N62661.AR 001554
NAVSTA NEWPORT RI
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Phase II Predesign Investigation

for

Old Fire Fighting Training Area
Naval Station Newport
Newport, Rhode Island

Environmental Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298
Contract Task Order 0833

September 2002

W5202275D

PHASE II PREDESIGN INVESTIGATION

FOR

OLD FIRE FIGHTING TRAINING AREA
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Environmental Field Activity Northeast
Environmental Branch Code EV2
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

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CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0833

September 2002

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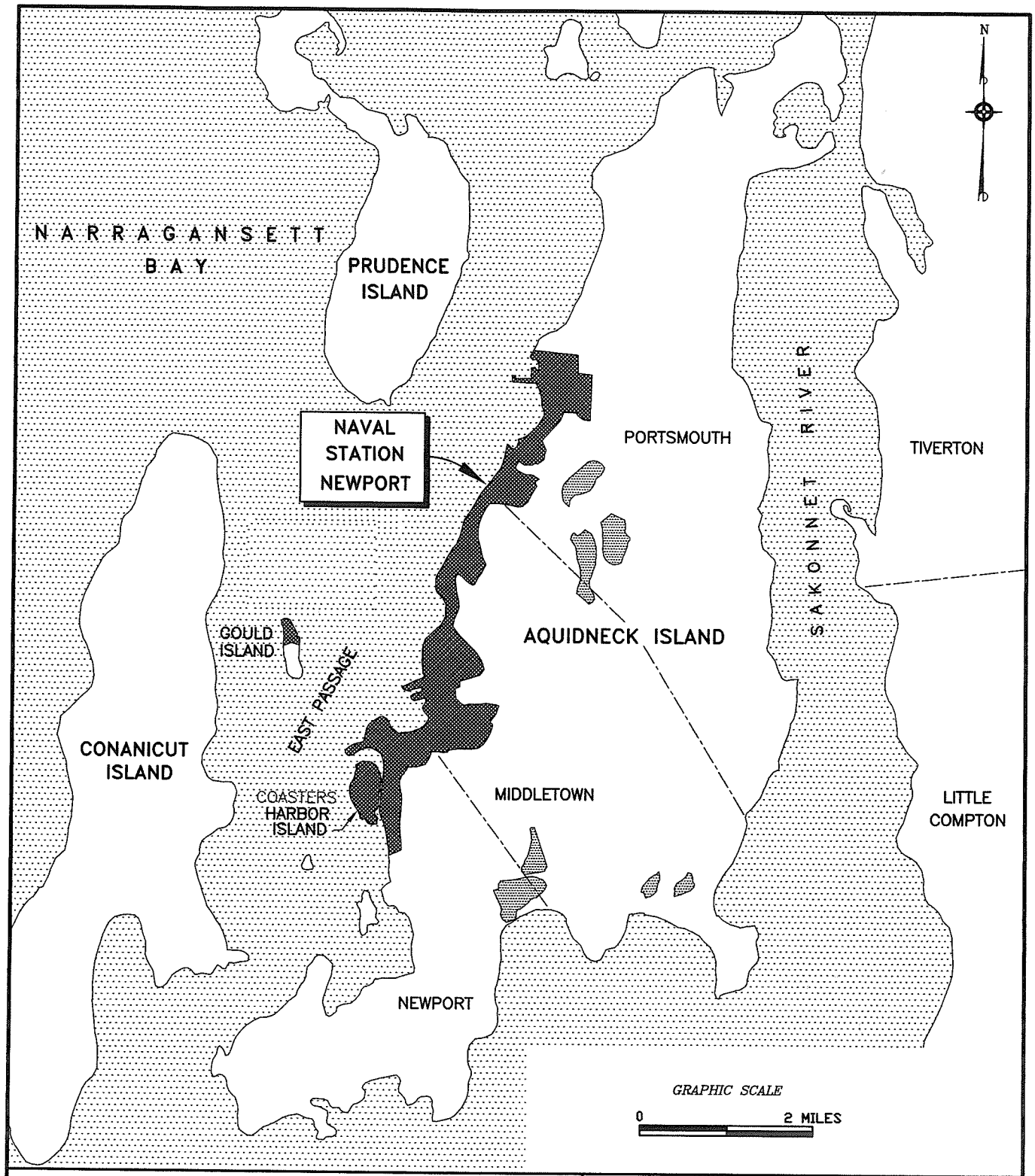
1.0 INTRODUCTION

Under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract No. N62467-94-D-0888, and pursuant to Scope Change Memorandum dated May 28, 2002, Tetra Tech NUS, Inc. (TtNUS) has completed a second phase of predesign sampling activities at the Old Fire Fighting Training Area (OFFTA) site. This report has been prepared to describe the sampling and analysis program performed for the Phase II Pre-Design Investigation for marine sediment located adjacent to the OFFTA site (Site 09) at the Naval Station Newport, (formerly known as the Naval Education and Training Center), in Newport, Rhode Island. Figures 1-1 and 1-2 present the location of the OFFTA site.

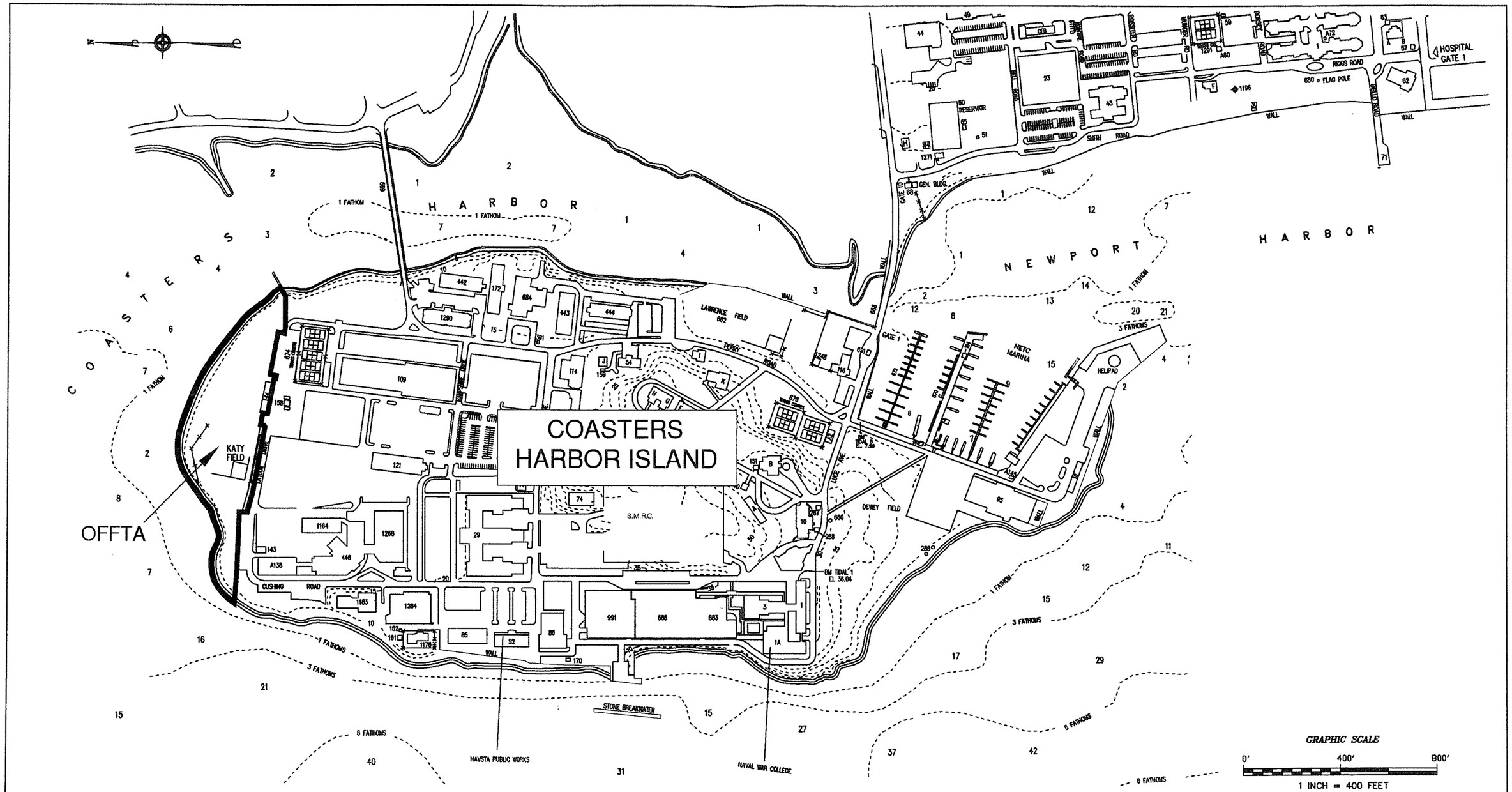
The Navy undertook this investigation in order to better understand the nature of the PAH contaminants in the marine environment near the OFFTA site. It is necessary to have a clear understanding of the source of contaminants that are present prior to undertaking remedial actions at the site. In evaluation of the remedial alternatives for the proposed plan, it is important to clarify some of the uncertainties regarding the sources of contaminants in the sediments of Coasters Harbor, particularly those sources that would not be corrected during the remedial action. As the Navy moves into a restoration project it is important to understand if the source of these PAHs are from the site itself or from any other source that will not be controlled by the site-specific remedial actions under consideration.

Data from this investigation was used to confirm the concentrations of contaminants in sediment and groundwater at the site and to confirm the extent of the area exceeding Preliminary Remediation Goals (PRGs). The PRGs were calculated as presented in the Feasibility Study OFFTA (FS) (TtNUS, September, 2002).

This Phase II report includes five sections: this Introduction; the Site Background, including a brief summary of existing data and the sampling and analysis program design; the field sampling performed; the findings of the investigation and data summary; and the summary and conclusions from this study. Field data collection records are presented in Appendices A through C. Detailed data from analysis of samples is provided in Appendices D and E.



SITE LOCUS		FIGURE 1–1	
OLD FIRE FIGHTING TRAINING AREA		TETRA TECH NUS, INC.	
NAVSTA NEWPORT – NEWPORT, RHODE ISLAND		55 Jonspin Road Wilmington, MA 01887 (978)658–7899	
DRAWN BY: D.W. MACDOUGALL	REV.: 0		
CHECKED BY: S. PARKER	DATE: SEPTEMBER 25, 2002		
SCALE: AS NOTED	ACAD NAME: DWG\4152\0711\FIG_1–1.DWG		



NOTES:

BASE MAP FROM PLAN BY DEPT. OF NAVY, "COASTERS HARBOR ISLAND AND NAVAL HOSPITAL EXISTING CONDITIONS MAP", DATED: 9/95, NETC DWG NO.: 31058-307, CODE ID NO.: 80091, SCALE: 1"=200'.

OFFTA LOCATION MAP			FIGURE 1-2
OLD FIRE FIGHTING TRAINING AREA			TETRA TECH NUS, INC.
NAVSTA NEWPORT – NEWPORT, RHODE ISLAND			
DRAWN BY:	D.W. MACDOUGALL	REV.:	0
CHECKED BY:	S. PARKER	DATE:	SEPTEMBER 25, 2002
SCALE:	1" = 400'	FILE NO.:	DWG\4152\0711\FIG_1-2.DWG

55 Jonspin Road Wilmington, MA 01887
(978)658-7899

2.0 BACKGROUND

In November 2001, Tetra Tech NUS, Inc. conducted the first phase of predesign investigations at the OFFTA site. This first phase was limited to delineation of the marine sediment adjacent to the site that exceed PRGs. The data from the first phase of sediment investigations indicated elevated concentrations of PAHs in areas adjacent to two stormwater outfalls that discharge to the site. In July 2002, Tetra Tech NUS, Inc. conducted the second phase of predesign investigaton to confirm the elevated concentrations of PAHs in the sediments, and to attempt to determine if the PAHs in the sediment were from the site or from other anthropogenic sources. These investigations included marine sediment sampling for standard and forrensic analysis, soil and storm drain sediment sampling for forrensic analysis, and groundwater sampling.

The Remedial Investigation (RI), FS, and other support documents for the site describe possible contaminant inputs to the marine system. These are briefly summarized in the paragraphs that follow:

Groundwater transport of PAHs – In the RI, it was concluded that groundwater from the site flowed in a northerly direction, based on hydraulic head. However, in the FS, contaminant transport to sediments from soil with groundwater flow was carefully evaluated, and found that this groundwater movement was unlikely to transport contaminants to the marine sediment from the site soils.

Transport of PAHs and oil-contaminated groundwater via bedding material around the storm drain (as a preferential pathway) – Speculation was raised during investigations of whether there is a preferential pathway for contaminants in groundwater along the storm drain. Preferential paths can be found by groundwater along bedding material of utilities or along/within the utility itself. This possibility was never ruled out by investigations, and was believed would be resolved during soil excavation in accordance with the remedial action.

Erosion of soil and degraded asphalt – The north boundary of the OFFTA site is an erosional shoreline, with soil and asphalt pieces dropping into the sediment mix in the intertidal area (the area between high and low tide). Additionally, the Navy has attempted to protect this shoreline through placement of large concrete and asphalt rubble. The asphalt has broken up and small particles have become entrained in the sand and gravel mix in the intertidal and subtidal areas.

Urban runoff – All the land around Coasters Harbor is heavily developed, and storm water drainage systems discharge runoff to the harbor from commercial and industrial areas on Coasters Harbor Island, Coddington Point, and properties to the east as far as the Newport Mall. During Phase 1 of the predesign activities for the site, it was noted that some of the highest concentrations of PAHs in marine

sediment near the site are located proximal to two storm drain outfalls that discharge runoff from parking areas, buildings and roadways to the south of the site. Together, these two outfalls collect storm water runoff from an estimated 8.9 acres of Coasters Harbor Island.

Down bay contaminant migration – Other sources of contaminants exist throughout Narragansett Bay, and PAHs have been found in reference station samples from Jamestown and Newport (SAIC, 2000).

In addition to the uncertainties of the physical processes that provided the contaminants to the sediment, there are uncertainties of the chemical origins of the PAHs themselves. PAHs are known components of fuel oils and combustion, but different PAH mixes can be used to determine their source. In past studies for this site, it was found that high molecular weight PAHs dominated the samples collected at the low tide line (Stations 1-7). These were characterized by phenanthrene/anthracene, fluoranthene/pyrene, and chrysene, with little contributions from alkylated PAHs, indicating that the PAHs were similar to pyrogenic PAHs in coal tar, and quite different from petrogenic PAHs in fuel oils (SAIC, 2000). Site records indicate that many fuel oils were heavily used at the site.

To attempt to resolve these uncertainties, a second phase of sediment predesign sampling and a full round of groundwater sampling was conducted at the site. This second phase involved collection of additional sediment samples for standard analysis as was previously done in November 2001, and collection of sediment samples for forensic type analysis in order to "fingerprint" the components that are present in the high ecological risk areas, as well as other areas that may be contaminant sources (onsite soils, storm drains, and ubiquitous bay contaminants).

The FS for the site describes alternatives for soil and marine sediment as well as for groundwater. To date, there has been only one groundwater data set collected since 1994, that collected in 1997 by TtNUS as a part of a source removal evaluation report. In order to best evaluate the groundwater alternatives described in the FS, it is appropriate to use the newest data available collected using low-flow procedures. Therefore, a new round of groundwater data was collected in July 2002 to assess current baseline conditions to support preparation of the decision documents. Therefore, this Phase II effort also involved collection of groundwater samples using low-flow procedures, and analysis of those samples for parameters previously detected and determined to be applicable to the site restoration process, including metals, volatile organic compounds (VOCs), and semi-volitile organic compounds (SVOCs).

3.0 FIELD INVESTIGATIONS

Data was collected in the same manner as is described in the Draft Work Plan for Sediment Predesign Investigation, ammended for Phase II sediment sample collection and for Groundwater Sample Collection. All quality control, decontamination, and health and safety procedures referenced in that work plan were utilized for the Phase II predesign work are described in the Work Plan and Addenda. A summary of these procedures are provided in this section.

For the Phase II predesign investigation, sediment/soil samples were collected from a total of 14 locations:

- two from subsurface soils on site where oily soils are known to be present, to determine the PAH pattern within those soils (former Test Pits 11 and 15)
- two from sediments in the primary storm drains that discharge to Coasters Harbor, to determine the PAH pattern within those sediments (drains discharging at outfalls # 093 and #075);
- one from sediment at a reference station in Jamestown Potter Cove, to determine the PAH pattern within those sediments
- one from sediment at station OFF-5, to determine the PAH pattern within those sediments;
- one from sediment at station SD-410, to confirm concentrations of PAHs above PRGs previously detected in November 2001, and to determine the PAH pattern within those sediments; and
- seven from various points in the marine sediments around station SD-410 to better define the area of sediments exceeding PRGs in the western portion of the eelgrass, and also to determine the PAH pattern within some of those sediments.

Table 3-1 presents a list of sediment and soil samples that were collected. Figure 3-1 presents the locations of the sediment and soil samples collected.

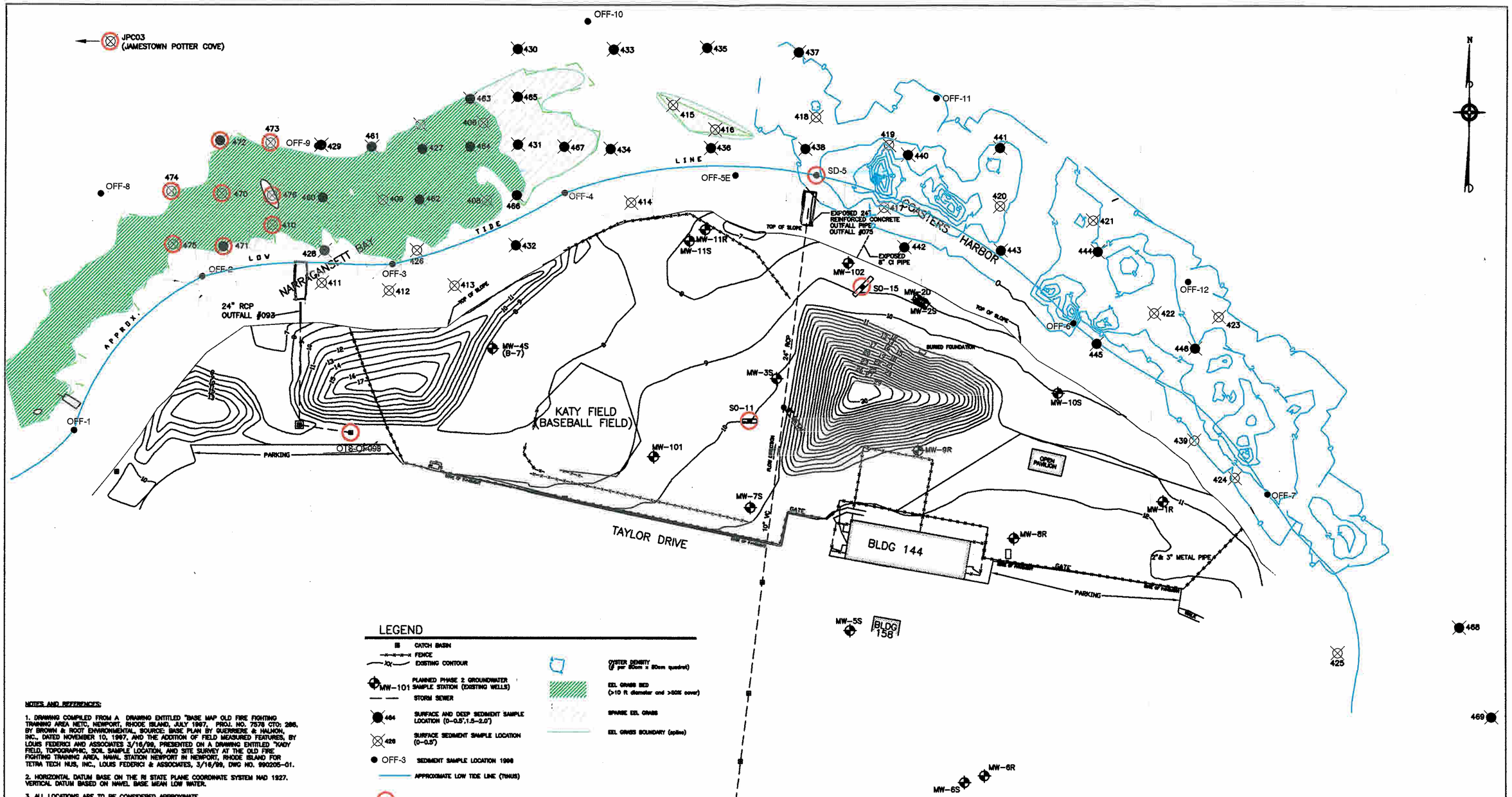
A total of 15 monitoring wells were developed and sampled during the Phase II predesign investigation. Groundwater samples were collected from all existing wells at the site, as well as from wells previously determined to be upgradient of the site. One well previously located at the

TABLE 3-1
SUMMARY OF SOIL AND SEDIMENT SAMPLES
PHASE II PREDESIGN INVESTIGATION
OLD FIREFIGHTING TRAINING AREA
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Station Location	Explanation	Sample Depth (inches)	Analysis Type	
			Standard	Forensic
OFF- SD-410	Resample hotspot	0-6	X	X
OFF- SD-410	Deep sample at hot spot	18-24	X	X
OFF-SD-JPC03	Reference station	0-6	X	X
OFF-SD-5	Resample hotspot	0-6		X
OFF-SD-470	New station west of 410	0-6	X	X
OFF-SD-471	New station west of 410	0-6	X	X
OFF-SD-472	New station west of 410	0-6	X	
OFF-SD-473	New station north of 410	0-6	X	
OFF-SD-473	New station north of 410	18-20*	X	
OFF-SD-474	New station west of 410	0-6	X	
OFF-SD-474	New station west of 410	18-24	X	
OFF-SD-475	New station west of 410	0-6	X	
OFF-SD-476	New station north of 410	0-6	X	
OFF-OTS-OF093	Sediment in west storm drain	Surface sed		X
OFF-OTS-OF075	Sediment in central storm drain	Surface sed		X
OFF-SO-11	TPH-Contaminated soil in previous test pit	At water table		X
OFF-SO-15	TPH-Contaminated soil in previous test pit	At water table		X
		TOTALS	12	10

* This sample only yeilded sediment from 18-20 inches

DRAFT



NOTES AND REFERENCES:

1. DRAWING COMPILED FROM A DRAWING ENTITLED "BASE MAP OLD FIRE FIGHTING TRAINING AREA NETC, NEWPORT, RHODE ISLAND, JULY 1997, PROJ. NO. 7578 CTO: 286, BY BROWN & ROOT ENVIRONMENTAL. SOURCE: BASE PLAN BY GUERRIERE & HALNON, INC., DATED NOVEMBER 10, 1997, AND THE ADDITION OF FIELD MEASURED FEATURES, BY LOUIS FEDERICI AND ASSOCIATES 3/16/99, PRESENTED ON A DRAWING ENTITLED "KADY FIELD, TOPOGRAPHIC, SOIL SAMPLE LOCATION, AND SITE SURVEY AT THE OLD FIRE FIGHTING TRAINING AREA, NAVAL STATION NEWPORT IN NEWPORT, RHODE ISLAND FOR TETRA TECH NUS, INC., LOUIS FEDERICI & ASSOCIATES, 3/16/99, DWG NO. 990205-01.

2. HORIZONTAL DATUM BASE ON THE RI STATE PLANE COORDINATE SYSTEM NAD 1927. VERTICAL DATUM BASED ON NAVEL BASE MEAN LOW WATER.

3. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.

4. PLAN NOT TO BE USED FOR DESIGN.

5. DEPTHS OF EXCAVATION ASSUME THAT THE THREE MOUNDS WILL HAVE BEEN REMOVED AND LEVELED WITH THE SURROUNDING GRADE.

6. SEDIMENT STATIONS SURVEYED BY PARE ENGINEERING 11/01 AND ECOTONES INC. JULY 2002 BY SUBMETER GPS (SEE TEXT).

LEGEND

- CATCH BASIN
- FENCE
- EXISTING CONTOUR
- MW-101 PLANNED PHASE 2 GROUNDWATER SAMPLE STATION (EXISTING WELLS)
- STORM SEWER
- 464 SURFACE AND DEEP SEDIMENT SAMPLE LOCATION (0–0.5',1.5–2.0')
- 426 SURFACE SEDIMENT SAMPLE LOCATION (0–0.5')
- OFF-3 SEDIMENT SAMPLE LOCATION 1998
- APPROXIMATE LOW TIDE LINE (TNHUS)
- PHASE 2 PREDESIGN SEDIMENT SAMPLE STATION
- OYSTER DENSITY (# per 50cm x 50cm quadrat)
- EEL GRASS BED (>10 ft diameter and >50% cover)
- SPARSE EEL GRASS
- EEL GRASS BOUNDARY (spline)

GRAPHIC SCALE

0' 100' 200'

1 INCH = 100 FEET

PHASE 2 PREDESIGN SAMPLE STATIONS		FIGURE 3–1	
OLD FIRE FIGHTING TRAINING AREA		TETRA TECH NUS, INC.	
NAVAL STATION NEWPORT, RHODE ISLAND		55 Jonspin Road Wilmington, MA 01887 (978)658–7899	
DRAWN BY: D.W. MACDOUGALL	REV.: 0		
CHECKED BY: S. PARKER	DATE: SEPTEMBER 24, 2002		
SCALE: 1" = 100'	FILE NO.: DWG\4152\0711\FIG_3-1.DWG		

southwest corner of Building 144 (MW-7S) was not found at the site, and was presumed to have been damaged and lost. One of the upgradient wells (MW-6S) was found to be dry, and no sample was collected at this location. Table 3-2 presents a list of groundwater monitoring wells that are present on site as well as screen lengths and sample depths.

Figure 3-1 presents the locations of the groundwater wells investigated.

3.1 SEDIMENT/SOIL SAMPLING

Figure 3-1 presents the locations of the marine sediment sample stations. Sample depths described in Table 3-1 were selected based on data collected from previous sampling efforts.

Samples were analyzed using a combination of methods: One group of samples was collected for standard analyses for comparison with the PRGs for the site. The second group of samples were analyzed using forensic methods to provide expanded analyte lists. The samples analyzed through each method are summarized in Table 3-1.

QC samples, including one duplicate and associated blank samples were also collected. The analytical laboratories provided method blanks as required per the analytical methods.

Marine sediment samples were collected by divers using a core tube with acetate liners to aquire samples from the target depths. A slide or pneumatic hammer was utilized to aquire samples from harder materials. Divers labeled the cores in the water, and provided those cores to a TtNUS represenative who separated the target intervals and packaged them for shipment to the selected laboratories. At all subtidal stations, samples were collected from the surface inteval of 0.0 to 0.5 feet below sediment surface. At three stations two depth intervals were collected: 0.0 to 0.5 feet and 1.5 to 2.0 feet below the sediment surface. These deeper intervals were collected to determine vertical extent of PAHs exceeding PRGs, as was done in the Phase 1 Predesign Investigation. Sediment samples were analyzed using standard CLP type PAH analyses, using EPA mehtod 8270C with selected ion monitoring (SIM) at Mitkem of Rhode Island. A subset of the sediment samples were analyzed using forensic type fingerprinting analysis at Battelle, in Duxbury Massachusetts, as described in Table 3-1. Appendix A of this report provides sample log sheets describing the sediment cores collected.

TABLE 3-2
SUMMARY OF GROUNDWATER MONITORING WELLS
PHASE II PREDESIGN INVESTIGATION
OLD FIREFIGHTING TRAINING AREA
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Well Number	Total Well Depth (Feet)	Screened Interval (Feet)
MW-1R	13.5	3.5 – 13.5
MW-2D	30.5	20.5 – 30.5
MW-2S	14	4 – 14
MW-3S	14	4 – 14
MW-4S	14	3 – 13
MW-5S	18	8 – 18
MW-6R	26	16 – 26
MW-6S*	9	4 – 9
MW-7S**	13	3 – 13
MW-8R	14	4 – 14
MW-9R	15	5 – 15
MW-10S	12.5	4 – 12
MW-11R	21	16 – 21
MW-11S	9	4 – 9
MW-101	8	3 – 8
MW-102	12	2 – 12

* Unable to sample, well is dry.
** Well not found, presumed destroyed

Sample stations were located through Global Positioning System (GPS) and temporarily marked for navigation purposes. Final GPS coordinates for each sample collected were recorded (+/- 1 meter) for input to the EGIS system for the site. The sample stations were photographed for qualitative benthic evaluation. At each station the water depth was recorded and corrected for the tide, to provide a ground elevation. GPS and water depth information is provided in Appendix B of this report.

Subsurface soil samples were collected from the top of the water table through test pit excavation. Sample acquisition was attempted with power augers however, subsurface materials did not allow penetration to the target depth. Therefore, an excavator was mobilized to the site to re-excavate the test pit locations where high concentrations of PAHs were previously found. During the test pit excavation, representatives from Rhode Island Department of Environmental Management (RIDEM) visited the site and confirmed the areas where samples were collected were areas where high concentrations of oil had been previously detected. Soil samples were analyzed using forensic type fingerprinting analysis at Battelle, in Duxbury Massachusetts, as described in Table 3-1. Appendix A provides test pit logs for these excavations.

The two storm drain lines were inspected from the ground surface and sediments were collected from two upgradient catch basins. One sample was collected to represent each storm drain. Sediments were collected using a decontaminated dip tool, and transferred directly to the containers for delivery to the laboratory. During the storm drain sample collection, a representative from RIDEM visited the site and inspected the catch basins from which samples were collected. RIDEM indicated approval of the locations as representative of the storm drain line. Storm drain sediment samples were analyzed using forensic type fingerprinting analysis at Battelle, in Duxbury Massachusetts, as described in Table 3-1. Sample log sheets for these samples are provided in Appendix A.

3.2 GROUNDWATER

Prior to groundwater sampling, water levels for all monitoring wells to be sampled were checked for the presence of non-aqueous phase liquid (NAPL) using an electronic interface probe. Monitoring wells were developed by high volume pumping to remove fines and sediments that had settled within and around the well screens since the last sampling effort in 1997. Because the FS considered the use of groundwater at the site for drinking water supply, salinity was measured during well development and the sampling/well purging processes. A summary of average salinity values are presented in Table 3-3. Salinity readings collected during development are provided on the data sheets provided in Appendix C. Development appeared to be successful in removing accumulated fines and the wells responded to various pumping conditions, indicating they were connected to the surrounding aquifer. Water chemistry data collected

TABLE 3-3
AVERAGE SALINITY MEASURED
GROUNDWATER SAMPLING AND DEVELOPMENT
PHASE II PREDESIGN INVESTIGATION
OLD FIREFIGHTING TRAINING AREA
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Well ID	Flow Rates (ml/min) Low Flow Sampling	Average Salinity Low Flow Sampling*	Flow Rates (gal/min) Development	Average Salinity Development*
MW-1R	200	0.11	5	0.25
MW-2S	200	16.96	5	21.79
MW-2D	200	0.90	5	1.10
MW-3S	200	0.74	5	0.08
MW-4S	200	0.19	5	0.03
MW-5S	200	0.28	0.5 – 1.0	0.29
MW-6S	--	Dry	--	0.15 – Dry
MW-6R	140-190	0.16	0.5	0.17
MW-8R	150-190	0.25	0.5	0.28
MW-9R	200	0.28	5	0.37
MW-10S	200	14.79	5	21.54
MW-11S	200	8.55	5	0.71
MW-11R	200	4.08	2	2.89
MW-101	160-170	0.49	5	0.044
MW-102	100	3.86	2	5.45

* Salinity measured in parts per thousand (ppt)

during well development are provided on well development log sheets, presented in Appendix C of this report.

Low-flow (low-stress) groundwater sampling was conducted using the EPA Region I Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells Revision 2, dated July 30, 1996. Table 3-2 lists the wells which were sampled. Groundwater samples were analyzed for VOCs, SVOCs, and metals (total). A YSI 600XL water quality meter fitted with a flow-through cell was used to collect the periodic readings during low flow groundwater sampling processes. Table 3-3 summarizes the average salinity during development. Salinity readings collected during sampling are provided in Appendix C. Water chemistry data collected during sampling are provided on low flow sampling log sheets, presented in Appendix C of this report.

Average salinity in the groundwater wells measured during high volume well development ranged from 0.03 parts per thousand (ppt) (MW-4S) to 21.54 ppt (MW-2S). Average salinity measured in the groundwater during the low flow well purging ranged from 0.1 (MW-1R) to 16.96 (MW-2S). Salinity of the seawater near the site was measured at approximately 32 ppt. In general, it is believed that the flow-through cell provides more accurate water chemistry readings because it minimizes turbulence and prevents introduction of air to the water prior to the sensors detecting the chemistry changes.

In general, the salinity was higher in wells closer to the shoreline, and was higher during well development, likely due to the faster removal of water during development, pulling the brackish water in from the shoreline. At several wells, salinity was measured to be higher during low flow sampling than during development, though some of the low flow readings were taken during a rising tide and the development readings were taken during a falling tide. Regardless, the concentrations and variations in the salinity measured confirms that the groundwater at the site is hydraulically connected to the bay. Additionally, the salinity measured would preclude any practical use of drinking water supply wells ever installed at the site.

4.0 FINDINGS OF THE INVESTIGATION

This section presents the data of the Phase II predesign investigation. Raw data from standard analysis of sediments and groundwater is provided in Appendix D. A full report on the forensic analysis of the sediment samples collected is provided in Appendix E.

4.1 SEDIMENT/SOIL

Sediments were analyzed using standard analytical methods (EPA method 8270C SIM) and forensic "fingerprinting" methods described in Section 3 and in the Work Plan Amendment.

Raw data from the standard analysis is provided in Appendix D. This data is summarized in Table 4-1. The results from the standard analysis were compared with the sample data from previously collected samples in this area (November 2001), and compared with the PRGs calcuated as described in the FS for the site. The data does show an area of elevated concentrations of PAHs, at stations SD-471 and 475 located to the west of Station SD-410. However, results from the analysis of samples taken in July 2002 do not indicate any exceedance of the PRGs, even at locations where PRG exceedances were previously noted (I.E. SD-410 in November 2001). There are many potential reasons for why concentrations are different, including changes to inputs of PAHs to the sediment, decrease in concentration due to natural weathering, sediment movement due to seasonal or tidal currents, spatial heterogeniety of sediment and sediment mixing.

Results from the forensic "fingerprint" analysis are provided in Appendix E. A full report was prepared by the laboratory on the analytical procedures and interpretations made, due to the complexity of the analysis. The findings of the forensic analysis is summarized below.

PAH components in sediments near SD-410 on the west side of the site, as well as the reference station JPC-03 were similar to those found in the storm drain samples, and are consistent with urban runoff.

PAH components in fine grained sediment at OFF-5 (the station where high potential for ecological risk was noted in the RI) are also similar to those found in storm drain samples, and are consistent with urban runoff.

TABLE 4-1
SUMMARY OF SOIL AND SEDIMENT ANALYTICAL RESULTS
PHASE II PREDESIGN INVESTIGATION
OLD FIREFIGHTER TRAINING AREA
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	PRG Value	OFF-SD-410-0006	OFF-SD-DUP1-0006	OFF-SD-410-1824	OFF-SD-470-0006	OFF-SD-471-0006	OFF-SD-472-0006	OFF-SD-473-	OFF-SD-474-1824	OFF-SD-474-0006	OFF-SD-475-0006	OFF-SD-476-0006	OFF-SD-473-1820	OFF-SD-JPC03-0006	OFF-RB01
Sample Location		SD-410	SD-410	SD-410	SD-470	SD-471	SD-472	SD-473	SD-474	SD-474	SD-475	SD-476	SD-473	SD-JPC03	Blank
Date Sampled Interval		7/2/2002 0.0-0.5	7/2/2002 0.0-0.5	7/2/2002 1.5-2.0	7/2/2002 0.0-0.5	7/2/2002 0.0-0.5	7/2/2002 0.0-0.5	7/2/2002 0.0-0.5	7/3/2002 1.5-2.0	7/2/2002 0.0-0.5	7/2/2002 0.0-0.5	7/2/2002 0.0-0.5	7/3/2002 1.5-1.8	7/2/2002 0.0-0.5	7/2/2002 0.0-0.0
PAH Analysis (UG/KG)															
2-Methylnaphthalene	185	9.5 U	8.5 U	7.8 U	8.2 U	12	10 U	8.4 U	9.0 U	11 U	11	8.8 U	8.5 U	8.6 U	0.10 U
Acenaphthene	NC	9.5 U	17	7.8 U	8.2 U	22	10 U	14	9.0 U	11 U	97	8.8 U	8.5 U	8.6 U	0.10 U
Acenaphthylene	697	13	11	7.8 U	8.2 U	140	10 U	8.4 U	9.0 U	11 U	44	8.8 U	8.5 U	8.6 U	0.10 U
Anthracene	NC	38	55	15	8.2 U	290 E	17	49	14	13	500 E	14	13	8.6 U	0.10 U
Benzo(a)anthracene	34,270	180	160	54	24	860 E	53	100	41	51	720 E	59	40	8.6 U	0.10 U
Benzo(a)pyrene	9360	220	200	60	26	950 E	68	100	47	65	770 E	70	49	8.6 U	0.10 U
Benzo(b)fluoranthene	51296	300 E	250 E	83	39	1200 E	100	140	62	100	890 E	96	74	8.6 U	0.10 U
Benzo(g,h,i)perylene	NC	100	83	32	15	320 E	33	45	26	32	300 E	33	24	8.6 U	0.10 U
Benzo(k)fluoranthene	NC	120	95	36	18	430 E	35	56	30	34	330 E	46	27	8.6 U	0.10 U
Carbazole	NC	25	26	9.7	8.2 U	60	10 U	36	9.0 U	11 U	130	8.8 U	8.5 U	8.6 U	0.10 U
Chrysene	NC	200	170	58	25	730 E	58	88	49	59	620 E	64	43	8.6 U	0.10 U
Dibenzo(a,h)anthracene	6742	24	17	7.8 U	8.2 U	87	10 U	11	9.0 U	11 U	86	8.8 U	8.5 U	8.6 U	0.10 U
Fluoranthene	NC	450 E	410 E	140	58	1600 E	120	220 E	110	110	1500 E	130	98	37	0.10 U
Fluorene	NC	12	17	7.8 U	8.2 U	81	10 U	19	9.0 U	11 U	150	8.8 U	8.5 U	8.6 U	0.10 U
Indeno(1,2,3-cd)pyrene	72519	92	71	26	13	320 E	29	39	21	27	280 E	28	21	8.6 U	0.10 U
Naphthalene	NC	9.5 U	8.5 U	7.8 U	8.2 U	28	10 U	8.4 U	9.0 U	11 U	11	8.8 U	8.5 U	8.6 U	0.10 U
Phenanthrene	NC	210	280 E	72	27	1100 E	66	150	68	50	1400 E	62	51	14	0.10 U
Pyrene	NC	440 E	400 E	120	50	2000 E	130	180	110	110	1700 E	130	89	30	0.10 U

NC: PRG value not calculated
U: Not detected
J: Quantitation approximate
E: Concentration is greater than the calibration range

DRAFT

PAH components in Soils from Test Pit 11 were likely from weathered and partially combusted diesel and No. 2 fuel oils. This pattern was not found in other samples collected at the site.

PAH components in soils from Test Pit 15 were likely from crude or heavy fuel oils. The patterns of contaminant components in both Test Pit 15 and Test Pit 11 were clearly different from those found in the sediment samples near the shore downgradient of these test pits.

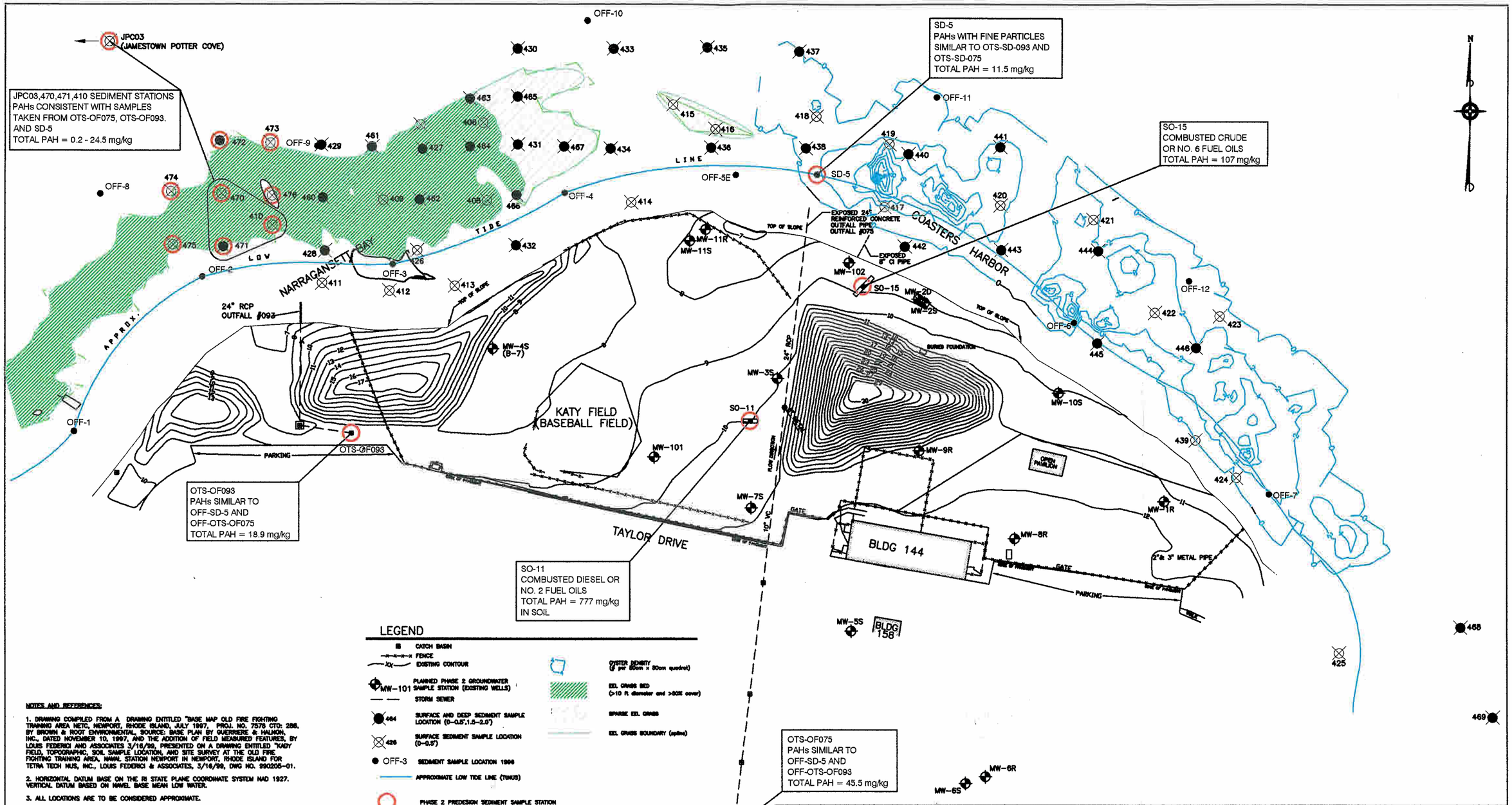
These findings are summarized on Figure 4-1.

4.2 GROUNDWATER

Groundwater samples were analyzed using standard analytical methods described in Section 3 and in the Work Plan Amendment. Results from the standard analysis are provided in Table 4-2. A complete data package is provided in Appendix D.

The data provided in Table 4-2 was compared with the sample data from previously collected samples in this area (1997), and compared with the PRGs calcuated as described in the FS for the site. The data does show elevated concentrations of manganese above the calculated PRG for several locations as was previously noted. Additionally, traces of benzene (MW-102 and its duplicate) and PAHs (2methylnapthalene, napthalene and dibenzofuran at location MW101 and its duplicate) detected in the groundwater consistent with prior analytical results, however, they were well below the concentrations previously detected and below the PRGs calculated in the FS. Lead was again elevated at MW-2S (14.5 ug/l) though this concentration was below the calculated PRG. Figure 4-2 presents locations of wells where PRGs were exceeded.

These results are consistent with the results of the previous sampling effort conducted in 1997 and summarized in the FS report. However, the concentrations are all lower, indicating overall improvement of the groundwater conditions at the site.



NOTES AND REFERENCES:

1. DRAWING COMPILED FROM A DRAWING ENTITLED "BASE MAP OLD FIRE FIGHTING TRAINING AREA NETC, NEWPORT, RHODE ISLAND, JULY 1997, PROJ. NO. 7578 CTO: 286, BY BROWN & ROOT ENVIRONMENTAL, SOURCE: BASE PLAN BY GUERRIERE & HALNON, INC., DATED NOVEMBER 10, 1997, AND THE ADDITION OF FIELD MEASURED FEATURES, BY LOUIS FEDERICI AND ASSOCIATES 3/16/99, PRESENTED ON A DRAWING ENTITLED "KADY FIELD, TOPOGRAPHIC, SOIL SAMPLE LOCATION, AND SITE SURVEY AT THE OLD FIRE FIGHTING TRAINING AREA, NAVAL STATION NEWPORT IN NEWPORT, RHODE ISLAND FOR TETRA TECH NUS, INC., LOUIS FEDERICI & ASSOCIATES, 3/16/99, DWG NO. 990205-01.
2. HORIZONTAL DATUM BASE ON THE RI STATE PLANE COORDINATE SYSTEM NAD 1927. VERTICAL DATUM BASED ON NAVEL BASE MEAN LOW WATER.
3. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
4. PLAN NOT TO BE USED FOR DESIGN.
5. DEPTHS OF EXCAVATION ASSUME THAT THE THREE MOUNDS WILL HAVE BEEN REMOVED AND LEVELED WITH THE SURROUNDING GRADE.
6. SEDIMENT STATIONS SURVEYED BY PARE ENGINEERING 11/01 AND ECOTONES INC. JULY 2002 BY SUBMETER GPS (SEE TEXT).

