ü
100-41-4	Ethylbenzene	280	Ü

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

						1 041*0	
Lab Name:	FMETL			Project:	010001		
NJDEP#:	13461	(Case No.: <u>16539</u>	Locatio	n: <u>641</u> S	DG No.:	
Matrix: (soil/w	ater)	SOIL		La	b Sample ID:	1653905	
Sample wt/vo	d:	9.9	(g/ml) <u>G</u>	La	b File ID:	VB010310.D	
Level: (low/m	ned)	MED	<u></u>	Da	te Received:	10/26/01	
% Moisture: n	ot dec.	27.24		Da	te Analyzed:	10/29/01	
GC Column:	RTX50	2. ID:	0.25 (mm)	Dii	ution Factor:	1.0	
Soil Extract V	olume: 2	25000	(uL)	Sc	il Aliquot Volu	me: <u>125</u>	(uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q	
1330-20-7	m+p-Xylenes		42	0 U	
95-47-6	o-Xylene		28	0 U	
100-42-5	Styrene		28	0 U	
75-25-2	Bromoform	Bromoform			
79-34-5	1,1,2,2-Tetrachl	1,1,2,2-Tetrachloroethane			
541-73-1	1,3-Dichloroben	zene	42	0 U	
106-46-7	1,4-Dichloroben	1,4-Dichlorobenzene			
95-50-1	1,2-Dichloroben	zene	42	0 U	
91-20-3	Napthalene	26	0		

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID.
-----	-----

Lab Name:	FMETL			Project:	010001	641-5	
NJDEP#:	13461		Case No.: 1653	 •		DG No.:	
Matrix: (soil/v	vater)	SOIL		Lal	b Sample ID:	1653905	
Sample wt/vo	ol:	9.9	(g/ml) G	Lal	b File ID:	VB010310.D	
Level: (low/n	ned)	MED	·	Da	te Received:	10/26/01	
% Moisture: r	not dec.	27.24		Da	te Analyzed:	10/29/01	
GC Column:	RTX50	02. ID:	0.25 (mm)	Dil	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	So	il Aliquot Volu	ime: 125	(uL
Number Tice		E		CONCENTRAT			
Number TICs	rouna:	5					

	,			
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 036052-28-5	1-Naphthalenemethanol, 1,2,3,4-t	29.02	3000	JN
2. 020881-29-2	Benzenebutanoic acid, .gamma	32.01	2600	JN
3.	unknown	32.75	740	J
4. 001120-21-4	Undecane	33.21	520	JN
5. 001198-20-5	1,4-Methanonaphthalen-9-ol, 1,2,	33.40	790	JN

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

 Lab Name:
 FMETL
 Project:
 010001

 NJDEP#:
 13461
 Case No.:
 16539
 Location:
 641
 SDG No.:

 Lab File ID:
 VB010244.D
 BFB Injection Date:
 10/24/01

 Instrument ID:
 GCMS#2
 BFB Injection Time:
 14:50

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

		% RELATIVE			
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE			
5 0	8.0 - 40.0% of mass 95	15.4			
75	30.0 - 66.0% of mass 95	48.7			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.3			
173	Less than 2.0% of mass 174	0.0 (0.0)1			
174	50.0 - 120.0% of mass 95	84.8			
175	4.0 - 9.0% of mass 174	6.7 (7.8)1			
176	93.0 - 101.0% of mass 174	83.1 (98.0)1			
177	5.0 - 9.0% of mass 176	5.7 (6.9)2			

¹⁻Value is % mass 174

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

		LAB	LAB	DATE	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010245.D	10/24/01	15:18
02	VSTD100	VSTD100	VB010246.D	10/24/01	16:12
03	VSTD050	VSTD050	VB010247.D	10/24/01	16:57
04	VSTD010	VSTD010	VB010248.D	10/24/01	17:42
05	VSTD005	VSTD005	VB010249.D	10/24/01	18:26

²⁻Value is % mass 176

Data File: C:\HPCHEM\1\DATA\011024\VB010244.D

Acq On : 24 Oct 2001 2:50 pm

Sample : BFB Tune Misc : BFB Tune

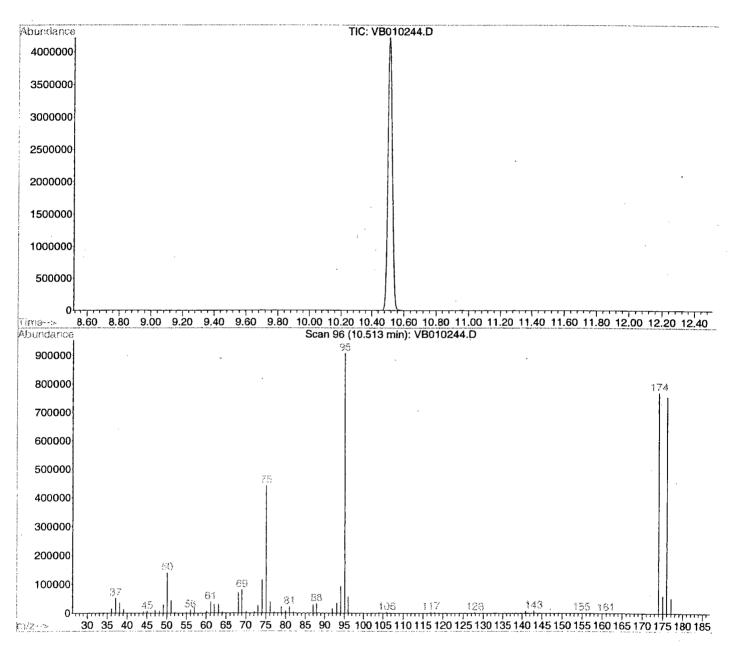
Operator: Skelton : GC VOA 2 Inst

Vial: 1

Multiplr: 1..00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title



Spectrum Information: Scan 96

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	15.4 48.7 100.0 6.3 0.0 84.8 7.8 98.0 6.9	139904 442432 908672 57112 0 770432 60448 755200 51944	PASS PASS PASS PASS PASS PASS PASS PASS

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Initial Calibration

Calibration Files

=VB010246.D 50 =VB010247.D 20 ≃VB010245.D

10 =VB010248.D =VB010249.D

		Compound	100	50	20	10	5	Avg	%RSD
1) 2)	I t	Bromochloromethane Acrolein		0.205				0.212	10.43
3)		Acrylonitrile	0.737	0.694	0.589	0.743	0.782	0.709	10.44
4) 5)	t t	tert-Butyl alcohol Methyl-tert-Butyl eth		0.127					$10.92 \\ 10.74$
6)	t	Di-isopropyl ether		1.430					11.47
7)	${f T}$	Dichlorodifluorometha	2.661	2.418	2.155	2.671	2.705	2.522	9.31
8) 9)	TP	Chloromethane		2.356 2.416					12.47
10)	T	Vinyl Chloride Bromomethane		1.199					11.65 16.89
11)	$\overline{\mathbf{T}}$	Chloroethane	1.372	1.263	1.095	1.352	1.404	1.297	9.57
12)	T	Trichlorofluoromethan							10.16
13) 14)	MC T	1,1-Dichloroethene Acetone		2.802 0.574					10.81 31.18
15)	Ť	Carbon Disulfide		5.272					10.82
16)	T	Methylene Chloride		1.767					12.68
17) 18)	${f T}{f TP}$	trans-1,2-Dichloroeth 1,1-Dichloroethane		2.449					12.40 8.07
19)	T	Vinyl Acetate		3.665					13.05
20)	\mathbf{T}	2-Butanone		0.718					6.33
21) 22)	T TC	cis-1,2-Dichloroethen Chloroform		2.468 3.053					12.15 10.89
23)	T	1,1,1-Trichloroethane							9.92
/24)	T	Carbon Tetrachloride	2.459	2.206	1.799	2.229	2.074	2.153	11.22
25)	S	1,2-Dichloroethane-d4	2.218	2.370	2.311	2.358	2.413	2.334	3.18
26)	I	1,4-Difluorobenzene							
27)	TM	Benzene		0.974					10.14
28) 29)	T TM	1,2-Dichloroethane Trichloroethene		0.358 0.276					10.05 9.82
30)	TC	1,2-Dichloropropane		0.239					10.17
31)	T	Bromodichloromethane		0.306					10.36
32)	T	2-Chloroethyl vinyl e cis-1,3-Dichloroprope	0.103	0.092					11.01
33) 34)	T T	4-Methyl-2-Pentanone		0.374					12.28 9.38
35)	s	Toluene-d8	1.136	1.137	1.151	1.141	1.153	1.143	0.69
.36)	TCM	Toluene	1.171	1.096	0.976	1.210	1.230	1.137	9.10
37)	I	Chlorobenzene-d5			IS	STD			
38)	${f T}$	trans-1,3-Dichloropro							14.70
39)	T	1,1,2-Trichloroethane							8.96
40) 41)	${f T}$	Tetrachloroethene 2-Hexanone		1.142 0.521					11.54 10.70
42)	T	Dibromochloromethane		0.828					13.01
43)	TMP	Chlorobenzene	2.975	2.665	2.418	2.953	2.919	2.786	8.63
44)	TC	Ethylbenzene		4.644					8.81
45) 46)	T T	m+p-Xylenes o-Xylene		1.688 3.672			3.849		9.15 9.24
47)	T	Styrene		3.072					8.89
48)	ΤP	Bromoform		0.507					22.74
49)		Bromofluorobenzene		1.674					2.20
·50) 51)	TP T	1,1,2,2-Tetrachloroet 1,3-Dichlorobenzene		2.325					9.60 9.93
52)	T	1,4-Dichlorobenzene	2.742	2.466	2.108	2.680	2.681	2.535	10.29
53)	T	1,2-Dichlorobenzene	2.521	2.283	1.969	2.466	2.516	2.351	9.97
54)	t	Napthalene	3.928	3.809	3.064	3.989	3.747	3.707	10.04

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

 Lab Name:
 FMETL
 Project:
 010001

 NJDEP#:
 13461
 Case No.:
 16539
 Location:
 641
 S

Instrument ID: GCMS#2 BFB Injection Time: 8:09

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

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
5 0	8.0 - 40.0% of mass 95	15.6
75	30.0 - 66.0% of mass 95	47.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	87.7
175	4.0 - 9.0% of mass 174	6.5 (7.4)1
176	93.0 - 101.0% of mass 174	86.1 (98.2)1
177	5.0 - 9.0% of mass 176	5.7 (6.6)2

1-Value is % mass 174

2-Value is % mass 176

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

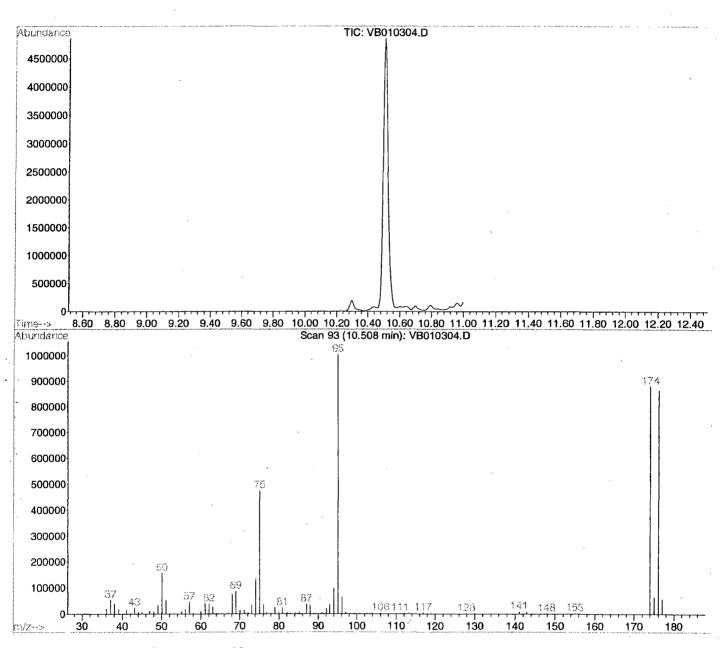
1		LAB	LAB	DATE	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010305.D	10/29/01	8:38
02	MB	MB	VB010306.D	10/29/01	10:04
03	641-2	1653902	VB010309.D	10/29/01	12:33
04	641-5	1653905	VB010310.D	10/29/01	13:17

Data File : C:\HPCHEM\1\DATA\011029\VB010304.D

Vial: 1 Acq On : 29 Oct 2001 8:09 am Operator: Skelton : BFB Tune Sample Inst : GC VOA 2 Misc : BFB Tune Multiplr: 1.00

MS Integration Params: TBA.P

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 93

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 95 174 95 174 174	15 30 100 5 0.00 50 50 95	40 60 100 9 2 100 9	15.6 47.2 100.0 6.5 0.0 87.7 7.4 98.2 6.6	156416 475072 1005888 65360 0 882304 65096 866112 57432	PASS PASS PASS PASS PASS PASS PASS PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011029\VB010305.D Vial: 1

Acq On : 29 Oct 2001 8:38 am Operator: Skelton : Vstd020 : Vstd020 Sample Inst : GC VOA 2 Misc Multiplr: 1.00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev Area% Dev(min)
1 I	Bromochloromethane	1.000	1.000	0.0 81 -0.02
2 t	Acrolein	0.212	0.163	23.1 74 -0.06
3 t	Acrylonitrile	0.709	0.508	28.3# 70 -0.02
4 t	tert-Butyl alcohol	0.132	0.109	17.4 81 -0.39
5 t	Methyl-tert-Butyl ether	4.909	4.951	$\begin{array}{ccccc} -0.9 & 100 & -0.01 \\ -15.1 & 114 & -0.03 \\ 24.4 & 72 & -0.01 \end{array}$
6 t	Di-isopropyl ether	1.413	1.626	
7 T	Dichlorodifluoromethane	2.522	1.906	
8 TP	Chloromethane Vinyl Chloride Bromomethane Chloroethane	2.439	2.322	4.8 96 -0.02
9 TC		2.453	2.388	2.6 98 0.00
10 T		1.356	1.407	-3.8 102 -0.01
11 T		1.297	1.380	-6.4 102 -0.03
12 T 13 MC 14 T	Trichlorofluoromethane 1,1-Dichloroethene Acetone	3.761 2.821 0.772	3.899 3.030 0.566	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
15 T 16 T 17 T	Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene	5.318 1.852 2.484	5.590 1.952 2.632	$\begin{array}{ccccc} -5.1 & 103 & 0.00 \\ -5.4 & 106 & 0.00 \\ -6.0 & 109 & -0.01 \end{array}$
18 TP	1,1-Dichloroethane Vinyl Acetate 2-Butanone cis-1,2-Dichloroethene	2.843	3.365	-18.4 110 0.00
19 T		3.397	3.102	8.7 89 0.00
0 T		0.768	0.566	26.3# 64 -0.04
1 T		2.495	2.773	-11.1 113 0.00
22 TC 23 T 24 T 25 S	Chloroform 1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane-d4	3.142 2.597 2.153 2.334	3.472 2.949 2.477 2.209	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
26 I	1,4-Difluorobenzene Benzene 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone Toluene-d8 Toluene	1.000	1.000	0.0 90 0.00
27 TM		1.023	1.038	-1.5 108 -0.01
28 T		0.377	0.344	8.8 97 -0.01
29 TM		0.290	0.306	-5.5 111 -0.01
30 TC		0.252	0.262	-4.0 111 0.00
31 T		0.310	0.316	-1.9 108 -0.01
32 T		0.096	0.091	5.2 103 0.00
33 T		0.370	0.391	-5.7 115 0.00
34 T		0.076	0.061	19.7 82 0.00
35 S		1.143	1.158	-1.3 90 0.00
36 TCM		1.137	1.184	-4.1 109 0.00
37 I 38 T 39 T 40 T 41 T 42 T 43 TMP 44 TC 45 T 46 T 47 T 48 TP 51 T 52 T	Chlorobenzene-d5 trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	1.000 1.281 0.850 1.180 0.512 0.806 2.786 4.778 1.737 3.720 3.084 0.484 1.670 1.075 2.389 2.535 2.351	1.000 1.165 0.710 1.154 0.461 0.710 2.762 4.884 1.733 3.772 3.140 0.365 1.645 0.816 2.349 2.450 2.183	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

^{(#) =} Out of Range VB010305.D M262NAP.M

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011029\VB010305.D

Acq On : 29 Oct 2001 8:38 am
Sample : Vstd020
Misc : Vstd020

Vial: 1 Operator: Skelton Inst : GC VOA 2

Method

Multiplr: 1.00

MS Integration Params: TBA.P

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Nov 06 13:58:13 2001 Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev P	Area%	Dev(min)
54 t	Napthalene	3.707	2.860	22.8	88	0.00

4A

VOLATILE METHOD BLANK SUMMARY

L	ab.	ID
	.uu	,.

Lab Name:	FMETL		_ Project:	010001		MB
NJDEP#:	13461	Case No.: 16539	Locatio	n: <u>641</u>	SDG N	lo.:
Lab File ID:	VB01030	06.D	La	ab Sample	ID: MB	
Date Analyze	ed: <u>10/29/01</u>	 	Ti	me Analyz	ed: 10:0	4
GC Column:	RTX502.	ID: <u>0.25</u> (mm)	Н	leated Pur	ge: (Y/N)	<u>N</u>
Instrument II	D: GCMS#2					

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

	Lab ID.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	641-2	1653902	VB010309.D	12:33
02	641-5	1653905	VB010310.D	13:17

COMMENTS:			

2B SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

FMETL Lab Name: NJDEP# 13461

Project 10001 Location 641

	EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB		
01	MB	92.0	101.0	95.0		
02	641-2	107.3	97.0	97.7		
03	641-5	103.0	92.3	94.3		

SMC1 1,2-DCE-d4

1,2-Dichloroethane-d4

SMC2 Tol-d8

Toluene-d8

SMC3 BFB Bromofluorobenzene

D System Monitoring Compounds diluted out

Spike Recovery and RPD Summary Report - Soil

Method

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Initial Calibration

Non-Spiked Sample: VB010268.D

Spike Sample

Spike Duplicate Sample

| VB010270.D

File ID: VB010269.D Sample: 1653103 MS Acq Time: 25 Oct 2001 12:21 pm 1653103 MSD

25 Oct 2001

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene	0.0 0.0 0.0 0.0 0.0	20 20 20 20 20 20	21 21 22 21 22	20 21 21 21 21	105 105 109 107 109	101 104 104 105 103	4 1 5 2 5	22 21 24 21 21	59-172 66-142 62-137 59-139 60-133

^{# -} Fails Limit Check

M262NAP.M

Thu Nov 08 15:00:49 2001

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Heated Purge: (Y/N)

Ν

 Lab Name:
 FMETL
 Project:
 010001

 NJDEP#:
 13461
 Case No.:
 16539
 Location:
 641
 SDG No.:

 Lab File ID (Standard):
 VB010305.D
 Date Analyzed:
 10/29/01

 Instrument ID:
 GCMS#2
 Time Analyzed:
 8:38

(mm)

ID: 0.25

GC Column: RTX502.2

	IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT_#
12 HOUR STD	511055	16.74	3864170	19.48	1081120	27.32
UPPER LIMIT	1022110	17.24	7728340	19.98	2162240	27.82
LOWER LIMIT	255528	16.24	1932085	18.98	540560	26.82
Lab ID.						
МВ	519014	16.75	3921542	19.48	1094267	27.32
641-2	480508	16.76	3734825	19.48	1045618	27.33
641-5	480412	16.76	3814988	19.48	1050488	27.32

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

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

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

* Values outside of contract required QC limits

Quantitation Report (QT Reviewed)

Data File: C:\HPCHEM\1\DATA\011029\VB010306.D

Acq On : 29 Oct 2001 10:04 am

Operator: Skelton Inst : GC VOA 2

: MB Sample Misc : MB Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 1 14:04 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Nov 01 11:14:40 2001
Response via : Initial Calibration

DataAcq Meth: M262NAP

Internal Standards	R.T. QIon	Response C	onc Ui	nits Dev	(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.75 128 19.48 114 27.32 119	3921542	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4	18.35 65	1119292	27.72	ua/I.	0.00
Spiked Amount 30.000	Range 70 - 12			-	0.00
35) Toluene-d8	23.50 98			-	0.00
Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 81 - 11 30.34 95 Range 74 - 12	1727916	28.36		0.00

Target Compounds

Ovalue

Quantitation Report

Data File: C:\HPCHEM\1\DATA\011029\VB010306.D

: 29 Oct 2001 10:04 am

Operator: Skelton

Sample Misc : MB

Acq On

: MB

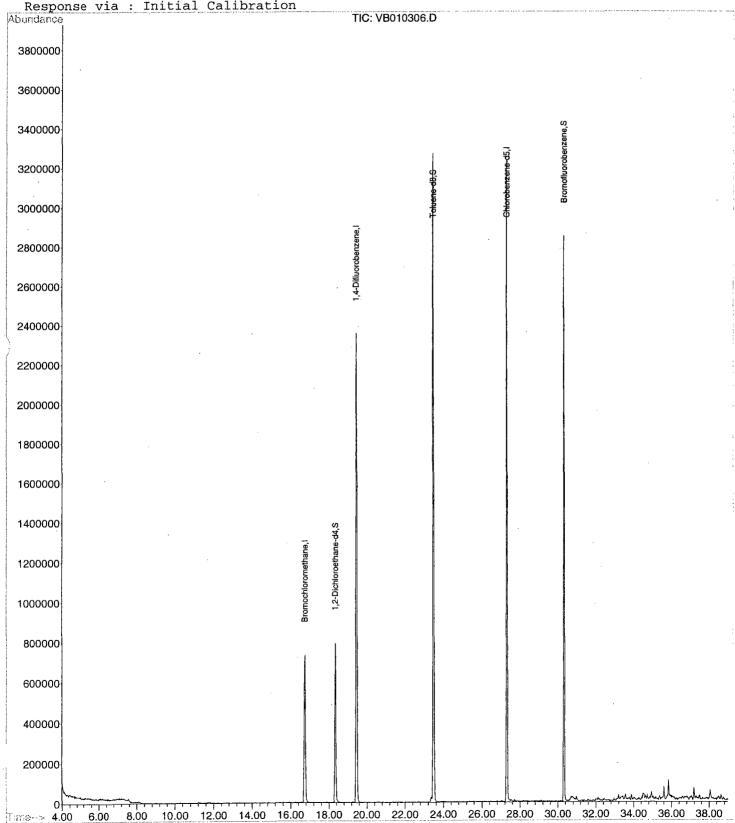
: GC VOA 2 Inst

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 1 14:04 2001

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Vial: 3 Data File : C:\HPCHEM\1\DATA\011029\VB010309.D

: 29 Oct 2001 12:33 pm Operator: Skelton Acq On : 1653902 Inst : GC VOA 2 Sample : 641-2 Misc Multiplr: 1.00

MS Integration Params: TBA.P Ouant Results File: M262NAP.RES Quant Time: Nov 6 15:42 2001

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Mon Oct 29 11:58:32 2001
Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T. QIon	Response C	onc Ur	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.76 128 19.48 114 27.33 119	3734825	30.00 30.00 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 70 - 121	13714550 Recovery 5647681	96.35 = 97.02	351.67%# ug/L 0.00 321.17%#

Target Compounds

Ovalue

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011029\VB010309.D

Vial: 3

: 29 Oct 2001 12:33 pm Acq On : 1653902 Sample

Operator: Skelton : GC VOA 2

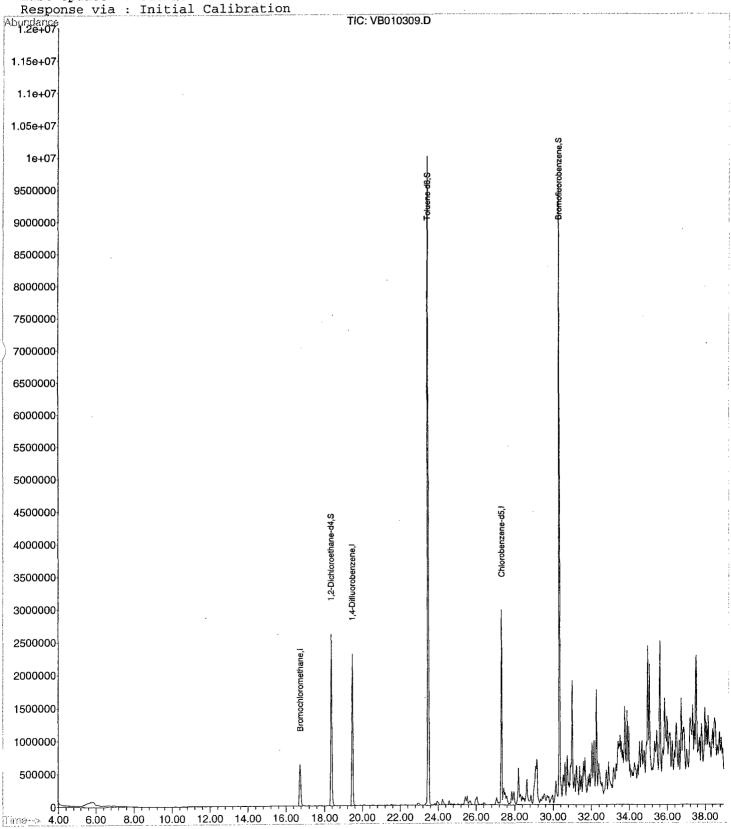
: 641-2 Misc

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 6 15:42 2001

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011029\VB010310.D

Vial: 4

Acq On : 29 Oct 2001 1:17 pm Operator: Skelton Sample : 1653905 Inst : GC VOA 2 Misc : 641-5 Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 6 15:42 2001 Quant Results File: M262NAP.RES

Quant Method: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Mon Oct 29 11:58:32 2001

Response via: Initial Calibration

Target Compounds

54) Napthalene

DataAcq Meth : M262NAP Internal Standards R.T. QIon Response Conc Units Dev(Min) _____ 1) Bromochloromethane 16.76 128 480412 19.48 114 3814988 30.00 ug/L 30.00 ug/L 26) 1,4-Difluorobenzene 0.00 30.00 ug/L 0.00 30.00 ug/L 0.00 27.32 119 1050488 37) Chlorobenzene-d5 System Monitoring Compounds 18.36 65 3798358 101.62 ug/L 0.01 Range 70 - 121 Recovery = 338.73%# 23.50 98 13407500 92.21 ug/L 0.00 25) 1,2-Dichloroethane-d4 30.000 Spiked Amount 35) Toluene-d8 Range 81 - 117 Recovery = 307.37%# 30.34 95 5496111 93.98 ug/L 0.00 Spiked Amount 30.000 49) Bromofluorobenzene 30.000 Range 74 - 121 Recovery = $3\bar{1}3.27\%$ # Spiked Amount

38.65 128

240915

Qvalue

1.86 ug/L

Quantitation Report

Inst

Data File : C:\HPCHEM\1\DATA\011029\VB010310.D

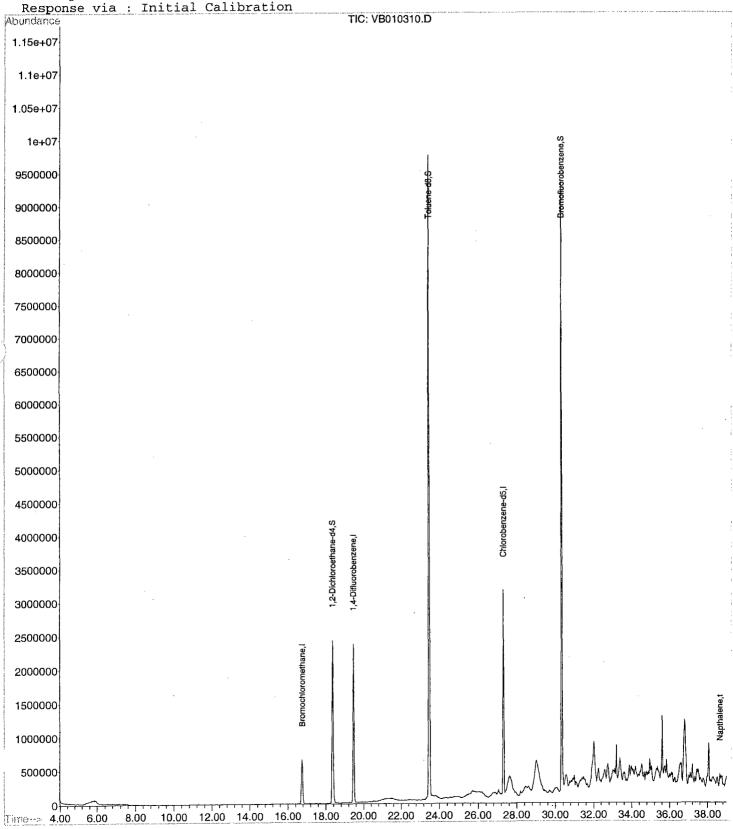
Vial: 4 : 29 Oct 2001 1:17 pm Operator: Skelton

: GC VOA 2 : 1653905 Sample Multiplr: 1.00 Misc : 641-5

MS Integration Params: TBA.P Quant Time: Nov 6 15:42 2001 Ouant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Initial Calibration

Acq On



TPHC

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

Client:

U.S. Army

Project #:

16539

DPW. SELFM-PW-EV

Location:

Bldg.641

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

26-Oct-01

Matrix:

Date Extracted:

29-Oct-01

Inst. ID.:

Soil GC TPHC INST. #1

Shake

RTX-5, 0.32mm ID, 30M

Extraction Method: Analysis Complete:

30-Oct-01

Column Type: Injection Volume:

1uL

Analyst:

B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1653901	641-1	1.00	15.17	77.14	194	ND
1653902	641-2	1.00	15.86	79.55	180	1585.49
1653903	641-3	1.00	15.17	76.43	195	ND
1653904	641-4	1.00	15.36	73.67	200	ND
1653905	641-5	1.00	15.30	72.76	203	347.79
1653906	F.D.	1.00	15.13	76.34	196	ND
METHOD BLANK	MB-011029	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Calibration Files

=T013655.D 100 =T013656.D 50 =T013654.D 20 =T013658.D 10 =T013657.D

	20	=1013030.D	10	-101.	.057.5						
		Compound		5	100	50	20	10	Avg		%RSD
2) 3) 4) 5) 6) 7) 8) 9) 10) 11) 12) 13)	tC tC tC tC tC	C8 C10 C12 C14 C16 C18 C20 C22 C24 C26 C28 C30 C32 C32		1.744 2.003 2.113 2.299 2.493 2.560 2.514 2.749 2.833 2.890 2.766 2.766 2.764 2.766	1.887 2.147 2.213 2.326 2.384 2.472 2.458 2.537 2.572 2.593 2.550 2.620 2.620 2.589	1.886 2.126 2.208 2.324 2.406 2.471 2.478 2.572 2.606 2.634 2.598 2.673 2.654 2.631	1.754 1.965 2.156 2.268 2.366 2.394 2.435 2.524 2.557 2.598 2.549 2.602 2.589 2.573	1.738 2.057 2.083 2.306 2.379 2.508 2.458 2.557 2.595 2.636 2.569 2.581 2.613 2.599	1.802	- E E E E E E E E E E E E E E E E E E E	
16) 17) 18) 19) 20)	tC tC tC TC TC sC	C38 C40 c42 Pristane Phytane o-terphenyl		2.526 2.197 1.886 2.536 2.753 2.654	2.460 2.275 2.124 2.306 2.476 2.507	2.422 2.148 1.935 2.402 2.516 2.538	2.425 2.199 1.972 2.282 2.487 2.504	2.430 2.178 1.902 2.379 2.554 2.538	2.453 2.199 1.964 2.381 2.557	E4 E4 E4 E4 E4	1.79

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011029\T013778.D

: 29 Oct 2001 10:57 am : Tstd050 Operator: B.Patel Acq On Inst : GC/MS Ins Sample : 50 ppm std Multiplr: 1.00 Misc

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 tC	C8	18.019	20.843 E3	3 -15.7	110	-0.04
2 tC	C10	20.595	22.802 E3	3 -10.7	107	0.00
3 TC	C12	21.549	22.721 E	3 -5.4	103	0.00
4 tC	C14	23.048	23.547 E3	3 -2.2	101	0.00
5 tC	C16	24.057	24.016 E	0.2	100	0.00
6 tC	C18	24.812	23.780 E3	3 4.2	96	0.00
7 tC	C20	24.684	24.726 E3	3 -0.2	100	0.00
8 tC	C22	25.878	25.517 E3	3 1.4	99	0.00
9 tC	C24	26.326	25.822 E3	3 1.9	99	0.00
10 tC	C26	26.702	26.057 E3	3 2.4	99	0.00
11 tC	C28	26.061	25.697 E3	1.4	99	0.00
12 tC	C30	26.583	26.455 E3	0.5	99	0.00
13 tC	C32	26.447	26.298 E	0.6	99	0.00
14 tC	Ć34	26.317	26.295 E3	0.1	100	0.00
15 tC	C36	26.661	27.268 E3	3 -2.3	102	0.00 .
16 tC	C38	24.528	26.387 E3	-7.6	109	0.00
17 tC	C40	21.994	25.659 E3	3 -16.7	119	0.00
18 tC	c42	19.638	25.239 E3		130	0.01
19 TC	Pristane	23.812	23.320 E3		97	0.00
TC	Phytane	25.573	24.928 E3	3 2.5	99	0.00
sC	o-terphenyl	25.484	25.233 E3	1.0	99	0.00
22 tC	TPHC - total	28.994	28.534 E3	1.6	107	0.02

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011029\T013790.D

Acq On : 30 Oct 2001 7:45 am Sample : Tstd050 Misc : 50 ppm std Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 tC	C8	18.019	21.265 E3	-18.0	113	-0.05
2 tC 3 TC	C10 C12	20.595 21.549	23.030 E3 22.890 E3	-11.8 -6.2	108 104	0.00 0.00
4 tC	C12 C14	23.048	23.796 E3	-0.2 -3.2	104	0.00
5 tC	C14 C16	24.057	24.233 E3	-3.2 -0.7	102	0.00
6 tC	C18	24.057	25.443 E3	-0.7 -2.5	101	0.00
7 tC	C20	24.612	25.445 E3 25.116 E3	-1.8	101	0.00
8 tC	C22	25.878	25.833 E3	0.2	100	0.00
9 tC	C24	26.326	26.113 E3	0.8	100	0.00
10 tC	C26	26.702	26.371 E3	1.2	100	0.00
10 tC	C28	26.061	26.008 E3	0.2	100	0.00
12 tC	C30	26.583	26.766 E3	-0.7	100	0.00
13 tC	C32	26.447	26.571 E3	-0.5	100	0.00
14 tC	C34	26.317	26.462 E3	-0.6	101	0.00
15 tC	C36	26.661	27.555 E3	-3.4	103	0.00
16 tC	C38	24.528	26.392 E3	-7.6	109	0.00
17 tC	C40	21.994	25.433 E3	-15.6	118	0.00
18 tC	c42	19.638	24.982 E3	-27.2#	129	0.01
19 TC	Pristane	23.812	23.432 E3	1.6	98	0.00
TC	Phytane	25.573	25.233 E3	1.3	100	0.00
sC	o-terphenyl	25.484	25.511 E3	-0.1	101	0.00
22 tC	TPHC - total	28.994	28.710 E3	1.0	108	0.51#

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

Client:

U.S. Army

Project #:

16539

DPW. SELFM-PW-EV

Location:

Bldg.641

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

26-Oct-01

Matrix:

Soil

Date Extracted:

29-Oct-01

Inst. ID.

001

Extraction Method :

20-000-0.

Column Type :

GC TPHC INST. #1

RTX-5, 0.32mm ID, 30M Analysis Complete:

Shake 30-Oct-01

Injection Volume :

1uL

Analyst:

B.Patel

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1653901		10.00	10.75	107.48
1653902		 10.00	10.48	104.83
1653903		10.00	12.67	126.71
1653904		 10.00	12.25	122.46
1653905	-	 10.00	12.29	122.85
1653906		10.00	12.08	120.78
METHOD BLANK	MB-011029	 10.00	12.95	129.50

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16539

DPW. SELFM-PW-EV

Location:

Bldg.641

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

26-Oct-01

Matrix:

Soil

Date Extracted:

20-001-01

Inst. ID.

. ____

Date Extracted.

29-Oct-01

Column Type :

GC TPHC INST. #1 RTX-5, 0.32mm ID, 30M Extraction Method: Analysis Complete: Shake 30-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1653901MS	1000	0.00	891.51	89.15	75-125
1653901MSD	1000	0.00	877.48	87.75	75-125

RPD	1.59	20.00

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

Client:

U.S. Army

Project #:

16539

DPW. SELFM-PW-EV

Location:

Bldg.641

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

26-Oct-01

Matrix:

Soil

Date Extracted :

20-001-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

29-Oct-01 Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

30-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-011029	29-Oct-01	1000	999.59	99.96	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011029\T013779.D Vial: 2

Acq On : 29 Oct 2001 11:31 am Operator: B.Patel Sample : MB-011029 Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 29 11:56 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound ______

System Monitoring Compounds

21) sC o-terphenyl 12.45 330102 12.954 mg Spiked Amount 10.000 Range 8 - 13 Recovery = 129.54%# 330102 12.954 mg/L

Target Compounds

Quantitat Report

Inst

Vial: 2

Multiplr: 1.00

Operator: B.Patel

: GC/MS Ins

Data File: C:\HPCHEM\1\DATA\011029\T013779.D

: 29 Oct 2001 11:31 am Aca On Sample

: MB-011029

Misc

IntFile : TPHCINT.E

Ouant Time: Oct 29 11:56 2001 Ouant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

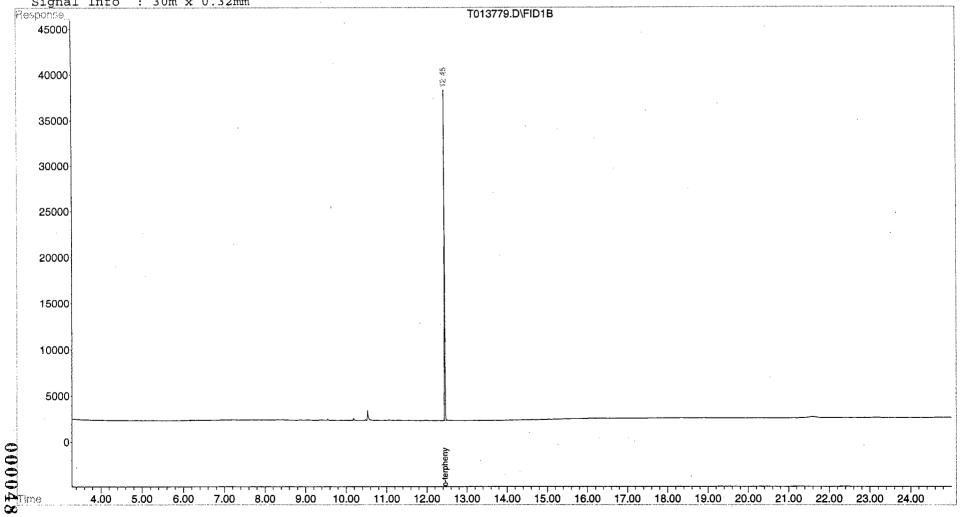
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 úl Signal Phase : HP-5

Signal Info : 30m x 0.32mm



Quantitation Report (QT Reviewed)

Vial: 4

Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Oct 29 13:02 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 273904 10.748 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 107.48%#

Target Compounds

Ouantitat Report

Data File : C:\HPCHEM\1\DATA\011029\T013781.D

: 29 Oct 2001 12:37 pm Aca On

Operator: B.Patel : GC/MS Ins

Vial: 4

Misc

Sample

: 1653901s

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 29 13:02 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

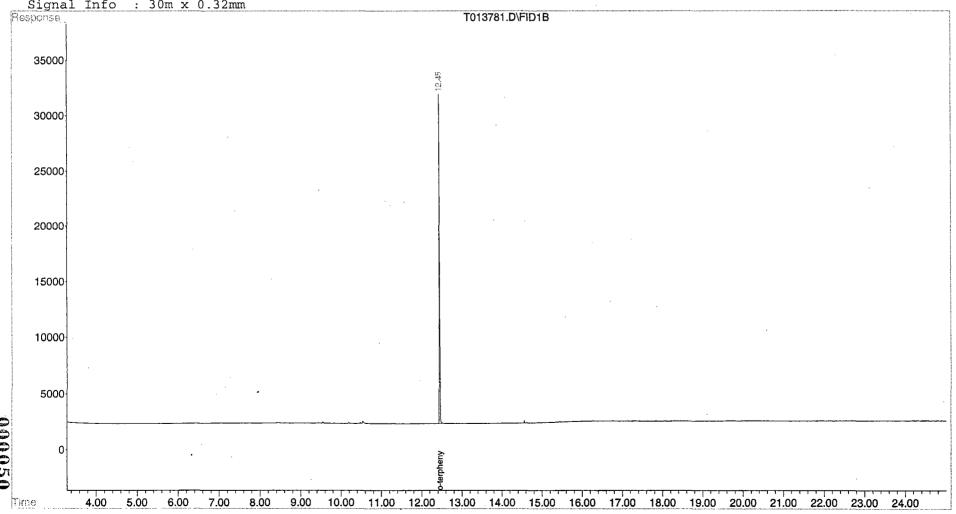
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$



Quantitation Report (QT Reviewed)

Vial: 7

Operator: B.Patel
Inst : GC/MS Ins Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Oct 30 7:48 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

System Monitoring Compounds 21) sC o-terphenyl 12.45 267145 10.483 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 104.83%# Target Compounds 3) TC C12 8.90 39884 1.851 mg/L 4) tC C14 10.00 184275 7.995 mg/L 5) tC C16 11.01 160833 6.686 mg/L 6) tC C18 11.47 74489 3.002 mg/L 7) tC C20 11.91 90824 3.679 mg/L 8) tC C22 12.73 39076 1.510 mg/L 19) TC Pristane 11.50 60677 2.548 mg/L	Compound	R.T.	Response	Conc Units
3) TC C12 8.90 39884 1.851 mg/L 4) tC C14 10.00 184275 7.995 mg/L 5) tC C16 11.01 160833 6.686 mg/L 6) tC C18 11.47 74489 3.002 mg/L 7) tC C20 11.91 90824 3.679 mg/L 8) tC C22 12.73 39076 1.510 mg/L	21) sC o-terphenyl			9 ·
20) TC Phytane 11.91 90824 3.552 mg/L 22) tC TPHC - total 12.45 11599825 400.079 mg/L m	3) TC C12 4) tC C14 5) tC C16 6) tC C18 7) tC C20 8) tC C22 19) TC Pristane 20) TC Phytane	10.00 11.01 11.47 11.91 12.73 11.50 11.91	184275 160833 74489 90824 39076 60677 90824	7.995 mg/L 6.686 mg/L 3.002 mg/L 3.679 mg/L 1.510 mg/L 2.548 mg/L 3.552 mg/L

Data File: C:\HPCHEM\1\DATA\011029\T013784.D

Vial: 7 Acq On : 29 Oct 2001 2:16 pm Operator: B.Patel Sample : 1653902s Inst : GC/MS Ins Misc Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Oct 30 7:48 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm T013784.D\FID1B Response 40000 35000 30000 25000 20000 15000 10000 5000 00005 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011029\T013785.D

Acq On : 29 Oct 2001 2:49 pm Sample : 1653903s Operator: B.Patel Inst : GC/MS Ins

Misc Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Ouant Time: Oct 29 15:14 2001 Ouant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 322913 12.671 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 126.71%#

Target Compounds

Quantitat Report

Data File : C:\HPCHEM\1\DATA\011029\T013785.D

Aca On : 29 Oct 2001 2:49 pm

Operator: B.Patel Inst : GC/MS Ins

Sample : 1653903s Misc

Multiplr: 1.00

Vial: 8

IntFile : TPHCINT.E

Quant Time: Oct 29 15:14 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

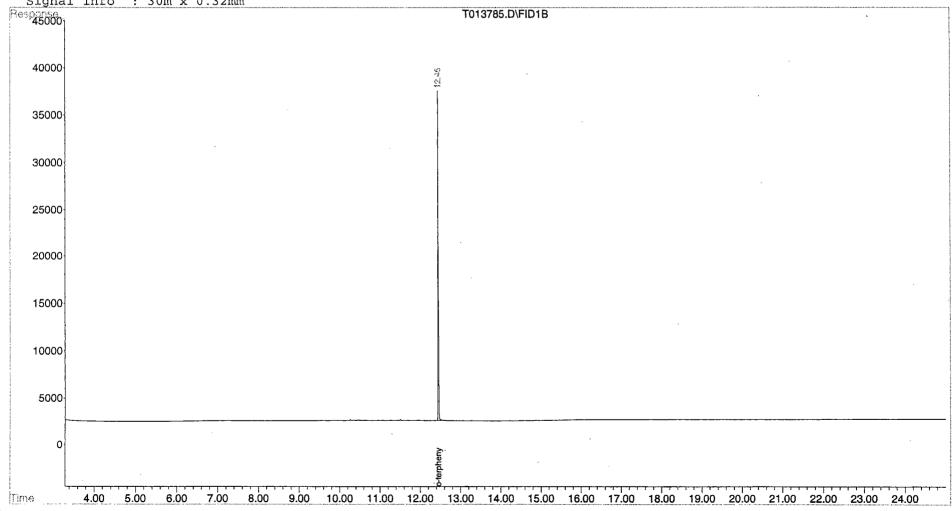
: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011029\T013786.D

Acq On : 29 Oct 2001 3:22 pm Sample : 1653904s

Operator: B.Patel Inst : GC/MS Ins

Multiplr: 1.00

Vial: 9

Misc : IntFile : TPHCINT.E

Quant Time: Oct 29 15:47 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Compound Response Conc Units _____

System Monitoring Compounds

henyl 12.45 312080 12.246 mg/L 10.000 Range 8 - 13 Recovery = 122.46%# 21) sC o-terphenyl Spiked Amount 10

Target Compounds

Data File : C:\HPCHEM\1\DATA\011029\T013786.D

Vial: 9

Sample

Acq On : 29 Oct 2001 3:22 pm

Operator: B.Patel Inst : GC/MS Ins

Misc

: 1653904s

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Oct 29 15:47 2001 Ouant Results File: TPH95.RES

Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

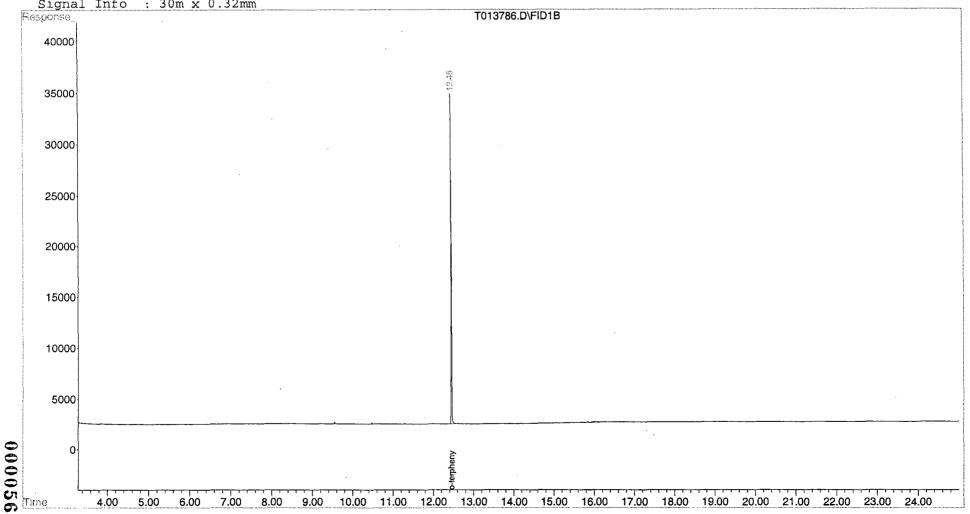
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcg Meth: TPH95.M

Volume Ini. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\011029\T013787.D Vial: 10

Acq On : 29 Oct 2001 3:55 pm Operator: B.Patel Sample : 1653905s Inst : GC/MS Ins

Multiplr: 1.00 Misc

IntFile : TPHCINT.E

Quant Time: Oct 30 7:50 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

Signal Phase : HP-5 Signal Info : 30m x 0.32mm

Compour	ıd		R.T.	Response	Conc Units	
System Monito 21) sC o-terphe Spiked Amount	enyl	unds Range	12.45 8 - 13	313053 Recovery =	12.285 mg/L 122.85%#	
Target Compou 22) tC TPHC - t			12.45	2245187	77.437 mg/L m	

Quantitat Report

Vial: 10

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011029\T013787.D

Acq On : 29 Oct 2001 3:55 pm

Operator: B.Patel Inst : GC/MS Ins

Misc : IntFile :

Sample

: 1653905s : : TPHCINT.E

Quant Time: Oct 30 7:50 2001 Quant Results File: TPH95.RES

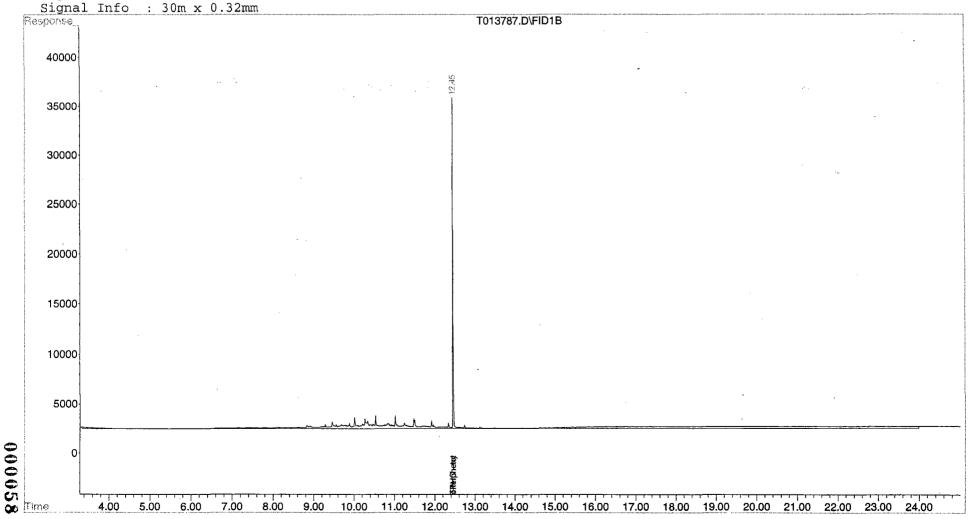
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011029\T013788.D

Vial: 11 Acq On : 29 Oct 2001 4:29 pm Operator: B.Patel Inst : GC/MS Ins Sample : 1653906s

Multiplr: 1.00 Misc Misc : IntFile : TPHCINT.E

Quant Time: Oct 29 16:55 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks Last Update : Wed Oct 24 13:32:50 2001

Response via: Initial Calibration

DataAcq Meth: TPH95.M

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

R.T. Response Conc Units Compound

System Monitoring Compounds

12.45 307790 12.078 mg/L 21) sC o-terphenyl nenyl 12.45 307790 12.078 mg 10.000 Range 8 - 13 Recovery = 120.78%# Spiked Amount

Target Compounds

Quantitat/ Report

Data File : C:\HPCHEM\1\DATA\011029\T013788.D

Aca On : 29 Oct 2001 4:29 pm Operator: B.Patel Inst : GC/MS Ins

Vial: 11

Misc

Sample

: 1653906s

Multiplr: 1.00

IntFile

: TPHCINT.E

Quant Time: Oct 29 16:55 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

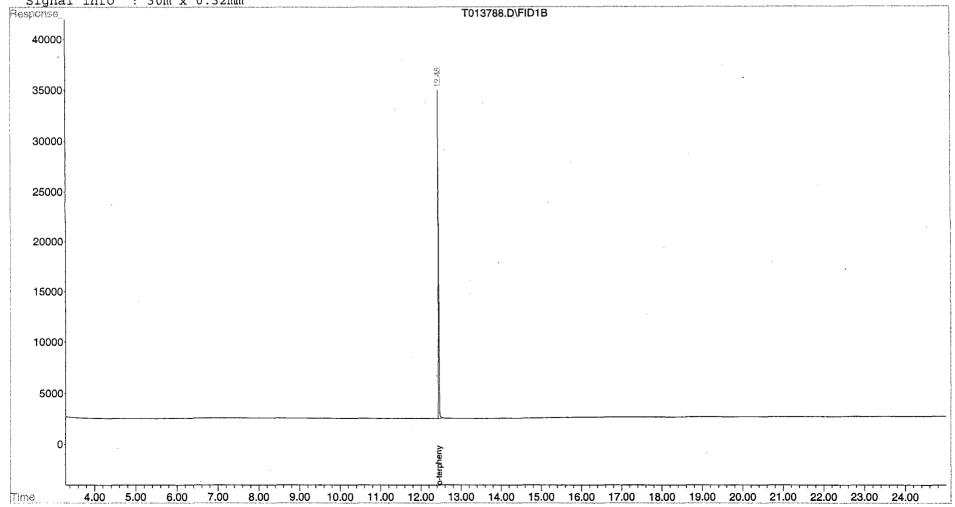
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : 30m x 0.32mm



90006

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

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

Laboratory Certification #13461

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.

Baniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 644

Field Sample Location	Laboratory	Matrix	Date and Time	Date Received		
	Sample ID#		Of Collection			
644-1/8'	1650501	Soil	12-Oct-01 11:40	10/12/01		
644-2/8'	1650502	Soil	12-Oct-01 11:55	10/12/01		
644-3/8'	1650503	Soil	12-Oct-01 12:55	10/12/01		
644-4/8'	1650504	Soil	12-Oct-01 13:18	10/12/01		
644-5/8'	1650505	Soil	12-Oct-01 13:40	10/12/01		
F. D./8'	1650506	Soil	12-Oct-01	10/12/01		

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright/Date

10-19-01

Laboratory Director

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MS/MSD Results Summary	9-10
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Method Summary

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

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
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
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	yes
5.	IR Spectra submitted for standards, blanks and samples.	- NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	s <u>yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes
Addit	ional comments:	- -
		_
	10-19-01	
Labor	ratory Manager Date	

0000021

Fort Vionmo Bidg. 173, SELFM-PW-EV, For Tel (732)532-4359 Fax (732)532 NJDEP Certification #13461

Fort Monmouth Envi nmental 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

Chain of Custody Record

Customer: D.	Project No: 01-0001			Analysis Parameters								Comments:			
Phone #: XX/	475		Location:	BUG. E	,44		T	of						н	
()DERA ()OMA ()Other:						TP	50						N		
Samplers Name / Con	npany: Mark	LAURA-	TUS- PW	507	Sample	#	ΙO	L						K	
LIMS/Work Order #	Sample Lo		Date	Time	Туре	bottles	נ	I D						PPM	Remarks / Preservation Method
16505 01	644-1	81	10-12-01	1140	SOIL	1	X	×						500	24°C
02	11 - 2	81	(1	1155	11	11	X	X	Mark Street					300	71
03	11 -3	8'	1/	1255	ii	И	X	K	140					800	11
04	11 -4	8'	+1	1318	Ч	D	*	X						600	L)
05	11 -5	8'	ч	1340	Ч	()	X	X			14 2			0	31
06	FiD.	8'	(((/	11	メ	X		425.					17
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					<u> </u>										
Relinquished by (signatur	re): Da	te/Time:	Received by	signature):		Relinquished by (signature):			:	Date/Time: Received by			ved by ((signature):	
Matter	10-12-0	1 1455	hell	11/1/1	N										
					Relind	Relinquished by (signature): Date/Time: Received by (signature):			(signature):						
Report Type: ()Full, (Meduced, ()Standard, ()Screen / non-certified, ()EDD R							Rema	rks:	•						
Turnaround time: () tand	lard 3 wks, ()Rus	shDays,	()ASAP Ver	bal Hrs.		·	<u> </u>								

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

Client:

U.S. Army

Project #:

16505

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

OQA-QAM-025

Date Received:

12-Oct-01

Analysis: Matrix:

Soil

15-Oct-01

Date Extracted:

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1650501	644-1	1.00	15.93	76.41	186	1297.72
1650502	644-2	1.00	15.54	76.73	190	3203.55
1650503	644-3	1.00	15.34	78.20	189	308.93
1650504	644-4	1.00	15.71	77.50	186	5166.71
1650505	644-5	1.00	15.51	76.93	190	ND
1650506	F.D	1.00	15.78	78.41	183	3459.95
METHOD BLANK	MB-2515	1.00	15:00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Zalik	oration Files				
5	=T013655.D	100	=T013656.D	50	=T013654.D
20	=T013658.D	10	=T013657.D		

1)		Compound	5	100	50	20	10	Avg		%RSD
- /	tC	C8						1.802		4.30
2)	tC	C10					2.057		E4	3.79
3) (4) (5)	TC	C12								2.66
(4)	tC	C14						2.305		1.02
	tC	C16							E4	2.12
6)	tC	C18						2.481		2.44
7) 4 (8)	tC	C20							E4	1.20
÷ (8)	tC	C22	2.749	2.537	2.572	2.524	2.557	2.588	$\mathbf{E4}$	3.55
u 19)	tC	C24	2.833	2.572	2.606	2.557	2.595	2.633	$\mathbf{E4}$	4.31
10)	tC	C26	2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
41 1)	tC	C28	2.766	2.550	2.598	2.549	2.569	2.606	E4	3.51
11) (2)	tC	C30	2.816	2.620	2.673	2.602	2.581	2.658	E4	3.56
1 3)	tC	C32	2.764	2.603	2.654	2.589	2.613	2.645	E4	2.69
14)	tC	C34	2.766	2.589	2.631	2.573	2.599	2.632	E4	2.97
	tC	C36					2.627		E4	2.14
2 .6)	tC	C38	2.526	2.460	2.422	2.425	2.430	2.453	E4	1.79
15) (6) (7)	tC	C40	2.197	2.275	2.148	2.199	2.178	2.199	E4	2.14
18)	tC	c42	1.886	2.124	1.935	1.972	1.902	1.964	E4	4.86
19)	TC	Pristane							E4	4.20
₹0)	TC	Phytane		2.476			2.554		E4	4.43
(11)	sC	o-terphenyl	2.654				2.538		E4	2.41
22)	tC	TPHC - total		2.604					E4	13.48

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013669.D

: 15 Oct 2001 7:43 pm Acq On Operator: B.Patel : Tstd050 Sample Inst : GC/MS Ins

: 50 PPM STD Multiplr: 1.00 Misc

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Multiple Level Calibration

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

1		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 2	tC tC	C8 C10	18.019 20.595	19.014 E3 22.377 E3	-5.5 -8.7	101 105	0.01
34	TC	C12	21.549	23.085 E3	-7.1	105	0.00
5 آلــــــــــــــــــــــــــــــــــــ	tC	C14 C16	23.048 24.057	24.180 E3 24.776 E3	-4.9	104 103	0.00
6 7	tC tC	C18 C20	24.812 24.684	25.012 E3 25.466 E3	-0.8 -3.2	101 103	0.00
8 9	tC tC	C22 C24	25.878 26.326	26.348 E3 26.670 E3	-1.8 -1.3	102 102	0.00 0.00
10 11	tC tC	C26 C28	26.702 26.061	26.927 E3 26.495 E3	-0.8 -1.7	102 102	0.00
11 2 13	tC tC	C30 C32	26.583 26.447	27.243 E3 26.985 E3	-2.5 -2.0	102 102	0.00 0.00
14 -15		C34 C36	26.317 26.661	26.921 E3 27.874 E3	-2.3 -4.5	102 105	0.00
15 16 17	tC tC	C38 C40	24.528 21.994	26.428 E3 25.099 E3	-7.7 -14.1	109 117	0.00
18		c42 Pristane	19.638 23.812		-23.2 -1.0	125 100	0.00
19	TC	Phytane o-terphenyl	25.573 25.484	25.856 E3 26.125 E3	-1.1 -2.5	103 103	0.00
۷.	έC	TPHC - total	28.994	28.793 E3	0.7	108	0.28

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013680.D

Vial: 27

Acq On : 16 Oct 2001 1:49 am
Sample : Tstd050
Misc : 50 PPM STD
IntFile : TPHCINT.E Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

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

1 t(Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
•		18.019	18.377 E3	-2.0	97	0.00
2 t(20.595	21.602 E3	-4.9	102	0.00
3 TO		21.549	22.362 E3	-3.8	101	0.00
		23.048	23.537 E3	-2.1	101	0.00
a 15 t(24.057	24.206 E3	-0.6	101	0.00
6 t(24.812	25.449 E3	-2.6	103	0.00
7 t(C C20	24.684	24.900 E3	-0.9	100	0.00
8 to	C C22	25.878	25.708 E3	0.7	100	0.00
4 9 to	C C24	26.326	26.033 E3	1.1	100	0.00
10 to	C C26	26.702	26.298 E3	1.5	100	0.00
_11 to	C C28	26.061	25.816 E3	0.9	99	0.00
11 to	C C30	26.583	26.526 E3	0.2	99	0.00
1 3 to	C C32	26.447	26.300 E3	0.6	99	0.00
14 tC	C C34	26.317	26.214 E3	0.4	100	0.00
		26.661	27,110 E3	-1.7	102	0.00
15 to		24.528	25.753 E3	-5.0	106	0.00
17 to		21.994	24.509 E3	-11.4	114	0.00
18 to		19.638	23.560 E3	-20.0	122	0.00
		23.812	23.703 E3	0.5	99	0.00
19 TC		25.573	25.161 E3	1.6	100	0.00
3C	-	25.484	25.505 E3	-0.1	100	0.00
1-		28.994	27.463 E3	5.3	103	-0.95#
ا ا	, IIIIC COCAI	20.754	27.405 115	3.3	100	0.55%

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011015\T013691.D

Acq On : 16 Oct 2001 7:53 am Sample : Tstd050

Operator: B.Patel

Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Mon Oct 15 14:01:50 2001

Response via : Multiple Level Calibration

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

1 to	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 t(2 t(- · · · · · · · · · · · · · · · · · · ·	18.019 20.595	18.508 E3 21.645 E3	-2.7 -5.1	98 102	0.00
		21.549	22.587 E3	-4.8	102	0.00
3 TO	C C14	23.048	23.954 E3	-3.9	103	0.00
₄ J 5 t(C C16	24.057	24.677 E3	-2.6	103	0.00
6 t(C C18	24.812	24.781 E3	0.1	100	0.00
7 t(C C20	24.684	25.412 E3	-2.9	103	0.00
8 to		25.878	26.192 E3	-1.2	102	0.00
		26.326	26.528 E3	-0.8	102	0.00
10 to		26.702	26.758 E3	-0.2	102	0.00
11 to 2 to 113 to		26.061	26.272 E3	-0.8	101	0.00
2 to		26.583	26.943 E3	-1.4	101	0.00
11 3 to		26.447	26.675 E3	-0.9	100	0.00
14 to		26.317	26.560 E3	-0.9	101	0.00
15 to		26.661	27.443 E3	-2.9	103	0.00
F PO CC		24.528	25.998 E3	-6.0	107	0.00
il/EC		21.994	24.561 E3	-11.7	114	-0.01
18 to	·	19.638	23.252 E3	-18.4	120	0.00
19 TC		23.812	23.971 E3	-0.7	100	0.00
- 80 TC		25.573	25.721 E3	-0.6	102	0.00
اقا يقا		25.484	25.988 E3	-2.0	102	0.00
2 /C	C TPHC - total	28.994	27.291 E3	5.9	103	1.02#

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

Client:

U.S. Army

Project #:

16505

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

12-Oct-01

Matrix:

Soil

Date Extracted:

Inst. ID.

GC TPHC INST. #1

Extraction Method:

15-Oct-01 Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1650501		10.00	9.23	92.26
1650502		10.00	9.75	97.52
1650503		10.00	9.54	95.37
1650504		10.00	10.84	108.35
1650505		10.00	9.90	99.03
1650506		10.00	10.25	102.54
*				
		•		
4				
			•	
		:		
METHOD BLANK	MB-2515	10.00	11.26	112.64

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16505

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

12-Oct-01

Matrix:

Soil

Inst. ID.

Date Extracted:

15-Oct-01

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

16-Oct-01

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1650241MS	1000	0.00	924.95	92.50	75-125
1650241MSD	1000	0.00	961.53	96.15	75-125

RPD	3.88	20.00

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

Client:

U.S. Army

Project #:

16505

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

12-Oct-01

Matrix:

Soil

Date Extracted:

15-Oct-01

Inst. ID.

GC TPHC INST. #1 RTX-5, 0.32mm ID, 30M **Extraction Method:**

Shake

Column Type: Injection Volume:

1uL

Analysis Complete: Analyst:

16-Oct-01 B.Patel

Sample	Date Extracted	. Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-2516	15-Oct-01	1000	827.43	82.74	75-125

(QT Reviewed) Quantitation Report Data File : C:\HPCHEM\1\DATA\011015\T013659.D Vial: 6 Acq On : 15 Oct 2001 2:05 pm Operator: B.Patel Sample : MB-2515 Inst : GC/MS Ins Multiplr: 1.00 Misc IntFile : TPHCINT.E Quant Time: Oct 15 15:05 2001 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via : Initial Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : $30m \times 0.32mm$ R.T. Response Conc Units Compound System Monitoring Compounds $\gamma 1$ 12.45 287051 11.264 mg, 10.000 Range 8 - 13 Recovery = 112.64%# 21) sC o-terphenyl 287051 11.264 mg/L Spiked Amount Target Compounds

000011

Data le : C:\HPCHEM\1\DATA\011015\T013659.D ial: 6 Acq On : 15 Oct 2001 2:05 pm Operator: B.Patel Sample : MB-2515 Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 15 15:05 2001 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcq Meth : TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : 30m x 0.32mm Response T013659.D\FID1B 35000 30000 25000 20000 15000 10000 5000 000012 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Quantitation Report (QT Reviewed)

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011015\T013677.D

Vial: 24

Acq On : 16 Oct 2001 12:09 am Operator: B.Patel Sample : 1650501s Inst : GC/MS Ins

Misc

IntFile : TPHCINT.E

Quant Time: Oct 16 7:51 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001

Response via: Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

			Compound	d		R.T.	Response	Conc Units	
Fr		Syst	em Monito	ring Compo	ounds				
			o-terpher	nyl		12.45	235108	9.226 mg/L	
1	Spi	.ked	Amount met Compour	10.000	Range	8 - 13	Recovery	= 92.26%#	
L		Targ	get Compour	nds					
	3)	TC	C12			8.91	39768	1.846 mg/L	
	4)	tC	C14	•		10.01	160674	6.971 mg/L	
	5)	tC	C16			11.02	148335	6.166 mg/L	
	6)	tC	C18			11.48	87583	3.530 mg/L	
	7)	tC	C20			11.91	89277	$3.617~\mathrm{mg/L}$	
# 1	8)	tC	C22			12.73	50087	1.935 mg/L	
	19)	TC	Pristane			11.50	35344	1.484 mg/L	
<u>.</u>	19) 20)	TC	Phytane			11.91	89277	$3.491~{ m mg/L}$	
	22)	tC	TPHC - to	otal		12.45	9159756	315.921 mg/L m	

__ial: 24 Data le : C:\HPCHEM\1\DATA\011015\T013677.D Acq On : 16 Oct 2001 12:09 am Operator: B.Patel Sample : 1650501s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 16 7:51 2001 Quant Results File: TPH95.RES Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase: HP-5 Signal Info : 30m x 0.32mm Response T013677.D\FID1B 35000 30000 25000 20000 15000 10000 5000 000014

11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00

6.00

7.00

4.00

5.00

10.00

9.00

8.00

Quantitation Report (QT Reviewed)

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011015\T013678.D

Vial: 25 Acq On : 16 Oct 2001 12:42 am Operator: B.Patel Inst : GC/MS Ins

Misc

: 1650502s Sample

IntFile : TPHCINT.E Quant Time: Oct 16 7:51 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

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

			Compound	f		R.T.	Response	Conc Units	
Ethically St		Syst	em Monito o-terpher	-	ounds	12.45	248514	9.752 mg/L	
determent	Spi	.ked .	Amount	10.000	Range	8 - 13	Recovery	= 97.52%#	
		_	et Compour	nas					
	3)	TC	C12			8.75	56806	2.636 mg/L	
	4)	tC	C14			10.01	57121	2.478 mg/L	
賣	5)	tC	C16			11.02	83926	3.489 mg/L	
	6)	tC	C18			11.50	192238	7.748 mg/L	
_	7)	tC	C20			11.91	44937	1.820 mg/L	
	19)	TC	Pristane			11.50	192238	8.073 mg/L	
	20)	TC	Phytane			11.96	90899	3.554 mg/L	
-	22)	tC	TPHC - to	otal		12.45	22149070	763.924 mg/L m	l

Data le : C:\HPCHEM\1\DATA\011015\T013678.D

Acq On : 16 Oct 2001 12:42 am Sample : 1650502s

Misc

IntFile : TPHCINT.E

Quant Time: Oct 16 7:51 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$ Response T013678.D\FID1B 40000 35000 30000 25000 20000 15000 10000 5000 000016 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Time

__ial: 25

Multiplr: 1.00

Operator: B.Patel

Inst : GC/MS Ins

Quantitation Report (QT Reviewed) Data File : C:\HPCHEM\1\DATA\011015\T013679.D Vial: 26 Acq On : 16 Oct 2001 1:16 am Sample : 1650503s Misc : IntFile : TPHCINT.E Operator: B.Patel Inst : GC/MS Ins Multiplr: 1.00 Quant Time: Oct 16 8:32 2001 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Initial Calibration DataAcq Meth : TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : 30m x 0.32mm Compound R.T. Response Conc Units System Monitoring Compounds
21) sC o-terphenyl 12.45 243039 9.537 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 95.37%# Target Compounds 22) tC TPHC - total 12.45 2148869 74.115 mg/L m

Data le : C:\HPCHEM\1\DATA\011015\T013679.D √ial: 26 Acg On : 16 Oct 2001 1:16 am Operator: B.Patel Sample : 1650503s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Ouant Time: Oct 16 8:32 2001 Ouant Results File: TPH95.RES Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcg Meth: TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : 30m x 0.32mm Response T013679.D\FID1B 34000 32000 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 4000 000018 2000 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 4.00 5.00 7.00 8.00

T013679.D TPH95.M

```
Quantitation Report (QT Reviewed)
       Data File : C:\HPCHEM\1\DATA\011015\T013681.D
                                                                                 Vial: 28
       Acq On : 16 Oct 2001 2:22 am
                                                                             Operator: B.Patel
       Sample : 1650504s
Misc :
IntFile : TPHCINT.E
                                                                             Inst : GC/MS Ins
                                                                             Multiplr: 1.00
       Quant Time: Oct 16 7:52 2001 Quant Results File: TPH95.RES
       Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
       Title : TPHC Calibration 06/05/97 21 peaks
       Last Update : Mon Oct 15 14:01:50 2001
       Response via : Initial Calibration DataAcq Meth : TPH95.M
       Volume Inj. : 1 ul
       Signal Phase : HP-5
       Signal Info : 30m \times 0.32mm
                                               R.T. Response Conc Units
           Compound
System Monitoring Compounds
21) sC o-terphenyl 12.45 276119 10.835 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 108.35%#
    Target Compounds
                                      8.81 53481 2.482 mg/L

9.96 74559 3.235 mg/L

10.91 46506 1.933 mg/L

11.50 364799 14.702 mg/L

11.96 147313 5.968 mg/L

11.50 364799 15.320 mg/L

11.96 147313 5.760 mg/L

11.50 36476924 1258.093 mg/L m
 3) TC C12
4) tC C14
5) tC C16
6) tC C18
7) tC C20
19) TC Pristane
20) TC Phytane
22) tC TPHC - total
```

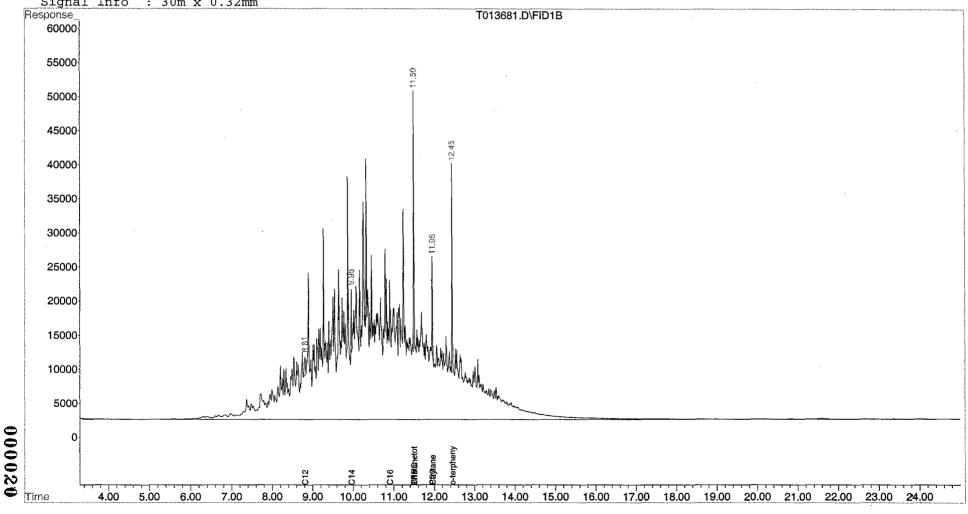
Page 1

Data .le : C:\HPCHEM\1\DATA\011015\T013681.D . .ial: 28 Acq On : 16 Oct 2001 2:22 am Operator: B.Patel Sample : 1650504s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 16 7:52 2001 Quant Results File: TPH95.RES Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



(QT Reviewed) Quantitation Report Data File : C:\HPCHEM\1\DATA\011015\T013682.D Vial: 29 Acq On : 16 Oct 2001 2:55 am Operator: B.Patel Sample : 1650505s Inst : GC/MS Ins Misc Misc : IntFile : TPHCINT.E Multiplr: 1.00 Quant Time: Oct 16 8:32 2001 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Initial Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : $30m \times 0.32mm$ R.T. Response Conc Units Compound System Monitoring Compounds
21) sC o-terphenyl 12.45 252351 9.903 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 99.03%#

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int. 000021

Data le : C:\HPCHEM\1\DATA\011015\T013682.D ___ial: 29 Acq On : 16 Oct 2001 2:55 am Operator: B.Patel Sample : 1650505s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 16 8:32 2001 Ouant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase: HP-5 Signal Info : 30m x 0.32mm Response T013682.D\FID1B 34000 32000 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 4000 2000 00002 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Time

(QT Reviewed) Quantitation Report Data File : C:\HPCHEM\1\DATA\011015\T013683.D Vial: 30 : 16 Oct 2001 3:28 am Operator: B.Patel

Inst : GC/MS Ins Sample : 1650506s Multiplr: 1.00 Misc

: TPHCINT.E IntFile

Acq On

Quant Time: Oct 16 7:53 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

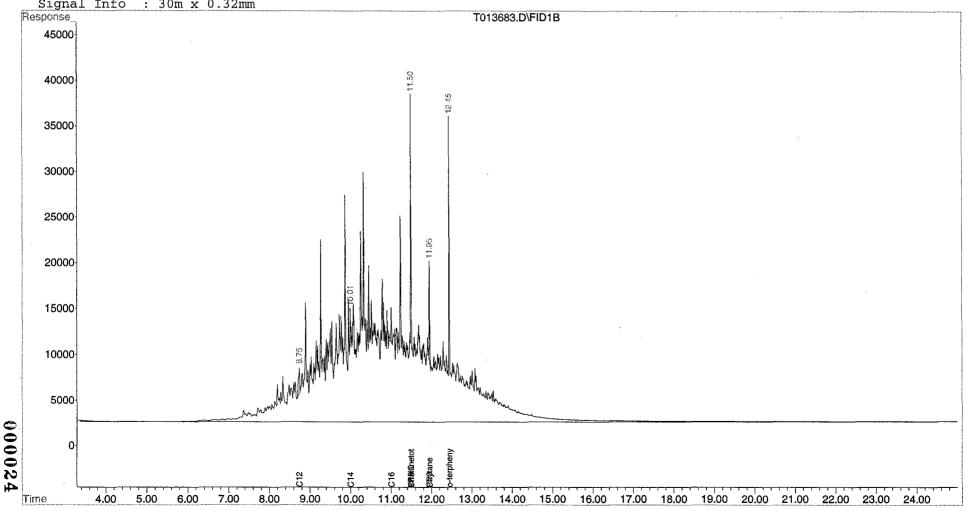
Last Update : Mon Oct 15 14:01:50 2001

Response via : Initial Calibration DataAcq Meth : TPH95.M

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

u ji								
		Compou	ınd		R.T.	Response	Conc Units	
21	_	em Monit	oring Compo	ounds	12.45	261314	10.254 mg/L	
Sp		Amount	10.000	Range	8 - 13	Recovery	= 102.54%#	
	Targ	et Compo	ounds					
3) TC	C12			8.75	59154	2.745 mg/L	
- 4	tC	C14			10.01	32201	1.397 mg/L	
5) tC	C16			11.01	42845	1.781 mg/L	
\Box 6) tC	C18			11.50	252579	10.180 mg/L	
7) tC	C20			11.96	113550	4.600 mg/L	
_ 19) TC	Pristan	.e		11.50	252579	10.607 mg/L	
20) TC	Phytane			11.96	113550	$4.440~\mathrm{mg/L}$	
22) tC	TPHC ~	total		11.50	24824132	856.187 mg/L r	n

Data le : C:\HPCHEM\1\DATA\011015\T013683.D √ial: 30 Acq On : 16 Oct 2001 3:28 am Operator: B.Patel Sample : 1650506s Inst : GC/MS Ins Misc Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Oct 16 7:53 2001 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Mon Oct 15 14:01:50 2001 Response via: Multiple Level Calibration DataAcq Meth : TPH95.M Volume Inj. : 1 ul Signal Phase: HP-5 Signal Info : 30m x 0.32mm Response T013683.D\FID1B 45000



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

1.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	.e	<u>/</u>
2.	Table of Contents submitted	1997 AME	<u></u>
3.	Summary Sheets listing analytical results for all targeted and non-targe compounds submitted	eted -	_
4.	Document paginated and legible		1
5 .	Chain of Custody submitted	<i>i)</i> _	
6 .	Samples submitted to lab within 48 hours of sample collection	-	
7 .	Methodology Summary submitted	-	
8.	Laboratory Chronicle and Holding Time Check submitted		
9.	Results submitted on a dry weight basis	-	
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	-	
Date	Laboratory Manager or Environmental Consultant's Signature		3

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

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

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-4359 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: UST Program

Blda. 644

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
Т. В.	1653801	Methanol	26-Oct-01	10/26/01
644-1 8'	1653802	Soil	26-Oct-01 10:10	10/26/01
644-2 8'	1653803	Soil	26-Oct-01 10:27	10/26/01
644-3 8'	1653804	Soil	26-Oct-01 10:48	10/26/01
644-4 8'	1653805	Soil	26-Oct-01 11:03	10/26/01
644-5 8'	1653806	Soil	26-Oct-01 11:28	10/26/01
FD 8'	1653807	Soil	26-Oct-01	10/26/01

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright Date Laboratory Director

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: D. DESAL	Project No: 01-000	/			Analysis	Parameters		Comments:
Phone #: 12/415	Location: BLUG . 6	44	Ų	7),	
()DERA (OMA ()Other:	(FORMER)	·	J OA	- 2			N U	
Samplers Name / Company: Manu Law	4-WS-PUS07		# +	· 4			Ž	
LIMS/Work Order # Sample Location	Date Time	Type t	ootties /S	, p			rim	Remarks / Preservation Method
145138 OI T.B.	10-26-01 -	METH.						2882 2400
02 644-1 81	1010	SOIL	2 >	$\leq X$			1400	2883
03644-2 8'	1027		1 1				300	2900
1 04 644-3 8'	1048						375	2901
05 644-4 8'	1103						300	2902
04 644-5 8'	1128						15	
07 F.D 8'	V ~	I V	VV	<u> </u>			-	2907 V
<u> </u>								
				_		-		
							<u> </u>	
					'		·	
Relinquished by (signature): Date/Time:	Received by (signature)		Relinquish	ed by (sig	nature):	Date/Time:	Received by	(signature):
Relinquished by (signature): Date/Time:	Regeived by (signature):		Relinquish	ed by (sig	nature):	Date/Time:	Received by	(signature):
Report Type: ()Full, ()Reduced, ()Standard, ()Screet Turnaround time: ()Standard 3 wks, ()Rush Days			Rei	narks:	:		<u> </u>	

METHOD SUMMARY

Method Summary

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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16538

Site: Bldg. 644

Date

Hold Time

Date Sampled

10/26/01

NA.

Receipt/Refrigeration

10/26/01

NA

Extractions

Analyses

1. VOA

10/26/01

14 days

CONFORMANCE-NON-CONFORMANCE

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

			Indicate Yes, No, N/A
ì.	Chromatograms labeled/Comp (Field samples and method	ounds identified i blanks)	Ves
_			7
2.	Retention times for chromatog	ams provided	765
3.	GC/MS Tune Specifications	•	
		eet Criteria Meet Criteria	Ves
4.	GC/MS Tuning Frequency – P series and 12 hours for 8000 se	erformed every 24 hours for 600 cries	yes
5.	GC/MS Calibration – Initial C analysis and continuing calibra sample analysis for 600 series	alibration performed before sample ation performed within 24 hours of and 12 hours for 8000 series	YRS
6.	GC/MS Calibration requireme	nts	·
		ion Check Compounds Meet Criteria Performance Check Compounds Meet Criteria	yes Yes
7.	Blank Contamination - If yes,	List compounds and concentrations in each blank:	NO_
	a. VOA F	raction	•
	b. B/N Fra	ection NA	
	c. Acid Fr	action , yA	
8.	Surrogate Recoveries Meet Cr	iteria	yes
	If not met, list those compoutside the acceptable ran	pounds and their recoveries, which fall age:	
	a. VOA F		
		action up	
	c. Acid Fr	action NA	
	If not met, were the calcuas "estimated"?	lations checked and the results qualified	
9.	Matrix Spike/Matrix Spike Du (If not met, list those compour outside the acceptable range)	uplicate Recoveries Meet Criteria nds and their recoveries, which fall	Yes
	outside the acceptable range)		
	a. VOA F	raction	
	b. B/N Fra		
	c Acid Fr		

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

			Indicate Yes, No, N/A
10.	Internal Standard Area/Retention Time Shift Me (If not met, list those compounds, which fall ou		43
	a. VOA Fraction		
	b. B/N Fraction <u>NA</u> c. Acid Fraction NA		¥
	c. Acid Fraction NA		
11.	Extraction Holding Time Met		NA
-	If not met, list the number of days exceeded for	r each sample:	
12.	Analysis Holding Time Met		yes_
	If not met, list the number of days exceeded for	each sample:	• •
Add	ditional Comments:		
Lab	poratory Manager	Date: 11~70~01	

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL: Method Detection Limit

J : Compound identified below detection limit

B: Compound found in blank

D : Results are from a dilution of the sample
 U : Compound searched for but not detected
 E : Compound exceeds calibration limit

PQL: Practical Quantitation Limit

NLE: No limit established

RT: Retention time

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

ID.

Lab Name:	FMETL			Project:	010001	MB	
NJDEP#:	13461		Case No.: 16538	_ Location	: <u>664</u> S	DG No.:	
Matrix: (soil/	water)	SOIL		Lab	Sample ID:	МВ	
Sample wt/v	ol:	10.0	(g/ml) <u>G</u>	Lab	File ID:	VB010284.D	
Level: (low/r	med)	MED		Date	e Received:	10/26/01	
% Moisture:	not dec.	0	 	Date	e Analyzed:	10/26/01	
GC Column:	RTX5	02. ID:	0.25 (mm)	Dilu	tion Factor:	1.0	
Soil Extract \	Volume:	25000	(uL)	Soil	Aliquot Volu	me: 125	(uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
156-59-2	cis-1,2-Dichloroethene	100	υ
67-66-3	Chloroform	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	Ū
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	Ū
124-48-1	Dibromochloromethane	200	Ū
108-90-7	Chlorobenzene	100	Ü
100-41-4	Ethylbenzene	200	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Q

Lab Name:	FMETL			Project:	010001	MB	
			O N 4000	•			
NJDEP#:	13461		Case No.: 16538	Locatio	n: <u>664</u> S	DG No.:	
Matrix: (soil/w	vater)	SOIL		La	b Sample ID:	МВ	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	La	b File ID:	VB010284.D	
Level: (low/m	ned)	MED		Da	ate Received:	10/26/01	
% Moisture: n	ot dec.	0		Da	ate Analyzed:	10/26/01	
GC Column:	RTX50	2. ID:	0.25 (mm)	Di	lution Factor:	1.0	
Soil Extract V	olume: 2	25000	(uL)	So	il Aliquot Volu	me: 125	(uL

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	300	· U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U
91-20-3	Nanthalene	100	

COMPOUND

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Lab Name:	FMETL		Project:	010001		МВ	
NJDEP#:	13461	Case No.: 165	38 Location:	664	SD	G No.:	
Matrix: (soil/\	water)	SOIL	Lab	Sample	ID: <u>N</u>	/IB	
Sample wt/vo	ol:	10.0 (g/ml) <u>G</u>	Lab	File ID:	<u>\</u>	/B010284.D	
Level: (low/r	ned)	MED	Date	Receiv	ed: <u>1</u>	0/26/01	
% Moisture:	not dec.	0	Date	Analyz	ed: <u>1</u>	0/26/01	
GC Column:	RTX5	02. ID: <u>0.25</u> (mm)	Dilut	ion Fact	or: <u>1</u>	.0	
Soil Extract \	/olume:	25000 (uL)	Soil	Aliquot \	√olum	e: <u>125</u>	(uL
Number TICs	s found:	0	CONCENTRATION (ug/L or ug/Kg)	OŅ UNI UG/			
CAS NO.		COMPOUND NAME		RT	EST	CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Lab Name:	FMETL			Project:	010001	МВ	
NJDEP#:	13461		Case No.: 16538	-	 	DG No.:	
Matrix: (soil/v	vater)	SOIL		La	b Sample ID:	МВ	
Sample wt/vo	ol:	10.0	(g/ml) G	_ La	b File ID:	VB010306.D	
Level: (low/n	ned)	MED		Da	ate Received:	10/26/01	
% Moisture: r	not dec.	0		Da	ate Analyzed:	10/29/01	
GC Column:	RTX50	2. ID:	<u>0.25</u> (mm)	Di	lution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Sc	oil Aliquot Volu	ıme: 125	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	·U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	Ū
100-41-4	Ethylbenzene	200	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

(uL)

				.	040004	МВ	
Lab Name:	FMETL		- 	Project:	010001		i
NJDEP#:	13461		Case No.: 16538	Location	n: <u>664</u> SI	DG No.:	
Matrix: (soil/w	vater)	SOIL		Lai	b Sample ID:	МВ	
Sample wt/vo	oł:	10.0	(g/ml) <u>G</u>	Lal	b File ID:	VB010306.D	
Levei: (low/m	ned)	MED	· ————	Da	te Received:	10/26/01	
% Moisture: r	not dec.	0	······································	Da	te Analyzed:	10/29/01	
GC Column:	RTX50	<u>12.</u> ID:	<u>0.25</u> (mm)	Dile	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	· So	il Aliquot Volu	me: 125	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U
91-20-3	Napthalene	100	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

D.

Lab Name:	FMETL			Project:	01000	1	ME	,
NJDEP#:	13461		Case No.: <u>1</u> 65	38 Locat	ion: <u>664</u>	SI	DG No.:	
Matrix: (soil/	water)	SOIL		Ł	.ab Sampi	e ID:	MB	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	L	ab File ID	:	VB010306.D)
Level: (low/r	ned)	MED		מ	Date Rece	ived:	10/26/01	
% Moisture:	not dec.	0		ב	Date Analy	zed:	10/29/01	
GC Column:	RTX5	02. ID:	0.25 (mm)	Ε	Dilution Fa	ctor:	1.0	
Soil Extract \	/olume:	25000	(uL)	8	Soil Aliquo	t Volu	me: <u>125</u>	(uL
Number TICs	s found:	0		CONCENTRA (ug/L or ug/K		IITS: G/KG		
CAS NO.		СОМР	OUND NAME		RT	ES	T. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

					Trip Blank
∟ab Name:	FMETL		_ Project:	010001	
NJDEP#:	13461	Case No.: 16538	Locatio	n: 664	SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 1653801

 Sample wt/vol:
 10.0
 (g/ml)
 G
 Lab File ID:
 VB010293.D

 Level: (low/med)
 MED
 Date Received:
 10/26/01

% Moisture: not dec. 0 Date Analyzed: 10/26/01

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	Ū
71-43-2	Benzene	100	Ū
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	Ü
79-00-5	1,1,2-Trichloroethane	200	Ū
127-18-4	Tetrachloroethene	100	ŭ
591-78-6	2-Hexanone	200	Ū
124-48-1	Dibromochloromethane	200	Ü
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

COMPOUND

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Trip Blank

Q

Lab Name: Project: 010001 **FMETL** SDG No.: NJDEP#: 13461 Case No.: 16538 Location: 664 Matrix: (soil/water) SOIL Lab Sample ID: 1653801 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB010293.D MED Level: (low/med) Date Received: 10/26/01 % Moisture: not dec. 0 Date Analyzed: 10/26/01 GC Column: RTX502. ID: 0.25 (mm) . Dilution Factor: 1.0 Soil Aliquot Volume: 125 Soil Extract Volume: 25000 (uL)

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U
91-20-3	Nanthalene	100	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID.
-----	-----

Lab Name:	FMETL			Project:	010001		Trip Bla	ank
NJDEP#:	13461	Cas	e No.: 16538	B Location	n: 664	SD	G No.:	
Matrix: (soil/\	water)	SOIL	-	La	ab Sample	ID:	1653801	
Sample wt/vo	ol:	10.0	(g/ml) G	La	ab File ID:	,	VB010293.D	
Level: (low/r	ned)	MED		Da	ate Receiv	/ed: _	10/26/01	
% Moisture:	not dec.	0		D	ate Analyz	ed:	10/26/01	
GC Column:	RTX50	2. ID: <u>0.2</u>	5 (mm)	Di	ilution Fac	tor:	1.0	
Soil Extract \	/olume: 2	25000	_ (uL)	Se	oil Aliquot	Volun	ne: <u>125</u>	(uL)
Number TICs	s found:	0		CONCENTRA (ug/L or ug/Kg		. •		
CAS NO.		COMPOU	ND NAME		RT	ES	Г. CONC.	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

644-1 Project: Lab Name: **FMETL** 010001 NJDEP#: 13461 Case No.: 16538 Location: 664 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1653802 9.1 Lab File ID: Sample wt/vol: (g/ml) G VB010294.D MED Level: (low/med) Date Received: 10/26/01 % Moisture: not dec. 9.5 Date Analyzed: 10/26/01 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	8600	U
107131	Acrylonitrile	8600	Ü
75650	tert-Butyl alcohol	16000	U.
1634044	Methyl-tert-Butyl ether	3700	U
108203	Di-isopropyl ether	2400	J
75718	Dichlorodifluoromethane	4900	U
74-87-3	Chloromethane	1200	U
75-01-4	Vinyl Chloride	3700	U
74-83-9	Bromomethane	2400	U
75-00-3	Chloroethane	_3700	U
75-69-4	Trichlorofluoromethane	2400	U
75-35-4	1,1-Dichloroethene	1200	U
67-64-1	Acetone	2400	U
75-15-0	Carbon Disulfide	1200	U
75-09-2	Methylene Chloride	2400	U
156-60-5	trans-1,2-Dichloroethene	2400	U
75-34-3	1,1-Dichloroethane	1200	U
108-05-4	Vinyl Acetate	3700	_ U
78-93-3	2-Butanone	3700	_ U
156-59-2	cis-1,2-Dichloroethene	1200	_ U
67-66-3	Chloroform	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	2400	U
71-43-2	Benzene	1200	U
107-06-2	1,2-Dichloroethane	2400	U
79-01-6	Trichloroethene	1200	U
78-87-5	1,2-Dichloropropane	1200	U
124-48-1	Bromodichloromethane	1200	U
110-75-8	2-Chloroethyl vinyl ether	2400	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
108-10-1	4-Methyl-2-Pentanone	2400	U
108-88-3	Toluene	1200	U
10061-02-6	trans-1,3-Dichloropropene	2400	U
79-00-5	1,1,2-Trichloroethane	2400	U
127-18-4	Tetrachloroethene	1200	U
591-78-6	2-Hexanone	2400	Ū
124-48-1	Dibromochloromethane	2400	U
108-90-7	Chlorobenzene	1200	Ū
100-41-4	Ethylbenzene	2400	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

						644-1	- [
Lab Name:	FMETL			Project:	010001	_	
NJDEP#:	13461		Case No.: 16538	Locatio	n: <u>664</u> S	DG No.:	
Matrix: (soil/v	vater)	SOIL		La	b Sample ID:	1653802	
Sample wt/vo	ol:	9.1	(g/ml) G	La	ıb File ID:	VB010294.D	
Level: (low/n	ned)	MED		Da	ate Received:	10/26/01	
% Moisture: r	not dec.	9.5		Da	ate Analyzed:	10/26/01	
GC Column:	RTX50	2. ID:	0.25 (mm)	Di	lution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Sc	oil Aliquot Volu	me: <u>12.5</u> (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Ko	ug/Kg	Q
1330-20-7	m+p-Xylenes	3700	U
95-47-6	o-Xylene	2400	U
100-42-5	Styrene	2400	U
75-25-2	Bromoform	2400	U
79-34-5	1,1,2,2-Tetrachloroethane	2400	U
541-73-1	1,3-Dichlorobenzene	3700	U
106-46-7	1,4-Dichlorobenzene	3700	U
95-50-1	1,2-Dichlorobenzene	3700	U
91-20-3	Napthalene	1200	, U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

Lab Name:	FMETL			Project:	010001		644-	1
NJDEP#:	13461	Cas	se No.: 1653	38 Locati	on: 664	SD	G No.:	
Matrix: (soil/v	water)	SOIL	_	Ł	ab Sample	e ID: 1	653802	-
Sample wt/vo	ol:	9.1	(g/ml) G		ab File ID:	<u>\</u>	/B010294.D	<u> </u>
Level: (low/n	ned)	MED	_	. [Date Recei	ved: <u>1</u>	0/26/01	-
% Moisture: ı	not dec.	9.5			Date Analyz	zed: <u>1</u>	0/26/01	
GC Column:	RTX50	02. ID: <u>0.2</u>	25 (mm)	Ε	Dilution Fac	tor: 1	.0	
Soil Extract V	/olume:	25000	_ (uL)	S	Soil Aliquot	Volum	e: 12.5	(uL)
Number TICs	s found:	1	_	CONCENTRA (ug/L or ug/K		ITS: /KG		
CAS NO.		COMPOU	ND NAME		RT	EST	CONC.	Q
1.		unknown	-		31.00		4900	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