SUMMARY OF SEDIMENT AND SOIL FORENSIC RESULTS			FIGURE 4-1
OLD FIRE FIGHTING TRAINING AREA			TETRA TECH NUS, INC.
NAVAL STATION NEWPORT, RHODE ISLAND			55 Jonspin Road Wilmington, MA 01887 (978)658-7899
DRAWN BY: D.W. MACDOUGALL	REV.: 0		
CHECKED BY: S. PARKER	DATE: SEPTEMBER 27, 2002		
SCALE: 1" = 100'	FILE NO.: DWG\4152\0711\FIG_4-1.DWG		

TABLE 4-2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PHASE II PREDESIGN INVESTIGATION
OLD FIREFIGHTER TRAINING AREA
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	PRG Value	OFF-GW-MW1R	OFF-GW-MW2D	OFF-GW-MW2S	OFF-GW-MW3S	OFF-GW-MW4S	OFF-GW-MW5S	OFF-GW-MW6R	OFF-GW-MW8R	OFF-GW-MW9R
Sample Location		MW-1R	MW-2D	MW-2S	MW-3S	MW-4S	MW-5S	MW-6R	MW-8R	MW-9R
Date Sampled		8/20/02	8/19/02	8/19/02	8/16/02	8/16/02	8/21/02	8/21/02	8/20/02	8/20/02
VOC Analysis (UG/L)										
Benzene	5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Semivolatile Organic Analysis (UG/L)										
2-Methylnaphthalene	128	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Metals UG/L										
Lead	15	1 U	1.5 B	14.8	1.3 B	1 U	1 U	1 U	1 U	1 U
Manganese	291	189 E	4290 E	121 E	3180	5430	513 E	19.3 B	3120 E	1570 E

NC: PRG value not calculated
U: Not detected
J: Quantitation approximate
E: Concentration is greater than the calibration range

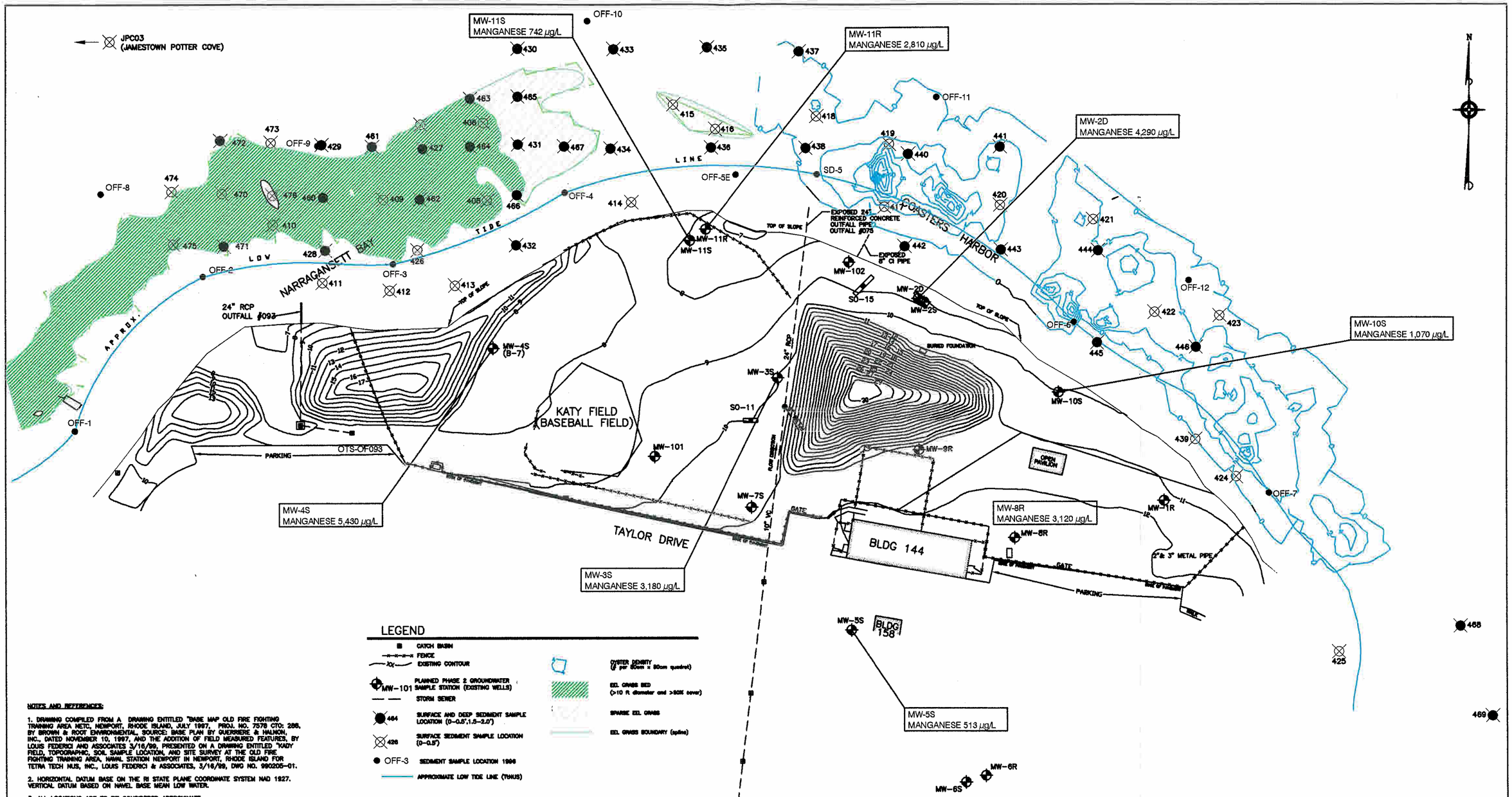
DRAFT

TABLE 4-2 (CONT'D)
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PHASE II PREDESIGN INVESTIGATION
OLD FIREFIGHTER TRAINING AREA
NAVAL STATION NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Sample Number	PRG Value	OFF-GW-MW10S	OFF-GW-MW11S	OFF-GW-MW11R	OFF-GW-MW101	OFF-GW-DP01	OFF-GW-MW102	OFF-GW-DP02	OFF-GW-RB01
Sample Location		MW-10S	MW-11S	MW-11R	MW-101	MW-101	MW-102	MW-102	RB-01
Date Sampled		8/20/02	8/19/02	8/19/02	8/19/02	8/19/02	8/19/02	8/19/02	8/16/02
VOC Analysis (UG/L)									
Benzene	5	5 U	5 U	5 U	5 U	5 U	1 J	1 J	5 U
Semivolatile Organic Analysis (UG/L)									
2-Methylnaphthalene	128	10 U	10 U	10 U	4 J	5 J	10 U	10 U	10 U
Naphthalene	20	10 U	10 U	10 U	8 J	9 J	10 U	10 U	10 U
Metals UG/L									
Lead	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Manganese	291	1070 E	742 E	2810 E	236 E	237 E	68.9 E	72 E	2.4 B

NC: PRG value not calculated
U: Not detected
J: Quantitation approximate
E: Concentration is greater than the calibrati

DRAFT



LEGEND

- CATCH BASIN
- FENCE
- EXISTING CONTOUR
- MW-101 PLANNED PHASE 2 GROUNDWATER SAMPLE STATION (EXISTING WELLS)
- STORM SEWER
- 464 SURFACE AND DEEP SEDIMENT SAMPLE LOCATION (0–0.5',1.5–2.0')
- 426 SURFACE SEDIMENT SAMPLE LOCATION (0–0.5')
- OFF-3 SEDIMENT SAMPLE LOCATION 1996
- APPROXIMATE LOW TIDE LINE (TetraNUS)
- OYSTER DENSITY (# per 30cm x 30cm quadrat)
- EEL GRASS BED (>10 ft diameter and >50% cover)
- SPARSE EEL GRASS
- EEL GRASS BOUNDARY (spline)

NOTES AND REFERENCES:

1. DRAWING COMPILED FROM A DRAWING ENTITLED "BASE MAP OLD FIRE FIGHTING TRAINING AREA NETC, NEWPORT, RHODE ISLAND, JULY 1997, PROJ. NO. 7578 CTO: 286, BY BROWN & ROOT ENVIRONMENTAL, SOURCE: BASE PLAN BY QUERRERE & HALNON, INC., DATED NOVEMBER 10, 1997, AND THE ADDITION OF FIELD MEASURED FEATURES, BY LOUIS FEDERICI AND ASSOCIATES 3/16/99, PRESENTED ON A DRAWING ENTITLED "KADY FIELD, TOPOGRAPHIC, SOIL SAMPLE LOCATION, AND SITE SURVEY AT THE OLD FIRE FIGHTING TRAINING AREA, NAWAL STATION NEWPORT IN NEWPORT, RHODE ISLAND FOR TETRA TECH NUS, INC., LOUIS FEDERICI & ASSOCIATES, 3/16/99, DWG NO. 990205-01.
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6. SEDIMENT STATIONS SURVEYED BY PARE ENGINEERING 11/01 AND ECOTONES INC. JULY 2002 BY SUBMETER GPS (SEE TEXT).

GRAPHIC SCALE

0' 100' 200'

1 INCH = 100 FEET

SUMMARY OF GROUNDWATER EXCEEDING PRGs		FIGURE 4–2	
OLD FIRE FIGHTING TRAINING AREA			
NAVAL STATION NEWPORT, RHODE ISLAND			
DRAWN BY:	D.W. MACDOUGALL	REV.:	0
CHECKED BY:	S. PARKER	DATE:	SEPTEMBER 25, 2002
SCALE:	1" = 100'	FILE NO.:	DWG\4152\0711\FIG_4-2.DWG

TETRA TECH NUS, INC.
55 Jonspin Road Wilmington, MA 01887
(978)658-7899

5.0 SUMMARY AND CONCLUSION

The predesign investigation was conducted to clarify and confirm contaminants in the sediment and groundwater at the site that exceed PRGs, and to the extent possible, determine the source of those contaminants. Based on the data presented in this report and its appendices, the following conclusions can be drawn:

Groundwater contaminant concentrations appear to be declining over time, and continued degradation of the PAHs in groundwater should be allowed following remedial actions for the soil at the site.

The PAH contamination in the sediment near the outfalls has a component pattern consistent with the sediments sampled at the reference station and in the storm drain catch basins upgradient of the site. These component patterns are consistent with urban runoff in general. PAH contamination in the soils and groundwater collected from the test pits at the site show different contaminant component patterns, confirming the findings of the Evaluation of the Groundwater to Sediment Pathway provided in the FS for the site.

Therefore, the OFFTA site and former fire training operations do not appear to be the source of the PAHs in the sediment at the shoreline of Coasters Harbor. Removal of sediments at the shoreline that contain elevated concentrations of PAHs would thus only be a temporary correction, and continued discharge of urban runoff through the existing storm drain systems will likely reintroduce PAHs to the remediated areas.

REFERENCES

Kincaid, C.R., W.G. Ellis, Jr., and W. DeLeo, 1996. *Acoustic Doppler Current Profiler Study of Coasters Harbor*, Newport, Rhode Island. Preliminary Report. University of Rhode Island.

Pare Engineering, 2001. *Coasters Harbor Eelgrass Survey Report*, GCMP-01-116-1298, Newport, Rhode Island. August.

SAIC (Science Applications International Corporation), 2000. *Marine Ecological Risk Assessment Report, Final Report for the Old Fire Fighting Training Area*. Prepared under contract with Tetra Tech NUS, Inc. for the Navy. April.

TtNUS (Tetra Tech NUS, Inc.), 2002. *Feasibility Study for Old Firefighting Training Area*, Naval Station Newport, Newport, Rhode Island. August.

TtNUS, 2001. *Remedial Investigation for Old Fire Fighting Training Area*, Naval Station Newport, Newport, RI.

TtNUS, 2002a. *Groundwater Risk Evaluation for Old Fire Fighting Training Area*, Naval Station Newport, Newport, RI.

TtNUS, 2002b. *Technical Memorandum, Sediment Predesign Investigation for Old Fire Fighting Training Area*, Naval Station Newport, Newport, RI.

APPENDIX A

FIELD DATA SHEETS SEDIMENT AND SOIL SAMPLING

TETRA TECH NUS, INC.

TEST PIT LOG

Site Name: Newport OFFTA
Test Pit No.:
Project Number: 4152-0511
Date: 7/11/02
Location: Fomer TP-11 West of Central Mound
Field Geologist: Parker/Mackey

DEPTH (feet)	LITHOLOGY CHANGE (Depth, feet)	MATERIAL DESCRIPTION (Soil Density/Consistency, Color)	~~USCS~~ Char.	REMARKS PID Headspace (ppm)
0-2'		Dry, Light brown/grey sandy loam compacted stone/	FILL	ND
↓		gravel/fill mix @ 1.5'	↓	
2'-4'		Compacted Rock, stone, fill (rubble/brick/concrete)		ND
↓				
4'-5'		Same as above		
↓	5'-6'	black oily sand layer		310 @ 5'-6'
6'-7'		Same as 5'-6'	↓	Water @ 6.2'

Test Pit Cross Section and/or Plan View

REMARKS: Collected OFF-SO-11-0607 from 6-7' in saturated soil @ 10:50
Collected OFF-AQ11-0607 in water collecting @ bottom of Test Pit Excavation inspected by RIDEM ~12:15

PHOTO LOG:

TEST PIT: 11

PAGE 1 OF 1

Tt NUS FORM 0011

TETRA TECH NUS, INC.

TEST PIT LOG

Site Name: Newport - OFFTA
Test Pit No.:
Project Number: 4152-0511
Date: 7/11/02
Location: Former TP-15, North of Central Mound
Field Geologist: Parker / Mackey

DEPTH (feet)	LITHOLOGY CHANGE (Depth, feet)	MATERIAL DESCRIPTION (Soil Density/Consistency, Color)	~~USCS~~ Chcr.	REMARKS (PID) Headspace in ppm
0-2'		Dry, Lt brn Sandy Loam with stones	FILL	N.D.
				N.D.
2'-4'		Dry, Lt. Brn, cobbles, Rock, sand and silt.		N.D.
4'-6'		Dk. Brn. cobbles, rubble, fill sand, Gravel		24.9 @ 5'-6'
6'-7'		Black sand, stones, heavy oily odor, stains, FILL (metal, cloth, concrete)		25.7 @ 6'-7'
		End of Pit @ 7.0'		

Test Pit Cross Section and/or Plan View

REMARKS: Collected OFF-SO-15-0607 @ 1015
Excavation left open for RIDEM inspection @ 11:45.

PHOTO LOG:

TEST PIT: 15

PAGE 1 OF 1

Tt NUS FORM 0011

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-SO-15-0607
Tetra Tech NUS Charge No. 4152-0511
QC Information: _____ (if applicable)

Sample Method: Grab
Depth Sampled: 6'-7' feet
Sample Date & Time: 7/11/02 9:40 ~~10:15~~ hours Dup____hours
Sampler(s): C. Mackey, S. Parker

Data Recorded By: Christ Mackey
Signature

PID/OVA Monitor Reading: > 2000 ppm

TYPE OF SAMPLE: (Check all that apply)

- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- X Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Black Sand, Stone - heavy oily odor, stains and fill metal - Wet.

SAMPLE DATA/REMARKS: Grab from bucket

ANALYSIS	BOTTLE LOT NO.	NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base-Old Firefighting Training Area
Sample ID: OFT-SO-11-0607
Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Grab from bucket – Test Pit
Depth Sampled: 6" – 7' feet
Sample Date & Time: 7/11/02 1050 hours Dup NA hours
Sampler(s): C. Mackey, S. Parker

Data Recorded By: Christi Mack
Signature

PID/OVA Monitor Reading: 310 ppm

TYPE OF SAMPLE: (Check all that apply)

- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- X Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Compacted rock, Stone fill (rubble, Concrete, brick etc.) Black oily Sand layer wet.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - LIQUID PHASE

Site Name: Newport Naval Base
Sample ID: OFF-AQ-11-0607

Tetra Tech NUS Charge No. 4152-0511
QC Information: _____ (if applicable)

Sample Method/Device: Grab.
Depth Sampled: 6-7 feet Total Depth 7' feet (SW Only)
Sample Date & Time: 7/11/02 11:00 hours
Sampler(s): C. Mackey, S. Parker

Recorded By: Christ Mackey
Signature

TYPE OF SAMPLE: (Check all that apply)

- [x] Groundwater
- [ ] Surface Water
- [ ] Residential Supply
- [x] Grab
- [ ] Composite
- [ ] Trip Blank*
- [ ] Rinsate Blank*
- [ ] Field Duplicate Collected
- [ ] Other (Specify):

* include sample source & lot No.

WELL PURGE DATA:

Well Depth	NA feet	Purge Start	NA hrs
Inside Diameter	NA Inches	Purge Stop Time	NA hrs
Water Level	NA feet	Total Gallons Purged	NA
Well Volume	NA gal.	Purge Method	NA

Color: BRN Turbidity: CLR/SL CLDY/CLDY/OPAQ

Micro Tip/OVA Monitor Reading: ppm

Sampling/Purge Data:

Vol. #	Temp °C	pH	Spec. Cond.	DO
0				
1				
3				
4				

NA

Sample from Open Test Pit #11

ANALYSIS	BOTTLE LOT NO.	TRAFFIC REPORT NO.		COMMENTS
		ORGANIC	INORGANIC	

TtNUS Form 0004

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base
Sample ID: OFF-OTS-OF075

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Grab from Stormdrain
Depth Sampled: NA feet
Sample Date & Time: 7/11/02 1330 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christ Mack
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

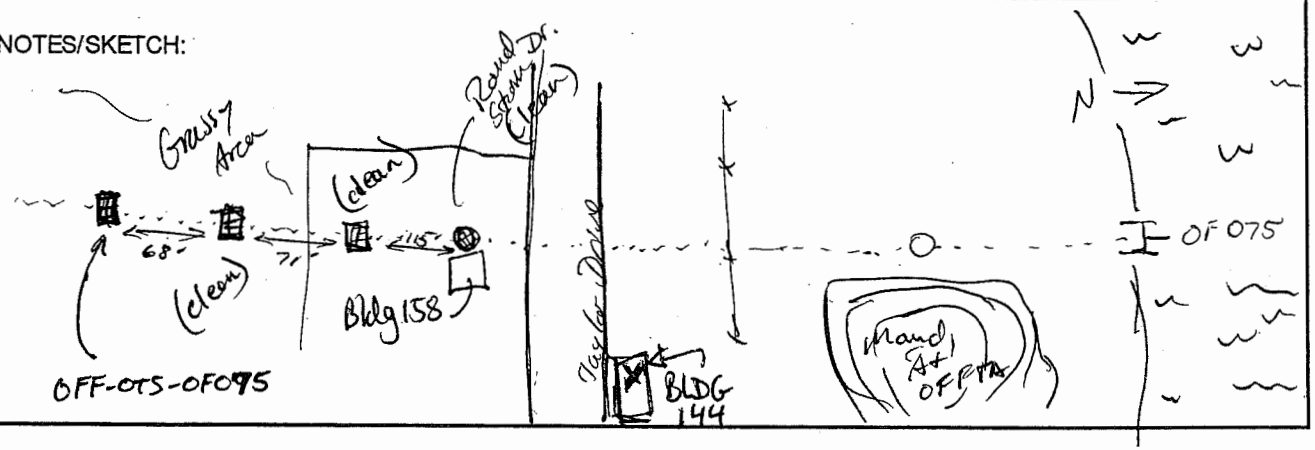
- ___ Soil
- ✓ Sediment
- ___ Lagoon/Pond
- ✓ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Sandy

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base
Sample ID: OFF-OTS-OF093

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: grab from Stormdrain
Depth Sampled: NA feet
Sample Date & Time: 7/11/02 1350 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christ Mack
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

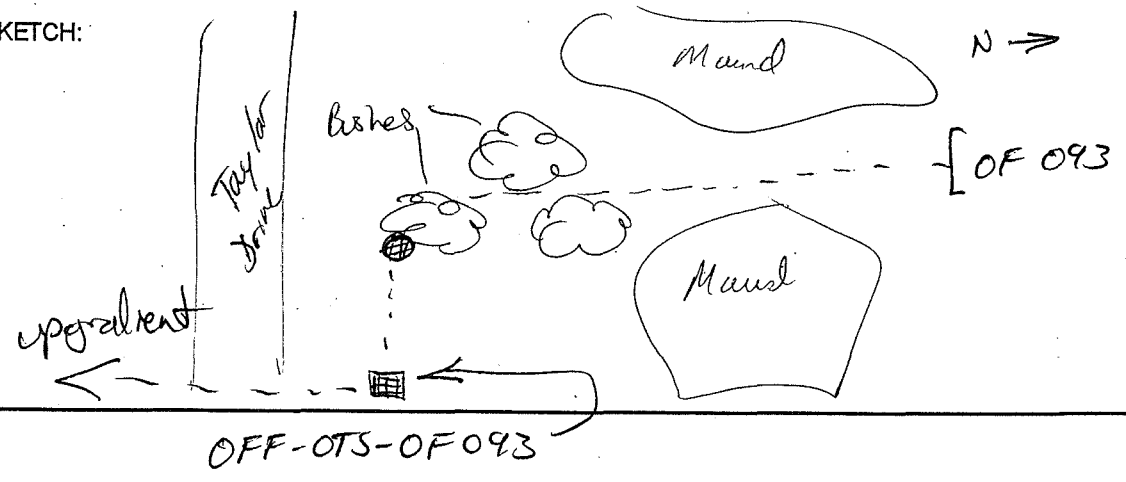
- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- X Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Sandy

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-SD-JPC03-0006

Tetra Tech NUS Charge No. 2152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0"-6" feet
Sample Date & Time: 7/2/02 1500 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christi Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- x Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, Wet, Sand.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270	CS1M

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-SD-DUP1-0006
OFF-SD-410-0006

Tetra Tech NUS Charge No. 4152-0511
QC Information: Dup (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0"-6" feet
Sample Date & Time: 7/2/02 11:30 hours Dup 11:35 hours
Sampler(s): C. Mackey

Data Recorded By: Christi Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- X Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Wet, Muck, DK. Brown
Some shells/sand

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270C SIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area.
Sample ID: OFF-SD-410-1824

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 18" - 24" feet
Sample Date & Time: 7/2/02 11:40 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christ. Mackey Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Muck, Wet, DK. Brown/Black

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270	CSIM

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-SD-470-0006

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0" - 6" feet
Sample Date & Time: 7/2/02 12:50 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: C Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Muck, DK. Brown - Some Shells + Sand.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270	CSIM

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFT-SD-471-0006

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0"-6" feet
Sample Date & Time: 7/2/02 1300 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christi Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Muck, wet, some sand + shells

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270CSIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-SD-472-0006

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0" – 6" feet
Sample Date & Time: 7/21/02 12:55 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christ Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

___ Soil
X Sediment
___ Lagoon/Pond
___ Grab
___ Trip Blank*
___ Rinsate Blank*
___ Field Duplicate collected
___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Wet, Muck, Some Sand + Shells.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270C SIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base-Old Firefighting Training Area
Sample ID: OFF-SD-473-0006

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0" - 6" feet
Sample Date & Time: 7/21/02 13:25 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christi Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Muck, wet, DK. Brown - Some shells and sand.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270CSIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base/Old Firefighting Training Area
Sample ID: OFF-SD-473-1820
Tetra Tech NUS Charge No. 4152-0511
QC Information: _____ (if applicable)

Sample Method: Core Sampling
Depth Sampled: 18"-20" feet
Sample Date & Time: 7/8/02 11:30 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christy Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Muck, wet - Some seagrass Dk. Brown

SAMPLE DATA/REMARKS: Refusal @ 20" BGS w/ pneumatic hammer

ANALYSIS	BOTTLE LOT NO.
SW846, 8270C SIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF - SD - 474 - 0006

Tetra Tech NUS Charge No. 4152 - 0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0" - 6" feet
Sample Date & Time: 7/2/02 13:05 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christ Mackey (Signature)

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Muck, Wet, DK. Brown

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270CSIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-SD-474-1824
Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 18"-24" feet
Sample Date & Time: 7/31/02 10:15 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christi Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ✓ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Wet, Muck, Dk Brn.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270C SIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base Old Firefighting Training Area
Sample ID: OFF-SD-475-0006

Tetra Tech NUS Charge No. 4152-0511
QC Information: NA (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0"-6" feet
Sample Date & Time: 7/2/02 13:15 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christ Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Wet, Muck - Some Sand
DK. Brown.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270CSIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-SD-476-0006

Tetra Tech NUS Charge No. 4152-0511
QC Information: MS/MSD (if applicable)

Sample Method: Core Sampling
Depth Sampled: 0"-6" feet
Sample Date & Time: 7/21/02 11:45 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christi Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- X Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): MS/MSD

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Wet, Muck, DK. Brown

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270CSIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Newport Naval Base - Old Firefighting Training Area
Sample ID: OFF-RB01

Tetra Tech NUS Charge No. 4152-0511
QC Information: Rinsate (if applicable)

Sample Method: Grab/Rinsate
Depth Sampled: NA feet
Sample Date & Time: 7/24/02 1000 hours Dup NA hours
Sampler(s): C. Mackey

Data Recorded By: Christi Mackey
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- X Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.)

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
SW-846 8270 CSIM	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Project No. 4152-0511

Laboratory Name: MitKem Corp.

Sampler Signatures: Christ Machey

Date Shipped: 7-3-02

Airbill No.

Carrier: Delivered by Sampler

No. of Coolers: 1

Container Type	Container Type	Container Type	Container Type	Container Type
4 oz				

Analysis	Analysis	Analysis	Analysis	Analysis
PAH's, SW-846 8270C SIM				

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative: Ice	Preservative	Preservative	Preservative	Preservative
OFF-SD-474-1824	SD	7-3/10:15				1				
OFF-SD-476-0006	SD	7-2/11:45			MS/MSD	1				
OFF-SD-DUP1-0006	SD	7-2/11:35				1				
OFF-SD-475-0006	SD	7-2/13:15				1				
OFF-SD-470-0006	SD	7-2/12:55				1				
OFF-SD-470-0006	SD	7-2/12:50				1				
OFF-SD-410-1824	SD	7-2/11:40				1				
OFF-SD-473-0006	SD	7-2/13:25				1				
OFF-SD-410-0006	SD	7-2/11:30			Dup	1				
OFF-SD-474-0006	SD	7-2/13:05				1				
OFF-SD-471-0006	SD	7-2/13:50				1				
OFF-SD-SPC03-0006	SD	7-2/15:40				1				

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Christ Machey	7-3-02 1300		YES NO	
Relinquished By: (Signature)	**Date/Time**	**Received for Laboratory By:**	**Date/Time**	
		[illegible]	7-3-02 1300	

Tt NUS Form 0022

02151

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Project No. 4152-0511

Laboratory Name: MitKem Corp

Sampler Signatures: Christ Machey

Date Shipped: 7-3-02

Carrier: Delivered by Sampler

Airbill No.

No. of Coolers: 1

Container Type	Container Type	Container Type	Container Type	Container Type
1L Amber	4 oz			
Analysis	**Analysis**	**Analysis**	**Analysis**	**Analysis**
8270C	PAHs, SW-846 8270C SIM			
Preservative	**Preservative**	**Preservative**	**Preservative**	**Preservative**
Ice	Ice			

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC					
OFF-TB01	Aq	7-2/1500				2				
OFF-SD(743)1820	SD	7-3/11:30					1			
incorrect—										
Changed to 473		ddP 9/13/02								
			CW 7-3-02	CW 7-3-02						

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Christ Machey	7-3-02 1300		YES NO	
Relinquished By: (Signature)	**Date/Time**	**Received for Laboratory By:**	**Date/Time**	
		[illegible]	7-3-02 1300	

Tt NUS Form 0022

02149

Stephen Parker

TETRA TECH NUS, INC.

978-658-7899

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No. NA

Subcontract No.

Page 1 of 1

Project No.: Newport: 4152 (OFFTA)

Laboratory Name: Battelle

Sampler Signatures: [signature]

Date Shipped: 7/11/02 Carrier: Fed Ex

Airbill No.: 833435528635 No. of Coolers: 1

Container Type	Container Type	Container Type	Container Type	Container Type
8 oz Amber				

Analysis	Analysis	Analysis	Analysis	Analysis
TPH Fingerprint** PAH & 8270 modified				

Preservative	Preservative	Preservative	Preservative	Preservative
Ice				

LAB Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC					
	Sed	7/11/02 1331	OFF-OTS-~~0F075~~ 0E075	NA	NA	1				
	Sed	7/11/02 1359	OFF-OTS-0F093	NA		1				
	Soil	7/11/02 0910	OFF-SO-15-0607*	NA		1				
	Soil	7/11/02 1050	OFF-SO-11-0607*	NA		1				
	AQ	7/11/02 1100	OFF-AQ-11-0607*	NA		1				

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
[signature]	7-11-02 14:00		YES NO	* Only soil and water ** PAHs by 8270 B (GCMS) modified for extended Analyte List TPH Fingerprint 8015B (GCFID) modified
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	

Tt NUS Form 0022

02153

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Page 1 of 1

Project No. 4152-0511

Laboratory Name: Battelle

Sampler Signatures: Christ Mach

Date Shipped: 7-3-02

Carrier: Delivered by Sampler

Airbill No.: NA

No. of Coolers: 1

Container Type	Container Type	Container Type	Container Type	Container Type
8oz				

Analysis	Analysis	Analysis	Analysis	Analysis
-PAHs, 8270B GC/MS Modified for Extended Analyte List. -TPH Fingerprint 8015B GC/FID Modified.				

Preservative	Preservative	Preservative	Preservative	Preservative
Ice				

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC					
OFF-SD-5-0006	SD	7-2/13:10				2				
OFF-SD-SPC03-0006	SD	7-2/15:00				1				
OFF-SD-471-0006	SD	7-2/13:00				1				
OFF-SD-470-0006	SD	7-2/12:50				1				
OFF-SD-410-0006	SD	7-2/11:30	CM 7-3-02	CM 7-3-02	DUP	1				
OFF-SD-410-1824	SD	7-2/11:40				1				
OFF-SD-Dupl-0006	SD	7-2/11:35				1				

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Christ Mach	7-3-02 14:00	Jessica M. Lake 7/3/02 14:00	YES NO	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	

Tt NUS Form 0022

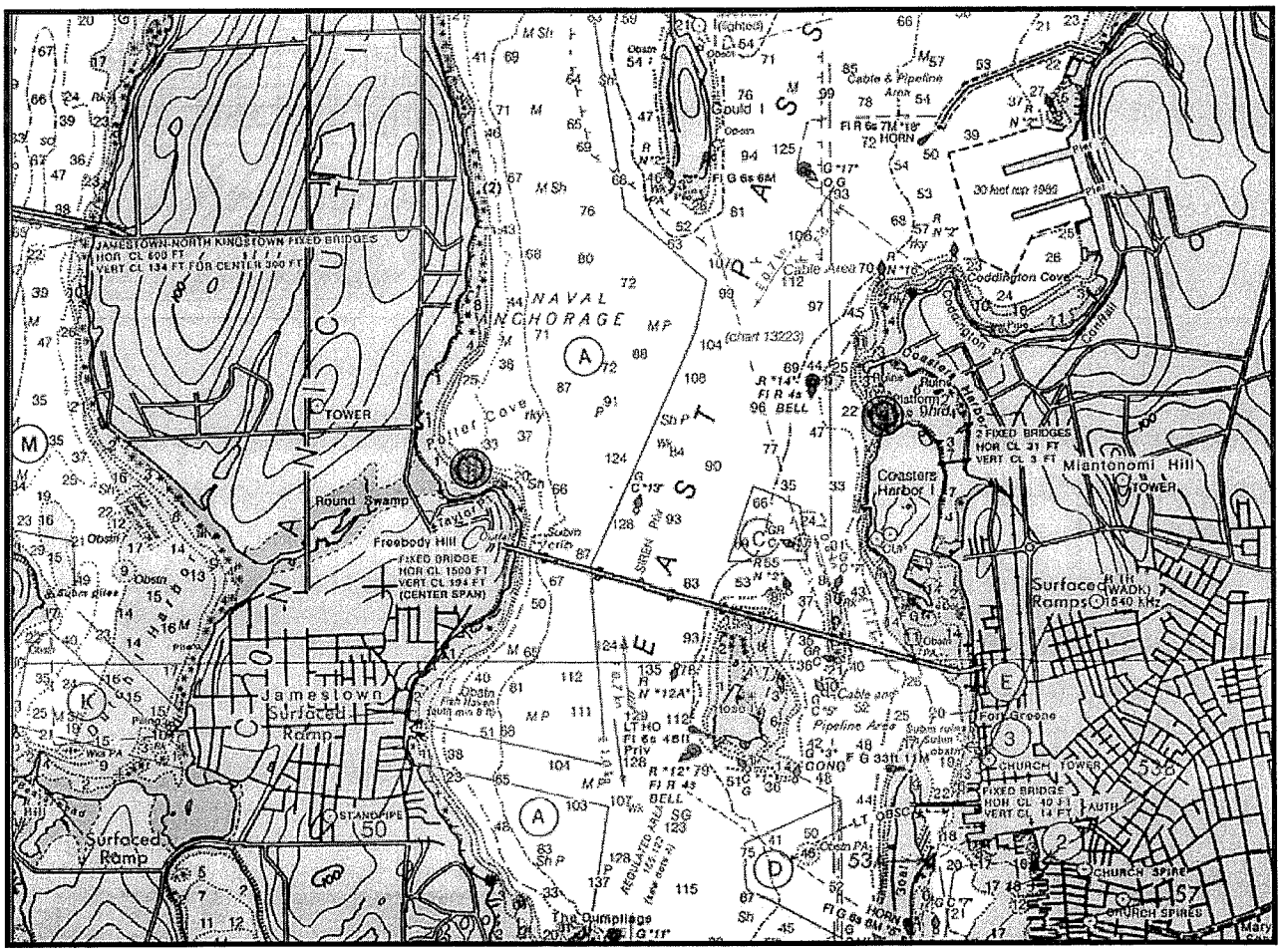
02152

APPENDIX B

GPS SURVEY AND WATER DEPTH INFORMATION

COASTERS HARBOR
PHASE 2 SEDIMENT SAMPLING
FIELD DOCUMENTATION
Newport, RI

GCMP-02-019-0888



July 11, 2002

Prepared for:

TETRA TECH NUS, INC.

Tetra Tech NUS, Inc
55 Jonspin Road
Wilmington, MA 01887

Prepared by:

ECOTONES, INC.
35 Rocky Hollow Road
East Greenwich, RI 02818
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ecotones@att.net

COASTERS HARBOR PHASE 2
SEDIMENT SAMPLING FIELD DOCUMENTATION

All work was conducted in accordance with the Statement of Work (SOW) provided as part of TtNUS Subcontract Agreement GCMP-02-019-0888. The following sections provide detailed information regarding the completed work.

Dates/Times: Field work was completed on July 1 through July 3, 2002. Station location, anchoring, and initial photography was conducted on the afternoon of July 1, 2002. The majority of sediment sampling and additional photography was completed on July 2, 2002. Additional deep (18" to 24") samples and a final set of photographs were collected on July 3, 2002.

Station Coordinates: Stations were established by navigating with a real-time differential correcting Trimble Pro-XR GPS to coordinates provided by TtNUS via CAD file points. Anchored stations were established, on average, within 1.4 meters of the provided coordinates (minimum 0.9 meters and maximum 2.1 meters). The horizontal precision of recorded station locations ranged from 0.23 meters to 0.47 meters (0.35 meter average). Position Dilution of Precision (PDOP) for all recorded station locations ranged from a minimum of 1.9 and a maximum of 3.7 (2.8 meter average). At least 180 position fixes were collected for each station. The fixes were differentially corrected using Trimble MCORR400 software and University of Rhode Island GPS base station data (http://www.edc.uri.edu/gps/cors.asp).

Per Trimble documentation and specifications (http://trl.trimble.com/dscgi/ds.py/Get/File-2033/pathfdr_sysds.pdf), the accuracy of MCORR400 corrected Trimble Pro-XR GPS data is 50 centimeters with at least 5 satellites, a PDOP ≤ 6, a Signal to Noise Ratio (SNR) ≥ 6, and an elevation mask set at 15 degrees. These operating conditions were met for all recorded stations.

In addition to manufacturer specifications and software generated statistics, additional field observations revealed accuracies within one meter. For example, the new anchor for Station 410 was installed within 1 meter of the existing anchor for the station installed during previous sampling work (Phase 1). Two GPS positions files were recorded for the Potter Cove station (JPCO3) on separate days. The separate fixes recorded were 0.5 meters apart.

Sampling: Samples were collected at each of the stations identified in the SOW and as directed by TtNUS staff on site (Christine Mackey). Sample collection and equipment decontamination was conducted according to the SOW. Collection of deeper samples was problematic due to rocky conditions encountered on the bottom on shallow subsurface. Either complete refusal occurred or the interior of the corer was blocked as it was driven into the metasedimentary rock encountered. Multiple coring locations, in excess of the requirements of the SOW, were attempted. Sediment collected was transferred to TtNUS staff on site.

The rock encountered was most likely fragments of schist of the RI Formation or pieces of the quartz matrix of Purgatory Conglomerate (Upper Pennsylvanian ~ 280 to 300 million years ago). Outcrops of Purgatory Conglomerate were previously observed along the coastline of Coasters Island. The west side of Coasters Island has been mapped as Purgatory Conglomerate and the east side mapped as Rhode Island Formation (Hermes and others, 1994). These metasedimentary formations are common in the east side of Narragansett Bay in close association with each other. The formations roughly alternate within synforms and/or antiforms.

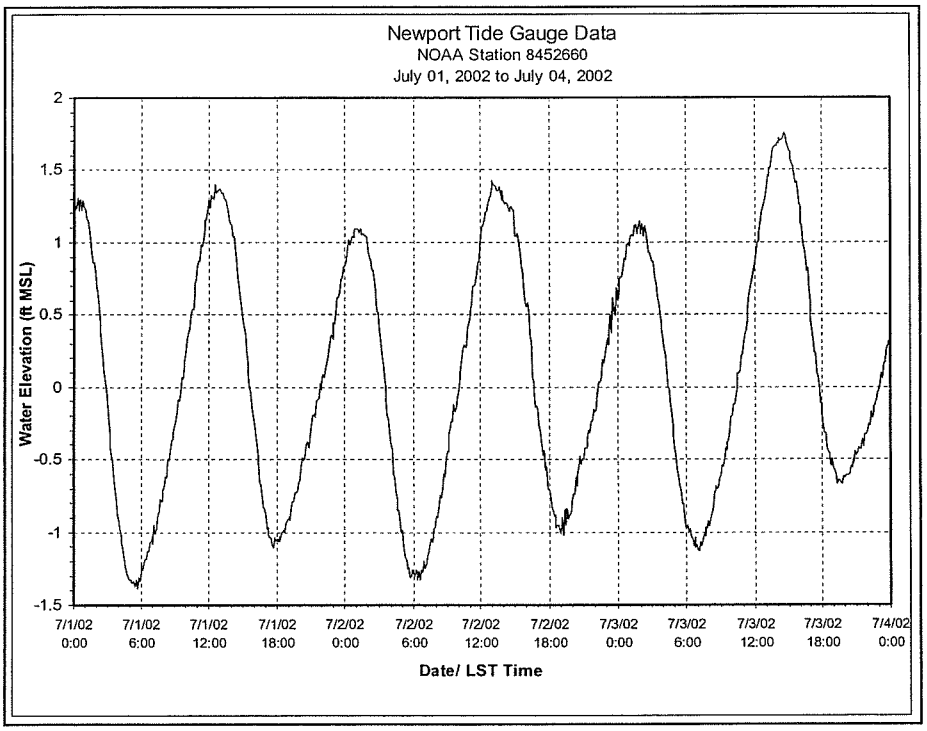
Photographs: Photographs of each station were collected using a SeaLife SL121 Reefmaster DC200 digital underwater camera and external strobe. Pictures were collected in JPEG (*.jpg) format and are provided on the enclosed CD-ROM (pocket). Due to less than ideal photography conditions, multiple photographs of each station were taken each field day. Organic material common in the water column this time of year and abundant algae on the bottom resulted in "hazy" photographs with limited depth of field. Bottom conditions in the immediate area around each station are, however, visible in the photos.

Meteorological Conditions: Data from the Newport Tide Gauge and meteorological station (NOAA Station 8452660) was downloaded from http://www.co-ops.nos.noaa.gov/ to compile field conditions. The station is located on Coasters Island providing high accuracy, long-term records of meteorological and sea level data. Preliminary meteorological data was downloaded from http://www.co-ops.nos.noaa.gov/. Weather conditions during the sampling period are summarized in the Table 1. Tide data are shown in Figure 1.

Table 1. Meteorological Conditions

Date	Air Temp. (°F)			Water Temp. (°F)			Moon Phase	Wind Speed (mph)			Wind Gust (mph)			Wind Direction (degrees)			Water Visibility (feet)
	ave	*min*	*max*	*ave*	*min*	*max*		*ave*	*min*	*max*	*ave*	*min*	*max*	*ave*	*min*	*max*	
7/1	72.0	70.9	73.4	70.1	67.8	71.6	Waning Gibbous	12.6	10.5	15.7	16.1	13.4	18.1	221	201	228	5-7
7/2	76.6	74.3	76.1	70.3	66.9	73.0	Last Quarter	8.1	1.8	13.4	10.6	2.5	17	221	202	244	5-10
7/3	85.6	80.8	93.9	69.6	64.2	75.2	Waning Crescent	6.3	2.2	10.7	8.8	4.5	13.2	254	211	350	5-10

Figure 1. Water Elevation.



Station Depth: Station depth was recorded to the nearest inch using a weighted line. Recorded depths were converted to bottom elevation relative to MSL using the previously described tide gauge data. Recorded depth and calculated elevation are listing in Table 2C.

Table 2A.

STATION	MAX PDOP	GPS DATE	GPS TIME	DATAFILE	Number of Positions	STD DEV	GPS WEEK	GPS SECOND	Proposed N-RIft27	Proposed E-RIft27
410	2.4	7/1/2002	02:50:59pm	R070114B.cor	182	0.17	1173	157872.59	157070.88	546769.27
470	1.9	7/1/2002	02:41:27pm	R070114B.cor	181	0.24	1173	157300.23	157102.85	546715.86
471	1.9	7/1/2002	02:33:58pm	R070114B.cor	181	0.28	1173	156851.11	157048.70	546717.87
472	3.8	7/1/2002	02:12:27pm	R070114B.cor	183	0.76	1173	155560.91	157157.00	546713.85
473	3.4	7/1/2002	02:02:12pm	R070114B.cor	192	0.25	1173	154945.56	157154.89	546766.08
474	3.7	7/1/2002	02:20:10pm	R070114B.cor	181	0.18	1173	156023.95	157104.96	546663.63
475	3.5	7/1/2002	02:27:04pm	R070114B.cor	181	0.21	1173	156437.74	157050.81	546665.64
476	2.5	7/1/2002	02:57:55pm	R070114B.cor	182	0.21	1173	158288.84	157100.74	546768.09
JPCO3b	1.9	7/3/2002	07:34:49am	R070308A.cor	181	0.35	1173	304503.00		
JPCO3	2.6	7/2/2002	12:54:36pm	R070213A.cor	181	0.20	1173	237290.00		

Table 2B.

STATION	REC RISP NORTHING NAD27 (ft)	REC RISP EASTING NAD27 (ft)	REC RISP NORTHING NAD83 (ft)	REC RISP EASTING NAD83 (ft)	Northing Discrepancy (ft)	Easting Discrepancy (ft)	Position Discrepancy (ft)	Position Discrepancy (m)	HORZ PRECISION (m)	HORZ PRECISION (ft)
410	157071.81	546766.50	157111.39	374985.42	0.94	2.76	2.92	0.89	0.33	1.07
470	157105.82	546712.60	157145.39	374931.51	2.97	3.26	4.41	1.34	0.29	0.96
471	157047.70	546713.86	157087.28	374932.78	1.00	4.01	4.13	1.26	0.29	0.94
472	157153.98	546715.14	157193.53	374934.05	3.02	1.29	3.29	1.00	0.47	1.54
473	157151.84	546770.54	157191.40	374989.45	3.05	4.46	5.41	1.65	0.43	1.41
474	157100.81	546661.54	157140.37	374880.44	4.15	2.09	4.65	1.42	0.43	1.42
475	157054.22	546669.97	157093.77	374888.86	3.41	4.33	5.51	1.68	0.40	1.30
476	157103.25	546774.65	157142.83	374993.57	2.51	6.56	7.02	2.14	0.32	1.06
JPCO3b	155923.98	537733.75	155965.02	365951.95					0.23	0.75
JPCO3	155925.54	537733.18	155963.44	365952.52					0.32	1.06

Table 2C.

STATION	Depth *Recorded (ft)*	Date Depth *Recorded*	Time Depth *Recorded*	Newport Gauge *Level MSL (ft)*	Bottom Elevation MSL (ft)
410	8.0	7/1/2002	3:56 PM	1.1	-6.9
470	8.5	7/1/2002	3:46 PM	1.2	-7.3
471	7.2	7/1/2002	3:39 PM	1.2	-5.9
472	9.6	7/1/2002	3:12 PM	1.3	-8.2
473	10.0	7/1/2002	2:52 PM	1.4	-8.6
474	9.3	7/1/2002	3:25 PM	1.3	-8.0
475	8.3	7/1/2002	3:31 PM	1.3	-7.0
476	8.9	7/1/2002	4:03 PM	1.1	-7.8
JPCO3b					
JPCO3	10.3	7/2/2002	1:58 PM	1.3	-7.8

APPENDIX C

FIELD DATA SHEETS, GROUNDWATER WELL DEVELOPMENT AND SAMPLING

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Page 1 of 1

Subcontract No. CTO-833

Project No. N4152-0512

Laboratory Name: Mitkem Corp.

Sampler Signatures: [illegible]

Date Shipped | Carrier

Airbill No. | No. of Coolers

Sample Number	Matrix	YR=2002 Date/Time	Sample Location	Tag Number(s)	QC	Container Type: 1L Poly	Container Type: 1L Amber	Container Type: 40 mL Amber	Container Type	Container Type
						Analysis: Total metals	Analysis: SVOC	Analysis: VOC	Analysis	Analysis
						Preservative: HNO_3	Preservative: Ice only	Preservative: HCl	Preservative	Preservative
OFF-GW-MW45	GW	8-16/1220			MS/MSD	2	3	6		
OFF-GW-TB01	AQ	8-16/1200			TB	—	—	2		
OFF-GW-RB01	AQ	8-16/1345			RB	1	1	2		
OFF-GW-MW35	GW	8-16/1345			—	1	1	2		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
[signature]	1600 8-16-02	[signature]	YES NO	Lab QC = OFF-GW-MW45
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	
		[signature]	8-16-02 1600	

Tt NUS Form 0022

02101

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY Tetra Tech NUS	PHONE (978) 658-7899	COMPANY	PHONE	LAB PROJECT #:
NAME J. Lambert	FAX (978) 658-7870	NAME	FAX	
ADDRESS 55 Jonspin Rd		ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Wilmington MA		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
OFFTA - CTO 833	N4152-0512	

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED (YR = 2002)	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	VOC	SVOC	TAL metals										COMMENTS
OFF-GW-TB02	8/19 / 1000		X			TB		2	2	–	–										
OFF-GW-MW11S	8/19 / 1035		X	X				4	2	1	1										
OFF-GW-MW101	8/19 / 1030		X	X		DP01		4	2	1	1										
OFF-GW-DP01	8/19 / 1035		X	X		DP01		4	2	1	1										
OFF-GW-MW11R	8/19 / 1135		X	X				4	2	1	1										
OFF-GW-MW2D	8/19 / 1335		X	X				4	2	1	1										
OFF-GW-MW102	8/19 / 1355		X	X		DP02		4	2	1	1										
OFF-GW-DP02	8/19 / 1400		X	X		DP02		4	2	1	1										
OFF-GW-MW2S	8/19 / 1515		X	X				4	2	1	1										
OFF-GW-MW1R	8/20 / 1115		X	X				4	2	1	1										
OFF-GW-MW10S	8/20 / 1155		X	X				4	2	1	1										
	/																				

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
	[signature]	8/20/02 1315	[signature]	8/20 1315		
		/		/		
		/		/		

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Page 1 of 1

Project No. N4152-0512

Laboratory Name: Mitkem

Sampler Signatures: CMack

Date Shipped: 8/21/02 Carrier: Dropper off

Airbill No.: 0006 No. of Coolers:

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Container Type: 40ml VOA Vial	Container Type: 1L Amber	Container Type: Poly	Container Type	Container Type
						Analysis: VOCs	Analysis: SVOC	Analysis: TAL Metals	Analysis	Analysis
						Preservative: HCl	Preservative: ICE	Preservative: HNO_3	Preservative	Preservative
OFF-GW-MW5S	GW ~~AQ~~	8/21/02	1230		—	2	1	1		
OFF-GW-MW6R	GW ~~AQ~~	8/21/02	1355		—	2	1	1		
OFF-GW-TB03	AQ ~~FB~~	8/21/02	13:00	CM 8/21	TB	2	—	—		
~~OFF-GW-~~										
OFF-GW-MW9R	GW	8/20/02	1440	CM 8/21	—	2	1	1		
OFF-GW-MW8R	GW	8/20/02	1445		—	2	1	1		

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
CMack	8/21/02 1510		YES NO	
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	
		[illegible]	8-21-02 1500	

Tt NUS Form 0022

02102

TETRA TECH, INC.

GROUNDWATER LEVEL MEASUREMENT

SITE INFORMATION

Site Name: Newport Naval Base, 833 Old Fire Fighting Training Area

Municipality: Newport

Project Number: N4152-0512

County: Newport

Personnel: C. Mackey, L.Seydewitz

State: RI

Date: 8/8/02

WEATHER CONDITIONS AND EQUIPMENT

Temperature Range: 75°F – 85°F

Equipment Make/Model: Oil/Water Interface Probe

Weather: Sunny and windy.

Latest Calibration Date: 8/8/02

Tidally-Influenced [X] Yes [ ] No

Well Number	Date 2001	Measurement made at top of:	Water Level Indicator Reading (Feet)*	LNAPL or DNAPL present? (yes/no)	NAPL Description/ Thickness*
MW-5S	8/8/02	PVC	6.99	No	NA
MW-8R	8/8/02	PVC	6.50	No	NA
MW-1R	8/8/02	PVC	5.94	No	NA
MW-10S	8/8/02	PVC	6.25	No	NA
MW-2D	8/8/02	PVC	4.12	No	NA
MW-102	8/8/02	PVC	4.50	No	NA
MW-3S	8/8/02	PVC	5.77	No	NA
MW-4S	8/8/02	PVC	4.60	No	NA

MW-11S	8/8/02	PVC	4.02	No	NA
MW-9R	8/8/02	PVC	16.12	No	NA
MW-6S	8/8/02	PVC	8.23	No	NA
MW-101	8/8/02	PVC	5.65	No	NA
MW-6R	8/8/02	PVC	8.14	No	NA

* measured made to 0.00 feet
- Monitoring wells MW-11R and MW-7S could not be located.
- Monitoring well MW-2Swas permanently sealed.

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW - MW1R

Tetra Tech NUS Job No./PMS: N4152-5120
QC: N/A (If applicable)

Sample Method: low-flow (peri pump)
Depth Sampled: 13 Feet Screened Interval Depth 3.5-13.5 feet
Sample Date & Time: 8/20/02 1115 hours N/A/Dup
Sampler(s): J. Lambert
Data Recorded By: J. Lambert Signature: J. Lambert
Notes: MP = top of PVC

Tide =

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 6.04 ft Post - pump insertion WL ~~N/A~~ 6.13 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~liters~~ gal	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments	sal.
		1/2 turn										
1005	6.04		~~200~~ 210	Begin	purge							
1015	6.13		200		17.76	293	6.58	210.6	0.62	6.41	colorless;	0.14
1020	6.14		200		17.74	267	6.52	207.7	0.46	6.20	no odor	0.12
1025	6.14		200		17.71	244	6.50	200.0	0.44	6.53		0.12
1030	6.13		200		17.72	241	6.50	194.3	0.38	6.24		0.11
1035	6.13		200		17.72	237	6.49	189.9	0.36	6.18		0.11
1040	6.13		200		17.71	235	6.49	187.8	0.34	5.89		0.11
1045	6.13		200		17.70	232	6.49	186.2	0.31	5.88		0.11
1050	6.13		200		17.70	230	6.48	184.8	0.31	5.34		0.11
1055	6.13		200		17.69	229	6.48	183.4	0.31	5.32		0.11
1100	6.13		200		17.69	228	6.48	183.1	0.31	4.96		0.11
1105	6.13		200		17.67	227	6.48	183.3	0.30	4.83		0.11
1110	6.13		200	4.0	17.66	226	6.48	182.8	0.30	4.71		0.11

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW25

Tetra Tech NUS Job No./PMS N4152-0512
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 13.5 Feet Screened Interval Depth 4-14 feet
Sample Date & Time: 8 / 19 / 02 15:15 hours NA /Dup
Sampler(s): C. Mackey, J. Lambert
Data Recorded By: C. Mackey Signature: [signature]
Notes: *Mid to Low tide

H&S Survey Meter 0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 6.08 ft Post - pump insertion WL 6.25 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
13:50	6.25	1/2 turn	200	1.0	16.70	23,990	7.11	-146.2	0.73	22.3	17.57
13:55	6.25	1/2 turn	200	2.0	16.00	23,537	7.05	-111.5	0.58	4.50	17.54
14:00	6.25	1/2 turn	200	3.0	15.82	23,346	7.01	-84.7	0.53	3.98	17.49
14:05	6.25	1/2 turn	200	4.0	15.67	23,138	6.96	-62.4	0.52	3.12	17.35
14:10	6.28	1/2 turn	200	5.0	15.58	22,890	6.94	-46.2	0.50	1.79	17.19
14:15	6.25	1/2 turn	200	6.0	15.58	22,800	6.94	-39.2	0.50	1.66	17.13
14:20	6.25	1/2 turn	200	7.0	15.51	22,688	6.94	-28.2	0.51	1.62	17.05
14:25	6.28	1/2 turn	200	8.0	15.41	22,508	6.94	-23.3	0.52	1.18	16.97
14:30	6.25	1/2 turn	200	9.0	15.43	22,407	6.93	-17.4	0.52	2.00	16.89
14:35	6.25	1/2 turn	200	10.0	15.50	22,293	6.93	-11.8	0.53	1.73	16.77
14:40	6.25	1/2 turn	200	11.0	15.47	22,321	6.93	-8.6	0.52	1.52	16.79
14:45	6.25	1/2 turn	200	12.0	15.49	22,275	6.92	-6.5	0.53	1.49	16.77
14:50 ~~14:45~~	6.26	1/2 turn	200	13.0	15.45	21,979	6.93	2.9	0.52	1.42	16.55
14:55	6.25	1/2 turn	200	14.0	15.38	22,071	6.93	4.2	0.54	1.30	16.56
15:00	6.29	1/2 turn	200	15.0	15.62	22,179	6.93	5.8	0.54	1.15	16.56
15:05	6.25	1/2 turn	200	16.0	15.72	22,186	6.93	6.93	0.54	1.10	16.58
15:10 ~~6.25~~	6.25	1/2 turn	200	17.0	15.67	22,197	6.93	3.98	0.54	1.05	16.57

1. Stabilized settling, for example: hertz, cycle/min, etc.
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW2D

Tetra Tech NUS Job No./PMS N4152-0512
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 30 Feet Screened Interval Depth 20.5-30.5 Feet
Sample Date & Time: 8/19/02 13:35 hours NA /Dup
Sampler(s): C. Mackey, J. Lambert
Data Recorded By: C. Mackey Signature: Christ. Mack
Notes: Low tide

H&S Survey Meter 0 PPM
Pre-pump insertion WL 5.68 ft
Field Instrument Group A/B/C/D
Post - pump insertion WL 6.10 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
12:20	5.95	1/2 turn	200	1.0	15.77	1522	7.43	30.6	2.02	26.2	0.94
12:25	6.00	1/2 turn	200	2.0	15.69	1442	7.32	30.6	1.03	10.9	0.89
12:30	6.02	1/2 turn	200	3.0	15.58	1446	7.28	15.7	0.74	8.25	0.90
12:35	6.02	1/2 turn	200	4.0	15.45	1449	7.24	-16.0	0.41	7.51	0.90
12:40	6.05	1/2 turn	200	5.0	15.35	1442	7.24	-20.1	0.40	8.05	0.90
12:45	6.08	1/2 turn	200	6.0	14.49	1418	7.26	-30.8	0.40	7.45	0.90
12:50	6.08	1/2 turn	200	7.0	14.17	1391	7.26	-35.4	0.40	7.38	0.89
12:55	6.08	1/2 turn	200	8.0	14.11	1390	7.27	-40.2	0.39	6.59	0.89
13:00	6.10	1/2 turn	200	9.0	14.09	1387	7.27	-43.2	0.38	6.53	0.89
13:05	6.10	1/2 turn	200	10.0	14.39	1414	7.27	-45.1	0.38	6.52	0.90
13:10	6.10	1/2 turn	200	11.0	15.00	1427	7.27	-46.0	0.39	6.54	0.90
13:15	6.10	1/2 turn	200	12.0	15.18	1425	7.27	-42.3	0.38	6.42	0.89
13:20	6.10	1/2 turn	200	13.0	15.30	1424	7.26	-40.0	0.38	6.25	0.89
13:25	6.10	1/2 turn	200	14.0	15.29	1421	7.26	-38.7	0.38	6.18	0.89
13:30	6.10	1/2 turn	200	15.0	15.31	1420	7.26	-36.1	0.39	6.09	0.89

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW35

Tetra Tech NUS Charge No. N4152-0512
QC: NA (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 13.5 Feet Screened Interval Depth 4-14 feet
Sample Date & Time: 8/16/02 13:45 hours NA /Dup
Sampler(s): C. Mackey, J. Lambert
Data Recorded By: C. Mackey Signature: Chris Mackey
Notes:

H&S Survey Meter 0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 7.56 ft Post - pump insertion WL 8.10 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
11:25	7.93	½ turn	200	1.0	17.45	1340	6.53	-51.0	0.40	260	0.75
11:30	7.84	½ turn	200	2.0	17.40	1326	6.54	-58.2	0.29	290	0.75
11:35	7.95	½ turn	200	3.0	17.31	1303	6.54	-63.9	0.14	340	0.73
11:40	7.95	½ turn	200	4.0	17.82	1253	6.54	-72.4	0.11	565	0.74
11:45	8.05	½ turn	200	5.0	18.08	1232	6.54	-73.2	0.11	1040	0.74
11:50	8.03	½ turn	200	6.0	18.36	1183	6.54	-74.9	0.11	too high to read	0.74
Pump was clogged - Cleared tubing											
12:10	7.81	½ turn	200	7.0	16.79	1293	6.54	-27.5	1.54	284	0.73
12:15	7.94	½ turn	200	8.0	16.76	1310	6.55	-34.8	0.87	232	0.73
12:20	7.94	½ turn	200	9.0	16.78	1312	6.57	-46.0	0.54	117	0.75
12:25	8.00	½ turn	200	10.0	16.76	1314	6.57	-50.0	0.48	109	0.72
12:30	8.05	½ turn	200	11.0	16.73	1319	6.58	-50.2	0.46	84	0.75
12:35	8.21	½ turn	200	12.0	16.69	1321	6.57	-50.4	0.35	65	0.75
12:40	8.25	½ turn	200	13.0	16.66	1325	6.58	-50.5	0.34	53	0.74

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW-3S

Tetra Tech NUS Charge No. N4152-0512
QC: NA (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
12:45	8.25	1/2 turn	200	14.0	16.52	1325	6.58	-51.0	0.33	46	0.74
12:50	8.27	1/2 turn	200	15.0	16.45	1331	6.58	-51.0	0.30	38	0.74
12:55	8.27	1/2 turn	200	16.0	17.56	1342	6.59	-52.4	0.29	32	0.75
13:00	8.28	1/2 turn	200	17.0	17.34	1351	6.58	-51.3	0.30	28.4	0.74
13:05	8.29	1/2 turn	200	18.0	16.56	1356	6.58	-53.5	0.27	26	0.75
13:10	8.29	1/2 turn	200	19.0	16.43	1361	6.59	-54.1	0.26	18	0.75
13:15	8.29	1/2 turn	200	20.0	16.83	1364	6.59	-55.0	0.26	14.7	0.76
13:20	8.28	1/2 turn	200	21.0	16.43	1342	6.58	-55.4	0.26	12	0.75
13:25	8.32	1/2 turn	200	22.0	16.46	1340	6.58	-56.7	0.26	10.31	0.74
13:30	8.35	1/2 turn	200	23.0	16.65	1369	6.58	-54.3	0.26	8.11	0.75
13:35	8.40	1/2 turn	200	24.0	17.18	1378	6.59	-53.9	0.25	7.66	0.75
13:40	8.40	1/2 turn	200	25.0	16.58	1376	6.58	-55.2	0.25	7.05	0.74

Sampled @ 13:45

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA
Sample ID: OFF-GW-MW45 ~~MW45FL~~

Tetra Tech NUS Job No./PMS N4152-0512
QC: MS/MSD (If applicable)

Sample Method: low-flow
Depth Sampled: 13.5 Feet Screened Interval Depth 4-14 feet
Sample Date & Time: 8/16/02 1220 hours N/A /Dup
Sampler(s):
Data Recorded By: J. Lambert Signature: [signature]
Notes:
MP = top of PVC, 0.4 ft below TOC
Tide =

H&S Survey Meter N/A PPM
Pre-pump insertion WL 5.34 ft
Field Instrument Group A/B/C/D
Post - pump insertion WL N/A ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #
	1L poly				
	2 VOA				
	1L Amber				

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged Liters ~~gal~~	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments	Sal
1125	5.34		Begin	purge								
1135	6.20		300	3.0	17.58	388	6.24	87.8	0.43	17.5	*	0.1
1140	5.84		200	4.0	18.02	393	6.26	85.6	0.38	6.10	water is	0.1
1145	5.85		200	5.0	18.01	394	6.27	83.2	0.34	5.14	clear, no	0.1
1150	5.83		200	6.0	17.98	396	6.28	80.7	0.31	4.12	odor	0.1
~~1155~~ 1205	5.81		200	7.0	18.09	396	6.27	74.4	0.29	4.25		0.1
~~1200~~ 1210	5.81		200	8.0	18.18	396	6.27	72.7	0.29	4.18		0.1
1215	5.81		200	9.0 ~~5.0~~ ca	18.01	396	6.27	70.0	0.28	4.03		0.1

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

* turned pump dial down - cannot turn down any further without pump turning off

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: ~~MW~~ OFF-GW-MW5S

Tetra Tech NUS Job No./PMS N 4152-0512
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 17 Feet Screened Interval Depth 8-18 feet
Sample Date & Time: 8/21/02 12:30 hours NA /Dup
Sampler(s): C. Mackey, J. Lambert
Data Recorded By: C. Mackey Signature: CMackey
Notes:

H&S Survey Meter 0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 7.2 ft Post - pump insertion WL 8.0 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
11:50	7.9	½ turn	200	1.0	19.57	588	6.39	130.9	6.78	242	0.29
11:55	7.8	½ turn	200	2.0	19.63	588	6.39	131.7	6.79	133	0.28
12:00	7.9	½ turn	200	3.0	19.84	587	6.40	133.3	6.81	28	0.28
12:05	8.0	½ turn	200	4.0	20.08	586	6.40	134.3	6.84	16.5	0.28
12:10	8.1	½ turn	200	5.0	19.95	584	6.41	134.1	6.53	10.1	0.29
12:15	8.3	½ turn	200	6.0	19.84	581	6.41	135.1	6.30	5.32	0.28
12:20	8.1	½ turn	200	7.0	19.74	580	6.41	135.4	6.25	2.24	0.28
12:25	8.0	½ turn	200	8.0	19.71	580	6.41	135.8	6.21	1.86	0.28

Sampled @ 12:30

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW65

Tetra Tech NUS Charge No. N4152-0512
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 9 Feet Screened Interval Depth 4-9 feet
Sample Date & Time: 8/21/02 NA hours NA /Dup
Sampler(s): C. Mackey, J. Lambert
Data Recorded By: C. Mackey Signature: Chris Mack
Notes:

H&S Survey Meter 0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL ___ ft Post - pump insertion WL ___ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
10:00											
	There was No Water in this well - No Sample was taken										

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFYA
Sample ID: OFF - GW - MW6R

Tetra Tech NUS Job No./PMS ~~N/A~~ N4152-0512
QC: N/A (If applicable)

Sample Method: low-flow peristaltic pump
Depth Sampled: 25.5 Feet Screened Interval Depth 16-26 feet
Sample Date & Time: 8/21/02 1355 hours N/A /Dup
Sampler(s): J. Lambert
Data Recorded By: J. Lambert Signature: [signature]
Notes: MP = top of PVC, 0.6' below Top of casing

tide =

H&S Survey Meter 0.0 PPM
Pre-pump insertion WL 8.27 ft
Field Instrument Group A/B/C/D
Post - pump insertion WL N/A ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~liters~~ gal	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments	Sal
		1/3 turn										
1215	8.27		190	Begin	purge						Some silt	
1225	8.54		180		17.99	335	5.84	155.6	1.81	31.3	at first;	~~0.16~~
1230	8.54		180		17.89	335	5.84	159.4	1.73	24.3	cleared up	0.16
1235	8.54		190		17.90	335	5.84	166.3	1.65	12.5	quickly	0.16
1240	8.54		190		17.90	336	5.82	174.0	1.61	27.0		0.16
1245	8.48		150		18.32	335	5.80	178.7	1.56	83.4	*	0.16
1250	8.46		160		18.45	337	5.80	173.3	1.59	36.2		0.16
1255	8.46		140		18.39	338	5.80	179.4	1.60	34.0		0.16
1300	8.46		140		18.42	336	5.79	176.4	1.63	30.9		0.16
1305	8.46		140		18.36	335	5.79	177.7	1.69	34.2		0.16
1310	8.46		140		18.35	335	5.80	186.4	1.77	14.9		0.16
1315	8.46		140		18.52	333	5.80	189.2	1.85	15.1		0.16
1320	8.46		140	1 gal	18.54	332	5.81	187.0	1.93	9.71		0.16
1325	8.46		140		18.31	330	5.81	193.9	2.08	6.90		0.16
1330	8.46		140	1 gal	18.33	329	5.81	197.6	2.16	6.08		0.16
1335	8.46		140		18.35	330	5.82	199.5	2.24	5.42		0.16

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

* turned down pump dial to try + lower turbidity

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA
Sample ID: OFF-GW-MW6R

Tetra Tech NUS Job No./PMS N4152-0512
QC: N/A (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~liters~~ gal	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments sal
1340	8.46	1/3 turn	140	1	18.32	329	5.81	198.1	2.33	4.78	0.16
1345	8.46	1	140		18.36	329	5.82	200.2	2.37	4.44	0.16
1350	8.46	1	140	4.0	18.41	328	5.82	202.7	2.42	4.48	0.16

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA
Sample ID: OFF-GW-MW8R

Tetra Tech NUS Job No./PMS N4152-0512
QC: MA (If applicable)

Sample Method: low-flow (peristaltic pump)
Depth Sampled: 13.5 Feet Screened Interval Depth 4-14 feet
Sample Date & Time: 8/20/02 1445 hours N/A /Dup
Sampler(s): J. Lambert
Data Recorded By: J. Lambert Signature: [signature]
Notes: MP = top of PVC, 0.6' below ground surface
tide

H&S Survey Meter 0.0 PPM
Pre-pump insertion WL 6.53 ft
Field Instrument Group A/B/C/D
Post - pump insertion WL ~~N/A~~ 6.68 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~liters~~ gal	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments	Sd)
1400	6.53	1/2 turn	190	Begin	purge						*	
1410	6.70		190		17.08	537	6.90	156.9	2.35	3.47	*	0.26
1415	6.68		150		17.20	524	6.91	155.0	2.55	2.49	water is	0.25
1420	6.67		150		17.23	523	6.92	154.1	2.72	1.77	colorless;	0.25
1425	6.68		160		17.21	524	6.92	154.1	2.77	2.18	no odor	0.25
1430	6.69		160		17.18	525	6.93	153.6	2.78	1.61		0.25
1435	6.67		160		17.26	525	6.93	151.9	2.91	1.57		0.26
1440	6.68		160	2.0	17.20	527	6.93	152.7	2.93	1.60		0.26

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

* turned pump dial down

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW9R

Tetra Tech NUS Job No./PMS: N4152-0512
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 14.5 Feet Screened Interval Depth 5-15 feet
Sample Date & Time: 8/20/02 1440 hours NA /Dup
Sampler(s): C. Mackey, J. Lambert
Data Recorded By: C. Mackey Signature: Christi Mackey
Notes: * Low tide

H&S Survey Meter 0 PPM
Pre-pump insertion WL 6.20 ft
Field Instrument Group A/B/C/D
Post - pump insertion WL 6.25 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
13:55	6.39	1/2 turn	200	1.0	17.51	666	7.29	-1.3	10.73	44.4	0.28
14:00	7.10	1/2 turn	200	2.0	17.39	522	7.17	11.4	10.73	48.3	0.28
14:05	7.23	1/2 turn	200	3.0	17.74	567	7.10	13.7	8.34	50.7	0.28
14:10	7.04	1/2 turn	200	4.0	17.65	563	7.07	11.6	7.43	28.2	0.28
14:15	6.25	1/2 turn	200	5.0	17.70	562	7.03	12.2	6.79	12.3	0.27
14:20	6.25	1/2 turn	200	6.0	17.74	563	7.02	12.5	6.46	11.3	0.27
14:25	6.25	1/2 turn	200	7.0	17.79	564	7.01	12.4	6.46	5.48	0.27
14:30	6.25	1/2 turn	200	8.0	17.76	564	7.00	12.7	6.47	2.31	0.27

Sampled @ 14:40

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW105

Tetra Tech NUS Job No./PMS N4152-0512
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 11.5 Feet Screened Interval Depth 4-12 feet
Sample Date & Time: 8/20/02 1155 hours NA /Dup
Sampler(s): C. Mackey J. Lambert
Data Recorded By: C. Mackey Signature: Christi Mackey
Notes: * high tide - Mid tide

H&S Survey Meter ~~8~~ 0 cm PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 7.0 ft Post - pump insertion WL 7.80 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv.	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
10:00	7.10	1/2 turn	200	1.0	17.30	30,455	6.65	242.9	7.35	5.06	22.50
10:05	7.28	1/2 turn	200	2.0	17.25	28,976	6.70	208.5	6.15	4.51	21.26
10:10	7.54	1/2 turn	200	3.0	17.18	27,826	6.73	163.8	5.86	2.94	20.45
10:15	7.73	1/2 turn	200	4.0	17.14	26,915	6.76	105.1	5.44	2.07	19.74
10:20	7.80	1/2 turn	200	5.0	17.13	26,127	6.78	66.2	5.14	1.61	19.11
10:25	7.81	1/2 turn	200	6.0	17.13	25,344	6.80	47.2	4.98	1.62	18.47
10:30	7.84	1/2 turn	200	7.0	17.13	24,345	6.82	30.1	4.70	1.59	17.63
10:35	7.77	1/2 turn	200	8.0	17.10	22540	6.86	6.6	4.27	1.46	16.25
10:40	7.63	1/2 turn	200	9.0	17.08	22,220	6.86	1.1	4.25	1.41	15.98
10:45	7.51	1/2 turn	200	10.0	17.04	21,332	6.88	-10.8	4.08	1.30	15.34
10:50	7.50	1/2 turn	200	11.0	17.04	20,718	6.89	-18.6	3.99	1.32	14.82
10:55	7.68	1/2 turn	200	12.0	17.01	20,016	6.90	-28.7	3.85	1.14	14.30
11:00	7.81	1/2 turn	200	13.0	17.01	19,546	6.91	-35.0	3.82	0.70	13.95
11:05	7.80	1/2 turn	200	14.0	17.01	18,797	6.92	-44.8	3.74	0.64	13.38
11:10	7.80	1/2 turn	200	15.0	16.97	18,280	6.93	-49.7	3.72	0.61	12.96
11:15	7.80	1/2 turn	200	16.0	16.95	17,864	6.94	-53.2	3.74	0.60	12.67

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW10S

Tetra Tech NUS Charge No. N4152-0512
QC: None (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
11:20	7.80	1/2 turn	200	17.0	16.94	17,239	6.95	-60.1	3.74	0.62	12.20
11:25	7.81	1/2 turn	200	18.0	16.96	16,855	6.96	-65.2	3.74	0.62	11.90
11:30	7.80	1/2 turn	200	19.0	16.96	16,761	6.97	-66.4	3.74	0.51	11.79
11:35	7.80	1/2 turn	200	20.0	16.98	16,561	6.97	-69.1	3.74	0.37	11.65
11:40	7.80	1/2 turn	200	21.0	16.98	16,130	6.97	-71.8	3.75	0.35	11.34
11:45	7.80	1/2 turn	200	22.0	16.95	16,108	6.97	-72.9	3.76	0.31	11.29
11:50	7.80	1/2 turn	200	23.0	16.97	16,086	6.97	-73.4	3.76	0.25	11.25

Sampled @ 11:55

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW-MW~~25~~ 11S

Tetra Tech NUS Charge No. N4152-0512
QC: Now (If applicable)

Sample Method: Peristaltic Pump 4-9
Depth Sampled: ~~20~~ 8 Feet Screened Interval Depth ~~25.5-30~~ feet
Sample Date & Time: 8/19/02 1035 hours NA /Dup
Sampler(s): C. Mackey, J. Lambert
Data Recorded By: C. Mackey Signature: [signature]
Notes: Pump started @ 0945
Low/middle tide

H&S Survey Meter 0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 3.23 ft Post - pump insertion WL 5.08 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
0955	4.46	1/2 turn	200	1.0	19.33	13,320	6.65	-162.3	0.40	10.4	8.50
1000	4.56	1/2 turn	200	2.0	19.64	13,160	6.67	-199.7	0.41	9.6	8.52
1005	4.72	1/2 turn	200	3.0	19.80	13,177	6.67	-243.9	0.39	3.85	8.49
1010	4.89	1/2 Turn	200	4.0	19.73	13,192	6.67	-252.6	0.42	2.59	8.55
1015	4.89	1/2 Turn	200	5.0	19.66	13,205	6.67	-259.7	0.51	2.05	8.57
1020	5.00	1/2 turn	200	6.0	19.63	13,208	6.68	-258.6	0.54	1.91	8.58
1025	5.03	1/2 turn	200	7.0	19.68	13,210	6.68	-256.8	0.56	1.36	8.60
1030	5.08	1/2 turn	200	8.0	19.70	13,211	6.68	-254.6	0.57	1.24	8.61
			Sampled @			10:35					

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA (833)
Sample ID: OFF-GW- ~~MW25~~ MW11R

Tetra Tech NUS Job No./PMS N4152-0512
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 20 Feet Screened Interval Depth 16-21 feet
Sample Date & Time: 8/19/02 1135 hours NA/Dup
Sampler(s): C. Mackey J. Lambert
Data Recorded By: C. Mackey Signature: Christi Mackey
Notes: *Low tide

H&S Survey Meter 0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 4.79 ft Post - pump insertion WL 4.90 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	~~Comments~~ Salinity
1055	4.85	1/2 turn	200	1.0	15.93	6185	7.09	-143.9	0.97	18.5	4.05
1100	4.85	1/2 turn	200	2.0	16.02	6250	7.09	-154.8	0.71	17.2	4.07
1105	4.85	1/2 turn	200	3.0	15.63	6167	7.10	-158.6	0.71	10.8	4.08
1110	4.85	1/2 turn	200	4.0	15.48	6065	7.10	-158.8	0.71	9.9	4.08
1115	4.85	1/2 turn	200	5.0	15.41	6016	7.10	-157.3	0.70	4.99	4.09
1120	4.89	1/2 turn	200	6.0	15.08	5973	7.10	-164.7	0.66	3.11	4.08
1125	4.89	1/2 turn	200	7.0	15.10	5969	7.10	-162.9	0.67	2.68	4.08
1130	4.90	1/2 turn	200	8.0	15.12	5967	7.10	-162.5	0.67	2.08	4.08

Sampled @ 11:35

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFA
Sample ID: OFF-GW-MW101

Tetra Tech NUS Job No./PMS N4152-0512
QC: OFF-GW-DP01 (If applicable)

Sample Method: low-flow
Depth Sampled: 7.50 Feet Screened Interval Depth _____ feet
Sample Date & Time: 8/19/02 1030 hours 1035/Dup
Sampler(s): J. Lambert
Data Recorded By: J. Lambert Signature: [signature]
Notes:
MP = top of PVC, 0.3 ft below ground surface
Tide =

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 5.96 ft Post - pump insertion WL 5.95 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~liters~~ liters ~~gal~~	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments	Sal.
0945	5.90	dial at		Begin	purge							
0950	5.95	1/3 rotation	170	0.8	18.61	1080	6.66	-80.4	2.03	7.96	0.50 →	
0955	5.94		160	1.6	18.50	994	6.64	-79.9	2.26	3.68	yellow	0.49
1000	5.94		160	2.4	18.46	985	6.64	-78.0	2.39	2.94	tint	0.4
1005	5.94		160	3.2	18.43	976	6.64	-75.2	2.64	2.32	~~no odor~~ →	0.4
1010	5.95		160	4.0	18.46	970	6.64	-79.1	2.82	2.28	sl. petroleum	0.4
1015	5.95		160	4.8	18.50	968	6.65	-81.9	3.08	1.88	odor	0.4
1020	5.95		160	5.6	18.46	969	6.65	-84.7	3.20	1.80		0.4
1025	5.95		160	~~7.0~~ 6.4 on	18.49	969	6.65	-84.4	3.30	1.74		0.4

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA
Sample ID: OFF-GW-MW102

Tetra Tech NUS Job No./PMS N4152-0512
QC: OFF-GW-DP02 (If applicable)

Sample Method: low-flow
Depth Sampled: ~~11.52~~ 12.0 Feet Screened Interval Depth 2-12 feet
Sample Date & Time: 8/19/02 1355 hours 1400 Dup
Sampler(s): J. Lambert
Data Recorded By: J. Lambert Signature: [signature]
Notes: MP = top of casing
tide =

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 6.07 ft Post - pump insertion WL 7.11 ft

Analysis	Bottle Lot#	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Liters~~ Liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments	Sal.
1130	6.07	1/4 turn		Begin	purge							
1145	7.08		100	0.5	19.41	9008	6.38	-37.3	1.06	30.6	*	5.08
1150	7.09		100	1.0	19.66	8983	6.93	-27.0	1.08	32.7		5.0
1155	7.11		100	1.5	19.88	9011	6.86	-17.6	1.17	30.9	* *	5.06
1200	7.14		100	2.0	19.38	9030	6.92	-22.6	1.24	23.5	no odor	5.06
1205	7.17		100	2.5	19.46	8702	6.91	-39.1	1.38	21.8		4.86
1210	7.19		100	3.0	19.32	8537	6.90	-55.8	1.54	15.3		4.79
1215	7.21		100	3.5	19.18	8193	6.93	-68.0	1.76	10.2		4.9
1220	7.24		100	4.0	19.08	7765	7.02	-86.9	2.11	8.60		4.2
1225	7.25		100	4.5	19.03	7537	7.05	-99.3	2.54	9.95		4.1
1230	7.23		100	5.0	19.14	7252	7.08	-112.5	2.74	5.97		4.0
1235	7.22		100	5.5	19.10	7097	7.10	-123.1	3.08	5.36		3.9
1240	7.22		100	6.0	19.05	6878	7.11	-125.3	3.34	3.98		3.78
1245	7.22		100	~~2.5~~ 6.5	19.02	6623	7.03	-127.9	3.80	3.48		3.62
1250	7.22		100	7.0	19.14	6504	7.00	-124.7	4.02	3.22		3.57
1255	7.20		100	7.5	19.25	6363	6.74	-123.3	4.40	2.77		3.4

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

* note - cannot turn pump dial any lower without losing flow

* Water is visually clear but has red particles - rust?

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: OFFTA
Sample ID: OFF-GW-MW102

Tetra Tech NUS Job No./PMS N4152-0512
QC: OFF-GW-DP02 (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cum. Volume Purged ~~Liters~~ Liters ~~gal~~	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Sal. ~~Comments~~
1300	7.18	1/4 turn	160	8.0	19.22	6245	6.45	-117.8	4.66	2.48	3.40
1305	7.16			8.5	19.33	6142	6.21	-106.9	4.85	2.86	3.35
1310	7.15			9.0	19.13	6104	6.50	-136.5	5.34	3.18	3.~~183~~
* 1315	6.80			9.5	20.13	5906	6.91	-152.6	5.36	2.55	3.22
1320	6.89			10.0	19.56	5824	6.99	-162.8	6.18	1.43	3.17
1325	6.97			10.5	19.25	5799	7.05	-168.4	6.39	3.06	3.15
1330	7.03			11.0	19.22	5758	7.10	-175.4	6.57	1.89	3.14
1335	7.06			11.5	19.33	5593	7.19	-178.7	6.64	1.53	3.03
1340	7.08			12.0	19.23	5551	7.29	-185.3	6.81	1.77	3.01
1345	7.09			12.5	19.09	5519	7.37	-189.4	6.93	1.71	3.00
1350	7.11		160	13 ~~4.0~~	19.02	5511	7.34	-191.4	6.95	1.68	2.99
1355			Collect sample								
1400			collect duplicate								

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Tt NUS Form 0009

* pump stopped running → restarted

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - LIQUID PHASE

Site Name: OFFTA (CTO ~~809~~ 833)
Sample ID: OFF-GW-RB01

Tetra Tech NUS Job No./PMS N4152-0512
QC Information: N/A (if applicable)

Sample Method/Device: peristaltic pump
Depth Sampled: N/A feet Total Depth N/A feet (SW Only)
Sample Date & Time: 8/16/02 1345 hours
Sampler(s): J. Lambert

Date Recorded By: J. Lambert - Signature: J. Lambert

TYPE OF SAMPLE: (Check all that apply)

- X Groundwater
- ___ Surface Water
- ___ Residential Supply
- X Grab
- ___ Composite
- ___ Trip Blank*
- X Rinsate Blank*
- ___ Field Duplicate Collected
- ___ Other (Specify):

*include sample source & lot No.

WELL PURGE DATA:

Well Depth	feet	Purge Start	hrs
Inside Diameter	Inches	Purge Stop Time	hrs
Water Level	feet	Total Gallons Purged	
Well Volume	gal.	Purge Method	

Color: ___ Turbidity: CLR/SL CLDY/CLDY/OPAQ

Micro Tip/OVA Monitor Reading: ppm

Sampling/Purge Data:

Vol. #	Temp °C	pH	Spec. Cond.	DO
0				
1				
3				
4				

ANALYSIS	BOTTLE LOT NO.	TRAFFIC REPORT NO. ORGANIC	TRAFFIC REPORT NO. INORGANIC	COMMENTS
VOA				
SVOC				
Tot. metals				

Tt NUS Form 0004

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - LIQUID PHASE

Site Name: OFFTA (833)
Sample ID: OFF-GW-TB01

Tetra Tech NUS Charge No. NA/152-0512
QC Information: NA (if applicable)

Sample Method/Device: grab
Depth Sampled: NA feet Total Depth NA feet (SW Only)
Sample Date & Time: 8/16/02 12:00 hours
Sampler(s): C. Mackey, J. Lambert

Recorded By: Christ Mackey
Signature

TYPE OF SAMPLE: (Check all that apply)

- ___ Groundwater
- ___ Surface Water
- ___ Residential Supply
- ✓ Grab
- ___ Composite
- ✓ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate Collected
- ___ Other (Specify): Poland Springs

* include sample source & lot No.

WELL PURGE DATA:

Well Depth	feet	Purge Start	hrs
Inside Diameter	Inches	Purge Stop Time	hrs
Water Level	feet	Total Gallons Purged	
Well Volume	gal.	Purge Method	

Color: _____ Turbidity: CLR/SL CLDY/CLDY/OPAQ

Micro Tip/OVA Monitor Reading: ppm

Sampling/Purge Data:

Vol. #	Temp °C	pH	Spec. Cond.	DO
0				
1				
3				
4				

ANALYSIS	BOTTLE LOT NO.	TRAFFIC REPORT NO. ORGANIC	TRAFFIC REPORT NO. INORGANIC	COMMENTS
VOC				

TtNUS Form 0004

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - LIQUID PHASE

Site Name: OFFTA (833)
Sample ID: OFF-GW-TB02

Tetra Tech NUS Charge No. N4152-0512
QC Information: NA (if applicable)

Sample Method/Device: grab
Depth Sampled: NA feet Total Depth NA feet (SW Only)
Sample Date & Time: 8/19/02 10:00 hours
Sampler(s): C. Mackey, J. Lambert

Recorded By: Christi Mackey
Signature

TYPE OF SAMPLE: (Check all that apply)

- ___ Groundwater
- ___ Surface Water
- ___ Residential Supply
- ✓ Grab
- ___ Composite
- ✓ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate Collected
- ___ Other (Specify): Poland Spring

* include sample source & lot No.

WELL PURGE DATA:

Well Depth	feet	Purge Start	hrs
Inside Diameter	Inches	Purge Stop Time	hrs
Water Level	feet	Total Gallons Purged	
Well Volume	gal.	Purge Method	

Color: _____ Turbidity: CLR/SL CLDY/CLDY/OPAQ

Micro Tip/OVA Monitor Reading: ppm

Sampling/Purge Data:

Vol. #	Temp °C	pH	Spec. Cond.	DO
0				
1				
3				
4				

ANALYSIS	BOTTLE LOT NO.	TRAFFIC REPORT NO.		COMMENTS
		ORGANIC	INORGANIC	

TtNUS Form 0004

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - LIQUID PHASE

Site Name: OFFTA (833)
Sample ID: OFF-GW-TB03

Tetra Tech NUS Charge No. N4152-0512
QC Information: NA (if applicable)

Sample Method/Device: Grab
Depth Sampled: NA feet Total Depth NA feet (SW Only)
Sample Date & Time: 8/21/02 1300 hours
Sampler(s): C. Mackey, J. Lambert

Recorded By: Christi Mack
Signature

TYPE OF SAMPLE: (Check all that apply)

- ___ Groundwater
- ___ Surface Water
- ___ Residential Supply
- ✓ Grab
- ___ Composite
- ✓ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate Collected
- ___ Other (Specify):

* include sample source & lot No.

WELL PURGE DATA:

Well Depth	feet	Purge Start	hrs
Inside Diameter	Inches	Purge Stop Time	hrs
Water Level	feet	Total Gallons Purged	
Well Volume	gal.	Purge Method	

Color: _____ Turbidity: CLR/SL CLDY/CLDY/OPAQ

Micro Tip/OVA Monitor Reading: ppm

Sampling/Purge Data:

Vol. #	Temp °C	pH	Spec. Cond.	DO
0				
1				
3				
4				

ANALYSIS	BOTTLE LOT NO.	TRAFFIC REPORT NO.		COMMENTS
		ORGANIC	INORGANIC	

TtNUS Form 0004

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-1R

PROJECT: OFFTA (833)
PROJECT NO.: N4152-0512
PERSONNEL: ~~E. Seydewitz~~ / C. Mackey
J. Lambert

High Tide
1.2 = 1 well Volume

DATE: 8-15-02
WEATHER: Sunny Windy ~80F

Well Screen Depth: 3.5 / 13.5 ft. bgs
H&S Monitoring Instrument Reading: 0

Pump Type/Material: Screw Pump
Pump Intake Depth: 13'

Total Purge Volume = ~8 (gal)
Data Recorded By: CM

Time	Water Level ft below top PVC	Volume ~~mL~~ Gal	Flow Rate ~~mL/min~~ 5 GPM	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ Sal	Salini
13:00	6.00	~2		19.75	7.57	962	6.11	480	0.51	
13:05	6.35	~2/4		18.82	7.41	296	5.78	438	0.16	
13:10	6.41	~2/6		19.46	6.97	377	5.00	279	0.18	
13:15	6.50	~2/8		18.58	6.96	302	4.24	186	0.16	

Began: dark Brown
ended: Colorless + but some turbidity

Tt NUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-25 ~~MW-28S~~

PROJECT: OFFTA 833

1/2 tide

DATE: 8-15-02

PROJECT NO.: N4152-0512

WEATHER: Overcast ~80°F

PERSONNEL: ~~T. Seydewitz~~ CM / C. Mackey / J. Lambert

Well Screen Depth: ~~20.54~~ 14 / ~~30.5~~ ft. bgs

Pump Type/Material: Screw Pump

Total Purge Volume = ~8 (gal)

H&S Monitoring Instrument Reading 0

Pump Intake Depth: ~~30~~ 13.5

Data Recorded By: CM

Time	Water Level ft below top PVC	Volume ~~ml~~ ~~gal~~	Flow Rate ~~ml/min~~ 5 gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salinit
1050	9.21	~1 gal		17.60	7.44	31,089	7.69	+1000	Oily sheen	23.4
1055	8.20	~1		16.49	7.15	29,094	5.58	76.5	on water/	22.0
11:00	8.45	~1		15.82	7.25	27,757	6.23	19.6	black	21.06
11:05	9.38	~1		16.63	7.10	28,050	6.55	10.3	Clear	20.94

Tt NUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-2D

PROJECT: OFFTA 833
PROJECT NO.: N4152-0512
PERSONNEL: L. Seydewitz / C. Mackey

1/2 tide
0.8 = 1 well volume

DATE: 8-15-02
WEATHER: Overcast ~80°F

Well Screen Depth: 20.5 / 30.5 ft. bgs
H&S Monitoring Instrument Reading: 0

Pump Type/Material: Screw Pump
Pump Intake Depth: 29'

Total Purge Volume = ~~~15 gal~~ ~~~33 gal~~ 33 (gal)
Data Recorded By: CM

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~ 5 gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ Salinity	Salin
945	25.43	3 ~~3.5~~	5	14.58	7.23	1654	2.47	202	1.06	
10:05	6.52	3 ~~3.5 gal~~		16.57	7.99	2053	6.29	329	1.28	
10:10	11.87	3 ~~3.5 gal~~		14.01	7.66	1596	3.97	300	1.04	
10:13	12.54	3 gal		14.53	7.72	2036	9.34	270	1.05	
1020	20.01	3 gal		13.71	7.62	1640	6.01	264	1.08	

Tt NUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-35

PROJECT: OFFTA (Site 09)
PROJECT NO.: N4152-0512
PERSONNEL: L. Seydewitz / C. Mackey

0.6 gal = 1 well volume

DATE: 8/8/02
WEATHER: sunny, breezy, ~80°F

Well Screen Depth: 4 / 14 ft. bgs
H&S Monitoring Instrument Reading: 0

Pump Type/Material: rotary screw pump
Pump Intake Depth: 13"

Total Purge Volume = ~10 (gal)
Data Recorded By: L.S.

Time	Water Level ft below top PVC	Volume ~~mL~~ GAL	Flow Rate ~~mL/min~~ gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salin
1237	10.68	2.82		20.0	6.67	1.25	7.76	8	red	0.02
1250	9.39			19.9	6.84	1.81	7.82	9	grey	0.08
1303	8.67			18.6	6.90	1.89	7.74	10	grey	0.08
1327	8.66			19.5	6.81	1.95	7.47	504	lighter grey	0.0
									*Turbidy reading is off.	

Tt NUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: N(1)-45

PROJECT: OFFTA (Site 09)
PROJECT NO.: N4152-0512
PERSONNEL: L. Seydewitz / C. Mackey

0.9 gal = 1 well volume

DATE: 8/8/02
WEATHER: sunny, breezy, ~ 75°F

Well Screen Depth: 3 / 13 ft. bgs
H&S Monitoring Instrument Reading: 0

Pump Type/Material: Rotary Screw Pump
Pump Intake Depth: 12'

Total Purge Volume = ~16 (gal)
Data Recorded By: L. Seydewitz

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~ 5 gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salinit
1115	7.67	3.98		18.7	6.59	0.707	8.67	10 Brown	Turbidity	.03
11:30	11.23	3.98		21.1	6.74	0.547	7.53	10 Grey	not	.02
11:35	11.80	3.98		19.2	6.72	0.646	6.04	10	reading	.02
11:45	9.42	3.98	↓	18.9	6.63	0.797	8.23	10 Clear	Correctly	.03

Tt NUS Form 0013

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-5S

PROJECT: OFFTA (833)

1 Well Volume = 1.7 gal

DATE: 8-15-02

PROJECT NO.: N4152-0512

WEATHER: Sunny ~85°F

PERSONNEL: ~~L. Seydewitz~~ S.L. / C. Mackey
J. Lambert

Well Screen Depth: 8 / 18 ft. bgs

H&S Monitoring Instrument Reading 0

Pump Type/Material: ISCO peristaltic ~~Screw Pump~~

Pump Intake Depth: 18.0 ft

Total Purge Volume = ~10 (gal)

Data Recorded By: [illegible]

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~ ~~Sgal/min~~	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salin
1425	~~7.20~~ 7.15		0.5 gpm	Begin	purge					
1430	11.00	2	0.5	20.45	~~6.55~~	587	5.06	137		0.28
1435	12.73	4	0.5	19.22	6.47	605	3.01	234		0.2[illegible]
1440	14.59	6	0.5	18.87	6.33	623	1.79	75.0		0.3[illegible]
1445	14.03	8	1.0	18.64	6.39	623	6.88	102		0.3
1450	16.05	10	1.0	18.38	6.34	623	3.15	~~117~~ 117		0.3

Tt NUS Form 0013

18.0 - act. well depth
7.1
10.9

.16
1.1
1.16

17

Page ___ of ___

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-6S

PROJECT: OFFTA (833)
PROJECT NO.: N4152-0512
PERSONNEL: ~~L. Sagdeeite~~ J. Lambert / C. Mackey

1 well Volume = 0.07 gal
high tide

DATE: 8-15-02
WEATHER: Sunny ~85°F

Well Screen Depth: 4 / 9 ft. bgs
H&S Monitoring Instrument Reading 0

Pump Type/Material: Screw Pump
Pump Intake Depth: 8'

Total Purge Volume = 350 mL ~~(gal)~~
Data Recorded By: CM

Time	Water Level ft below top PVC	Volume mL	Flow Rate ~~mL/min~~ - Sgal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments Sal	Salini
1400	8.28	350		29.61	7.66	353	8.02	905	0.15	
		— Well is dry —			Will not recharge					

Tt NUS Form 0013

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~~0.16~~ 0.16

103 2
172
275 2

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW 6 R

PROJECT: OFFTA (833)
PROJECT NO.: N4152-0512
PERSONNEL: ~~L. Sepulveda~~ / C. Mackey / J. Lambert

DATE: 8/15/02
WEATHER: 85°, windy

Well Screen Depth: 16 / 26 ft. bgs
H&S Monitoring Instrument Reading 0

Pump Type/Material: Isco peristaltic
Pump Intake Depth: 25.5'

Total Purge Volume = ~15 (gal)
Data Recorded By: [signature]

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~ gpm	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salin
1330	8.23	3	0.5							
1340	15.90	63		19.48	6.97	369	4.08	300		0.18
1345	16.15	6		18.83	5.88	348	5.70	179		0.1
1355	16.06	9		18.14	5.74	349	4.01	722		0.17
1400	16.11	12		18.07	5.67	338	4.83	333		0.16
1405	16.41	15		18.79	5.71	345	4.40	291		0.16

Tt NUS Form 0013

total well depth = 25.42
water level = 8.23

Page ___ of ___

1.2
0.16
432
7.2
1152

TETRA TECH NUS, INC.	WELL DEVELOPMENT DATA SHEET	Well No.: MW8R

PROJECT: OFFTA (833)
PROJECT NO.: N4152-0512
PERSONNEL: ~~L. Seydewitz~~ / C. Mackey / S. Lambert

DATE: 8/15/02
WEATHER: windy, 80°

Well Screen Depth: 4 / 14 ft. bgs
H&S Monitoring Instrument Reading 0.0

Pump Type/Material: ISCO Peristaltic
Pump Intake Depth: Bottom

Total Purge Volume = 13 (gal)
Data Recorded By: [illegible]

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~ gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salin
1235	6.53		~~1.0~~ 0.5		Begin	purge				
1240	7.15	2.5	~~1.0~~ 0.5	18.63	7.86	568	3.13	3.68		0.2
1245	10.40	5.0		17.51	7.10	571	1.87	2.01		0.2
1247 ~~50~~	11.90	7.5		17.06	7.05	581	4.19	10.7		0.2
~~1250~~ 1255	9.67	10.0		17.64	7.03	558	6.34	12.5		0.2
1300	13.51	~~10~~ 12.5	0.5	17.91	7.09	588	8.52	7.35		0.2

Tt NUS Form 0013

total depth = 13.7 ft
WL = 6.5
7.2 ft

Page ___ of ___

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-9R

PROJECT: OFFTA 833
PROJECT NO.: N4152-0512
PERSONNEL: ~~L. Sagebeite~~ S. Lambert / C. Mackey

Mid. tide to high
1 well volume = 1.5 gal

DATE: 8-15-02
WEATHER: Cloudy ~75°F

Well Screen Depth: 5 / 15 ft. bgs
H&S Monitoring Instrument Reading 0

Pump Type/Material: Screw Pump
Pump Intake Depth: 14' - 14.5'

Total Purge Volume = ~13 (gal)
Data Recorded By: CM

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ Sal.	Salini
11:55	6.23	~3	5 gal/min	19.01	8.07	1120	6.20	800	0.62	
12:00	7.51	~3	↓	17.87	7.41	508	4.63	509	0.29	
12:05	7.34	~3		18.22	7.36	518	5.12	926	0.29	
12:10	~~8.05~~ 7.02	~4	↓	17.84	7.47	520	5.82	805	0.29	

Water started out very grey then turned to a light grey.

Tt NUS Form 0013

Page ___ of ___

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-10S

PROJECT: OFFTA (833)
PROJECT NO.: N4152-0512
PERSONNEL: ~~L. Sequeira~~ CM / C. Mackey / J. Lambert

High Tide
1 Well Volume = 0.75 gal

DATE: 8-15-02
WEATHER: Sunny, Windy ~85°F

Well Screen Depth: 4 / 12 ft. bgs
H&S Monitoring Instrument Reading: 0

Pump Type/Material: Screw Pump
Pump Intake Depth: ~12.5'

Total Purge Volume = ~3 gal (gal)
Data Recorded By: CM

Time	Water Level ft below top PVC	Volume mL	Flow Rate ~~mL/min~~ 5 gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	~~Comments~~ Sal	Salin
12:30	7.00	~1 gal	↓	21.30	7.10	36,489	7.79	550	25.09	
12:40	7.91	~1 gal		19.05	6.99	36,455	6.89	244	26.41	
12:45	8.23	~1 gal		18.65	7.05	19,192	6.00	54.2	13.13	

Started out reddish-Brown ended Clear.