644-2 Lab Name: **FMETL** Project: 010001 NJDEP#: 13461 Case No.: 16538 Location: 664 SDG No.: SOIL Matrix: (soil/water) Lab Sample ID: 1653803 Sample wt/vol: 10.9 Lab File ID: (g/ml) G VB010295.D Date Received: 10/26/01 Level: (low/med) MED % Moisture: not dec. 12.4 Date Analyzed: 10/26/01 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	7300	U
107131	Acrylonitrile	7300	U
75650	tert-Butyl alcohol	14000	U
1634044	Methyl-tert-Butyl ether	3100	U
108203	Di-isopropyl ether	2100	U
75718	Dichlorodifluoromethane	4200	U
74-87-3	Chloromethane	1000	U
75-01-4	Vinyl Chloride	3100	U
74-83-9	Bromomethane	2100	U
75-00-3	Chloroethane	3100	U
75-69-4	Trichlorofluoromethane	2100	U
75-35-4	1,1-Dichloroethene	1000	U
67-64-1	Acetone	2100	U
75-15-0	Carbon Disulfide	1000	U
75-09-2	Methylene Chloride	2100	U
156-60-5	trans-1,2-Dichloroethene	2100	U
75-34-3	1,1-Dichloroethane	1000	U
108-05-4	Vinyl Acetate	3100	U
78-93-3	2-Butanone	3100	U
156-59-2	cis-1,2-Dichloroethene	1000	U
67-66-3	Chloroform	1000	· U
71-55-6	1,1,1-Trichloroethane	1000	U
56-23-5	Carbon Tetrachloride	2100	U
71-43-2	Benzene	1000	Ū
107-06-2	1,2-Dichloroethane	2100	U
79-01-6	Trichloroethene	1000	U
78-87-5	1,2-Dichloropropane	1000	U
124-48-1	Bromodichloromethane	1000	U
110-75-8	2-Chloroethyl vinyl ether	2100	Ū
10061-01-5	cis-1,3-Dichloropropene	1000	U
108-10-1	4-Methyl-2-Pentanone	2100	U
108-88-3	Toluene	1000	U
10061-02-6	trans-1,3-Dichloropropene	2100	U
79-00-5	1,1,2-Trichloroethane	2100	Ū
127-18-4	Tetrachloroethene	1000	Ū
591-78-6	2-Hexanone	2100	Ŭ
124-48-1	Dibromochloromethane	2100	Ü
108-90-7	Chlorobenzene	1000	U
100-41-4	Ethylbenzene	2100	Ü

COMPOUND

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Q

644-2 Project: Lab Name: 010001 **FMETL** NJDEP#: 13461 Case No.: 16538 Location: 664 SDG No.: Lab Sample ID: 1653803 SOIL Matrix: (soil/water) Sample wt/vol: 10.9 (g/ml) G Lab File ID: VB010295.D Level: (low/med) MED Date Received: 10/26/01 % Moisture: not dec. 12.4 Date Analyzed: 10/26/01 GC Column: RTX502. ID: 0.25 Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	3100	U			
95-47-6	o-Xylene	2100	C			
100-42-5	Styrene	2100	υ			
75-25-2	Bromoform	2100	U			
79-34-5	1,1,2,2-Tetrachloroethane	2100	U			
541-73-1	1,3-Dichlorobenzene	3100	U			
106-46-7	1,4-Dichlorobenzene	3100	U			
95-50-1	1,2-Dichlorobenzene	3100	U			
91-20-3	Napthalene	1000	U			

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	FMETL			Project:	010001	644-2	
NJDEP#:	13461		Case No.: <u>1653</u>	B Location	on: <u>664</u> S	 SDG No.:	- • • • • • • • • • • • • • • • • • • •
Matrix: (soil/v	vater)	SOIL		L	ab Sample ID:	1653803	
Sample wt/vo	ol:	10.9	(g/ml) <u>G</u>	L:	ab File ID:	VB010295.D	_
Level: (low/n	ned)	MED		D	ate Received:	10/26/01	_
% Moisture: r	not dec.	12.4		D	ate Analyzed:	10/26/01	_
GC Column:	RTX50	02. ID: (0.25 (mm)	D	ilution Factor:	1.0	_
Soil Extract V	/olume:	25000	(uL)	S	oil Aliquot Volu	ume: 12.5	_ (uL
					TION UNITS:		
Number TICs	found:	2		(ug/L or ug/Kg	J) UG/KG		
	T						

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 002847-72-5	Decane, 4-methyl-	31.01	4500	JN
2.	unknown	32.05	3700	7

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

644-3 Lab Name: **FMETL** Project: 010001 NJDEP#: SDG No.: 13461 Case No.: 16538 Location: 664 SOIL Lab Sample ID: 1653804 Matrix: (soil/water) Lab File ID: Sample wt/vol: 9.4 (g/ml) G VB010296.D

Level: (low/med) MED Date Received: 10/26/01
% Moisture: not dec. 15.2 Date Analyzed: 10/26/01

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

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	8800	U
107131	Acrylonitrile	8800	U
75650	tert-Butyl alcohol	16000	υ
1634044	Methyl-tert-Butyl ether	3800	U
108203	Di-isopropyl ether	2500	U
75718	Dichlorodifluoromethane	5000	U
74-87-3	Chloromethane	1300	U
75-01-4	Vinyl Chloride	3800	U
74-83-9	Bromomethane	2500	U
75-00-3	Chloroethane	3800	U
75-69-4	Trichlorofluoromethane	2500	U
75-35-4	1,1-Dichloroethene	1300	U
67-64-1	Acetone	2500	U
75-15-0	Carbon Disulfide	1300	U
75-09-2	Methylene Chloride	2500	U
156-60-5	trans-1,2-Dichloroethene	2500	U
75-34-3	1,1-Dichloroethane	1300	U
108-05-4	Vinyl Acetate	3800	U
78-93-3	2-Butanone	3800	U
156-59-2	cis-1,2-Dichloroethene	1300	U
67-66-3	Chloroform	1300	U
71-55-6	1,1,1-Trichloroethane	1300	U
56-23-5	Carbon Tetrachloride	2500	U
71-43-2	Benzene	1300	U
107-06-2	1,2-Dichloroethane	2500	U
79-01-6	Trichloroethene	1300	U
78-87-5	1,2-Dichloropropane	1300	υ
124-48-1	Bromodichloromethane	1300	U
110-75-8	2-Chloroethyl vinyl ether	2500	U
10061-01-5	cis-1,3-Dichloropropene	1300	U
108-10-1	4-Methyl-2-Pentanone	2500	U
108-88-3	Toluene	1300	U
10061-02-6	trans-1,3-Dichloropropene	2500	U
79-00-5	1,1,2-Trichloroethane	2500	U
127-18-4	Tetrachloroethene	1300	Ū
591-78-6	2-Hexanone	2500	U
124-48-1	Dibromochloromethane	2500	Ü
108-90-7	Chlorobenzene	1300	Ŭ
100-41-4	Ethylbenzene	2500	Ū

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Q

644-3 Lab Name: Project: 010001 **FMETL** NJDEP#: 13461 Case No.: 16538 Location: 664 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1653804 Sample wt/vol: 9.4 (g/ml) G Lab File ID: VB010296.D Level: (low/med) Date Received: 10/26/01 MED % Moisture: not dec. 15.2 Date Analyzed: 10/26/01 GC Column: RTX502. ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	3800	U
95-47-6	o-Xylene	2500	U
100-42-5	Styrene	2500	U
75-25-2	Bromoform	2500	Ū
79-34-5	1,1,2,2-Tetrachloroethane	2500	U
541-73-1	1,3-Dichlorobenzene	3800	Ü
106-46-7	1,4-Dichlorobenzene	3800	U
95-50-1	1,2-Dichlorobenzene	3800	U
91-20-3	Nanthalene	1300	11

COMPOUND

CAS NO.

Case No.: 16538

(g/ml) G

(uL)

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

POUNDS		
: 010001	644-3	
ation: <u>664</u> S	DG No.:	
Lab Sample ID:	1653804	
Lab File ID:	VB010296.D	
Date Received:	10/26/01	
Date Analyzed:	10/26/01	
Dilution Factor:	1.0	
Soil Aliquot Volu	me: <u>12.5</u>	(uL)

Lab ID.

MED Level: (low/med) % Moisture: not dec. 15.2 RTX502. ID: 0.25 GC Column: (mm)

SOIL

9.4

Dilution Fac Soil Aliquot

Soil Extract Volume: 25000

Number TICs found:

FMETL

13461

Lab Name:

Matrix: (soil/water)

Sample wt/vol:

NJDEP#:

CONCENTRATION UNITS:

(ug/L or ug/Kg)

Project:

Location: 664

UG/KG

COMPOUND NAME RT CAS NO. EST. CONC. Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

644-4	

FMETL Lab Name: Project: 010001 SDG No.: NJDEP#: 13461 Case No.: 16538 Location: 664 SOIL Matrix: (soil/water) Lab Sample ID: 1653805 (g/ml) G Sample wt/vol: 9.7 Lab File ID: VB010297.D Level: (low/med) MED Date Received: 10/26/01 % Moisture: not dec. 5.54 Date Analyzed: 10/26/01 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	7700	U
107131	Acrylonitrile	7700	U
75650	tert-Butyl alcohol	14000	U
1634044	Methyl-tert-Butyl ether	3300	U
108203	Di-isopropyl ether	2200	U
75718	Dichlorodifluoromethane	4400	U
74-87-3	Chloromethane	1100	U
75-01-4	Vinyl Chloride	3300	U
74-83-9	Bromomethane	2200	U
75-00-3	Chloroethane	3300	U
75-69-4	Trichlorofluoromethane	2200	U
75-35-4	1,1-Dichloroethene	1100	U
67-64-1	Acetone	2200	Ü
75-15-0	Carbon Disulfide	1100	υ
75-09-2	Methylene Chloride	2200	U
156-60-5	trans-1,2-Dichloroethene	2200	υ
75-34-3	1,1-Dichloroethane	1100	U
108-05-4	Vinyl Acetate	3300	U
78-93-3	2-Butanone	3300	U
156-59-2	cis-1,2-Dichloroethene	1100	U
67-66-3	Chloroform	1100	U
71-55-6	1,1,1-Trichloroethane	1100	U
56-23-5	Carbon Tetrachloride	2200	U
71-43-2	Benzene	1100	U
107-06-2	1,2-Dichloroethane	2200	U
79-01-6	Trichloroethene	1100	U
78-87-5	1,2-Dichloropropane	1100	U
124-48-1	Bromodichloromethane	1100	U
110-75-8	2-Chloroethyl vinyl ether	2200	U
10061-01-5	cis-1,3-Dichloropropene	1100	U
108-10-1	4-Methyl-2-Pentanone	2200	U
108-88-3	Toluene	1100	U
10061-02-6	trans-1,3-Dichloropropene	2200	U
79-00-5	1,1,2-Trichloroethane	2200	U
127-18-4	Tetrachloroethene	1100	Ū
591-78-6	2-Hexanone	2200	Ü
124-48-1	Dibromochloromethane	2200	Ü
108-90-7	Chlorobenzene	1100	ŭ
100-41-4	Ethylbenzene	2200	ŭ

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

644-4 Lab Name: Project: 010001 **FMETL** NJDEP#: 13461 Case No.: 16538 Location: 664 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1653805 Sample wt/vol: 9.7 (g/ml) G Lab File ID: VB010297.D Level: (low/med) MED Date Received: 10/26/01 % Moisture: not dec. 5.54 Date Analyzed: 10/26/01 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	······································	3300	U
95-47-6	o-Xylene		2200	U
100-42-5	Styrene		2200	U
75-25-2	Bromoform		2200	U
79-34-5	1,1,2,2-Tetrachle	1,1,2,2-Tetrachloroethane		
541-73-1	1,3-Dichlorobena	zene	3300	U
106-46-7	1,4-Dichloroben	zene	3300	U
95-50-1	1,2-Dichloroben	3300	U	
91-20-3	Nanthalene		1300	

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

4000

4500

Lab Name:	FMETL			Project:	010001		
NJDEP#:	13461		Case No.: 16538	Locatio	n: <u>664</u> S	DG No.:	
Matrix: (soil/w	vater)	SOIL		La	b Sample ID:	1653805	
Sample wt/vo	ol:	9.7	(g/ml) G	La	ub File ID:	VB010297.D	_
Level: (low/m	ned)	MED		Da	ate Received:	10/26/01	_
% Moisture: r	not dec.	5.54		Da	ate Analyzed:	10/26/01	_
GC Column:	RTX50	02. ID:	<u>0.25</u> (mm)	Di	lution Factor:	1.0	_
Soil Extract V	olume:	25000	(uL)	Sc	oil Aliquot Volu	me: 12.5	(uL)
			COI	NCENTRA	TION UNITS:		

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

33.47

34.54

		T		
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	30.75	3700	J
2. 002847-72-5	Decane, 4-methyl-	31.01	5700	JN
3.	unknown	32.04	5200	j
4.	unknown	32.14	3500	J
5. 013151-34-3	Decane, 3-methyl-	32.46	4200	JN

Number TICs found:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

644-5 Lab Name: **FMETL** Project: 010001 13461 NJDEP#: Case No.: 16538 Location: 664 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1653806 (g/ml) G Sample wt/vol: 9.8 Lab File ID: VB010307.D Level: (low/med) MED Date Received: 10/26/01 % Moisture: not dec. 12.5 Date Analyzed: 10/29/01 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	8200	U
107131	Acrylonitrile	8200	Ü
75650	tert-Butyl alcohol	15000	U
1634044	Methyl-tert-Butyl ether	3500	U
108203	Di-isopropyl ether	2300	U
75718	Dichlorodifluoromethane	4700	U
74-87-3	Chloromethane	1200	U
75-01-4	Vinyl Chloride	3500	U
74-83-9	Bromomethane	2300	U
75-00-3	Chloroethane	3500	U
75-69-4	Trichlorofluoromethane	2300	U
75-35-4	1,1-Dichloroethene	1200	U
67-64-1	Acetone	2300	υ
75-15-0	Carbon Disulfide	1200	U
75-0 9- 2	Methylene Chloride	2300	U
156-60-5	trans-1,2-Dichloroethene	2300	U
75-34-3	1,1-Dichloroethane	1200	U
108-05-4	Vinyl Acetate	3500	U
78-93-3	2-Butanone	3500	U
156-59-2	cis-1,2-Dichloroethene	1200	U
67-66-3	Chloroform	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	2300	U
71-43-2	Benzene	1200	U
107-06-2	1,2-Dichloroethane	2300	U
79-01-6	Trichloroethene	1200	U
78-87-5	1,2-Dichloropropane	1200	U
124-48-1	Bromodichloromethane	1200	U
110-75-8	2-Chloroethyl vinyl ether	2300	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
108-10-1	4-Methyl-2-Pentanone	2300	U
108-88-3	Toluene	1200	U
10061-02-6	trans-1,3-Dichloropropene	2300	U
79-00-5	1,1,2-Trichloroethane	2300	U
127-18-4	Tetrachloroethene	1200	Ū
591-78-6	2-Hexanone	2300	U
124-48-1	Dibromochloromethane	2300	U
108-90-7	Chlorobenzene	1200	Ū
100-41-4	Ethylbenzene	2300	Ü

COMPOUND

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Q

644-5 Lab Name: **FMETL** Project: 010001 NJDEP#: 13461 Case No.: 16538 Location: 664 SDG No.: Matrix: (soil/water) SOIL Lab Sample ID: 1653806 Sample wt/vol: 9.8 (g/ml) G Lab File ID: VB010307.D Date Received: 10/26/01 Level: (low/med) MED % Moisture: not dec. 12.5 Date Analyzed: 10/29/01 GC Column: RTX502. ID: 0.25 Dilution Factor: 1.0 (mm) Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	3500	U
95-47-6	o-Xylene	2300	U
100-42-5	Styrene	2300	U
75-25-2	Bromoform	2300	U
79-34-5	1,1,2,2-Tetrachloroethane	2300	U
541-73-1	1,3-Dichlorobenzene	3500	U
106-46-7	1,4-Dichlorobenzene	3500	. U
95-50-1	1,2-Dichlorobenzene	3500	U
01_20_3	Manthalone	1200	11

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID.
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Lab Name:	FMETL		Project:	010001		644-5	5
NJDEP#:	13461	Case No.: 165	38 Locat	ion: 664	SDO	3 No.:	
Matrix: (soil/	water)	SOIL	ŀ	ab Sample	e ID: 1	653806	
Sample wt/ve	ol:	9.8 (g/ml) <u>G</u>	L	.ab File ID:	<u>v</u>	B010307.D	
Level: (low/r	ned)	MED ·	[Date Recei	ved: 1	0/26/01	
% Moisture:	not dec.	12.5	Ţ	Date Analy:	zed: 1	0/29/01	
GC Column:	RTX5	02. ID: <u>0.25</u> (mm)	I	Dilution Fac	tor: <u>1</u>	.0	
Soil Extract \	√olume:	25000 (uL)	5	Soil Aliquot	Volum	e: 12.5	(uL)
Number TIC:	s found:	<u> </u>	CONCENTR (ug/L or ug/K		ITS: /KG		
CAS NO.		COMPOUND NAME		RT	EST	CONC.	Q

Soil Extract Volume: 25000 (uL)

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

FD

Lab Name:	FMETL			Project:	010001	
NJDEP#:	13461		Case No.: 16538	Location	n: <u>664</u> S	DG No.:
Matrix: (soil/w	ater)	SOIL		Lal	o Sample ID:	1653807
Sample wt/vol	l:	10.2	(g/ml) <u>G</u>	Lal	o File ID:	VB010308.D
Level: (low/m	ed)	MED		Da	te Received:	10/26/01
% Moisture: n	ot dec.	16.5		Da	te Analyzed:	10/29/01
GC Column:	RTX50	2. ID:	<u>0.25</u> (mm)	Dil	ution Factor:	1.0

CONCENTRATION UNITS:

Soil Aliquot Volume: 12.5 (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	8300	U
107131	Acrylonitrile	8300	Ü
75650	tert-Butyl alcohol	15000	Ü
1634044	Methyl-tert-Butyl ether	3500	U
108203	Di-isopropyl ether	2400	U
75718	Dichlorodifluoromethane	4700	U
74-87-3	Chloromethane	1200	Ū
75-01-4	Vinyl Chloride	3500	U
74-83-9	Bromomethane	2400	U
75-00-3	Chloroethane	3500	U
75-69-4	Trichlorofluoromethane	2400	U
75-35-4	1,1-Dichloroethene	1200	U
67-64-1	Acetone	2400	U
75-15-0	Carbon Disulfide	1200	U
75-09-2	Methylene Chloride	2400	U
156-60-5	trans-1,2-Dichloroethene	2400	U
75-34-3	1,1-Dichloroethane	1200	· U
108-05-4	Vinyl Acetate	3500	U
78-93-3	2-Butanone	3500	U
156-59-2	cis-1,2-Dichloroethene	1200	U
67-66-3	Chloroform	1200	U
71-55-6	1,1,1-Trichloroethane	1200	U
56-23-5	Carbon Tetrachloride	2400	υ
71-43-2	Benzene	1200	U
107-06-2	1,2-Dichloroethane	2400	U
79-01-6	Trichloroethene	1200	U
78-87-5	1,2-Dichloropropane	1200	U
124-48-1	Bromodichloromethane	1200	U
110-75-8	2-Chloroethyl vinyl ether	2400	U
10061-01-5	cis-1,3-Dichloropropene	1200	U
108-10-1	4-Methyl-2-Pentanone	2400	U
108-88-3	Toluene	1200	U
10061-02-6	trans-1,3-Dichloropropene	2400	U
79-00-5	1,1,2-Trichloroethane	2400	Ū
127-18-4	Tetrachloroethene	1200	U
591-78-6	2-Hexanone	2400	Ū
124-48-1	Dibromochloromethane	2400	Ü
108-90-7	Chlorobenzene	1200	Ŭ
100-41-4	Ethylbenzene	2400	Ū

COMPOUND

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab ID.

Q

Lab Name:	FMETL			_ Project:	010001	FD	
NJDEP#:	13461		Case No.: 16538	Locatio	on: <u>664</u> S	SDG No.:	
Matrix: (soil/	water)	SOIL		La	b Sample ID:	1653807	
Sample wt/v	ol:	10.2	(g/ml) <u>G</u>	La	ab File ID:	VB010308.D	_
Level: (low/r	med)	MED		Da	ate Received:	10/26/01	_
% Moisture:	not dec.	16.5	·	Da	ate Analyzed:	10/29/01	_
GC Column:	RTX50	02. ID:	0.25 (mm)	Di	lution Factor:	1.0	_
Soil Extract \	Volume:	25000	(uL)	Sc	oil Aliquot Volu	ume: 12.5	_ (uL)

CONCENTRATION UNITS:

UG/KG

(ug/L or ug/Kg)

1330-20-7	m+p-Xylenes	3500	U
95-47-6	o-Xylene	2400	U
100-42-5	Styrene	2400	U
75-25-2	Bromoform	2400	U
79-34-5	1,1,2,2-Tetrachloroethane	2400	U
541-73-1	1,3-Dichlorobenzene	3500	U
106-46-7 1,4-Dichlorobenzene		3500	U
95-50-1	1,2-Dichlorobenzene	3500	U
91-20-3	Napthalene	1200	U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab	ID.
-----	-----

Lab Name:	FMETL			Project:	: (010001		FD	
NJDEP#:	13461		Case No.: 165		-	664	SI	DG No.:	
Matrix: (soil/	water)	SOIL			Lab	Sample	ID:	1653807	
Sample wt/vo	ol:	10.2	(g/ml) <u>G</u>		Lab	File ID:		VB010308.D	·
Level: (low/r	ned)	MED	- <u></u> -		Date	Receiv	ed:	10/26/01	
% Moisture:	not dec.	16.5			Date	Analyz	ed:	10/29/01	
GC Column:	RTX5	02. ID:	<u>0.25</u> (mm)		Dilut	ion Fac	tor:	1.0	
Soil Extract \	/olume:	25000	(uL)	:	Soil	Aliquot '	Volu	me: <u>12.5</u>	(uL
Number TICs	s found:	0		CONCENTR (ug/L or ug/k		ON UNI UG/			
CAS NO.		СОМЕ	POUND NAME			RT	ES	T. CONC.	Q

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name: **FMETL** Project: 010001 NJDEP#: Case No.: 16538 Location: 644 SDG No.: 13461 BFB Injection Date: Lab File ID: VB010244.D 10/24/01 BFB Injection Time: 14:50 Instrument ID: GCMS#2 Heated Purge: (Y/N) Ν GC Column: RTX502.2 ID: 0.25 (mm)

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	15.4
75	30.0 - 66.0% of mass 95	48.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	84.8
175	4.0 - 9.0% of mass 174	6.7 (7.8)1
176	93.0 - 101.0% of mass 174	83.1 (98.0)1
177	5.0 - 9.0% of mass 176	5.7 (6.9)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
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010245.D	10/24/01	15:18
02	VSTD100	VSTD100	VB010246.D	10/24/01	16:12
03	VSTD050	VSTD050	VB010247.D	10/24/01	16:57
04	VSTD010	VSTD010	VB010248.D	10/24/01	17:42
05	VSTD005	VSTD005	VB010249.D	10/24/01	18:26

Data File: C:\HPCHEM\1\DATA\011024\VB010244.D

: 24 Oct 2001 Acq On

2:50 pm

Vial: 1

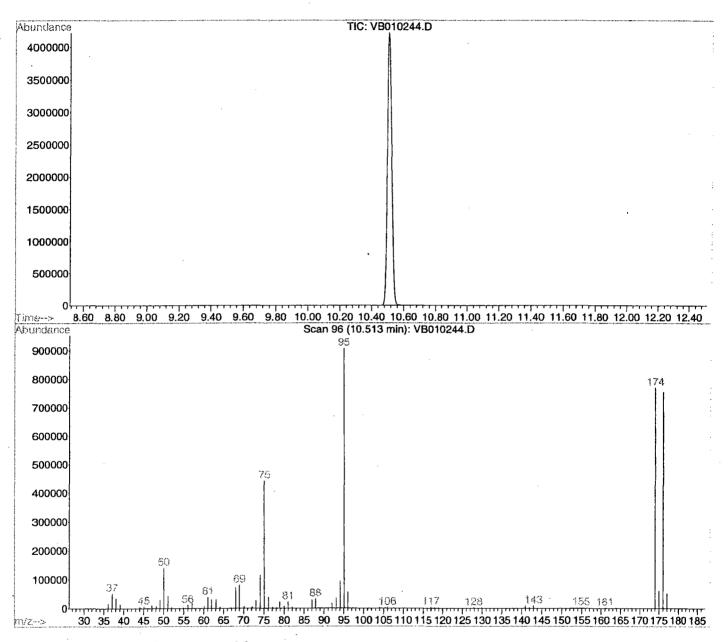
Operator: Skelton : GC VOA 2 Inst Multiplr: 1.00

: BFB Tune Misc MS Integration Params: TBA.P

: BFB Tune

Sample

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 96

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail	
	50 75 95 96 173 174 175 176	95 95 95 174 95 174 174	15 30 100 5 0.00 50 5 95	40 60 100 9 2 100 9	15.4 48.7 100.0 6.3 0.0 84.8 7.8 98.0 6.9	139904 442432 908672 57112 0 770432 60448 755200 51944	PASS PASS PASS PASS PASS PASS PASS PASS	
_							- 	_

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Initial Calibration

Calibration Files

100 =VB010246.D 50 =VB010247.D 20 =VB010245.D

=VB010248.D =VB010249.D 10 5

		Compound	100	50	20	10	5	Avg	%RSD
1.						amp			
1) 2)		Bromochloromethane Acrolein					0.230	 0 212	10.43
3)		Acrylonitrile					0.782		10.43
4)	t	tert-Butyl alcohol	0.143	0.127	0.109	0.142	0.139	0.132	10.92
5)	t	Methyl-tert-Butyl eth							10.74
6)	t	Di-isopropyl ether					1.409		11.47
7)	T	Dichlorodifluorometha							9.31
8) 9)	TP TC	Chloromethane Vinyl Chloride	2.309	2.330	1.952	2.580	2.739 2.712	2.439	12.47 11.65
10)	T	Bromomethane					1.711		16.89
11)	$\tilde{\mathbf{T}}$	Chloroethane					1.404		9.57
12)	${f T}$	Trichlorofluoromethan	4.027	3.675	3.129	3.933	4.039	3.761	10.16
13)	MC	1,1-Dichloroethene					2.908		10.81
14)	${f T}$	Acetone					1.163		31.18
15)	T	Carbon Disulfide	5.898	5.272	4.379	5.415	5.624	5.318	10.82
16) 17)	T T	Methylene Chloride trans-1,2-Dichloroeth					2.096		12.68 12.40
18)	TP	1,1-Dichloroethane					2.937		8.07
19)	T	Vinyl Acetate					3.091		13.05
20)	${f T}$	2-Butanone					0.780		6.33
21)	\mathbf{T}	cis-1,2-Dichloroethen							12.15
22)	TC	Chloroform					3.474		10.89
23)	T	1,1,1-Trichloroethane							9.92
/24) 25)	T S	Carbon Tetrachloride 1,2-Dichloroethane-d4					2.074		11.22 3.18
23)	J	1, 2-bichiof dechane da	2.210	2.370	2.311	2.330	2.413	2.334	3.10
26)	I	1,4-Difluorobenzene			IS				
27)	TM	Benzene					1.097		10.14
28)		1,2-Dichloroethane					0.401		10.05
29) 30)	TM	Trichloroethene 1,2-Dichloropropane	0.312	0.276	0.240	0.311	0.304	0.290	$9.82 \\ 10.17$
31)	T	Bromodichloromethane					0.309		10.36
32)	$ar{ extbf{T}}$	2-Chloroethyl vinyl e							11.01
33)	${f T}$	cis-1,3-Dichloroprope							12.28
34)	T	4-Methy1-2-Pentanone					0.073		9.38
35)		Toluene-d8					1.153		0.69
36)	TCM	Toluene	1.1/1	1.096	0.976	1.210	1.230	1.13/	9.10
37)	Ί	Chlorobenzene-d5			IS	STD			
38)	\mathbf{T}	trans-1,3-Dichloropro	1.575	1.331	1.076	1.242	1.183	1.281	14.70
39.)	${f T}$	1,1,2-Trichloroethane							8.96
40)	T	Tetrachloroethene					1.290		11.54
41)	T	2-Hexanone					0.484		10.70
42) 43)	T	Dibromochloromethane Chlorobenzene					0.760 2.919		13.01 8.63
44)	TC	Ethylbenzene					5.087		8.81
45)	T	m+p-Xylenes					1.795		9.15
46)	$ar{ extbf{T}}$	o-Xylene					3.849		9.24
47)	${f T}$	Styrene					3.066		8.89
48)	TP	Bromoform					0.406		22.74
49)	S	Bromofluorobenzene					1.628		2.20
50)	TP	1,1,2,2-Tetrachloroet							9.60
51)	T	1,3-Dichlorobenzene					2.537		9.93
52)	T	1,4-Dichlorobenzene 1,2-Dichlorobenzene					2.681 2.516		10.29 9.97
53) 54)	T t	Napthalene					3.747		10.04
741	L	Maperiarciic	J. J L U	5.005	J. J U 4	3.707	J. / 12 /	5.701	10.04

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name: **FMETL** Project: 010001 NJDEP#: 13461 Case No.: 16538 Location: 644 SDG No.: Lab File ID: VB010282.D BFB Injection Date: 10/26/01 Instrument ID: BFB Injection Time: 9:47 GCMS#2 GC Column: RTX502.2 ID: 0.25 Heated Purge: (Y/N) (mm) Ν

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	16.2
75	30.0 - 66.0% of mass 95	46.1
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	82.8
175	4.0 - 9.0% of mass 174	6.4 (7.8)1
176	93.0 - 101.0% of mass 174	82.0 (99.1)1
177	5.0 - 9.0% of mass 176	5.2 (6.4)2

1-Value is % mass 174

2-Value is % mass 176

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

		LAB	LAB	DATE	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010283.D	10/26/01	10:16
02	МВ	MB	VB010284.D	10/26/01	11:12
03	TRIP BLANK	1653801	VB010293.D	10/26/01	18:10
04	644-1	1653802	VB010294.D	10/26/01	18:55
05	644-2	1653803	VB010295.D	10/26/01	19:40
06	644-3	1653804	VB010296.D	10/26/01	20:24
07	644-4	1653805	VB010297.D	10/26/01	21:09

Data File : C:\HPCHEM\1\DATA\011026\VB010282.D

Acq On : 26 Oct 2001 9:47 am Sample

: BFB Tune

Operator: Skelton : GC VOA 2 Inst

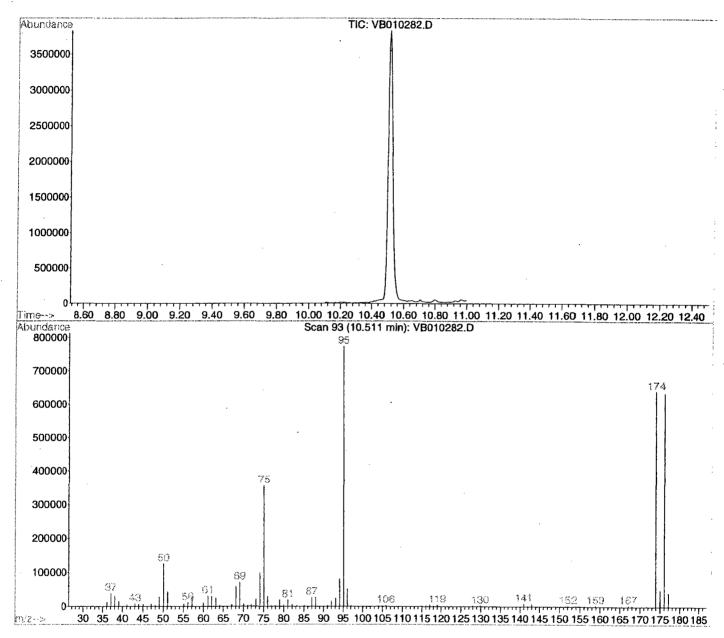
Multiplr: 1.00

Vial: 9

: BFB Tune MS Integration Params: TBA.P

Misc

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 93

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
-	50	95	15	40	16.2	125408	PASS
-	75	95	30	60	46.1	356928	PASS
	95	95	100	100	100.0	774656	PASS
- 1	96	95	5	9	6.7	51736	PASS
	173	174	0.00	2	0.0	0	PASS
	174	95	50	100	82.8	641344	PASS
1	175	174	5	9	7.8	49712	PASS
	176	174	95	101	99.1	635328	PASS
	177	176	5	9	6.4	40424	PASS

Evaluate Continuing Calibration Report

Vial: 9

Data File : C:\HPCHEM\1\DATA\011026\VB010283.D

Acq On : 26 Oct 2001 10:16 am Operator: Skelton Sample : Vstd020 Inst : GC VOA 2 Misc Multiplr: 1.00 : Vstd020

MS Integration Params: TBA.P

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 25% Max. Rel. Area: 200%

		Compound	Narati III	CODE	&D	72229	Da (i)
_		Compound	AvgRF	CCRF	±De√	Area &	Dev(min)
1		Bromochloromethane	1.000	1.000	0.0	91	0.00
2		Acrolein	0.212	0.220	-3.8	113	-0.02
3		Acrylonitrile	0.709	0.714	-0.7		0.00
4		tert-Butyl alcohol	0.132		-14.4		-0.21
5		Methyl-tert-Butyl ether	4.909	5.569	-13.4		0.00
6		Di-isopropyl ether	1.413	1.550	-9.7		-0.01
	T TP	Dichlorodifluoromethane Chloromethane	2.522 2.439	2.002 2.304	20.6 5.5		-0.01 0.00
9 1		Vinyl Chloride	2.453	2.291	6.6		-0.01
10		Bromomethane	1.356	1.355	0.1	111	-0.01
11		Chloroethane	1.297	1.308	-0.8	109	-0.03
12 ′		Trichlorofluoromethane	3.761	3.756	0.1		-0.01
13 1		1,1-Dichloroethene	2.821 ·	2.927	-3.8	116	-0.01
14	Т	Acetone	0.772	0.766	0.8	102	-0.05
15 7		Carbon Disulfide	5.318	5.313	0.1	111	0.00
16 7	f r	Methylene Chloride	1.852	1.895	-2.3	116	0.00
17 5	r 	Methylene Chloride trans-1,2-Dichloroethene 1,1-Dichloroethane	2.484	2.598	-4.6		-0.01
	ΓP	1,1-Dichloroethane	2.843		-10.1	115	0.00
19 7	r r	Vinyl Acetate 2-Butanone	3.397 0.768		-13.1	124	0.00
:1	r F	cis-1,2-Dichloroethene	2.495	2.702	-22.5 -8.3		-0.02 0.00
22 7		Chloroform	3.142	3.362	-7.0	118	0.00
	r		2.597		-11.1		0.00
24 7		Carbon Tetrachloride	2.153	2.243	-4.2	114	0.00
25 8		1,2-Dichloroethane-d4	2.334	2.312	0.9	91	0.00
		•					
26]		1,4-Difluorobenzene	1.000	1.000	0.0	92	0.00
27 7		Benzene	1.023	1.117	-9.2	119	0.00
	r	1,2-Dichloroethane	0.377	0.401	-6.4		0.00
29 1		Trichloroethene	0.290 0.252		-10.7	119	0.00
30 7 31 7		1,2-Dichloropropane Bromodichloromethane	0.252		-13.1 -9.0	123 117	0.00 0.00
32 7			0.096		-9.0	122	0.00
33 1	r P	2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone	0.370		-11.9		0.00
34 7	r	4-Methy1-2-Pentanone	0.076		-21.1	125	0.00
35 \$		Toluene-d8	1.143	1.160	-1.5	92	0.00
36 T		Toluene	1.137		-11.3	119	0.00
37 1		Chlorobenzene-d5	1.000	1.000	0.0	95	0.00
38 7			1.281	1.370	-6.9		0.00
39 7		1,1,2-Trichloroethane	0.850	0.919	-8.1	120	0.00
40 T		Tetrachloroethene	1.180	1.256	-6.4	125	0.00
41 7		2-Hexanone	0.512		-32.6#		0.00
42 1		Dibromochloromethane	0.806 2.786	0.808 2.985	-0.2	113	0.00
43 T		Chlorobenzene Ethylbenzene	4.778	5.242	-7.1 -9.7	121	0.00 0.00
45 T		m+p-Xylenes		1.876	-8.0	121	0.00
46 T		o-Xylene			-11.1	125	0.00
47 T		Styrene		3.376	-11.1 -9.5	121	0.00
4 / T		Bromoform		0.463	4.3	113	0.00
		Bromofluorobenzene	1.670	1.651	1.1	91	0.00
O T		1,1,2,2-Tetrachloroethane		1.103	-2.6	115	0.00
51 T				2.548	-6.7		0.00
52 T	0	1.4-Dichlorobenzene	2.535	2.705	-6.7	122	0.00
53 I	r.	1,2-Dichlorobenzene	2.351	2.477	-5.4	120	0.00

^{(#) =} Out of Range VB010283.D M262NAP.M Thu Nov 08 15:01:45 2001

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011026\VB010283.D

Acq On : 26 Oct 2001 10:16 am Sample : Vstd020

Vial: 9 Operator: Skelton

Misc : Vstd020

Inst : GC VOA 2 Multiplr: 1.00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 25% Max. Rel. Area: 200%

Compound AvgRF CCRF %Dev Area% Dev(min) ______ _____ 54 t Napthalene 3.707 4.122 -11.2 128 0.00

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		Project:	010001		
NJDEP#:	13461	Case No.: 16538	Locatio	n: <u>644</u>	SDG N	No.:
Lab File ID:	VB010304.	D	BF	B Injection	Date:	10/29/01
Instrument IC	D: GCMS#2		BF	B Injection	Time:	8:09
GC Column:	RTX502.2	D: 0.25 (mm)	He	eated Purge	e: (Y/N)	N

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	15.6
75	30.0 - 66.0% of mass 95	47.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	87.7
175	4.0 - 9.0% of mass 174	6.5 (7.4)1
176	93.0 - 101.0% of mass 174	86.1 (98.2)1
177	5.0 - 9.0% of mass 176	5.7 (6.6)2

¹⁻Value is % mass 174

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

		LAB	LAB	DATE	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VB010305.D	10/29/01	8:38
02	МВ	MB	VB010306.D	10/29/01	10:04
03	644-5	1653806	VB010307.D	10/29/01	11:04
04	FD	1653807	VB010308.D	10/29/01	11:48

²⁻Value is % mass 176

Data File: C:\HPCHEM\1\DATA\011029\VB010304.D

Acq On : 29 Oct 2001 8:09 am

Sample : BFB Tune
Misc : BFB Tune

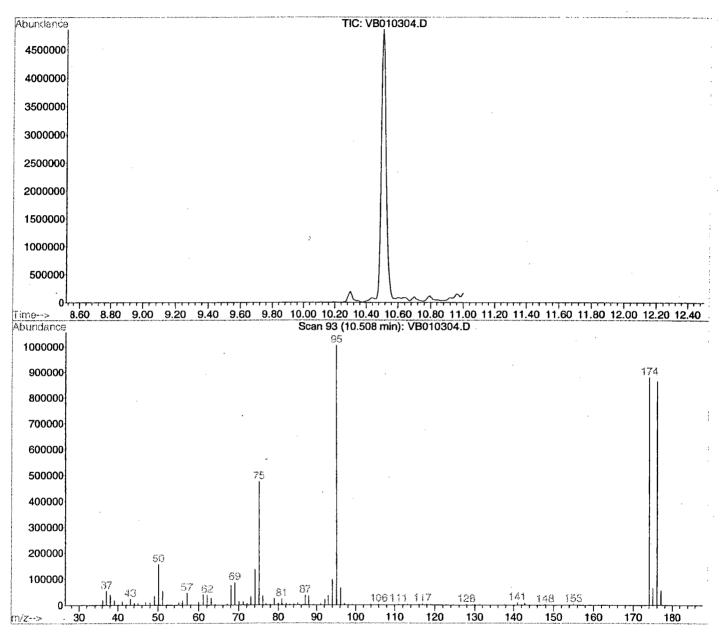
Vial: 1
Operator: S

Operator: Skelton Inst : GC VOA 2

: BFB Tune Multiplr: 1.00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 93

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
Mass	Mass	Limit%	Limit%	Abn%	Abn	Pass/Fail
50 75 95 96 173 174 175	95 95 95 95 174 95	15 30 100 5 0.00 50	40 60 100 9 2 100 9	15.6 47.2 100.0 6.5 0.0 87.7 7.4	156416 475072 1005888 65360 0 882304 65096	PASS PASS PASS PASS PASS PASS PASS
176	174	95	101	98.2	866112	PASS
177	176	5	9	6.6	57432	PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011029\VB010305.D

Vial: 1 Acq On : 29 Oct 2001 8:38 am Operator: Skelton

Inst : GC VOA 2 Sample : Vstd020 Misc : Vstd020 Multiplr: 1.00

MS Integration Params: TBA.P

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Nov 06 13:58:13 2001

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

_		Compound	AvgRF	CCRF	%Dev A	rea%	Dev(min)
1		Bromochloromethane	1.000	1.000	0.0	81	-0.02
	t	Acrolein	0.212	0.163	23.1	74	-0.06
	t	Acrylonitrile	0.709	0.508	28.3#	70	-0.02
	t	tert-Butyl alcohol	0.132	0.109	17.4	81	-0.39
	t	Methyl-tert-Butyl ether	4.909	4.951		100	-0.01
	t	Di-isopropyl ether	1.413	1.626		114	-0.03
7	${f T}$	Dichlorodifluoromethane	2.522	1.906	24.4	72	-0.01
8	\mathbf{TP}	Chloromethane	2.439	2.322	4.8	96	-0.02
	TC	Vinyl Chloride	2.453	2.388	2.6	98	0.00
10		Bromomethane	1,356	1.407	-3.8		-0.01
11		Chloroethane	1.297	1.380		102	-0.03
12		Trichlorofluoromethane	3.761	3.899		101	0.00
13		1,1-Dichloroethene	2.821	3.030		106	0.00
14		Acetone	0.772	0.566	26.7#	67	-0.09
15		Carbon Disulfide	5.318	5.590		103	0.00
16		Methylene Chloride	1.852	1.952		106	0.00
17		trans-1,2-Dichloroethene	2.484	2.632	-6.0	109	-0.01
	TP	1,1-Dichloroethane	2.843	3.365	-18.4	110	0.00
19	${f T}$	Vinyl Acetate	3.397	3.102	8.7	89	0.00
	\mathbf{T}	2-Butanone	0,768	0.566	26.3#	64	~0.04
	\mathbf{T}	cis-1,2-Dichloroethene	2.495	2.773		113	0.00
	TC	Chloroform	3.142	3.472	-10.5	108	-0.01
23	\mathbf{T}	1,1,1-Trichloroethane	2.597	2.949		110	0.00
	\mathbf{T}	Carbon Tetrachloride	2.153	2.477		111	-0.01
25	S	1,2-Dichloroethane-d4	2.334	2.209	5.4	77	-0.02
26		1,4-Difluorobenzene	1.000	1.000	0.0	90	0.00
27	TM	Benzene	1.023	1.038	-1.5	108	-0.01
28	${f T}$	1,2-Dichloroethane	0.377	0.344	8.8	97	-0.01
29	TM	Trichloroethene	0.290	0.306		111	-0.01
30	TC	1,2-Dichloropropane	0.252	0.262	-4.0	111	0.00
31	\mathbf{T}	Bromodichloromethane	0.310	0.316	-1.9	108	-0.01
32	T	2-Chloroethyl vinyl ether	0.096	0.091	5.2	103	0.00
33	\mathbf{T}	cis-1,3-Dichloropropene	0.370	0.391	-5.7	115	0.00
34	T	4-Methyl-2-Pentanone	0.076	0.061	19.7	82	0.00
35	S	Toluene-d8	1.143	1.158	-1.3	90	0.00
	TCM	Toluene	1.137	1.184		109	0.00
							•
37	_	Chlorobenzene-d5	1.000	1.000	0.0	95	-0.01
38		trans-1,3-Dichloropropene	1.281	1.165		103	0.00
39		1,1,2-Trichloroethane	0.850	0.710	16.5	92	0.00
	\mathbf{T}	Tetrachloroethene	1.180	1.154		114	0.00
41		2-Hexanone	0.512	0.461	10.0	94	-0.01
	T	Dibromochloromethane	0.806	0.710	11.9	99	-0.01
43	TMP	Chlorobenzene	2.786	2.762		108	0.00
44	TC	Ethylbenzene	4.778	4.884		112	0.00
45	T	m+p-Xylenes	1.737	1.733	0.2	111	0.00
	Т	o-Xylene	3.720	3.772 .	-1.4	114	-0.01
	T	Styrene	3.084	3.140	-1.8 1	112	0.00
	TP	Bromoform	0.484	0.365	24.6	88	0.00
	S	Bromofluorobenzene	1.670	1.645	1.5	90	0.00
	TP	1,1,2,2-Tetrachloroethane	1.075	0.816	24.1	84	-0.01
51		1,3-Dichlorobenzene	2.389	2.349		111	0.00
52		1,4-Dichlorobenzene	2.535	2.450		110	-0.01
		1,2-Dichlorobenzene	2.351	2.183		105	0.00
53 		1,2-Dichiofobenzene					

^{(#) =} Out of Range VB010305.D M262NAP.M

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011029\VB010305.D

Acq On : 29 Oct 2001 8:38 am

Vial: 1 Operator: Skelton

: Vstd020 Sample Misc : Vstd020

Inst : GC VOA 2 Multiplr: 1.00

MS Integration Params: TBA.P

Method

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Nov 06 13:58:13 2001

Response via: Multiple Level Calibration

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

	Compound	AvgRF	CCRF	%Dev A	Area%	Dev(min)
54 t	Napthalene	3.707	2.860	22.8	88	0.00

4A

VOLATILE METHOD BLANK SUMMARY

		VOEATHEE METHOD BE	S II 41 C O LUMAN				
Lab Name:	FMETL		_ Project:	010001		MB	
NJDEP#:	13461 Case No.: 16538		Location	n: <u>644</u>	SDG	No.:	_
Lab File ID:	VB01030	06.D	Lab	Sample	ID: MB	3	_
Date Analyze	ed: 10/29/01		Tim	ne Analyz	ed: <u>10:</u>	04	
GC Column:	RTX502.	ID: <u>0.25</u> (mm)	He	eated Pur	ge: (Y/N	l) <u>N</u>	
Instrument If	O GCMS#2						

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

		LAB	LAB	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED
01	644-5	1653806	VB010307.D	11:04
02	FD	1653807	VB010308.D	11:48

COMMENTS:			
	 	 	

4A

VOLATILE METHOD BLANK SUMMARY

Lab I	C
-------	---

	,				
Lab Name:	FMETL		Project: 0100	01	MB
NJDEP#:	13461	Case No.: 16538	Location: 644	SDG	No.:
Lab File ID:	VB010284.	<u>D</u> .	Lab Sam	ple ID: M	В
Date Analyza	ed: 10/26/01		Time Ana	alyzed: <u>11</u>	:12
GC Column:	RTX502. ID	: <u>0.25</u> (mm)	Heated	Purge: (Y/	N) <u>N</u>
Instrument IC	D: GCMS#2				