Tt NUS Form 0013

Page ___ of ___

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-115

PROJECT: OFFTA (Site 09)
PROJECT NO.: N4152-0512
PERSONNEL: L. Seydewitz / C. Mackey

0.2 gal = 1 well volume

DATE: 8/8/02
WEATHER: sunny, breezy, ~85°F

Well Screen Depth: 4 / 9 ft. bgs
H&S Monitoring Instrument Reading: 0

Pump Type/Material: rotary screw pump
Pump Intake Depth: 8'

Total Purge Volume = ~10 (gal)
Data Recorded By: L.S.

Time	Water Level ft below top PVC	Volume mL	Flow Rate ~~mL/min~~ Gal/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salini
1340	8.00	2.19	5	20.9	7.00	12.0	7.22	10	dark grey	0.6
1400	6.64	3.50		21.8	7.15	12.7	6.93	-10	light grey	0.22
1410	6.49	3.50		22.5	7.17	12.8	6.69	-10	clear	0.23
									* turbidity reading is not working	

Tt NUS Form 0013

Page ___ of ___

.16
936
156
2496

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET Well No.: MW-11R

PROJECT: OFFTA

PROJECT NO.: N4152-0512

PERSONNEL: L. Seydewitz / C. Mackey · J. Lambert

2.7 gal = 1 well volume

DATE: 8/15/02

WEATHER: 85° Rum.d

Well Screen Depth: 16 / ~~20~~ 21 ft. bgs

H&S Monitoring Instrument Reading 0.0

Pump Type/Material: 1500 peristaltic

Pump Intake Depth: 20.16 - 16.0

Total Purge Volume = 27 (gal)

Data Recorded By: [illegible]

Time	Water Level ft below top PVC	Volume ~~mL~~ ~~gal~~	Flow Rate ~~mL/min~~ GPM	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salini
1140 ~~start purge~~										
1140	4.40	start	purge							
1155	8.45	7	2gpm	15.51	6.92	6458	1.79	178		3.55
1200	8.43	12	↓	15.07	6.87	5488	2.57	114		2.99
1205	8.24	17		15.02	~~6~~ 6.94	5119	5.66	41.0		2.76
1210	8.31	22	↓	14.62	6.90	4910	4.88	18.0		2.68
1215	8.17	27	2gpm	14.70	6.86	4723	3.26	13.4		2.52

Tt NUS Form 0013

well depth = 20.10
WL = 4.40
15.60

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TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW-101

PROJECT: OFFTA (Site 9)
PROJECT NO.: N4152-0512
PERSONNEL: L. Seydewitz / C. Mackey

0.2 gal = 1 well volume

DATE: 8/8/02
WEATHER: sunny, breezy, ~80°F

Well Screen Depth: 3 / 8 ft. bgs
H&S Monitoring Instrument Reading 0

Pump Type/Material: rotary screw Pump
Pump Intake Depth: 7'

Total Purge Volume = ~10 (gal)
Data Recorded By: L.S

Time	Water Level ft below top PVC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salini
1155	6.71	0.935	5	27.3	6.59	1.0	2	2		0.05
1156	6.95			18.6	6.77	1.1	8.10	7		0.04
1157	6.91			19.2	6.87	1.17	8.01	10		0.05
1158	7.21			18.9	6.88	1.19	7.92	1	clear	0.05
1159	7.0			18.4	6.95	1.20	8.10	1	clear	0.05

Tt NUS Form 0013

Page ___ of ___

TETRA TECH NUS, INC.

WELL DEVELOPMENT DATA SHEET

Well No.: MW 102

PROJECT: OFFTA

PROJECT NO.: N4152-0512

PERSONNEL: ~~L. Seydewitz~~ Jm / C. Mackey J. Lambert

DATE: 8/15/02

WEATHER: 80°, humid

Well Screen Depth: 2 / 12 ft. bgs

H&S Monitoring Instrument Reading: PID - ND

Pump Type/Material: ISCO Peristaltic

Pump Intake Depth: Bottom

Total Purge Volume = ~~N/6~~ (gal)

Data Recorded By: D.L.

Time	Water Level ft below top PVC	Volume ~~mL~~ gal	Flow Rate ~~mL/min~~	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Comments	Salini
1005	4.65	1.25	2gpm	18.13	7.45	14250	5.64	~~214~~ 218	lt. brown.	8.3
1015	11.60	2.5	2	17.37	7.51	10557	6.01	10.3	sl. odor	6.8
1030	11.55	4.0	2	16.26	7.66	8506	6.72	18.1	↓	4.7
1045	11.60	5.0	2	16.87	7.72	~~5378~~ 8410	4.66	12.2	↓	2.9
1100	11.66	6.0	2	16.25	7.71	8103	4.45	8.91	yellowish (clear)	4.4

Tt NUS Form 0013

7.

11.75
4.65
7.1

1.2 ~~3.5~~ = 1 well volume

Jm

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 01D0036 Model No.: YSI 600XLBM Decal No.:

Site Name: OFETA Job No.: 04152-6512

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/19/02	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm 1000/10,000	985/8050	1000/8050	1017/7868	See 8/15/02	(AMrPm)	10,000 = read only
pH = 4.0	3.91	4.00	4.10	cal log sheet		
pH = 7.0	6.99	7.00	7.01	for details		
pH = 10.0	10.02	10.00	9.93			
D.O. mg/l	8.09	8.14	7.54			
REDOX mV	230.1	231.0	224.9			
~~Turbidity 0 NTUs~~	—	—	—			
Turbidity 100 NTUs	—	—	—			
Temp °C	25.81	25.81	33.84			read only
~~Salinity 0/00~~ Bar. pressure	760.3	760.3	761.3			read only

DATE: 8-20-02				See 8-15-02		
Cond. mS/cm 1000/10,000	938/8099	1000/8099	670/4166		CMacly	10,000 Read only
pH = 4.0	4.02	4.00	4.23	Cal log		
pH = 7.0	6.90	7.00	6.96	sheet		
pH = 10.0	10.20	10.03	10.01	for details		
D.O. mg/l	9.80	8.67	7.87			
REDOX mV	235.3	231.0	232.2			
~~Turbidity 0 NTUs~~	—	—	—			
Turbidity 100 NTUs	—	—	—			
Temp °C	24.25	24.25	21.35			Read only
~~Salinity 0/00~~ Bar Press	760.7	760.7	762.8			Read only

Tt NUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 01D0036 Model No.: YSI 600XL BM Decal No.:

Site Name: OFFTA Job No.: N4152.0517

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/15/02	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm 1000/10,000	1201/8263	999/8263	943/6181	2904/2886	J Fmt	10,000 = read only
pH = 4.0	3.95	4.00	4.05	2760		
pH = 7.0	6.97	7.00	6.91	2800		
pH = 10.0	10.02	10.00	9.99	2894		
D.O. mg/l	7.77	7.90	8.40	—		
REDOX mV	222.0	231.0	233.2	01K0908		
~~Turbidity 0 NTUs~~ Bar. press	768.2	768.2	770.3	—		read only
Turbidity 100 NTUs	—	—	—	—		
Temp °C	28.08	28.68	23.93	—		read only
Salinity 0/00	—	—	—	—		

DATE: 8/16/02				See 8/15/02 for cal standard lot #s		
Cond. mS/cm 1000/10,000	1045/~~6294~~ 7870	1000/~~8244~~ 7870	765/8180		J Fmt	10,000 = read only
pH = 4.0	4.07	4.00	3.99			
pH = 7.0	7.01	7.06	7.05			
pH = 10.0	9.95	9.99	9.89			
D.O. mg/l	8.60	8.44	8.05			
REDOX mV	233.7	231.0	2352			
Turbidity 0 NTUs	—	—	—			
Turbidity 100 NTUs	—	—	—			
Temp °C	24.29	24.29	27.41			read only
~~Salinity 0/00~~ Bar. press	762.2	762.2	760.5			read only

Tt NUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 01D0036 Model No.: YSI-600XL Decal No.:

Site Name: OFFTA Job No.: N4152-0512

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/21/02	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm 1000/10,000	1059/8057	1000/8051	931/8453	See 8-15-02	[signature]	10,000 = read only
pH = 4.0	3.97	4.00	4.50	Cal log sheets		
pH = 7.0	6.99	7.00	6.87	for details		
pH = 10.0	10.02	10.00	9.97			
D.O. mg/l	~~X~~ 6.77	8.42	9.70			
REDOX mV	235.3	237.0	246.0			
~~Turbidity 0 NTUs~~	—	—	—			
~~Turbidity 100 NTUs~~	—	—	—			
Temp °C	24.71	24.72	19.46			read only
~~Salinity 0/00~~ Bar. pressure	770.3	770.3	770.7			read only

DATE:						
Cond. mS/cm						
pH = 4.0						
pH = 7.0						
pH = 10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

CW

Tt NUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 01M0657 Model No.: YSI 600XL Decal No.:

Site Name: OFFTA Job No.: N4152-0512

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/15/02	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm 1000/10,000	9601 9565	1000/ 9565	1053/9460	2904/ 2886	[signature]	10,000 = read only
pH = 4.0	4.03	4.00	4.05	2760		
pH = 7.0	7.00	7.00	6.97	2800	C Mackey pM check.	
pH = 10.0	9.97	9.99	10.01	2894		
D.O. mg/l	7.95	7.86	10.06	—		
REDOX mV 231	221.5	231.0	239.5	0140908		
Turbidity 0 NTUs *	—	—	—	—		
Turbidity 100 NTUs *	—	—	—	—		
Temp °C	27.80	28.45	27.21	—		
~~Salinity 0/00~~	—	—	—	—		
press.	769.7	769.7	767.2	—		

DATE: 8/16/02				see 8/15/02 for cal lot #s		
Cond. mS/cm 1000/10,000	~~799~~/1141/8291	1000/ 8291	995/8521		[signature]	10,000 = read only
pH = 4.0	4.04	4.00	4.0			
pH = 7.0	7.01	7.00	7.02			
pH = 10.0	9.99	10.00	10.03			
D.O. mg/l	—	8.54	8.05			
REDOX mV	233.8	231.0	236.1			
Turbidity 0 NTUs *	—	—	—			
Turbidity 100 NTUs *	—	—	—			
Temp °C	23.58	23.58	26.04			read only
~~Salinity 0/00~~ Barometric press.	764.7	764.7	764.9			read only

Tt NUS Form 0024

* see turb. cal log for details

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 01M0657 Model No.: YSI-600XL Decal No.:

Site Name: OFETA Job No.: N4152-05/2

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/19/02	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm 1000/10,000	1026/8092	1006/8092	1018/8032	see 8/15/02 Cal log sheet for details	[signature] (AMX pm)	10,000 = read only
pH = 4.0	3.96	4.00	4.17			
pH = 7.0	6.99	7.00	7.04			
pH = 10.0	10.01	10.00	10.04			
D.O. mg/l	8.31	8.31	8.75			
REDOX mV	229.5	231.0	222.0			
~~Turbidity 0 NTUs~~	—	—	—			
~~Turbidity 100 NTUs~~	—	—	—			
Temp °C	24.65	24.65	22.32			read only
~~Salinity 0/00~~ Bar. press.	759.0	759.0	760.5			read only

DATE: 8-20						
Cond. mS/cm 1000/10,000	1056/~~77~~ 7369	990/7369	731/7640	See 8/15/02 Cal log sheets	[signature]	10,000 Read only
pH = 4.0	4.01	4.00	4.21			
pH = 7.0	6.93	7.00	6.96			
pH = 10.0	10.14	10.02	10.05			
D.O. mg/l	8.63	8.63	9.06			
REDOX mV	235.8	231.0	232.9			
~~Turbidity 0 NTUs~~	—	—	—			
~~Turbidity 100 NTUs~~	—	—	—			
Temp °C	22.44	22.44	20.11			read only
~~Salinity 0/00~~ Bar. press.	759.6	759.6	762.9			read only

Tt NUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 01M0657 Model No.: YSI-600XC Decal No.:

Site Name: OFFTA Job No.: N4152-0512

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 8/21/02	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm 1000/10,000	980/7620	1000/7620	864/7650	see 8/15/02	[signature]	10,000 = read only
pH = 4.0	4.00	4.00	5.13	cal log sheet		
pH = 7.0	6.97	7.00	6.48	for details		
pH = 10.0	10.02	10.00	9.31			
D.O. mg/l	8.48	8.48	6.91			
REDOX mV	231.2	231.0	240.3			
~~Turbidity 0 NTUs~~	—	—	—			
~~Turbidity 100 NTUs~~	—	—	—			
Temp °C	24.28	24.28	22.56			read only
~~Salinity 0/00~~ Bar. pressure	769.9	769.9	770.7			read only

DATE:						
Cond. mS/cm						
pH = 4.0						
pH = 7.0						
pH = 10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

Tt NUS Form 0024

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

INSTRUMENT NAME: Turbidimeter

MODEL NO.: DRT-15CE

SERIAL NO.: 806112

DECAL NO.:

TETRA TECH NUS JOB NO./PMS N4152-0512

CALIBRATION DATE	INITIAL READING	PROCEDURE	FINAL READING	SIGNATURE	COMMENTS
8-15-02	0.02 100 10 1000	Calibration Standard Kit	0.1 98 15 896	C Mach	
8-16-02	0.02 100 10 1000	"	0.51 97.8 9.4 950	C Mach	
8-19-02	0.02 100 10 1000	"	0.43 10.7 97.8 1020	[illegible]	
8/20/02	0.02 94.2 9.73 920	"	0.60 10.19 97.3 1000	[illegible]	
8-21-02	0.02 100 10 1000	"	0.42 869 9.9 1114	C Mach	

Tt NUS Form 0007

TETRA TECH NUS, INC.

FIELD INSTRUMENT CALIBRATION LOG

INSTRUMENT NAME: Turbidimeter

MODEL NO.: DRT-15CE

SERIAL NO.: 906071

DECAL NO.:

TETRA TECH NUS JOB NO./PMS N4152-0512

CALIBRATION DATE	INITIAL READING	PROCEDURE	FINAL READING	SIGNATURE	COMMENTS
8-15-02	0.02 10 100 1000	Calibration Standard Kit	0.5 18 79 912	CMacy	
8-16-02	0.02 10 100 1000		0.01 9.9 98.7 991	CMacy	
8-19-02	0.02 10 100 1000		0.00 10.4 99.8 103.0	[illegible]	
8/20/02	0.02 10.00 100.0 1000		0.02 10.06 100.2 1012	[illegible]	
8/21/02	0.02 10 100 1000		0.04 10.5 110 1028	CMacy	

Tt NUS Form 0007

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: EDKJ316 Model No.: 2020 Decal No.:

Site Name/Location: OFFTA 833, Newport RI Tetra Tech NUS Job No./PMS: N4157-0512

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
8-15-02	Lot # 00152-02 Conc. = 100 ppm	99.8	98.1	C Mach	
8-16-02	Lot # 00152-02 Conc. = 100 ppm	100	99.4	C Mach	
8-19-02	Lot # 00152-02 Conc. = 100 ppm	99.9	101	C. Machey	
8-20-02	Lot # 00152-02 Conc. = 100 ppm	100	95.3	Christ Machey	
8-21-02	Lot # 00152-02 Conc. = 100 ppm	100	98.9	C Machey	
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				
	Lot # Conc. = ppm				

Tt NUS Form 0006

TETRA TECH NUS, INC.

PHOTOIONIZATION DETECTOR FIELD CALIBRATION LOG

Serial No.: _____ Model No.: 2020 Decal No.: NA

Site Name/Location: Old Fire Fighting Training Area (833) Tetra Tech NUS Job No./PMS: N4152-0512

CALIBRATION DATE	STANDARD GAS-ISOBUTYLENE	CALIBRATION READING Isobutylene Equiv. (ppm)	CALIBRATION CHECK Isobutylene Equiv. (ppm)	SIGNATURE	COMMENTS
8-8-02	Lot # _____ Conc. = 100 ppm	100 ppm	97	Chris Mach	
8-9-02	Lot # _____ Conc. = 100 ppm	100 ppm	99	Christ Mach	
	Lot # _____ Conc. = _____ ppm			~~Christ Mach~~	
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				
	Lot # _____ Conc. = _____ ppm				

Tt NUS Form 0006

TETRA TECH NUS, INC.

HORIBA U-10 WATER QUALITY CHECKER

Serial No.:

Model No.: U-10 Water Quality Meter

Decal No.:

Site Name: Old Fire Fighting Training Area (833)

Job No.: N4152-0512

Buffer Lot No.:

Instrument is calibrated in accordance with Manufacturer's Instructions

Calibration Date	Initial Readings						Final Readings						Signature	Comments
	pH = 4.0	Cond. m/cm	Turbidity NTUs	D.O. mg/l	Temp. (°C)	Salinity	pH = 4.0	Cond. m/cm	Turbidity NTUs	D.O. mg/l	Temp. (°C)	Salinity		
8-8-02	3.93	4.47	0	7.32	19.0	0.23	3.96	4.42	1	7.33	20.5	0.22	C. Mackey	
8-9-02	Pump not working - did not use horiba												C. Mackey	

Tt NUS Form 0023

APPENDIX D

SEDIMENT AND GROUNDWATER STANDARD ANALYSES, MITKEM

Appendix D
Aqueous Volatile Organic Analysis By Method 8260B (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Station Location	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Date Sampled	8/19/02		8/19/02		8/19/02		8/19/02		8/20/02		8/19/02		8/19/02	
Date Extracted														
Date Analyzed	8/21/2002		8/23/2002		8/21/2002		8/23/2002		8/23/2002		8/21/2002		8/23/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	Field Dup.		Field Dup.		None		None		None		None		None	
Dichlorodifluoromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Disulfide	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methyl tert-Butyl Ether	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloroform	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Cyclohexane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	5	U	1	J	5	U	1	J	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Volatile Organic Analysis By Method 8260B (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Station Location	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Date Sampled	8/19/02		8/19/02		8/19/02		8/19/02		8/20/02		8/19/02		8/19/02	
Date Extracted														
Date Analyzed	8/21/2002		8/23/2002		8/21/2002		8/23/2002		8/23/2002		8/21/2002		8/23/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	Field Dup.		Field Dup.		None		None		None		None		None	
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Total Xylenes	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-chloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Volatile Organic Analysis By Method 8260B (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Station Location	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Date Sampled	8/20/02		8/19/02		8/19/02		8/16/02		8/16/02		8/21/02		8/21/02	
Date Extracted														
Date Analyzed	8/23/2002		8/23/2002		8/23/2002		8/19/2002		8/19/2002		8/23/2002		8/23/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	None		None		None		None		None		None		None	
Dichlorodifluoromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Disulfide	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methyl tert-Butyl Ether	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloroform	39		5	U	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Cyclohexane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Volatile Organic Analysis By Method 8260B (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Station Location	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Date Sampled	8/20/02		8/19/02		8/19/02		8/16/02		8/16/02		8/21/02		8/21/02	
Date Extracted														
Date Analyzed	8/23/2002		8/23/2002		8/23/2002		8/19/2002		8/19/2002		8/23/2002		8/23/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	None		None		None		None		None		None		None	
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Total Xylenes	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-chloropropane	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Semivolatile Organic Analysis By Method 8270C (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Station Location	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Date Sampled	8/19/02		8/19/02		8/19/02		8/19/02		8/20/02		8/19/02		8/19/02	
Date Extracted	8/21/2002		8/21/2002		8/21/2002		8/21/2002		8/21/2002		8/21/2002		8/21/2002	
Date Analyzed	8/24/2002		8/24/2002		8/24/2002		8/24/2002		8/24/2002		8/24/2002		8/24/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	Field Dup.		Field Dup.		None		None		None		None		None	
Benzaldehyde	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-Chloroethyl)ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetophenone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitrophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Naphthalene	9	J	10	U	8	J	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Caprolactam	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	5	J	10	U	4	J	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
1,1'-Biphenyl	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Acenaphthene	1	J	10	U	1	J	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
4-Nitrophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Dibenzofuran	1	J	10	U	1	J	10	U	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Semivolatile Organic Analysis By Method 8270C (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Station Location	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Date Sampled	8/19/02		8/19/02		8/19/02		8/19/02		8/20/02		8/19/02		8/19/02	
Date Extracted	8/21/2002		8/21/2002		8/21/2002		8/21/2002		8/21/2002		8/21/2002		8/21/2002	
Date Analyzed	8/24/2002		8/24/2002		8/24/2002		8/24/2002		8/24/2002		8/24/2002		8/24/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	Field Dup.		Field Dup.		None		None		None		None		None	
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	1	J	10	U	1	J	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	50	U	50	U	50	U	50	U	50	U	50	U	50	U
4,6-Dinitro-2-methylphenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
N-Nitroso-diphenylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Atrazine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Phenanthrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-Butylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Semivolatile Organic Analysis By Method 8270C (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Station Location	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Date Sampled	8/20/02		8/19/02		8/19/02		8/16/02		8/16/02		8/21/02		8/21/02	
Date Extracted	8/21/2002		8/21/2002		8/21/2002		8/19/2002		8/19/2002		8/22/2002		8/22/2002	
Date Analyzed	8/23/2002		8/24/2002		8/23/2002		8/24/2002		8/23/2002		9/10/2002		9/10/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	None		None		None		None		None		None		None	
Benzaldehyde	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-Chloroethyl)ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetophenone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitrophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Caprolactam	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
1,1'-Biphenyl	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Acenaphthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
4-Nitrophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Semivolatile Organic Analysis By Method 8270C (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Station Location	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Date Sampled	8/20/02		8/19/02		8/19/02		8/16/02		8/16/02		8/21/02		8/21/02	
Date Extracted	8/21/2002		8/21/2002		8/21/2002		8/19/2002		8/19/2002		8/22/2002		8/22/2002	
Date Analyzed	8/23/2002		8/24/2002		8/23/2002		8/24/2002		8/23/2002		9/10/2002		9/10/2002	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	None		None		None		None		None		None		None	
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	50	U	50	U	50	U	50	U	50	U	50	U	50	U
4,6-Dinitro-2-methylphenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
N-Nitroso-diphenylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Atrazine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	50	U	50	U	50	U	50	U	50	U	50	U	50	U
Phenanthrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-Butylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Semivolatile Organic Analysis By Method 8270C (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01	
Station Location	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01	
Date Sampled	8/20/02		8/20/02		8/16/02	
Date Extracted	8/22/2002		8/22/2002		8/19/2002	
Date Analyzed	9/10/2002		9/10/2002		8/23/2002	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	None		None		Rinsate Blank	
Benzaldehyde	10	U	10	U	4	J
Phenol	10	U	10	U	10	U
Bis(2-Chloroethyl)ether	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U
Acetophenone	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U
2-Nitrophenol	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U
Bis(2-Chloroethoxy)methane	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U
Caprolactam	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U
2,4,6-Trichlorophenol	10	U	10	U	10	U
2,4,5-Trichlorophenol	50	U	50	U	50	U
1,1'-Biphenyl	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U
2-Nitroaniline	50	U	50	U	50	U
Dimethylphthalate	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U
3-Nitroaniline	50	U	50	U	50	U
Acenaphthene	10	U	10	U	10	U
2,4-Dinitrophenol	50	U	50	U	50	U
4-Nitrophenol	50	U	50	U	50	U
Dibenzofuran	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Semivolatile Organic Analysis By Method 8270C (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01	
Station Location	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01	
Date Sampled	8/20/02		8/20/02		8/16/02	
Date Extracted	8/22/2002		8/22/2002		8/19/2002	
Date Analyzed	9/10/2002		9/10/2002		8/23/2002	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	None		None		Rinsate Blank	
2,4-Dinitrotoluene	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U
4-Nitroaniline	50	U	50	U	50	U
4,6-Dinitro-2-methylphenol	50	U	50	U	50	U
N-Nitroso-diphenylamine	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U
Atrazine	10	U	10	U	10	U
Pentachlorophenol	50	U	50	U	50	U
Phenanthrene	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U
Di-n-Butylphthalate	10	U	10	U	1	J
Fluoranthene	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Volatile Organic Analysis By Method 8260B (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01		OFF-GW-TB01		OFF-GW-TB02		OFF-GW-TB03	
Station Location	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01		OFF-GW-TB01		OFF-GW-TB02		OFF-GW-TB03	
Date Sampled	8/20/02		8/20/02		8/16/02		8/16/02		8/19/02		8/21/02	
Date Extracted												
Date Analyzed	8/26/2002		8/26/2002		8/19/2002		8/19/2002		8/21/2002		8/26/2002	
Dilution Factor	1		1		1		1		1		1	
Percent Solids												
QC Identifier	None		None		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Dichlorodifluoromethane	5	U	5	U	5	U	5	U	5	U	5	U
Chloromethane	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl Chloride	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	5	U	5	U	5	U	5	U	5	U	5	U
Chloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Trichlorofluoromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	9		5	U	6		6		12		5	U
Carbon Disulfide	5	U	5	U	5	U	5	U	5	U	5	U
Methyl Acetate	5	U	5	U	5	U	5	U	5	U	5	U
Methylene Chloride	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
Methyl tert-Butyl Ether	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,2-Dichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	5	U	5	U	5	U	3	J	6		5	U
Chloroform	5	U	5	U	5	U	5	U	5	U	5	U
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Cyclohexane	5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U	5	U	5	U	5	U
Methylcyclohexane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	5	U	5	U	5	U	5	U	5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromoethane	5	U	5	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous Volatile Organic Analysis By Method 8260B (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01		OFF-GW-TB01		OFF-GW-TB02		OFF-GW-TB03	
Station Location	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01		OFF-GW-TB01		OFF-GW-TB02		OFF-GW-TB03	
Date Sampled	8/20/02		8/20/02		8/16/02		8/16/02		8/19/02		8/21/02	
Date Extracted												
Date Analyzed	8/26/2002		8/26/2002		8/19/2002		8/19/2002		8/21/2002		8/26/2002	
Dilution Factor	1		1		1		1		1		1	
Percent Solids												
QC Identifier	None		None		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
Total Xylenes	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	5	U
Isopropylbenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
1,3-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,4-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dibromo-3-chloropropane	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous TAL Metal Analysis (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Station Location	OFF-GW-DP01		OFF-GW-DP02		OFF-GW-MW101		OFF-GW-MW102		OFF-GW-MW10S		OFF-GW-MW11S		OFF-GW-MW11R	
Date Sampled	8/19/02		8/19/02		8/19/02		8/19/02		8/20/02		8/19/02		8/19/02	
Date Extracted														
Date Analyzed														
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	Field Dup.		Field Dup.		None		None		None		None		None	
Aluminum	18.5	B	12.0	U	15.5	B	16.0	B	12.0	U	20.6	B	22.0	B
Antimony	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Arsenic	24.8		3.0	U	25.9		3.0	U	3.0	U	3.0	U	7.8	B
Barium	50.3	B	25.3	B	52.0	B	26.5	B	32.2	B	114	B	13.2	B
Beryllium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Cadmium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Calcium	44200		37800		44800		36700		177000		220000		90800	
Chromium	3.0	U	27.8		3.0	U	31.0		3.0	U	3.0	U	3.0	U
Cobalt	3.0	U	3.0	U	3.0	U	3.0	U	8.8	B	3.0	U	4.8	B
Copper	2.4	B	2.4	B	2.0	U	3.0	B	2.0	U	2.0	U	2.0	U
Iron	11000		941		11000		972		374		115	B	8580	
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	16000	E	111000	E	16000	E	110000	E	416000	E	351000	E	168000	E
Manganese	237	E	72.0	E	236	E	68.9	E	1070	E	742	E	2810	E
Mercury	0.15	U	0.14	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U
Nickel	0.70	B	13.2	B	0.50	U	13.1	B	2.9	B	2.9	B	1.3	B
Potassium	16800	E	93700	E	18200	E	90400	E	265000	E	218000	E	136000	E
Selenium	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U
Silver	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Sodium	193000		1110000		192000		1080000		3840000		3250000		1450000	
Thallium	4.0	UN	4.0	UN	4.0	UN	4.0	UN	4.0	UN	4.0	UN	4.0	UN
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Zinc	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous TAL Metal Analysis (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Station Location	OFF-GW-MW1R		OFF-GW-MW2S		OFF-GW-MW2D		OFF-GW-MW3S		OFF-GW-MW4S		OFF-GW-MW5S		OFF-GW-MW6R	
Date Sampled	8/20/02		8/19/02		8/19/02		8/16/02		8/16/02		8/21/02		8/21/02	
Date Extracted														
Date Analyzed														
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	None		None		None		None		None		None		None	
Aluminum	69.4	B	12.0	U	93.7	B	60.4	B	23.9	B	283		54.8	B
Antimony	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Arsenic	3.0	U	3.0	U	3.0	U	3.8	B	5.4	B	3.0	U	3.0	U
Barium	12.4	B	148	B	10.8	B	29.6	B	11.8	B	18.3	B	9.0	B
Beryllium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Cadmium	2.0	U	3.1	B	2.0	U	2.0	U	2.0	U	2.0	U	2.5	B
Calcium	24500		247000		43900		27100		12000		81800		6860	
Chromium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Cobalt	26.5	B	3.0	U	6.1	B	3.0	U	7.8	B	3.0	U	3.0	U
Copper	2.0	U	47.3		2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Iron	134	B	169	B	424		10900		622		1220		101	B
Lead	1.0	U	14.8		1.5	B	1.3	B	1.0	U	1.0	U	1.0	U
Magnesium	4000	E	589000	E	42900	E	26400		9930		20600	E	6050	E
Manganese	189	E	121	E	4290	E	3180		5430		513	E	19.3	BE
Mercury	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.14	U	0.13	U
Nickel	8.8	B	18.4	B	6.2	B	1.2	B	1.8	B	4.5	B	6.8	B
Potassium	5350	E	429000	E	36800	E	15500		7090		7890	E	4780	E
Selenium	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U
Silver	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Sodium	19300		6050000		296000		327000		77400		38600		53000	
Thallium	4.0	UN	4.0	UN	4.0	UN	4.0	U	4.0	U	4.0	UN	4.0	UN
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Zinc	16.7	B	1090		14.8	B	8.0	U	8.0	U	76.0		8.0	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Appendix D
Aqueous TAL Metal Analysis (ug/l)
Site: Old Firefighter Training Area
Case: 0833; SDG: AUG02

EPA Sample Number	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01	
Station Location	OFF-GW-MW8R		OFF-GW-MW9R		OFF-GW-RB01	
Date Sampled	8/20/02		8/20/02		8/16/02	
Date Extracted						
Date Analyzed						
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	None		None		Rinsate Blank	
Aluminum	12.0	U	34.1	B	12.0	U
Antimony	3.0	U	3.0	U	3.0	U
Arsenic	3.0	U	3.0	U	3.0	U
Barium	6.6	B	18.0	B	12.8	B
Beryllium	2.0	U	2.0	U	2.0	U
Cadmium	2.0	U	2.0	U	2.0	U
Calcium	54500		37500		76.0	U
Chromium	3.0	U	3.0	U	3.0	U
Cobalt	3.0	U	3.2	B	3.0	U
Copper	2.0	U	2.0	U	4.2	B
Iron	35.0	U	313		35.0	U
Lead	1.0	U	1.0	U	1.0	U
Magnesium	7190	E	8730	E	23.0	U
Manganese	3120	E	1570	E	2.4	B
Mercury	0.14	U	0.14	U	0.15	U
Nickel	6.6	B	3.6	B	0.50	U
Potassium	5410	E	7920	E	89.0	U
Selenium	8.0	U	8.0	U	8.0	U
Silver	2.0	U	2.0	U	2.0	U
Sodium	65000		82000		284	B
Thallium	4.0	UN	4.0	UN	4.0	U
Vanadium	3.0	U	3.0	U	3.0	U
Zinc	8.0	U	8.0	U	8.0	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
• - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

MITKEM CORPORATION

"Environmental Testing For The New Millennium"

September 17, 2002

RECEIVED
SEP 18 2002
TETRA TECH NUS, INC.
WILMINGTON, MA 01887-1020

Tetra Tech NUS, Inc.
55 Jonspin Road
Wilmington, MA 01887
Attn: Mr. Steve Parker

RE: Client Project: CTO – 833, Old Fire Fighter Training Area, Newport, RI
Mitkem Lab Project # A1231/A1244

Dear Mr. Parker:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project.

If you have any questions regarding this report, please call me.

We appreciate your business.

Sincerely,

Edward A. Lawler
Laboratory Operations Manager

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499 • www.mitkem.com

Analytical Data Package for Tetra Tech NUS, Inc.

Client Project: CTO – 833, Old Fire Fighter Training Area, Newport, RI

SDG# A1231

Mitkem Project ID: A1231 / A1244

September 17, 2002

SDG Narrative

Mitkem Corporation submits the enclosed data package in response to Tetra Tech NUS' CTO – 833, Old Fire Fighter Training Area, Newport, RI project. Under this deliverable, analysis results are presented for twenty aqueous samples that were received at Mitkem between August 16 and 21, 2002. Samples were logged-in to two Mitkem laboratory workorders, which were combined into a single SDG for reporting purposes. Analyses were performed per specifications in the project's contract and the chain of custody forms.

The analyses were performed according to EPA SW-846 protocols and reported in a Level 3 deliverable, consisting of all CLP-type reporting forms, but no raw analysis data.

The following observation and/or deviations are observed for the following analyses:

1. Volatile Analysis:

Samples were analyzed by SW-846 Method 8260B, for the current CLP OLM analyte list, and are reported on CLP (OLM4 style) report forms.

Surrogate recovery: recoveries were within the QC limits.

Lab control sample/lab control sample duplicate: spike recoveries and replicate RPDs were within the QC limits.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on sample OFF-GW-MW4S. Spike recoveries and replicate RPDs were within the QC limits.

Sample analysis: no unusual observation was made for the analyses.

2. Semivolatile Analysis:

Samples were analyzed by SW-846 Method 8270C, for the current CLP OLM analyte list, and are reported on CLP (OLM3 style) report forms.

Surrogate recovery: recoveries were within the QC limits.

Lab control sample/lab control sample duplicate: spike recoveries were within the QC limits with the exception of one to three compounds each for five out of the six LCS or LCSD analyzed with this submittal. The sixth LCS (S3BLCS) had twelve analytes with percent recoveries marginally above the upper QC limit, apparently due to being over-spiked prior to extraction. Please note that the duplicate LCS analyzed with this batch had only three compounds above the upper QC limit.

Matrix spike/matrix spike duplicate: duplicate matrix spikes were performed on sample OFF-GW-MW4S. Spike recoveries and replicate RPDs were within the QC limits with the exception of one percent recovery above the upper QC limit.

Sample analysis: one method blank (SBLK1B) analyzed with this submittal was double-spiked with internal standards prior to analysis. This was corrected-for during all compound calculations, but the form 8 (internal standard area summary) continues to show the unusually high areas. No other unusual observation was made for the analyses.

3. Metals Analysis:

Samples were analyzed by SW-846 Methods 6010B/7471, and reported on CLP format report forms. Samples were prepared in two different digestion batches, each with dedicated preparation QC analyses. These digestion batches are assigned different SDG numbers on the reporting forms to maintain the QC association.

Lab control sample: spike recoveries were within the QC limits.

Matrix spike: matrix spike was performed on samples OFF-GW-MW4 (all elements), GWMW15 (ICP elements) and OFF-GW-MW8R (mercury only). Spike recoveries were within QC limits for all elements with the exception of thallium in GWMW15S. Post-digestion spike analysis was performed on thallium.

Matrix duplicate: matrix duplicate was performed on samples OFF-GW-MW4 (all elements), GWMW15 (ICP elements) and OFF-GW-MW8R (mercury only). Replicate RPDs were within the QC limits. Aluminum and barium were incorrectly flagged on Form 1's and Form 6 for sample OFF-GW-MW4 due to software issues. Manual corrections were made to these forms.

Sample analysis: no other unusual observation was noted for the analysis.

The pages in this report have been numbered consecutively, starting from this narrative and ending with a page saying only "Last Page of Data Report".

I certify that this data package is in compliance, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Edward A. Lawler
Laboratory Operations Manager
9/17/02

Sample Transmittal Documentation

Mitkem Corporation — *17/Aug/02 8:27* — WorkOrder: A1231

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/06/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1231-01A	OFF-GW-MW4S	08/16/02 12:00	08/16/02	Aqueous	SW8260B_W	OLM list	☐	☑	☐	VOA
A1231-01B	OFF-GW-MW4S	08/16/02 12:00	08/16/02	Aqueous	SW6010B_W	TAL	☐	☑	☑	M2
					SW7470A	TAL	☐	☑	☐	M2
A1231-01C	OFF-GW-MW4S	08/16/02 12:00	08/16/02	Aqueous	SW8270C_W	OLM list	☐	☑	☐	I1
A1231-02A	OFF-GW-TB01	08/16/02 12:00	08/16/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1231-03A	OFF-GW-RB01	08/16/02 13:45	08/16/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1231-03B	OFF-GW-RB01	08/16/02 13:45	08/16/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1231-03C	OFF-GW-RB01	08/16/02 13:45	08/16/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	I1
A1231-04A	OFF-GW-MW35	08/16/02 13:45	08/16/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1231-04B	OFF-GW-MW35	08/16/02 13:45	08/16/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2

Client Rep: Benjamin F Dodge

004

Mitkem Corporation

17/Aug/02 8:27

WorkOrder: A1231

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/06/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1231-04B	OFF-GW-MW35	08/16/02 13:45	08/16/02	Aqueous	SW7470A	TAL	☐	☐	☐	M2
A1231-04C	OFF-GW-MW35	08/16/02 13:45	08/16/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	I1

Client Rep: Benjamin F Dodge

005

Mitkem Corporation — *21/Aug/02 15:17* — WorkOrder: A1244

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/11/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1244-01A	GWTB02	08/19/02 10:00	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-02A	GWMW115	08/19/02 10:35	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-02B	GWMW115	08/19/02 10:35	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-02C	GWMW115	08/19/02 10:35	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-03A	GWMW101	08/19/02 10:30	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-03B	GWMW101	08/19/02 10:30	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-03C	GWMW101	08/19/02 10:30	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-04A	GWDP01	08/19/02 10:35	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-04B	GWDP01	08/19/02 10:35	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2

Client Rep: Benjamin F Dodge

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/11/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1244-04B	GWDP01	08/19/02 10:35	08/20/02	Aqueous	SW7470A	TAL	☐	☐	☐	M2
A1244-04C	GWDP01	08/19/02 10:35	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-05A	GWMW11R	08/19/02 11:35	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-05B	GWMW11R	08/19/02 11:35	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-05C	GWMW11R	08/19/02 11:35	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-06A	GWMW2D	08/19/02 13:35	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-06B	GWMW2D	08/19/02 13:35	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-06C	GWMW2D	08/19/02 13:35	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-07A	GWMW102	08/19/02 13:55	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA

Client Rep: Benjamin F Dodge

007

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/11/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1244-07B	GWMW102	08/19/02 13:55	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-07C	GWMW102	08/19/02 13:55	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-08A	GWDP02	08/19/02 14:00	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-08B	GWDP02	08/19/02 14:00	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-08C	GWDP02	08/19/02 14:00	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-09A	GWMW25	08/19/02 15:15	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-09B	GWMW25	08/19/02 15:15	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-09C	GWMW25	08/19/02 15:15	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4

Client Rep: Benjamin F Dodge

008

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/11/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1244-10A	GWMW1R	08/20/02 11:15	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-10B	GWMW1R	08/20/02 11:15	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-10C	GWMW1R	08/20/02 11:15	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-11A	GWMW105	08/20/02 11:55	08/20/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-11B	GWMW105	08/20/02 11:55	08/20/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-11C	GWMW105	08/20/02 11:55	08/20/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-12A	OFF-GW-MW5S	08/21/02 12:30	08/21/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-12B	OFF-GW-MW5S	08/21/02 12:30	08/21/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2

Client Rep: Benjamin F Dodge

009

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/11/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1244-12C	OFF-GW-MW5S	08/21/02 12:30	08/21/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-13A	OFF-GW-MW6R	08/21/02 13:55	08/21/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-13B	OFF-GW-MW6R	08/21/02 13:55	08/21/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-13C	OFF-GW-MW6R	08/21/02 13:55	08/21/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4
A1244-14A	OFF-GW-TB03	08/21/02 13:00	08/21/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-15A	OFF-GW-MW9R	08/20/02 14:40	08/21/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-15B	OFF-GW-MW9R	08/20/02 14:40	08/21/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-15C	OFF-GW-MW9R	08/20/02 14:40	08/21/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4

Client Rep: Benjamin F Dodge

010

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: N4152-0512
Comments: CLP analyte lists, SW-846 methods. All CLP forms, no raw data.

Case:
SDG:
PO: MA-01-102B-1298, REL-22-833

Report Level: LEVEL 3
EDD: TTNUS
HC Due: 09/11/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1244-16A	OFF-GW-MW8R	08/20/02 14:45	08/21/02	Aqueous	SW8260B_W	OLM list	☐	☐	☐	VOA
A1244-16B	OFF-GW-MW8R	08/20/02 14:45	08/21/02	Aqueous	SW6010B_W	TAL	☐	☐	☑	M2
					SW7470A	TAL	☐	☐	☐	M2
A1244-16C	OFF-GW-MW8R	08/20/02 14:45	08/21/02	Aqueous	SW8270C_W	OLM list	☐	☐	☐	E4

Client Rep: Benjamin F Dodge

011

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No. CTO-833

Page 1 of 1

Project No. N4152-0512

Laboratory Name: Mitkem Corp

Sampler Signatures: [illegible]

Date Shipped

Carrier

Airbill No.