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

		LAB	LAB	TIME
	Lab ID.	SAMPLE ID	FILE ID	ANALYZED
01	TRIP BLANK	1653801	VB010293.D	18:10
02	644-1	1653802	VB010294.D	18:55
03	644-2	1653803	VB010295.D	19:40
04	644-3	1653804	VB010296.D	20:24
05	644-4	1653805	VB010297.D	21:09

COMMENTS:			
		•	

2B SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: **Project FMETL** 10001 NJDEP# 13461 Location 644

	EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB
01	MB	95.0	100.0	97.0
02	MB	92.0	101.0	95.0
03	TRIP BLANK	115.3	96.0	103.3
04	644-1	93.0	87.0	89.0
05	644-2	92.0	89.0	86.0
06	644-3	92.0	90.0	87.0
07	644-4	87.0	86.0	87.0
08	644-5	87.0	85.0	79.0
09	FD	85.0	81.0	74.0

SMC1 1,2-DCE-d4

1,2-Dichloroethane-d4

SMC2 Tol-d8

Toluene-d8

SMC3 BFB

Bromofluorobenzene

D System Monitoring Compounds diluted out

Spike Recovery and RPD Summary Report - Soil

Method

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001

Non-Spiked Sample: VB010268.D

Response via : Initial Calibration

Spike

Spike

Sample

Duplicate Sample

VB010270.D

File ID: VB010269.D Sample: 1653103 MS Acq Time: 25 Oct 2001 12:21 pm

1653103 MSD

| 25 Oct 2001

1:06 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene	0.0 0.0 0.0 0.0	20 20 20 20 20 20	21 21 22 22 21 22	20 21 21 21 21	105 105 109 107 109	101 104 104 105 103	4 1 5 2 5	22 21 24 21 21	59-172 66-142 62-137 59-139 60-133

- Fails Limit Check

M262NAP.M

Thu Nov 08 15:00:49 2001

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:	FMETL			Project:	010001	· ·· · · · · · · · · · · · · · · · ·	_	
NJDEP#:	13461	Case No.:	16538	Location	: 644	SDG No	o.:	
Lab File ID (Standard):	VB010283.D			Date Ar	nalyzed:	10/26/01	
Instrument II	D: GCMS#2	<u> </u>			Time Ar	nalyzed:	10:16	
GC Column:	RTX502.2	ID: 0.25	(mm)		Heated	Purge: (\	//N)	N

[IS1BCM		IS2DFB		IS3CBZ	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	576042	16.76	3948745	19.49	1088856	27.33
	UPPER LIMIT	1152084	17.26	7897490	19.99	2177712	27.83
	LOWER LIMIT	288021	16.26	1974373	18.99	544428	26.83
Ī							
	Lab ID.					!	
01	MB	571507	16.76	3890013	19.48	1052620	27.33
02	TRIP BLANK	543668	16.77	3948686	19.49	1055121	27.33
03	644-1	540295	16.77	3791170	19.49	1008323	27.33
04	644-2	542511	16.78	3809990	19.49	1034129	27.33
05	644-3	538522	16.76	3753726	19.49	1037818	27.33
06	644-4	534347	16.77	3769829	19.49	1004485	27.33

IS1 BCM = Bromochloromethane IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

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

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

^{*} Values outside of contract required QC limits

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: **FMETL** Project: 010001 Location: 644 NJDEP#: 13461 Case No.: 16538 SDG No.: Lab File ID (Standard): VB010305.D Date Analyzed: 10/29/01 Instrument ID: GCMS#2 Time Analyzed: 8:38 Heated Purge: (Y/N) GC Column: RTX502.2 ID: 0.25 Ν

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	511055	16.74	3864170	19.48	1081120	27.32
	UPPER LIMIT	1022110	17.24	7728340	19.98	2162240	27.82
	LOWER LIMIT	255528	16.24	1932085	18.98	540560	26.82
	Lab ID.						
01	мв ·	519014	16.75	3921542	19.48	1094267	27.32
02	644-5	485120	16.75	3823895	19.48	1048696	27.32
03	FD	491491	16.76	3732113	19.48	1032825	27.32

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

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

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

^{*} Values outside of contract required QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011026\VB010284.D

Acq On : 26 Oct 2001 11:12 am

Sample : MB Misc : MB

Vial: 9 Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 1 14:02 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Nov 01 11:14:40 2001
Response via : Initial Calibration

DataAcq Meth: M262NAP

Internal Standards	3	R.T.	QIon	Response	Conc U	nits Dev	(Min)
1) Bromochlorome		16.76	128	571507	30.00	ug/L	0.02
26) 1,4-Difluorok	enzene	19.48	114	3890013	30.00	ug/L	0.00
37) Chlorobenzene	e-d5	27.33	119	1052620	30.00	ug/L	0.01
System Monitoring	Compounds						
25) 1,2-Dichloroe		18.36	65	1264233	28.43	uq/L	0.01
Spiked Amount	30.000	Range 70	- 121	Recove			
35) Toluene-d8		23.50	98	4439988	29.95	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	99.83%	
49) Bromofluorobe	nzene	30.34	95	1697090	28.96	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove	ry =	96.53%	

Target Compounds

Ovalue

Data File : C:\HPCHEM\1\DATA\011026\VB010284.D

: 26 Oct 2001 11:12 am Acq On

Ouant Time: Nov 1 14:02 2001

Vial: 9

Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00

Sample : MB Misc

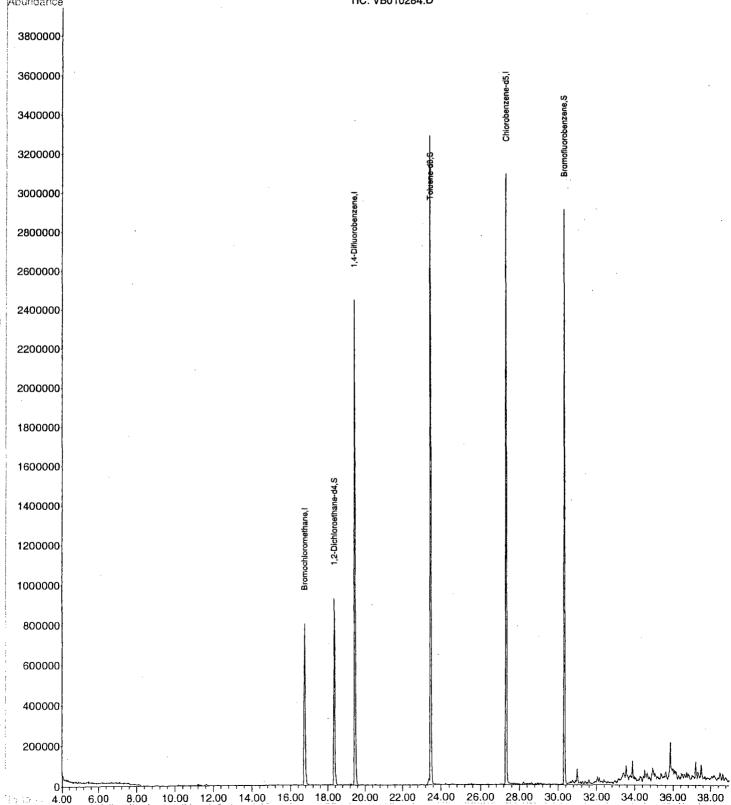
: MB MS Integration Params: TBA.P

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Tue Nov 06 13:58:13 2001





(OT Reviewed)

Data File: C:\HPCHEM\1\DATA\011029\VB010306.D

Acq On : 29 Oct 2001 10:04 am

Vial: 1

Sample : MB Operator: Skelton Inst : GC VOA 2

Misc : MB

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Nov 1 14:04 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Thu Nov 01 11:14:40 2001
Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards		R.T.	QIon	Response	Conc U	nits Dev	(Min)
1) Bromochloromet 26) 1,4-Difluorobe 37) Chlorobenzene-	enzene	16.75 19.48 27.32	128 114 119	519014 3921542 1094267	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
System Monitoring (Compounds						
25) 1,2-Dichloroet		18.35	65	1119292	27.72	ug/L	0.00
Spiked Amount	30.000	Range 70	- 121	Recove	ry =	92.40%	
35) Toluene-d8		23.50	98	4546296	30.42	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	101.40%	
49) Bromofluorober	ızene	30.34	95	1727916	28.36	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove	ry =	94.53%	

Target Compounds

Ovalue

^{(#) =} qualifier out of range (m) = manual integration VB010306.D M262NAP.M Tue Nov 06 15:31:24 2001

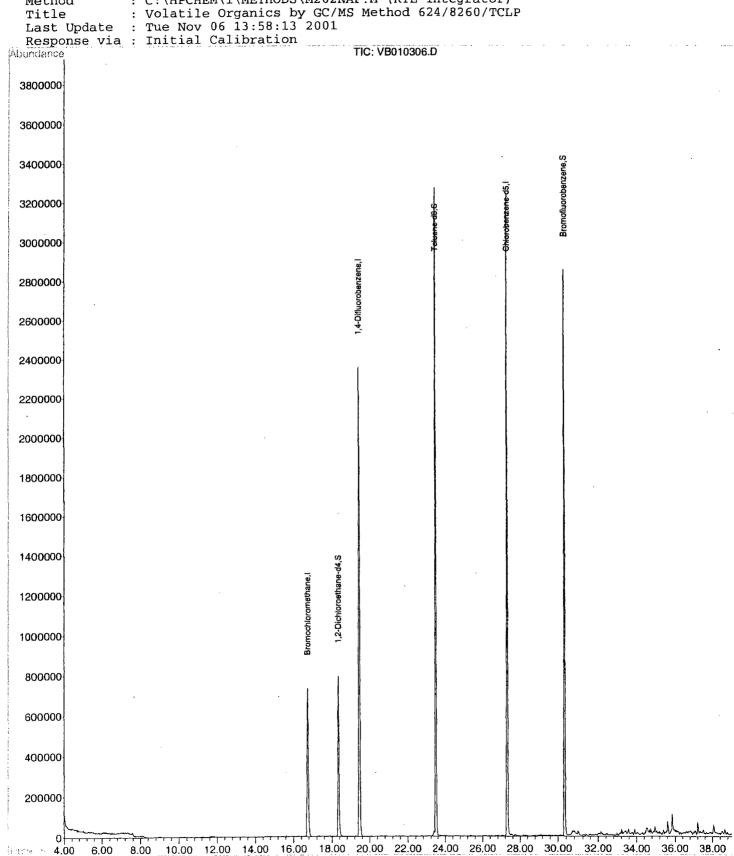
Data File : C:\HPCHEM\1\DATA\011029\VB010306.D

Vial: 1 : 29 Oct 2001 10:04 am Operator: Skelton Acq On Inst : GC VOA 2 Sample : MB Multiplr: 1.00 Misc : MB

MS Integration Params: TBA.P Ouant Time: Nov 1 14:04 2001

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method



(QT Reviewed) Quantitation Report

Data File: C:\HPCHEM\1\DATA\011026\VB010293.D

Vial: 8 : 26 Oct 2001 6:10 pm Operator: Skelton

: 1653801 : GC VOA 2 Sample Inst : Trip Blank Misc Multiplr: 1.00

MS Integration Params: TBA.P J Quant Time: Oct 26 17:49 2001 Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Oct 26 10:59:23 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T. QI	on Response	Conc Un	its Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5		28 543668 14 3948686 19 1055121	30.00 30.00 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4		55 4768554	112.74	ug/L 0.00
Spiked Amount 30.000 35) Toluene-d8	Range 70 - 2		ry = .	375.80%#
Spiked Amount 30.000 49) Bromofluorobenzene	Range 81 - 1		ry =	317.70%#
Spiked Amount 30.000	Range 74 - 1			339.63%#

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA\011026\VB010293.D

: 26 Oct 2001 6:10 pm

: 1653801

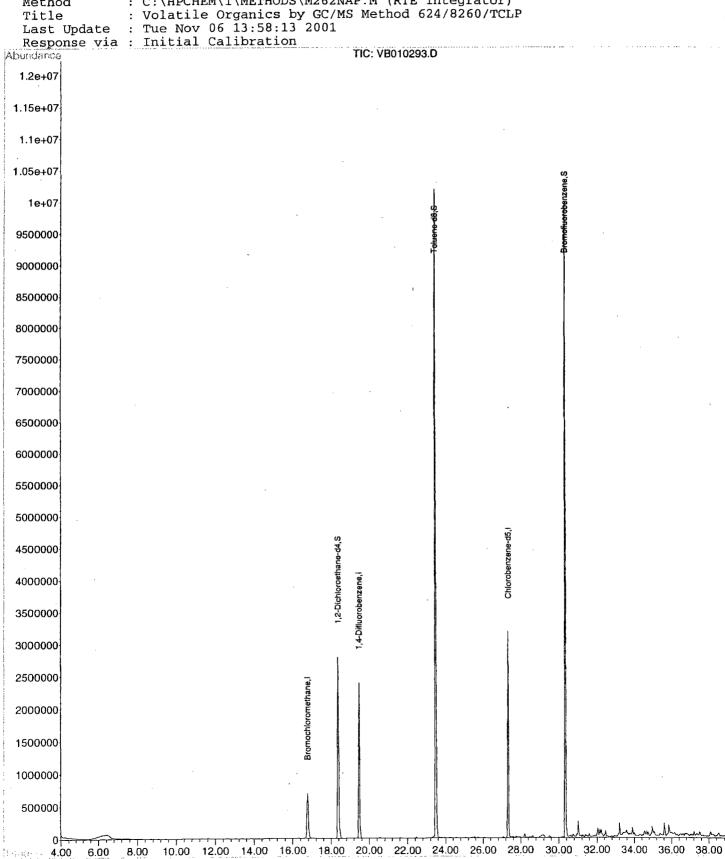
Vial: 8 Operator: Skelton : GC VOA 2 Multiplr: 1.00

Misc : Trip Blank MS Integration Params: TBA.P

Sample

Quant Results File: M262NAP.RES Ouant Time: Oct 26 17:49 2001

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method



Quantitation Report (QT/LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\011026\VB010294.D

Vial: 9 : 26 Oct 2001 Operator: Skelton Acq On 6:55 pm

: 1653802 Sample Misc : 644-1

Inst : GC VOA 2 Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Oct 26 18:34 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Oct 26 10:59:23 2001
Response via : Initial Calibration
DataAcq Meth : M262NAP

Internal Standards		R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
1) Bromochlorome 26) 1,4-Difluorob 37) Chlorobenzene	enzene	16.77 19.49 27.33	128 114 119	540295 3791170 1008323	30.00 30.00 30.00	ug/L	0.01 0.00 0.00
System Monitoring	~	40.35	<i>c</i> =	1546122	26.00	4	
25) 1,2-Dichloroe	thane-d4	18.37	65	1546133			0.00
Spiked Amount	30.000	Range 70	- 121	Recove	ry =	122.60%	#
35) Toluene-d8		23.50	98	5087943	35.21	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	117.37%	#
49) Bromofluorobe	nzene	30.34	95	1998581	35.60	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove	ry =	118.67%	

Target Compounds

Qvalue

Data File: C:\HPCHEM\1\DATA\011026\VB010294.D

Vial: 9 : 26 Oct 2001 6:55 pm Acq On

Sample : 1653802 Misc : 644-1

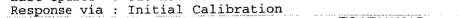
Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00

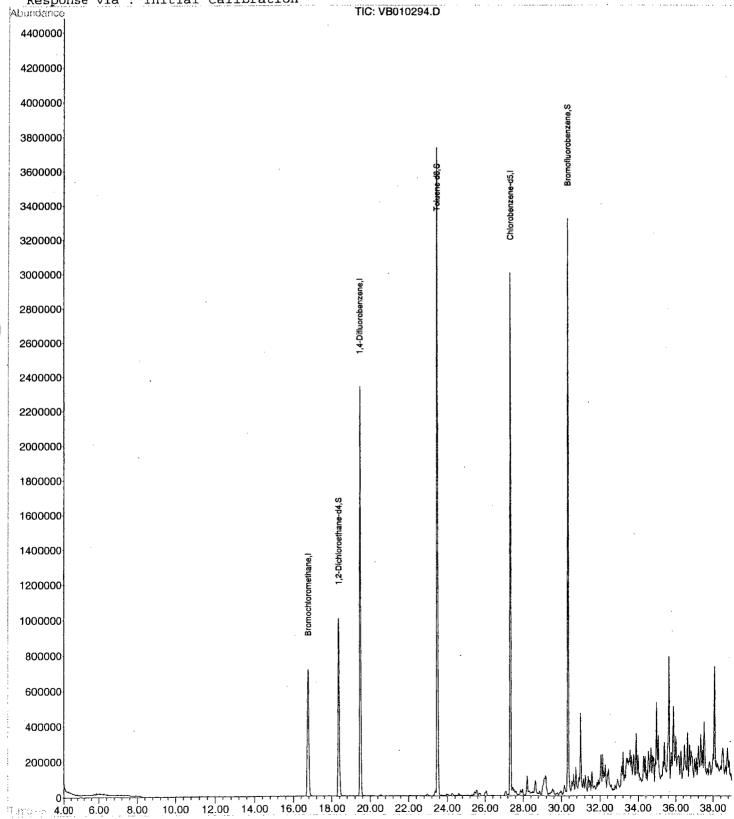
MS Integration Params: TBA.P Quant Time: Oct 26 18:34 2001

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Tue Nov 06 13:58:13 2001





(QT/LSC Reviewed)

Data File: C:\HPCHEM\1\DATA\011026\VB010295.D

: 26 Oct 2001

7:40 pm

Vial: 10

Sample : 1653803 Operator: Skelton : GC VOA 2 Inst

Misc : 644-2

Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Oct 26 19:19 2001

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Oct 26 10:59:23 2001

Response via : Initial Calibration DataAcq Meth : M262NAP

Internal Standards		R.T.	QIon	Response	Conc U	nits Dev	/(Min)
1) Bromochlorome 26) 1,4-Difluorob 37) Chlorobenzene	enzene	-16.78 19.49 27.33	128 114 119	542511 3809990 1034129	30.00 30.00 30.00	ug/L	0.02 0.00 0.00
System Monitoring	Compounds						
25) 1,2-Dichloroe	thane-d4	18.37	65	1538518	36.45	ug/L	0.00
Spiked Amount	30.000	Range 70	- 121	Recove			
35) Toluene-d8	*	23.50	98	5192738	35.76	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	119.209	5#
49) Bromofluorobe	nzene	30.34	95	2000016	34.74	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove	ry =	115.809	5

Target Compounds

Qvalue

Data File : C:\HPCHEM\1\DATA\011026\VB010295.D

: 26 Oct 2001 7:40 pm Acq On

Vial: 10 Operator: Skelton : GC VOA 2

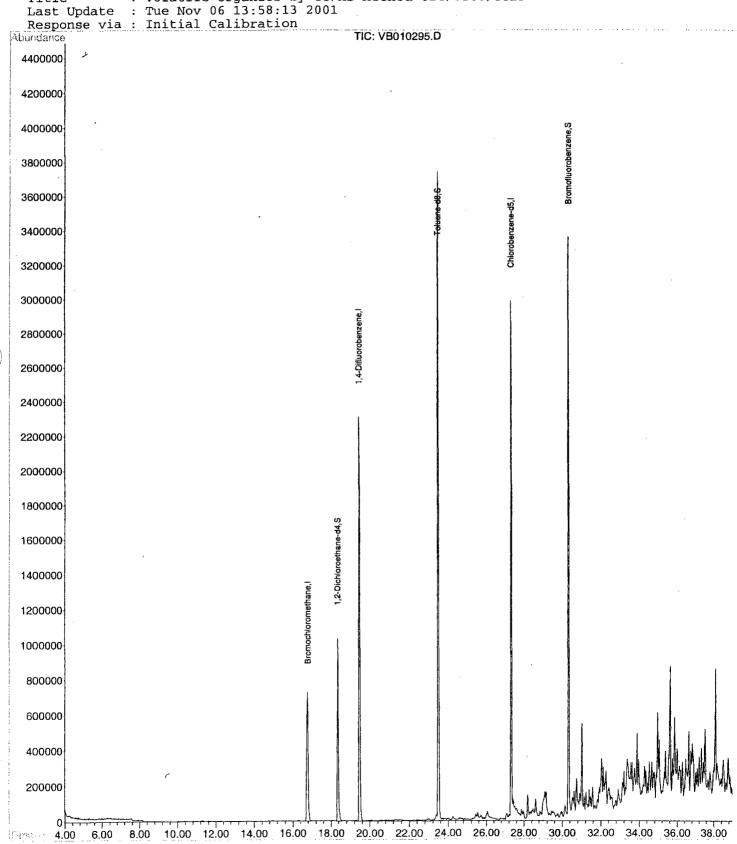
: 1653803 Sample Misc : 644-2

Multiplr: 1.00

MS Integration Params: TBA.P Ouant Time: Oct 26 19:19 2001

Quant Results File: M262NAP.RES

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011026\VB010296.D

Acq On : 26 Oct 2001 8:24 pm

: 1653804

Sample : 644-3 Misc

MS Integration Params: TBA.P J Quant Time: Oct 26 20:03 2001 Vial: 11

Operator: Skelton Inst : GC VOA 2 Multiplr: 1.00

Quant Results File: M262NAP.RES

Quant Method: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Oct 26 10:59:23 2001
Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards		R.T.	QIon	Response	Conc U	nits Dev	(Min)
1) Bromochlorome 26) 1,4-Difluorob 37) Chlorobenzene	enzene	16.76 19.49 27.33	128 114 119	538522 3753726 1037818	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
System Monitoring 25) 1.2-Dichloroe		18.37	65	1525057	36.66		0.00
Spiked Amount	30.000			1535857 Recove		ug/L 122.20%	
35) Toluene-d8		23.51	98	5142389	35.94	ug/L	0.01
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	119.80%	#
49) Bromofluorobe	nzene	30.35	95	2027479	35.09	ug/L	0.01
Spiked Amount	30.000	Range 74	- 121	Recove	ry =	116.97%	

Target Compounds

Ovalue

Data File : C:\HPCHEM\1\DATA\011026\VB010296.D

Acq On : 26 Oct 2001 8:24 pm

Vial: 11 Operator: Skelton Inst : GC VOA 2

Sample : 1653804 Misc : 644-3

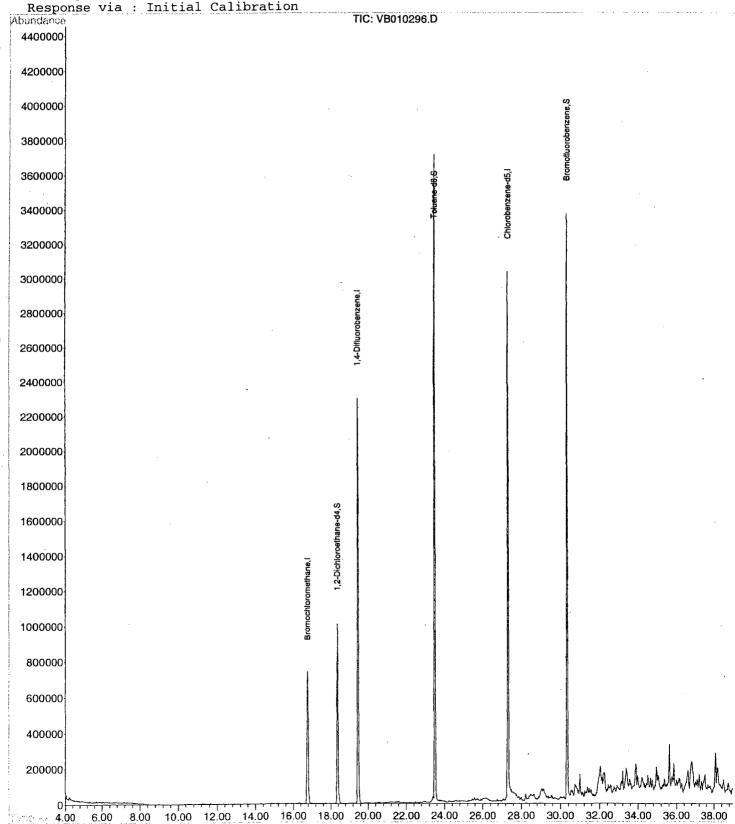
Multiplr: 1.00

MS Integration Params: TBA.P Ouant Time: Oct 26 20:03 2001

Quant Results File: M262NAP.RES

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Tue Nov 06 13:58:13 2001



(QT/LSC Reviewed)

Data File : C:\HPCHEM\1\DATA\011026\VB010297.D

Acq On : 26 Oct 2001

9:09 pm

Vial: 12 Operator: Skelton Inst : GC VOA 2

Sample : 1653805 Misc : 644-4

Multiplr: 1.00

MS Integration Params: TBA.P / Quant Time: Oct 26 20:48 2001

Quant Results File: M262NAP.RES

Quant Method: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Oct 26 10:59:23 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T. QIon	Response Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.77 128 19.49 114 27.33 119	534347 30.00 3769829 30.00 1004485 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000		Recovery = 1960305 35.05	116.83% ug/L 0.01 116.37%
Target Compounds 54) Napthalene	38.65 128	146975 1.18	Qvalue ug/L # 68

Data File : C:\HPCHEM\1\DATA\011026\VB010297.D

: 26 Oct 2001 9:09 pm Acq On

Operator: Skelton : GC VOA 2 Multiplr: 1.00

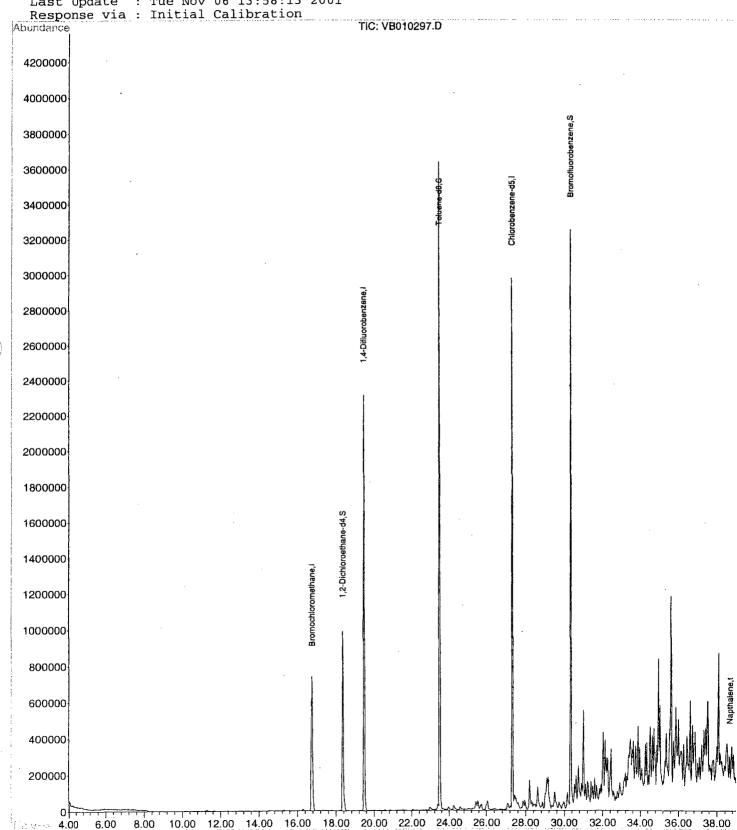
: 1653805 Sample Misc : 644-4

MS Integration Params: TBA.P Ouant Time: Oct 26 20:48 2001

Quant Results File: M262NAP.RES

Vial: 12

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 06 13:58:13 2001



(QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011029\VB010307.D

Acq On : 29 Oct 2001 11:04 am

: 1653806

: 644-5

MS Integration Params: TBA.P

J Quant Time: Oct 29 11:43 2001

Vial: 1

Operator: Skelton : GC VOA 2

Multiplr: 1.00

Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Fri Oct 26 10:59:23 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Sample

Misc

Internal Standards		R.T.	QIon.	Response	Conc U	nits De	v(Min)
1) Bromochlorome 26) 1,4-Difluorob 37) Chlorobenzene	enzene	16.75 19.48 27.32	128 114 119	485120 3823895 1048696	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
System Monitoring	Compounds						
25) 1,2-Dichloroe	thane-d4	18.35	65	1324651	35.10	ug/L	-0.02
Spiked Amount	30.000	Range 70	- 121	Recove	ry =	117.00	움
35) Toluene-d8		23.50	98	5005436	34.35	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	$1\bar{1}4.50$	ક
49) Bromofluorober	nzene	30.34	95	1908184	32.68	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove		108.93	ક

Target Compounds

Ovalue

Data File : C:\HPCHEM\1\DATA\011029\VB010307.D

Acq On : 29 Oct 2001 11:04 am

Vial: 1
Operator: Skelton

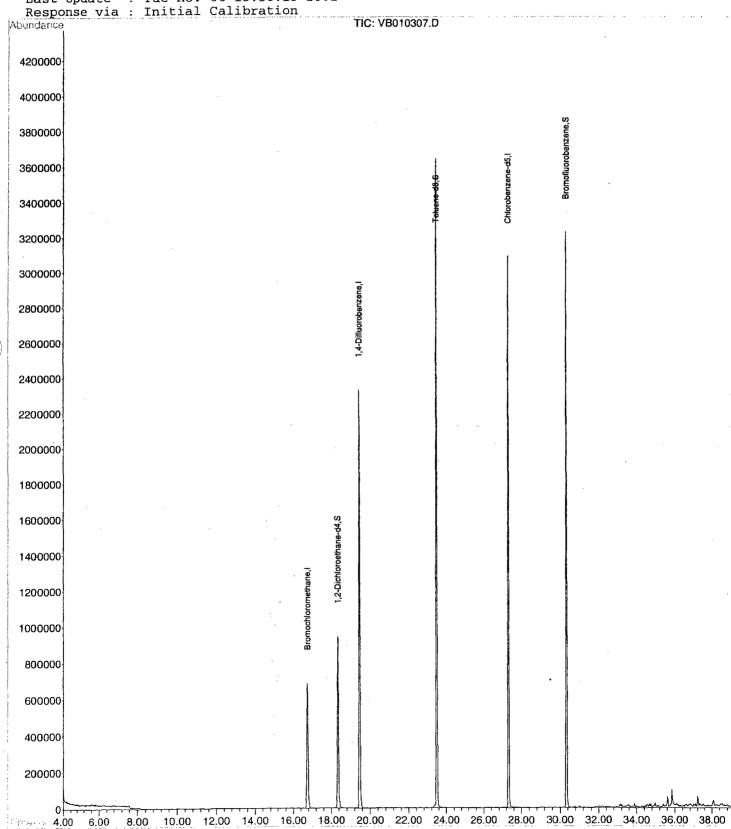
Sample : 1653806 Misc : 644-5 Inst : GC VOA 2 Multiplr: 1.00

MS Integration Params: TBA.P Quant Time: Oct 29 11:43 2001

Quant Results File: M262NAP.RES

Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Tue Nov 06 13:58:13 2001



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011029\VB010308.D
Acq On : 29 Oct 2001 11:48 am
Sample : 1653807
Misc : FD Vial: 2 Operator: Skelton : GC VOA 2

Multiplr: 1.00

MS Integration Params: TBA.P) Quant Time: Oct 29 12:28 2001 Quant Results File: M262NAP.RES

Quant Method : C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Oct 29 11:58:32 2001

Response via : Initial Calibration

DataAcq Meth : M262NAP

Internal Standards	R.T. QIor	Response Co	nc U	nits Dev	(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.76 128 19.48 114 27.32 119	3732113 3	0.00	ug/L ug/L ug/L	0.02 0.00 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000		5 1315107 3 1 Recovery			0.01
35) Toluene-d8 Spiked Amount 30.000	23.50 98 Range 81 ~ 11	4742676 3	3.34	ug/L	0.00
49) Bromofluorobenzene Spiked Amount 30.000	30.34 95 Range 74 - 12	1797960 3 1 Recovery	1.27 =	ug/L 104.23%	0.00

Target Compounds

Ovalue

Data File : C:\HPCHEM\1\DATA\011029\VB010308.D

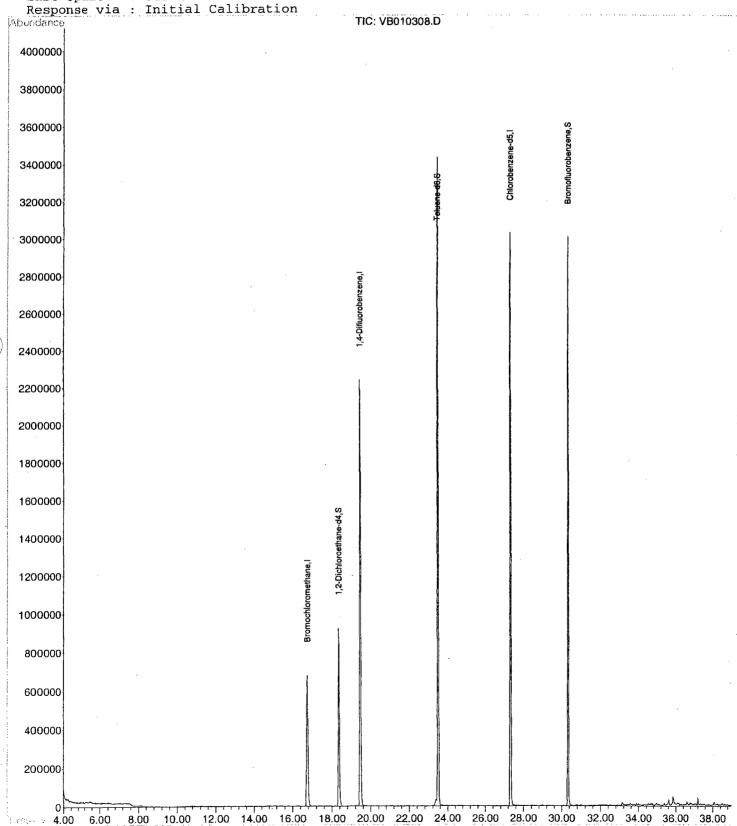
Vial: 2 : 29 Oct 2001 11:48 am Operator: Skelton Inst : GC VOA 2 Sample : 1653807 Misc : FD Multiplr: 1.00

MS Integration Params: TBA.P

Quant Results File: M262NAP.RES Quant Time: Oct 29 12:28 2001

: C:\HPCHEM\1\METHODS\M262NAP.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Tue Nov 06 13:58:13 2001



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Certification #13461

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

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING **CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**



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

Blda. 644

Field Sample Location	Laboratory Matrix Sample ID#		Date and Time Of Collection	Date Received				
644-1/8'	2000201	Soil	03-Jan-02 14:30	01/03/02				
644-2/8'	2000202	Soil	03-Jan-02 14:30	01/03/02				
644-3/8'	2000203	Soil	03-Jan-02 14:30	01/03/02				
644-4/8'	2000204	Soil	03-Jan-02 14:30	01/03/02				
644-5/8'	2000205	Soil	03-Jan-02 14:30	01/03/02				

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright Date

1-10-02

Laboratory Director

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Ac. Heapton

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Method Summary

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

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No. N/A
1.	Method Detection Limits provided.	yes
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank. Positive result slightly above m	7
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). High Sounder Concentration	NG NG
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). High Soungle Cancentration	1 <u>#⊅∂</u> 1 2
5.	IR Spectra submitted for standards, blanks and samples.	NA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es <u>Yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	yes_
Additi	onal comments:	
	1-10-02	
Labor	ratory Manager Date	

Fort Monmouth Env onmental 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

Chain of Custody Record

NJDEP Certification #13461 **Customer:** D. DESA1 **Analysis Parameters** Project No: 02 Comments: RESAMPLE Phone #: Location: BLOG. 644 % TPHC (NOT ON CHAIN))DERA ()OMA ()Other: FORMER 14 Samplers Name / Company: MARK LAWRA - TVS - PWS 07 FROM 10-12-01 Sample Remarks / Preservation Method Lab Sample I.D. Sample Location Date Time Type bottles 20002 644 - 1 1-3-02 1430 × SUIL λ u ****~ U × ιſ 17 644- 4 u X 1/ 11 11 5 644 - 5 ۳ " 1 11 Received by (signature): Relinquished by (signature): Date/Time: Relinquished by (signature): Date/Time: Received by (signature): 1450 Relinquished by (signature): Received by (signature): Date/Time: Relinquished by (signature): Date/Time: Received by (signature): Report Type: ()Full, ()Reduced, ()Standard, ()Screen / non-certified, ()EDD Remarks: NO HNU /NO FD Turnaround time: (Standard 3 wks. ()Rush Days, () ASAP Verbal

000003

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

Client:

U.S. Army

Project #:

20002

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

03-Jan-02

Matrix:

Soil

_ _ _ _

04-Jan-02

mania;

Soil

Date Extracted:

Shake

Inst. ID. : Column Type : GC TPHC INST. #1 RTX-5, 0.32mm ID, 30M **Extraction Method:**Analysis Complete:

08-Jan-02

Injection Volume :

1uL

Analyst:

B.Patel

Sample Field ID		Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)		
2000201	644-1	1.00	15.12	72.61	206	8903.10		
2000202	644-2	1.00	15.21	77.79	191	6921.76		
2000203	644-3	1.00	15.45	76.37	192	7243.03		
2000204	644-4	2.00	15.44	76.63	191	7616.32		
2000205	644-5	1.00	16.07	84.84	166	4616.22		
METHOD BLANK	MB-020104	1.00	15.00	100.00	151	196.95		

ND = Not Detected

MDL = Method Detection Limit

Last Update : Wed Oct 24 13:32:50 2001

Ca] 5 20	ibration Files =T013655.D =T013658.D	100 10		3656.D 3657.D	50	='	T01365	4.D		
1) +6	Compound		5	100	50	20	10	Avg		%RSD
1) to 2) to 3) To 4) to 5) to 50 to	C10 C12 C14 C16 C18 C20 C22 C24 C26 C28 C30 C32 C34 C36 C38 C40 C42 Pristane Phytane o-terphenyl		2.003 2.113 2.299 2.493 2.560 2.514 2.749 2.833 2.890 2.766 2.764 2.763 2.526 2.197 1.886 2.536 2.536	2.147 2.213 2.326 2.384 2.472 2.458 2.537 2.572 2.593 2.550 2.620 2.603 2.589 2.655 2.460 2.275 2.124 2.306 2.476 2.507	2.126 2.208 2.324 2.406 2.471 2.478 2.572 2.606 2.634 2.654 2.653 2.654 2.631 2.663 2.422 2.148 1.935 2.402 2.516 2.538	1.965 2.156 2.268 2.366 2.394 2.435 2.557 2.598 2.573 2.602 2.589 2.573 2.622 2.425 2.199 1.972 2.282 2.487 2.504	2.595 2.636 2.569 2.581 2.613 2.599 2.627 2.430 2.178 1.902 2.379 2.554 2.538	2.060 2.155 2.305 2.406 2.481 2.468 2.588 2.670 2.606 2.658 2.645 2.632 2.666 2.453 2.199 1.964 2.381 2.557 2.548	E4 E4 E4 E4 E4 E4 E4	4.30 3.79 2.66 1.02 2.12 2.44 1.20 3.55 4.31 4.66 3.51 3.56 2.69 2.97 2.14 4.86 4.20 4.43 2.41 13.48

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020107\T013910.D

Vial: 1 Acq On : 7 Jan 2002 10:08 am Operator: Skelton

: Tstd050s Sample

Misc : Inst : GC/MS Ins

Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Method : C:\HPCHEM\1\METHODS\TPH95.m (chems Title : TPHC Calibration 06/05/97 21 peaks Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

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

 1 +C	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 00	C8	18.019	21.541 E3	-19.5	114	-0.09
2 tC	C10	20.595	23.337 E3	-13.3	110	-0.02
1 3 TC	C12	21.549	23.026 E3	-6.9	104	0.00
4 tC	C14	23.048	23.653 E3	2.6	102	0.00
5 tC	C16	24.057	23.995 E3	0.3	100	0.00
6 tC	C18	24.812	24.024 E3	3.2	97	0.00
# 7 tC	C20	24.684	24.598 E3	0.3	99	0.00
7 tC 8 tC 9 tC	C22	25.878	25.328 E3	2.1	98	0.00
⊌9 tC	C24	26.326	25.567 E3	2.9	98	0.00
10 tC	C26	26.702	25.863 E3	3.1	98	0.00
11 tC 12 tC 13 tC	C28	26.061	25.475 E3	2.2	9,8	0.00
2.2 tC	C30	26.583	26.211 E3	1.4	98	0.00
113 tC	C32	26.447	25.922 E3	2.0	98	0.00
14 tC	C34	26.317	25.739 E3	2.2	98	0.00
15 tC 6 tC 7 tC	C36	26.661	26.165 E3	1.9	98	0.00
6 tC	C38	24.528	23.901 E3	2.6	99	0.00
17 tC	C40	21.994	21.596 E3	1.8	101	0.00
18 tC	c42	19.638	20.074 E3	-2.2	104	0.00
#19 TC	Pristane	23.812	23.160 E3	2.7	96	0.00
- 0 TC	Phytane	25.573	24.859 E3	2.8	99	0.00
19 TC 20 TC C	o-terphenyl	25.484	25.14/9 E3	1.3	99	0.00
2 2C	TPHC - total	28.994	27.703 E3	4.5	104	1.45#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020107\T013921.D

Acq On : 8 Jan 2002 7:34 am

Operator: Skelton

Inst : GC/MS Ins

Sample : Tstd050
Misc : 50 ppm std
IntFile : TPHCINT.E

Multiplr: 1.00

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
: TPHC Calibration 06/05/97 21 peaks Method

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

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

1	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
T C,		18.019		-23.8	118	-0.08
2 to	C C10	20.595		-12.2	109	-0.02
13 T	C C12	21.549		-11.8	109	0.00
4 t(C C14	23.048		-7.5	107	0.00
3 TO 14 to 15 to	C C16	24.057	25.156 E3	-4.6	105	0.00
6 t(24.812	25.432 E3	~2.5	103	0.00
7 to	C C20	24.684	25.745 E3	-4.3	104	0.00
7 to 8 to 9 to	C C22	25.878	26.549 E3	-2.6	103	0.00
≟ 9 t(C C24	26.326	26.837 E3	-1.9	103	0.00
10 to		26.702	27.079 E3	-1.4	103	0.00
11 to 12 to 13 to	C C28	26.061	26.671 E3	-2.3	103	0.00
2 to	C C30	26.583	27.373 E3	-3.0	102	0.00
713 to	C C32	26.447	27.099 E3	-2.5	102	0.00
14 t(C C34	26.317	26.174 E3	0.5	99	0.00
15 to	C C36	26.661	24.278 E3	8.9		0.00
- 6 t(C C38	24.528	19.006 E3	22.5	78	-0.01
17 to	C C40	21.994	14.408 E3	34.5#	67	-0.02
18 to		19.638	11.189 E3	43.0#	58	-0.04
		23.812	24.283 E3	-2.0	101	0.00
- 20 TO		25.573	26.088 E3	-2.0	104	0.00
19 TO		25.484	26.397 E3	-3.6	104	0.00
2 20		28.994	27.136 E3	6.4	102	1.45#

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

Client:

U.S. Army

Project #:

20002

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

3-Jan-02

Matrix:

Soil

Date Extracted:

Inst. ID.

GC TPHC INST. #1

Extraction Method:

4-Jan-02 Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

8-Jan-02

Injection Volume:

1uL

Analyst:

B.Patel

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
2000201		10.00	9.22	92.16
2000202		10.00	9.59	95.91
2000203		10.00	9.17	91.74
2000204		10.00	10.22	102.16
2000205		10.00	8.93	89.32
·				
METHOD BLANK	MB-020104	10.00	9.15	91.53

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

20002

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

3-Jan-02

Matrix:

Soil

Date Extracted:

4-Jan-02

Inst. ID.

GC TPHC INST. #1

_ _ _ .