No. of Coolers

A1231

	Sample Number	Matrix	YR=2002 Date/Time	Sample Location	Tag Number(s)	QC	Container Type: 1L Poly	Container Type: 1L Amber	Container Type: 40 mL Amber	Container Type	Container Type
							Analysis: Total metals	Analysis: SVOC	Analysis: VOC	Analysis	Analysis
							Preservative: HNO_3	Preservative: Ice only	Preservative: HCl	Preservative	Preservative
01	OFF-GW-MW4S	GW	8-16/1220			MS/MSD	2	3	6		
02	OFF-GW-TB01	AQ	8-16/1200			TB	—	—	2		
03	OFF-GW-RB01	AQ	8-16/1345			RB	1	1	2		
04	OFF-GW-MW3S	GW	8-16/1345			—	1	1	2		

Relinquished By (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
[signature]	1600 8-16-02		YES NO	Lab QC = OFF-GW-MW4S
Relinquished By: (Signature)	Date/Time	Received for Laboratory By: [signature]	Date/Time 8-16-02 1600	

Tt NUS Form 0022

02101

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY Tetra Tech NUS	PHONE (978) 658-7899	COMPANY	PHONE	LAB PROJECT #: A1244
NAME J. Lambert	FAX (978) 658-7870	NAME	FAX	
ADDRESS 55 Jonspin Rd		ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Wilmington MA		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
OFFTA - CTO 833	N4152-0512	

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED (YR = 2002)	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	VOC	SVOC	TAL Metals									COMMENTS
OFF-GW-TB02	8/19 / 1000		X			TB	01	2	2	-	-									
OFF-GW-MW11S	8/19 / 1035		X	X			02	4	2	1	1									
OFF-GW-MW101	8/19 / 1030		X	X			03	4	2	1	1									
OFF-GW-DP01	8/19 / 1035		X	X			04	4	2	1	1									
OFF-GW-MW11R	8/19 / 1135		X	X			05	4	2	1	1									
OFF-GW-MW2D	8/19 / 1335		X	X			06	4	2	1	1									
OFF-GW-MW102	8/19 / 1355		X	X			07	4	2	1	1									
OFF-GW-DP02	8/19 / 1400		X	X			08	4	2	1	1									
OFF-GW-MW2S	8/19 / 1515		X	X			09	4	2	1	1									
OFF-GW-MW1R	8/20 / 1115		X	X			10	4	2	1	1									
OFF-GW-MW10S	8/20 / 1155		X	X			11	4	2	1	1									
	/																			

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
	J. Lambert	8/20/02 1315	J. Davis	8-20-02 1315		6°C
		/		/		
		/		/		

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Page 1 of 1

Project No. N4152-0512

Laboratory Name: Mitkem

Sampler Signatures: CMack

Date Shipped: DRoseel

Airbill No. 066 — Carrier — No. of Coolers

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Container Type: 40ml VOA Vial	Container Type: 1L Amber	Container Type: Poly	Container Type	Container Type
						Analysis: VOCs	Analysis: SVOC	Analysis: TAL Metals	Analysis	Analysis
						Preservative: HCl	Preservative: Ice	Preservative: HNO_3	Preservative	Preservative
12 OFF-GW-MW5S	~~NA~~ GW	8/21/02	1330		—	2	1	1		
13 OFF-GW-MW6R	~~NA~~ GW	8/21/02	1355		—	2	1	1		
14 OFF-GW-TB03	~~FB~~ AQ	8/21/02	13:00		TB	2	—	—		
~~OFF-GW-~~										
15 OFF-GW-MW9R	GW	8/20/02	1440		—	2	1	1		
16 OFF-GW-MW8R	GW	8/20/02	1445		—	2	1	1		

CM 8/21

CM 8/21

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
CMack	8-21-02 510		YES NO	4C
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	
		Arthur Radl	8-21-02 1500	

Tt NUS Form 0022

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02102

MITKEM CORPORATION

Sample Condition Form

Page 1 of 1

Received By:	Reviewed By:	Date: 8-16-02	MITKEM Project: A1231

Client Project: N4152-0512 Client: TETRA TECH

Condition:

1)Custody Seal(s) Present / Absent

Coolers / Bottles

Intact / Broken

Custody Seal Numbers

3)Chain -of- Custody Present / Absent

4)Airbill(s) Present / Absent

Airbill Number(s) DROPOFF

5)Cooler Temperature 6°C

Coolant Condition ICE

6)Sample Bottles Intact/Broken/Leaking

7)Date Received 8-16-02

8)Time Received 1601

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaO	VOA Matrix
A123101	CZ				H
A123102					↓
A123103	CZ				↓
A123104	CZ				↓

VOA Matrix Key:

US = Unpreserved Soil A = Air

UA = Unpreserved Aqueous H = HCl

M/N = MeOH& NaHSO4 E=Encore

N = NaHSO4 M = MeOH

See Sample Condition Notification / Corrective Action Form yes / no

Comments / Remarks Rad Ok yes / no

MITKEM CORPORATION

Sample Condition Form

Received By: SH	Reviewed By:	Date: 8-20-02	MITKEM Project: A1244

Client Project: OFFTA-CTO833 Client: Tetra Tech

Condition:

1)Custody Seal(s) Present / Absent

Coolers / Bottles

Intact / Broken

Custody Seal Numbers

3)Chain -of- Custody Present / Absent

4)Airbill(s) Present / Absent

Airbill Number(s)

5)Cooler Temperature 6°C

Coolant Condition ice

6)Sample Bottles Intact/Broken/Leaking

7)Date Received 8-20-02

8)Time Received 1315

Lab Sample ID		Preservation (pH) HNO3	H2SO4	HCl	NaO	VOA Matrix
A1244	-01	~~SH~~ <2				H
	-02	<2				
	-03	<2				
	-04	<2				
	-05	<2				
	-06	<2				
	-07	<2				
	-08	<2				
	-09	<2				
	-10	<2				
A1244	-11	<2				H

VOA Matrix Key:

US = Unpreserved Soil A = Air

UA = Unpreserved Aqueous H = HCl

M/N = MeOH& NaHSO4 E=Encore

N = NaHSO4 M = MeOH

See Sample Condition Notification / Corrective Action Form yes / no

Comments / Remarks Rad Ok yes / no

MITKEM CORPORATION

Sample Condition Form

Received By: JPL	Reviewed By:	Date: 8/20/12	MITKEM Project: A1244

Client Project: Client: TETRA TECH

Condition:

1)Custody Seal(s) Present / Absent

Coolers / Bottles

Intact / Broken

Custody Seal Numbers

3)Chain -of- Custody Present / Absent

4)Airbill(s) Present / Absent

Airbill Number(s)

5)Cooler Temperature 5°

Coolant Condition ICE

6)Sample Bottles Intact/Broken/Leaking

7)Date Received 8/20/12

8)Time Received 2:00

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaO	VOA Matrix

VOA Matrix Key:

US = Unpreserved Soil
UA = Unpreserved Aqueous
M/N = MeOH& NaHSO4
N = NaHSO4 M = MeOH
A = Air
H = HCl
E=Encore

See Sample Condition Notification / Corrective Action Form yes / no

Comments / Remarks

Rad Ok yes / no

MITKEM CORPORATION

Sample Condition Form

Page 1 of 1

Received By: NR	Reviewed By: SK	Date: 8-21-02	MITKEM Project: A1244

Client Project: N41S20512 Client: TETRA TECH

Condition:

1)Custody Seal(s) Present / Absent
Coolers / Bottles
Intact / Broken

Custody Seal Numbers

3)Chain -of- Custody Present / Absent

4)Airbill(s) Present / Absent

Airbill Number(s) D00OFT

5)Cooler Temperature 4°C

Coolant Condition ICE

6)Sample Bottles Intact/Broken/Leaking

7)Date Received 8-21-02

8)Time Received 1500

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaO	VOA Matrix
A1244012	CZ				H
A1244013	CZ				H
A1244014					H
A1244015	CZ				H
A1244016	CZ				H

VOA Matrix Key:
US = Unpreserved Soil
UA = Unpreserved Aqueous
M/N = MeOH& NaHSO4
N = NaHSO4 M = MeOH
A = Air
H = HCl
E=Encore

See Sample Condition Notification / Corrective Action Form yes / no

Comments / Remarks

Rad Ok yes / no

MITKEM CORPORATION

* Volatiles *

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW4S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-01A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2169

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW4S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-01A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2169

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-TB01

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-02A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2172

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	6	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	3	J
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-TB01

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-02A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2172

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-RB01

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-03A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2173

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	6	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-RB01

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-03A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2173

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW3S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-04A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2174

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW3S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-04A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2174

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWTB02

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-01A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2240

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	12	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	6	
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWTB02

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-01A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2240

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW115

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-02A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2241

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW115

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-02A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2241

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW101

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-03A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2242

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW101

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-03A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2242

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP01

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-04A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2243

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP01

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-04A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2243

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW11R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-05A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2290

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW11R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-05A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2290

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW2D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-06A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2291

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW2D

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-06A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2291

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW102

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-07A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2292

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	1	J
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW102

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-07A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2292

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP02

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-08A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2293

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	1	J
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP02

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-08A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2293

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW25

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-09A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2294

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW25

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-09A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2294

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-10A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2295

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	39	
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW1R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-10A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2295

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW105

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-11A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2296

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW105

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-11A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2296

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW5S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-12A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2297

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW5S

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-12A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2297

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW6R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-13A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2298

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW6R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-13A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2298

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-TB03

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-14A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2328

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-TB03

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-14A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2328

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW9R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-15A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2329

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW9R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-15A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2329

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW8R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-16A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2330

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	9	
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW8R

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-16A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2330

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6W

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0819A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2162

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

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6W

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0819A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2162

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

% Moisture: not dec. _____ Date Analyzed: 08/19/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6A

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0821A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2222

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

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6A

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0821A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2222

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

% Moisture: not dec. _____ Date Analyzed: 08/21/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6E

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0823A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2282

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

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6E

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0823A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2282

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

% Moisture: not dec. _____ Date Analyzed: 08/23/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6G

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0826A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2322

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

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	5	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U

1B
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK6G

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: V6B0826A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V6C2322

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

% Moisture: not dec. _____ Date Analyzed: 08/26/02

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-Hexanone	5	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylene (Total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropylbenzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
76-13-1	1,1,2-Trichlo-1,2,2-trifluoro	5	U
79-20-9	Methyl Acetate	5	U
110-81-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

	EPA SAMPLE NO.	SMC1 #	SMC2 (DCE) #	SMC3 (TOL) #	OTHER (BFB) #	TOT OUT
01	VBLK6W	102	97	108	96	0
02	V6WLCS	104	97	104	101	0
03	V6WLCSD	100	96	104	101	0
04	OFF-GW-MW4S	103	96	113	96	0
05	OFF-GW-MW4SMS	101	97	103	97	0
06	OFF-GW-MW4SMSD	101	95	104	99	0
07	OFF-GW-TB01	102	94	111	95	0
08	OFF-GW-RB01	102	95	110	95	0
09	OFF-GW-MW3S	101	92	111	93	0
10	VBLK6A	103	96	107	98	0
11	V6ALCS	102	106	101	104	0
12	V6ALCSD	102	100	102	104	0
13	GWTB02	105	98	107	94	0
14	GWMW115	105	93	109	96	0
15	GWMW101	103	91	108	96	0
16	GWDP01	103	92	108	96	0
17	VBLK6E	101	101	102	102	0
18	V6ELCS	100	103	99	101	0
19	GWMW11R	100	102	100	101	0
20	GWMW2D	100	101	102	99	0
21	GWMW102	100	101	102	100	0
22	GWDP02	100	101	101	100	0
23	GWMW25	99	103	103	100	0
24	GWMW1R	100	100	102	99	0
25	GWMW105	100	102	102	99	0
26	OFF-GW-MW5S	100	99	103	100	0
27	OFF-GW-MW6R	99	98	104	99	0
28	VBLK6G	103	96	106	100	0
29	V6GLCS	100	99	101	106	0
30	OFF-GW-TB03	100	91	99	94	0

		QC LIMITS
SMC1	= Dibromofluoromethane	(78-117)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(62-124)
SMC3 (TOL)	= Toluene-d8	(81-116)
OTHER (BFB)	= Bromofluorobenzene	(74-126)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

	EPA SAMPLE NO.	SMC1 #	SMC2 (DCE) #	SMC3 (TOL) #	OTHER (BFB) #	TOT OUT
01	OFF-GW-MW9R	103	100	100	101	0
02	OFF-GW-MW8R	106	105	103	100	0
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
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26						
27						
28						
29						
30						

		QC LIMITS
SMC1	= Dibromofluoromethane	(78-117)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(62-124)
SMC3 (TOL)	= Toluene-d8	(81-116)
OTHER(BFB)	= Bromofluorobenzene	(74-126)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	50	0.0	48	96	48-135
Chloromethane	50	0.0	46	92	60-118
Vinyl Chloride	50	0.0	46	92	65-113
Bromomethane	50	0.0	37	74	73-122
Chloroethane	50	0.0	45	90	72-118
Trichlorofluoromethane	50	0.0	46	92	68-129
1,1-Dichloroethene	50	0.0	46	92	67-121
Acetone	50	0.0	23	46	38-161
Carbon Disulfide	50	0.0	48	96	53-137
Methylene Chloride	50	0.0	44	88	59-132
trans-1,2-Dichloroethen	50	0.0	50	100	71-124
Methyl tert-butyl ether	50	0.0	43	86	75-123
1,1-Dichloroethane	50	0.0	46	92	83-116
2-Butanone	50	0.0	34	68	64-139
cis-1,2-Dichloroethene	50	0.0	47	94	83-120
Chloroform	50	0.0	48	96	89-118
1,1,1-Trichloroethane	50	0.0	52	104	81-122
Carbon Tetrachloride	50	0.0	52	104	79-125
1,2-Dichloroethane	50	0.0	45	90	83-123
Trichloroethene	50	0.0	49	98	77-121
Benzene	50	0.0	49	98	81-120
1,2-Dichloropropane	50	0.0	47	94	81-116
Bromodichloromethane	50	0.0	47	94	90-114
cis-1,3-Dichloropropene	50	0.0	43	86	78-119
4-Methyl-2-pentanone	50	0.0	48	96	57-138
Toluene	50	0.0	51	102	81-121
trans-1,3-Dichloroprope	50	0.0	44	88	85-118
1,1,2-Trichloroethane	50	0.0	48	96	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Tetrachloroethene	50	0.0	51	102	73-121
2-Hexanone	50	0.0	40	80	53-145
Dibromochloromethane	50	0.0	45	90	80-124
1,2-Dibromoethane	50	0.0	45	90	80-124
Chlorobenzene	50	0.0	48	96	82-118
Ethylbenzene	50	0.0	49	98	80-122
Xylene (Total)	150	0.0	140	93	81-121
Styrene	50	0.0	50	100	77-128
Bromoform	50	0.0	47	94	77-130
Isopropylbenzene	50	0.0	52	104	58-148
1,1,2,2-Tetrachloroetha	50	0.0	45	90	76-125
1,3-Dichlorobenzene	50	0.0	48	96	80-116
1,4-Dichlorobenzene	50	0.0	48	96	80-114
1,2-Dichlorobenzene	50	0.0	48	96	81-116
1,2-Dibromo-3-chloropro	50	0.0	43	86	71-126
1,2,4-Trichlorobenzene	50	0.0	45	90	67-114
1,1,2-Trichlo-1,2,2-tri	50	0.0	54	108	70-130
Methyl Acetate	50	0.0	41	82	70-130
Cyclohexane	50	0.0	56	112	70-130
Methylcyclohexane	50	0.0	58	116	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50	49	98	2	40	48-135
Chloromethane	50	44	88	4	40	60-118
Vinyl Chloride	50	47	94	2	40	65-113
Bromomethane	50	38	76	3	40	73-122
Chloroethane	50	45	90	0	40	72-118
Trichlorofluoromethane	50	47	94	2	40	68-129
1,1-Dichloroethene	50	45	90	2	40	67-121
Acetone	50	20	40	14	40	38-161
Carbon Disulfide	50	46	92	4	40	53-137
Methylene Chloride	50	44	88	0	40	59-132
trans-1,2-Dichloroethen	50	49	98	2	40	71-124
Methyl tert-butyl ether	50	43	86	0	40	75-123
1,1-Dichloroethane	50	46	92	0	40	83-116
2-Butanone	50	36	72	6	40	64-139
cis-1,2-Dichloroethene	50	46	92	2	40	83-120
Chloroform	50	47	94	2	40	89-118
1,1,1-Trichloroethane	50	51	102	2	40	81-122
Carbon Tetrachloride	50	51	102	2	40	79-125
1,2-Dichloroethane	50	44	88	2	40	83-123
Trichloroethene	50	47	94	4	40	77-121
Benzene	50	48	96	2	40	81-120
1,2-Dichloropropane	50	46	92	2	40	81-116
Bromodichloromethane	50	45	90	4	40	90-114
cis-1,3-Dichloropropene	50	43	86	0	40	78-119
4-Methyl-2-pentanone	50	49	98	2	40	57-138
Toluene	50	50	100	2	40	81-121
trans-1,3-Dichloroprope	50	44	88	0	40	85-118
1,1,2-Trichloroethane	50	46	92	4	40	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Tetrachloroethene	50	50	100	2	40	73-121
2-Hexanone	50	42	84	5	40	53-145
Dibromochloromethane	50	44	88	2	40	80-124
1,2-Dibromoethane	50	45	90	0	40	80-124
Chlorobenzene	50	47	94	2	40	82-118
Ethylbenzene	50	47	94	4	40	80-122
Xylene (Total)	150	140	93	0	40	81-121
Styrene	50	49	98	2	40	77-128
Bromoform	50	45	90	4	40	77-130
Isopropylbenzene	50	50	100	4	40	58-148
1,1,2,2-Tetrachloroetha	50	45	90	0	40	76-125
1,3-Dichlorobenzene	50	48	96	0	40	80-116
1,4-Dichlorobenzene	50	47	94	2	40	80-114
1,2-Dichlorobenzene	50	47	94	2	40	81-116
1,2-Dibromo-3-chloropro	50	43	86	0	40	71-126
1,2,4-Trichlorobenzene	50	45	90	0	40	67-114
1,1,2-Trichlo-1,2,2-tri	50	52	104	4	40	70-130
Methyl Acetate	50	41	82	0	40	70-130
Cyclohexane	50	55	110	2	40	70-130
Methylcyclohexane	50	57	114	2	40	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 48 outside limits
Spike Recovery: 0 out of 96 outside limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: V6WLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	50		47	94	48-135
Chloromethane	50		44	88	60-118
Vinyl Chloride	50		46	92	65-113
Bromomethane	50		38	76	73-122
Chloroethane	50		46	92	72-118
Trichlorofluoromethane	50		44	88	68-129
1,1-Dichloroethene	50		43	86	67-121
Acetone	50		37	74	38-161
Carbon Disulfide	50		53	106	53-137
Methylene Chloride	50		47	94	59-132
trans-1,2-Dichloroethen	50		51	102	71-124
Methyl tert-butyl ether	50		44	88	75-123
1,1-Dichloroethane	50		50	100	83-116
2-Butanone	50		40	80	64-139
cis-1,2-Dichloroethene	50		51	102	83-120
Chloroform	50		51	102	89-118
1,1,1-Trichloroethane	50		53	106	81-122
Carbon Tetrachloride	50		52	104	79-125
1,2-Dichloroethane	50		47	94	83-123
Trichloroethene	50		52	104	77-121
Benzene	50		52	104	81-120
1,2-Dichloropropane	50		49	98	81-116
Bromodichloromethane	50		50	100	90-114
cis-1,3-Dichloropropene	50		50	100	78-119
4-Methyl-2-pentanone	50		47	94	57-138
Toluene	50		53	106	81-121
trans-1,3-Dichloroprope	50		49	98	85-118
1,1,2-Trichloroethane	50		49	98	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: V6WLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Tetrachloroethene	50		52	104	73-121
2-Hexanone	50		48	96	53-145
Dibromochloromethane	50		48	96	80-124
1,2-Dibromoethane	50		46	92	80-124
Chlorobenzene	50		51	102	82-118
Ethylbenzene	50		51	102	80-122
Xylene (Total)	150		150	100	81-121
Styrene	50		56	112	77-128
Bromoform	50		48	96	77-130
Isopropylbenzene	50		54	108	58-148
1,1,2,2-Tetrachloroetha	50		43	86	76-125
1,3-Dichlorobenzene	50		52	104	80-116
1,4-Dichlorobenzene	50		52	104	80-114
1,2-Dichlorobenzene	50		52	104	81-116
1,2-Dibromo-3-chloropro	50		40	80	71-126
1,2,4-Trichlorobenzene	50		50	100	67-114
1,1,2-Trichlo-1,2,2-tri	50		48	96	70-130
Methyl Acetate	50		43	86	70-130
Cyclohexane	50		54	108	70-130
Methylcyclohexane	50		56	112	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: V6WLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50	38	76	21	40	48-135
Chloromethane	50	41	82	7	40	60-118
Vinyl Chloride	50	39	78	16	40	65-113
Bromomethane	50	37	74	3	40	73-122
Chloroethane	50	41	82	11	40	72-118
Trichlorofluoromethane	50	39	78	12	40	68-129
1,1-Dichloroethene	50	38	76	12	40	67-121
Acetone	50	26	52	35	40	38-161
Carbon Disulfide	50	46	92	14	40	53-137
Methylene Chloride	50	48	96	2	40	59-132
trans-1,2-Dichloroethen	50	46	92	10	40	71-124
Methyl tert-butyl ether	50	46	92	4	40	75-123
1,1-Dichloroethane	50	46	92	8	40	83-116
2-Butanone	50	37	74	8	40	64-139
cis-1,2-Dichloroethene	50	49	98	4	40	83-120
Chloroform	50	49	98	4	40	89-118
1,1,1-Trichloroethane	50	48	96	10	40	81-122
Carbon Tetrachloride	50	46	92	12	40	79-125
1,2-Dichloroethane	50	47	94	0	40	83-123
Trichloroethene	50	46	92	12	40	77-121
Benzene	50	48	96	8	40	81-120
1,2-Dichloropropane	50	49	98	0	40	81-116
Bromodichloromethane	50	49	98	2	40	90-114
cis-1,3-Dichloropropene	50	48	96	4	40	78-119
4-Methyl-2-pentanone	50	47	94	0	40	57-138
Toluene	50	49	98	8	40	81-121
trans-1,3-Dichloroprope	50	48	96	2	40	85-118
1,1,2-Trichloroethane	50	49	98	0	40	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS:

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: V6WLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Tetrachloroethene	50	47	94	10	40	73-121
2-Hexanone	50	43	86	11	40	53-145
Dibromochloromethane	50	49	98	2	40	80-124
1,2-Dibromoethane	50	49	98	6	40	80-124
Chlorobenzene	50	48	96	6	40	82-118
Ethylbenzene	50	46	92	10	40	80-122
Xylene (Total)	150	140	93	7	40	81-121
Styrene	50	52	104	7	40	77-128
Bromoform	50	50	100	4	40	77-130
Isopropylbenzene	50	47	94	14	40	58-148
1,1,2,2-Tetrachloroetha	50	45	90	4	40	76-125
1,3-Dichlorobenzene	50	47	94	10	40	80-116
1,4-Dichlorobenzene	50	46	92	12	40	80-114
1,2-Dichlorobenzene	50	48	96	8	40	81-116
1,2-Dibromo-3-chloropro	50	41	82	2	40	71-126
1,2,4-Trichlorobenzene	50	45	90	10	40	67-114
1,1,2-Trichlo-1,2,2-tri	50	42	84	13	40	70-130
Methyl Acetate	50	43	86	0	40	70-130
Cyclohexane	50	47	94	14	40	70-130
Methylcyclohexane	50	48	96	15	40	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 48 outside limits
Spike Recovery: 0 out of 96 outside limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6ALCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	50		56	112	48-135
Chloromethane	50		53	106	60-118
Vinyl Chloride	50		52	104	65-113
Bromomethane	50		46	92	73-122
Chloroethane	50		51	102	72-118
Trichlorofluoromethane	50		53	106	68-129
1,1-Dichloroethene	50		44	88	67-121
Acetone	50		54	108	38-161
Carbon Disulfide	50		39	78	53-137
Methylene Chloride	50		48	96	59-132
trans-1,2-Dichloroethen	50		46	92	71-124
Methyl tert-butyl ether	50		48	96	75-123
1,1-Dichloroethane	50		48	96	83-116
2-Butanone	50		50	100	64-139
cis-1,2-Dichloroethene	50		48	96	83-120
Chloroform	50		49	98	89-118
1,1,1-Trichloroethane	50		46	92	81-122
Carbon Tetrachloride	50		47	94	79-125
1,2-Dichloroethane	50		52	104	83-123
Trichloroethene	50		45	90	77-121
Benzene	50		48	96	81-120
1,2-Dichloropropane	50		50	100	81-116
Bromodichloromethane	50		50	100	90-114
cis-1,3-Dichloropropene	50		49	98	78-119
4-Methyl-2-pentanone	50		54	108	57-138
Toluene	50		49	98	81-121
trans-1,3-Dichloroprope	50		50	100	85-118
1,1,2-Trichloroethane	50		49	98	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6ALCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Tetrachloroethene	50		44	88	73-121
2-Hexanone	50		54	108	53-145
Dibromochloromethane	50		48	96	80-124
1,2-Dibromoethane	50		48	96	80-124
Chlorobenzene	50		47	94	82-118
Ethylbenzene	50		46	92	80-122
Xylene (Total)	150		140	93	81-121
Styrene	50		50	100	77-128
Bromoform	50		48	96	77-130
Isopropylbenzene	50		50	100	58-148
1,1,2,2-Tetrachloroetha	50		49	98	76-125
1,3-Dichlorobenzene	50		48	96	80-116
1,4-Dichlorobenzene	50		47	94	80-114
1,2-Dichlorobenzene	50		48	96	81-116
1,2-Dibromo-3-chloropro	50		49	98	71-126
1,2,4-Trichlorobenzene	50		46	92	67-114
1,1,2-Trichlo-1,2,2-tri	50		50	100	70-130
Methyl Acetate	50		51	102	70-130
Cyclohexane	50		54	108	70-130
Methylcyclohexane	50		54	108	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6ALCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	50	53	106	6	40	48-135
Chloromethane	50	52	104	2	40	60-118
Vinyl Chloride	50	51	102	2	40	65-113
Bromomethane	50	44	88	4	40	73-122
Chloroethane	50	51	102	0	40	72-118
Trichlorofluoromethane	50	51	102	4	40	68-129
1,1-Dichloroethene	50	44	88	0	40	67-121
Acetone	50	56	112	4	40	38-161
Carbon Disulfide	50	51	102	27	40	53-137
Methylene Chloride	50	46	92	4	40	59-132
trans-1,2-Dichloroethen	50	45	90	2	40	71-124
Methyl tert-butyl ether	50	49	98	2	40	75-123
1,1-Dichloroethane	50	46	92	4	40	83-116
2-Butanone	50	54	108	8	40	64-139
cis-1,2-Dichloroethene	50	46	92	4	40	83-120
Chloroform	50	47	94	4	40	89-118
1,1,1-Trichloroethane	50	44	88	4	40	81-122
Carbon Tetrachloride	50	45	90	4	40	79-125
1,2-Dichloroethane	50	50	100	4	40	83-123
Trichloroethene	50	43	86	4	40	77-121
Benzene	50	47	94	2	40	81-120
1,2-Dichloropropane	50	48	96	4	40	81-116
Bromodichloromethane	50	47	94	6	40	90-114
cis-1,3-Dichloropropene	50	48	96	2	40	78-119
4-Methyl-2-pentanone	50	57	114	5	40	57-138
Toluene	50	47	94	4	40	81-121
trans-1,3-Dichloroprope	50	50	100	0	40	85-118
1,1,2-Trichloroethane	50	49	98	0	40	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6ALCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Tetrachloroethene	50	42	84	5	40	73-121
2-Hexanone	50	57	114	5	40	53-145
Dibromochloromethane	50	48	96	0	40	80-124
1,2-Dibromoethane	50	48	96	0	40	80-124
Chlorobenzene	50	46	92	2	40	82-118
Ethylbenzene	50	45	90	2	40	80-122
Xylene (Total)	150	140	93	0	40	81-121
Styrene	50	49	98	2	40	77-128
Bromoform	50	49	98	2	40	77-130
Isopropylbenzene	50	48	96	4	40	58-148
1,1,2,2-Tetrachloroetha	50	50	100	2	40	76-125
1,3-Dichlorobenzene	50	46	92	4	40	80-116
1,4-Dichlorobenzene	50	46	92	2	40	80-114
1,2-Dichlorobenzene	50	48	96	0	40	81-116
1,2-Dibromo-3-chloropro	50	51	102	4	40	71-126
1,2,4-Trichlorobenzene	50	46	92	0	40	67-114
1,1,2-Trichlo-1,2,2-tri	50	52	104	4	40	70-130
Methyl Acetate	50	52	104	2	40	70-130
Cyclohexane	50	52	104	4	40	70-130
Methylcyclohexane	50	51	102	6	40	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 48 outside limits
Spike Recovery: 0 out of 96 outside limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6ELCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	50		52	104	48-135
Chloromethane	50		50	100	60-118
Vinyl Chloride	50		50	100	65-113
Bromomethane	50		45	90	73-122
Chloroethane	50		49	98	72-118
Trichlorofluoromethane	50		50	100	68-129
1,1-Dichloroethene	50		50	100	67-121
Acetone	50		52	104	38-161
Carbon Disulfide	50		41	82	53-137
Methylene Chloride	50		50	100	59-132
trans-1,2-Dichloroethen	50		48	96	71-124
Methyl tert-butyl ether	50		53	106	75-123
1,1-Dichloroethane	50		48	96	83-116
2-Butanone	50		52	104	64-139
cis-1,2-Dichloroethene	50		51	102	83-120
Chloroform	50		50	100	89-118
1,1,1-Trichloroethane	50		47	94	81-122
Carbon Tetrachloride	50		48	96	79-125
1,2-Dichloroethane	50		51	102	83-123
Trichloroethene	50		51	102	77-121
Benzene	50		50	100	81-120
1,2-Dichloropropane	50		50	100	81-116
Bromodichloromethane	50		51	102	90-114
cis-1,3-Dichloropropene	50		53	106	78-119
4-Methyl-2-pentanone	50		57	114	57-138
Toluene	50		52	104	81-121
trans-1,3-Dichloroprope	50		54	108	85-118
1,1,2-Trichloroethane	50		52	104	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6ELCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Tetrachloroethene	50		49	98	73-121
2-Hexanone	50		57	114	53-145
Dibromochloromethane	50		52	104	80-124
1,2-Dibromoethane	50		52	104	80-124
Chlorobenzene	50		50	100	82-118
Ethylbenzene	50		49	98	80-122
Xylene (Total)	150		150	100	81-121
Styrene	50		53	106	77-128
Bromoform	50		54	108	77-130
Isopropylbenzene	50		52	104	58-148
1,1,2,2-Tetrachloroetha	50		50	100	76-125
1,3-Dichlorobenzene	50		50	100	80-116
1,4-Dichlorobenzene	50		49	98	80-114
1,2-Dichlorobenzene	50		51	102	81-116
1,2-Dibromo-3-chloropro	50		52	104	71-126
1,2,4-Trichlorobenzene	50		55	110	67-114
1,1,2-Trichlo-1,2,2-tri	50		52	104	70-130
Methyl Acetate	50		52	104	70-130
Cyclohexane	50		51	102	70-130
Methylcyclohexane	50		53	106	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 48 outside limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6GLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	50		51	102	48-135
Chloromethane	50		52	104	60-118
Vinyl Chloride	50		46	92	65-113
Bromomethane	50		40	80	73-122
Chloroethane	50		48	96	72-118
Trichlorofluoromethane	50		48	96	68-129
1,1-Dichloroethene	50		44	88	67-121
Acetone	50		22	44	38-161
Carbon Disulfide	50		51	102	53-137
Methylene Chloride	50		49	98	59-132
trans-1,2-Dichloroethen	50		46	92	71-124
Methyl tert-butyl ether	50		46	92	75-123
1,1-Dichloroethane	50		52	104	83-116
2-Butanone	50		48	96	64-139
cis-1,2-Dichloroethene	50		49	98	83-120
Chloroform	50		52	104	89-118
1,1,1-Trichloroethane	50		51	102	81-122
Carbon Tetrachloride	50		49	98	79-125
1,2-Dichloroethane	50		51	102	83-123
Trichloroethene	50		47	94	77-121
Benzene	50		51	102	81-120
1,2-Dichloropropane	50		53	106	81-116
Bromodichloromethane	50		52	104	90-114
cis-1,3-Dichloropropene	50		51	102	78-119
4-Methyl-2-pentanone	50		47	94	57-138
Toluene	50		52	104	81-121
trans-1,3-Dichloroprope	50		49	98	85-118
1,1,2-Trichloroethane	50		49	98	44-159

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Matrix Spike - Sample No.: V6GLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Tetrachloroethene	50		46	92	73-121
2-Hexanone	50		48	96	53-145
Dibromochloromethane	50		49	98	80-124
1,2-Dibromoethane	50		48	96	80-124
Chlorobenzene	50		51	102	82-118
Ethylbenzene	50		50	100	80-122
Xylene (Total)	150		150	100	81-121
Styrene	50		54	108	77-128
Bromoform	50		46	92	77-130
Isopropylbenzene	50		53	106	58-148
1,1,2,2-Tetrachloroetha	50		46	92	76-125
1,3-Dichlorobenzene	50		49	98	80-116
1,4-Dichlorobenzene	50		47	94	80-114
1,2-Dichlorobenzene	50		49	98	81-116
1,2-Dibromo-3-chloropro	50		42	84	71-126
1,2,4-Trichlorobenzene	50		45	90	67-114
1,1,2-Trichlo-1,2,2-tri	50		48	96	70-130
Methyl Acetate	50		52	104	70-130
Cyclohexane	50		55	110	70-130
Methylcyclohexane	50		53	106	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 48 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK6W

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2162 Lab Sample ID: V6B0819A

Date Analyzed: 08/19/02 Time Analyzed: 1104

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: V6

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V6WLCS	V6L0819A	V6C2163	1207
02	V6WLCSD	V6L0819B	V6C2164	1235
03	OFF-GW-MW4S	A1231-01A	V6C2169	1456
04	OFF-GW-MW4SM	A1231-01AMS	V6C2170	1524
05	OFF-GW-MW4SM	A1231-01AMSD	V6C2171	1552
06	OFF-GW-TB01	A1231-02A	V6C2172	1621
07	OFF-GW-RB01	A1231-03A	V6C2173	1649
08	OFF-GW-MW3S	A1231-04A	V6C2174	1717
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COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK6A

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2222 Lab Sample ID: V6B0821A

Date Analyzed: 08/21/02 Time Analyzed: 0954

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: V6

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V6ALCS	V6L0821A	V6C2223	1029
02	V6ALCSD	V6L0821B	V6C2224	1057
03	GWTB02	A1244-01A	V6C2240	1911
04	GWMW115	A1244-02A	V6C2241	1939
05	GWMW101	A1244-03A	V6C2242	2007
06	GWDP01	A1244-04A	V6C2243	2034
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COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK6E

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2282 Lab Sample ID: V6B0823A

Date Analyzed: 08/23/02 Time Analyzed: 0952

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: V6

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V6ELCS	V6L0823A	V6C2283	1024
02	GWMW11R	A1244-05A	V6C2290	1338
03	GWMW2D	A1244-06A	V6C2291	1405
04	GWMW102	A1244-07A	V6C2292	1433
05	GWDP02	A1244-08A	V6C2293	1500
06	GWMW25	A1244-09A	V6C2294	1528
07	GWMW1R	A1244-10A	V6C2295	1556
08	GWMW105	A1244-11A	V6C2296	1624
09	OFF-GW-MW5S	A1244-12A	V6C2297	1651
10	OFF-GW-MW6R	A1244-13A	V6C2298	1720
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COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK6G

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2322 Lab Sample ID: V6B0826A

Date Analyzed: 08/26/02 Time Analyzed: 1023

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: V6

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V6GLCS	V6L0826A	V6C2323	1051
02	OFF-GW-TB03	A1244-14A	V6C2328	1457
03	OFF-GW-MW9R	A1244-15A	V6C2329	1540
04	OFF-GW-MW8R	A1244-16A	V6C2330	1608
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COMMENTS: _____

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C1680 BFB Injection Date: 07/31/02

Instrument ID: V6 BFB Injection Time: 1349

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.8
75	30.0 - 60.0% of mass 95	51.7
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	0.4 (0.5)1
174	50.0 - 100.0% of mass 95	83.8
175	5.0 - 9.0% of mass 174	6.6 (7.9)1
176	95.0 - 101.0% of mass 174	81.3 (97.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0506O	V6S0731A	V6C1681	07/31/02	1415
02	VSTD0056O	V6S0731B	V6C1682	07/31/02	1445
03	VSTD2006O	V6S0731C	V6C1683	07/31/02	1513
04	VSTD1006O	V6S0731D	V6C1684	07/31/02	1541
05	VSTD0206O	V6S0731E	V6C1685	07/31/02	1610
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2160A BFB Injection Date: 08/19/02

Instrument ID: V6 BFB Injection Time: 0951

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.4
75	30.0 - 60.0% of mass 95	51.3
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 - 100.0% of mass 95	86.6
175	5.0 - 9.0% of mass 174	6.0 (7.0)1
176	95.0 - 101.0% of mass 174	87.5 (101.0)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:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0506W	V6S0819A	V6C2161A	08/19/02	1005
02	VBLK6W	V6B0819A	V6C2162	08/19/02	1104
03	V6WLCS	V6L0819A	V6C2163	08/19/02	1207
04	V6WLCSD	V6L0819B	V6C2164	08/19/02	1235
05	OFF-GW-MW4S	A1231-01A	V6C2169	08/19/02	1456
06	OFF-GW-MW4SM	A1231-01AMS	V6C2170	08/19/02	1524
07	OFF-GW-MW4SM	A1231-01AMSD	V6C2171	08/19/02	1552
08	OFF-GW-TB01	A1231-02A	V6C2172	08/19/02	1621
09	OFF-GW-RB01	A1231-03A	V6C2173	08/19/02	1649
10	OFF-GW-MW3S	A1231-04A	V6C2174	08/19/02	1717
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2190 BFB Injection Date: 08/20/02

Instrument ID: V6 BFB Injection Time: 0918

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.5
75	30.0 - 60.0% of mass 95	54.2
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 - 100.0% of mass 95	95.2
175	5.0 - 9.0% of mass 174	7.2 (7.6)1
176	95.0 - 101.0% of mass 174	93.9 (98.6)1
177	5.0 - 9.0% of mass 176	6.3 (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:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0506Y	V6S0820A	V6C2191	08/20/02	1010
02	VSTD0056Y	V6S0820B	V6C2192	08/20/02	1040
03	VSTD2006Y	V6S0820D	V6C2194	08/20/02	1135
04	VSTD1006Y	V6S0820E	V6C2195	08/20/02	1203
05	VSTD0206Y	V6S0820F	V6C2196	08/20/02	1231
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2220 BFB Injection Date: 08/21/02

Instrument ID: V6 BFB Injection Time: 0856

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.2
75	30.0 - 60.0% of mass 95	51.3
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	0.6 (0.6)1
174	50.0 - 100.0% of mass 95	96.9
175	5.0 - 9.0% of mass 174	6.5 (6.7)1
176	95.0 - 101.0% of mass 174	92.8 (95.8)1
177	5.0 - 9.0% of mass 176	7.1 (7.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0506A	V6S0821A	V6C2221	08/21/02	0923
02	VBLK6A	V6B0821A	V6C2222	08/21/02	0954
03	V6ALCS	V6L0821A	V6C2223	08/21/02	1029
04	V6ALCSD	V6L0821B	V6C2224	08/21/02	1057
05	GWTB02	A1244-01A	V6C2240	08/21/02	1911
06	GWMW115	A1244-02A	V6C2241	08/21/02	1939
07	GWMW101	A1244-03A	V6C2242	08/21/02	2007
08	GWDP01	A1244-04A	V6C2243	08/21/02	2034
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2280 BFB Injection Date: 08/23/02

Instrument ID: V6 BFB Injection Time: 0907

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.6
75	30.0 - 60.0% of mass 95	49.5
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	0.4 (0.4)1
174	50.0 - 100.0% of mass 95	97.3
175	5.0 - 9.0% of mass 174	6.9 (7.1)1
176	95.0 - 101.0% of mass 174	94.5 (97.1)1
177	5.0 - 9.0% of mass 176	6.4 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0506E	V6S0823A	V6C2281	08/23/02	0924
02	VBLK6E	V6B0823A	V6C2282	08/23/02	0952
03	V6ELCS	V6L0823A	V6C2283	08/23/02	1024
04	GWMW11R	A1244-05A	V6C2290	08/23/02	1338
05	GWMW2D	A1244-06A	V6C2291	08/23/02	1405
06	GWMW102	A1244-07A	V6C2292	08/23/02	1433
07	GWDP02	A1244-08A	V6C2293	08/23/02	1500
08	GWMW25	A1244-09A	V6C2294	08/23/02	1528
09	GWMW1R	A1244-10A	V6C2295	08/23/02	1556
10	GWMW105	A1244-11A	V6C2296	08/23/02	1624
11	OFF-GW-MW5S	A1244-12A	V6C2297	08/23/02	1651
12	OFF-GW-MW6R	A1244-13A	V6C2298	08/23/02	1720
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Lab File ID: V6C2320 BFB Injection Date: 08/26/02

Instrument ID: V6 BFB Injection Time: 0844

GC Column: DB-624 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.0
75	30.0 - 60.0% of mass 95	51.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	95.2
175	5.0 - 9.0% of mass 174	6.8 (7.1)1
176	95.0 - 101.0% of mass 174	93.6 (98.3)1
177	5.0 - 9.0% of mass 176	7.0 (7.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0506G	V6S0826A	V6C2321	08/26/02	0910
02	VBLK6G	V6B0826A	V6C2322	08/26/02	1023
03	V6GLCS	V6L0826A	V6C2323	08/26/02	1051
04	OFF-GW-TB03	A1244-14A	V6C2328	08/26/02	1457
05	OFF-GW-MW9R	A1244-15A	V6C2329	08/26/02	1540
06	OFF-GW-MW8R	A1244-16A	V6C2330	08/26/02	1608
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 07/31/02 07/31/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1415 1610

LAB FILE ID: RF5: V6C1682 RF20: V6C1685 RF50: V6C1681
RF100: V6C1684 RF200: V6C1683

COMPOUND	RF5	RF20	RF50	RF100	RF200
Dichlorodifluoromethane	0.295	0.344	0.341	0.330	0.322
Chloromethane	0.620	0.554	0.604	0.533	0.534
Vinyl Chloride	0.613	0.564	0.600	0.553	0.534
Bromomethane	0.546	0.459	0.521	0.450	0.440
Chloroethane	0.353	0.364	0.382	0.345	0.342
Trichlorofluoromethane	0.734	0.644	0.759	0.690	0.691
1,1-Dichloroethene	0.464	0.452	0.538	0.438	0.445
Acetone	0.227	0.184	0.137	0.144	0.152
Carbon Disulfide	0.799	0.762	0.833	0.743	0.719
Methylene Chloride	0.305	0.294	0.284	0.267	0.267
trans-1,2-Dichloroethene	0.253	0.281	0.277	0.270	0.285
Methyl tert-butyl ether	0.596	0.681	0.648	0.674	0.669
1,1-Dichloroethane	0.458	0.505	0.496	0.482	0.488
2-Butanone	0.187	0.147	0.142	0.142	0.147
cis-1,2-Dichloroethene	0.240	0.280	0.273	0.278	0.286
Chloroform	0.416	0.467	0.462	0.441	0.449
1,1,1-Trichloroethane	0.300	0.357	0.340	0.330	0.331
Carbon Tetrachloride	0.298	0.345	0.346	0.336	0.356
1,2-Dichloroethane	0.321	0.351	0.352	0.337	0.339
Benzene	1.002	1.125	1.136	1.090	1.094
Trichloroethene	0.240	0.268	0.264	0.267	0.278
1,2-Dichloropropane	0.274	0.297	0.293	0.289	0.300
Bromodichloromethane	0.290	0.342	0.341	0.329	0.341
cis-1,3-Dichloropropene	0.349	0.430	0.432	0.429	0.445
4-Methyl-2-pentanone	0.211	0.229	0.226	0.229	0.229
Toluene	0.986	1.167	1.152	1.113	1.072
trans-1,3-Dichloropropene	0.314	0.378	0.383	0.388	0.400
1,1,2-Trichloroethane	0.196	0.219	0.214	0.214	0.222
Tetrachloroethene	0.262	0.311	0.302	0.304	0.311
2-Hexanone	0.207	0.217	0.227	0.234	0.226
Dibromochloromethane	0.288	0.314	0.327	0.315	0.311
1,2-Dibromoethane	0.270	0.294	0.285	0.285	0.274
Chlorobenzene	0.925	1.009	0.982	0.949	0.912
Ethylbenzene	0.454	0.552	0.550	0.541	0.547
Xylene (Total)	0.563	0.683	0.680	0.672	0.688
Styrene	0.826	1.067	1.058	1.042	1.018
Bromoform	0.162	0.193	0.202	0.204	0.206

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 07/31/02 07/31/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1415 1610

LAB FILE ID: RF5: V6C1682 RF20: V6C1685 RF50: V6C1681
RF100: V6C1684 RF200: V6C1683

COMPOUND	RF5	RF20	RF50	RF100	RF200
Isopropylbenzene	1.343	1.656	1.640	1.581	1.436
1,1,2,2-Tetrachloroethane	0.702	0.742	0.719	0.693	0.668
1,3-Dichlorobenzene	1.379	1.530	1.483	1.490	1.485
1,4-Dichlorobenzene	1.483	1.604	1.547	1.495	1.455
1,2-Dichlorobenzene	1.297	1.445	1.415	1.410	1.404
1,2-Dibromo-3-chloropropane	0.108	0.114	0.113	0.112	0.110
1,2,4-Trichlorobenzene	0.883	1.013	0.957	1.038	1.057
1,1,2-Trichlo-1,2,2-trifluor	0.388	0.377	0.431	0.372	0.374
Methyl Acetate	0.139	0.142	0.128	0.136	0.133
Cyclohexane	0.437	0.474	0.468	0.468	0.477
Methylcyclohexane	0.420	0.472	0.470	0.490	0.519
Dibromofluoromethane	0.210	0.229	0.234	0.231	0.240
1,2-Dichloroethane-d4	0.056	0.062	0.061	0.061	0.064
Toluene-d8	1.144	1.334	1.306	1.225	1.151
Bromofluorobenzene	0.409	0.478	0.465	0.451	0.458

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 07/31/02 07/31/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1415 1610

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Dichlorodifluoromethane	AVRG	0.32642891	6.0
Chloromethane	AVRG	0.56901914	7.1
Vinyl Chloride	AVRG	0.57310035	5.7
Bromomethane	AVRG	0.48294093	9.8
Chloroethane	AVRG	0.35724695	4.5
Trichlorofluoromethane	AVRG	0.70392420	6.3
1,1-Dichloroethene	AVRG	0.46755915	8.6
Acetone	AVRG	0.16862790	22.1
Carbon Disulfide	AVRG	0.77120595	5.8
Methylene Chloride	AVRG	0.28341256	5.8
trans-1,2-Dichloroethene	AVRG	0.27326231	4.5
Methyl tert-butyl ether	AVRG	0.65359279	5.2
1,1-Dichloroethane	AVRG	0.48561341	3.7
2-Butanone	AVRG	0.15293030	12.4
cis-1,2-Dichloroethene	AVRG	0.27135799	6.6
Chloroform	AVRG	0.44719004	4.5
1,1,1-Trichloroethane	AVRG	0.33164541	6.3
Carbon Tetrachloride	AVRG	0.33618683	6.8
1,2-Dichloroethane	AVRG	0.34004860	3.7
Benzene	AVRG	1.08940063	4.8
Trichloroethene	AVRG	0.26347196	5.4
1,2-Dichloropropane	AVRG	0.29061825	3.5
Bromodichloromethane	AVRG	0.32872583	6.8
cis-1,3-Dichloropropene	AVRG	0.41710813	9.2
4-Methyl-2-pentanone	AVRG	0.22502611	3.5
Toluene	AVRG	1.09796219	6.6
trans-1,3-Dichloropropene	AVRG	0.37283049	9.0
1,1,2-Trichloroethane	AVRG	0.21308173	4.8
Tetrachloroethene	AVRG	0.29819923	7.0
2-Hexanone	AVRG	0.22199496	4.7
Dibromochloromethane	AVRG	0.31081056	4.5
1,2-Dibromoethane	AVRG	0.28145586	3.4
Chlorobenzene	AVRG	0.95561972	4.2
Ethylbenzene	AVRG	0.52895875	7.9
Xylene (Total)	AVRG	0.65717695	8.0
Styrene	AVRG	1.00240638	10.0
Bromoform	AVRG	0.19343450	9.3

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 07/31/02 07/31/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1415 1610

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Isopropylbenzene	AVRG	1.53111352	8.9
1,1,2,2-Tetrachloroethane	AVRG	0.70495927	3.9
1,3-Dichlorobenzene	AVRG	1.47362906	3.8
1,4-Dichlorobenzene	AVRG	1.51680089	3.9
1,2-Dichlorobenzene	AVRG	1.39416668	4.0
1,2-Dibromo-3-chloropropane	AVRG	0.11158173	1.9
1,2,4-Trichlorobenzene	AVRG	0.98968297	7.1
1,1,2-Trichlo-1,2,2-trifluor	AVRG	0.38850328	6.4
Methyl Acetate	AVRG	0.13538397	3.9
Cyclohexane	AVRG	0.46485686	3.5
Methylcyclohexane	AVRG	0.47426720	7.6
Dibromofluoromethane	AVRG	0.22873184	4.8
1,2-Dichloroethane-d4	AVRG	6.087e-002	4.6
Toluene-d8	AVRG	1.23212176	7.1
Bromofluorobenzene	AVRG	0.45235349	5.7

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 08/20/02 08/20/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1010 1231

LAB FILE ID: RF5: V6C2192 RF20: V6C2196 RF50: V6C2191
RF100: V6C2195 RF200: V6C2194

COMPOUND	RF5	RF20	RF50	RF100	RF200
Dichlorodifluoromethane	0.280	0.374	0.329	0.336	0.341
Chloromethane	0.491	0.451	0.374	0.402	0.411
Vinyl Chloride	0.435	0.442	0.372	0.401	0.410
Bromomethane	0.339	0.300	0.262	0.271	0.282
Chloroethane	0.242	0.247	0.223	0.232	0.244
Trichlorofluoromethane	0.379	0.556	0.484	0.536	0.509
1,1-Dichloroethene	0.341	0.357	0.304	0.340	0.340
Acetone	0.075	0.101	0.074	0.074	0.072
Carbon Disulfide	0.785	0.967	0.799	0.886	0.881
Methylene Chloride	0.279	0.283	0.238	0.269	0.275
trans-1,2-Dichloroethene	0.283	0.300	0.252	0.292	0.298
Methyl tert-butyl ether	0.605	0.631	0.552	0.625	0.614
1,1-Dichloroethane	0.473	0.503	0.414	0.477	0.484
2-Butanone	0.122	0.108	0.093	0.097	0.096
cis-1,2-Dichloroethene	0.265	0.276	0.244	0.286	0.293
Chloroform	0.474	0.478	0.402	0.463	0.464
1,1,1-Trichloroethane	0.391	0.423	0.344	0.398	0.396
Carbon Tetrachloride	0.389	0.423	0.358	0.412	0.413
1,2-Dichloroethane	0.344	0.355	0.299	0.334	0.336
Benzene	1.077	1.122	0.951	1.080	1.056
Trichloroethene	0.287	0.304	0.258	0.303	0.308
1,2-Dichloropropane	0.276	0.270	0.228	0.265	0.269
Bromodichloromethane	0.344	0.345	0.303	0.346	0.352
cis-1,3-Dichloropropene	0.375	0.409	0.360	0.419	0.424
4-Methyl-2-pentanone	0.182	0.188	0.178	0.192	0.194
Toluene	1.064	1.189	1.024	1.137	1.081
trans-1,3-Dichloropropene	0.332	0.358	0.325	0.373	0.384
1,1,2-Trichloroethane	0.219	0.216	0.190	0.214	0.217
Tetrachloroethene	0.355	0.384	0.315	0.358	0.353
2-Hexanone	0.151	0.163	0.157	0.171	0.166
Dibromochloromethane	0.345	0.341	0.305	0.342	0.341
1,2-Dibromoethane	0.288	0.289	0.254	0.286	0.277
Chlorobenzene	1.010	1.034	0.878	0.966	0.931
Ethylbenzene	0.534	0.575	0.499	0.562	0.563
Xylene (Total)	0.602	0.690	0.599	0.680	0.672
Styrene	0.896	1.062	0.953	1.068	1.035
Bromoform	0.219	0.212	0.209	0.228	0.227

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 08/20/02 08/20/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1010 1231

LAB FILE ID: RF5: V6C2192 RF20: V6C2196 RF50: V6C2191
RF100: V6C2195 RF200: V6C2194

COMPOUND	RF5	RF20	RF50	RF100	RF200
Isopropylbenzene	1.349	1.716	1.491	1.629	1.479
1,1,2,2-Tetrachloroethane	0.670	0.631	0.555	0.612	0.576
1,3-Dichlorobenzene	1.460	1.573	1.320	1.510	1.456
1,4-Dichlorobenzene	1.608	1.625	1.343	1.482	1.432
1,2-Dichlorobenzene	1.369	1.462	1.258	1.399	1.352
1,2-Dibromo-3-chloropropane	0.109	0.102	0.097	0.101	0.099
1,2,4-Trichlorobenzene	0.885	1.008	0.908	1.036	1.046
1,1,2-Trichlo-1,2,2-trifluor	0.246	0.328	0.288	0.292	0.294
Methyl Acetate	0.124	0.138	0.113	0.128	0.128
Cyclohexane	0.370	0.504	0.433	0.476	0.475
Methylcyclohexane	0.357	0.518	0.462	0.509	0.505
Dibromofluoromethane	0.248	0.249	0.240	0.242	0.244
1,2-Dichloroethane-d4	0.058	0.064	0.060	0.059	0.062
Toluene-d8	1.255	1.328	1.313	1.237	1.135
Bromofluorobenzene	0.446	0.450	0.446	0.450	0.441

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 08/20/02 08/20/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1010 1231

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Dichlorodifluoromethane	AVRG	0.33220837	10.2
Chloromethane	AVRG	0.42557248	10.7
Vinyl Chloride	AVRG	0.41195811	6.8
Bromomethane	AVRG	0.29067555	10.5
Chloroethane	AVRG	0.23772882	4.0
Trichlorofluoromethane	AVRG	0.49293505	14.1
1,1-Dichloroethene	AVRG	0.33655578	5.8
Acetone	AVRG	7.93e-002	15.4
Carbon Disulfide	AVRG	0.86364331	8.5
Methylene Chloride	AVRG	0.26897674	6.7
trans-1,2-Dichloroethene	AVRG	0.28503220	6.8
Methyl tert-butyl ether	AVRG	0.60548879	5.2
1,1-Dichloroethane	AVRG	0.47042724	7.1
2-Butanone	AVRG	0.10320332	11.2
cis-1,2-Dichloroethene	AVRG	0.27283747	7.1
Chloroform	AVRG	0.45625919	6.8
1,1,1-Trichloroethane	AVRG	0.39043382	7.3
Carbon Tetrachloride	AVRG	0.39911162	6.5
1,2-Dichloroethane	AVRG	0.33351174	6.3
Benzene	AVRG	1.05706085	6.1
Trichloroethene	AVRG	0.29216132	7.0
1,2-Dichloropropane	AVRG	0.26161723	7.2
Bromodichloromethane	AVRG	0.33803243	5.8
cis-1,3-Dichloropropene	AVRG	0.39753921	7.1
4-Methyl-2-pentanone	AVRG	0.18675066	3.7
Toluene	AVRG	1.09910878	5.9
trans-1,3-Dichloropropene	AVRG	0.35474193	7.2
1,1,2-Trichloroethane	AVRG	0.21118001	5.8
Tetrachloroethene	AVRG	0.35281541	7.0
2-Hexanone	AVRG	0.16167263	5.0
Dibromochloromethane	AVRG	0.33465311	5.0
1,2-Dibromoethane	AVRG	0.27880357	5.4
Chlorobenzene	AVRG	0.96384875	6.5
Ethylbenzene	AVRG	0.54664247	5.6
Xylene (Total)	AVRG	0.64872805	6.9
Styrene	AVRG	1.00308873	7.5
Bromoform	AVRG	0.21891835	3.8

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date(s): 08/20/02 08/20/02

Column: DB-624 ID: 0.25 (mm) Calibration Time(s): 1010 1231

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Isopropylbenzene	AVRG	1.53271502	9.3
1,1,2,2-Tetrachloroethane	AVRG	0.60882688	7.5
1,3-Dichlorobenzene	AVRG	1.46387597	6.4
1,4-Dichlorobenzene	AVRG	1.49792002	8.0
1,2-Dichlorobenzene	AVRG	1.36805447	5.4
1,2-Dibromo-3-chloropropane	AVRG	0.10161223	4.4
1,2,4-Trichlorobenzene	AVRG	0.97647786	7.7
1,1,2-Trichlo-1,2,2-trifluor	AVRG	0.28970322	10.1
Methyl Acetate	AVRG	0.12632936	7.1
Cyclohexane	AVRG	0.45171912	11.6
Methylcyclohexane	AVRG	0.47011190	14.2
Dibromofluoromethane	AVRG	0.24460479	1.5
1,2-Dichloroethane-d4	AVRG	6.07e-002	3.9
Toluene-d8	AVRG	1.25354694	6.1
Bromofluorobenzene	AVRG	0.44647548	0.8

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/19/02 Time: 1005

Lab File ID: V6C2161A Init. Calib. Date(s): 07/31/02 07/31/02

EPA Sample No.(VSTD050##): VSTD0506W Init. Calib. Times: 1415 1610

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Dichlorodifluoromethane	0.326	0.318		-2.4		
Chloromethane	0.569	0.531	0.100	-6.7	20.0	
Vinyl Chloride	0.573	0.530		-7.5		
Bromomethane	0.483	0.374		-22.6		<-
Chloroethane	0.357	0.329		-7.8		
Trichlorofluoromethane	0.704	0.675		-4.1		
1,1-Dichloroethene	0.467	0.428		-8.4		
Acetone	0.169	0.142		-16.0		
Carbon Disulfide	0.771	0.841		9.1		
Methylene Chloride	0.283	0.287		1.4		
trans-1,2-Dichloroethene	0.273	0.287		5.1		
Methyl tert-butyl ether	0.654	0.655		0.2		
1,1-Dichloroethane	0.486	0.507	0.100	4.3	20.0	
2-Butanone	0.153	0.146		-4.6		
cis-1,2-Dichloroethene	0.271	0.294		8.5		
Chloroform	0.447	0.472		5.6		
1,1,1-Trichloroethane	0.332	0.368		10.8		
Carbon Tetrachloride	0.336	0.367		9.2		
1,2-Dichloroethane	0.340	0.337		-0.9		
Benzene	1.089	1.168		7.2		
Trichloroethene	0.263	0.281		6.8		
1,2-Dichloropropane	0.291	0.302		3.8		
Bromodichloromethane	0.329	0.349		6.1		
cis-1,3-Dichloropropene	0.417	0.441		5.8		
4-Methyl-2-pentanone	0.225	0.237		5.3		

All other compounds must meet a minimum RRF of 0.010.