Column Type:

RTX-5, 0.32mm ID, 30M

Extraction Method : Analysis Complete :

Shake 8-Jan-02

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-020104	04-Jan-02	1000	724.45	72.45	75-126

Client:

U.S. Army

Project #:

20002

DPW. SELFM-PW-EV

Location:

Bldg.644

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

3-Jan-02

Matrix:

Soil

Date Extracted :

4-Jan-02

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

8-Jan-02

Injection Volume:

1uL

Analyst:

B.Patel

Sample	Spike Amount Sample Amo Added (ppm) (ppm)		Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
2000201MS	1000	1955.01	2858.05	90.30	75-125
2000201MSD	1000	1955.01	1669.03	-28.60	75-125

RPD	385.38	20.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020107\T013911.D

Vial: 2 : 7 Jan 2002 10:41 am Acq On Operator: Skelton Inst : GC/MS Ins : MB-020104 Sample

: MB-020104 Misc Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jan 9 9:57 2002 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

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

Compound	R.T.	Response	Conc Units	
System Monitoring Compounds 21) sC o-terphenyl	12.45	233240	9.153 mg/L	· ··· ·-
Spiked Amount 10.000 Range	8 - 13	Recovery =	91.53%#	
Target Compounds				
9) tC C24	13.54	54670	2.077 mg/L	
= 22) tC TPHC - total	12 45	1713106	59 085 mg/L m	

Data le : C:\HPCHEM\1\DATA\020107\T013911.D ⊂ ∠ial: 2 Acg On : 7 Jan 2002 10:41 am Operator: Skelton Sample : MB-020104 Inst : GC/MS Ins Misc : MB-020104 Multiplr: 1.00 IntFile : TPHCINT.E Quant Time: Jan 9 9:57 2002 Quant Results File: TPH95.RES Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : $30m \times 0.32mm$ Response 32000 T013911.D\FID1B 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 4000 000011 2000 5.00 6.00 7.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Time 4.00 8.00

Quantitation Report (QT Reviewed)

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\020107\T013913.D

Vial: 4 : 7 Jan 2002 11:48 am Acq On Operator: Skelton Sample : 2000201s Inst : GC/MS Ins

Misc

IntFile : TPHCINT.E

Quant Time: Jan 7 13:06 2002 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via: Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

			Compound		R.T.	Response	Conc	nits
E. i. i. d	21)		em Monitoring Compo	ounds	12.45	234848	9.216	ma /I.
	Spi	ked	Amount 10.000	Range	8 - 13	Recovery	= 92.16	•
東博		Targ	et Compounds					
	2)	tC	C10		6.95	33872	1.645	mg/L
	3)	TC	C12		8.81	476352	22.106	mg/L
	4)	tC	C14		10.01	1090856	47.330	mg/L
4 .9	5)	tC	C16		11.02	963260	40.041	
	6)	tC	C18		11.48	416941	16.804	
F 1	7)	tC	C20		11.92	509488	20.640	
For the state of t	8)	tC	C22		12.73	192229	7.428	
i	9)	tC	C24		13.47	56730	2.155	
	19)	TC	Pristane		11.51	320796	13.472	
	20)	TC	Phytane		11.96	144799	5.662	
	22)	tC	TPHC - total		10.01		1955.007	

le : C:\HPCHEM\1\DATA\020107\T013913.D

Aca On : 7 Jan 2002 11:48 am

Operator: Skelton Inst : GC/MS Ins

__1al: 4

Multiplr: 1.00

Misc

Sample : 2000201s

Quant Time: Jan 7 13:06 2002 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

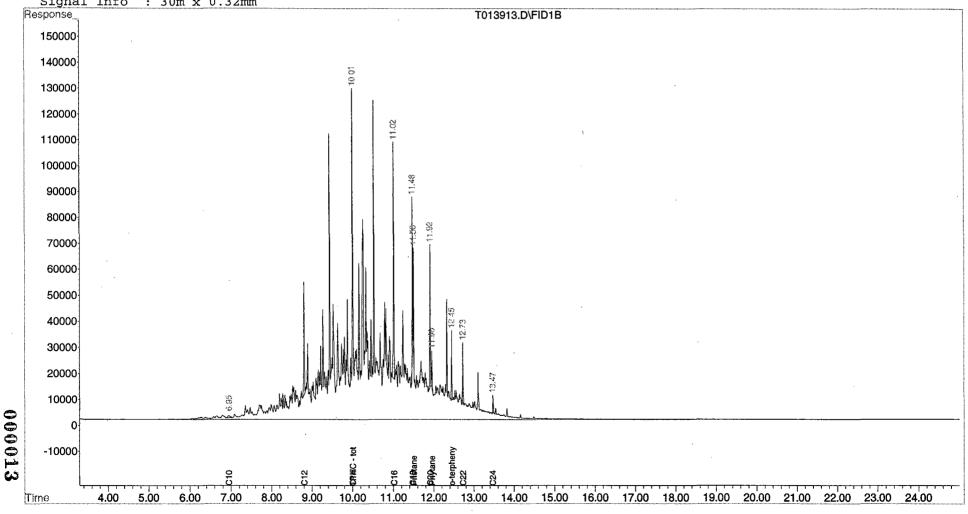
Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth: TPH95.M

IntFile : TPHCINT.E

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$



(QT Reviewed) Quantitation Report

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\020107\T013916.D

Vial: 7 : 7 Jan 2002 : 2000202s Operator: Skelton Acq On 1:28 pm Inst : GC/MS Ins

Sample Misc

IntFile : TPHCINT.E

Quant Time: Jan 7 14:42 2002 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Initial Calibration

DataAcq Meth : TPH95.M

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

			Compound	i.		R.T.	Response	Conc (Units
		 Syst	em Monitor	ring Compo	ounds				
			o-terpher	ıy1		12.45	244422	9.591	mg/L
Marie Indian	Spi	ked	Amount	10.000	Range	8 - 13	Recovery	= 95.93	18#
1.3	1	Targ	et Compour	nds					
	2)	tC	C10			7.35	33709	1.637	mg/L
	3)	TC	C12			8.81	314479	14.594	mg/L
	4)	tC	C14			10.01	907983	39.395	mg/L
7	5)	tC	C16			11.02	781056	32.467	
	6)	tC	C18			11.48	359906	14.505	
•	7)	tC	C20			11.92	456582	18.497	
Skill of a star	8)	tC	C22			12.73	207226	8.008	mg/L
ā]	9)	tC	C24			13.48	58054	2.205	
	19)	TC	Pristane			11.51	309851	13.013	
1	20)	TC	Phytane			11.96	142348	5.566	
File I .	22)	tC	-	tal		10.01		1637.912	

Data le : C:\HPCHEM\1\DATA\020107\T013916.D Acq On : 7 Jan 2002 1:28 pm Sample : 2000202s Misc IntFile : TPHCINT.E Quant Time: Jan 7 14:42 2002 Quant Results File: TPH95.RES Title : TPHC Calibration 06/05/97 21 peaks Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul

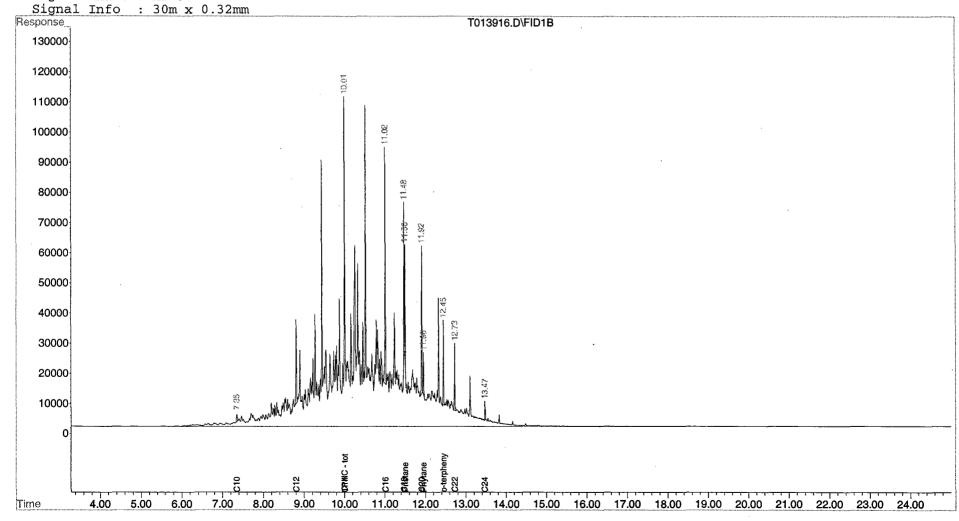
Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

__/ial: 7

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Signal Phase : HP-5



000015

Quantitation Report (QT Reviewed)

Multiplr: 1.00

Data File: C:\HPCHEM\1\DATA\020107\T013917.D

Vial: 8 : 7 Jan 2002 Acq On 2:02 pm Operator: Skelton Sample : 2000203s Inst : GC/MS Ins

Misc

IntFile : TPHCINT.E

Quant Time: Jan 7 14:43 2002 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

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

<i>π</i> 1			Compound	đ		R.T.	Response	Conc (Jnits
March Control	21)		em Monito		ounds	12.45	233775	9.174	ma/T.
			Amount	10.000	Range	8 - 13	Recovery	= 91.74	.
4.3		Targ	et Compou	nds					
	2)	tC	C10			7.35	38342	1.862	
	3)	TC	C12			8.81	357147	16.574	
	4)	tC	C14			10.01	803624	34.867	
1	·5)	tC	C16			11.02	737910	30.674	
	6)	tC	C18			11.48	290536	11.709	mg/L
4	7)	tC	C20			11.92	366322	14.840	mg/L
4 1	8)	tC	C22			12.73	127846	4.940	
أ أ	9)	tC	C24			13.47	37454	1.423	
	19)	TC	Pristane			11.50	308620		mg/L
i. .	20) 22)	TC	Phytane			11.96	123753	4.839	
	22)	tC		otal		10.01			mg/L m

Data __le : C:\HPCHEM\1\DATA\020107\T013917.D Aca On : 7 Jan 2002 2:02 pm Sample : 2000203s Misc IntFile : TPHCINT.E : TPHC Calibration 06/05/97 21 peaks Title Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration DataAcq Meth: TPH95.M Volume Inj. : 1 ul Signal Phase : HP-5 Signal Info : $30m \times 0.32mm$ Response 110000 100000 90000

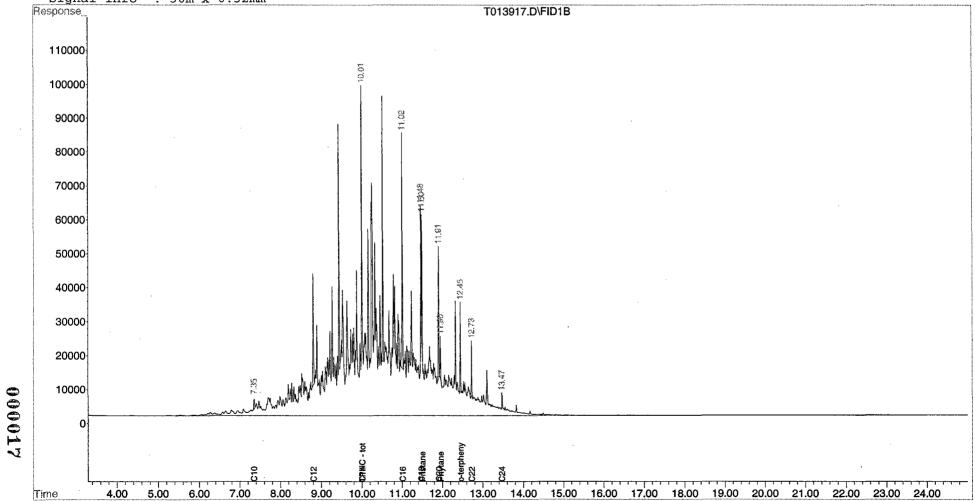
.../ial: 8

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Quant Time: Jan 7 14:43 2002 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)



Quantitation Report (OT Reviewed)

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\020107\T013918.D

Vial: 9 Acq On : 7 Jan 2002 2:36 pm Sample : 2000204s Operator: Skelton Inst : GC/MS Ins

Misc

IntFile : TPHCINT.E Quant Time: Jan 7 15:05 2002 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

			Compound	d ,		R.T.	Response	Conc U	Inits
4								·	
أ ن		Syst	em Monito	ring Compo	nunde				
		_	o-terpher		Janas	12.45	260335	10.216	mg/L
			Amount	10.000	Range	8 - 13	Recovery	= 102.16	8#
Considerate de la Considerate del Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de la Considerate de		_		-					
To de		Targ	et Compour	nds					
	2)	tC	C10			7.09	40418	1.962	
	3)	TC	C12			8.81	253305	11.755	
	4)	tC	C14			10.01	441862	19.171	
	5)	tC	C16			11.02	174547	7.256	
	6)	tC	C18			11.48	62827	2.532	
2	7)	tC	C20			11.92	112866	4.572	
-	8)		C22			12.56	30712	1.187	
i. j	19)	TC	Pristane			11.51	490136		
		TC	Phytane			11.96	173699	6.792	
3 1	22)	tC	TPHC - to	otal		10.27	61404169	2117.836	mg/L m

Data _le : C:\HPCHEM\1\DATA\020107\T013918.D

__ial: 9 Acg On : 7 Jan 2002 2:36 pm Operator: Skelton Sample : 2000204s Inst : GC/MS Ins Misc Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Jan 7 15:05 2002 Quant Results File: TPH95.RES

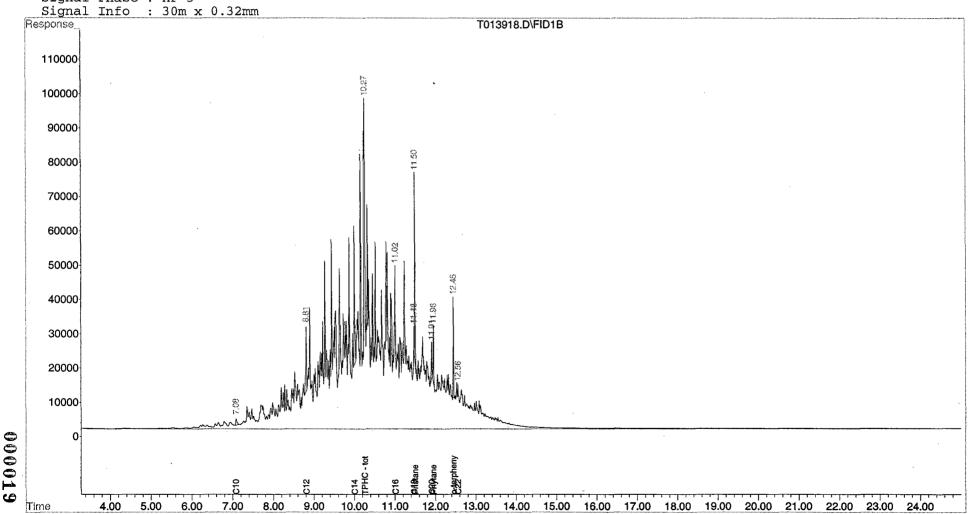
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5



(QT Reviewed) Quantitation Report

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\020107\T013920.D

Vial: 11 : 7 Jan 2002 : 2000204 (1:2) Operator: Skelton Acq On 3:43 pm Sample Inst : GC/MS Ins

: 1:2 dil Misc

IntFile : TPHCINT.E

Quant Time: Jan 7 16:11 2002 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

	Compound					R.T.	Response	Conc Units	
6									
3 1		Syst	em Monito		ounds				
		sC		nyl		12.45	112785	$4.426~\mathrm{mg/L}$	
and the second	Spi	.ked .	Amount et Compou	10.000	Range	8 – 13	Recovery	= 44.26%#	
l,		Targ	et Compour	nds					
	3)	TC	C12			8.81	98122	4.554 mg/L	
	4)	tC	C14	F 4		10.01	122336	5.308 mg/L	
	5)	tC	C16			11.01	70012	$2.910~\mathrm{mg/L}$	
J	6)	tC	C18			11.50	204349	8.236 mg/L	
	7)	tC	C20			11.91	38714	1.568 mg/L	
	19)	TC	Pristane			11.50	204349	8.582 mg/L	
1	19) 20) 22)	TC	Phytane			11.96	73055	2.857 mg/L	
	22)	tC	TPHC - to	otal		10.26	26127470	901.139 mg/L m	

Data __le : C:\HPCHEM\1\DATA\020107\T013920.D : 7 Jan 2002 Acq On 3:43 pm Sample : 2000204 (1:2) Misc : 1:2 dil IntFile : TPHCINT.E Quant Time: Jan 7 16:11 2002 Quant Results File: TPH95.RES

√/ial: 11 Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

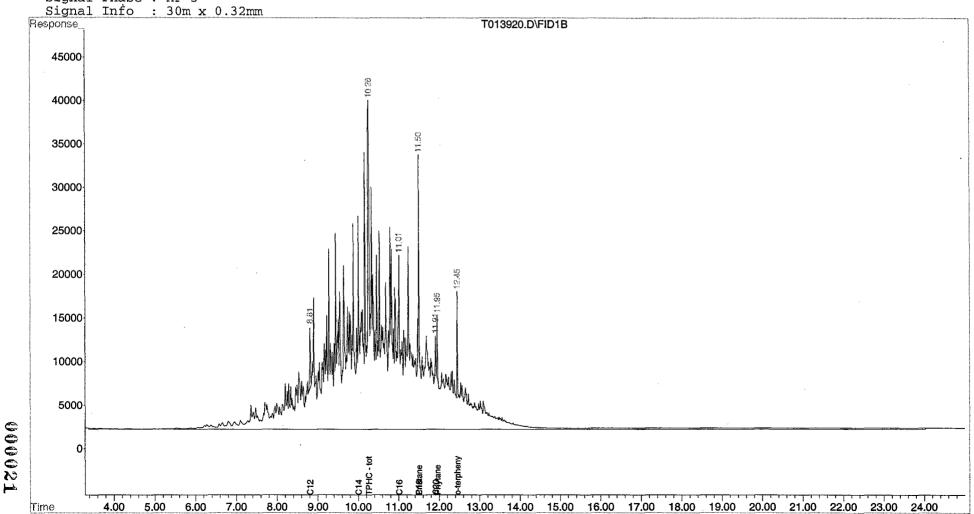
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5



Quantitation Report (QT Reviewed)

Data File : $C:\HPCHEM\1\DATA\020107\T013919.D$

Vial: 10

Operator: Skelton
Inst : GC/MS Ins Acq On : 7 Jan 2002 3:09 pm : 2000205s Sample Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Jan 7 15:48 2002 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

	Compound System Monitoring Compounds 21) sC o-terphenyl					R.T.	Response	Conc Unit:	3
A. T. T.					ounds	12.45	227629	8.932 mg/l	
The state of	Spi	.ked	Amount et Compou	10.000	Range	8 - 13	Recovery	= 89.32%#	•
		Targ	et Compou	ınds			•		
	3)	TC	C12	•		8.81	40352	1.873 mg/1	
	4)	tC	C14			10.01	31643	1.373 mg/s	_
	5)	tC	C16			11.01	82615	3.434 mg/	
7	6)	tC	C18			11.50	467052	18.823 mg/l	
	7)	tC	C20			11.96	147306	5.968 mg/1	_
€-1	19)	TC	Pristane	!		11.50	467052	19.614 mg/l	
1	19) 20) 22)	TC	Phytane			11.96	147306	5.760 mg/I	
	22)	tC	TPHC - t	otal		11.50	36494868	1258.712 mg/I	

Data le : C:\HPCHEM\1\DATA\020107\T013919.D Acq On : 7 Jan 2002 3:09 pm Sample : 2000205s Misc

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Jan 7 15:48 2002 Ouant Results File: TPH95.RES

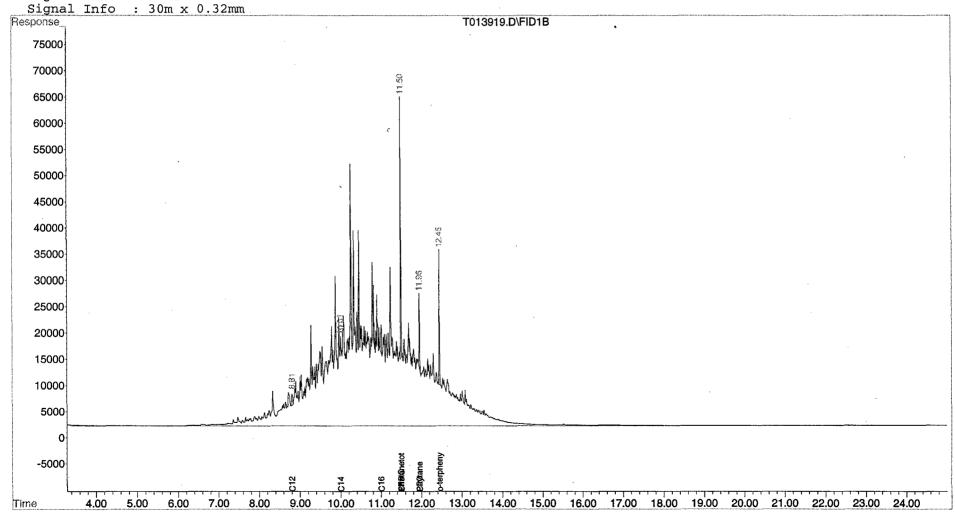
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



000023

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

1.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	
2.	Table of Contents submitted	
3.	Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	
4.	Document paginated and legible	
5 .	Chain of Custody submitted	
6.	Samples submitted to lab within 48 hours of sample collection	
7.	Methodology Summary submitted	
8.	Laboratory Chronicle and Holding Time Check submitted	
9.	Results submitted on a dry weight basis	
	Method Detection Limits submitted Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP	
Dat	Laboratory Manager or Environmental Consultant's Signature	_
Lab	poratory Certification #13461	

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

Laboratory Authentication Statement

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

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-4359 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: UST Program**

Blda. 664

Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
1658201	Soil	14-Nov-01 13:15	11/14/01
1658202	Soil	14-Nov-01 13:35	11/14/01
1658203	Soil	14-Nov-01 13:50	11/14/01
1658204	Soil	14-Nov-01 14:05	11/14/01
1658205	Soil	14-Nov-01 14:25	11/14/01
1658206	Soil	14-Nov-01	11/14/01
	Sample ID# 1658201 1658202 1658203 1658204 1658205	Sample ID# 1658201 Soil 1658202 Soil 1658203 Soil 1658204 Soil 1658205 Soil	Sample ID# Of Collection 1658201 Soil 14-Nov-01 13:15 1658202 Soil 14-Nov-01 13:35 1658203 Soil 14-Nov-01 13:50 1658204 Soil 14-Nov-01 14:05 1658205 Soil 14-Nov-01 14:25

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY RESULTS

> Daniel Wright/Date Laboratory Director

Table of Contents

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Method Summary

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

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	<u>ne</u>
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	\ <u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	yes.
5 .	IR Spectra submitted for standards, blanks and samples.	<u>NA</u>
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	es yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	-yes
Addi	itional comments:	
		_
Labo	oratory Manager Date	
	,	



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D.	Desai		Project No:	02-		Analysis Parameters Comments:				Comments:		
Phone #: XX /4	15		Location:	Location: BLDG 664			ı/	$\overline{\tau}$	8		H	
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Samplers Name / Co	mpany: Mark	LAURA-	TVS-AWS	07	Sample	#	À +	H _C	ΙĘΙ		u	
LIMS/Work Order #	Sample Lo	cation	Date	Time	Туре	bottles	15)	Ď		(PP	Remarks / Preservation Method
16582 1	664.1	7.5'	11-14-01	1315	SOIL	1		×	X		Ò	2400
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4	664 -4	7.5'	1(1405	11			X	X		0) 11
5	664 -5	7.5'	L)	1425	U			\times	X		7)
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Report Type: ()Full, ()	Reduced, (_)Stand	ard, (_)Screer	n / non-certified	l, (_)EDD			Rema	rks:		 	<u> </u>	
Turnaround time: (Standard 3 wks, ()Rush Days, ()ASAP Verbal Hrs.												

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

Client:

U.S. Army

Project #:

16582

DPW. SELFM-PW-EV

Location:

Bldg. 664

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

14-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.:

GC TPHC INST. #1

RTX-5, 0.32mm ID, 30M

Extraction Method: Analysis Complete:

Shake 19-Nov-01

Column Type: Injection Volume:

1uL

Analyst:

Skelton ·

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1658201	664-1	1.00	15.14	88.18	170	ND
1658202	664-2	1.00	15.00	86.36	175	ND
1658203	664-3	1.00	15.09	85.37	176	ND
1658204	664-4	1.00	15.40	87.20	169	ND
1658205	664-5	1.00	15.39	84.33	175	ND
1658206	F.D.	1.00	15.02	85.83	176	ND
METHOD BLANK	MB-2639	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Calibration Files 5 =T013655.D 20 =T013658.D	100 10 ·		3656.D 3657.D	50	='	r013654	4.D		
Compound		5	100	50	20	10	Avg		%RSD
1) tC C8 2) tC C10 3) TC C12 4) tC C14 5) tC C16 6) tC C18 7) tC C20 8) tC C22 9) tC C24 10) tC C26 11) tC C28 12) tC C30 13) tC C32 14) tC C32 14) tC C34 15) tC C36 16) tC C38 17) tC C40 18) tC C42 19) TC Pristane 20) TC Phytane 21) sC o-terphenyl		2.003 2.113 2.299 2.493 2.560 2.514 2.749 2.833 2.890 2.766 2.766 2.763 2.536 2.197 1.886 2.536 2.536	2.147 2.213 2.326 2.384 2.472 2.458 2.537 2.572 2.593 2.550 2.620 2.603 2.589 2.655 2.465 2.275 2.124 2.306 2.476	2.126 2.208 2.324 2.406 2.471 2.478 2.572 2.606 2.634 2.654 2.663 2.663 2.422 2.148 1.935 2.402 2.516	1.965 2.156 2.268 2.366 2.394 2.435 2.524 2.557 2.598 2.549 2.573 2.602 2.425 2.425 2.199 2.282 2.282	2.057 2.083 2.306 2.379 2.508 2.458 2.557 2.595 2.636 2.569 2.613 2.599 2.627 2.430 2.178 1.902 2.379 2.554	1.802 2.060 2.155 2.305 2.406 2.481 2.588 2.670 2.606 2.658 2.658 2.632 2.632 2.632 2.632 2.632 2.632 2.635 2.635 2.635 2.635 2.635 2.635	E44 E44 E44 E44 E44 E44 E44 E44 E44	4.30 3.79 2.66 1.02 2.12 2.44 1.20 3.55 4.31 4.66 3.55 2.69 2.97 2.14 1.79 2.14 4.86 4.20 4.43 2.41
22) tC TPHC - total		3.562	2.604	2.659	2.739	2.933	2.899	E4	13.48

Evaluate Continuing Calibration Report

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011119\T013807.D

Vial: 100 Acq On : 19 Nov 2001 11:20 am Operator: Skelton Inst : GC/MS Ins

Sample : Tstd050
Misc : Tstd050
IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemst Title : TPHC Calibration 06/05/97 21 peaks Last Update : Wed Oct 24 13:32:50 2001 : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019	20.649 E3	-14.6	109	-0.03
2	tC	C10	20.595	22.791 E3	-10.7	107	0.00
3	TC	C12	21.549	22.973 E3	-6.6	104	0.00
4	tC	C14	23.048	23.409 E3	-1.6	101	0.00
5	tC	C16	24.057	24.122 E3	-0.3	100	0.00
6	tΩ	C18	24.812	24.021 E3	3.2	97	0.00
7	tC	C20	24.684	24.373 E3	1.3	98	0.00
8	tC	C22	25.878	25.638 E3	0.9	100	0.00
9	tC	C24	26.326	25.916 E3	1.6	99	0.00
10	tC	C26	26.702	26.194 E3	1.9	99	0.00
11	tC	C28	26.061	25.765 E3	1.1	99	0.00
12	tC	C30	26.583	26.469 E3	0.4	99	0.00
13	tC	C32	26.447	26.266 E3	0.7	99	0.00
14	tC	C34	26.317	26.143 E3	0.7	99	0.00
15	-	C36	26.661	27.081 E3	-1.6	102	0.00
	tC	C38	24.528	25.796 E3	-5.2	106	0.00
17	tC	C40	21.994	24.627 E3	-12.0	115	0.00
.1.8		c42	19.638	23.151 E3	-17.9	120	0.00
)	TC	Pristane	23.812	22.692 E3	4.7	94	0.00
كد	TC	Phytane	25.573	25.364 E3	0.8	101	0.00
21		o-terphenyl	25.484	25.624 E3	-0.5	101	0.00
22	tC	TPHC - total	28.994	27.732 E3	4.4	104	1.46#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011119\T013818.D

Vial: 7

: 19 Nov 2001 5:51 pm Acq On Operator: Skelton : Tstd050s Sample Inst : GC/MS Ins Multiplr: 1.00 Misc

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	-	C8	18.019	20.912 E3	-16.1	111	-0.05
2		C10	20.595	22.414 E3	-8.8	105	-0.01
3	TC	C12	21.549	23.381 E3	-8.5	106	0.00
4	tC	C14	23.048	23.883 E3	-3.6	103	0.00
5	tC	C16	24.057	24.693 E3	-2.6	103	0.00
6	tC	C18	24.812	26.500 E3	-6.8	107	0.00
7	tC	C20	24.684	25.423 E3	-3.0	103	0.00
8	tC	C22	25.878	26.184 E3	-1.2	102	0.00
9	tC	C24	26.326	26.479 E3	-0.6	102	0.00
10	tC	C26	26.702	26.760 E3	-0.2	102	0.00
11	tC	C28	26.061	26.296 E3	-0.9	101	0.00
12	tC	C30	26.583	26.999 E3	-1.6	101	0.00
13	tC	C32	26.447	26.755 E3	-1.2	101	0.00
14	tC	C34	26.317	26.612 E3	-1.1	101	0.00
15	tC	C36	26.661	27.616 E3	-3.6	104	0.00
16	tC	C38	24.528	26.472 E3	-7.9	109	0.00
17	tC	C40	21.994	25.435 E3	-15.6	118	-0.01
18	tC	c42	19.638	24.573 E3	-25.1#	127	0.00
1	TC	Pristane	23.812	24.480 E3	-2.8	102	0.00
1	TC	Phytane	25.573	25.715 E3	-0.6	102	0.00
21		o-terphenyl	25.484	26.074 E3	-2.3	103	0.00
22		TPHC - total	28.994	28.595 E3	1.4	108	0.51#

Evaluate Continuing Calibration Report

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011119\T013829.D

Vial: 18 Acq On : 19 Nov 2001 11:54 pm Operator: Skelton Sample : Tstd050s Inst : GC/MS Ins

Misc IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	tC	C8	18.019			113	-0.06
2	tC	C10	20.595	23.520 E3	-14.2	111	-0.01
3	\mathbf{TC}	C12	21.549	23.599 E3	-9.5	107	0.00
4	tC	C14	23.048	24.254 E3	-5.2	104	0.00
5	tC	C16	24.057	24.923 E3	-3.6	104	0.00
6	tC	C18	24.812	24.957 E3	-0.6	101	0.00
7	tC	C20	24.684	25.776 E3	-4.4	104	0.00
8	tC	C22	25.878	26.537 E3	-2.5	103	0.00
9	tC	C24	26.326	26.812 E3	-1.8	103	0.00
10	tC	C26	26.702	27.049 E3	-1.3	103	0.00
11	tC	C28	26.061	26.689 E3	-2.4	103	0.00
12	tC	C30	26.583	27.596 E3	-3.8	103	0.00
13	tC	C32	26.447	27.128 E3	-2.6	102	0.00
14	tC	C34	26.317	26.996 E3	-2.6	103	0.00
15	tC	C36	26.661	28.071 E3	~5.3	105	0.00
16	tC	C38	24.528	26.803 E3	-9.3	111	0.00
17	tC	C40	21.994	25.904 E3	-17.8	121	0.00
18	tC	c42	19.638	25.406 E3	-29.4#	131	0.00
, 9	TC	Pristane	23.812	24.377 E3	-2.4	101	0.00
ال	TC	Phytane	25.573	26.222 E3	-2.5	104	0.00
21	sC	o-terphenyl	25.484	26.413 E3	-3.6	104	0.00
22	tC	TPHC - total	28.994	29.521 E3	-1.8	111	1.45#

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

Client:

U.S. Army

Project #:

16582

DPW. SELFM-PW-EV

Location:

Bldg. 664

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

14-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample		Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1658201		10.00	9.70	96.95
1658202		10.00	9.94	99.36
1658203		10.00	9.35	93.48
1658204		10.00	10.00	100.00
1658205		10.00	9.80	98.04
1658206		10.00	9.65	96.51
METHOD BLANK	MB-2639	10.00	11.50	114.96

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16582

DPW. SELFM-PW-EV

Location:

Bldg. 664

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received :

14-Nov-01

Matrix:

Soil

Date Extracted :

Inst. ID.

GC TPHC INST. #1

Extraction Method:

19-Nov-01

Column Type :

RTX-5, 0.32mm ID, 30M

Analysis Complete:

Shake 19-Nov-01

Injection Volume :

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	4 t	QC Limits %
1658101MS	1000	0.00	924.80	92.48	75-125
1658101MSD	1000	0.00	920.81	92.08	75-125

RPD	0.43	20.00

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

Client:

U.S. Army

Project #:

16582

DPW. SELFM-PW-EV

Location:

Bldg. 664

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

14-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-011108	19-Nov-01	1000	848.93	84.89	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013808.D Vial: 1

Acq On : 19 Nov 2001 11:59 am Operator: Skelton : MB 2639 Sample Inst : GC/MS Ins

Misc : 19Nov01 Multipl:
IntFile : TPHCINT.E
Quant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES Multiplr: 1.00

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Compound Response Conc Units ______

System Monitoring Compounds

12.45 292962 11.496 mg/L 21) sC o-terphenyl Range 8 - 13 Recovery = 114.96%# Spiked Amount 10.000

Target Compounds

Data File : C:\HPCHEM\1\DATA\011119\T013808.D

: 19 Nov 2001 11:59 am

Vial: 1

Acq On : 19 Nov : Sample : MB 2639

Operator: Skelton
Inst : GC/MS Ins

Misc : 19Nov01

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES

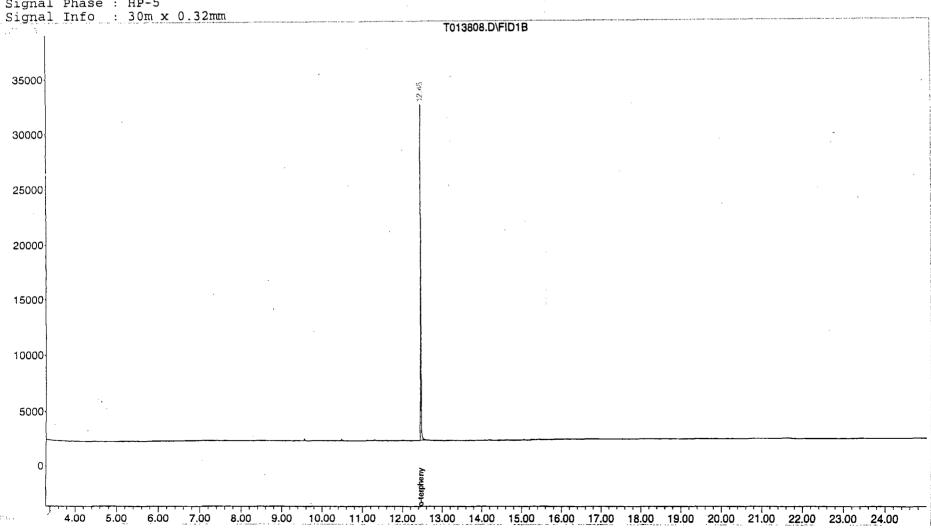
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013821.D

Vial: 10 Acq On : 19 Nov 2001 7:30 pm Sample : 1658201s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc Misc : IntFile : TPHCINT.E

Quant Time: Nov 19 19:56 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

11ng Compounds 12.45 247058 9.695 mg/L 10.000 Range 8 - 13 Recovery = 96.95%# 21) sC o-terphenyl Spiked Amount

Target Compounds

Quantitatic eport

Data File : C:\HPCHEM\1\DATA\011119\T013821.D

Acq On : 19 Nov 2001 7:30 pm

Sample : 1658201s

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

Misc :
IntFile : TPHCINT.E

Quant Time: Nov 19 19:56 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm T013821.D\FID1B Seconse 32000 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 100001 8000 6000 4000 2000 4.00 5.00 7.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013822.D

Vial: 11 Acq On : 19 Nov 2001 8:03 pm Sample : 1658202s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 19 20:29 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds
21) sC o-terphenyl 12.45 253213 9.936 mg/L
Spiked Amount 10.000 Range 8 - 13 Recovery = 99.36%#

Quantitatic ≥port

Data File: C:\HPCHEM\1\DATA\011119\T013822.D

Acq On : 19 Nov 2001 8:03 pm

: 1658202s

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

Misc

Sample

IntFile : TPHCINT.E Quant Time: Nov 19 20:29 2001 Quant Results File: TPH95.RES

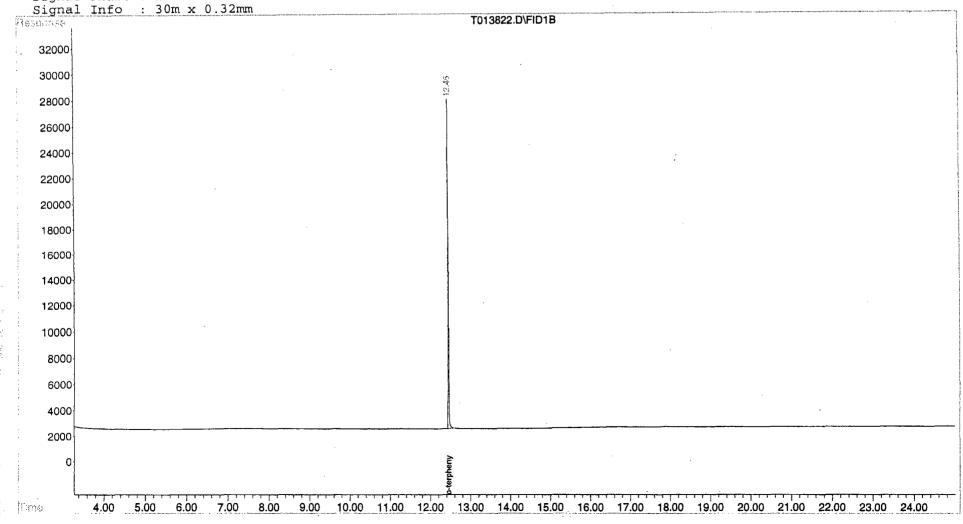
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013823.D

Vial: 12 Acq On : 19 Nov 2001 8:36 pm Sample : 1658203s Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Ouant Time: Nov 19 21:02 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title: TPHC Calibration 06/05/97 21 peaks
Last Update: Wed Oct 24 13:32:50 2001
Response via: Initial Calibration
DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

ring Compounds
nyl 12.45 238228 9.348 mg/L
10.000 Range 8 - 13 Recovery = 93.48%# 21) sC o-terphenyl Spiked Amount

Quantitatic eport.

Data File : C:\HPCHEM\1\DATA\011119\T013823.D

Vial: 12

Acg On : 19 Nov 2001 8:36 pm

Operator: Skelton

Sample : 1658203s Inst : GC/MS Ins

Multiplr: 1.00 Misc

IntFile : TPHCINT.E

Quant Time: Nov 19 21:02 2001 Quant Results File: TPH95.RES

Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

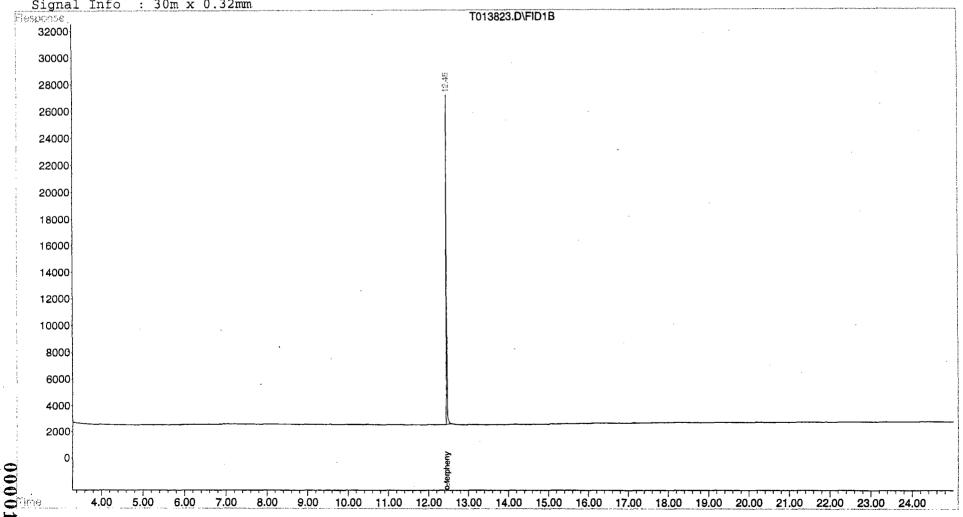
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013824.D

Vial: 13 Acq On : 19 Nov 2001 9:09 pm Operator: Skelton : 1658204s Sample Inst : GC/MS Ins Multiplr: 1.00

Misc

Misc : IntFile : TPHCINT.E

Quant Time: Nov 19 21:35 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Initial Calibration

DataAcq Meth : TPH95.M

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

Compound R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 254845 10.000 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 100.00%#

Ouantitatic eport

Data File : C:\HPCHEM\1\DATA\011119\T013824.D

Vial: 13

Aca On : 19 Nov 2001 Operator: Skelton

Sample : 1658204s Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT E

Ouant Time: Nov 19 21:35 2001 Quant Results File: TPH95.RES

9:09 pm

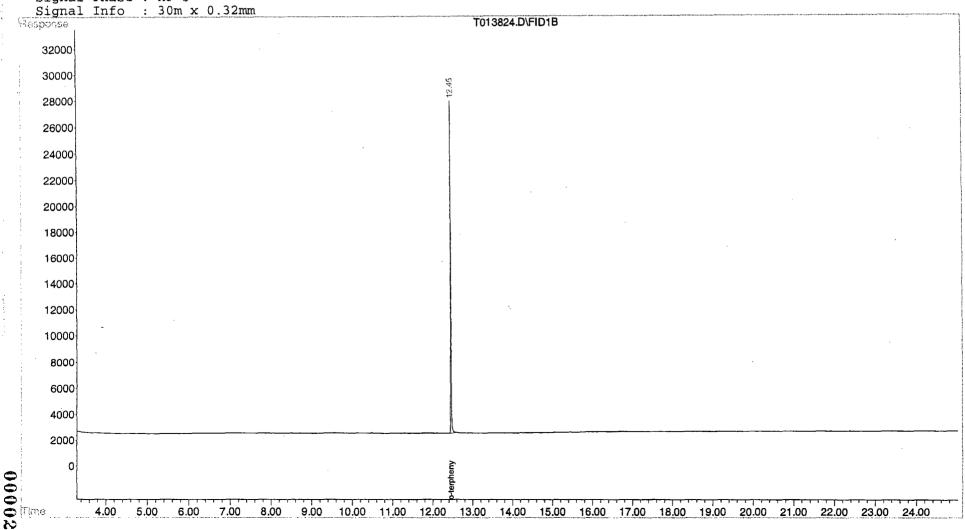
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



(QT Reviewed) Quantitation Report

Data File : C:\HPCHEM\1\DATA\011119\T013825.D

Vial: 14 Acq On : 19 Nov 2001 9:42 pm Operator: Skelton Sample : 1658205s Inst : GC/MS Ins

Misc Misc : IntFile : TPHCINT.E Multiplr: 1.00

Quant Time: Nov 19 22:07 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds 21) sC o-terphenyl 12.45 249844 9.804 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 98.04%

Ouantitatio eport

Data File : C:\HPCHEM\1\DATA\011119\T013825.D

Vial: 14

Acq On : 19 Nov 2001 9:42 pm Sample : 1658205s

Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 19 22:07 2001 Quant Results File: TPH95.RES

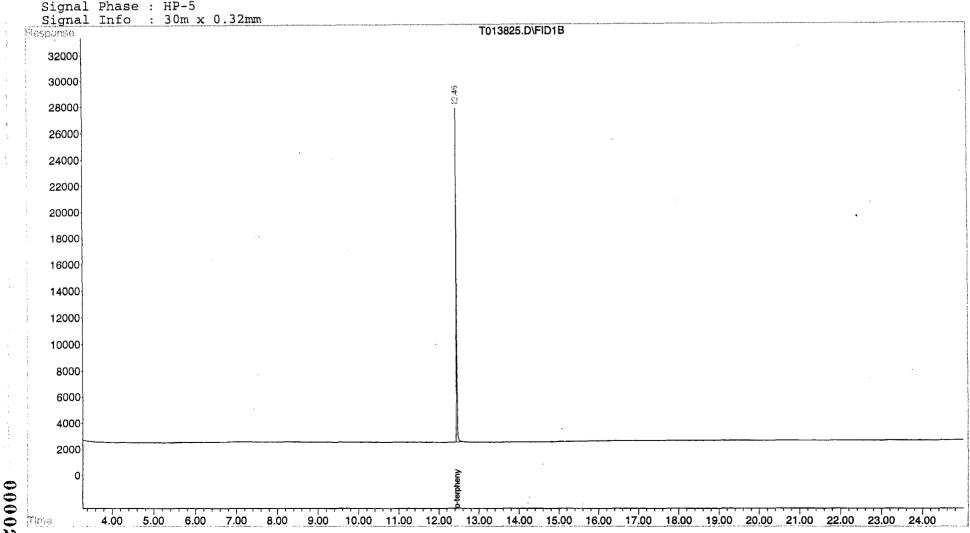
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013826.D

Vial: 15 Acq On : 19 Nov 2001 10:15 pm

: 1658206s Sample

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc

IntFile : TPHCINT.E Quant Time: Nov 19 22:40 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

Compound R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 245942 9.651 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 96.51%#

Quantitati eport

Data File : C:\HPCHEM\1\DATA\011119\T013826.D

Vial: 15

Acq On : 19 Nov 2001 10:15 pm

Operator: Skelton
Inst : GC/MS Ins

Sample : 1658206s

Multiplr: 1.00

Misc

IntFile : TPHCINT.E

Quant Time: Nov 19 22:40 2001 Quant Results File: TPH95.RES

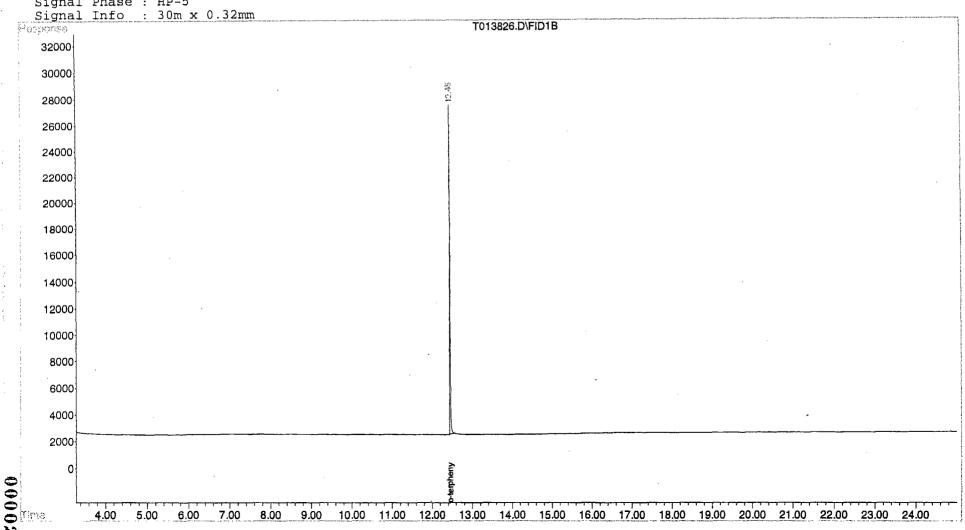
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

l.	Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	<u>.</u>	
2.	Table of Contents submitted		
3.	Summary Sheets listing analytical results for all targeted and non-tar compounds submitted	geted	
4.	Document paginated and legible		
5 .	Chain of Custody submitted	17	
6 .	Samples submitted to lab within 48 hours of sample collection		
7.	Methodology Summary submitted		
8.	Laboratory Chronicle and Holding Time Check submitted		
9.	Results submitted on a dry weight basis		
10. 11.	Method Detection Limits submitted 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 1 / 3 of or pratory Certification #13461		3

*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-84 for Solid Waste Analysis. I have personally examined the information contained in the report and to the best of my knowledge, I believe that the submitted information is the accurate, complete and meets the above referenced standards where applicable. I aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL **TESTING LABORATORY**

DIRECTORATE OF PUBLIC WORKS

PHONE: (732) 532-4359 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: UST Program**

Blda. 666

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
666-1/7.5	1658101	Soil	14-Nov-01 10:15	11/14/01
666-2/7.5'	1658102	Soil	14-Nov-01 10:35	11/14/01
666-3/7.5'	1658103	Soil	14-Nov-01 10:55	11/14/01
666-4/7.5	1658104	Soil	14-Nov-01 11:15	11/14/01
666-5/7.5'	1658105	Soil	14-Nov-01 11:30	11/14/01
F.D./1/7.5'	1658106	Soil	14-Nov-01	11/14/01
	666-1/7.5' 666-2/7.5' 666-3/7.5' 666-4/7.5' 666-5/7.5'	Sample ID# 666-1/7.5' 1658101 666-2/7.5' 1658102 666-3/7.5' 1658103 666-4/7.5' 1658104 666-5/7.5' 1658105	Sample ID# 666-1/7.5' 1658101 Soil 666-2/7.5' 1658102 Soil 666-3/7.5' 1658103 Soil 666-4/7.5' 1658104 Soil 666-5/7.5' 1658105 Soil	Sample ID# Of Collection 666-1/7.5' 1658101 Soil 14-Nov-01 10:15 666-2/7.5' 1658102 Soil 14-Nov-01 10:35 666-3/7.5' 1658103 Soil 14-Nov-01 10:55 666-4/7.5' 1658104 Soil 14-Nov-01 11:15 666-5/7.5' 1658105 Soil 14-Nov-01 11:30

ANALYSIS: FORT MONMOUTH ENVIRONMENTAL LAB TPHC, %SOLIDS

ENCLOSURE: CHAIN OF CUSTODY **RESULTS**

Daniel Wright/Date

11-30-01

Laboratory Director

Table of Contents

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Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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

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

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

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

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No, N/A
1.	Method Detection Limits provided.	163, NO, NA 165
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	- 10
3 .	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	Nes
4 .	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	yes_
5.	IR Spectra submitted for standards, blanks and samples	- DA
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	s <u>yes</u>
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	Jes
Additi	onal comments:	
l ahor	atory Manager Date	



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

Custome	r: D.	DESAI		Project No:	02-					Ana	lysis F	aram	eters			Comments:
Phone #:	XX	5		Location: E	10G 66	6		٧	Η	3/6					И	Cal. # 2 Have
()DERA	(VOMA ()Other:		(FORMER	3		V O A	P H	8					N	O.K. (M)
Samplers I	Name / Cor	npany:				Sample	#	+	lt C	NO LIED					K	
LIMS/Wor	k Order#	Sample L	ocation	Date	Time	Туре	bottles	IS	٥	D					(PPM)	Remarks / Preservation Method
16581		666-1	7.5'	11-14-01	1015	Soil	1		×	×.					0	= 400
	2	666-2	7.5	11	1035	11	и		×	×					0	17
	3	666-3	7.5	n.	1055	11	11		X	×					0	
/	4	666-4	7.5	11	1115	1)	11		×	X					0	
	5			11	1130	li li	11		X	×					0	
	6	F.D.	7.5'	17		11	11		X	×					<u> </u>	
									, ,							
																·
																·
Relinguished Watt	<i>II</i>	e): <u>Di</u> //-/-/	ate/Time:	Received by (signature):	K	Relino	puished	by (sig	nature):		Date/	Time:	Receiv	ved by (signature):
Relinquished	by (signatur	e): D	nte/Time:	Received by (signature):		Relino	luished	by (sig	nature):		Date/	Time:	Receiv	ved by (signature):
Report Type:	()Full,	educed, (_)Stand	lard, ()Screen	/ non-certified	, ()EDD			Rema	rks: H	20:	= 8'					
Turnaround ti	me: ()8 and	lard 3 wks, (_)Rus	hDays,	ASAP Verb	oal Hrs.							;				

10000

n--- 1

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

Client:

U.S. Army

Project #:

16581

DPW. SELFM-PW-EV

Location:

Bldg. 666

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

14-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.:

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1658101	666-1	1.00	15.67	88.85	163	ND
1658102	666-2	1.00	15.27	87.86	169	ND
1658103	666-3	1.00	15.16	88.30	169	ND
1658104	666-4	1.00	15.30	89.07	166	ND
1658105	666-5	1.00	15.18	86.95	172	ND
1658106	F.D.	1.00	15.37	88.75	166	ND
METHOD BLANK	MB-2639	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Cali	bration Files				
5	=Ť013655.D	100	=T013656.D	50	=T013654.D
2.0	=T013658 D	10	=T013657.D		

		Compound	5	100	50	20	10	Avg		%RSD
1)	tC	C8	 1.744	1.887	1 886	1 754	1 738	1.802		4.30
2)	tC	C10						2.060		3.79
3)	TC	C12						2.155		2.66
4)	tC	C14						2.305		1.02
5)	tC	C16						2.406		2.12
6)	tC	C18						2.481		2.44
7)	tC	C20	2.514	2.458	2.478	2.435	2.458	2.468	E4	1.20
8)	tC	C22	2.749	2.537	2.572	2.524	2.557	2.588	E4	3.55
9)	tC	C24	2.833	2.572	2.606	2.557	2.595	2.633	E4	4.31
10)	tC	C26	2.890	2.593	2.634	2.598	2.636	2.670	E4	4.66
11)	tC	C28						2.606		3.51
12)	tC	C30						2.658		3.56
13)	tC	C32						2.645		2.69
14)	tC	C34						2.632		2.97
15)	tC	C36						2.666		2.14
16)		C38						2.453		1.79
17)	tC	C40						2.199		2.14
18)	tC	c42						1.964		4.86
19)	TC	Pristane	2.536 2.753	2.306	2.402	2.282	2.379	2.381	E4	4.20
20)	TC	Phytane	2.753	2.476	2.516	2.487	2.554	2.557	E4	4.43
21)		o-terphenyl	2.654	2.507	2.538	2.504	2.538	2.548	E4	2.41
22)	tC	TPHC - total	3.562	2.604	2.659	2.739	2.933	2.899	E4	13.48

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011119\T013807.D

Vial: 100 Operator: Skelton

Sample

: 19 Nov 2001 11:20 am : Tstd050

Inst : GC/MS Ins

Misc

: Tstd050

Multiplr: 1.00

IntFile : TPHCINT.E

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		C8	18.019	20.649 E3	-14.6	109	-0.03
2	tC	C10	20.595	22.791 E3	-10.7	107	0.00
3	TC	C12	21.549	22.973 E3	-6.6	104	0.00
4	tC	C14	23.048	23.409 E3	-1.6	101	0.00
5	tC	C16	24.057	24.122 E3	0.3	100	0.00
6	tC	C18	24.812	24.021 E3	3.2	97	0.00
7	tC	C20	24.684	24.373 E3		98	0.00
8	tC	C22	25.878	25.638 E3	0.9	100	0.00
9	tC	C24	26.326	25.916 E3.	1.6	99	0.00
10	tC	C26	26.702	26.194 E3	1.9	99	0.00
11	tC	C28	26.061	25.765 E3		99	0.00
12	tC	C30	26.583	26.469 E3	0.4	99	0.00
13	tC	C32	26.447	26.266 E3	0.7	99	0.00
14	tC	C34 .	26.317	26.143 E3	0.7	99	0.00
15	tC	C36	26.661	27.081 E3	-1.6	102	0.00
16	tC	C38	24.528	25,796 E3	-5.2	106	0.00
17	tC	C40	21.994	24.627 E3	-12.0	115	0.00
18	tC	c42	19.638	23.151 E3	-17.9	120	0.00
) 9	TC	Pristane	23.812	22.692 E3	4.7	94	0.00
∠ o	TC	Phytane	25.573	25.364 E3	0.8	101	0.00
21	sC	o-terphenyl	25.484	25.624 E3		101	0.00
22	tC	TPHC - total	28.994	27.732 E3	4.4	104	1.46#

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011119\T013818.D

Acq On : 19 Nov 2001 5:51 pm Sample

Operator: Skelton Inst : GC/MS Ins

Misc

: Tstd050s

Multiplr: 1.00

: TPHCINT.E IntFile

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF		Area%	Dev(min)
1	tC	C8	18.019	20.912 E3	-16.1	111	-0.05
2	tC	C10	20.595	22.414 E3	-8.8	105	-0.01
3	TC	C12	21.549	23.381 E3	-8.5	106	0.00
4	tC	C14	23.048	23.883 E3	-3.6	103	0.00
5	tC	C16	24.057	24.693 E3	-2.6	103	0.00
6	tC	C18	24.812	26.500 E3	-6.8	107	0.00
7	tC	C20	24.684	25.423 E3	-3.0	103	0.00
8	tC	C22	25.878	26.184 E3	-1.2	102	0.00
9	tC	C24	26.326	26.479 E3	-0.6	102	0.00
10	tC	C26 ·	26.702	26.760 E3	-0.2	102	0.00
11	tC	C28	26.061	26.296 E3	-0.9	101	0.00
12	tC	C30	26.583	26.999 E3	-1.6	101	0.00
13	tC	C32	26.447	26.755 E3	-1.2	101	0.00
14	tC	C34	26.317	26.612 E3	-1.1	101	0.00
15	tC	C36	26.661	27.616 E3	-3.6	104	0.00
16	tC	C38	24.528	26.472 E3	-7.9	109	0.00
17	tC	C40	21.994	25.435 E3	-15.6	118	-0.01
	tC	c42	19.638	24.573 E3	-25.1#	127	0.00
19	TC	Pristane	23.812	24.480 E3	-2.8	102	0.00
20	TC	Phytane	25.573	25.715 E3	-0.6	102	0.00
21	sC	o-terphenyl	25.484	26.074 E3	-2.3	103	0.00
22	tC	TPHC - total	28.994	28.595 E3	1.4	108	0.51#

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

Client:

U.S. Army

Project #:

16581

DPW. SELFM-PW-EV

Location:

Bldg. 666

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

14-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1658101			10.00	10.69	106.94
1658102			10.00	9.99	99.93
1658103		<u> </u>	10.00	9.72	97.15
1658104			10.00	9.98	99.80
1658105		<u> </u>	10.00	10.21	102.09
1658106			10.00	10.17	101.70
			-		
		-			
· · · · · · · · · · · · · · · · · · ·		-			
	<u> </u>			<u> </u>	
					
METHOD BLANK	MB-2639		10.00	11.50	114.96

Surrogate Added:

o-Terphenyl

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

Client:

U.S. Army

Project #:

16581

DPW. SELFM-PW-EV

Location:

Bldg. 666

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

14-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1658101MS	1000	0.00	924.80	92.48	75-125
1658101MSD	1000	0.00	920.81	92.08	75-125

·		
RPD	0.43	20.00

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

Client:

U.S. Army

Project #:

16581

DPW. SELFM-PW-EV

Location:

Bldg. 666

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

14-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-011108	19-Nov-01	1000	848.93	84.89	75-125

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013808.D

Vial: 1

Acq On : 19 Nov 2001 11:59 am Operator: Skelton Sample : MB 2639 Inst : GC/MS Ins Multiplr: 1.00 Misc

Misc : 19Nov01 IntFile : TPHCINT.E

Quant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Initial Calibration

DataAcq Meth : TPH95.M

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

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 292962 11.496 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 114.96%#

Quantitati leport

Data File : C:\HPCHEM\1\DATA\011119\T013808.D

: 19 Nov 2001 11:59 am

Operator: Skelton Inst : GC/MS Ins

Vial: 1

Misc : 19Nov01

Aca On

Sample

Nov01 Multiplr: 1.00

IntFile : TPHCINT.E

: MB 2639

Quant Time: Nov 19 12:24 2001 Quant Results File: TPH95.RES

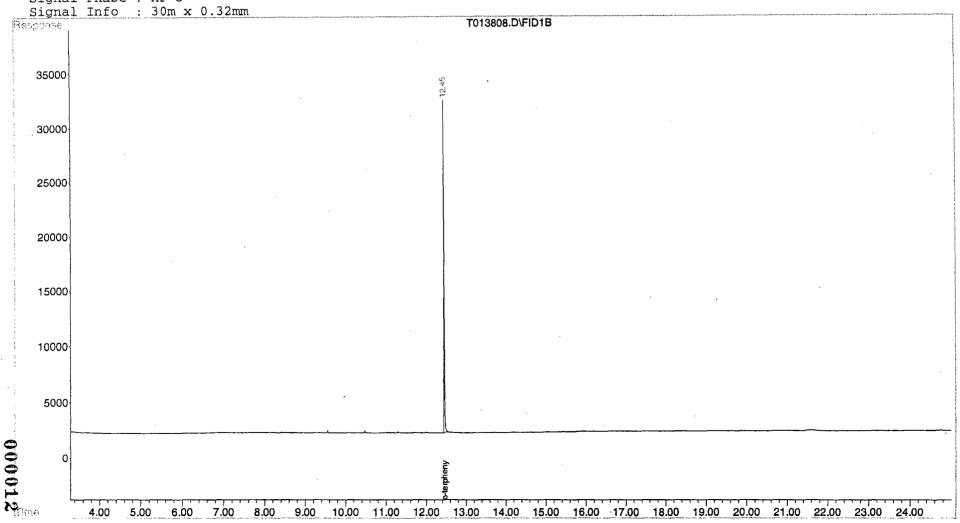
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Multiplr: 1.00

Data File : C:\HPCHEM\1\DATA\011119\T013812.D

Vial: 1 Acq On : 19 Nov 2001 2:33 pm . Sample : 1658101s Operator: Skelton Inst : GC/MS Ins

Misc

Misc : IntFile : TPHCINT.E

Quant Time: Nov 19 14:58 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth : TPH95.M

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

Compound R.T. Response Conc Units

System Monitoring Compounds

12.45 272518 10.694 mg/L 000 Range 8 - 13 Recovery = 106.94%# 21) sC o-terphenyl Spiked Amount 10. 10.000

Ouantitati leport

Data File : C:\HPCHEM\1\DATA\011119\T013812.D

: 19 Nov 2001 2:33 pm

Operator: Skelton Inst : GC/MS Ins

Misc

Acq On

Sample

: 1658101s

Multiplr: 1.00

Vial: 1

IntFile : TPHCINT.E

Quant Time: Nov 19 14:58 2001 Quant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

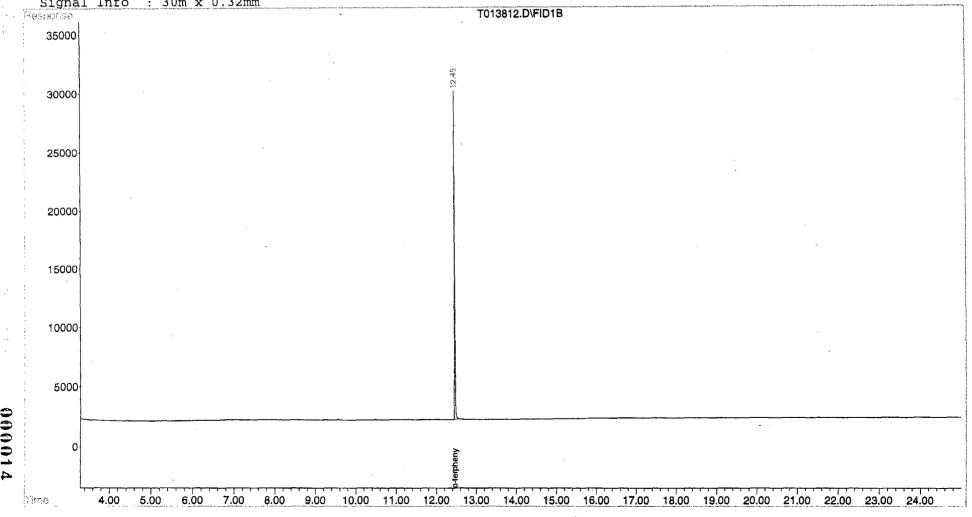
: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013815.D

Acq On : 19 Nov 2001 4:12 pm Sample : 1658102s Misc : IntFile : TPHCINT.E

Vial: 4 Operator: Skelton

Inst : GC/MS Ins Multiplr: 1.00

Quant Time: Nov 19 16:38 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 254664 9.993 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 99.93%#

Ouantitatic eport

Vial: 4

Data File : C:\HPCHEM\1\DATA\011119\T013815.D Aca On

: 19 Nov 2001 4:12 pm

Operator: Skelton : 1658102s Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT E

Sample

Quant Time: Nov 19 16:38 2001 Quant Results File: TPH95.RES

Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm T013815.D\FID1B Plesconse 32000 30000 28000 26000 24000 22000 20000 18000 16000 14000 12000 10000 8000 6000 4000 2000 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 4.00 8.00

Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013816.D

Vial: 5 Acq On : 19 Nov 2001 4:45 pm Operator: Skelton

Sample : 1658103s Inst : GC/MS Ins Misc Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 19 17:11 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Initial Calibration

DataAcq Meth: TPH95.M

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

Compound R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 247585 9.715 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 97.15%#

Quantitatic eport

Data File : C:\HPCHEM\1\DATA\011119\T013816.D

: 19 Nov 2001 4:45 pm

Vial: 5
Operator: Skelton
Inst : GC/MS Ins

Sample : 1658103s Misc :

Acq On

Multiplr: 1.00

IntFile : TPHCINT.E

Ouant Time: Nov 19 17:11 2001 Quant Results File: TPH95.RES

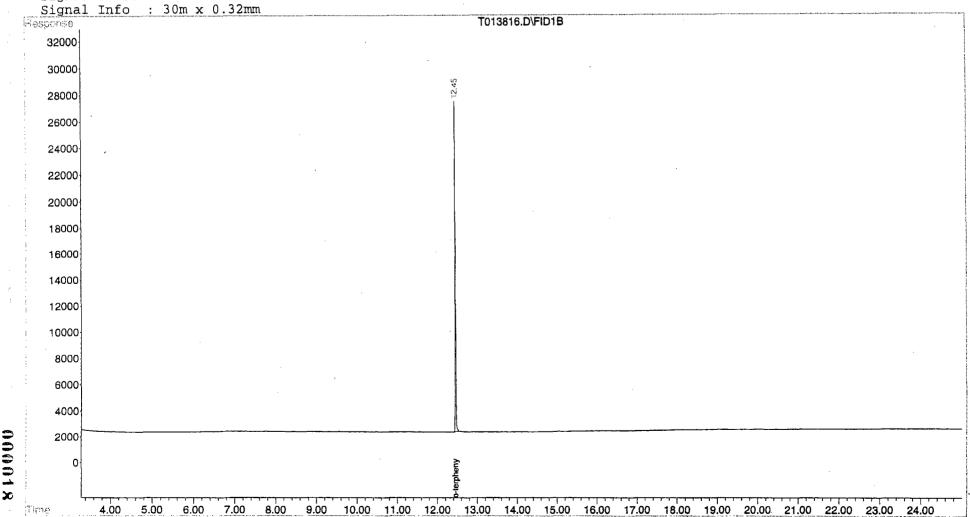
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Vial: 6

Data File : C:\HPCHEM\1\DATA\011119\T013817.D

Acq On : 19 Nov 2001 5:18 pm Sample : 1658104s Operator: Skelton Inst : GC/MS Ins

Misc Misc : IntFile : TPHCINT.E Multiplr: 1.00

Quant Time: Nov 19 17:44 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm

R.T. Response Conc Units Compound

System Monitoring Compounds

21) sC o-terphenyl 12.45 254328 9.980 mg/L Spiked Amount 10.000 Range 8 - 13 Recovery = 99.80%#

Ouantitati leport

Data File : C:\HPCHEM\1\DATA\011119\T013817.D 5:18 pm

Vial: 6

Aca On : 19 Nov 2001 Operator: Skelton Inst : GC/MS Ins

Sample : 1658104s

Multiplr: 1.00

Misc IntFile

: TPHCINT.E

Quant Time: Nov 19 17:44 2001 Quant Results File: TPH95.RES

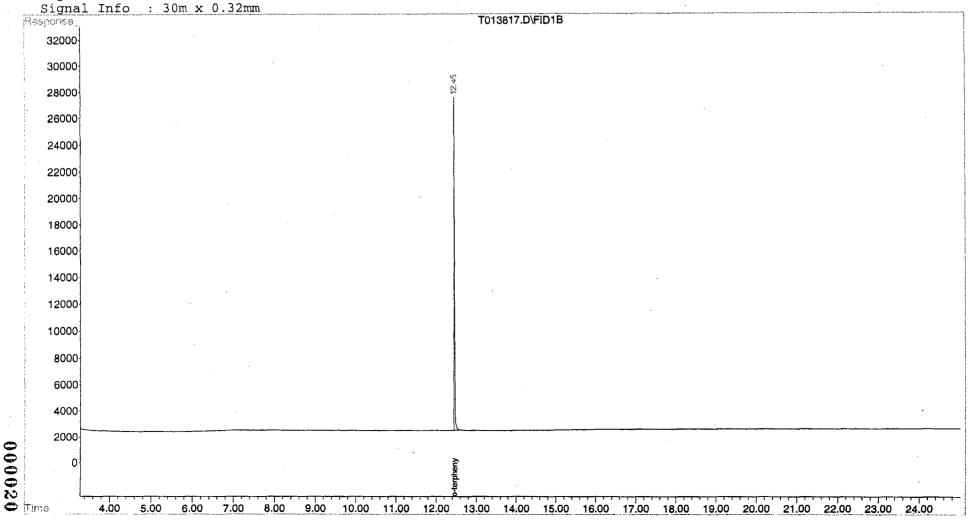
Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcg Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013819.D

Vial: 8 Acq On : 19 Nov 2001 6:24 pm

Operator: Skelton : 1658105s Sample Inst : GC/MS Ins

Misc Misc : IntFile : TPHCINT.E Multiplr: 1.00

Quant Time: Nov 19 18:50 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

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

Compound R.T. Response Conc Units

System Monitoring Compounds

henyl 12.45 260157 10.209 mg/L 10.000 Range 8 - 13 Recovery = 102.09%# 21) sC o-terphenyl Spiked Amount 10

Quantitati eport

Data File : C:\HPCHEM\1\DATA\011119\T013819.D

: 19 Nov 2001 6:24 pm

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

Vial: 8

Misc : IntFile : TPHCINT.E

: 1658105s

Acq On

Sample

Ouant Time: Nov 19 18:50 2001 Quant Results File: TPH95.RES

Ouant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

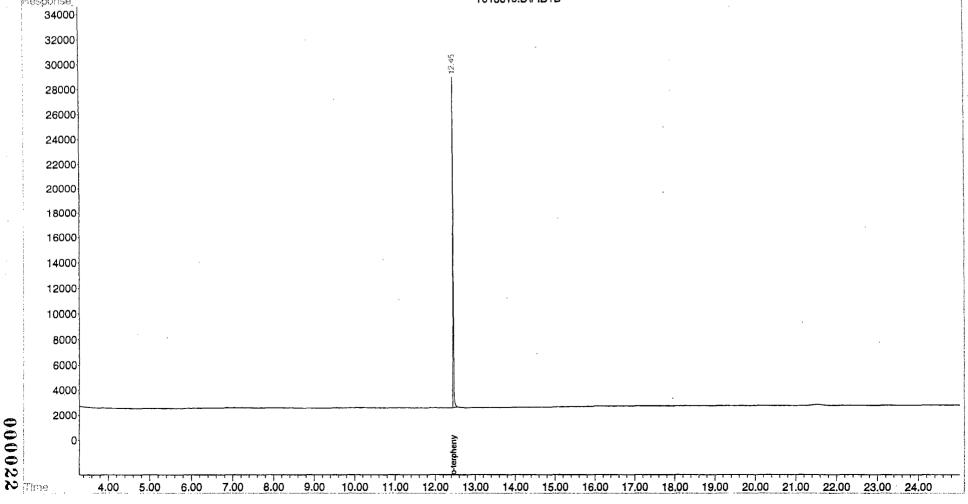
Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

 Signal Info : 30m x 0.32mm
 T013819.D\FID1B



Quantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013820.D

Vial: 9 Acq On : 19 Nov 2001 6:57 pm Operator: Skelton Sample : 1658106s Inst : GC/MS Ins

Misc

Multiplr: 1.00

Misc : IntFile : TPHCINT.E

Quant Time: Nov 19 19:23 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Initial Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound

System Monitoring Compounds

12.45 259169 10.170 mg/L 10.000 Range 8 - 13 Recovery = 101.70%# 21) sC o-terphenyl Spiked Amount

Target Compounds

Ouantitatic .eport

Data File : C:\HPCHEM\1\DATA\011119\T013820.D

Vial: 9

Aca On : 19 Nov 2001 6:57 pm Operator: Skelton

Sample : 1658106s Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 19 19:23 2001 Quant Results File: TPH95.RES

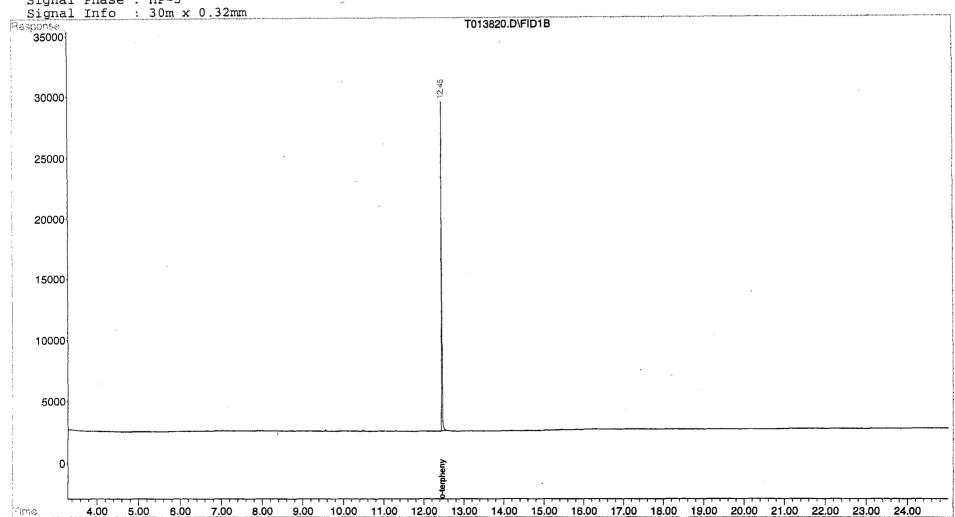
Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted	
Table of Contents submitted	
Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted	
Document paginated and legible	
Chain of Custody submitted	
Samples submitted to lab within 48 hours of sample collection	
Methodology Summary submitted	
Laboratory Chronicle and Holding Time Check submitted	
Results submitted on a dry weight basis	
Method Detection Limits submitted 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	-
t	Table of Contents submitted Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted Document paginated and legible Chain of Custody submitted Samples submitted to lab within 48 hours of sample collection Methodology Summary submitted Laboratory Chronicle and Holding Time Check submitted Results submitted on a dry weight basis Method Detection Limits submitted 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

*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-84 for Solid Waste Analysis. I have personally examined the information contained in t report and to the best of my knowledge, I believe that the submitted information is tr accurate, complete and meets the above referenced standards where applicable. I aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright Laboratory Manager

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

Client: U.S. Army

Lab. ID #: 1782.1-.7

DPW, SELFM-PW-EV

Sample Rec'd: 01/18/95

Bldg. 173

Analysis Start: 01/19/95

Ft. Monmouth, NJ 07703

Analysis Comp: 01/20/95

Analysis: 418.1 (TPH)

NJDEPE UST Reg.#:

81533-107

Matrix: Analyst: S. Hubbard

Soil

Closure #:

DICAR #: 94-12-8-1040-10

Ext. Meth: 3540A

Location #: Bldg. 686

Lab ID.	Description		%Solid	Result (mg/l	
1782.1	Site A, W. Sidewall	OVA=ND	87	79.6	8.2
1782.2	Site B, N. Sidewall	OVA=ND	88	14700.	100
1782.3	Site C, E. Sidewall	OVA=ND	85	174.	8.4
1782.4	Site D, S. Sidewall	OVA=1.	88	4400.	53.
1782.5	Site E, N. Floor	OVA=ND	82	2900.	55.
1782.6	Site F, S. Floor	OVA=ND	86	3200.	57.
1782.7	Site G, Dup		81	1600.	8.1
	·				
			-		
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1782.3S= 115%, 1782.3SD= 113%, RPD= 2.1% 1782.3 Dup= 35%

Cal. Check = 103%

QC Limits: Recovery= +/-28%, RPD=19.7%

Brian K. McKee Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1782.1-.7

Sample Rec'd: 01/18/95 Analysis Start: 01/19/95

Analysis Comp: 01/20/95

Analysis: Munsel

Lab ID#	Soil Color
1782.1	2.5Y 5/6 Light Olive Brown
1782.2	2.5Y 4/3 Olive Brown
1782.3	2.5Y 5/6 Light Olive Brown
1782.4	2.5Y 5/6 Lght Olive Brown
1782.5	2.5Y 5/4 Light Olive Brown
1782.6	5Y 4/4 Olive
1782.7	5Y 4/4 Olive
,	

Brian K. McKee Laboratory Director

U.S. ARMY FORT MONMOUTH

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Lab Sample ID Number	Date.	/Time	Cu	stomer Sample tion/ID Number		Sample	.# of Bottles				13/					Vity '	Remarks	7
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SAI-ENV COC	form	01		Page		/ 01	F/	(Page	es		R	ev.	FI	Date	e: 02	Apr 93	•

Enviornmental Laboratory

SERV-AIR, INC. FORT MONMOUTH, NEW JERSEY / 18-95

Dinker Desa PROPOSED SITE PLAN

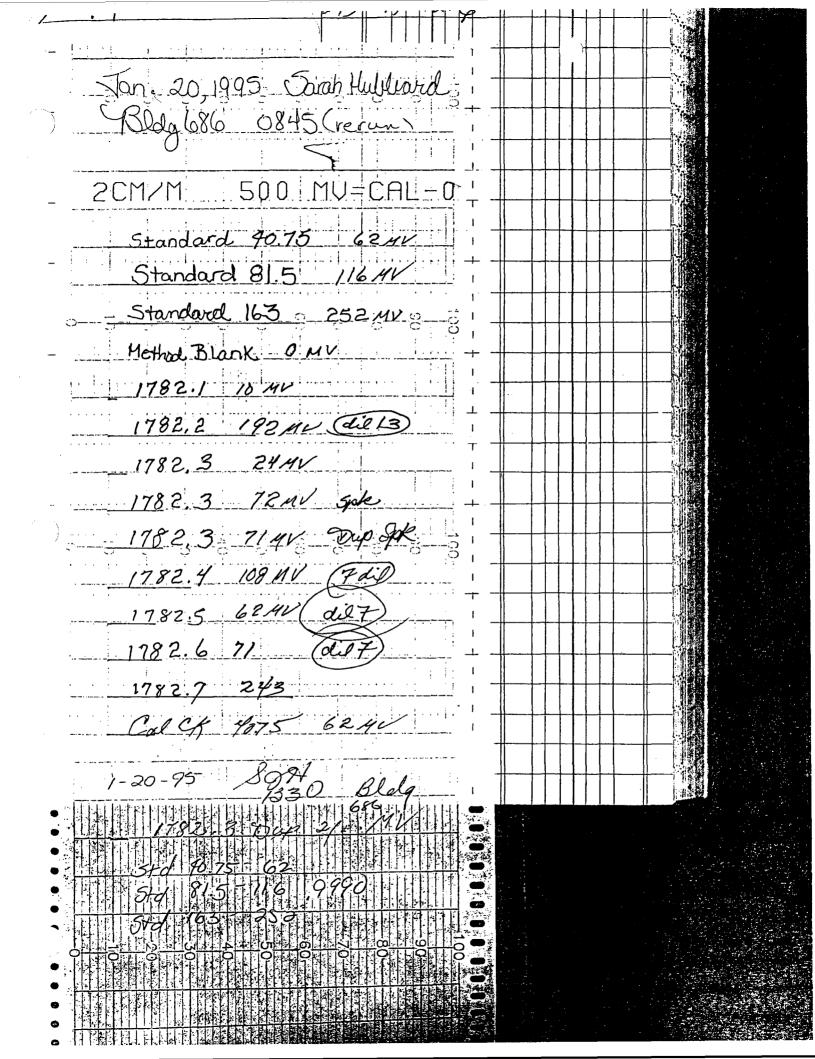
NOTE: Indicate scale and compass direction.

REMARKS				
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TANK LOCATION

BLDG# 686

TANK # 0 8/533 -107
TANK SIZE 2m C.II->
TANK CONTENTS #2 Howoi



PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	_	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		
3. IR Spectra submitted for standards, blanks, & samples 4. Chromatograms submitted for standards, blanks, and		1
samples if GC fingerprinting was conducted. 5. Extraction holding time met. (If not met, list number of days exceeded for each sample		<u>N//</u>
6. Analysis holding time met. (If not met,list number of days exceeded for each sample)		
Comments:		

Laboratory Authentication Statement

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

Project #1782

Brian K. McKee Laboratory Manager

Report of Analysis

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 173

Ft. Monmouth, NJ 07703

Lab. ID #: 1790.1-.4

Sample Rec'd: 01/27/95

Analysis Start: 02/03/95

Analysis Comp: 02/04/95

Analysis: 418.1 (TPH)

Matrix: So

Soil

Analyst: S. Hubbard Ext. Meth: 3540A

NJDEPE UST Reg.#: 81533-107

Closure #:

DICAR #: 94-12-8-1040-10

Location #: Bldg. 686

Lab ID.	Description		%Solid	Result (mg/	MDL Kg)
1790.1	Site D1	OVA=	81	342.	16.
1790.2	Site B1	OVA=	85	667.	7.8
1790.3	Site E1	OVA=	87	236.	8.1
1790.4	Site Fl	OVA=	86	1400.	7.7
	·				
,					
M. Bl.	Method Blank		100	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit

* = Silica Gel Added, NA = Not Applicable

1790.1S= 124%, 1790.1SD= 134%, RPD= 7.9% 1790.1 Dup=100%

Cal. Check = 107%

QC Limits: Recovery = 60% to 140% and RPD = 15.75% at 2 Std. Dev.

Brian K. McKee Laboratory Director

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

Client: U.S. Army

DPW, SELFM-PW-EV

Bldg. 167

Ft. Monmouth, NJ 07703

Lab. ID #: 1790.1-.4

Sample Rec'd: 01/27/95

Analysis Start: 02/03/95

Analysis Comp: 02/04/95

Analysis: Munsel

Soil Color
7.5YR 4/4 Brown
7.5YR 3/2 Dark Brown
7.5YR 4/3 Brown
7.5YR 4/3 Brown
,
·

Brian K. McKee Laboratory Director

Secondroudy to your offer Addition

	• • • •			P.O.	#: PW	3 #	- フ	·			,						1	Chain	of Cust	ody	•
Project #:			Samp	ler:	. /			Da	te /	/ T:	ine	1	Ana	aly	5 i 5				5t	art:	
Customer: Diser:			Site	Joins/aire Site Name: 81533 BURG COC -107					27/15				Parameters								1:
Phone:			9	4-12	-8 1	040	-10					/	\		S	/	/	/, 1/	, Pre		ation
Lab Sample [.] ID Number	Date.	/Time:	Cu Loca	stomer tion/	- Sampl ID Numb	e	Sample Matrix	.# o Bott							"/	/		() X / 1	Remark		ethod
1790.1	1/27/2	10-63	314.	Di			Suil	1			X	d	1				· 1	Ly	a		
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SAI-ENV COC	form (01	 -		Page		o f	· · · · · · · · · · · · · · · · · · ·		l-	Эапе			Re	· V .	 П	Date	. nz r	3pr 93		

Enviornmental Laboratory

Blog 282 renen On high pampers Feb. 4, 1995 Sarah Hubband 500 MV=CAL-0 Std 40.75 63 MU SAL 815 118 MV 5td 163 2504V Mothod Blank O MV 1790.1 2441 1790.17494V Ejake 1790.1 51MV dup Spk 1790 3 37MV 1790.f 234MV

Cal CR 36,75 65MV

0

PHC Conformance/Non-conformance Summary Report	<u>No</u>	<u>Yes</u>
1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank	<u> </u>	
2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)		
3. IR Spectra submitted for standards, blanks, & samples		
4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.		MA
5. Extraction holding time met. (If not met, list number of days exceeded for each sample)		
6. Analysis holding time met. (If not met,list number of days exceeded for each sample)		
Comments:		

Laboratory Authentication Statement

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

Project #1790

Brian K. McKee Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL

TESTING LABORATORY

DIRECTORATE OF RUBLIC WORKS

PHONE: (732) 532-6224 FAX: (732) 532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING CERTIFICATIONS: NJDEP #13461, NYSDOH #11699



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

Bldg. 686

Field Sample Location	Laboratory Sample ID#	Matrix:	Date and Time Of Collection	Date Received
686 Piping/2'	1658601	Soil	15-Nov-01 09:20	11/15/01
686/8'	1658602	Soil	15-Nov-01 09:45	11/15/01
FD/8'	1658603	Soil	15-Nov-01	11/15/01
T. B.	1658604	Methanol	15-Nov-01	11/15/01

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

ENCLOSURE: CHAIN OF CUSTODY RESULTS

Daniel Wright Date

12-6-01

Laboratory Director

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: D. De	Project No: 02- /2539			Analysis Parameters						Comments:				
Phone #: 12/47)	Location: BLDG, 686		VT							μ			
()DERA (JOMA ()Other:					A	P	8808000					N U	
Samplers Name / Com	ipany: MARK LAURA-T	VS-PWS	07	Sample	#	.∝+ ½	H	ΔΗ۲۶					15 [
LIMS/Work Order #	Sample Location	Date	Time	Туре	bottles	2		Δ					(ppm)	Remarks / Preservation Method
10586 1	686 PIPING - Z'	11-15-01	0920	Soil	1		×	X					20	£4°c
	686 8'	ti	0945	+1	2	×	X	X					900	29 33
3	FD 8'	l t	~_	11	2	X	×	×						2941
4	T.B.	11		METH.	1	×								29 32
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Mattofin	11-15-01 1-100	VV/	lekk	N										
Relinquished by (signature	e): Date/Time:	Received by (signature):		Relind	quished	by (sig	nature):	:	Date/	Time:	Receiv	ved by ((signature):
Report Type: ()Full, R	educed, ()Standard, ()Screen	/ non-certified	l, (_)EDD			Rema	rks:				·			-
Turnaround time: Standa	ard 3 wks, ()Rush Days,	()ASAP Verl	oalHrs.			1								•

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METHOD SUMMARY

Method Summary

NJDEP Method 8260 Gas Chromatographic Determination of Volatiles in Soil

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 is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture, methanol volume and concentration.

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

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

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

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

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

CONFORMANCE-NON-CONFORMANCE

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		<u>yes</u>
3.	GC/MS Tune Specifications		•
	a. BFB Meet Criteria b. DFTPP Meet Criteria		yes NA
4.	GC/MS Tuning Frequency – Performed every 2 series and 12 hours for 8000 series	24 hours for 600	<u>yes</u>
5.	GC/MS Calibration – Initial Calibration performantlysis and continuing calibration performed a sample analysis for 600 series and 12 hours for	within 24 hours of	yes
6.	GC/MS Calibration requirements		
	a. Calibration Check Comp b. System Performance Che	oounds Meet Criteria eck Compounds Meet Criteria	yes jes
7 .	Blank Contamination - If yes, List compounds	and concentrations in each blank:	NO
	a VOA Fraction		. 1
	b. B/N Fraction NA		
	c. Acid Fraction NA		
8.	Surrogate Recoveries Meet Criteria	,	405
	If not met, list those compounds and their outside the acceptable range:	recoveries, which fall	t
	a. VOA Fraction		
	b. B/N Fraction NA		
	c. Acid Fraction NA		
	If not met, were the calculations checked a as "estimated"?	and the results qualified	
9.	Matrix Spike/Matrix Spike Duplicate Recoveri (If not met, list those compounds and their reco outside the acceptable range)	es Meet Criteria overies, which fall	yes
	a. VOA Fraction		
	b. B/N Fraction PA		
	c Acid Fraction UA		

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)	<u>ne</u>
	a VOA Fraction 53 high mutual FUN YeruN OK	
	b. B/N Fraction NA c. Acid Fraction NA	
11.	Extraction Holding Time Met	NM
	If not met, list the number of days exceeded for each sample:	
12.	Analysis Holding Time Met	yes
	If not met, list the number of days exceeded for each sample:	
Add	itional Comments:	·
Lab	oratory Manager Date: 12-6-01	

TPHC Conformance/Non-conformance Summary Report

		Indicate
1.	Method Detection Limits provided.	Yes, No, N/A
2.	Method Blank Contamination – If yes, list the sample and the Corresponding concentrations in each blank.	<u>. (၁</u>
3 .	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	- Yes
4 .	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	yes
5.	IR Spectra submitted for standards, blanks and samples.	_WA_
6.	Chromatograms submitted for standards, blanks and sample if GC fingerprinting was conducted.	s yes
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	YRS
Addil	tional comments:	- - -
Laho	ratory Manager Date	

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 16586

Date Sampled

Site: Bldg. 686

Hold Time Date 11/15/01 NA Receipt/Refrigeration 11/15/01 NA

Extractions

1. TPHC 11/19/01 14 days

Analyses

1. VOA 11/20,26/01 14 days 2. TPHC 11/19/01 40 days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY NJDEP CERTIFICATION # 13461

Definition of Qualifiers

MDL: Method Detection Limit

J: Compound identified below detection limit

B: Compound found in blank

Part of the sample
 Results are from a dilution of the sample
 Compound searched for but not detected
 Compound exceeds calibration limit

PQL: Practical Quantitation Limit

NLE: No limit established

RT: Retention time

1A.

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 15Nov01

Lab Name:	FMETL			NJDEP # 13461	IND ISHOVOI
Project:	UST		Case No.: 16586	Location: 686 S	DG No.:
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	МВ
Sample wt/vo	ol:	10.0	(g/ml) G	Lab File ID:	VC007444.D
Level: (low/n	ned)	MED		Date Received:	11/15/01
% Moisture: r	not dec.	0		Date Analyzed:	11/20/01
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	me: 125 (uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-1 <u>5</u> -0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	Ü
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	Ū
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	Ū
127-18-4	Tetrachloroethene	100	Ü
591-78-6	2-Hexanone	200	Ŭ
126-48-1	Dibromochloromethane	200	Ŭ
108-90-7	Chlorobenzene	100	Ü
100-41-4	Ethylbenzene	200	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 15Nov01

Lab Name:	FMETL		·	NJDEP # 13461	_	
Project:	UST	- 	Case No.: 16586	Location: 686	SDG No.:	_
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	МВ	_
Sample wt/vo	ol:	10.0	(g/ml) G	_ Lab File ID:	VC007444.D	
Level: (low/n	ned)	MED		Date Received:	11/15/01	
% Moisture: r	not dec.	0	·	Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	ume: <u>125</u> (u	ıL

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

COMPOUND NAME

CAS NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

		TENT	ATIVELY IDENT	TIFIED COMPOL	JNDS	MD 45N - 04	
Lab Name:	FMETL			NJDEP #	13461	MB 15Nov01	
Project:	UST		Case No.: 1658	6 Location	n: <u>686</u> S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab	Sample ID:	МВ	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab	File ID:	VC007444.D	
Level: (low/n	ned)	MED		Dai	te Received:	11/15/01	
% Moisture: r	not dec.	0		Dai	te Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilu	ution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soi	il Aliquot Volu	ıme: <u>125</u>	(uL)
				CONCENTRAT	TON UNITS:		
Number TICs	found:	0		(ug/L or ug/Kg)	UG/KG		

RT

EST. CONC.