7B
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/19/02 Time: 1005

Lab File ID: V6C2161A Init. Calib. Date(s): 07/31/02 07/31/02

EPA Sample No.(VSTD050##): VSTD0506W Init. Calib. Times: 1415 1610

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Toluene	1.098	1.211		10.3	
trans-1,3-Dichloropropene	0.373	0.388		4.0	
1,1,2-Trichloroethane	0.213	0.220		3.3	
Tetrachloroethene	0.298	0.320		7.4	
2-Hexanone	0.222	0.239		7.6	
Dibromochloromethane	0.311	0.325		4.5	
1,2-Dibromoethane	0.282	0.283		0.4	
Chlorobenzene	0.955	1.016	0.300	6.4	20.0
Ethylbenzene	0.529	0.553		4.5	
Xylene (Total)	0.657	0.700		6.5	
Styrene	1.002	1.168		16.6	
Bromoform	0.193	0.206	0.100	6.7	20.0
Isopropylbenzene	1.531	1.675		9.4	
1,1,2,2-Tetrachloroethane	0.705	0.660	0.300	-6.4	20.0
1,3-Dichlorobenzene	1.473	1.577		7.1	
1,4-Dichlorobenzene	1.517	1.593		5.0	
1,2-Dichlorobenzene	1.394	1.490		6.9	
1,2-Dibromo-3-chloropropane	0.111	0.101		-9.0	
1,2,4-Trichlorobenzene	0.990	1.078		8.9	
1,1,2-Trichlo-1,2,2-trifluoro	0.388	0.390		0.5	
Methyl Acetate	0.136	0.127		-6.6	
Cyclohexane	0.465	0.530		14.0	
Methylcyclohexane	0.474	0.566		19.4	
Dibromofluoromethane	0.229	0.237		3.5	
1,2-Dichloroethane-d4	0.061	0.058		-4.9	
Toluene-d8	1.232	1.305		5.9	
Bromofluorobenzene	0.452	0.461		2.0	

All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/21/02 Time: 0923

Lab File ID: V6C2221 Init. Calib. Date(s): 08/20/02 08/20/02

EPA Sample No.(VSTD050##): VSTD0506A Init. Calib. Times: 1010 1231

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.332	0.334		0.6	
Chloromethane	0.426	0.420	0.100	-1.4	20.0
Vinyl Chloride	0.412	0.392		-4.8	
Bromomethane	0.291	0.257		-11.7	
Chloroethane	0.238	0.232		-2.5	
Trichlorofluoromethane	0.493	0.463		-6.1	
1,1-Dichloroethene	0.336	0.298		-11.3	
Acetone	0.079	0.086		8.9	
Carbon Disulfide	0.864	0.865		0.1	
Methylene Chloride	0.269	0.255		-5.2	
trans-1,2-Dichloroethene	0.285	0.265		-7.0	
Methyl tert-butyl ether	0.605	0.555		-8.3	
1,1-Dichloroethane	0.470	0.452	0.100	-3.8	20.0
2-Butanone	0.103	0.098		-4.8	
cis-1,2-Dichloroethene	0.273	0.248		-9.2	
Chloroform	0.456	0.438		-3.9	
1,1,1-Trichloroethane	0.390	0.354		-9.2	
Carbon Tetrachloride	0.399	0.373		-6.5	
1,2-Dichloroethane	0.334	0.335		0.3	
Benzene	1.057	1.020		-3.5	
Trichloroethene	0.292	0.262		-10.3	
1,2-Dichloropropane	0.262	0.256		-2.3	
Bromodichloromethane	0.338	0.328		-3.0	
cis-1,3-Dichloropropene	0.397	0.370		-6.8	
4-Methyl-2-pentanone	0.187	0.183		-2.1	

All other compounds must meet a minimum RRF of 0.010.

7B
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/21/02 Time: 0923

Lab File ID: V6C2221 Init. Calib. Date(s): 08/20/02 08/20/02

EPA Sample No.(VSTD050##): VSTD0506A Init. Calib. Times: 1010 1231

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Toluene	1.099	1.066		-3.0	
trans-1,3-Dichloropropene	0.354	0.335		-5.4	
1,1,2-Trichloroethane	0.211	0.200		-5.2	
Tetrachloroethene	0.353	0.304		-13.9	
2-Hexanone	0.162	0.158		-2.5	
Dibromochloromethane	0.335	0.308		-8.0	
1,2-Dibromoethane	0.279	0.253		-9.3	
Chlorobenzene	0.964	0.882	0.300	-8.5	20.0
Ethylbenzene	0.547	0.493		-9.9	
Xylene (Total)	0.649	0.609		-6.2	
Styrene	1.003	0.981		-2.2	
Bromoform	0.219	0.199	0.100	-9.1	20.0
Isopropylbenzene	1.533	1.494		-2.5	
1,1,2,2-Tetrachloroethane	0.609	0.556	0.300	-8.7	20.0
1,3-Dichlorobenzene	1.464	1.344		-8.2	
1,4-Dichlorobenzene	1.498	1.379		-7.9	
1,2-Dichlorobenzene	1.368	1.269		-7.2	
1,2-Dibromo-3-chloropropane	0.102	0.090		-11.8	
1,2,4-Trichlorobenzene	0.977	0.846		-13.4	
1,1,2-Trichlo-1,2,2-trifluoro	0.290	0.275		-5.2	
Methyl Acetate	0.126	0.123		-2.4	
Cyclohexane	0.452	0.452		0.0	
Methylcyclohexane	0.470	0.465		-1.1	
Dibromofluoromethane	0.245	0.249		1.6	
1,2-Dichloroethane-d4	0.061	0.063		3.3	
Toluene-d8	1.254	1.258		0.3	
Bromofluorobenzene	0.447	0.459		2.7	

All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/23/02 Time: 0924

Lab File ID: V6C2281 Init. Calib. Date(s): 08/20/02 08/20/02

EPA Sample No.(VSTD050##): VSTD0506E Init. Calib. Times: 1010 1231

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.332	0.346		4.2	
Chloromethane	0.426	0.433	0.100	1.6	20.0
Vinyl Chloride	0.412	0.421		2.2	
Bromomethane	0.291	0.281		-3.4	
Chloroethane	0.238	0.241		1.3	
Trichlorofluoromethane	0.493	0.496		0.6	
1,1-Dichloroethene	0.336	0.339		0.9	
Acetone	0.079	0.092		16.4	
Carbon Disulfide	0.864	0.841		-2.7	
Methylene Chloride	0.269	0.269		0.0	
trans-1,2-Dichloroethene	0.285	0.274		-3.8	
Methyl tert-butyl ether	0.605	0.664		9.8	
1,1-Dichloroethane	0.470	0.453	0.100	-3.6	20.0
2-Butanone	0.103	0.114		10.7	
cis-1,2-Dichloroethene	0.273	0.281		2.9	
Chloroform	0.456	0.450		-1.3	
1,1,1-Trichloroethane	0.390	0.342		-12.3	
Carbon Tetrachloride	0.399	0.378		-5.3	
1,2-Dichloroethane	0.334	0.341		2.1	
Benzene	1.057	1.044		-1.2	
Trichloroethene	0.292	0.293		0.3	
1,2-Dichloropropane	0.262	0.260		-0.8	
Bromodichloromethane	0.338	0.346		2.4	
cis-1,3-Dichloropropene	0.397	0.422		6.3	
4-Methyl-2-pentanone	0.187	0.222		18.7	

All other compounds must meet a minimum RRF of 0.010.

7B
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/23/02 Time: 0924

Lab File ID: V6C2281 Init. Calib. Date(s): 08/20/02 08/20/02

EPA Sample No.(VSTD050##): VSTD0506E Init. Calib. Times: 1010 1231

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D	
Toluene	1.099	1.137		3.4		
trans-1,3-Dichloropropene	0.354	0.388		9.6		
1,1,2-Trichloroethane	0.211	0.224		6.2		
Tetrachloroethene	0.353	0.338		-4.2		
2-Hexanone	0.162	0.195		20.4		<-
Dibromochloromethane	0.335	0.356		6.3		
1,2-Dibromoethane	0.279	0.300		7.5		
Chlorobenzene	0.964	0.975	0.300	1.1	20.0	
Ethylbenzene	0.547	0.541		-1.1		
Xylene (Total)	0.649	0.659		1.5		
Styrene	1.003	1.088		8.5		
Bromoform	0.219	0.246	0.100	12.3	20.0	
Isopropylbenzene	1.533	1.602		4.5		
1,1,2,2-Tetrachloroethane	0.609	0.627	0.300	3.0	20.0	
1,3-Dichlorobenzene	1.464	1.480		1.1		
1,4-Dichlorobenzene	1.498	1.505		0.5		
1,2-Dichlorobenzene	1.368	1.417		3.6		
1,2-Dibromo-3-chloropropane	0.102	0.113		10.8		
1,2,4-Trichlorobenzene	0.977	1.115		14.1		
1,1,2-Trichlo-1,2,2-trifluoro	0.290	0.300		3.4		
Methyl Acetate	0.126	0.139		10.3		
Cyclohexane	0.452	0.468		3.5		
Methylcyclohexane	0.470	0.496		5.5		
Dibromofluoromethane	0.245	0.248		1.2		
1,2-Dichloroethane-d4	0.061	0.067		9.8		
Toluene-d8	1.254	1.234		-1.6		
Bromofluorobenzene	0.447	0.452		1.1		

All other compounds must meet a minimum RRF of 0.010.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/26/02 Time: 0910

Lab File ID: V6C2321 Init. Calib. Date(s): 08/20/02 08/20/02

EPA Sample No.(VSTD050##): VSTD0506G Init. Calib. Times: 1010 1231

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.332	0.366		10.2	
Chloromethane	0.426	0.440	0.100	3.3	20.0
Vinyl Chloride	0.412	0.401		-2.7	
Bromomethane	0.291	0.277		-4.8	
Chloroethane	0.238	0.253		6.3	
Trichlorofluoromethane	0.493	0.508		3.0	
1,1-Dichloroethene	0.336	0.322		-4.2	
Acetone	0.079	0.086		8.9	
Carbon Disulfide	0.864	0.990		14.6	
Methylene Chloride	0.269	0.284		5.6	
trans-1,2-Dichloroethene	0.285	0.282		-1.0	
Methyl tert-butyl ether	0.605	0.609		0.7	
1,1-Dichloroethane	0.470	0.502	0.100	6.8	20.0
2-Butanone	0.103	0.102		-1.0	
cis-1,2-Dichloroethene	0.273	0.283		3.7	
Chloroform	0.456	0.484		6.1	
1,1,1-Trichloroethane	0.390	0.389		-0.2	
Carbon Tetrachloride	0.399	0.400		0.2	
1,2-Dichloroethane	0.334	0.354		6.0	
Benzene	1.057	1.119		5.9	
Trichloroethene	0.292	0.290		-0.7	
1,2-Dichloropropane	0.262	0.283		8.0	
Bromodichloromethane	0.338	0.368		8.9	
cis-1,3-Dichloropropene	0.397	0.423		6.5	
4-Methyl-2-pentanone	0.187	0.197		5.3	

All other compounds must meet a minimum RRF of 0.010.

7B
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

Instrument ID: V6 Calibration Date: 08/26/02 Time: 0910

Lab File ID: V6C2321 Init. Calib. Date(s): 08/20/02 08/20/02

EPA Sample No.(VSTD050##): VSTD0506G Init. Calib. Times: 1010 1231

Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Toluene	1.099	1.173		6.7	
trans-1,3-Dichloropropene	0.354	0.364		2.8	
1,1,2-Trichloroethane	0.211	0.217		2.8	
Tetrachloroethene	0.353	0.338		-4.2	
2-Hexanone	0.162	0.164		1.2	
Dibromochloromethane	0.335	0.346		3.3	
1,2-Dibromoethane	0.279	0.270		-3.2	
Chlorobenzene	0.964	0.992	0.300	2.9	20.0
Ethylbenzene	0.547	0.550		0.5	
Xylene (Total)	0.649	0.690		6.3	
Styrene	1.003	1.113		11.0	
Bromoform	0.219	0.218	0.100	-0.4	20.0
Isopropylbenzene	1.533	1.648		7.5	
1,1,2,2-Tetrachloroethane	0.609	0.612	0.300	0.5	20.0
1,3-Dichlorobenzene	1.464	1.509		3.1	
1,4-Dichlorobenzene	1.498	1.506		0.5	
1,2-Dichlorobenzene	1.368	1.418		3.6	
1,2-Dibromo-3-chloropropane	0.102	0.098		-3.9	
1,2,4-Trichlorobenzene	0.977	0.881		-9.8	
1,1,2-Trichlo-1,2,2-trifluoro	0.290	0.296		2.1	
Methyl Acetate	0.126	0.134		6.3	
Cyclohexane	0.452	0.510		12.8	
Methylcyclohexane	0.470	0.523		11.3	
Dibromofluoromethane	0.245	0.244		-0.4	
1,2-Dichloroethane-d4	0.061	0.063		3.3	
Toluene-d8	1.254	1.270		1.3	
Bromofluorobenzene	0.447	0.465		4.0	

All other compounds must meet a minimum RRF of 0.010.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

EPA Sample No. (VSTD050##): VSTD0506W Date Analyzed: 08/19/02

Lab File ID (Standard): V6C2161A Time Analyzed: 1005

Instrument ID: V6 Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

		IS1 AREA #	RT #	IS2 (CBZ) AREA #	RT #	IS3 (DCB) AREA #	RT #
	12 HOUR STD	1431178	7.03	1097522	10.77	607193	13.59
	UPPER LIMIT	2862356	7.53	2195044	11.27	1214386	14.09
	LOWER LIMIT	715589	6.53	548761	10.27	303597	13.09
	EPA SAMPLE						
01	VBLK6W	1175505	7.03	835786	10.77	415560	13.59
02	V6WLCS	1371679	7.03	1047570	10.77	584654	13.59
03	V6WLCSD	1391503	7.03	1050141	10.77	584229	13.59
04	OFF-GW-MW4S	1074963	7.03	736890	10.77	365439	13.59
05	OFF-GW-MW4SM	1141964	7.03	874234	10.77	501834	13.59
06	OFF-GW-MW4SM	1199849	7.04	914172	10.77	507429	13.59
07	OFF-GW-TB01	1145703	7.03	792647	10.77	388061	13.59
08	OFF-GW-RB01	1110117	7.03	777504	10.77	383787	13.59
09	OFF-GW-MW3S	1085185	7.03	748144	10.77	356879	13.59
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IS1 = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

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 used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

EPA Sample No. (VSTD050##): VSTD0506A Date Analyzed: 08/21/02

Lab File ID (Standard): V6C2221 Time Analyzed: 0923

Instrument ID: V6 Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

		IS1 AREA #	RT #	IS2 (CBZ) AREA #	RT #	IS3 (DCB) AREA #	RT #
	12 HOUR STD	2023251	7.03	1575456	10.77	920998	13.59
	UPPER LIMIT	4046502	7.53	3150912	11.27	1841996	14.09
	LOWER LIMIT	1011626	6.53	787728	10.27	460499	13.09
	EPA SAMPLE						
01	VBLK6A	2021153	7.03	1440605	10.77	759610	13.59
02	V6ALCS	2053815	7.03	1579577	10.77	925245	13.59
03	V6ALCSD	2020430	7.03	1535780	10.77	902112	13.59
04	GWTB02	1757957	7.03	1252840	10.77	640570	13.59
05	GWMW115	1769769	7.03	1241741	10.77	647685	13.59
06	GWMW101	1693434	7.03	1196308	10.77	629099	13.59
07	GWDP01	1815020	7.03	1275688	10.77	672831	13.59
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IS1 = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

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 used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

EPA Sample No. (VSTD050##): VSTD0506E Date Analyzed: 08/23/02

Lab File ID (Standard): V6C2281 Time Analyzed: 0924

Instrument ID: V6 Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

		IS1 AREA #	RT #	IS2 (CBZ) AREA #	RT #	IS3 (DCB) AREA #	RT #
	12 HOUR STD	2433691	7.03	1915747	10.77	1126805	13.59
	UPPER LIMIT	4867382	7.53	3831494	11.27	2253610	14.09
	LOWER LIMIT	1216846	6.53	957874	10.27	563403	13.09
	EPA SAMPLE						
01	VBLK6E	2661067	7.03	2022983	10.77	1178423	13.59
02	V6ELCS	2461487	7.03	1933921	10.77	1128039	13.59
03	GWMW11R	2362717	7.03	1793559	10.77	1035291	13.59
04	GWMW2D	2294998	7.03	1730793	10.77	987289	13.59
05	GWMW102	2242102	7.03	1681160	10.77	961458	13.59
06	GWDP02	2309211	7.03	1732381	10.77	990366	13.59
07	GWMW25	2152110	7.03	1599303	10.77	905558	13.59
08	GWMW1R	2263137	7.03	1684861	10.77	942255	13.59
09	GWMW105	2259613	7.03	1668082	10.77	935169	13.59
10	OFF-GW-MW5S	2166698	7.03	1586919	10.77	874243	13.59
11	OFF-GW-MW6R	1991622	7.03	1438351	10.77	783170	13.59
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IS1 = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

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 used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231

EPA Sample No. (VSTD050##): VSTD0506G Date Analyzed: 08/26/02

Lab File ID (Standard): V6C2321 Time Analyzed: 0910

Instrument ID: V6 Heated Purge: (Y/N) N

GC Column: DB-624 ID: 0.25 (mm)

		IS1 AREA #	RT #	IS2 (CBZ) AREA #	RT #	IS3 (DCB) AREA #	RT #
	12 HOUR STD	2234094	7.03	1700484	10.78	952392	13.59
	UPPER LIMIT	4468188	7.53	3400968	11.28	1904784	14.09
	LOWER LIMIT	1117047	6.53	850242	10.28	476196	13.09
	EPA SAMPLE						
01	VBLK6G	2158965	7.04	1553859	10.77	820481	13.59
02	V6GLCS	2097746	7.04	1584307	10.77	949562	13.59
03	OFF-GW-TB03	1984824	7.04	1522351	10.78	785046	13.60
04	OFF-GW-MW9R	1944271	7.03	1487287	10.77	828281	13.60
05	OFF-GW-MW8R	1935247	7.03	1456297	10.77	790880	13.59
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IS1 = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

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 used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

MITKEM CORPORATION

* Semivolatile Organics *

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW4S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-01C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9060

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW4S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-01C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9060

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-RB01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-03C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9059

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	4	J
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-RB01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-03C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9059

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW3S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-04C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9064

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW3S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1231-04C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9064

Level: (low/med) LOW Date Received: 08/16/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW115

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-02C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9073

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW115

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-02C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9073

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW101

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-03C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9071

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	8	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	4	J
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	1	J

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW101

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-03C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9071

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	1	J
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	1	J
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-04C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9072

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	9	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	5	J
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	1	J

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-04C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9072

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	1	J
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	1	J
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW11R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-05C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9069

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW11R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-05C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9069

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW2D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-06C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9063

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW2D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-06C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9063

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW102

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-07C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9074

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW102

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-07C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9074

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP02

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-08C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9075

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP02

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-08C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9075

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW25

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-09C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9068

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW25

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-09C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9068

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW1R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-10C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9058

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW1R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-10C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9058

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW105

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-11C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9070

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW105

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-11C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9070

Level: (low/med) LOW Date Received: 08/20/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW5S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-12C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0802

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW5S

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-12C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0802

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW6R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-13C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0803

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW6R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-13C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0803

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW9R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-15C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0804

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW9R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-15C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0804

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW8R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-16C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0805

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW8R

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: A1244-16C

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0805

Level: (low/med) LOW Date Received: 08/21/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: S0822-BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0811

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: S0822-BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S1D0811

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/22/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 09/10/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3A

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: S0819-BW2

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9050

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3A

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: S0819-BW2

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9050

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/19/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: S0821-BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9055

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
100-52-7	Benzaldehyde	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
98-86-2	Acetophenone	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
105-60-2	Caprolactam	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
92-52-4	1,1'-Biphenyl	10	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix: (soil/water) WATER Lab Sample ID: S0821-BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3B9055

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/21/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/23/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
1912-24-9	Atrazine	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	SBLK3A	75	78	104	27	39	94	66	69	0
02	S3ALCS	81	89	102	27	40	103	68	69	0
03	S3ALCSD	88	92	103	32	47	105	74	76	0
04	SBLK3B	109	110	108	34	52	118	90	99	0
05	S3BLCS	112	110	109	35	54	120	94	99	0
06	S3BLCSD	104	106	111	34	52	116	88	91	0
07	GWMW1R	83	86	83	27	41	92	70	76	0
08	OFF-GW-RB01	71	71	88	25	36	79	61	63	0
09	OFF-GW-MW4S	65	66	83	20	30	85	54	57	0
10	OFF-GW-MW4SM	75	79	87	26	37	97	64	64	0
11	OFF-GW-MW4SM	79	82	92	30	44	100	69	71	0
12	GWMW2D	75	80	81	23	35	95	65	66	0
13	OFF-GW-MW3S	78	78	84	27	41	98	68	71	0
14	GWMW25	77	81	85	31	45	99	74	76	0
15	GWMW11R	83	81	86	30	43	102	70	71	0
16	GWMW105	83	84	86	28	43	98	72	76	0
17	GWMW101	80	80	82	23	36	97	66	70	0
18	GWDP01	79	80	73	26	38	99	66	70	0
19	GWMW115	69	74	77	22	32	96	60	62	0
20	GWMW102	82	82	79	25	38	98	67	73	0
21	GWDP02	87	90	97	30	44	107	75	77	0
22	S1FLCS	75	79	81	68	42	80	62	67	0
23	S1FLCSD	78	80	84	68	39	83	62	71	0
24	OFF-GW-MW5S	84	82	76	77	68	91	76	73	0
25	OFF-GW-MW6R	90	89	75	86	78	92	82	80	0
26	OFF-GW-MW9R	88	87	76	66	61	91	77	78	0
27	OFF-GW-MW8R	88	88	76	83	73	95	80	78	0
28	SBLK1B	82	80	73	71	41	86	66	68	0
29										
30										

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(38-119)	
S2 (FBP)	= 2-Fluorobiphenyl	(39-119)	
S3 (TPH)	= Terphenyl-d14	(31-133)	
S4 (PHL)	= Phenol-d5	(0-105)	
S5 (2FP)	= 2-Fluorophenol	(7- 97)	
S6 (TBP)	= 2,4,6-Tribromophenol	(37-127)	
S7 (2CP)	= 2-Chlorophenol-d4	(32-116)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(28-121)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	50	0.0	14	28	0-101
bis(2-Chloroethyl)Ether	50	0.0	33	66	51-108
2-Chlorophenol	50	0.0	34	68	34-109
2-Methylphenol	50	0.0	30	60	19-109
2,2'-oxybis(1-Chloropro	50	0.0	33	66	29-134
4-Methylphenol	50	0.0	29	58	11-112
N-Nitroso-di-n-prop.(1)	50	0.0	31	62	53-112
Hexachloroethane	50	0.0	30	60	23-106
Nitrobenzene	50	0.0	37	74	56-108
Isophorone	50	0.0	32	64	52-102
2-Nitrophenol	50	0.0	40	80	40-115
2,4-Dimethylphenol	50	0.0	40	80	0-169
bis(2-Chloroethoxy)meth	50	0.0	38	76	34-125
2,4-Dichlorophenol	50	0.0	40	80	29-122
Naphthalene	50	0.0	34	68	50-105
4-Chloroaniline	50	0.0	30	60	0-173
Hexachlorobutadiene	50	0.0	33	66	27-110
4-Chloro-3-Methylphenol	50	0.0	40	80	11-142
2-Methylnaphthalene	50	0.0	39	78	50-107
Hexachlorocyclopentadie	50	0.0	34	68	0-141
2,4,6-Trichlorophenol	50	0.0	44	88	10-134
2,4,5-Trichlorophenol	50	0.0	45	90	7-147
2-Chloronaphthalene	50	0.0	34	68	54-111
2-Nitroaniline	50	0.0	45	90	64-114
Dimethylphthalate	50	0.0	41	82	62-115
2,6-Dinitrotoluene	50	0.0	42	84	63-114
Acenaphthylene	50	0.0	37	74	56-110
3-Nitroaniline	50	0.0	56	112	12-189

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Acenaphthene	50	0.0	39	78	57-112
2,4-Dinitrophenol	50	0.0	64	128	0-162
4-Nitrophenol	50	0.0	21	42	0-131
Dibenzofuran	50	0.0	43	86	59-113
2,4-Dinitrotoluene	50	0.0	43	86	68-112
Diethylphthalate	50	0.0	41	82	70-111
Fluorene	50	0.0	41	82	62-114
4-Chlorophenyl-phenylet	50	0.0	42	84	58-116
4-Nitroaniline	50	0.0	72	144	2-165
4,6-Dinitro-2-methylphe	50	0.0	54	108	11-150
N-Nitrosodiphenylamine	50	0.0	42	84	50-150
4-Bromophenyl-phenyleth	50	0.0	42	84	58-121
Hexachlorobenzene	50	0.0	41	82	60-121
Pentachlorophenol	50	0.0	51	102	0-154
Phenanthrene	50	0.0	42	84	68-113
Anthracene	50	0.0	42	84	51-148
Carbazole	50	0.0	61	122	57-128
Di-n-butylphthalate	50	0.0	42	84	69-114
Fluoranthene	50	0.0	44	88	66-116
Pyrene	50	0.0	43	86	59-125
Butylbenzylphthalate	50	0.0	43	86	63-123
3,3'-Dichlorobenzidine	50	0.0	17	34	0-229
Benzo(a)anthracene	50	0.0	43	86	67-116
Chrysene	50	0.0	43	86	59-119
bis(2-Ethylhexyl)phthal	50	0.0	42	84	58-126
Di-n-octylphthalate	50	0.0	49	98	66-120
Benzo(b)fluoranthene	50	0.0	45	90	68-110
Benzo(k)fluoranthene	50	0.0	45	90	64-113

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzo(a)pyrene	50	0.0	45	90	67-112
Indeno(1,2,3-cd)pyrene	50	0.0	43	86	56-117
Dibenzo(a,h)anthracene	50	0.0	44	88	55-119
Benzo(g,h,i)perylene	50	0.0	40	80	50-122

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	50	17	34	19	40	0-101
bis(2-Chloroethyl)Ether	50	37	74	11	40	51-108
2-Chlorophenol	50	38	76	11	40	34-109
2-Methylphenol	50	34	68	12	40	19-109
2,2'-oxybis(1-Chloropro	50	36	72	9	40	29-134
4-Methylphenol	50	33	66	13	40	11-112
N-Nitroso-di-n-prop.(1)	50	33	66	6	40	53-112
Hexachloroethane	50	34	68	12	40	23-106
Nitrobenzene	50	40	80	8	40	56-108
Isophorone	50	34	68	6	40	52-102
2-Nitrophenol	50	44	88	10	40	40-115
2,4-Dimethylphenol	50	42	84	5	40	0-169
bis(2-Chloroethoxy)meth	50	41	82	8	40	34-125
2,4-Dichlorophenol	50	43	86	7	40	29-122
Naphthalene	50	38	76	11	40	50-105
4-Chloroaniline	50	29	58	3	40	0-173
Hexachlorobutadiene	50	37	74	11	40	27-110
4-Chloro-3-Methylphenol	50	44	88	10	40	11-142
2-Methylnaphthalene	50	42	84	7	40	50-107
Hexachlorocyclopentadie	50	37	74	8	40	0-141
2,4,6-Trichlorophenol	50	47	94	6	40	10-134
2,4,5-Trichlorophenol	50	49	98	8	40	7-147
2-Chloronaphthalene	50	37	74	8	40	54-111
2-Nitroaniline	50	50	100	10	40	64-114
Dimethylphthalate	50	44	88	7	40	62-115
2,6-Dinitrotoluene	50	45	90	7	40	63-114
Acenaphthylene	50	40	80	8	40	56-110
3-Nitroaniline	50	61	122	8	40	12-189

(1) N-Nitroso-di-n-propylamine

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

COMMENTS:

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	50	42	84	7	40	57-112
2,4-Dinitrophenol	50	68	136	6	40	0-162
4-Nitrophenol	50	25	50	17	40	0-131
Dibenzofuran	50	46	92	7	40	59-113
2,4-Dinitrotoluene	50	46	92	7	40	68-112
Diethylphthalate	50	44	88	7	40	70-111
Fluorene	50	44	88	7	40	62-114
4-Chlorophenyl-phenylet	50	45	90	7	40	58-116
4-Nitroaniline	50	80	160	10	40	2-165
4,6-Dinitro-2-methylphe	50	57	114	5	40	11-150
N-Nitrosodiphenylamine	50	45	90	7	40	50-150
4-Bromophenyl-phenyleth	50	45	90	7	40	58-121
Hexachlorobenzene	50	44	88	7	40	60-121
Pentachlorophenol	50	54	108	6	40	0-154
Phenanthrene	50	45	90	7	40	68-113
Anthracene	50	45	90	7	40	51-148
Carbazole	50	65	130*	6	40	57-128
Di-n-butylphthalate	50	45	90	7	40	69-114
Fluoranthene	50	47	94	6	40	66-116
Pyrene	50	45	90	4	40	59-125
Butylbenzylphthalate	50	46	92	7	40	63-123
3,3'-Dichlorobenzidine	50	22	44	26	40	0-229
Benzo(a)anthracene	50	46	92	7	40	67-116
Chrysene	50	46	92	7	40	59-119
bis(2-Ethylhexyl)phthal	50	45	90	7	40	58-126
Di-n-octylphthalate	50	52	104	6	40	66-120
Benzo(b)fluoranthene	50	47	94	4	40	68-110
Benzo(k)fluoranthene	50	47	94	4	40	64-113

(1) N-Nitroso-di-n-propylamine

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

COMMENTS:

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - EPA Sample No.: OFF-GW-MW4S

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)pyrene	50	47	94	4	40	67-112
Indeno(1,2,3-cd)pyrene	50	47	94	9	40	56-117
Dibenzo(a,h)anthracene	50	47	94	6	40	55-119
Benzo(g,h,i)perylene	50	45	90	12	40	50-122

(1) N-Nitroso-di-n-propylamine

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

RPD: 0 out of 60 outside limits
Spike Recovery: 1 out of 120 outside limits

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S1FLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	50		39	78	0-127
bis(2-Chloroethyl)Ether	50		38	76	46-109
2-Chlorophenol	50		32	64	22-117
1,3-Dichlorobenzene	50		27	54	28-103
1,4-Dichlorobenzene	50		28	56	28-104
1,2-Dichlorobenzene	50		29	58	29-107
2-Methylphenol	50		38	76	40-104
2,2'-oxybis(1-Chloropro	50		38	76	10-134
4-Methylphenol	50		41	82	35-106
N-Nitroso-di-n-prop.(1)	50		38	76	44-122
Hexachloroethane	50		27	54	24-104
Nitrobenzene	50		37	74	47-112
Isophorone	50		37	74	48-118
2-Nitrophenol	50		36	72	29-122
2,4-Dimethylphenol	50		32	64	14-109
2,4-Dichlorophenol	50		38	76	31-122
1,2,4-Trichlorobenzene	50		29	58	33-108
Naphthalene	50		33	66	38-117
4-Chloroaniline	50		39	78	0-152
bis(2-Chloroethoxy)meth	50		40	80	49-112
Hexachlorobutadiene	50		25	50	28-109
4-Chloro-3-Methylphenol	50		43	86	48-117
2-Methylnaphthalene	50		36	72	43-113
Hexachlorocyclopentadie	50		10	20*	34-103
2,4,6-Trichlorophenol	50		39	78	34-127
2,4,5-Trichlorophenol	50		41	82	32-131
2-Chloronaphthalene	50		35	70	47-116
2-Nitroaniline	50		42	84	51-120

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S1FLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Dimethylphthalate	50		42	84	53-124
Acenaphthylene	50		39	78	50-119
2,6-Dinitrotoluene	50		42	84	52-122
3-Nitroaniline	50		43	86	47-115
Acenaphthene	50		39	78	50-121
2,4-Dinitrophenol	50		40	80	0-144
4-Nitrophenol	50		43	86	0-160
Dibenzofuran	50		41	82	51-122
2,4-Dinitrotoluene	50		43	86	52-126
Diethylphthalate	50		43	86	53-126
4-Chlorophenyl-phenylet	50		41	82	50-124
Fluorene	50		42	84	52-125
4-Nitroaniline	50		42	84	47-117
4,6-Dinitro-2-methylphe	50		41	82	3-151
4-Bromophenyl-phenyleth	50		40	80	51-124
Hexachlorobenzene	50		41	82	52-124
Pentachlorophenol	50		40	80	5-125
Phenanthrene	50		42	84	52-128
Anthracene	50		43	86	52-127
Carbazole	50		44	88	54-126
Di-n-butylphthalate	50		41	82	56-132
Fluoranthene	50		44	88	53-130
Pyrene	50		40	80	53-131
Butylbenzylphthalate	50		40	80	54-128
3,3'-Dichlorobenzidine	50		40	80	41-117
Benzo(a)anthracene	50		41	82	56-124
Chrysene	50		42	84	53-123
bis(2-Ethylhexyl)phthal	50		41	82	56-127

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S1FLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Di-n-octylphthalate	50		40	80	59-138
Benzo(b)fluoranthene	50		39	78	58-126
Benzo(k)fluoranthene	50		41	82	60-124
Benzo(a)pyrene	50		40	80	61-121
Indeno(1,2,3-cd)pyrene	50		46	92	23-152
Dibenzo(a,h)anthracene	50		46	92	60-122
Benzo(g,h,i)perylene	50		47	94	57-124

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S1FLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	50	38	76	2	40	0-127
bis(2-Chloroethyl)Ether	50	39	78	2	40	46-109
2-Chlorophenol	50	32	64	0	40	22-117
1,3-Dichlorobenzene	50	28	56	4	40	28-103
1,4-Dichlorobenzene	50	29	58	4	40	28-104
1,2-Dichlorobenzene	50	31	62	7	40	29-107
2-Methylphenol	50	38	76	0	40	40-104
2,2'-oxybis(1-Chloropro	50	39	78	2	40	10-134
4-Methylphenol	50	40	80	2	40	35-106
N-Nitroso-di-n-prop.(1)	50	37	74	3	40	44-122
Hexachloroethane	50	29	58	7	40	24-104
Nitrobenzene	50	37	74	0	40	47-112
Isophorone	50	37	74	0	40	48-118
2-Nitrophenol	50	37	74	3	40	29-122
2,4-Dimethylphenol	50	31	62	3	40	14-109
2,4-Dichlorophenol	50	38	76	0	40	31-122
1,2,4-Trichlorobenzene	50	31	62	7	40	33-108
Naphthalene	50	35	70	6	40	38-117
4-Chloroaniline	50	40	80	2	40	0-152
bis(2-Chloroethoxy)meth	50	40	80	0	40	49-112
Hexachlorobutadiene	50	28	56	11	40	28-109
4-Chloro-3-Methylphenol	50	42	84	2	40	48-117
2-Methylnaphthalene	50	37	74	3	40	43-113
Hexachlorocyclopentadie	50	11	22*	10	40	34-103
2,4,6-Trichlorophenol	50	38	76	2	40	34-127
2,4,5-Trichlorophenol	50	40	80	2	40	32-131
2-Chloronaphthalene	50	36	72	3	40	47-116
2-Nitroaniline	50	41	82	2	40	51-120

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S1FLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dimethylphthalate	50	42	84	0	40	53-124
Acenaphthylene	50	39	78	0	40	50-119
2,6-Dinitrotoluene	50	41	82	2	40	52-122
3-Nitroaniline	50	43	86	0	40	47-115
Acenaphthene	50	39	78	0	40	50-121
2,4-Dinitrophenol	50	42	84	5	40	0-144
4-Nitrophenol	50	43	86	0	40	0-160
Dibenzofuran	50	41	82	0	40	51-122
2,4-Dinitrotoluene	50	43	86	0	40	52-126
Diethylphthalate	50	43	86	0	40	53-126
4-Chlorophenyl-phenylet	50	41	82	0	40	50-124
Fluorene	50	41	82	2	40	52-125
4-Nitroaniline	50	43	86	2	40	47-117
4,6-Dinitro-2-methylphe	50	42	84	2	40	3-151
4-Bromophenyl-phenyleth	50	40	80	0	40	51-124
Hexachlorobenzene	50	41	82	0	40	52-124
Pentachlorophenol	50	42	84	5	40	5-125
Phenanthrene	50	42	84	0	40	52-128
Anthracene	50	42	84	2	40	52-127
Carbazole	50	45	90	2	40	54-126
Di-n-butylphthalate	50	44	88	7	40	56-132
Fluoranthene	50	44	88	0	40	53-130
Pyrene	50	40	80	0	40	53-131
Butylbenzylphthalate	50	40	80	0	40	54-128
3,3'-Dichlorobenzidine	50	40	80	0	40	41-117
Benzo(a)anthracene	50	41	82	0	40	56-124
Chrysene	50	42	84	0	40	53-123
bis(2-Ethylhexyl)phthal	50	41	82	0	40	56-127

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S1FLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Di-n-octylphthalate	50	40	80	0	40	59-138
Benzo(b)fluoranthene	50	40	80	2	40	58-126
Benzo(k)fluoranthene	50	41	82	0	40	60-124
Benzo(a)pyrene	50	40	80	0	40	61-121
Indeno(1,2,3-cd)pyrene	50	46	92	0	40	23-152
Dibenzo(a,h)anthracene	50	46	92	0	40	60-122
Benzo(g,h,i)perylene	50	48	96	2	40	57-124

(1) N-Nitroso-di-n-propylamine

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

RPD: 0 out of 63 outside limits
Spike Recovery: 2 out of 126 outside limits

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3ALCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	50		15	30	0-101
bis(2-Chloroethyl)Ether	50		36	72	51-108
2-Chlorophenol	50		36	72	34-109
2-Methylphenol	50		31	62	19-109
2,2'-oxybis(1-Chloropro	50		36	72	29-134
4-Methylphenol	50		30	60	11-112
N-Nitroso-di-n-prop.(1)	50		34	68	53-112
Hexachloroethane	50		33	66	23-106
Nitrobenzene	50		40	80	56-108
Isophorone	50		36	72	52-102
2-Nitrophenol	50		43	86	40-115
2,4-Dimethylphenol	50		34	68	0-169
bis(2-Chloroethoxy)meth	50		42	84	34-125
2,4-Dichlorophenol	50		43	86	29-122
Naphthalene	50		38	76	50-105
4-Chloroaniline	50		18	36	0-173
Hexachlorobutadiene	50		36	72	27-110
4-Chloro-3-Methylphenol	50		45	90	11-142
2-Methylnaphthalene	50		44	88	50-107
Hexachlorocyclopentadie	50		35	70	0-141
2,4,6-Trichlorophenol	50		49	98	10-134
2,4,5-Trichlorophenol	50		50	100	7-147
2-Chloronaphthalene	50		39	78	54-111
2-Nitroaniline	50		52	104	64-114
Dimethylphthalate	50		47	94	62-115
2,6-Dinitrotoluene	50		48	96	63-114
Acenaphthylene	50		44	88	56-110
3-Nitroaniline	50		62	124	12-189

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3ALCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acenaphthene	50		45	90	57-112
2,4-Dinitrophenol	50		57	114	0-162
4-Nitrophenol	50		22	44	0-131
Dibenzofuran	50		50	100	59-113
2,4-Dinitrotoluene	50		50	100	68-112
Diethylphthalate	50		47	94	70-111
Fluorene	50		48	96	62-114
4-Chlorophenyl-phenylet	50		49	98	58-116
4-Nitroaniline	50		83	166*	2-165
4,6-Dinitro-2-methylphe	50		56	112	11-150
N-Nitrosodiphenylamine	50		48	96	50-150
4-Bromophenyl-phenyleth	50		48	96	58-121
Hexachlorobenzene	50		48	96	60-121
Pentachlorophenol	50		52	104	0-154
Phenanthrene	50		49	98	68-113
Anthracene	50		49	98	51-148
Carbazole	50		65	130*	57-128
Di-n-butylphthalate	50		48	96	69-114
Fluoranthene	50		51	102	66-116
Pyrene	50		49	98	59-125
Butylbenzylphthalate	50		49	98	63-123
3,3'-Dichlorobenzidine	50		96	192	0-229
Benzo(a)anthracene	50		50	100	67-116
Chrysene	50		50	100	59-119
bis(2-Ethylhexyl)phthal	50		49	98	58-126
Di-n-octylphthalate	50		53	106	66-120
Benzo(b)fluoranthene	50		50	100	68-110
Benzo(k)fluoranthene	50		51	102	64-113

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3ALCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Benzo(a)pyrene	50		51	102	67-112
Indeno(1,2,3-cd)pyrene	50		50	100	56-117
Dibenzo(a,h)anthracene	50		51	102	55-119
Benzo(g,h,i)perylene	50		48	96	50-122

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3ALCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	50	18	36	18	40	0-101
bis(2-Chloroethyl)Ether	50	39	78	8	40	51-108
2-Chlorophenol	50	39	78	8	40	34-109
2-Methylphenol	50	34	68	9	40	19-109
2,2'-oxybis(1-Chloropro	50	39	78	8	40	29-134
4-Methylphenol	50	34	68	12	40	11-112
N-Nitroso-di-n-prop.(1)	50	36	72	6	40	53-112
Hexachloroethane	50	36	72	9	40	23-106
Nitrobenzene	50	43	86	7	40	56-108
Isophorone	50	37	74	3	40	52-102
2-Nitrophenol	50	46	92	7	40	40-115
2,4-Dimethylphenol	50	38	76	11	40	0-169
bis(2-Chloroethoxy)meth	50	43	86	2	40	34-125
2,4-Dichlorophenol	50	45	90	4	40	29-122
Naphthalene	50	40	80	5	40	50-105
4-Chloroaniline	50	21	42	15	40	0-173
Hexachlorobutadiene	50	39	78	8	40	27-110
4-Chloro-3-Methylphenol	50	46	92	2	40	11-142
2-Methylnaphthalene	50	45	90	2	40	50-107
Hexachlorocyclopentadie	50	37	74	6	40	0-141
2,4,6-Trichlorophenol	50	48	96	2	40	10-134
2,4,5-Trichlorophenol	50	50	100	0	40	7-147
2-Chloronaphthalene	50	40	80	2	40	54-111
2-Nitroaniline	50	54	108	4	40	64-114
Dimethylphthalate	50	48	96	2	40	62-115
2,6-Dinitrotoluene	50	49	98	2	40	63-114
Acenaphthylene	50	44	88	0	40	56-110
3-Nitroaniline	50	64	128	3	40	12-189

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3ALCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	50	46	92	2	40	57-112
2,4-Dinitrophenol	50	63	126	10	40	0-162
4-Nitrophenol	50	24	48	9	40	0-131
Dibenzofuran	50	50	100	0	40	59-113
2,4-Dinitrotoluene	50	51	102	2	40	68-112
Diethylphthalate	50	49	98	4	40	70-111
Fluorene	50	49	98	2	40	62-114
4-Chlorophenyl-phenylet	50	49	98	0	40	58-116
4-Nitroaniline	50	84	168*	1	40	2-165
4,6-Dinitro-2-methylphe	50	57	114	2	40	11-150
N-Nitrosodiphenylamine	50	47	94	2	40	50-150
4-Bromophenyl-phenyleth	50	49	98	2	40	58-121
Hexachlorobenzene	50	49	98	2	40	60-121
Pentachlorophenol	50	54	108	4	40	0-154
Phenanthrene	50	49	98	0	40	68-113
Anthracene	50	50	100	2	40	51-148
Carbazole	50	65	130*	0	40	57-128
Di-n-butylphthalate	50	48	96	0	40	69-114
Fluoranthene	50	51	102	0	40	66-116
Pyrene	50	49	98	0	40	59-125
Butylbenzylphthalate	50	50	100	2	40	63-123
3,3'-Dichlorobenzidine	50	99	198	3	40	0-229
Benzo(a)anthracene	50	51	102	2	40	67-116
Chrysene	50	51	102	2	40	59-119
bis(2-Ethylhexyl)phthal	50	49	98	0	40	58-126
Di-n-octylphthalate	50	52	104	2	40	66-120
Benzo(b)fluoranthene	50	51	102	2	40	68-110
Benzo(k)fluoranthene	50	50	100	2	40	64-113