Q

FIELD ID.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 26Nov01

Lab Name:	FMETL			NJDEP # 13461	WID 20110V01
Project:	UST		Case No.: 16586	Location: 686 S	DG No.:
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	MB
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC007463.D
Level: (low/n	ned)	MED		Date Received:	11/15/01
% Moisture:	not dec.	0		Date Analyzed:	11/26/01
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	me: 125 (uL

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	· · · · · · · · · · · · · · · · · · ·	700	U
107131	Acrylonitrile	3	700	U
75650	tert-Butyl alcoho		1300	U
1634044	Methyl-tert-Butyl	ether	300	U
108203	Di-isopropyl ethe	er	200	U
75718	Dichlorodifluoror	nethane	400	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		300	U
74-83-9	Bromomethane		200	U
75-00-3	Chloroethane		300	U
75-69-4	Trichlorofluorom	ethane	200	U
75-35-4	1,1-Dichloroethe	ne	100	U
67-64-1	Acetone		200	υ
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chlor	ide	200	U
156-60-5	trans-1,2-Dichlor	oethene	200	U
75-35-3	1,1-Dichloroetha	ne	100	U
108-05-4	Vinyl Acetate		300	U
78-93-3	2-Butanone		300	U
	cis-1,2-Dichloroe	thene	100	U
67-66-3	Chloroform		100	U
75-55-6	1,1,1-Trichloroet	nane	100	J
56-23-5	Carbon Tetrachle	oride	. 200	J
71-43-2	Benzene		100	υ
107-06-2	1,2-Dichloroetha	ne	200	J
79-01-6	Trichloroethene		100	J
78-87-5	1,2-Dichloroprop	ane	100	J
75-27-4	Bromodichlorom		100	U
110-75-8	2-Chloroethyl vin		200	Ü
10061-01-5	cis-1,3-Dichlorop		100	Ü
108-10-1	4-Methyl-2-Penta		200	Ü
108-88-3	Toluene		100	Ŭ
10061-02-6	trans-1,3-Dichlor	opropene	200	Ü
79-00-5	1,1,2-Trichloroet		200	Ū
127-18-4	Tetrachloroethen		100	Ü
591-78-6	2-Hexanone		200	U
126-48-1	Dibromochlorom	ethane	200	Ü
108-90-7	Chlorobenzene	oute 16	100	Ü
100-41-4	Ethylbenzene		200	Ü

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

MB 26Nov01

Lab Name:	FMETL			NJDEP # 13461	IVID 26140VU	
Project:	UST	1	Case No.: 16586	Location: 686 SI	DG No.:	
Matrix: (soil/v	water)	SOIL		Lab Sample ID:	МВ	
Sample wt/vo	ol:	10.0	(g/ml) G	Lab File ID:	VC007463.D	
Level: (low/n	ned)	MED	<u>.</u>	Date Received:	11/15/01	
% Moisture: ı	not dec.	0		Date Analyzed:	11/26/01	
GC Column:	Rtx50	2.2 ID:	<u>0.25</u> (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volum	me: 125	(uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	40	J
106-46-7	1,4-Dichlorobenzene	38	J
95-50-1	1,2-Dichlorobenzene	48	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

Lab Name:	FMETL			NJDEP	# 13461		MB 26No	ov01
Project:	UST	Case	No.: 1658	 6 Locat	ion: 686	SD	G No.:	
Matrix: (soil/	water)	SOIL			ab Sample	D: N	ИВ	
Sample wt/vo	ol:	10.0 (g/ml) <u>G</u>		ab File ID:	<u>\</u>	/C007463.D	
Level: (low/r	ned)	MED		Į.	Date Recei	ved: 1	1/15/01	
% Moisture:	not dec.	0		[Date Analyz	zed: 1	1/26/01	
GC Column:	Rtx50	2.2 ID: <u>0.25</u>	_ (mm)	[Dilution Fac	tor: 1	1.0	·
Soil Extract \	/olume:	25000	(uL)	5	Soil Aliquot	Volum	ne: <u>125</u>	(uL)
Number TICs	s found:	0		CONCENTR (ug/L or ug/K		ITS: /KG		
CAS NO.		COMPOUN	D NAME		RT	EST	CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16586 Location: 686 SDG No.: SOIL Lab Sample ID: 1658602 Matrix: (soil/water) Sample wt/vol: 9.9 Lab File ID: (g/ml) G VC007454.D MED Date Received: 11/15/01 Level: (low/med) % Moisture: not dec. 13.98 Date Analyzed: 11/20/01 GC Column: Rtx502.2 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	820	U
107131	Acrylonitrile	820	U
75650	tert-Butyl alcohol	1500	U
1634044	Methyl-tert-Butyl ether	350	U
108203	Di-isopropyl ether	230	U
75718	Dichlorodifluoromethane	470	U
74-87-3	Chloromethane	120	Ų
75-01-4	Vinyl Chloride	350	U
74-83-9	Bromomethane	230	U
75-00-3	Chloroethane	350	U
<u>75-6</u> 9-4	Trichlorofluoromethane	230	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	230	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	170	J
156-60-5	trans-1,2-Dichloroethene	230	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	350	U
78-93-3	2-Butanone	350	U
	cis-1,2-Dichloroethene	120	٦
67-66-3	Chloroform	120	J
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	230	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	230	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	230	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	230	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	230	U
79-00-5	1,1,2-Trichloroethane	230	Ü
127-18-4	Tetrachloroethene	120	U
591-78-6	2-Hexanone	230	Ü
126-48-1	Dibromochloromethane	230	U
108-90-7	Chlorobenzene	120	Ü
100-41-4	Ethylbenzene	230	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

686

Lab Name:	FMETL		NJDEP # 13461	080
Project:	UST	Case No.: 16586	Location: 686 SDG	No.:
Matrix: (soil/	water)	SOIL	Lab Sample ID: 16	58602
Sample wt/v	ol:	9.9 (g/ml) <u>G</u>	Lab File ID: Vo	C007454.D
Level: (low/r	med)	MED	Date Received: 11	/15/01
% Moisture:	not dec.	13.98	Date Analyzed: 11	/20/01
GC Column:	Rtx50	2.2 ID: <u>0.25</u> (mm)	Dilution Factor: 1.	0
Soil Extract \	Volume:	25000 (uL)	Soil Aliquot Volume	e: <u>125</u> (uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		350	U
1330-20-7	o-Xylene		33	J
100-42-5	Styrene		28	J
75-25-2	Bromoform		230	U
79-34-5	1,1,2,2-Tetrachlo	roethane	230	U
541-73-1	1,3-Dichlorobenz	ene	350	U
106-46-7	1,4-Dichlorobenz	ene	350	U
95-50-1	1,2-Dichlorobenz	ene	350	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

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Lab Name:	FMETL			NJDEP # 13461	686	
Project:	UST		Case No.: 16586	Location: 686 S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658602	
Sample wt/vo	ol:	9.9	(g/ml) <u>G</u>	_ Lab File ID:	VC007454.D	_
Level: (low/n	ned)	MED		Date Received:	11/15/01	-
% Moisture: r	not dec.	13.98		Date Analyzed:	11/20/01	_
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	_
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	ime: 125	(uL

Noneta e TIO - (- con de	45	(ug/L or ug/Kg)	UG/KG	
Number TICs found:				

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CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	25.95	8400	J
2.	unknown	30.06	7300	J
3.	unknown	30.64	6800	J
4. 002847-72-5	Decane, 4-methyl-	30.89	8500	JN
5.	unknown	31.93	7200	J
6.	unknown	32.03	7500	J
7. 001678-93-9	Cyclohexane, butyl-	32.17	10000	JN
8.	unknown	32.80	7000	J
9.	unknown	33.65	8400	J
10.	unknown	33.77	8500	J
11.	unknown	33.87	9100	J
12.	unknown	34.43	11000	J
13. 029949-27-7	n-Amylcyclohexane	34.85	12000	JN
14.	unknown	34.95	14000	J
15.	unknown	35.27	7200	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

686 DI

Lab Name:	FMETL			NJDEP # 13461	060 D1
Project:	UST		Case No.: 16586	Location: 686 SI	DG No.:
Matrix: (soil/w	ater)	SOIL		Lab Sample ID:	1658602
Sample wt/vol	l:	9.9	(g/ml) G	Lab File ID:	VC007467.D
Level: (low/m	ed)	MED		Date Received:	11/15/01
% Moisture: n	ot dec.	13.98		Date Analyzed:	11/26/01
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0
Soil Extract Vo	olume: :	25000	(uL)	Soil Aliquot Volui	me: 25 (u

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	4100	U
107131	Acrylonitrile	4100	U
75650	tert-Butyl alcohol	7600	U
1634044	Methyl-tert-Butyl ether	1800	U
108203	Di-isopropyl ether	1200	U
75718	Dichlorodifluoromethane	2300	Ū
74-87-3	Chloromethane	590	U
75-01-4	Vinyl Chloride	1800	Ų
74-83-9	Bromomethane	1200	. U
75-00-3	Chloroethane	1800	U
75-69-4	Trichlorofluoromethane	1200	U
75-35-4	1,1-Dichloroethene	590	U
67-64-1	Acetone	1200	U
75-15-0	Carbon Disulfide	590	U
75-09-2	Methylene Chloride	1200	U
156-60-5	trans-1,2-Dichloroethene	1200	U
75-35-3	1,1-Dichloroethane	590	U
108-05-4	Vinyl Acetate	1800	U
78-93-3	2-Butanone	1800	U
	cis-1,2-Dichloroethene	590	U
67-66-3	Chloroform	590	U
75-55-6	1,1,1-Trichloroethane	590	U
56-23-5	Carbon Tetrachloride	1200	U
71-43-2	Benzene	590	Ú
107-06-2	1,2-Dichloroethane	1200	U
79-01-6	Trichloroethene	590	U
78-87-5	1,2-Dichloropropane	590	U
75-27-4	Bromodichloromethane	590	U
110-75-8	2-Chloroethyl vinyl ether	1200	Ū
10061-01-5	cis-1,3-Dichloropropene	590	U
108-10-1	4-Methyl-2-Pentanone	1200	U
108-88-3	Toluene	590	Ū
10061-02-6	trans-1,3-Dichloropropene	1200	U
79-00-5	1,1,2-Trichloroethane	1200	Ū
127-18-4	Tetrachloroethene	590	Ü
591-78-6	2-Hexanone	1200	U
126-48-1	Dibromochloromethane	1200	Ū
108-90-7	Chlorobenzene	590	U
100-30-7	Ethylbenzene	220	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

686 DI Lab Name: **FMETL** NJDEP # 13461 Location: 686 SDG No.: Project: UST Case No.: 16586 Lab Sample ID: 1658602 Matrix: (soil/water) SOIL Lab File ID: Sample wt/vol: 9.9 (g/ml) G VC007467.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 13.98 Date Analyzed: 11/26/01 GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 25 (uL) (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes	1800	U
1330-20-7	o-Xylene	120	J
100-42-5	Styrene	1200	U
75-25-2	Bromoform	1200	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
541-73-1	1,3-Dichlorobenzene	1800	U
106-46-7	1,4-Dichlorobenzene	1800	د
95-50-1	1.2-Dichlorobenzene	1800	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

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Lab Name:	FMETL		·	NJDEP # 13461	FU .	
Project:	UST		Case No.: 16586	Location: 686 SI	DG No.:	
Matrix: (soil/v	water)	SOIL		Lab Sample ID:	1658603	
Sample wt/vo	ol:	10.1	(g/ml) <u>G</u>	Lab File ID:	VC007457.D	
Level: (low/n	ned)	MED		Date Received:	11/15/01	
% Moisture: r	not dec.	14.01	·	Date Analyzed:	11/20/01	
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL)	Soil Aliquot Volu	me: 125	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	810	U
107131	Acrylonitrile	810	U
75650	tert-Butyl alcohol	1500	U
1634044	Methyl-tert-Butyl ether	350	U
108203	Di-isopropyl ether	230	U
75718	Dichlorodifluoromethane	460	υ
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	350	U
74-83-9	Bromomethane	230	<u> </u>
75-00-3	Chloroethane	350	U
75-69-4	Trichlorofluoromethane	230	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	230	U
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	250	
156-60-5	trans-1,2-Dichloroethene	230	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	350	U
78-93-3	2-Butanone	350	U_
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	230	U
71-43-2	Benzene	120	Ū
107-06-2	1,2-Dichloroethane	230	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	230	U
10061-01-5	cis-1,3-Dichloropropene	120	Ü
108-10-1	4-Methyl-2-Pentanone	230	Ü
108-88-3	Toluene	120	Ū
10061-02-6	trans-1,3-Dichloropropene	230	U
79-00-5	1,1,2-Trichloroethane	51	J
127-18-4	Tetrachloroethene	120	Ŭ
591-78-6	2-Hexanone	230	Ü
126-48-1	Dibromochloromethane	230	Ü
108-90-7	Chlorobenzene	36	J
100-41-4	Ethylbenzene	230	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIEL	D ID
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Lab Name:	FMETL			NJDEP # 13461	FD	
Project:	UST		Case No.: 16586	Location: 686 S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658603	
Sample wt/vo	ol:	10.1	(g/ml) G	_ Lab File ID:	VC007457.D	
Level: (low/n	ned)	MED		Date Received:	11/15/01	
% Moisture: I	not dec.	14.01	·	Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract V	/olume:	25000	(uL.)	Soil Aliquot Volu	me: <u>125</u>	(uL)

CAS NO.	COMPOUND (ug/L or u	g/Kg) <u>UG/KG</u>	_	Q
1330-20-7	m+p-Xylenes		35	J
1330-20-7	o-Xylene		230	U
100-42-5	Styrene		230	U
75-25-2	Bromoform	2	230	U
79-34-5	1,1,2,2-Tetrachloroethane	2	230	U
541-73-1	1,3-Dichlorobenzene		350	U
106-46-7	1,4-Dichlorobenzene 350		350	U
95-50-1	1,2-Dichlorobenzene		350	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

F	ΊE	LD	ID.	
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Lab Name:	FMETL			NJDEP # 13461	FD	
Project:	UST	c	ase No.: 16586	Location: 686 S	DG No.:	
Matrix: (soil/v	vater)	SOIL		Lab Sample ID:	1658603	
Sample wt/vo	oł:	10.1	(g/ml) G	Lab File ID:	VC007457.D	
Level: (low/n	ned)	MED		Date Received:	11/15/01	
% Moisture: r	not dec.	14.01		Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID: <u>0</u>).25 (mm)	Dilution Factor:	1.0	
Soil Extract V	olume:	25000	(uL)	Soil Aliquot Volu	me: 125	(uL)

CONCENTRATION UNITS:

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

		Υ		
CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 002051-30-1	Octane, 2,6-dimethyl-	28.10	12000	JN
2.	unknown	28.52	13000	J
3.	unknown	29.41	10000	J
4.	unknown	30.05	10000	J
5	unknown	30.53	10000	J
6. 002847-72-5	Decane, 4-methyl-	30.89	10000	JN
7.	unknown	32.17	14000	J
8.	unknown	32.80	11000	J
9.	unknown	33.06	11000	J
10.	unknown	33.55	13000	J
11.	unknown	33.66	11000	J
12.	unknown	34.44	16000	J
13. 029949-27-7	n-Amylcyclohexane	34.86	15000	JN
14.	unknown	34.94	19000	J
15.	unknown	35.29	9900	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

FD DI

Lab Name: **FMETL** NJDEP # 13461 Project: UST Case No.: 16586 Location: 686 SDG No.: SOIL Lab Sample ID: 1658603 Matrix: (soil/water) Sample wt/vol: 10.1 (g/ml) G Lab File ID: VC007468.D Level: (low/med) MED Date Received: 11/15/01 % Moisture: not dec. 14.01 Date Analyzed: 11/26/01 GC Column: Rtx502.2 ID: 0.25 (mm) Dilution Factor: 1.0 Soil Extract Volume: 25000 Soil Aliquot Volume: 25 (uL) (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	4000	U
107131	Acrylonitrile	4000	U
75650	tert-Butyl alcohol	7500	U
1634044	Methyl-tert-Butyl ether	1700	U
108203	Di-isopropyl ether	1200	U
75718	Dichlorodifluoromethane	2300	U
74-87-3	Chloromethane	580	U
75-01-4	Vinyl Chloride	1700	U
74-83-9	Bromomethane	1200	U
75-00-3	Chloroethane	1700	U
75-69-4	Trichlorofluoromethane	1200	U
75-35-4	1,1-Dichloroethene	580	U
67-64-1	Acetone	1200	U
75-15-0	Carbon Disulfide	580	Ü
75-09-2	Methylene Chloride	1200	U
156-60-5	trans-1,2-Dichloroethene	1200	U
75-35-3	1,1-Dichloroethane	580	U
108-05-4	Vinyl Acetate	1700	U
78-93-3	2-Butanone	1700	U
	cis-1,2-Dichloroethene	580	U
67-66-3	Chloroform	580	U
75-55-6	1,1,1-Trichloroethane	580	U
56-23-5	Carbon Tetrachloride	1200	U
71-43-2	Benzene	580	U
107-06-2	1,2-Dichloroethane	1200	U
79-01-6	Trichloroethene	580	Ų
78-87-5	1,2-Dichloropropane	580	U
75-27-4	Bromodichloromethane	580	U
110-75-8	2-Chloroethyl vinyl ether	1200	U
10061-01-5	cis-1,3-Dichloropropene	580	U
108-10-1	4-Methyl-2-Pentanone	1200	U
108-88-3	Toluene	580	U
10061-02-6	trans-1,3-Dichloropropene	1200	U
79-00-5	1,1,2-Trichloroethane	1200	U
127-18-4	Tetrachloroethene	580	Ū
591-78-6	2-Hexanone	1200	Ū
126-48-1	Dibromochloromethane	1200	Ü
108-90-7	Chlorobenzene	580	Ü
100-30-7	Ethylbenzene	1200	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

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Lab Name: FMETL		NJDEP # 13461	
Project: UST	Case No.: 16586	Location: 686 SDC	3 No.:
Matrix: (soil/water)	SOIL	Lab Sample ID: 1	658603
Sample wt/vol:	10.1 (g/ml) G	Lab File ID: <u>V</u>	C007468.D
Level: (low/med)	MED	Date Received: 1	1/15/01
% Moisture: not dec.	14.01	Date Analyzed: 1	1/26/01
GC Column: Rtx50	2.2 ID: 0.25 (mm)	Dilution Factor: 1	.0
Soil Extract Volume:	25000 (uL)	Soil Aliquot Volume	e: <u>25</u> (uL)

CAS NO.	COMPOUND (ug/L or ug/kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1700	U
1330-20-7	o-Xylene	1200	U
100-42-5	Styrene	1200	J
75-25-2	Bromoform	1200	U
79-34-5	1,1,2,2-Tetrachloroethane	1200	U
541-73-1	1,3-Dichlorobenzene	1700	כ
106-46-7	1,4-Dichlorobenzene 1700		U
95-50-1	1,2-Dichlorobenzene	1700	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP # 13461	IB	
Project:	UST		Case No.: 16586	Location: 686 S	= SDG No.:	
Matrix: (soil/	water)	SOIL	.	Lab Sample ID:	1658604	
Sample wt/ve	oł:	10.0	(g/ml) G	Lab File ID:	VC007458.D	-
Level: (low/r	med)	MED	· 	Date Received:	11/15/01	_
% Moisture:	not dec.	0		Date Analyzed:	11/20/01	_
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	_
Soil Extract \	Volume:	25000	(uL)	Soil Aliquot Volu	ıme: 125	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	7.00	U
107131	Acrylonitrile	700	Ū
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	Ū
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	- U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	3400	
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	Ü
127-18-4	Tetrachloroethene	100	Ū
591-78-6	2-Hexanone	66	J
126-48-1	Dibromochloromethane	67	J
108-90-7	Chlorobenzene	26	
100-30-7	Ethylbenzene	200	Ü

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIE	LD	ID
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Lab Name:	FMETL		•	NJDEP	# 13461	ТВ	
Project:	UST		Case No.: 1658	86 Locai	tion: <u>686</u>	SDG No.:	
Matrix: (soil/v	vater)	SOIL		I	Lab Sample ID	D: <u>1658604</u>	
Sample wt/vo	ol:	10.0	(g/ml) <u>G</u>		_ab File ID:	VC007458.D	
Level: (low/n	ned)	MED		į	Date Received	1: 11/15/01	
% Moisture: r	not dec.	0		l	Date Analyzed	1: 11/20/01	
GC Column:	Rtx502	2.2 ID:	<u>0.25</u> (mm)	1	Dilution Factor	r: <u>1.0</u>	
Soil Extract V	/olume:	25000	(uL)	:	Soil Aliquot Vo	olume: <u>125</u>	(uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q	
1330-20-7	m+p-Xylenes	· · · · · · · · · · · · · · · · · · ·	300	U	
1330-20-7	o-Xylene		200	U	
100-42-5	Styrene				
75-25-2	Bromoform		. 200	U	
79-34-5	1,1,2,2-Tetrachic	1,1,2,2-Tetrachloroethane			
541-73-1	1,3-Dichlorobenz	1,3-Dichlorobenzene			
106-46-7	1,4-Dichlorobenz	300	U		
95-50-1	1,2-Dichlorobenz	300	U		

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

FIELD	ID
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Lab Name:	FMETL			NJDEP # 13461	ТВ	
Project:	UST		Case No.: 16586	Location: 686 S	DG No.:	
Matrix: (soil/	water)	SOIL		Lab Sample ID:	1658604	
Sample wt/ve	ol:	10.0	(g/ml) G	Lab File ID:	VC007458.D	
Level: (low/r	ned)	MED	·	Date Received:	11/15/01	
% Moisture:	not dec.	0		Date Analyzed:	11/20/01	
GC Column:	Rtx502	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume:	25000	(uL)	Soil Aliquot Volu	me: 125	(uL

CONCENTRATION UNITS:

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

Number TICs found: (ug/L or ug/Kg)

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 025550-13-4	Benzene, diethylmethyl-	28.04	3200	JN
2.	unknown	28.53	4100	J
3.	unknown	29.43	5100	J
4	unknown	29.61	2700	J_
5	unknown	31.42	3500	J_
6	unknown	32.03	1700	J
_7	unknown	32.21	5600	J
8.	unknown	32.44	3200	J
9.	unknown	32.82	1500	J
10	unknown	33.07	3800	J
<u>11</u>	unknown	33.23	1900	J
12.	unknown	33.95	3200	J
13.	unknown	34.31	4100	J
14.	unknown	34.44	3600	J
15.	unknown	34.90	2300	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL			NJDEP # 13461	(B	
Project:	UST		Case No.: 16586	Location: 686 S	DG No.:	
Matrix: (soil/	water)	SOIL		Lab Sample ID:	1658604	
Sample wt/v	ol:	10.0	(g/ml) <u>G</u>	Lab File ID:	VC007469.D	-
Level: (low/	med)	MED		Date Received:	11/15/01	_
% Moisture:	not dec.	0		Date Analyzed:	11/26/01	_
GC Column:	Rtx50	2.2 ID:	0.25 (mm)	Dilution Factor:	1.0	_
Coil Extract 1	Volumo:	25000	(cit.)	Soil Aliquet Volu	Imo: 25	<i>(</i> o)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein	3500	U
107131	Acrylonitrile	3500	U
75650	tert-Butyl alcohol	6500	J
1634044	Methyl-tert-Butyl ether	1500	U
108203	Di-isopropyl ether	1000	J
75718	Dichlorodifluoromethane	2000	U
74-87-3	Chloromethane	500	כ
75-01-4	Vinyl Chloride	1500	כ
74-83-9	Bromomethane	1000	U
75-00-3	Chloroethane	1500	U
75-69-4	Trichlorofluoromethane	1000	υ
75-35-4	1,1-Dichloroethene	500	U
67-64-1	Acetone	1000	U
75-15-0	Carbon Disulfide	500	U
75-09-2	Methylene Chloride	1000	U
156-60-5	trans-1,2-Dichloroethene	1000	U
75-35-3	1,1-Dichloroethane	500	U
108-05-4	Vinyl Acetate	1500	U
78-93-3	2-Butanone	1500	U
	cis-1,2-Dichloroethene	500	U
67-66-3	Chloroform	500	U
75-55-6	1,1,1-Trichloroethane	500	U
56-23-5	Carbon Tetrachloride	1000	U
71-43-2	Benzene	500	U
107-06-2	1,2-Dichloroethane	1000	U
79-01-6	Trichloroethene	500	U
78-87-5	1,2-Dichloropropane	500	υ
75-27-4	Bromodichloromethane	500	U
110-75-8	2-Chloroethyl vinyl ether	1000	U
10061-01-5	cis-1,3-Dichloropropene	500	U
108-10-1	4-Methyl-2-Pentanone	1000	U
108-88-3	Toluene	500	U
10061-02-6	trans-1,3-Dichloropropene	1000	Ū
79-00-5	1,1,2-Trichloroethane	1000	Ü
127-18-4	Tetrachloroethene	500	U
591-78-6	2-Hexanone	1000	Ü
126-48-1	Dibromochloromethane	1000	Ū
108-90-7	Chlorobenzene	500	Ū
100-30-7	Ethylbenzene	160	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID.

Lab Name:	FMETL				NJDEP # 13461		·
Project:	UST		Case No.	: 16586	Location: 686	SDG No.:	
Matrix: (soil/	water)	SOIL			Lab Sample II	D: <u>1658604</u>	
Sample wt/ve	ol:	10.0	(g/m	I) <u>G</u>	Lab File ID:	VC007469.D	
Level: (low/r	ned)	MED			Date Received	d: <u>11/15/01</u>	
% Moisture:	not dec.	0			Date Analyzed	d: <u>11/26/01</u>	
GC Column:	Rtx50	2.2 ID:	0.25	(mm)	Dilution Facto	r: <u>1.0</u>	
Soil Extract \	/olume:	25000	(uL))	Soil Aliquot Vo	olume: 25	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/KG	Q		
1330-20-7	m+p-Xylenes	1500	U		
1330-20-7	o-Xylene	1000	U		
100-42-5	Styrene	1000	U		
75-25-2	Bromoform	1000	U		
79-34-5	1,1,2,2-Tetrachloroethane	1000	U		
541-73-1	1,3-Dichlorobenzene	1500	U		
106-46-7	1,4-Dichlorobenzene 1500				
95-50-1	1.2-Dichlorobenzene	1500	U		

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

-		FIELD ID.	
		ТВ	
S	D	G No.:	·
e ID:	1	658604	
:	<u>v</u>	C007469.D	
ved:	1	1/15/01	
zed:	1	1/26/01	
ctor:	1	.0	
Volu	m	e: <u>25</u>	(uL)
ITO.			

NJDEP # 13461 Lab Name: **FMETL** Project: Case No.: 16586 Location: 686 **UST** SOIL Matrix: (soil/water) Lab Sample Sample wt/vol: 10.0 (g/ml) G Lab File ID: Level: (low/med) MED **Date Receiv** 0 % Moisture: not dec. Date Analyz Rtx502.2 ID: 0.25 Dilution Fac GC Column: Soil Extract Volume: 25000 (uL) Soil Aliquot **CONCENTRATION UNITS:** (ug/L or ug/Kg) UG/KG Number TICs found: 0 EST. CONC. CAS NO. **COMPOUND NAME** RT Q

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		NJDEP # 13461	
Project:	UST	Case No.: 16586	Location: 686 SDG N	lo.:
Lab File ID:	VC007374.	D	BFB Injection Date:	11/15/01
Instrument II	D: GCMSVoa		BFB Injection Time:	14:10
GC Column:	Rtx502.2	D: 0.25 (mm)	Heated Purge: (Y/N)	N

		% RELATIVE		
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE		
50	8.0 - 40.0% of mass 95	16.7		
75	30.0 - 66.0% of mass 95	47.9		
95	Base peak, 100% relative abundance	100.0		
96	5.0 - 9.0% of mass 95	6.9		
173	Less than 2.0% of mass 174	0.0 (0.0)1		
174	50.0 - 120.0% of mass 95	71.0		
175	4.0 - 9.0% of mass 174	5.0 (7.1)1		
176	93.0 - 101.0% of mass 174	69.5 (97.8)1		
177	5.0 - 9.0% of mass 176	4.5 (6.4)2		

¹⁻Value is % mass 174

2-Value is % mass 176

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

		LAB	LAB	DATE	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD100	VSTD100	VC007375.D	11/15/01	14:54
02	VSTD050	VSTD050	VC007376.D	11/15/01	15:34
03	VSTD020	VSTD020	VC007377.D	11/15/01	16:15
04	VSTD010	VSTD010	VC007378.D	11/15/01	16:55
05	VSTD005	VSTD005	VC007379.D	11/15/01	17:36

Data File: D:\HPCHEM\1\DATA\011115\VC007374.D

: 15 Nov 2001 2:10 pm

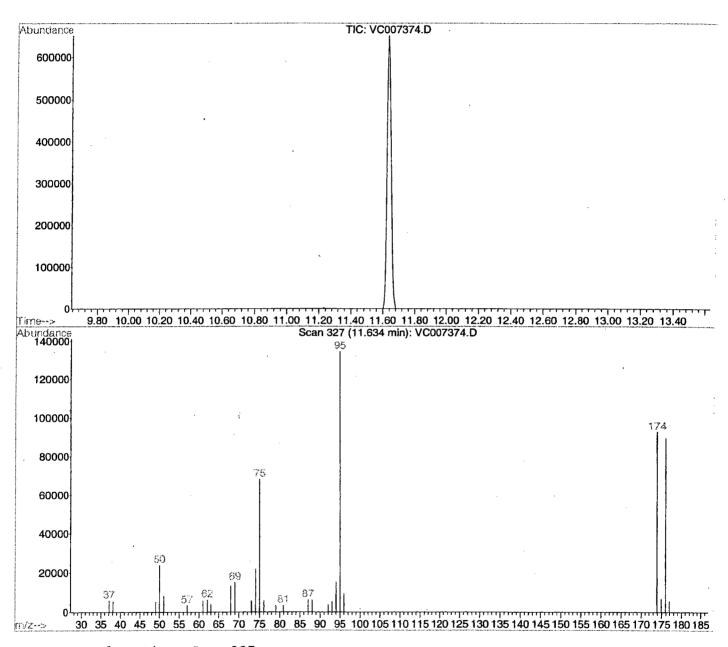
Vial: 3 Operator: Skelton : GC/MS Ins Inst

Sample : BFB Tune : BFB Tune Misc

Multiplr: 1.00

MS Integration Params: ACETONE.P

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 327

	Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
	50	95	15	40	17.7	23880	PASS
	75	95	30	60	50.7	68184	PASS
- 1	95	95	100	100	100.0	134592	PASS
	96	95	5	9	7.0	9359	PASS
	173	174	0.00	2	0.0	0	PASS
	174	95	50	100	69.0	92872	PASS
1	175	174	5	9	7.4	6827	PASS
ŀ	176	174	95	101	96.6	89672	PASS
	177	176	5	9	6.3	5613	PASS

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 04 14:36:27 2001

Response via : Initial Calibration

Calibration Files

=VC007379.D 5 50 =VC007376.D 10 =VC007378.D

=VC007375.D 20 =VC007377.D 100

	•	Compound	50	5	10	20	100	Avg	₹RSD
.1)		Bromochloromethane							
2) 3)		Acrolein Acrylonitrile				$0.464 \\ 1.204$			4.09 4.75
3) 4)		tert-Butyl alcohol				0.161			10.58
5)		Methyl-tert-Butyl eth							3.31
6)	t	Di-isopropyl ether	1.735	1.327	1.675	1.719	1.743	1.640	10.79
7)	T	Dichlorodifluorometha						2.405	4.70
8)	TP	Chloromethane				3.197			3.95
9)	TC	Vinyl Chloride				3.100			4.12
10)	T	Bromomethane				1.530 1.631			5.19
11) 12)	T T	Chloroethane Trichlorofluoromethan							1.59 2.63
13)	MĊ	1,1-Dichloroethene				3.161			3.49
14)	T	Acetone				0.918			25.78
15)	T	Carbon Disulfide	7.101	7.077	7.422	7.334	7.109	7.209	2.19
16)	${f T}$	Methylene Chloride				2.233			3.94
17)	\mathbf{T}	trans-1,2-Dichloroeth							2.55
18)	TP	1,1-Dichloroethane Vinyl Acetate	3.813			3.939			3.10
19)	T		4.599			4.691 0.998			6.98 10.22
20) 21)	T T	2-Butanone cis-1,2-Dichloroethen							2.84
22)	TC	Chloroform	3.431	3.478	3.654	3.612	3.405	3.516	3.16
23)	$ar{ extbf{T}}$	1,1,1-Trichloroethane							2.96
24)	Т	Carbon Tetrachloride							3.48
25)	S	1,2-Dichloroethane-d4	2.198	2.252	2.267	2.256	2.211	2.237	1.37
26)	I	1,4-Difluorobenzene			19	STD	· 		
27)	TM	Benzene				1.367			4.02
28)	${f T}$	1,2-Dichloroethane				0.400			3.21
29)	TM	Trichloroethene				0.311			2.41
30)	TC	1,2-Dichloropropane				0.339			2.43
31)	T	Bromodichloromethane 2-Chloroethyl vinyl e				0.385			1.79 12.79
32) 33)	T T	cis-1,3-Dichloroprope	0.110	0.000	0.100	0.110	0.100	0.102	4.79
34)	Ť	4-Methyl-2-Pentanone				0.124			10.55
35)	S	Toluene-d8						1.150	
36)		Toluene				1.365			4.41
271	· -	Chlorobenzene-d5			т.	בישים		- -	
37) 38)	I T	trans-1,3-Dichloropro							2.31
39)	Ť	1,1,2-Trichloroethane	1.032	1.011	1.105	1.076	0.999	1.045	4.26
40)	T	Tetrachloroethene				1.120			3.49
41)	${f T}$	2-Hexanone				0.703			8.36
42)	${f T}$	Dibromochloromethane				0.988			3.74
43)		Chlorobenzene				3.297			5.59
44)	TC	Ethylbenzene				5.643			4.22
45)	T	m+p-Xylenes				2.237			3.98
46)	T	o-Xylene				4.177 3.813			3.28
47) 48)	${f TP}$	Styrene Bromoform				0.638			5.65 8.39
40) 49)	S	Bromofluorobenzene				1.564			1.72
50)	TP	1,1,2,2-Tetrachloroet				1.531			4.65
51)	T	1,3-Dichlorobenzene				2.455			3.67
(52)	$\bar{\mathbf{T}}$	1,4-Dichlorobenzene				2.542			3.63
53)	T	1,2-Dichlorobenzene	2.282	2.308	2.380	2.347	2.169	2.297	3.51

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

Lab Name:	FMETL		NJDEP#	13461	
Project:	UST	Case No.: 16	6586 Location:	686 SDG N	No.:
Lab File ID:	VC007442.i	<u> </u>	BFB	Injection Date:	11/20/01
Instrument II	C GCMSVoa		BFB	Injection Time:	9:32
GC Column:	Rtx502.2	D: 0.25 (m	m) Hea	ted Purge: (Y/N)	N

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	17.8
75	30.0 - 66.0% of mass 95	49.3
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174.	50.0 - 120.0% of mass 95	74.6
175	4.0 - 9.0% of mass 174	5.1 (6.9)1
176	93.0 - 101.0% of mass 174	70.9 (95.1)1
177	5.0 - 9.0% of mass 176	4.4 (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:

ſ		LAB	LAB	DATE	TIME
	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VC007443.D	11/20/01	10:29
02	MB 15NOV01	MB	VC007444.D	11/20/01	11:19
03	686	1658602	VC007454.D	11/20/01	19:01
04	FD	1658603	VC007457.D	11/20/01	21:03
05	ТВ	1658604	VC007458.D	11/20/01	21:44

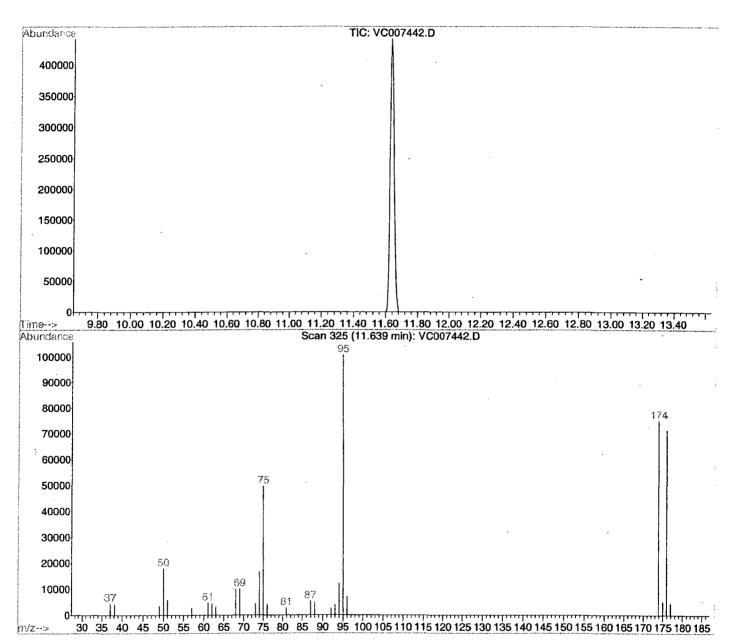
Data File : D:\HPCHEM\1\DATA\011120\VC007442.D

Vial: 31

Acq On : 20 Nov 2001 9:32 am Operator: Skelton Sample : BFB Tune Inst : GC/MS Ins Misc : BFB Tune Multiplr: 1.00

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 325

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.8	17920	PASS
75	95 ·	30	60	49.3	49696	PASS
95	95	100	100	100.0	100808	PASS
96	95	5	9	7.0	7057	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	74.6	75232	PASS
175	174	5	9	6.9	5169	PASS
176	174	95	101	95.1	71512	PASS
177	176	. 5	9	6.2	4432	PASS

Evaluate Continuing Calibration Report

Data File: D:\HPCHEM\1\DATA\011120\VC007443.D

Vial: 32 Acq On : 20 Nov 2001 10:29 am Operator: Skelton Inst : GC/MS Ins : Vstd020 : Vstd020 Sample

Misc Multiplr: 1.00

MS Integration Params: ACETONE.P

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Dec 04 14:36:27 2001
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 2 3 4 5 6 7 8	I t t t t t T TP	Bromochloromethane Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl ether Di-isopropyl ether Dichlorodifluoromethane Chloromethane	1.000 0.443 1.151 0.149 5.637 1.640 2.405 3.097	1.000 0.479 1.297 0.180 5.402 1.503 1.693 2.585	0.0 -8.1 -12.7 -20.8 4.2 8.4 29.6‡	87 90 94 78 73 \$ 56	0.00 0.00 0.00 -0.01 0.00 0.00 0.00
10 11 12 13 14 15 16 17 18	T T MC T T T T T T	Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethene Acetone Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene 1,1-Dichloroethane Vinyl Acetate 2-Butanone cis-1,2-Dichloroethene	2.888	2.607 1.233 1.542 3.283 2.980 1.022 6.634 2.111 2.817 3.779 4.517 1.042 2.817	13.9 17.4 3.7 3.7 3.2 -1.7 8.0 4.5 3.3 2.7 0.0 -9.8 2.5	70 68 79 79 93 76 79 80 81 88 80	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 -0.01 -0.01
24 25	T T S	Chloroform 1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane-d4	3.516 2.785 2.376 2.237	3.387 2.616 2.292 2.408	3.7 6.1 3.5 -7.6	79 77 79 89	0.00 0.00 0.00 0.00
28 29 30 31 32 33 34 35	TM T TM TC T T	1,4-Difluorobenzene Benzene 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone Toluene-d8 Toluene	1.000 1.345 0.391 0.305 0.334 0.379 0.102 0.491 0.113 1.150 1.327	1.000 1.276 0.389 0.286 0.320 0.364 0.103 0.458 0.127 1.178 1.225	0.0 5.1 0.5 6.2 4.2 4.0 -1.0 6.7 -12.4 -2.4	84 79 82 78 80 80 79 77 86 76	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
44 45 46 47 50 51 52 53	T T T T T T T T T T T T T T T T T T T	Chlorobenzene-d5 trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene 2-Hexanone Dibromochloromethane Chlorobenzene Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	1.045 1.086 0.674 0.967 3.218 5.526 2.204 4.076 3.650 0.619 1.582 1.494 2.402 2.484 2.297	1.000 1.578 0.997 0.984 0.735 0.887 2.899 5.120 2.006 3.683 3.038 0.570 1.587 1.505 2.060 2.144 2.018	0.0 8.1 4.6 9.4 -9.1 8.3 9.9 7.3 9.0 9.6 16.8 7.9 -0.3 -0.7 14.2 13.7	80 76 91 78 76 79 78 76	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

SPCC's out = 0 CCC's out = 0 (#) = Out of Range Tue Dec 04 15:03:00 2001 รักตักๆ // กัก M362451 พิ

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK BROMOFLUOROBENZENE (BFB)

FMETL NJDEP # 13461 Lab Name: SDG No.: Project: UST Case No.: 16586 Location: 686 Lab File ID: VC007460.D BFB Injection Date: 11/26/01 BFB Injection Time: 8:53 Instrument iD: **GCMSVoa** GC Column: Rtx502.2 Heated Purge: (Y/N) ID: 0.25 (mm)

		% RELATIVE
m/e	ION ABUNDANCE CRITERIA	ABUNDANCE
50	8.0 - 40.0% of mass 95	15.4
75	30.0 - 66.0% of mass 95	45.1
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	68.7
175	4.0 - 9.0% of mass 174	5.2 (7.6)1
176	93.0 - 101.0% of mass 174	66.6 (97.1)1
177	5.0 - 9.0% of mass 176	4.6 (6.9)2

¹⁻Value is % mass 174

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

		LAB	LAB	DATE	TIME
İ	FIELD ID.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
01	VSTD020	VSTD020	VC007461.D	11/26/01	9:29
02	MB 26NOV01	MB	VC007463.D	11/26/01	11:06
03	686 DL .	1658602	VC007467.D	11/26/01	13:57
04	FD DL	1658603	VC007468.D	11/26/01	14:37
05	ТВ	1658604	VC007469.D	11/26/01	15:18

²⁻Value is % mass 176

Data File: D:\HPCHEM\1\DATA\011126\VC007460.D

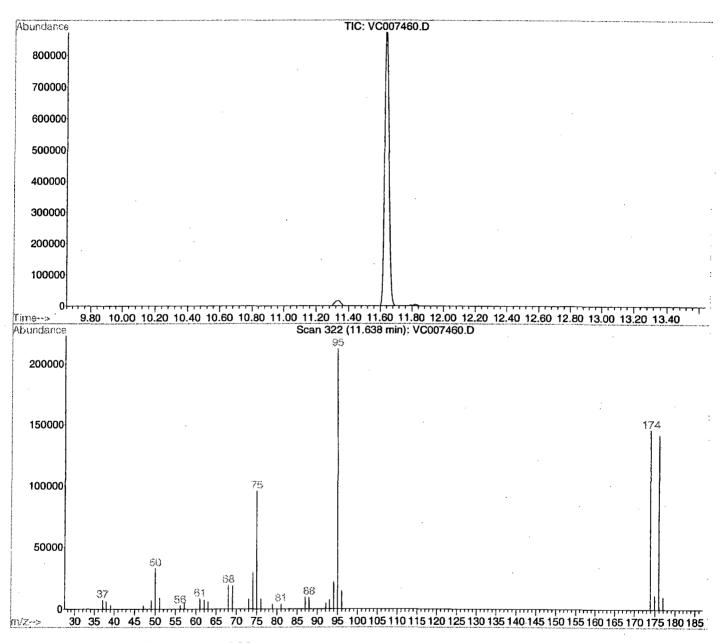
Acq On : 26 Nov 2001 8:53 am

Sample : BFB Tune Misc : BFB tune Vial: 12 Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

MS Integration Params: ACETONE.P

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP



Spectrum Information: Scan 322

VC007460 D M362451.M

Target	Rel. to	Lower	Upper	Rel.	Raw	Result
Mass		Limit%	Limit%	Abn%	Abn	Pass/Fail
50 75 95 96 173 174 175 176	95 95 95 174 95 174 174	15 30 100 5 0.00 50 5 95	40 60 100 9 2 100 9	15.4 45.1 100.0 6.8 0.0 68.7 7.6 97.1 6.9	32728 95968 212736 14373 0 146048 11123 141760 9827	PASS PASS PASS PASS PASS PASS PASS PASS

Evaluate Continuing Calibration Report

Data File: D:\HPCHEM\1\DATA\011126\VC007461.D

Vial: 12 Acq On : 26 Nov 2001 9:29 am Operator: Skelton : Vstd020 Sample Inst : GC/MS Ins

Misc : Vstd020 Multiplr: 1.00

MS Integration Params: ACETONE.P

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001

Response via : Multiple Level Calibration

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

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I t t t t t t T T T T T T T T T T T T T	Bromochloromethane Acrolein Acrylonitrile tert-Butyl alcohol Methyl-tert-Butyl ether Di-isopropyl ether Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethene Acetone Carbon Disulfide Methylene Chloride trans-1,2-Dichloroethene	1.000 0.443 1.151 0.149 5.637 1.640 2.405 3.097 3.029 1.492 1.601 3.409 3.080 1.005 7.209 2.210 2.912 3.884 4.519 0.949	1.000 0.381 0.961 0.144 5.660 1.753 2.228 2.560 2.326 1.465 1.508 3.506 2.756 1.134 6.653 2.056 2.756 2.756 1.134 6.653 2.056 2.756 2.756 2.756	0.0 14.0 16.5 3.4 -0.4 -6.9 7.4 17.3 23.2 1.8 5.8 -2.8 10.5 -12.8 7.7	151 124 121 135 147 154 133 121 114 145 140 152 132 187 137	0.00 0.00
23 T 24 T 25 S	1,1,1-Trichloroethane Carbon Tetrachloride 1,2-Dichloroethane-d4	2.785 2.376 2.237	2.807 2.370 2.184	-0.8 0.3 2.4	149 147 146	0.00 0.00 0.00
26 I 27 TM 28 T 29 TM 30 TC 31 T 32 T 33 T 34 T 35 S 36 TC	1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethyl vinyl ether cis-1,3-Dichloropropene 4-Methyl-2-Pentanone Toluene-d8	1.000 1.345 0.391 0.305 0.334 0.379 0.102 0.491 0.113 1.150 1.327	1.000 1.145 0.331 0.282 0.285 0.336 0.088 0.445 0.097 1.145 1.149	0.0 14.9 15.3 7.5 14.7 11.3 13.7 9.4 14.2 0.4 13.4	159 133 132 144 134 139 126 140 124 157	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
37 I 38 T 39 T 40 T 41 T 42 T 43 TM 44 TC 45 T 46 T 47 T 3 TP 51 T 52 T 53 T	Ethylbenzene m+p-Xylenes o-Xylene Styrene Bromoform Bromofluorobenzene 1,1,2,2-Tetrachloroethane 1,3-Dichlorobenzene 1,4-Dichlorobenzene	1.045 1.086 0.674 0.967 3.218 5.526 2.204 4.076 3.650 0.619 1.582 1.494 2.402	1.000 1.473 0.888 0.930 0.558 0.840 2.656 4.661 1.835 3.523 2.758 0.518 1.635 1.162 1.946 1.981	0.0 14.3 15.0 14.4 17.2 13.1 17.5 15.7 16.7 13.6 24.4 16.3 -3.4 22.2 19.0 20.2 20.2	141 134 137 136 140 120 135 173 126	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0

VOLATILE METHOD BLANK SUMMARY

FIELD IL)
----------	---

MB 15Nov01

Lab Name:	FMETL		NJDEP # 13461		MB 15Nov01
Project:	UST	Case No.: 16586	Location: 686	SDG	No.:
Lab File ID:	VC007444.	D	Lab Sample ID	: <u>M</u> B	3 ·
Date Analyz	ed: 11/20/01		Time Analyzed	l: <u>11:</u>	19
GC Column:	Rtx502.2 ID	: <u>0.25</u> (mm)	Heated Purge	: (Y/N	l) <u>N</u>
Instrument il	D: GCMSVoa		•		

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

1	FIELD ID.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	686	1658602	VC007454.D	19:01
02	FD	1658603	VC007457.D	21:03
03	TB	1658604	VC007458.D	21:44

COMMENTS:			
		 ·	

VOLATILE METHOD BLANK SUMMARY

Lab Name:	FMETL		NJDEP # 13461	MB 26Nov01
Project:	UST	Case No.: 16586	Location: 686 SD	G No.:
Lab File ID:	VC007463.	D	Lab Sample ID:	МВ
Date Analyze	ed: 11/26/01		Time Analyzed: 1	11:06
GC Column:	Rtx502.2 ID	0.25 (mm)	Heated Purge: (Y	(/N) <u>N</u>
Instrument ID	C GCMSVoa			•

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

	FIELD ID.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	686 DL	1658602	VC007467.D	13:57
02	FD DL	1658603	VC007468.D	14:37
03	TB	1658604	VC007469.D	15:18

COMMENTS:		

2B SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: **FMETL Project UST** 16586 686 NJDEP# 13461 Case No.: Location

EPA SAMPLE NO.	SMC1 1,2-DCE-d4	SMC2 Tol-d8	SMC3 BFB
MB	107.0	100.0	95.0
MB	99.0	98.0	102.0
686	97.3	86.7	76.0
FD	110.3	99.7	45.3
TB	119.7	108.0	45.0

SMC1 1,2-DCE-d4

1,2-Dichloroethane-d4

SMC2 Tol-d8

Toluene-d8

SMC3 BFB

Bromofluorobenzene

D System Monitoring Compounds diluted out

Spike Recovery and RPD Summary Report - Soil.

Method

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Fri Nov 30 14:00:51 2001

Response via : Initial Calibration

√on-Spiked Sample: VC007454.D

Spike

Sample

Spike Duplicate Sample

File ID : VC007455.D

VC007456.D

Sample : 1658602 MS Acq Time: 20 Nov 2001 7:42 pm 1658602 MSD 20 Nov 2001

8:22 pm

Sample Spike Spike Dup Spike Dup RPD Conc Added Res Res %Rec %Rec QC Limits Compound RPD % Rec 1,1-Dichloroethene | 0.0 | 0.0 20 18 20 88 102 14 21 Benzene 94 113 | 19 24 | 0.0 | 20 19 23 62-137 Trichloroethene | 14 | 21 | 59-139 | 24# | 21 | 60-133 | 0.7 20 20 23 95 109 Toluene 10.0 Chlorobenzene 20 13 17 66 84

- Fails Limit Check

M362451.M

Tue Dec 04 14:06:41 2001

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:	FMETL			_ NJDEP #	13461		_	
Project:	UST	_ Case No.:	16586	Location	: 686	SDG N	o.:	·
Lab File ID (Standard):	VC007443.D	_		Date A	nalyzed:	11/20/01	
Instrument ID	D: GCMSV	oa			Time A	nalyzed:	10:29	
GC Column:	Rtx502.2	ID: 0.25	(mm)		Heated	Purge: (`	Y/N)1	1

	IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
12 HOUR STD	209179	16.69	1450710	19.41	401662	27.24
UPPER LIMIT	418358	17.19	2901420	19.91	803324	27.74
LOWER LIMIT	104590	16.19	725355	18.91	200831	26.74
FIELD ID.						
O1 MB 15NOV01	194971	16.69	1324892	19.41	355712	27.25
02 686	382956	16.69	2681543	19.41	952879*	27.24
)3 FD	367694	16.69	2546248	19.41	1575963*	27.24
)4 TB	366159	16.69	2524711	19.41	1658493*	27.24

IS1 BCM = Bromochloromethane IS2 DFB = 1,4-Difluorobenzene

IS3 CBZ = Chlorobenzene-d5

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

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

^{*} Values outside of contract required QC limits

8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:	FMETL			NJDEP#	13461		_	
Project:	UST ·	Case No.:	16586	Location	n: <u>686</u>	_ SDG N	o.:	
Lab File ID (Standard):	VC007461.D			Date A	nalyzed:	11/26/01	
Instrument IE	: GCMSV	oa			Time A	nalyzed:	9:29	
GC Column:	Rtx502.2	ID: 0.25	(mm)		Heated	l Purge: (`	Y/N)	N

		IS1BCM AREA #	RT #	IS2DFB AREA #	RT #	IS3CBZ AREA #	RT #
	12 HOUR STD	377637	16.69	2726556	19.42	769324	27.24
	UPPER LIMIT	755274	17.19	5453112	19.92	1538648	27.74
	LOWER LIMIT	188819	16.19	1363278	18.92	384662	26.74
	FIELD ID.						
01	MB 26NOV01	343704	16.70	2468066	19.42	684484	27.25
02	686 DL	360349	16.69	2595214	19.41	733332	27.25
03	FD DL	362059	16.69	2676309	19.42	806500	27.25
04	TB	370741	16.69	2681351	19.41	814027	27.24

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

(QT Reviewed)

Data File: D:\HPCHEM\1\DATA\011120\VC007444.D

Acq On : 20 Nov 2001 11:19 am

Vial: 32 Operator: Skelton

Sample : MB Misc : MB

Inst : GC/MS Ins

Multiplr: 1.00

MS Integration Params: ACETONE.P Quant Time: Nov 27 11:23 2001

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)

: Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Mon Nov 19 11:45:35 2001

Response via : Initial Calibration DataAcq Meth : M362451

Internal Standards	R.T.	QIon	Response	Conc U	nits Dev	(Min)	
1) Bromochlorome 26) 1,4-Difluorob 37) Chlorobenzene	16.69 19.41 27.25	128 114 119	194971 1324892 355712	30.00 30.00 30.00	ug/L	0.00 0.00 0.00	
System Monitoring Compounds							
25) 1,2-Dichloroe	thane-d4	18.30	65	466644	32.10	ug/L	0.00
Spiked Amount	30.000	Range 70	- 121	Recove	ry =	107.00%	
35) Toluene-d8		23.42	98	1525220	30.03	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	100.10%	
49) Bromofluorobenzene		30.25	95	536140	28.58	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove	ry =	95.27%	

Target Compounds

Qvalue

Data File : D:\HPCHEM\1\DATA\011120\VC007444.D

Acq On : 20 Nov 2001 11:19 am

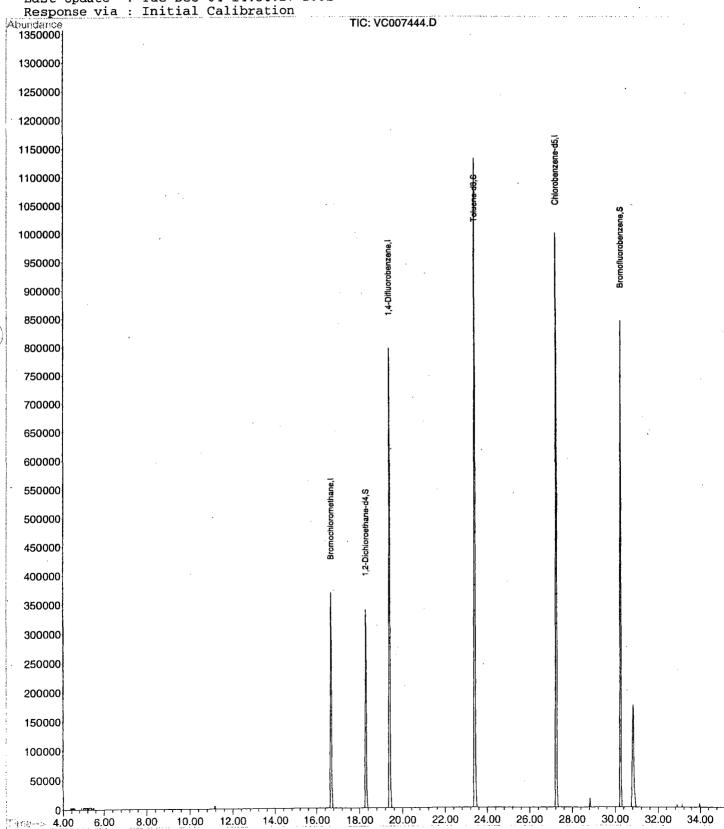
Vial: 32 Operator: Skelton Inst : GC/MS Ins

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:23 2001 Quant Results File: M362451.RES

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Tue Dec 04 14:36:27 2001



(QT Reviewed)

Data File: D:\HPCHEM\1\DATA\011126\VC007463.D

Acq On : 26 Nov 2001 11:06 am

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

Misc : MB Multiplr: 1.00

MS Integration Params: ACETONE.P Quant Time: Nov 27 11:35 2001

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Mon Nov 26 11:35:58 2001

Response via : Initial Calibration

DataAcq Meth : M362451

: MB

Sample

Internal Standards	R.T.	QIon	Response	Conc Ur	nits Dev	(Min)	
1) Bromochlorome	16.70 19.42	128 114	343704 2468066	30.00		0.01	
26) 1,4-Difluorobenzene37) Chlorobenzene-d5		27.25	119	684484	30.00	-	0.00
System Monitoring	Compounds						
25) 1,2-Dichloroe	thane-d4	18.30	65	758564	29.60	ug/L	0.00
Spiked Amount	30.000	Range 70	- 121	Recove	ry =	98.67%	
35) Toluene-d8		23.42	98	2792768	29.52	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove		98.40%	
49) Bromofluorobe	nzene	30.25	95	1107708	30.69	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121			102.30%	
Target Compounds					•	Ova	alue

Data File : D:\HPCHEM\1\DATA\011126\VC007463.D

Vial: 13

Acq On : 26 Nov 2001 11:06 am Sample : MB

Operator: Skelton Inst : GC/MS Ins

Sample : MB Misc : MB

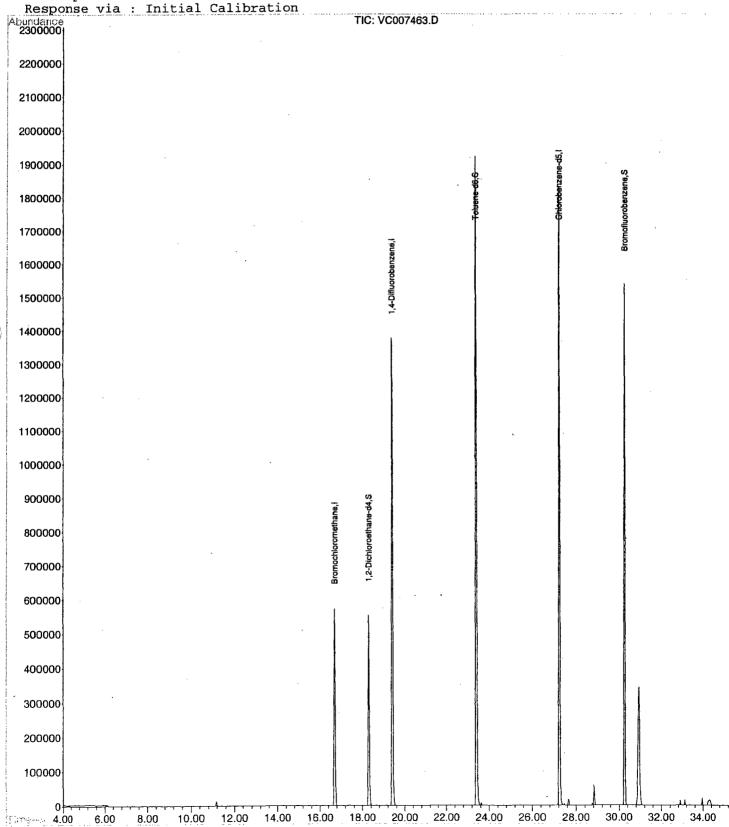
Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Nov 27 11:35 2001 Quant Results File: M362451.RES

Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)
Title : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Tue Dec 04 14:36:27 2001



(QT/LSC Reviewed) Vial: 7

Data File: D:\HPCHEM\1\DATA\011120\VC007454.D

Acq On : 20 Nov 2001 7:01 pm Sample

Operator: Skelton : 1658602 Inst : GC/MS Ins

Misc : 686 Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Dec 4 14:56 2001 Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 20 12:00:22 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.Т. (QIon	Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane	16.69	128		30.00	→ '
26) 1,4-Difluorobenzene	19.41	114	2681543	30.00	ug/L 0.00
37) Chlorobenzene-d5	27.24	119	952879	30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000	Range 70 -	- 121	Recove	ry =	
35) Toluene-d8	23.42		8935302		-
Spiked Amount 30.000	Range 81 -				
49) Bromofluorobenzene	30.25	95	3893088	77.47	ug/L 0.00
Spiked Amount 30.000	Range 74 -	- 121	Recove	ry =	258.23%#
Target Compounds 16) Methylene Chloride	11.16	84	41026	1.45	Qvalue

Data File: D:\HPCHEM\1\DATA\011120\VC007454.D

: 20 Nov 2001 7:01 pm Acq On Sample

: 1658602 : 686

Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Vial: 7

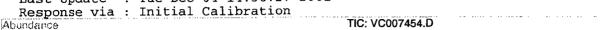
MS Integration Params: ACETONE.P

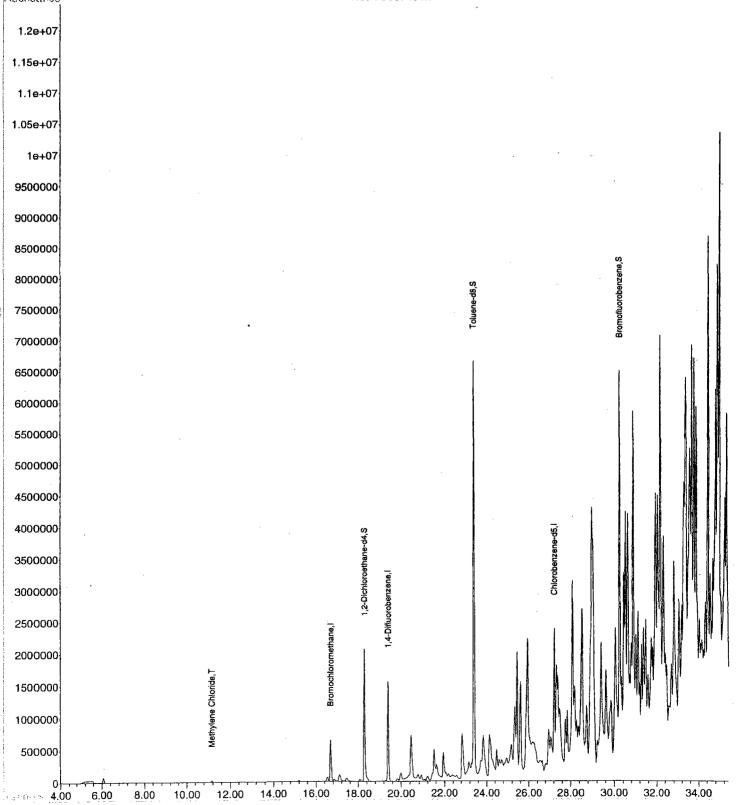
Misc

Quant Time: Dec 4 14:56 2001 Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Tue Dec 04 14:36:27 2001





(QT Reviewed)

Data File: D:\HPCHEM\1\DATA\011126\VC007467.D

Acq On : 26 Nov 2001 1:57 pm

: 1658602 Sample

Vial: 16 Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Quant Results File: M362451.RES

Misc MS Integration Params: ACETONE.P Quant Time: Dec 4 15:00 2001

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Nov 26 11:35:58 2001

Response via : Initial Calibration

DataAcq Meth : M362451

Internal Standards		R.T.	QIon	Response	Conc U	nits Dev	(Min)
1) Bromochlorome 26) 1,4-Difluorob 37) Chlorobenzene	enzene	16.69 19.41 27.25	128 114 119	360349 2595214 733332	30.00 30.00 30.00	ug/L	0.00 0.00 0.00
System Monitoring	Compounds						
25) 1,2-Dichloroe	thane-d4	18.30	65	1050844	39.11	ug/L	0.00
Spiked Amount	30.000	Range 70	- 121	Recove			
35) Toluene-d8		23.42	98	3246518	32.63	ug/L	0.00
Spiked Amount	30.000	Range 81	- 117	Recove	ry =	108.77%	i
49) Bromofluorobe	nzene	30.25	95	1272304	32.90	ug/L	0.00
Spiked Amount	30.000	Range 74	- 121	Recove	ry =	109.67%	

Target Compounds

Qvalue

Data File : D:\HPCHEM\1\DATA\011126\VC007467.D

: 26 Nov 2001 1:57 pm Acq On

Vial: 16 Operator: Skelton : GC/MS Ins

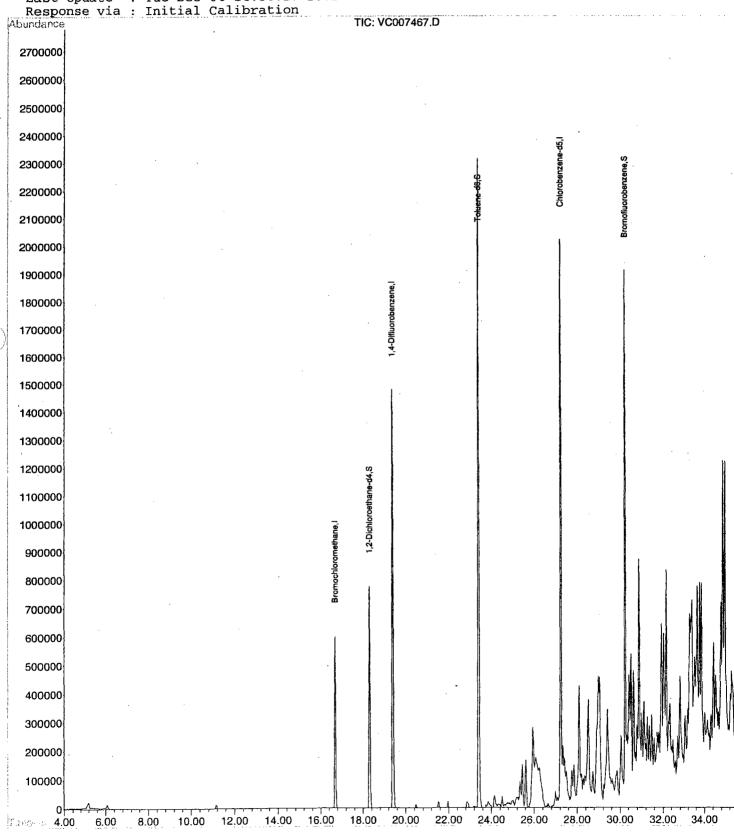
: 1658602 Sample

Inst Multiplr: 1.00

Misc MS Integration Params: ACETONE.P

Quant Time: Dec 4 15:00 2001 Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



(QT/LSC Reviewed)

Data File : D:\HPCHEM\1\DATA\011120\VC007457.D

: 20 Nov 2001 9:03 pm Acq On

Sample

: 1658603

: FD

MS Integration Params: ACETONE.P

Quant Time: Dec 4 14:56 2001

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

Multiplr: 1.00

Quant Results File: M362451.RES

Quant Method : D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP

Last Update : Tue Nov 20 12:00:22 2001

Response via : Initial Calibration

DataAcq Meth: M362451

Misc

Internal Standards	R.T. Q	Ion	Response	Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	19.41	128 114 119	367694 2546248 1575963	30.00 30.00 30.00	ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 70 - 23.42	121 98 117 95	9642404 Recove 4136706	ry = 98.78 ry = 49.77	361.40%# ug/L 0.00 329.27%#
Target Compounds 16) Methylene Chloride	11.17	84	.57835	2.14	Qvalue ug/L 82

Vial: 10 Data File: D:\HPCHEM\1\DATA\011120\VC007457.D Operator: Skelton Acq On : 20 Nov 2001 9:03 pm : GC/MS Ins Inst : 1658603 Sample Multiplr: 1.00 Misc : FD

MS Integration Params: ACETONE.P

Quant Results File: M362451.RES Quant Time: Dec 4 14:56 2001

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Tue Dec 04 14:36:27 2001 Response via : Initial Calibration TIC: VC007457.D Abundance 1.45e+07 1.4e+07 1.35e+07 1.3e+07 1.25e+07 1.2e+07 1.15e+07 1.1e+07 1.05e+07 1e+07 9500000 9000000 Toluene-d8,S 8500000 8000000 7500000 7000000 6500000 6000000 5500000 5000000 4500000 1,2-Dichloroethane-d4,S 4000000 4-Diffuorobenzene, 3500000 3000000 Bromochioromethane, I 2500000 Methylene Chioride, T 2000000 1500000 1000000 500000 20.00 24.00 26.00 28.00 32.00 34.00 16.00 18.00 22.00 8.00 14.00 10.00 12.00 1 are -> 4.00 6.00

(QT Reviewed)

Data File: D:\HPCHEM\1\DATA\011126\VC007468.D

: 26 Nov 2001 Acq On Sample

: 1658603

2:37 pm

Operator: Skelton Inst : GC/MS Ins

Vial: 17

Multiplr: 1.00

Misc MS Integration Params: ACETONE.P Quant Time: Dec 4 15:00 2001

Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) : Volatile Organics by GC/MS Method 624/8260/TCLP Title

Last Update : Mon Nov 26 11:35:58 2001

Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T. QIon	Response Conc U	Inits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 128 19.42 114 27.25 119	2676309 30.00	0 ug/L 0.00 0 ug/L 0.00 0 ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 70 - 12	1 Recovery = 3782108 36.86 7 Recovery = 1533292 36.05	3 ug/L 0.00 141.60%# 5 ug/L 0.00 122.87%# 5 ug/L 0.00 120.17%

Target Compounds

Qvalue

Data File : D:\HPCHEM\1\DATA\011126\VC007468.D

Acq On

: 26 Nov 2001 2:37 pm

: 1658603 Sample

Misc

Operator: Skelton : GC/MS Ins Inst

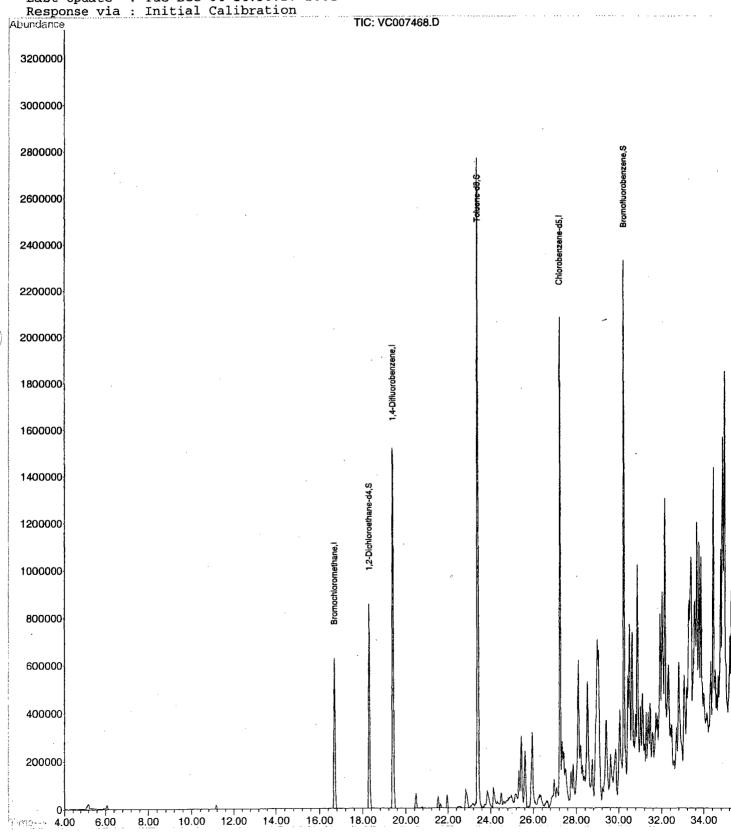
Multiplr: 1.00

Vial: 17

MS Integration Params: ACETONE.P Quant Time: Dec 4 15:00 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



(QT/LSC Reviewed)

Data File : D:\HPCHEM\1\DATA\011120\VC007458.D

Acq On : 20 Nov 2001 9:44 pm

Vial: 11 Operator: Skelton

Sample : 1658604 Inst : GC/MS Ins Multiplr: 1.00

: TB Misc

MS Integration Params: ACETONE.P Quant Time: Dec 4 14:56 2001

Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator)

Title : Volatile Organics by GC/MS Method 624/8260/TCLP
Last Update : Tue Nov 20 12:00:22 2001
Response via : Initial Calibration

DataAcq Meth: M362451

Internal Standards	R.T.	QIon	Response	Conc Ur	nits Dev(Min)
1) Bromochloromethane	16.69	128	366159	30.00	
26) 1,4-Difluorobenzene	19.41		2524711		ug/L 0.00
37) Chlorobenzene-d5	27.24	119	1658493	30.00	ug/L 0.00
System Monitoring Compounds	10.20	C F	2100106	116.01	
25) 1,2-Dichloroethane-d4					ug/L 0.00
Spiked Amount 30.000	Range 70			-	
35) Toluene-d8	23.42	98	10277488	106.19	ug/L 0.00
Spiked Amount 30.000	Range 81	- 117	Recove	ery =	353.97%#
49) Bromofluorobenzene	30.25	95	4340452	49.62	ug/L 0.00
Spiked Amount 30.000	Range 74				
Target Compounds					Ovalue
16) Methylene Chloride	11.16	84	922946	34.22	~

^{(#) =} qualifier out of range (m) = manual integration VC007458.D M362451.M Tue Dec 04 15:00:09 2001

Data File : D:\HPCHEM\1\DATA\011120\VC007458.D

: 20 Nov 2001 Acq On 9:44 pm

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

Sample : TB Misc

: 1658604

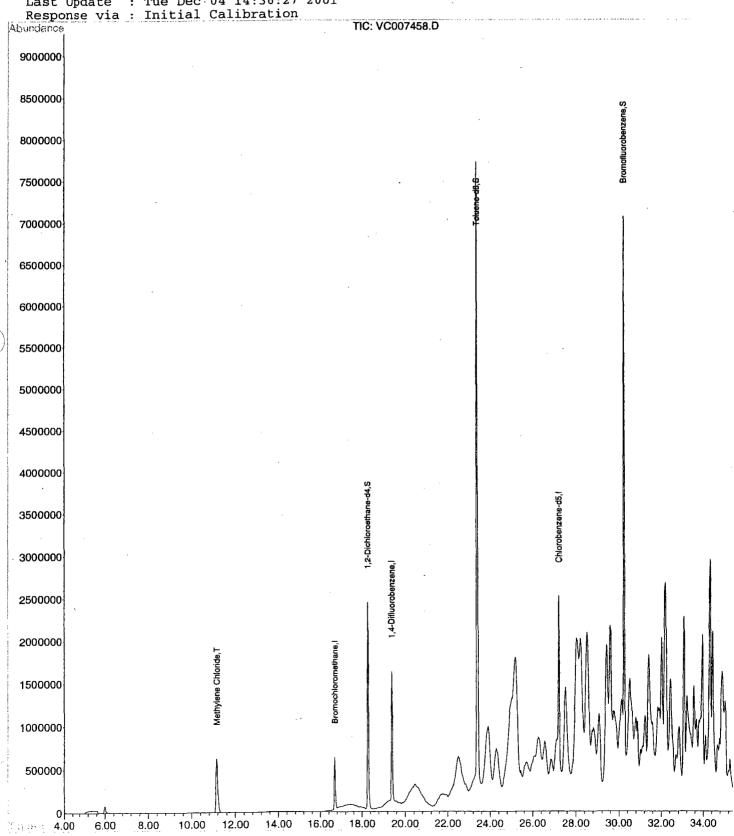
Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Dec 4 14:56 2001

Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



(QT Reviewed)

Data File: D:\HPCHEM\1\DATA\011126\VC007469.D

: 26 Nov 2001 Acq On

3:18 pm

Operator: Skelton : GC/MS Ins

Vial: 18

Sample Misc

: 1658604

Multiplr: 1.00

MS Integration Params: ACETONE.P

Quant Time: Dec 4 15:00 2001

Quant Results File: M362451.RES

Quant Method: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Mon Nov 26 11:35:58 2001

Response via : Initial Calibration DataAcq Meth : M362451

Internal Standards	R.T. QIon	Response Conc U	nits Dev(Min)
1) Bromochloromethane 26) 1,4-Difluorobenzene 37) Chlorobenzene-d5	16.69 128 19.41 114 27.24 119	2681351 30.00	ug/L 0.00 ug/L 0.00 ug/L 0.00
System Monitoring Compounds 25) 1,2-Dichloroethane-d4 Spiked Amount 30.000 35) Toluene-d8 Spiked Amount 30.000 49) Bromofluorobenzene Spiked Amount 30.000	Range 70 - 12 23.42 98 Range 81 - 11	1 Recovery = 4049229 39.39 7 Recovery = 1613299 37.58	ug/L 0.00 131.30%# ug/L 0.00

Target Compounds

Qvalue

Data File: D:\HPCHEM\1\DATA\011126\VC007469.D

: 26 Nov 2001 3:18 pm Acq On Sample : 1658604

Operator: Skelton : GC/MS Ins Inst

Multiplr: 1.00

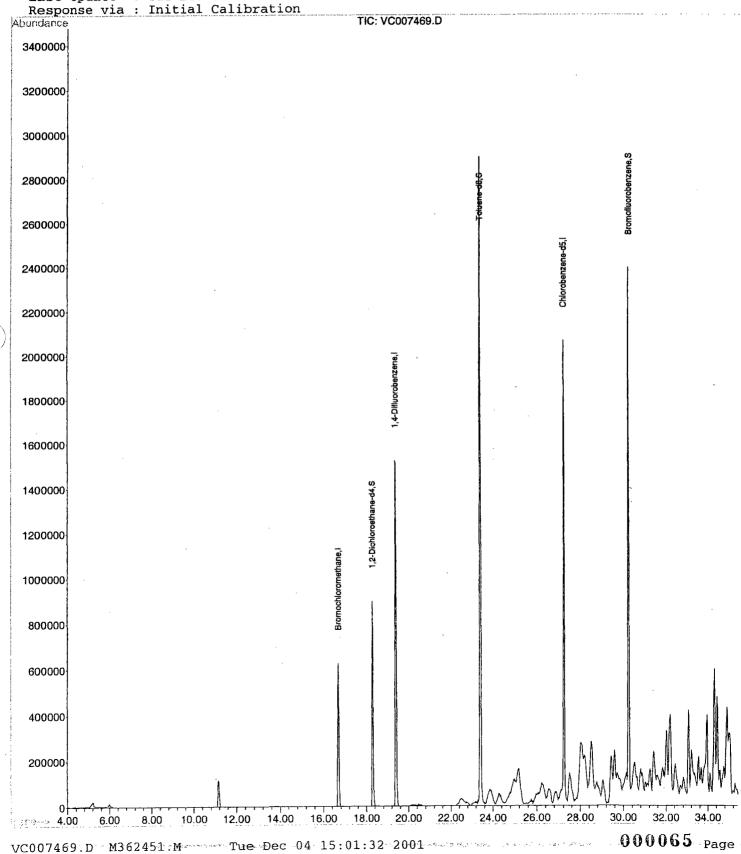
Vial: 18

MS Integration Params: ACETONE.P

Misc

Quant Time: Dec 4 15:00 2001 Quant Results File: M362451.RES

: D:\HPCHEM\1\METHODS\M362451.M (RTE Integrator) Method Title : Volatile Organics by GC/MS Method 624/8260/TCLP Last Update : Tue Dec 04 14:36:27 2001



TPHC

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

Client:

U.S. Army

Project #:

16586

DPW. SELFM-PW-EV

Location:

Bldg. 686

Bldg. 173

UST Reg. #:

Diug. 170

Ft. Monmouth, NJ 07703

Analysis :

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID. :

GC TPHC INST. #1

Extraction Method:

Shake

Column Type :

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
1658601	686Piping-2'	1.00	15.30	83.52	177	256.62
1658602	686Piping-8'	1.00	15.50	86.02	170	315.69
1658603	FD - 8'	1.00	15.22	85.99	173	337.76
						·
METHOD BLANK	MB-2647	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

5	bration Files =T013655.D =T013658.D	100 10		8656.D 8657.D	50	. ='.	r013654	4.D		
	Compound		5	100		20	10			
1) tC 2) tC 3) TC 4) tC 5) tC 6) tC 7) tC 8) tC 10) tC 11) tC 12) tC 13) tC 14) tC 15) tC 16) tC 17) tC 18) tC 19) TC	C30 C32 C34 C36 C38 C40 c42 Pristane		2.749 2.833 2.890 2.766 2.764 2.766 2.763 2.526 2.197 1.886 2.753	2.537 2.572 2.593 2.550 2.620 2.603 2.589 2.655 2.460 2.275 2.124 2.124 2.476	2.572 2.606 2.634 2.598 2.673 2.654 2.631 2.663 2.422 2.148 1.935 2.516	2.524 2.557 2.598 2.549 2.602 2.589 2.573 2.622 2.429 1.972 2.282 2.487	2.557 2.595 2.636 2.569 2.581 2.613 2.599 2.627 2.430 2.178 1.902 2.379 2.554	2.588 2.633 2.670 2.606 2.658 2.645 2.632 2.666 2.453 2.199 1.964 2.381 2.557	E44 E44 E44 E44 E44 E44 E44	3.55 4.31 4.66 3.51 3.56 2.97 2.14 1.79 2.14 4.86 4.20
21) sC	o-terphenyl TPHC - total		2.051	2.507 2.604	2.538 2.659	2.504 2.739	2.538 2.933	2.548 2.899	E4 E4	2.41 13.48

Data File : C:\HPCHEM\1\DATA\011119\T013807.D

Vial: 100

: 19 Nov 2001 11:20 am Acq On

Operator: Skelton Inst : GC/MS Ins

: Tstd050 Sample : Tstd050

Multiplr: 1.00

Misc IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

	•	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		C8	18.019 20.595	20.649 E3 22.791 E3	-14.6 -10.7	109 107	-0.03 0.00
2	tC TC	C10 C12	21.549	22.731 E3 22.973 E3	-6.6	104	0.00
4	tC	C12 C14	23.048	23.409 E3	-1.6	101	0.00
5	tC	C16	24.057	24.122 E3	-0.3	100	0.00
6	tC	C18	24.812	24.021 E3	3.2	97	0.00
7	tC	C20	24.684	24.373 E3	1.3	98	0.00
8	tC	C22	25.878	25,638 E3	0.9	100	0.00
9	tC	C24	26.326	25.916 E3	1.6	99	0.00
10	tC	C26	26.702	26.194 E3	1.9	99	0.00
11	tC	C28	26.061	25.765 E3	1.1	99	0.00
12	tC	C30	26.583	26.469 E3	0.4	99	0.00
13	tC	C32	26.447	26.266 E3	0.7	99	0.00
14	tC	C34	26.317	26.143 E3	0.7	99	0.00
15	tC	C36	26.661	27.081 E3	-1.6	102	0.00
16	tC	C38	24.528	25.796 E3	-5.2	106	0.00
17	tC	C40	21.994	24.627 E3	-12.0	115	0.00
∂ 8	tC	c42	19.638	23.151 E3	-17.9	120	0.00
/9	TC	Pristane	23.812	22.692 E3	4.7	94	0.00
20	TC	Phytane	25.573	25.364 E3	0.8	101	0.00
21	sC	o-terphenyl	25.484	25.624 E3	-0.5	101	0.00
22	tC	TPHC - total	28.994	27.732 E3	4.4	104	1.46#

Vial: 7

Data File : C:\HPCHEM\1\DATA\011119\T013818.D

Acq On : 19 Nov 2001 5:51 pm Operator: Skelton Sample : Tstd050s Inst : GC/MS Ins

Misc Multiplr: 1.00

IntFile : TPHCINT.E

(#) - Dif of pance

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001

Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

		Compound	AvgRF	CCRF	%Dev	Area% Dev(min)
1	tC	C8	18.019	20.912 E3	-16.1	111 -0.05
2	tC	C10	20.595	22.414 E3	-8.8	105 -0.01
3	TC	C12	21.549	23.381 E3	-8.5	106 0.00
4	tC	C14	23.048	23.883 E3	-3.6	103 0.00
5	tC	C16	24.057	24:693 E3	-2.6	103 0.00
6	tC	C18	24.812	26.500 E3	-6.8	107 0.00
7	tC	C20	24.684	25.423 E3	-3.0	103 0.00
8	tC	C22	25.878	26.184 E3	-1.2	102 0.00
9	tC	C24	26.326	26.479 E3	-0.6	102 0.00
10	tC	C26	26.702	26.760 E3	-0.2	102 0.00
11	tC	C28	26.061	26.296 E3	-0.9	101 0.00
12	tC	C30	26.583	26.999 E3	-1.6	101 0.00
13	tC	C32	26.447	26.755 E3	-1.2	101 0.00
14	t.C	C34	26.317	26.612 E3	-1.1	101 0.00
15	tC	C36	26.661	27.616 E3	-3.6	104 0.00
16	tC	C38	24.528	26.472 E3	-7.9	109 0.00
_	ťC	C40	21.994	25.435 E3	-15.6	118 - 0.01
1.8	tC	c42	19.638	24.573 E3	-25.1#	127 0.00
19	TC	Pristane	23.812	24.480 E3	-2.8	102 0.00
20	TC	Phytane	25.573	25.715 E3	-0.6	102 0.00
21	sC	o-terphenyl	25.484	26.074 E3	-2.3	103 0.00
22	tC	TPHC - total	28.994	28.595 E3	1.4	108 0.51#

Data File : C:\HPCHEM\1\DATA\011119\T013840.D

Vial: 29

Acq On : 20 Nov 2001 5:56 am

Operator: Skelton

Sample : Tstd050s Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Method

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Multiple Level Calibration

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

Max. Rel. Area: 200% Max. RRF Dev : 15%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
2 3 4 5 6	tC tC TC tC tC	C8 C10 C12 C14 C16 C18 C20	18.019 20.595 21.549 23.048 24.057 24.812 24.684	21.151 E3 22.359 E3 23.393 E3 23.788 E3 24.483 E3 24.651 E3 25.098 E3	-17.4 -8.6 -8.6 -3.2 -1.8 0.6 -1.7	112 105 106 102 102 100	-0.05 -0.01 0.00 0.00 0.00 0.00
8 9	tC tC tC	C22 C24 C26	25.878 26.326 26.702	25.962 E3 26.272 E3 26.516 E3	-0.3 0.2 0.7	101 101 101	0.00 0.00 0.00
11 12 13	tC tC tC	C28 C30 C32	26.061 26.583 26.447	26.090 E3 26.802 E3 26.556 E3	-0.1 -0.8 -0.4	100 100 100	0.00 0.00 0.00
15 16	tC tC tC tC	C34 C36 C38 C40	26.317 26.661 24.528 21.994	26.433 E3 27.462 E3 26.273 E3 25.371 E3	-0.4 -3.0 -7.1 -15.4	100 103 108 118	0.00 0.00 0.00 -0.01
\8 9 20 21	tC TC TC sC tC	c42 Pristane Phytane o-terphenyl TPHC - total	19.638 23.812 25.573 25.484 28.994	25.059 E3 23.910 E3 24.771 E3 25.800 E3 29.430 E3	-27.6# -0.4 3.1 -1.2 -1.5	129 100 98 102 111	0.00 0.00 0.00 0.00 0.51#

Data File : C:\HPCHEM\1\DATA\011119\T013851.D

Vial: 40

Acq On : 20 Nov 2001 11:59 am

Operator: Skelton
Inst : GC/MS Ins

Sample : Tstd050s Misc :

Multiplr: 1.00

IntFile : TPHCINT.E

Method

: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

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

Max. RRF Dev: 15% Max. Rel. Area: 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 2 3		C8 C10 C12	18.019 20.595 21.549	21.333 E3 22.301 E3 23.385 E3	-18.4 -8.3 -8.5	113 105 106	-0.05 -0.01 0.00
4	tC tC	C14 C16	23.048	23.751 E3 24.359 E3	-3.1 -1.3	102 101	0.00
6 7	tC	C18 C20	24.812 24.684	24.271 E3 25.016 E3	2.2 -1.3	98 101	0.00
8 9	tC tC	C22 C24	25.878 26.326	25.865 E3 26.136 E3	$\substack{0.1\\0.7}$	101 100	0.00
10 11	tC tC	C26 C28	26.702 26.061	26.415 E3 25.990 E3	1.1	100 100	0.00
12 13 14	tC tC tC	C30 C32 C34	26.583 26.447 26.317	26.697 E3 26.440 E3 26.342 E3	$ \begin{array}{r} -0.4 \\ 0.0 \\ -0.1 \end{array} $	100 100 100	0.00 0.00 0.00
	tC tC	C34 C36 C38	26.661 24.528	27.330 E3 26.234 E3	-2.5 -7.0	103 108	0.00 0.00 0.00
17	tC tC	C40 c42	21.994 19.638	25.278 E3 25.122 E3	-14.9 -27.9#	118 130	-0.01 0.00
9 20 21	sC	Pristane Phytane o-terphenyl	23.812 25.573 25.484	23.579 E3 25.375 E3 25.727 E3	1.0 0.8 -1.0	98 101 101	0.00 0.00 0.00
22	tC	TPHC - total	28.994	28.838 E3	0.5	108	1.45#

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

Client:

U.S. Army

Project #:

16586

DPW. SELFM-PW-EV

Location:

Bldg. 686

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Inst. ID.

Date Extracted: **Extraction Method:** 19-Nov-01

Column Type:

GC TPHC INST. #1

RTX-5, 0.32mm ID, 30M Analysis Complete:

Shake 19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample			Surrogate Added (ppm)	Amount Recovered (ppm)	Percent Recovery
1658601			10.00	10.60	105.96
1658602			10.00	10.60	106.04
1658603			10.00	10.49	104.88
		 			
					· · · · · · · · · · · · · · · · · · ·
		-			
· .		ļ		<u> </u>	·····
	 				
		·			
METHOD BLANK	MB-2647		10.00	11.86	118.64

Surrogate Added:

o-Terphenyl

Client:

U.S. Army

Project #:

16586

DPW. SELFM-PW-EV

Location:

Bldg. 686

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Shake

Column Type:

RTX-5, 0.32mm ID, 30M

Extraction Method:

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst:

Skelton

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
1658603MS	1000	88.41	931.16	84.27	75-125
1658603MSD	1000	88.41	949.81	86.14	75-125

RPD	2.19	20.00

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

Client:

U.S. Army

Project #:

16586

DPW. SELFM-PW-EV

Location:

Bldg. 686

Bldg. 173

UST Reg. #:

Ft. Monmouth, NJ 07703

Analysis:

OQA-QAM-025

Date Received:

15-Nov-01

Matrix:

Soil

Date Extracted:

19-Nov-01

Inst. ID.

GC TPHC INST. #1

Extraction Method:

Shake

Column Type :

RTX-5, 0.32mm ID, 30M

Analysis Complete:

19-Nov-01

Injection Volume:

1uL

Analyst :

Skelton

Sample	Date Extracted	Spike Amount Added (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-2648	19-Nov-01	1000	861.18	86.12	75-126

(OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013810.D

Acq On : 19 Nov 2001 1:05 pm Sample : MB 2647

Vial: 3 Operator: Skelton Inst : GC/MS Ins

Multiplr: 1.00

Misc : 19Nov01 IntFile : TPHCINT.E

Quant Time: Nov 19 13:30 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)
Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : $30m \times 0.32mm$

R.T. Compound Response Conc Units

System Monitoring Compounds

12.45 302332 11.864 mg/L 21) sC o-terphenyl Spiked Amount 10.000 Range 8 - 13 Recovery = 118.64%#

Target Compounds

Data File : C:\HPCHEM\1\DATA\011119\T013810.D

Vial: 3

Operator: Skelton : 19 Nov 2001 1:05 pm Aca On Inst : GC/MS Ins Sample : MB 2647 Multiplr: 1.00 Misc : 19Nov01

: TPHCINT.E IntFile

Quant Time: Nov 19 13:30 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

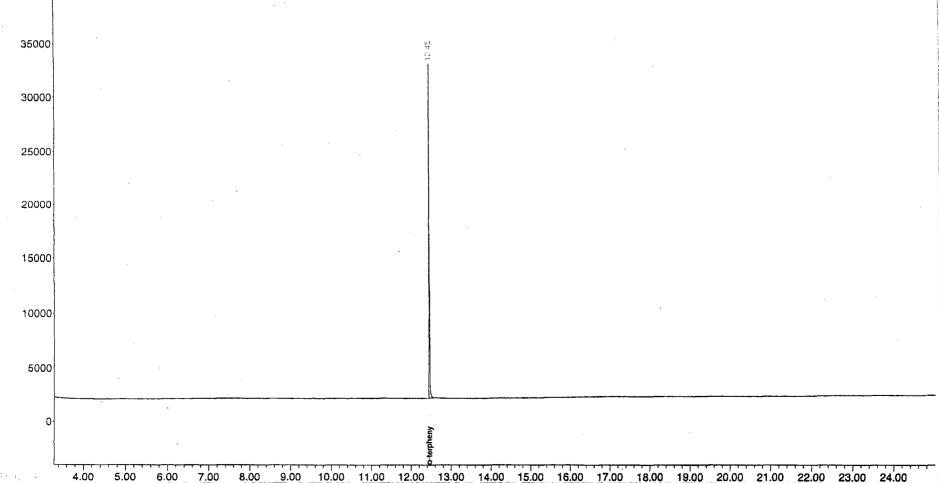
: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Ini. : 1 ul Signal Phase: HP-5

Signal Info : 30m x 0.32mm T013810.D\FID1B



Ouantitation Report (OT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013842.D

Vial: 31

Acq On : 20 Nov 2001 7:02 am Sample : 1658601s Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

Misc IntFile : TPHCINT.E

Quant Time: Nov 20 8:28 2001 Quant Results File: TPH95.RES

Quant Method : C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul

22) tC TPHC - total

Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$

R.T. Response Conc Units Compound System Monitoring Compounds 21) sC o-terphenyl 12.45 270022 10.596 mg/L 10.000 Range 8 - 13 Recovery = 105.96%# Spiked Amount Target Compounds

12.45

1901539 65.584 mg/L m

Ouantitation

Vial: 31

Data File : C:\HPCHEM\1\DATA\011119\T013842.D

: 20 Nov 2001 7:02 am Acq On

Operator: Skelton Sample : 1658601s Inst : GC/MS Ins Misc Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 8:28 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcq Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm T013842.D\FID1B Response 35000 30000 25000 20000 15000 10000 5000 7.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 Quantitation Report (QT Reviewed)

Data File: C:\HPCHEM\1\DATA\011119\T013843.D

Vial: 32

Acq On : 20 Nov 2001 7:35 am Sample : 1658602s Misc : Operator: Skelton Inst : GC/MS Ins Multiplr: 1.00

IntFile : TPHCINT.E Quant Time: Nov 20 8:28 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks
Last Update : Wed Oct 24 13:32:50 2001
Response via : Initial Calibration
DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase: HP-5

Signal Info : $30m \times 0.32mm$

Compound R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl 12.45 270235 10.604 mg/L

Spiked Amount 10.000 Range 8 - 13 Recovery = 106.04%#

Target Compounds

22) tC TPHC - total 12.45 2440800 84.183 mg/L m

Data File : C:\HPCHEM\1\DATA\011119\T013843.D

Vial: 32

Acg On : 20 Nov 2001 7:35 am Sample : 1658602s

Operator: Skelton Inst : GC/MS Ins

Misc

Multiplr: 1.00

IntFile : TPHCINT.E

Quant Time: Nov 20 8:28 2001 Quant Results File: TPH95.RES

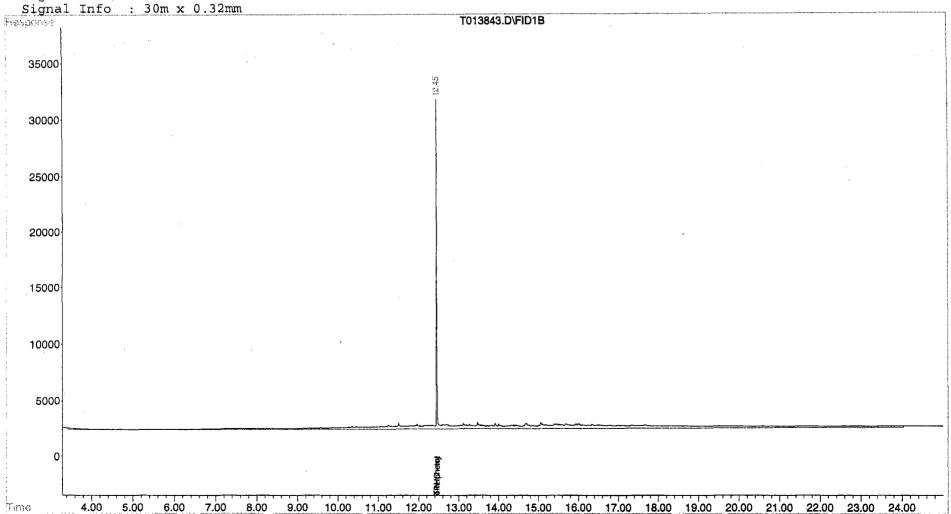
Ouant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator)

: TPHC Calibration 06/05/97 21 peaks Title

Last Update : Wed Oct 24 13:32:50 2001 Response via : Multiple Level Calibration

DataAcg Meth: TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011119\T013844.D

Vial: 33

Acq On : 20 Nov 2001 8:08 am Sample : 1658603s

Operator: Skelton

Multiplr: 1.00

Inst : GC/MS Ins

Misc : Multiple
IntFile : TPHCINT.E
Quant Time: Nov 20 9:31 2001 Quant Results File: TPH95.RES

Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks

Last Update: Wed Oct 24 13:32:50 2001 Response via: Initial Calibration DataAcq Meth: TPH95.M

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

Compound

R.T. Response Conc Units

System Monitoring Compounds

21) sC o-terphenyl

henyl 12.45 267279 10.488 mg/L 10.000 Range 8 - 13 Recovery = 104.88%#

Spiked Amount

Target Compounds

22) tC TPHC - total

12.45

2563384 88.411 mg/L m

Ouantitation

Data File : C:\HPCHEM\1\DATA\011119\T013844.D

Aca On : 20 Nov 2001 8:08 am Sample

Operator: Skelton Inst : GC/MS Ins

Misc

: 1658603s

Multiplr: 1.00

Vial: 33

: TPHCINT.E IntFile

Quant Time: Nov 20 9:31 2001 Quant Results File: TPH95.RES

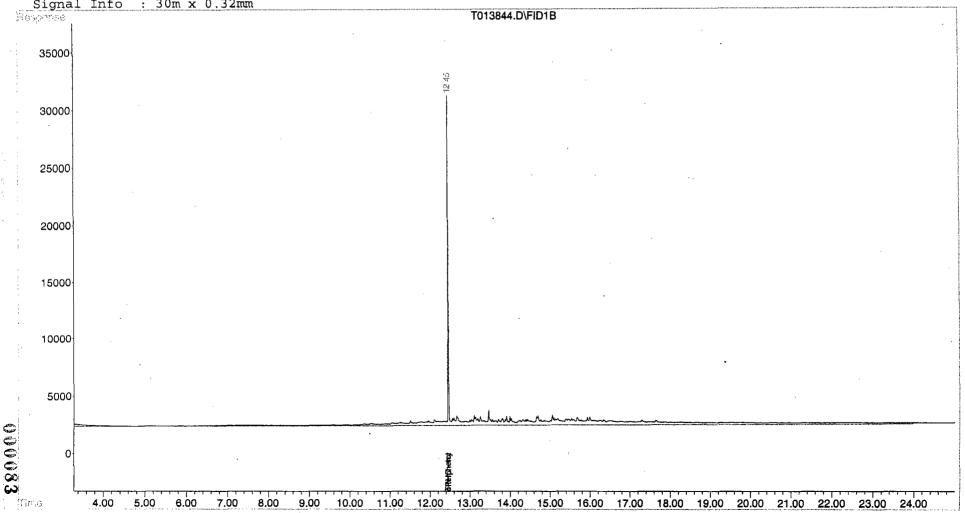
Quant Method: C:\HPCHEM\1\METHODS\TPH95.M (Chemstation Integrator) Title : TPHC Calibration 06/05/97 21 peaks

Last Update : Wed Oct 24 13:32:50 2001 Response via: Multiple Level Calibration

DataAcq Meth : TPH95.M

Volume Inj. : 1 ul Signal Phase : HP-5

Signal Info : 30m x 0.32mm



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

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