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3ALCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)pyrene	50	52	104	2	40	67-112
Indeno(1,2,3-cd)pyrene	50	54	108	8	40	56-117
Dibenzo(a,h)anthracene	50	55	110	8	40	55-119
Benzo(g,h,i)perylene	50	51	102	6	40	50-122

(1) N-Nitroso-di-n-propylamine

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

RPD: 0 out of 60 outside limits
Spike Recovery: 4 out of 120 outside limits

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3BLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Phenol	50		19	38	0-101
bis(2-Chloroethyl)Ether	50		51	102	51-108
2-Chlorophenol	50		49	98	34-109
2-Methylphenol	50		42	84	19-109
2,2'-oxybis(1-Chloropro	50		51	102	29-134
4-Methylphenol	50		39	78	11-112
N-Nitroso-di-n-prop.(1)	50		47	94	53-112
Hexachloroethane	50		46	92	23-106
Nitrobenzene	50		55	110*	56-108
Isophorone	50		47	94	52-102
2-Nitrophenol	50		58	116*	40-115
2,4-Dimethylphenol	50		55	110	0-169
bis(2-Chloroethoxy)meth	50		55	110	34-125
2,4-Dichlorophenol	50		57	114	29-122
Naphthalene	50		52	104	50-105
4-Chloroaniline	50		21	42	0-173
Hexachlorobutadiene	50		50	100	27-110
4-Chloro-3-Methylphenol	50		56	112	11-142
2-Methylnaphthalene	50		57	114*	50-107
Hexachlorocyclopentadie	50		47	94	0-141
2,4,6-Trichlorophenol	50		59	118	10-134
2,4,5-Trichlorophenol	50		60	120	7-147
2-Chloronaphthalene	50		48	96	54-111
2-Nitroaniline	50		60	120*	64-114
Dimethylphthalate	50		56	112	62-115
2,6-Dinitrotoluene	50		57	114*	63-114
Acenaphthylene	50		54	108	56-110
3-Nitroaniline	50		68	136	12-189

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3BLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Acenaphthene	50		55	110	57-112
2,4-Dinitrophenol	50		65	130	0-162
4-Nitrophenol	50		23	46	0-131
Dibenzofuran	50		59	118*	59-113
2,4-Dinitrotoluene	50		56	112	68-112
Diethylphthalate	50		55	110	70-111
Fluorene	50		57	114*	62-114
4-Chlorophenyl-phenylet	50		57	114	58-116
4-Nitroaniline	50		89	178*	2-165
4,6-Dinitro-2-methylphe	50		62	124	11-150
N-Nitrosodiphenylamine	50		53	106	50-150
4-Bromophenyl-phenyleth	50		55	110	58-121
Hexachlorobenzene	50		56	112	60-121
Pentachlorophenol	50		61	122	0-154
Phenanthrene	50		55	110	68-113
Anthracene	50		56	112	51-148
Carbazole	50		70	140*	57-128
Di-n-butylphthalate	50		56	112	69-114
Fluoranthene	50		59	118*	66-116
Pyrene	50		53	106	59-125
Butylbenzylphthalate	50		55	110	63-123
3,3'-Dichlorobenzidine	50		110	220	0-229
Benzo(a)anthracene	50		56	112	67-116
Chrysene	50		56	112	59-119
bis(2-Ethylhexyl)phthal	50		55	110	58-126
Di-n-octylphthalate	50		56	112	66-120
Benzo(b)fluoranthene	50		55	110	68-110
Benzo(k)fluoranthene	50		56	112	64-113

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3BLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Benzo(a)pyrene	50		57	114*	67-112
Indeno(1,2,3-cd)pyrene	50		60	120*	56-117
Dibenzo(a,h)anthracene	50		59	118	55-119
Benzo(g,h,i)perylene	50		58	116	50-122

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3BLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	50	19	38	0	40	0-101
bis(2-Chloroethyl)Ether	50	46	92	10	40	51-108
2-Chlorophenol	50	46	92	6	40	34-109
2-Methylphenol	50	39	78	7	40	19-109
2,2'-oxybis(1-Chloropro	50	46	92	10	40	29-134
4-Methylphenol	50	38	76	2	40	11-112
N-Nitroso-di-n-prop.(1)	50	42	84	11	40	53-112
Hexachloroethane	50	41	82	11	40	23-106
Nitrobenzene	50	51	102	8	40	56-108
Isophorone	50	43	86	9	40	52-102
2-Nitrophenol	50	54	108	7	40	40-115
2,4-Dimethylphenol	50	51	102	8	40	0-169
bis(2-Chloroethoxy)meth	50	51	102	8	40	34-125
2,4-Dichlorophenol	50	53	106	7	40	29-122
Naphthalene	50	47	94	10	40	50-105
4-Chloroaniline	50	22	44	5	40	0-173
Hexachlorobutadiene	50	46	92	8	40	27-110
4-Chloro-3-Methylphenol	50	52	104	7	40	11-142
2-Methylnaphthalene	50	52	104	9	40	50-107
Hexachlorocyclopentadie	50	45	90	4	40	0-141
2,4,6-Trichlorophenol	50	57	114	3	40	10-134
2,4,5-Trichlorophenol	50	58	116	3	40	7-147
2-Chloronaphthalene	50	46	92	4	40	54-111
2-Nitroaniline	50	59	118*	2	40	64-114
Dimethylphthalate	50	52	104	7	40	62-115
2,6-Dinitrotoluene	50	53	106	7	40	63-114
Acenaphthylene	50	51	102	6	40	56-110
3-Nitroaniline	50	68	136	0	40	12-189

(1) N-Nitroso-di-n-propylamine

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

COMMENTS:

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3BLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	50	51	102	8	40	57-112
2,4-Dinitrophenol	50	69	138	6	40	0-162
4-Nitrophenol	50	24	48	4	40	0-131
Dibenzofuran	50	56	112	5	40	59-113
2,4-Dinitrotoluene	50	54	108	4	40	68-112
Diethylphthalate	50	51	102	8	40	70-111
Fluorene	50	54	108	5	40	62-114
4-Chlorophenyl-phenylet	50	54	108	5	40	58-116
4-Nitroaniline	50	90	180*	1	40	2-165
4,6-Dinitro-2-methylphe	50	62	124	0	40	11-150
N-Nitrosodiphenylamine	50	52	104	2	40	50-150
4-Bromophenyl-phenyleth	50	53	106	4	40	58-121
Hexachlorobenzene	50	52	104	7	40	60-121
Pentachlorophenol	50	58	116	5	40	0-154
Phenanthrene	50	53	106	4	40	68-113
Anthracene	50	53	106	6	40	51-148
Carbazole	50	69	138*	1	40	57-128
Di-n-butylphthalate	50	51	102	9	40	69-114
Fluoranthene	50	54	108	9	40	66-116
Pyrene	50	53	106	0	40	59-125
Butylbenzylphthalate	50	52	104	6	40	63-123
3,3'-Dichlorobenzidine	50	110	220	0	40	0-229
Benzo(a)anthracene	50	53	106	6	40	67-116
Chrysene	50	54	108	4	40	59-119
bis(2-Ethylhexyl)phthal	50	51	102	8	40	58-126
Di-n-octylphthalate	50	56	112	0	40	66-120
Benzo(b)fluoranthene	50	54	108	2	40	68-110
Benzo(k)fluoranthene	50	55	110	2	40	64-113

(1) N-Nitroso-di-n-propylamine

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix Spike - Sample No.: S3BLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzo(a)pyrene	50	56	112	2	40	67-112
Indeno(1,2,3-cd)pyrene	50	57	114	5	40	56-117
Dibenzo(a,h)anthracene	50	58	116	2	40	55-119
Benzo(g,h,i)perylene	50	54	108	7	40	50-122

(1) N-Nitroso-di-n-propylamine

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

RPD: 0 out of 60 outside limits
Spike Recovery: 15 out of 120 outside limits

COMMENTS: _____

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK1B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S1D0811 Lab Sample ID: S0822-BW1

Instrument ID: S1 Date Extracted: 08/22/02

Matrix: (soil/water) WATER Date Analyzed: 09/10/02

Level:(low/med) LOW Time Analyzed: 1329

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	S1FLCS	S0822-LW1	S1D0567	08/27/02
02	S1FLCSD	S0822-LW1D	S1D0568	08/27/02
03	OFF-GW-MW5S	A1244-12C	S1D0802	09/10/02
04	OFF-GW-MW6R	A1244-13C	S1D0803	09/10/02
05	OFF-GW-MW9R	A1244-15C	S1D0804	09/10/02
06	OFF-GW-MW8R	A1244-16C	S1D0805	09/10/02
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COMMENTS:

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK3A

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S3B9050 Lab Sample ID: S0819-BW2

Instrument ID: S3 Date Extracted: 08/19/02

Matrix: (soil/water) WATER Date Analyzed: 08/23/02

Level:(low/med) LOW Time Analyzed: 1343

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	S3ALCS	S0819-LW2	S3B9052	08/23/02
02	S3ALCSD	S0819-LW2D	S3B9054	08/23/02
03	OFF-GW-RB01	A1231-03C	S3B9059	08/23/02
04	OFF-GW-MW4S	A1231-01C	S3B9060	08/23/02
05	OFF-GW-MW4SM	A1231-01CMS	S3B9061	08/23/02
06	OFF-GW-MW4SM	A1231-01CMSD	S3B9062	08/23/02
07	OFF-GW-MW3S	A1231-04C	S3B9064	08/24/02
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COMMENTS:

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK3B

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S3B9055 Lab Sample ID: S0821-BW1

Instrument ID: S3 Date Extracted: 08/21/02

Matrix: (soil/water) WATER Date Analyzed: 08/23/02

Level:(low/med) LOW Time Analyzed: 1736

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	S3BLCS	S0821-LW1	S3B9056	08/23/02
02	S3BLCSD	S0821-LW1D	S3B9057	08/23/02
03	GWMW1R	A1244-10C	S3B9058	08/23/02
04	GWMW2D	A1244-06C	S3B9063	08/23/02
05	GWMW25	A1244-09C	S3B9068	08/24/02
06	GWMW11R	A1244-05C	S3B9069	08/24/02
07	GWMW105	A1244-11C	S3B9070	08/24/02
08	GWMW101	A1244-03C	S3B9071	08/24/02
09	GWDP01	A1244-04C	S3B9072	08/24/02
10	GWMW115	A1244-02C	S3B9073	08/24/02
11	GWMW102	A1244-07C	S3B9074	08/24/02
12	GWDP02	A1244-08C	S3B9075	08/24/02
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COMMENTS:

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S3B9039 DFTPP Injection Date: 08/23/02

Instrument ID: S3 DFTPP Injection Time: 0335

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	49.6
68	Less than 2.0% of mass 69	0.6 (1.3)1
69	Mass 69 relative abundance	47.4
70	Less than 2.0% of mass 69	0.3 (0.7)1
127	25.0 - 75.0% of mass 198	55.2
197	Less than 1.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	24.6
365	Greater than 0.75% of mass 198	3.79
441	Present, but less than mass 443	12.1
442	40.0 - 110.0% of mass 198	92.6
443	15.0 - 24.0% of mass 442	17.9 (19.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0203C	SS0823A	S3B9040	08/23/02	0355
02	SSTD0503C	SS0823B	S3B9041	08/23/02	0441
03	SSTD0803C	SS0823C	S3B9042	08/23/02	0527
04	SSTD1203C	SS0823D	S3B9043	08/23/02	0613
05	SSTD1603C	SS0823E	S3B9044	08/23/02	0659
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S3B9048 DFTPP Injection Date: 08/23/02

Instrument ID: S3 DFTPP Injection Time: 1238

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	47.4
68	Less than 2.0% of mass 69	0.6 (1.4)1
69	Mass 69 relative abundance	46.3
70	Less than 2.0% of mass 69	0.5 (1.0)1
127	25.0 - 75.0% of mass 198	53.3
197	Less than 1.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.3
275	10.0 - 30.0% of mass 198	24.5
365	Greater than 0.75% of mass 198	2.88
441	Present, but less than mass 443	13.1
442	40.0 - 110.0% of mass 198	92.9
443	15.0 - 24.0% of mass 442	18.0 (19.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0503D	SS0823B	S3B9049	08/23/02	1258
02	SBLK3A	S0819-BW2	S3B9050	08/23/02	1343
03	S3ALCS	S0819-LW2	S3B9052	08/23/02	1518
04	S3ALCSD	S0819-LW2D	S3B9054	08/23/02	1650
05	SBLK3B	S0821-BW1	S3B9055	08/23/02	1736
06	S3BLCS	S0821-LW1	S3B9056	08/23/02	1822
07	S3BLCSD	S0821-LW1D	S3B9057	08/23/02	1908
08	GWMW1R	A1244-10C	S3B9058	08/23/02	1953
09	OFF-GW-RB01	A1231-03C	S3B9059	08/23/02	2039
10	OFF-GW-MW4S	A1231-01C	S3B9060	08/23/02	2125
11	OFF-GW-MW4SM	A1231-01CMS	S3B9061	08/23/02	2211
12	OFF-GW-MW4SM	A1231-01CMSD	S3B9062	08/23/02	2257
13	GWMW2D	A1244-06C	S3B9063	08/23/02	2343
14	OFF-GW-MW3S	A1231-04C	S3B9064	08/24/02	0028
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S3B9065 DFTPP Injection Date: 08/24/02

Instrument ID: S3 DFTPP Injection Time: 0109

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	50.2
68	Less than 2.0% of mass 69	0.7 (1.4)1
69	Mass 69 relative abundance	48.2
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	25.0 - 75.0% of mass 198	53.9
197	Less than 1.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	24.9
365	Greater than 0.75% of mass 198	2.88
441	Present, but less than mass 443	12.2
442	40.0 - 110.0% of mass 198	86.3
443	15.0 - 24.0% of mass 442	19.1 (22.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0503E	SS0824A	S3B9066	08/24/02	0129
02	GWMW25	A1244-09C	S3B9068	08/24/02	0300
03	GWMW11R	A1244-05C	S3B9069	08/24/02	0346
04	GWMW105	A1244-11C	S3B9070	08/24/02	0431
05	GWMW101	A1244-03C	S3B9071	08/24/02	0517
06	GWDP01	A1244-04C	S3B9072	08/24/02	0603
07	GWMW115	A1244-02C	S3B9073	08/24/02	0649
08	GWMW102	A1244-07C	S3B9074	08/24/02	0735
09	GWDP02	A1244-08C	S3B9075	08/24/02	0821
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S1D0555 DFTPP Injection Date: 08/26/02

Instrument ID: S1 DFTPP Injection Time: 1729

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	32.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	51.4
70	Less than 2.0% of mass 69	0.1 (0.3)1
127	40.0 - 60.0% of mass 198	49.5
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	6.8
275	10.0 - 30.0% of mass 198	18.3
365	Greater than 1.0% of mass 198	1.96
441	Present, but less than mass 443	10.0
442	40.0 - 99.9% of mass 198	62.7
443	17.0 - 23.0% of mass 442	12.4 (19.7)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0501E	SS0826A	S1D0556	08/26/02	1747
02	SSTD0101E	SS0826C	S1D0557	08/26/02	1827
03	SSTD0201E	SS0826D	S1D0558	08/26/02	1907
04	SSTD0801E	SS0826E	S1D0559	08/26/02	1947
05	SSTD1201E	SS0826F	S1D0560	08/26/02	2027
06	SSTD1601E	SS0826B	S1D0561	08/26/02	2107
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S1D0564 DFTPP Injection Date: 08/27/02

Instrument ID: S1 DFTPP Injection Time: 0953

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	32.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	51.9
70	Less than 2.0% of mass 69	0.1 (0.3)1
127	40.0 - 60.0% of mass 198	49.6
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	6.8
275	10.0 - 30.0% of mass 198	18.0
365	Greater than 1.0% of mass 198	1.84
441	Present, but less than mass 443	9.5
442	40.0 - 99.9% of mass 198	59.9
443	17.0 - 23.0% of mass 442	12.0 (20.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0501F	SS0827A	S1D0565	08/27/02	1013
02	S1FLCS	S0822-LW1	S1D0567	08/27/02	1131
03	S1FLCSD	S0822-LW1D	S1D0568	08/27/02	1211
04					
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S1D0782 DFTPP Injection Date: 09/09/02

Instrument ID: S1 DFTPP Injection Time: 1231

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	32.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.8
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	25.0 - 75.0% of mass 198	47.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	17.4
365	Greater than 0.75% of mass 198	1.85
441	Present, but less than mass 443	10.0
442	40.0 - 110.0% of mass 198	68.0
443	15.0 - 24.0% of mass 442	13.4 (19.7)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0501U	SS0909A	S1D0783	09/09/02	1251
02	SSTD0201U	SS0909B	S1D0784	09/09/02	1337
03	SSTD0801U	SS0909E	S1D0788	09/09/02	1709
04	SSTD1201U	SS0909D	S1D0789	09/09/02	1756
05	SSTD1601U	SS0909C	S1D0790	09/09/02	1842
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S1D0793 DFTPP Injection Date: 09/09/02

Instrument ID: S1 DFTPP Injection Time: 2021

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	38.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	60.5
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	25.0 - 75.0% of mass 198	49.2
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	6.8
275	10.0 - 30.0% of mass 198	16.4
365	Greater than 0.75% of mass 198	1.43
441	Present, but less than mass 443	7.5
442	40.0 - 110.0% of mass 198	50.0
443	15.0 - 24.0% of mass 442	9.9 (19.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0501V	SS0909F	S1D0794	09/09/02	2041
02	OFF-GW-MW5S	A1244-12C	S1D0802	09/10/02	0255
03	OFF-GW-MW6R	A1244-13C	S1D0803	09/10/02	0341
04	OFF-GW-MW9R	A1244-15C	S1D0804	09/10/02	0428
05	OFF-GW-MW8R	A1244-16C	S1D0805	09/10/02	0514
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5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID: S1D0807 DFTPP Injection Date: 09/10/02

Instrument ID: S1 DFTPP Injection Time: 1056

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 80.0% of mass 198	43.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	66.8
70	Less than 2.0% of mass 69	0.2 (0.3)1
127	25.0 - 75.0% of mass 198	50.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	16.9
365	Greater than 0.75% of mass 198	1.48
441	Present, but less than mass 443	7.5
442	40.0 - 110.0% of mass 198	50.5
443	15.0 - 24.0% of mass 442	9.9 (19.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD0501W	SS0910A	S1D0808	09/10/02	1117
02	SBLK1B	S0822-BW1	S1D0811	09/10/02	1329
03					
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6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S3 Calibration Date(s): 08/23/02 08/23/02

Calibration Time(s): 0355 0659

LAB FILE ID: RRF20 =S3B9040 RRF50 =S3B9041
RRF80 =S3B9042 RRF120=S3B9043 RRF160=S3B9044

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Benzaldehyde	1.216	1.206	1.194	1.143	1.086	1.169	4.6
Phenol	1.726	1.743	1.763	1.772	1.731	1.747	1.2
bis(2-Chloroethyl)Ether	1.559	1.511	1.459	1.429	1.387	1.469	4.6
2-Chlorophenol	1.408	1.431	1.418	1.379	1.360	1.399	2.1
2-Methylphenol	1.361	1.365	1.329	1.284	1.262	1.320	3.5
2,2'-oxybis(1-Chloropropane)	3.133	2.921	2.806	2.613	2.501	2.795	8.9
Acetophenone	2.081	2.077	1.983	1.949	1.874	1.993	4.4
4-Methylphenol	1.331	1.350	1.333	1.324	1.287	1.325	1.8
N-Nitroso-di-n-propylamine *	1.198	1.140	1.017	0.938	0.895	1.038	12.5*
Hexachloroethane	0.687	0.638	0.626	0.594	0.570	0.623	7.2
Nitrobenzene	0.416	0.418	0.434	0.436	0.437	0.428	2.5
Isophorone	0.933	0.886	0.873	0.837	0.820	0.870	5.1
2-Nitrophenol	0.167	0.190	0.190	0.197	0.199	0.189	6.8
2,4-Dimethylphenol	0.368	0.356	0.352	0.347	0.345	0.354	2.6
bis(2-Chloroethoxy)methane	0.476	0.471	0.468	0.468	0.466	0.470	0.9
2,4-Dichlorophenol	0.275	0.290	0.287	0.294	0.297	0.289	3.0
Naphthalene	1.174	1.155	1.155	1.139	1.121	1.149	1.7
4-Chloroaniline	0.382	0.367	0.406	0.425	0.420	0.400	6.2
Hexachlorobutadiene	0.184	0.176	0.176	0.171	0.170	0.175	3.3
Caprolactam	0.152	0.150	0.153	0.154	0.149	0.152	1.3
4-Chloro-3-Methylphenol	0.344	0.342	0.338	0.335	0.332	0.338	1.5
2-Methylnaphthalene	0.765	0.760	0.753	0.740	0.728	0.749	2.0
Hexachlorocyclopentadiene *	0.310	0.349	0.358	0.386	0.390	0.359	9.0*
2,4,6-Trichlorophenol	0.359	0.378	0.367	0.371	0.379	0.371	2.3
2,4,5-Trichlorophenol	0.360	0.398	0.402	0.401	0.408	0.394	4.9
1,1'-Biphenyl	1.600	1.658	1.612	1.636	1.619	1.625	1.4
2-Chloronaphthalene	1.202	1.223	1.208	1.236	1.224	1.219	1.1
2-Nitroaniline	0.408	0.422	0.423	0.448	0.449	0.430	4.2
Dimethylphthalate	1.473	1.472	1.458	1.409	1.375	1.437	3.0
2,6-Dinitrotoluene	0.316	0.335	0.334	0.327	0.325	0.327	2.4
Acenaphthylene	2.117	2.136	2.108	2.081	2.056	2.100	1.5
3-Nitroaniline	0.259	0.211	0.281	0.308	0.309	0.274	14.9
Acenaphthene	1.286	1.311	1.305	1.296	1.273	1.294	1.2
2,4-Dinitrophenol *	0.074	0.118	0.140	0.160	0.174	0.133	29.7*
4-Nitrophenol *	0.145	0.150	0.173	0.183	0.183	0.167	10.9*
Dibenzofuran	1.661	1.736	1.712	1.737	1.707	1.711	1.8
2,4-Dinitrotoluene	0.385	0.429	0.440	0.436	0.438	0.426	5.4

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4750006DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-04ADL

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2C8531

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 30 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	470	U
91-57-6	2-Methylnaphthalene	140	U
208-96-8	Acenaphthylene	140	U
83-32-9	Acenaphthene	92	DJ
132-64-9	Dibenzofuran	61	DJ
86-73-7	Fluorene	140	DJ
85-01-8	Phenanthrene	1400	D
120-12-7	Anthracene	410	DJ
86-74-8	Carbazole	160	DJ
206-44-0	Fluoranthene	1400	D
129-00-0	Pyrene	1600	D
56-55-3	Benzo(a)anthracene	610	D
218-01-9	Chrysene	620	D
205-99-2	Benzo(b)fluoranthene	600	D
207-08-9	Benzo(k)fluoranthene	240	DJ
50-32-8	Benzo(a)pyrene	500	D
193-39-5	Indeno(1,2,3-cd)pyrene	240	D
53-70-3	Dibenzo(a,h)anthracene	85	DJ
191-24-2	Benzo(g,h,i)perylene	270	D

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S3 Calibration Date(s): 08/23/02 08/23/02

Calibration Time(s): 0355 0659

LAB FILE ID: RRF20 =S3B9040 RRF50 =S3B9041
RRF80 =S3B9042 RRF120=S3B9043 RRF160=S3B9044

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Diethylphthalate	1.557	1.509	1.563	1.473	1.428	1.506	3.8
Fluorene	1.413	1.482	1.475	1.452	1.436	1.452	1.9
4-Chlorophenyl-phenylether	0.632	0.661	0.656	0.652	0.647	0.650	1.7
4-Nitroaniline	0.232	0.176	0.235	0.260	0.255	0.232	14.5
4,6-Dinitro-2-methylphenol	0.089	0.124	0.133	0.141	0.146	0.127	17.6
N-Nitrosodiphenylamine (1)	0.560	0.568	0.542	0.564	0.575	0.562	2.2
4-Bromophenyl-phenylether	0.222	0.230	0.222	0.226	0.228	0.226	1.5
Hexachlorobenzene	0.266	0.256	0.257	0.253	0.255	0.257	2.1
Atrazine	0.247	0.240	0.244	0.232	0.227	0.238	3.4
Pentachlorophenol	0.143	0.163	0.168	0.170	0.171	0.163	7.0
Phenanthrene	1.210	1.213	1.214	1.187	1.174	1.200	1.5
Anthracene	1.212	1.235	1.229	1.231	1.214	1.224	0.9
Carbazole	0.973	0.772	0.894	0.865	0.807	0.862	9.1
Di-n-butylphthalate	1.625	1.552	1.573	1.517	1.433	1.540	4.7
Fluoranthene	1.316	1.296	1.330	1.328	1.252	1.304	2.5
Pyrene	1.412	1.390	1.365	1.310	1.293	1.354	3.8
Butylbenzylphthalate	0.735	0.722	0.713	0.694	0.668	0.706	3.7
3,3'-Dichlorobenzidine	0.204	0.211	0.243	0.246	0.232	0.227	8.2
Benzo(a)anthracene	1.325	1.314	1.304	1.288	1.264	1.299	1.8
Chrysene	1.207	1.191	1.204	1.186	1.175	1.193	1.1
bis(2-Ethylhexyl)phthalate	1.053	1.017	1.003	0.961	0.912	0.989	5.5
Di-n-octylphthalate	2.007	2.102	2.089	2.093	1.915	2.041	3.9
Benzo(b)fluoranthene	1.593	1.638	1.657	1.670	1.641	1.640	1.8
Benzo(k)fluoranthene	1.604	1.650	1.670	1.685	1.631	1.648	1.9
Benzo(a)pyrene	1.459	1.515	1.522	1.534	1.514	1.509	1.9
Indeno(1,2,3-cd)pyrene	1.396	1.459	1.418	1.416	1.528	1.443	3.6
Dibenzo(a,h)anthracene	1.350	1.409	1.401	1.416	1.543	1.424	5.0
Benzo(g,h,i)perylene	1.473	1.552	1.459	1.452	1.598	1.507	4.3
Nitrobenzene-d5	0.413	0.408	0.421	0.427	0.430	0.420	2.2
2-Fluorobiphenyl	1.433	1.472	1.425	1.427	1.423	1.436	1.4
Terphenyl-d14	1.008	1.019	1.005	0.975	0.970	0.995	2.2
Phenol-d5	1.660	1.693	1.718	1.719	1.685	1.695	1.5
2-Fluorophenol	1.320	1.347	1.376	1.348	1.329	1.344	1.6
2,4,6-Tribromophenol	0.120	0.123	0.123	0.126	0.128	0.124	2.3
2-Chlorophenol-d4	1.465	1.467	1.435	1.422	1.388	1.435	2.3
1,2-Dichlorobenzene-d4	0.987	0.965	0.945	0.914	0.886	0.939	4.3

(1) Cannot be seperated from Diphenylamine

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 08/26/02 08/26/02

Calibration Time(s): 1540 2147

LAB FILE ID: RRF10 =S1D0557 RRF20 =S1D0558
RRF50 =S1D0556 RRF80 =S1D0559 RRF120=S1D0560

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD
Phenol *	2.250		2.064	1.845	1.639		*
bis(2-Chloroethyl)Ether *	1.846		1.592	1.400	1.233		*
2-Chlorophenol *	1.660		1.522	1.440	1.351		*
1,3-Dichlorobenzene *	1.622		1.462	1.380	1.269		*
1,4-Dichlorobenzene *	1.637		1.465	1.368	1.266		*
1,2-Dichlorobenzene *	1.515		1.334	1.228	1.095		*
2-Methylphenol *	1.499		1.354	1.260	1.169		*
2,2'-oxybis(1-Chloropropane) *	3.010		2.442	2.158	1.958		*
4-Methylphenol *	1.592		1.349	1.225	1.180		*
N-Nitroso-di-n-propylamine *	1.174		0.976	0.913	0.892		*
Hexachloroethane *	0.793		0.700	0.650	0.585		*
Nitrobenzene *	0.514		0.436	0.413	0.385		*
Isophorone *	0.903		0.822	0.794	0.755		*
2-Nitrophenol *	0.259		0.256	0.248	0.240		*
2,4-Dimethylphenol *	0.404		0.368	0.355	0.346		*
2,4-Dichlorophenol *	0.312		0.297	0.288	0.272		*
1,2,4-Trichlorobenzene *	0.331		0.302	0.294	0.269		*
Naphthalene *	1.186		1.041	0.979	0.893		*
4-Chloroaniline *	0.537		0.490	0.473	0.444		*
Hexachlorobutadiene *	0.160		0.152	0.150	0.142		*
bis(2-Chloroethoxy)methane *	0.589		0.493	0.462	0.434		*
4-Chloro-3-Methylphenol *	0.358		0.322	0.307	0.289		*
2-Methylnaphthalene *	0.750		0.665	0.623	0.576		*
Hexachlorocyclopentadiene *	0.327		0.357	0.366	0.352		*
2,4,6-Trichlorophenol *	0.446		0.435	0.444	0.424		*
2,4,5-Trichlorophenol *		0.457	0.449	0.443	0.418		*
2-Chloronaphthalene *	1.197		1.079	1.064	0.999		*
2-Nitroaniline *		0.521	0.491	0.485	0.471		*
Dimethylphthalate *	1.632		1.488	1.464	1.324		*
Acenaphthylene *	2.264		1.951	1.893	1.745		*
2,6-Dinitrotoluene *	0.393		0.386	0.385	0.357		*
3-Nitroaniline *		0.501	0.503	0.493	0.451		*
Acenaphthene *	1.320		1.129	1.117	1.031		*
2,4-Dinitrophenol *		0.222	0.269	0.283	0.264		*
4-Nitrophenol *		0.195	0.209	0.207	0.199		*
Dibenzofuran *	1.915		1.654	1.602	1.485		*
2,4-Dinitrotoluene *	0.502		0.463	0.456	0.416		*

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 08/26/02 08/26/02

Calibration Time(s): 1540 2147

LAB FILE ID: RRF10 =S1D0557 RRF20 =S1D0558
RRF50 =S1D0556 RRF80 =S1D0559 RRF120=S1D0560

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD
Diethylphthalate *	1.689		1.571	1.487	1.350		*
4-Chlorophenyl-phenylether *	0.668		0.612	0.602	0.538		*
Fluorene *	1.452		1.278	1.226	1.145		*
4-Nitroaniline *		0.474	0.476	0.475	0.436		*
4,6-Dinitro-2-methylphenol *		0.193	0.210	0.212	0.200		*
N-Nitrosodiphenylamine (1) *	0.590		0.538	0.512	0.478		*
4-Bromophenyl-phenylether *	0.217		0.208	0.207	0.201		*
Hexachlorobenzene *	0.256		0.244	0.234	0.223		*
Pentachlorophenol *		0.162	0.173	0.170	0.164		*
Phenanthrene *	1.246		1.070	1.002	0.919		*
Anthracene *	1.258		1.083	1.010	0.938		*
Carbazole *		1.135	1.050	0.990	0.909		*
Di-n-butylphthalate *	1.846		1.632	1.515	1.388		*
Fluoranthene *	1.299		1.174	1.113	1.009		*
Pyrene *	1.710		1.543	1.535	1.465		*
Butylbenzylphthalate *	1.031		1.029	1.020	0.974		*
3,3'-Dichlorobenzidine *	0.430		0.464	0.465	0.455		*
Benzo(a)anthracene *	1.386		1.309	1.276	1.222		*
Chrysene *	1.317		1.242	1.170	1.104		*
bis(2-Ethylhexyl)phthalate *	1.331		1.344	1.306	1.275		*
Di-n-octylphthalate *	2.781		3.085	3.023	3.140		*
Benzo(b)fluoranthene *	1.478		1.577	1.631	1.581		*
Benzo(k)fluoranthene *	1.858		1.618	1.578	1.665		*
Benzo(a)pyrene *	1.449		1.465	1.455	1.452		*
Indeno(1,2,3-cd)pyrene *	1.100		1.377	1.306	1.093		*
Dibenzo(a,h)anthracene *	1.166		1.293	1.233	1.080		*
Benzo(g,h,i)perylene *	1.218		1.302	1.174	0.999		*
N-Nitrosodimethylamine *	0.918		0.958	0.904	0.874		*
Pyridine *	1.679		1.604	1.561	1.482		*
Benzoic Acid *		0.284	0.318	0.322	0.236		*
Benzyl Alcohol *	1.092		0.942	0.835	0.723		*
Benzidine *	0.899		0.966	0.768	0.656		*
Aniline *	2.566		2.275	2.072	1.880		*
1-Methylnapthalene *	0.679	0.654	0.605	0.565	0.522		*
Nitrobenzene-d5	0.505		0.453	0.437	0.410		*
2-Fluorobiphenyl *	1.515		1.342	1.298	1.211		*

(1) Cannot be seperated from Diphenylamine

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 08/26/02 08/26/02

Calibration Time(s): 1540 2147

LAB FILE ID: RRF10 =S1D0557 RRF20 =S1D0558
RRF50 =S1D0556 RRF80 =S1D0559 RRF120=S1D0560

COMPOUND	RRF10	RRF20	RRF50	RRF80	RRF120	$\overline{RRF}$	% RSD
Terphenyl-d14 *	1.039		1.014	1.001	0.960		*
Phenol-d5 *	2.190		2.013	1.877	1.747		*
2-Fluorophenol *	1.708		1.642	1.537	1.479		*
2,4,6-Tribromophenol *	0.133		0.138	0.140	0.136		*
2-Chlorophenol-d4 *	1.711		1.619	1.520	1.425		*
1,2-Dichlorobenzene-d4 *	0.974		0.843	0.792	0.738		*

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 08/26/02 08/26/02

Calibration Time(s): 1540 2147

LAB FILE ID: RRF160=S1D0561

COMPOUND	RRF160					$\overline{RRF}$	% RSD
Phenol *	1.490					1.858	16.6*
bis(2-Chloroethyl)Ether *	1.158					1.446	19.3*
2-Chlorophenol *	1.295					1.454	9.9*
1,3-Dichlorobenzene *	1.216					1.390	11.6*
1,4-Dichlorobenzene *	1.209					1.389	12.2*
1,2-Dichlorobenzene *	1.002					1.235	16.3*
2-Methylphenol *	1.117					1.280	11.9*
2,2'-oxybis(1-Chloropropane) *	1.823					2.278	20.7*
4-Methylphenol *	1.057					1.281	15.9*
N-Nitroso-di-n-propylamine *	0.867					0.964	12.8*
Hexachloroethane *	0.554					0.656	14.5*
Nitrobenzene *	0.360					0.422	14.0*
Isophorone *	0.746					0.804	7.9*
2-Nitrophenol *	0.230					0.247	4.8*
2,4-Dimethylphenol *	0.342					0.363	6.9*
2,4-Dichlorophenol *	0.265					0.287	6.6*
1,2,4-Trichlorobenzene *	0.262					0.292	9.5*
Naphthalene *	0.858					0.991	13.2*
4-Chloroaniline *	0.425					0.474	9.2*
Hexachlorobutadiene *	0.137					0.148	5.9*
bis(2-Chloroethoxy)methane *	0.420					0.480	14.0*
4-Chloro-3-Methylphenol *	0.278					0.311	10.1*
2-Methylnaphthalene *	0.561					0.635	12.0*
Hexachlorocyclopentadiene *	0.352					0.351	4.1*
2,4,6-Trichlorophenol *	0.433					0.436	2.0*
2,4,5-Trichlorophenol *	0.406					0.435	4.9*
2-Chloronaphthalene *	0.983					1.064	8.0*
2-Nitroaniline *	0.469					0.487	4.3*
Dimethylphthalate *	1.311					1.444	9.2*
Acenaphthylene *	1.736					1.918	11.2*
2,6-Dinitrotoluene *	0.358					0.376	4.4*
3-Nitroaniline *	0.430					0.476	6.9*
Acenaphthene *	1.024					1.124	10.6*
2,4-Dinitrophenol *	0.258					0.259	8.7*
4-Nitrophenol *	0.190					0.200	4.1*
Dibenzofuran *	1.477					1.627	11.0*
2,4-Dinitrotoluene *	0.412					0.450	8.3*

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 08/26/02 08/26/02

Calibration Time(s): 1540 2147

LAB FILE ID: RRF160=S1D0561

COMPOUND	RRF160					$\overline{RRF}$	% RSD
Diethylphthalate *	1.334					1.486	10.1*
4-Chlorophenyl-phenylether *	0.536					0.591	9.4*
Fluorene *	1.125					1.245	10.5*
4-Nitroaniline *	0.430					0.458	5.1*
4,6-Dinitro-2-methylphenol *	0.198					0.203	4.0*
N-Nitrosodiphenylamine (1) *	0.473					0.518	9.3*
4-Bromophenyl-phenylether *	0.194					0.205	4.0*
Hexachlorobenzene *	0.221					0.236	6.4*
Pentachlorophenol *	0.164					0.167	2.8*
Phenanthrene *	0.914					1.030	13.3*
Anthracene *	0.917					1.041	13.2*
Carbazole *	0.884					0.994	10.3*
Di-n-butylphthalate *	1.361					1.548	12.8*
Fluoranthene *	0.984					1.116	11.5*
Pyrene *	1.519					1.554	5.9*
Butylbenzylphthalate *	1.006					1.012	2.3*
3,3'-Dichlorobenzidine *	0.457					0.454	3.2*
Benzo(a)anthracene *	1.227					1.284	5.2*
Chrysene *	1.132					1.193	7.2*
bis(2-Ethylhexyl)phthalate *	1.305					1.312	2.1*
Di-n-octylphthalate *	3.229					3.052	5.5*
Benzo(b)fluoranthene *	1.721					1.598	5.5*
Benzo(k)fluoranthene *	1.412					1.626	9.9*
Benzo(a)pyrene *	1.460					1.456	0.4*
Indeno(1,2,3-cd)pyrene *	1.132					1.202	10.9*
Dibenzo(a,h)anthracene *	1.079					1.170	8.1*
Benzo(g,h,i)perylene *	1.008					1.140	11.7*
N-Nitrosodimethylamine *	0.831					0.897	5.3*
Pyridine *	1.438					1.553	6.2*
Benzoic Acid *	0.298					0.292	12.0*
Benzyl Alcohol *	0.674					0.853	19.9*
Benzidine *	0.579					0.774	20.9*
Aniline *	1.760					2.111	15.2*
1-Methylnapthalene *	0.504					0.588	12.0*
Nitrobenzene-d5	0.396					0.440	9.7*
2-Fluorobiphenyl *	1.185					1.310	10.0*

(1) Cannot be seperated from Diphenylamine

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 08/26/02 08/26/02

Calibration Time(s): 1540 2147

LAB FILE ID: RRF160=S1D0561

COMPOUND	RRF160					$\overline{RRF}$	% RSD
Terphenyl-d14 *	1.006					1.004	2.9*
Phenol-d5 *	1.644					1.894	11.4*
2-Fluorophenol *	1.395					1.552	8.1*
2,4,6-Tribromophenol *	0.134					0.136	2.2*
2-Chlorophenol-d4 *	1.358					1.527	9.3*
1,2-Dichlorobenzene-d4 *	0.710					0.811	12.9*

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 09/09/02 09/09/02

Calibration Time(s): 1251 1842

LAB FILE ID: RRF20 =S1D0784 RRF50 =S1D0783
RRF80 =S1D0788 RRF120=S1D0789 RRF160=S1D0790

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Benzaldehyde	1.402	1.038	1.056	1.015	0.835	1.069	19.3
Phenol	2.098	1.819	1.668	1.638	1.494	1.743	13.2
bis(2-Chloroethyl)Ether	1.833	1.587	1.496	1.447	1.321	1.537	12.5
2-Chlorophenol	1.657	1.459	1.398	1.308	1.202	1.405	12.2
2-Methylphenol	1.565	1.409	1.369	1.327	1.241	1.382	8.7
2,2'-oxybis(1-Chloropropane)	3.214	2.661	2.336	2.326	2.075	2.522	17.4
Acetophenone	2.082	1.771	1.668	1.532	1.362	1.683	16.1
4-Methylphenol	1.612	1.409	1.332	1.246	1.157	1.351	12.8
N-Nitroso-di-n-propylamine *	0.954	0.767	0.743	0.763	0.680	0.781	13.1*
Hexachloroethane	0.745	0.664	0.644	0.585	0.526	0.633	13.1
Nitrobenzene	0.496	0.414	0.399	0.383	0.349	0.408	13.4
Isophorone	1.056	0.882	0.851	0.872	0.841	0.900	9.8
2-Nitrophenol	0.260	0.240	0.249	0.243	0.228	0.244	4.9
2,4-Dimethylphenol	0.410	0.352	0.331	0.315	0.304	0.342	12.3
bis(2-Chloroethoxy)methane	0.598	0.502	0.492	0.474	0.435	0.500	12.1
2,4-Dichlorophenol	0.328	0.293	0.299	0.281	0.264	0.293	8.1
Naphthalene	1.215	1.013	0.950	0.868	0.784	0.966	16.9
4-Chloroaniline	0.503	0.421	0.453	0.457	0.432	0.453	7.0
Hexachlorobutadiene	0.173	0.158	0.142	0.128	0.116	0.143	15.9
Caprolactam	0.198	0.172	0.178	0.164	0.172	0.177	7.4
4-Chloro-3-Methylphenol	0.383	0.320	0.326	0.315	0.282	0.325	11.2
2-Methylnaphthalene	0.743	0.641	0.599	0.535	0.481	0.600	16.8
Hexachlorocyclopentadiene *	0.353	0.343	0.327	0.302	0.285	0.322	8.8*
2,4,6-Trichlorophenol	0.437	0.396	0.413	0.403	0.386	0.407	4.7
2,4,5-Trichlorophenol	0.461	0.419	0.435	0.402	0.394	0.422	6.4
1,1'-Biphenyl	1.644	1.415	1.323	1.148	1.034	1.313	18.1
2-Chloronaphthalene	1.276	1.112	1.074	0.950	0.869	1.056	14.8
2-Nitroaniline	0.508	0.448	0.484	0.471	0.430	0.468	6.4
Dimethylphthalate	1.618	1.426	1.400	1.236	1.208	1.378	12.0
2,6-Dinitrotoluene	0.399	0.368	0.386	0.352	0.345	0.370	6.1
Acenaphthylene	2.130	1.812	1.788	1.610	1.486	1.765	13.8
3-Nitroaniline	0.179	0.128	0.211	0.253	0.267	0.208	27.2
Acenaphthene	1.242	1.057	1.027	0.900	0.839	1.013	15.4
2,4-Dinitrophenol *	0.138	0.166	0.238	0.225	0.236	0.201	22.7*
4-Nitrophenol *	0.178	0.170	0.186	0.166	0.162	0.172	5.7*
Dibenzofuran	1.796	1.539	1.504	1.319	1.194	1.470	15.6
2,4-Dinitrotoluene	0.492	0.464	0.478	0.402	0.372	0.442	11.8

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date(s): 09/09/02 09/09/02

Calibration Time(s): 1251 1842

LAB FILE ID: RRF20 =S1D0784 RRF50 =S1D0783
RRF80 =S1D0788 RRF120=S1D0789 RRF160=S1D0790

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD
Diethylphthalate	1.720	1.468	1.448	1.227	1.198	1.412	15.0
Fluorene	1.361	1.106	1.025	0.850	0.803	1.029	21.7
4-Chlorophenyl-phenylether	0.678	0.580	0.497	0.409	0.368	0.506	24.9
4-Nitroaniline	0.235	0.152	0.137	0.109	0.090	0.145	38.7
4,6-Dinitro-2-methylphenol	0.150	0.159	0.191	0.186	0.181	0.173	10.3
N-Nitrosodiphenylamine (1)	0.626	0.547	0.549	0.505	0.442	0.534	12.6
4-Bromophenyl-phenylether	0.233	0.213	0.191	0.176	0.166	0.196	14.0
Hexachlorobenzene	0.198	0.172	0.220	0.199	0.191	0.196	8.8
Atrazine	0.245	0.201	0.190	0.177	0.169	0.196	15.1
Pentachlorophenol	0.173	0.167	0.162	0.150	0.144	0.159	7.4
Phenanthrene	1.207	1.009	0.980	0.871	0.816	0.977	15.5
Anthracene	1.243	1.041	0.993	0.873	0.794	0.989	17.4
Carbazole	0.617	0.349	0.387	0.468	0.495	0.463	22.5
Di-n-butylphthalate	1.873	1.513	1.448	1.267	1.146	1.449	19.2
Fluoranthene	1.278	1.082	1.008	0.886	0.848	1.020	16.8
Pyrene	1.654	1.446	1.740	1.734	1.841	1.683	8.8
Butylbenzylphthalate	1.070	0.949	1.186	1.204	1.252	1.132	10.8
3,3'-Dichlorobenzidine	0.254	0.247	0.317	0.300	0.274	0.278	10.6
Benzo(a)anthracene	1.386	1.267	1.442	1.465	1.514	1.415	6.7
Chrysene	1.257	1.108	1.281	1.258	1.316	1.244	6.4
bis(2-Ethylhexyl)phthalate	1.306	1.113	1.292	1.242	1.188	1.228	6.5
Di-n-octylphthalate	3.003	2.652	2.588	2.402	2.158	2.561	12.2
Benzo(b)fluoranthene	1.544	1.491	1.502	1.659	1.725	1.584	6.5
Benzo(k)fluoranthene	1.713	1.550	1.424	1.098	0.917	1.340	24.4
Benzo(a)pyrene	1.467	1.382	1.383	1.259	1.247	1.348	6.9
Indeno(1,2,3-cd)pyrene	1.410	1.376	1.457	1.550	1.524	1.463	5.0
Dibenzo(a,h)anthracene	1.363	1.330	1.370	1.269	1.254	1.317	4.0
Benzo(g,h,i)perylene	1.439	1.402	1.444	1.340	1.324	1.390	4.0
Nitrobenzene-d5	0.502	0.424	0.426	0.424	0.396	0.434	9.1
2-Fluorobiphenyl	1.507	1.278	1.249	1.101	1.023	1.232	15.1
Terphenyl-d14	1.091	0.994	1.093	1.093	1.153	1.085	5.3
Phenol-d5	2.139	1.872	1.762	1.731	1.624	1.826	10.7
2-Fluorophenol	1.762	1.614	1.652	1.685	1.605	1.664	3.8
2,4,6-Tribromophenol	0.148	0.139	0.126	0.115	0.111	0.128	12.1
2-Chlorophenol-d4	1.734	1.554	1.522	1.448	1.349	1.521	9.4
1,2-Dichlorobenzene-d4	0.976	0.886	0.868	0.801	0.732	0.853	10.8

(1) Cannot be seperated from Diphenylamine

* Compounds with required minimum RRF and maximim %RSD values.
All other compounds must meet a minimim RRF of 0.010.

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S3 Calibration Date: 08/23/02 Time: 1258

Lab File ID: S3B9049 Init. Calib. Date(s): 08/23/02 08/23/02

Init. Calib. Times: 0355 0659

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Benzaldehyde	1.169	1.213	0.01	3.8	100
Phenol	1.747	1.888	0.01	8.1	20.0
bis(2-Chloroethyl)Ether	1.469	1.519	0.01	3.4	100
2-Chlorophenol	1.399	1.469	0.01	5.0	100
2-Methylphenol	1.320	1.366	0.01	3.5	100
2,2'-oxybis(1-Chloropropane)	2.795	2.672	0.01	4.4	100
Acetophenone	1.993	2.028	0.01	1.8	100
4-Methylphenol	1.325	1.429	0.01	7.8	100
N-Nitroso-di-n-propylamine	1.038	0.936	0.05	9.8	100
Hexachloroethane	0.623	0.622	0.01	0.2	100
Nitrobenzene	0.428	0.442	0.01	3.3	100
Isophorone	0.870	0.832	0.01	4.4	100
2-Nitrophenol	0.189	0.202	0.01	6.9	100
2,4-Dimethylphenol	0.354	0.373	0.01	5.4	100
bis(2-Chloroethoxy)methane	0.470	0.473	0.01	0.6	100
2,4-Dichlorophenol	0.289	0.298	0.01	3.1	20.0
Naphthalene	1.149	1.149	0.01	0.0	100
4-Chloroaniline	0.400	0.449	0.01	12.2	100
Hexachlorobutadiene	0.175	0.170	0.01	2.8	20.0
Caprolactam	0.152	0.146	0.01	3.9	100
4-Chloro-3-Methylphenol	0.338	0.338	0.01	0.0	20.0
2-Methylnaphthalene	0.749	0.736	0.01	1.7	100
Hexachlorocyclopentadiene	0.359	0.384	0.05	7.0	100
2,4,6-Trichlorophenol	0.371	0.381	0.01	2.7	20.0
2,4,5-Trichlorophenol	0.394	0.415	0.01	5.3	100
1,1'-Biphenyl	1.625	1.684	0.01	3.6	100
2-Chloronaphthalene	1.219	1.265	0.01	3.8	100
2-Nitroaniline	0.430	0.472	0.01	9.8	100
Dimethylphthalate	1.437	1.456	0.01	1.3	100
2,6-Dinitrotoluene	0.327	0.332	0.01	1.5	100
Acenaphthylene	2.100	2.146	0.01	2.2	100
3-Nitroaniline	0.274	0.348	0.01	27.0	100
Acenaphthene	1.294	1.327	0.01	2.6	100
2,4-Dinitrophenol	0.133	0.131	0.05	1.5	100
4-Nitrophenol	0.167	0.191	0.05	14.4	100
Dibenzofuran	1.711	1.781	0.01	4.1	100
2,4-Dinitrotoluene	0.426	0.439	0.01	3.0	100

FORM VII SV

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S3 Calibration Date: 08/23/02 Time: 1258

Lab File ID: S3B9049 Init. Calib. Date(s): 08/23/02 08/23/02

Init. Calib. Times: 0355 0659

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.506	1.509	0.01	0.2	100
Fluorene	1.452	1.494	0.01	2.9	100
4-Chlorophenyl-phenylether	0.650	0.672	0.01	3.4	100
4-Nitroaniline	0.232	0.328	0.01	41.4	100
4,6-Dinitro-2-methylphenol	0.127	0.126	0.01	0.8	100
N-Nitrosodiphenylamine	0.562	0.590	0.01	5.0	20.0
4-Bromophenyl-phenylether	0.226	0.226	0.01	0.0	100
Hexachlorobenzene	0.257	0.258	0.01	0.4	100
Atrazine	0.238	0.239	0.01	0.4	100
Pentachlorophenol	0.163	0.158	0.01	3.1	20.0
Phenanthrene	1.200	1.208	0.01	0.7	100
Anthracene	1.224	1.242	0.01	1.5	100
Carbazole	0.862	1.033	0.01	19.8	100
Di-n-butylphthalate	1.540	1.540	0.01	0.0	100
Fluoranthene	1.304	1.299	0.01	0.4	20.0
Pyrene	1.354	1.360	0.01	0.4	100
Butylbenzylphthalate	0.706	0.701	0.01	0.7	100
3,3'-Dichlorobenzidine	0.227	0.277	0.01	22.0	100
Benzo(a)anthracene	1.299	1.320	0.01	1.6	100
Chrysene	1.193	1.200	0.01	0.6	100
bis(2-Ethylhexyl)phthalate	0.989	0.996	0.01	0.7	100
Di-n-octylphthalate	2.041	2.016	0.01	1.2	20.0
Benzo(b)fluoranthene	1.640	1.612	0.01	1.7	100
Benzo(k)fluoranthene	1.648	1.621	0.01	1.6	100
Benzo(a)pyrene	1.509	1.509	0.01	0.0	20.0
Indeno(1,2,3-cd)pyrene	1.443	1.482	0.01	2.7	100
Dibenzo(a,h)anthracene	1.424	1.456	0.01	2.2	100
Benzo(g,h,i)perylene	1.507	1.547	0.01	2.6	100
Nitrobenzene-d5	0.420	0.441	0.01	5.0	100
2-Fluorobiphenyl	1.436	1.472	0.01	2.5	100
Terphenyl-d14	0.995	1.006	0.01	1.1	100
Phenol-d5	1.695	1.852	0.01	9.3	100
2-Fluorophenol	1.344	1.451	0.01	8.0	100
2,4,6-Tribromophenol	0.124	0.126	0.01	1.6	100
2-Chlorophenol-d4	1.435	1.511	0.01	5.3	100
1,2-Dichlorobenzene-d4	0.939	0.958	0.01	2.0	100

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S3 Calibration Date: 08/24/02 Time: 0129

Lab File ID: S3B9066 Init. Calib. Date(s): 08/23/02 08/23/02

Init. Calib. Times: 0355 0659

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Benzaldehyde	1.169	1.180	0.01	0.9	100
Phenol	1.747	1.829	0.01	4.7	20.0
bis(2-Chloroethyl)Ether	1.469	1.459	0.01	0.7	100
2-Chlorophenol	1.399	1.407	0.01	0.6	100
2-Methylphenol	1.320	1.301	0.01	1.4	100
2,2'-oxybis(1-Chloropropane)	2.795	2.637	0.01	5.6	100
Acetophenone	1.993	1.954	0.01	2.0	100
4-Methylphenol	1.325	1.366	0.01	3.1	100
N-Nitroso-di-n-propylamine	1.038	0.921	0.05	11.3	100
Hexachloroethane	0.623	0.611	0.01	1.9	100
Nitrobenzene	0.428	0.452	0.01	5.6	100
Isophorone	0.870	0.826	0.01	5.0	100
2-Nitrophenol	0.189	0.204	0.01	7.9	100
2,4-Dimethylphenol	0.354	0.368	0.01	4.0	100
bis(2-Chloroethoxy)methane	0.470	0.473	0.01	0.6	100
2,4-Dichlorophenol	0.289	0.301	0.01	4.2	20.0
Naphthalene	1.149	1.153	0.01	0.3	100
4-Chloroaniline	0.400	0.449	0.01	12.2	100
Hexachlorobutadiene	0.175	0.173	0.01	1.1	20.0
Caprolactam	0.152	0.140	0.01	7.9	100
4-Chloro-3-Methylphenol	0.338	0.338	0.01	0.0	20.0
2-Methylnaphthalene	0.749	0.737	0.01	1.6	100
Hexachlorocyclopentadiene	0.359	0.407	0.05	13.4	100
2,4,6-Trichlorophenol	0.371	0.394	0.01	6.2	20.0
2,4,5-Trichlorophenol	0.394	0.417	0.01	5.8	100
1,1'-Biphenyl	1.625	1.709	0.01	5.2	100
2-Chloronaphthalene	1.219	1.273	0.01	4.4	100
2-Nitroaniline	0.430	0.479	0.01	11.4	100
Dimethylphthalate	1.437	1.438	0.01	0.1	100
2,6-Dinitrotoluene	0.327	0.327	0.01	0.0	100
Acenaphthylene	2.100	2.127	0.01	1.3	100
3-Nitroaniline	0.274	0.365	0.01	33.2	100
Acenaphthene	1.294	1.325	0.01	2.4	100
2,4-Dinitrophenol	0.133	0.153	0.05	15.0	100
4-Nitrophenol	0.167	0.201	0.05	20.4	100
Dibenzofuran	1.711	1.796	0.01	5.0	100
2,4-Dinitrotoluene	0.426	0.448	0.01	5.2	100

FORM VII SV

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S3 Calibration Date: 08/24/02 Time: 0129

Lab File ID: S3B9066 Init. Calib. Date(s): 08/23/02 08/23/02

Init. Calib. Times: 0355 0659

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.506	1.486	0.01	1.3	100
Fluorene	1.452	1.493	0.01	2.8	100
4-Chlorophenyl-phenylether	0.650	0.664	0.01	2.2	100
4-Nitroaniline	0.232	0.349	0.01	50.4	100
4,6-Dinitro-2-methylphenol	0.127	0.134	0.01	5.5	100
N-Nitrosodiphenylamine	0.562	0.610	0.01	8.5	20.0
4-Bromophenyl-phenylether	0.226	0.234	0.01	3.5	100
Hexachlorobenzene	0.257	0.260	0.01	1.2	100
Atrazine	0.238	0.242	0.01	1.7	100
Pentachlorophenol	0.163	0.167	0.01	2.4	20.0
Phenanthrene	1.200	1.228	0.01	2.3	100
Anthracene	1.224	1.266	0.01	3.4	100
Carbazole	0.862	1.083	0.01	25.6	100
Di-n-butylphthalate	1.540	1.501	0.01	2.5	100
Fluoranthene	1.304	1.291	0.01	1.0	20.0
Pyrene	1.354	1.380	0.01	1.9	100
Butylbenzylphthalate	0.706	0.700	0.01	0.8	100
3,3'-Dichlorobenzidine	0.227	0.307	0.01	35.2	100
Benzo(a)anthracene	1.299	1.319	0.01	1.5	100
Chrysene	1.193	1.200	0.01	0.6	100
bis(2-Ethylhexyl)phthalate	0.989	0.976	0.01	1.3	100
Di-n-octylphthalate	2.041	2.079	0.01	1.9	20.0
Benzo(b)fluoranthene	1.640	1.653	0.01	0.8	100
Benzo(k)fluoranthene	1.648	1.677	0.01	1.8	100
Benzo(a)pyrene	1.509	1.508	0.01	0.1	20.0
Indeno(1,2,3-cd)pyrene	1.443	1.366	0.01	5.3	100
Dibenzo(a,h)anthracene	1.424	1.387	0.01	2.6	100
Benzo(g,h,i)perylene	1.507	1.409	0.01	6.5	100
Nitrobenzene-d5	0.420	0.444	0.01	5.7	100
2-Fluorobiphenyl	1.436	1.496	0.01	4.2	100
Terphenyl-d14	0.995	1.043	0.01	4.8	100
Phenol-d5	1.695	1.773	0.01	4.6	100
2-Fluorophenol	1.344	1.384	0.01	3.0	100
2,4,6-Tribromophenol	0.124	0.134	0.01	8.1	100
2-Chlorophenol-d4	1.435	1.458	0.01	1.6	100
1,2-Dichlorobenzene-d4	0.939	0.929	0.01	1.1	100

FORM VII SV

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date: 08/27/02 Time: 1013

Lab File ID: S1D0565 Init. Calib. Date(s): 08/26/02 08/26/02

Init. Calib. Times: 1540 2147

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	1.858	2.069	0.05	11.4	20.0
bis(2-Chloroethyl)Ether	1.446	1.643	0.05	13.6	100
2-Chlorophenol	1.454	1.493	0.05	2.7	100
1,3-Dichlorobenzene	1.390	1.444	0.05	3.9	100
1,4-Dichlorobenzene	1.389	1.447	0.05	4.2	20.0
1,2-Dichlorobenzene	1.235	1.309	0.05	6.0	100
2-Methylphenol	1.280	1.383	0.05	8.0	100
2,2'-oxybis(1-Chloropropane)	2.278	2.618	0.05	14.9	100
4-Methylphenol	1.281	1.379	0.05	7.6	100
N-Nitroso-di-n-propylamine	0.964	0.980	0.05	1.6	100
Hexachloroethane	0.656	0.715	0.05	9.0	100
Nitrobenzene	0.422	0.440	0.05	4.3	100
Isophorone	0.804	0.736	0.05	8.4	100
2-Nitrophenol	0.247	0.247	0.05	0.0	20.0
2,4-Dimethylphenol	0.363	0.359	0.05	1.1	100
2,4-Dichlorophenol	0.287	0.288	0.05	0.3	20.0
1,2,4-Trichlorobenzene	0.292	0.291	0.05	0.3	100
Naphthalene	0.991	1.021	0.05	3.0	100
4-Chloroaniline	0.474	0.482	0.05	1.7	100
Hexachlorobutadiene	0.148	0.144	0.05	2.7	20.0
bis(2-Chloroethoxy)methane	0.480	0.504	0.05	5.0	100
4-Chloro-3-Methylphenol	0.311	0.318	0.05	2.2	20.0
2-Methylnaphthalene	0.635	0.658	0.05	3.6	100
Hexachlorocyclopentadiene	0.351	0.333	0.05	5.1	100
2,4,6-Trichlorophenol	0.436	0.426	0.05	2.3	100
2,4,5-Trichlorophenol	0.435	0.437	0.05	0.4	100
2-Chloronaphthalene	1.064	1.062	0.05	0.2	100
2-Nitroaniline	0.487	0.495	0.05	1.6	100
Dimethylphthalate	1.444	1.471	0.05	1.9	100
Acenaphthylene	1.918	1.945	0.05	1.4	100
2,6-Dinitrotoluene	0.376	0.380	0.05	1.1	100
3-Nitroaniline	0.476	0.498	0.05	4.6	100
Acenaphthene	1.124	1.125	0.05	0.1	20.0
2,4-Dinitrophenol	0.259	0.252	0.05	2.7	100
4-Nitrophenol	0.200	0.199	0.05	0.5	100
Dibenzofuran	1.627	1.632	0.05	0.3	100
2,4-Dinitrotoluene	0.450	0.456	0.05	1.3	100

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date: 08/27/02 Time: 1013

Lab File ID: S1D0565 Init. Calib. Date(s): 08/26/02 08/26/02

Init. Calib. Times: 1540 2147

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.486	1.527	0.05	2.8	100
4-Chlorophenyl-phenylether	0.591	0.600	0.05	1.5	100
Fluorene	1.245	1.285	0.05	3.2	100
4-Nitroaniline	0.458	0.458	0.05	0.0	100
4,6-Dinitro-2-methylphenol	0.203	0.198	0.05	2.5	100
N-Nitrosodiphenylamine	0.518	0.525	0.05	1.4	20.0
4-Bromophenyl-phenylether	0.205	0.204	0.05	0.5	100
Hexachlorobenzene	0.236	0.234	0.05	0.8	100
Pentachlorophenol	0.167	0.162	0.05	3.0	20.0
Phenanthrene	1.030	1.049	0.05	1.8	100
Anthracene	1.041	1.093	0.05	5.0	100
Carbazole	0.994	1.047	0.05	5.3	100
Di-n-butylphthalate	1.548	1.615	0.05	4.3	100
Fluoranthene	1.116	1.160	0.05	3.9	20.0
Pyrene	1.554	1.507	0.05	3.0	100
Butylbenzylphthalate	1.012	0.990	0.05	2.2	100
3,3'-Dichlorobenzidine	0.454	0.457	0.05	0.7	100
Benzo(a)anthracene	1.284	1.245	0.05	3.0	100
Chrysene	1.193	1.197	0.05	0.3	100
bis(2-Ethylhexyl)phthalate	1.312	1.260	0.05	4.0	100
Di-n-octylphthalate	3.052	2.954	0.05	3.2	20.0
Benzo(b)fluoranthene	1.598	1.490	0.05	6.8	100
Benzo(k)fluoranthene	1.626	1.577	0.05	3.0	100
Benzo(a)pyrene	1.456	1.429	0.05	1.8	20.0
Indeno(1,2,3-cd)pyrene	1.202	1.307	0.05	8.7	100
Dibenzo(a,h)anthracene	1.170	1.265	0.05	8.1	100
Benzo(g,h,i)perylene	1.140	1.275	0.05	11.8	100
N-Nitrosodimethylamine	0.897	0.979	0.05	9.1	100
Pyridine	1.553	1.628	0.05	4.8	100
Benzoic Acid	0.292	0.292	0.05	0.0	100
Benzyl Alcohol	0.853	0.936	0.05	9.7	100
Benzidine	0.774	0.819	0.05	5.8	100
Aniline	2.111	2.320	0.05	9.9	100
1-Methylnapthalene	0.588	0.592	0.05	0.7	100
Nitrobenzene-d5	0.440	0.455	0.05	3.4	100
2-Fluorobiphenyl	1.310	1.314	0.05	0.3	100

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date: 08/27/02 Time: 1013

Lab File ID: S1D0565 Init. Calib. Date(s): 08/26/02 08/26/02

Init. Calib. Times: 1540 2147

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Terphenyl-d14	1.004	0.964	0.05	4.0	100
Phenol-d5	1.894	2.032	0.05	7.3	100
2-Fluorophenol	1.552	1.610	0.05	3.7	100
2,4,6-Tribromophenol	0.136	0.131	0.05	3.7	100
2-Chlorophenol-d4	1.527	1.560	0.05	2.2	100
1,2-Dichlorobenzene-d4	0.811	0.842	0.05	3.8	100

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date: 09/09/02 Time: 2041

Lab File ID: S1D0794 Init. Calib. Date(s): 09/09/02 09/09/02

Init. Calib. Times: 1251 1842

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Benzaldehyde	1.069	1.056	0.01	1.2	100
Phenol	1.743	1.850	0.01	6.1	20.0
bis(2-Chloroethyl)Ether	1.537	1.663	0.01	8.2	100
2-Chlorophenol	1.405	1.447	0.01	3.0	100
2-Methylphenol	1.382	1.411	0.01	2.1	100
2,2'-oxybis(1-Chloropropane)	2.522	2.785	0.01	10.4	100
Acetophenone	1.683	1.850	0.01	9.9	100
4-Methylphenol	1.351	1.421	0.01	5.2	100
N-Nitroso-di-n-propylamine	0.781	0.842	0.05	7.8	100
Hexachloroethane	0.633	0.662	0.01	4.6	100
Nitrobenzene	0.408	0.427	0.01	4.6	100
Isophorone	0.900	0.907	0.01	0.8	100
2-Nitrophenol	0.244	0.244	0.01	0.0	100
2,4-Dimethylphenol	0.342	0.353	0.01	3.2	100
bis(2-Chloroethoxy)methane	0.500	0.534	0.01	6.8	100
2,4-Dichlorophenol	0.293	0.295	0.01	0.7	20.0
Naphthalene	0.966	1.034	0.01	7.0	100
4-Chloroaniline	0.453	0.461	0.01	1.8	100
Hexachlorobutadiene	0.143	0.146	0.01	2.1	20.0
Caprolactam	0.177	0.175	0.01	1.1	100
4-Chloro-3-Methylphenol	0.325	0.323	0.01	0.6	20.0
2-Methylnaphthalene	0.600	0.638	0.01	6.3	100
Hexachlorocyclopentadiene	0.322	0.340	0.05	5.6	100
2,4,6-Trichlorophenol	0.407	0.424	0.01	4.2	20.0
2,4,5-Trichlorophenol	0.422	0.445	0.01	5.4	100
1,1'-Biphenyl	1.313	1.473	0.01	12.2	100
2-Chloronaphthalene	1.056	1.130	0.01	7.0	100
2-Nitroaniline	0.468	0.499	0.01	6.6	100
Dimethylphthalate	1.378	1.488	0.01	8.0	100
2,6-Dinitrotoluene	0.370	0.401	0.01	8.4	100
Acenaphthylene	1.765	1.926	0.01	9.1	100
3-Nitroaniline	0.208	0.189	0.01	9.1	100
Acenaphthene	1.013	1.126	0.01	11.2	100
2,4-Dinitrophenol	0.201	0.223	0.05	10.9	100
4-Nitrophenol	0.172	0.180	0.05	4.6	100
Dibenzofuran	1.470	1.591	0.01	8.2	100
2,4-Dinitrotoluene	0.442	0.505	0.01	14.2	100

FORM VII SV

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date: 09/09/02 Time: 2041

Lab File ID: S1D0794 Init. Calib. Date(s): 09/09/02 09/09/02

Init. Calib. Times: 1251 1842

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.412	1.518	0.01	7.5	100
Fluorene	1.029	1.144	0.01	11.2	100
4-Chlorophenyl-phenylether	0.506	0.562	0.01	11.1	100
4-Nitroaniline	0.145	0.156	0.01	7.6	100
4,6-Dinitro-2-methylphenol	0.173	0.188	0.01	8.7	100
N-Nitrosodiphenylamine	0.534	0.570	0.01	6.7	20.0
4-Bromophenyl-phenylether	0.196	0.204	0.01	4.1	100
Hexachlorobenzene	0.196	0.234	0.01	19.4	100
Atrazine	0.196	0.199	0.01	1.5	100
Pentachlorophenol	0.159	0.160	0.01	0.6	20.0
Phenanthrene	0.977	1.036	0.01	6.0	100
Anthracene	0.989	1.072	0.01	8.4	100
Carbazole	0.463	0.442	0.01	4.5	100
Di-n-butylphthalate	1.449	1.561	0.01	7.7	100
Fluoranthene	1.020	1.064	0.01	4.3	20.0
Pyrene	1.683	1.647	0.01	2.1	100
Butylbenzylphthalate	1.132	1.085	0.01	4.2	100
3,3'-Dichlorobenzidine	0.278	0.267	0.01	4.0	100
Benzo(a)anthracene	1.415	1.334	0.01	5.7	100
Chrysene	1.244	1.167	0.01	6.2	100
bis(2-Ethylhexyl)phthalate	1.228	1.261	0.01	2.7	100
Di-n-octylphthalate	2.561	2.731	0.01	6.6	20.0
Benzo(b)fluoranthene	1.584	1.467	0.01	7.4	100
Benzo(k)fluoranthene	1.340	1.525	0.01	13.8	100
Benzo(a)pyrene	1.348	1.372	0.01	1.8	20.0
Indeno(1,2,3-cd)pyrene	1.463	1.460	0.01	0.2	100
Dibenzo(a,h)anthracene	1.317	1.338	0.01	1.6	100
Benzo(g,h,i)perylene	1.390	1.407	0.01	1.2	100
Nitrobenzene-d5	0.434	0.448	0.01	3.2	100
2-Fluorobiphenyl	1.232	1.371	0.01	11.3	100
Terphenyl-d14	1.085	1.046	0.01	3.6	100
Phenol-d5	1.826	1.877	0.01	2.8	100
2-Fluorophenol	1.664	1.679	0.01	0.9	100
2,4,6-Tribromophenol	0.128	0.125	0.01	2.3	100
2-Chlorophenol-d4	1.521	1.558	0.01	2.4	100
1,2-Dichlorobenzene-d4	0.853	0.892	0.01	4.6	100

FORM VII SV

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date: 09/10/02 Time: 1117

Lab File ID: S1D0808 Init. Calib. Date(s): 09/09/02 09/12/02

Init. Calib. Times: 1251 1141

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Benzaldehyde	0.986	1.109	0.01	12.5	100
Phenol	1.655	1.876	0.01	13.4	20.0
bis(2-Chloroethyl)Ether	1.463	1.695	0.01	15.8	100
2-Chlorophenol	1.342	1.450	0.01	8.0	100
2-Methylphenol	1.336	1.410	0.01	5.5	100
2,2'-oxybis(1-Chloropropane)	2.350	3.066	0.01	30.5	100
Acetophenone	1.583	1.887	0.01	19.2	100
4-Methylphenol	1.286	1.422	0.01	10.6	100
N-Nitroso-di-n-propylamine	0.738	0.833	0.05	12.9	100
Hexachloroethane	0.605	0.682	0.01	12.7	100
Nitrobenzene	0.386	0.444	0.01	15.0	100
Isophorone	0.862	0.941	0.01	9.2	100
2-Nitrophenol	0.240	0.239	0.01	0.4	100
2,4-Dimethylphenol	0.326	0.365	0.01	12.0	100
bis(2-Chloroethoxy)methane	0.476	0.548	0.01	15.1	100
2,4-Dichlorophenol	0.284	0.295	0.01	3.9	20.0
Naphthalene	0.904	1.061	0.01	17.4	100
4-Chloroaniline	0.441	0.332	0.01	24.7	100
Hexachlorobutadiene	0.136	0.154	0.01	13.2	20.0
Caprolactam	0.172	0.172	0.01	0.0	100
4-Chloro-3-Methylphenol	0.311	0.343	0.01	10.3	20.0
2-Methylnaphthalene	0.564	0.649	0.01	15.1	100
Hexachlorocyclopentadiene	0.314	0.338	0.05	7.6	100
2,4,6-Trichlorophenol	0.400	0.418	0.01	4.5	20.0
2,4,5-Trichlorophenol	0.412	0.431	0.01	4.6	100
1,1'-Biphenyl	1.230	1.475	0.01	19.9	100
2-Chloronaphthalene	1.001	1.120	0.01	11.9	100
2-Nitroaniline	0.458	0.527	0.01	15.1	100
Dimethylphthalate	1.318	1.454	0.01	10.3	100
2,6-Dinitrotoluene	0.363	0.387	0.01	6.6	100
Acenaphthylene	1.674	1.926	0.01	15.0	100
3-Nitroaniline	0.215	0.060	0.01	72.1	100
Acenaphthene	0.956	1.116	0.01	16.7	100
2,4-Dinitrophenol	0.216	0.210	0.05	2.8	100
4-Nitrophenol	0.171	0.178	0.05	4.1	100
Dibenzofuran	1.389	1.583	0.01	14.0	100
2,4-Dinitrotoluene	0.429	0.492	0.01	14.7	100

FORM VII SV

FORM 7
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID: S1 Calibration Date: 09/10/02 Time: 1117

Lab File ID: S1D0808 Init. Calib. Date(s): 09/09/02 09/12/02

Init. Calib. Times: 1251 1141

GC Column: DB-5MS ID: 0.25 (mm)

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Diethylphthalate	1.335	1.510	0.01	13.1	100
Fluorene	0.946	1.182	0.01	24.9	100
4-Chlorophenyl-phenylether	0.464	0.588	0.01	26.7	100
4-Nitroaniline	0.122	0.169	0.01	38.5	100
4,6-Dinitro-2-methylphenol	0.179	0.183	0.01	2.2	100
N-Nitrosodiphenylamine	0.511	0.538	0.01	5.3	20.0
4-Bromophenyl-phenylether	0.186	0.212	0.01	14.0	100
Hexachlorobenzene	0.196	0.242	0.01	23.5	100
Atrazine	0.184	0.179	0.01	2.7	100
Pentachlorophenol	0.156	0.157	0.01	0.6	20.0
Phenanthrene	0.919	1.058	0.01	15.1	100
Anthracene	0.925	1.072	0.01	15.9	100
Carbazole	0.425	0.303	0.01	28.7	100
Di-n-butylphthalate	1.344	1.597	0.01	18.8	100
Fluoranthene	0.956	1.065	0.01	11.4	20.0
Pyrene	1.690	1.522	0.01	9.9	100
Butylbenzylphthalate	1.148	1.022	0.01	11.0	100
3,3'-Dichlorobenzidine	0.284	0.202	0.01	28.9	100
Benzo(a)anthracene	1.422	1.263	0.01	11.2	100
Chrysene	1.241	1.090	0.01	12.2	100
bis(2-Ethylhexyl)phthalate	1.209	1.284	0.01	6.2	100
Di-n-octylphthalate	2.450	2.750	0.01	12.2	20.0
Benzo(b)fluoranthene	1.594	1.551	0.01	2.7	100
Benzo(k)fluoranthene	1.247	1.483	0.01	18.9	100
Benzo(a)pyrene	1.318	1.376	0.01	4.4	20.0
Indeno(1,2,3-cd)pyrene	1.477	1.375	0.01	6.9	100
Dibenzo(a,h)anthracene	1.306	1.330	0.01	1.8	100
Benzo(g,h,i)perylene	1.378	1.376	0.01	0.1	100
Nitrobenzene-d5	0.418	0.462	0.01	10.5	100
2-Fluorobiphenyl	1.163	1.350	0.01	16.1	100
Terphenyl-d14	1.083	1.008	0.01	6.9	100
Phenol-d5	1.747	1.878	0.01	7.5	100
2-Fluorophenol	1.639	1.664	0.01	1.5	100
2,4,6-Tribromophenol	0.123	0.128	0.01	4.1	100
2-Chlorophenol-d4	1.468	1.531	0.01	4.3	100
1,2-Dichlorobenzene-d4	0.822	0.898	0.01	9.2	100

FORM VII SV

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S3B9049 Date Analyzed: 08/23/02

Instrument ID: S3 Time Analyzed: 1258

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	179933	9.07	671546	11.55	354636	15.13
	UPPER LIMIT	359866	9.57	1343092	12.05	709272	15.63
	LOWER LIMIT	89967	8.57	335773	11.05	177318	14.63
	EPA SAMPLE NO.						
01	SBLK3A	205158	9.07	757436	11.54	409981	15.12
02	S3ALCS	201379	9.07	726831	11.55	386028	15.13
03	S3ALCSD	205170	9.07	746079	11.55	395860	15.13
04	SBLK3B	204337	9.07	736103	11.54	387309	15.12
05	S3BLCS	143601	9.07	515608	11.55	283745	15.12
06	S3BLCSD	200855	9.07	722456	11.55	382792	15.13
07	GWMW1R	215206	9.07	775679	11.54	404928	15.12
08	OFF-GW-RB01	193855	9.07	708948	11.54	378272	15.12
09	OFF-GW-MW4S	255066	9.07	907996	11.54	482474	15.12
10	OFF-GW-MW4SM	276891	9.07	1008584	11.55	532393	15.13
11	OFF-GW-MW4SM	202054	9.07	726349	11.55	382576	15.13
12	GWMW2D	204444	9.07	744092	11.55	396812	15.12
13	OFF-GW-MW3S	239046	9.07	876045	11.55	473309	15.13
14							
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S3B9049 Date Analyzed: 08/23/02

Instrument ID: S3 Time Analyzed: 1258

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	617394	18.20	614021	23.67	506039	27.80
	UPPER LIMIT	1234788	18.70	1228042	24.17	1012078	28.30
	LOWER LIMIT	308697	17.70	307011	23.17	253020	27.30
	EPA SAMPLE NO.						
01	SBLK3A	703488	18.19	665284	23.66	542206	27.79
02	S3ALCS	673702	18.20	675300	23.68	518590	27.81
03	S3ALCSD	702729	18.20	697704	23.68	563522	27.81
04	SBLK3B	667687	18.19	629921	23.66	499844	27.80
05	S3BLCS	504370	18.20	555541	23.67	471144	27.81
06	S3BLCSD	666190	18.20	658579	23.68	512627	27.81
07	GWMW1R	693656	18.19	647036	23.66	526005	27.79
08	OFF-GW-RB01	657497	18.19	626814	23.66	500287	27.80
09	OFF-GW-MW4S	828194	18.19	791961	23.66	627363	27.80
10	OFF-GW-MW4SM	923919	18.20	914389	23.68	660942	27.81
11	OFF-GW-MW4SM	667922	18.20	662041	23.67	484166	27.80
12	GWMW2D	687428	18.20	659276	23.67	505391	27.80
13	OFF-GW-MW3S	789547	18.20	748201	23.67	599339	27.80
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = 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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S3B9066 Date Analyzed: 08/24/02

Instrument ID: S3 Time Analyzed: 0129

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	677209	18.20	651158	23.67	497668	27.80
	UPPER LIMIT	1354418	18.70	1302316	24.17	995336	28.30
	LOWER LIMIT	338605	17.70	325579	23.17	248834	27.30
	EPA SAMPLE NO.						
01	GWMW25	793842	18.20	821685	23.67	675624	27.80
02	GWMW11R	754662	18.19	724560	23.66	590438	27.80
03	GWMW105	799544	18.20	764704	23.67	586876	27.81
04	GWMW101	601349	18.20	580759	23.67	490485	27.80
05	GWDP01	820312	18.20	786867	23.67	602048	27.81
06	GWMW115	858475	18.20	822311	23.67	636517	27.81
07	GWMW102	887228	18.20	833344	23.67	625928	27.80
08	GWDP02	621614	18.20	588009	23.67	450809	27.81
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = 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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S1D0565 Date Analyzed: 08/27/02

Instrument ID: S1 Time Analyzed: 1013

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	227020	7.36	823839	9.76	386858	13.26
	UPPER LIMIT	454040	7.86	1647678	10.26	773716	13.76
	LOWER LIMIT	113510	6.86	411920	9.26	193429	12.76
	EPA SAMPLE NO.						
01	S1FLCS	213968	7.36	792870	9.76	383754	13.26
02	S1FLCSD	223652	7.36	816197	9.76	398614	13.26
03							
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S1D0565 Date Analyzed: 08/27/02

Instrument ID: S1 Time Analyzed: 1013

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	631873	16.24	482505	21.60	363967	24.24
	UPPER LIMIT	1263746	16.74	965010	22.10	727934	24.74
	LOWER LIMIT	315937	15.74	241253	21.10	181984	23.74
	EPA SAMPLE NO.						
01	S1FLCS	644434	16.25	498096	21.59	374316	24.25
02	S1FLCSD	667459	16.25	517127	21.60	386180	24.25
03							
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = 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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S3B9066 Date Analyzed: 08/24/02

Instrument ID: S3 Time Analyzed: 0129

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	210049	9.07	756485	11.55	393249	15.12
	UPPER LIMIT	420098	9.57	1512970	12.05	786498	15.62
	LOWER LIMIT	105025	8.57	378243	11.05	196625	14.62
	EPA SAMPLE NO.						
01	GWMW25	205326	9.07	794859	11.54	450622	15.13
02	GWMW11R	227563	9.08	803653	11.54	435648	15.12
03	GWMW105	241698	9.07	878238	11.54	466682	15.12
04	GWMW101	178836	9.07	643460	11.55	344400	15.12
05	GWDP01	247183	9.07	891878	11.55	473525	15.13
06	GWMW115	252132	9.07	938421	11.55	498540	15.13
07	GWMW102	267506	9.08	958716	11.54	510349	15.12
08	GWDP02	188760	9.07	677749	11.55	358619	15.13
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S1D0794 Date Analyzed: 09/09/02

Instrument ID: S1 Time Analyzed: 2041

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	312411	8.87	1066795	11.34	506984	14.91
	UPPER LIMIT	624822	9.37	2133590	11.84	1013968	15.41
	LOWER LIMIT	156206	8.37	533398	10.84	253492	14.41
	EPA SAMPLE NO.						
01	OFF-GW-MW5S	280942	8.88	961054	11.34	477971	14.90
02	OFF-GW-MW6R	307263	8.88	1039984	11.34	516351	14.90
03	OFF-GW-MW9R	301648	8.89	1030531	11.34	510948	14.90
04	OFF-GW-MW8R	298147	8.89	1018104	11.34	499520	14.90
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S1D0794 Date Analyzed: 09/09/02

Instrument ID: S1 Time Analyzed: 2041

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	834351	17.96	557481	23.39	503047	26.57
	UPPER LIMIT	1668702	18.46	1114962	23.89	1006094	27.07
	LOWER LIMIT	417176	17.46	278741	22.89	251524	26.07
	EPA SAMPLE NO.						
01	OFF-GW-MW5S	766151	17.96	575139	23.38	461338	26.56
02	OFF-GW-MW6R	840518	17.96	637409	23.38	511380	26.56
03	OFF-GW-MW9R	790188	17.96	614915	23.38	491266	26.56
04	OFF-GW-MW8R	795143	17.96	611381	23.39	471835	26.56
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = 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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S1D0808 Date Analyzed: 09/10/02

Instrument ID: S1 Time Analyzed: 1117

		IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
	12 HOUR STD	288032	8.82	986421	11.28	484613	14.85
	UPPER LIMIT	576064	9.32	1972842	11.78	969226	15.35
	LOWER LIMIT	144016	8.32	493211	10.78	242307	14.35
	EPA SAMPLE NO.						
01	SBLK1B	597664*	8.82	2083374*	11.28	1076087*	14.85
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits. (Double - Spiked with IS)

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Lab File ID (Standard): S1D0808 Date Analyzed: 09/10/02

Instrument ID: S1 Time Analyzed: 1117

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	791948	17.89	571128	23.33	469561	26.46
	UPPER LIMIT	1583896	18.39	1142256	23.83	939122	26.96
	LOWER LIMIT	395974	17.39	285564	22.83	234781	25.96
	EPA SAMPLE NO.						
01	SBLK1B	1712654*	17.91	1348348*	23.33	1104583*	26.48
02							
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = 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 used to flag internal standard area values with an asterisk.
* Values outside of QC limits. (Double-spiked with IS)

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

SOW No.: ILM04.0

EPA Sample No.	Lab Sample ID
OFF-GW-MW3S	A1231-04B
OFF-GW-MW4S	A1231-01B
OFF-GW-MW4SD	A1231-01BD
OFF-GW-MW4SS	A1231-01BS
OFF-GW-RB01	A1231-03B

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: William J. Crowley Name: William J. Crowley

Date: 09/05/02 Title:

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

SOW No.: ILM04.0__

EPA Sample No.	Lab Sample ID
__GWDP01_____	__A1244-04B_____
__GWDP02_____	__A1244-08B_____
__GWMW101_____	__A1244-03B_____
__GWMW102_____	__A1244-07B_____
__GWMW105_____	__A1244-11B_____
__GWMW115_____	__A1244-02B_____
__GWMW115D_____	__A1244-02BD_____
__GWMW115S_____	__A1244-02BS_____
__GWMW11R_____	__A1244-05B_____
__GWMW1R_____	__A1244-10B_____
__GWMW2D_____	__A1244-06B_____
__GWMW25_____	__A1244-09B_____
__OFF-GW-MW5S____	__A1244-12B_____
__OFF-GW-MW6R____	__A1244-13B_____
__OFF-GW-MW8R____	__A1244-16B_____
__OFF-GW-MW8RD__	__A1244-16BD_____
__OFF-GW-MW8RS__	__A1244-16BS_____
__OFF-GW-MW9R____	__A1244-15B_____
_____	_____
_____	_____

Were ICP interelement corrections applied ? Yes/No YES_

Were ICP background corrections applied ? Yes/No YES_

If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: William J. Crowley Name: William J. Crowley

Date: 09/03/02 Title: _____

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-RB01

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix (soil/water): WATER Lab Sample ID: A1231-03B

Level (low/med): MED Date Received: 08/16/02

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12.0	U	09/05/02	P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	12.8	B	09/05/02	P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	76.0	U		P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	4.2	B		P
7439-89-6	Iron	35.0	U		P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	23.0	U		P
7439-96-5	Manganese	2.4	B		P
7439-97-6	Mercury	0.15	U		CV
7440-02-0	Nickel	0.50	U		P
7440-09-7	Potassium	89.0	U		P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	284	B		P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN SW846

MITKEM CORPORATION

* Metals *

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW4S

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix (soil/water): WATER Lab Sample ID: A1231-01B

Level (low/med): MED Date Received: 08/16/02

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	23.9	B	09/05/02	P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	5.4	B		P
7440-39-3	Barium	11.8	B	09/05/02	P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	12000			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	622			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	9930			P
7439-96-5	Manganese	5430			P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium	7090			P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	77400			P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW3S

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix (soil/water): WATER Lab Sample ID: A1231-04B

Level (low/med): MED Date Received: 08/16/02

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	60.4	B	J 09/05/02	P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.8	B		P
7440-39-3	Barium	29.6	B	J 09/05/02	P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	27100			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	10900			P
7439-92-1	Lead	1.3	B		P
7439-95-4	Magnesium	26400			P
7439-96-5	Manganese	3180			P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	1.2	B		P
7440-09-7	Potassium	15500			P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	327000			P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW115 115 AP

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Matrix (soil/water): WATER Lab Sample ID: A1244-02B

Level (low/med): MED Date Received: 08/20/02

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.6	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	114	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	220000			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	115	B		P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	351000		E	P
7439-96-5	Manganese	742		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	2.9	B		P
7440-09-7	Potassium	218000		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	3250000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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EPA SAMPLE NO.

GWMW101

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-03B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15.5	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	25.9			P
7440-39-3	Barium	52.0	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	44800			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	11000			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	16000		E	P
7439-96-5	Manganese	236		E	P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	0.50	U		P
7440-09-7	Potassium	18200		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	192000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP01

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-04B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18.5	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	24.8			P
7440-39-3	Barium	50.3	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	44200			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.4	B		P
7439-89-6	Iron	11000			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	16000		E	P
7439-96-5	Manganese	237		E	P
7439-97-6	Mercury	0.15	U		CV
7440-02-0	Nickel	0.70	B		P
7440-09-7	Potassium	16800		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	193000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW11R

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-05B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.0	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	7.8	B		P
7440-39-3	Barium	13.2	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	90800			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	4.8	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	8580			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	168000		E	P
7439-96-5	Manganese	2810		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	1.3	B		P
7440-09-7	Potassium	136000		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	1450000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW2D

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-06B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	93.7	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	10.8	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	43900			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	6.1	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	424			P
7439-92-1	Lead	1.5	B		P
7439-95-4	Magnesium	42900		E	P
7439-96-5	Manganese	4290		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	6.2	B		P
7440-09-7	Potassium	36800		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	296000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	14.8	B		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW102

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-07B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16.0	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	26.5	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	36700			P
7440-47-3	Chromium	31.0			P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	3.0	B		P
7439-89-6	Iron	972			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	110000		E	P
7439-96-5	Manganese	68.9		E	P
7439-97-6	Mercury	0.15	U		CV
7440-02-0	Nickel	13.1	B		P
7440-09-7	Potassium	90400		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	1080000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWDP02

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1244

Matrix (soil/water): WATER Lab Sample ID: A1244-08B

Level (low/med): MED Date Received: 08/20/02

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12.0	U		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	25.3	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	37800			P
7440-47-3	Chromium	27.5			P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.4	B		P
7439-89-6	Iron	941			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	111000		E	P
7439-96-5	Manganese	72.0		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	13.2	B		P
7440-09-7	Potassium	93700		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	1110000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW25 2S

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-09B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12.0	U		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	148	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	3.1	B		P
7440-70-2	Calcium	247000			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	47.3			P
7439-89-6	Iron	169	B		P
7439-92-1	Lead	14.8			P
7439-95-4	Magnesium	589000		E	P
7439-96-5	Manganese	121		E	P
7439-97-6	Mercury	0.15	U		CV
7440-02-0	Nickel	18.4	B		P
7440-09-7	Potassium	429000		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	6050000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	1090			P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW~~105~~ 10 S
RAP

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-11B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12.0	U		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	32.2	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	177000			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	8.8	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	374			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	416000		E	P
7439-96-5	Manganese	1070		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	2.9	B		P
7440-09-7	Potassium	265000		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	3840000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW5S

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER__ Lab Sample ID: A1244-12B_____

Level (low/med): MED____ Date Received: 08/21/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	283			P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	18.3	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	81800			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	1220			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	20600		E	P
7439-96-5	Manganese	513		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	4.5	B		P
7440-09-7	Potassium	7890		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	38600			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	76.0			P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWMW1R

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-10B_____

Level (low/med): MED____ Date Received: 08/20/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	69.4	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	12.4	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	24500			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	26.5	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	134	B		P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	4000		E	P
7439-96-5	Manganese	189		E	P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	8.8	B		P
7440-09-7	Potassium	5350		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	19300			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	16.7	B		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN SW846

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW6R

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-13B_____

Level (low/med): MED____ Date Received: 08/21/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	54.8	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	9.0	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.5	B		P
7440-70-2	Calcium	6860			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	101	B		P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	6050		E	P
7439-96-5	Manganese	19.3	B	E	P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	6.8	B		P
7440-09-7	Potassium	4780		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	53000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN SW846

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW9R

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-15B_____

Level (low/med): MED____ Date Received: 08/21/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	34.1	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	18.0	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	37500			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.2	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	313			P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	8730		E	P
7439-96-5	Manganese	1570		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	3.6	B		P
7440-09-7	Potassium	7920		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	82000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN SW846

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-GW-MW8R

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Matrix (soil/water): WATER_ Lab Sample ID: A1244-16B_____

Level (low/med): MED____ Date Received: 08/21/02____

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12.0	U		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	6.6	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	54500			P
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	35.0	U		P
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium	7190		E	P
7439-96-5	Manganese	3120		E	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	6.6	B		P
7440-09-7	Potassium	5410		E	P
7782-49-2	Selenium	8.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	65000			P
7440-28-0	Thallium	4.0	U	N	P
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	8.0	U		P
	Cyanide				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN SW846

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Initial Calibration Source: INORG_VENTURES

Continuing Calibration Source: INORG_VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0	9457.11	94.6	10000.0	10016.48	100.2	9881.79	98.8	P
Antimony	500.0	514.63	102.9	500.0	493.43	98.7	497.69	99.5	P
Arsenic	500.0	478.96	95.8	500.0	509.68	101.9	489.36	97.9	P
Barium	10000.0	10037.69	100.4	10000.0	10619.05	106.2	10468.90	104.7	P
Beryllium	250.0	239.40	95.8	250.0	256.16	102.5	247.64	99.1	P
Cadmium	250.0	237.84	95.1	250.0	250.59	100.2	246.11	98.4	P
Calcium	25000.0	23337.46	93.3	25000.0	24745.64	99.0	23834.77	95.3	P
Chromium	1000.0	954.10	95.4	1000.0	1011.22	101.1	991.47	99.1	P
Cobalt	2500.0	2440.34	97.6	2500.0	2585.54	103.4	2513.78	100.6	P
Copper	1250.0	1196.47	95.7	1250.0	1295.56	103.6	1251.04	100.1	P
Iron	5000.0	4837.17	96.7	5000.0	5125.34	102.5	5051.52	101.0	P
Lead	500.0	469.79	94.0	500.0	497.93	99.6	484.04	96.8	P
Magnesium	25000.0	24155.47	96.6	25000.0	25536.86	102.1	25120.30	100.5	P
Manganese	2500.0	2418.91	96.8	2500.0	2564.95	102.6	2498.50	99.9	P
Mercury	5.0	5.12	102.4	5.0	5.42	108.4	5.51	110.2	CV
Nickel	2500.0	2449.31	98.0	2500.0	2582.79	103.3	2551.44	102.1	P
Potassium	25000.0	25622.67	102.5	25000.0	25136.58	100.5	25603.97	102.4	P
Selenium	500.0	457.73	91.5	500.0	488.66	97.7	469.92	94.0	P
Silver	1250.0	1224.20	97.9	1250.0	1290.41	103.2	1260.79	100.9	P
Sodium	25000.0	27559.25	110.2	25000.0	26418.98	105.7	26031.40	104.1	P
Thallium	500.0	468.98	93.8	500.0	501.97	100.4	480.64	96.1	P
Vanadium	2500.0	2392.52	95.7	2500.0	2530.67	101.2	2487.67	99.5	P
Zinc	2500.0	2438.12	97.5	2500.0	2562.28	102.5	2518.89	100.8	P
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Initial Calibration Source:

Continuing Calibration Source: INORG_VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum				10000.0	9710.17	97.1			P
Antimony				500.0	505.89	101.2			P
Arsenic				500.0	494.34	98.9			P
Barium				10000.0	10263.17	102.6			P
Beryllium				250.0	245.14	98.1			P
Cadmium				250.0	243.39	97.4			P
Calcium				25000.0	24446.49	97.8			P
Chromium				1000.0	977.44	97.7			P
Cobalt				2500.0	2507.77	100.3			P
Copper				1250.0	1235.46	98.8			P
Iron				5000.0	4975.40	99.5			P
Lead				500.0	486.29	97.3			P
Magnesium				25000.0	24738.67	99.0			P
Manganese				2500.0	2486.13	99.4			P
Mercury									
Nickel				2500.0	2489.73	99.6			P
Potassium									
Selenium				500.0	491.06	98.2			P
Silver				1250.0	1252.49	100.2			P
Sodium									
Thallium				500.0	492.75	98.6			P
Vanadium				2500.0	2442.24	97.7			P
Zinc				2500.0	2489.44	99.6			P
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Initial Calibration Source: INORG_VENTURES

Continuing Calibration Source: INORG_VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000.0	10027.07	100.3	10000.0	9896.52	99.0	9892.01	98.9	P
Antimony	500.0	471.53	94.3	500.0	464.98	93.0	474.29	94.9	P
Arsenic	500.0	509.22	101.8	500.0	507.55	101.5	509.75	102.0	P
Barium	10000.0	10597.11	106.0	10000.0	10515.20	105.2	10553.62	105.5	P
Beryllium	250.0	254.88	102.0	250.0	250.99	100.4	249.24	99.7	P
Cadmium	250.0	251.11	100.4	250.0	246.60	98.6	246.18	98.5	P
Calcium	25000.0	24454.11	97.8	25000.0	23944.74	95.8	23801.02	95.2	P
Chromium	1000.0	1010.67	101.1	1000.0	993.45	99.3	992.94	99.3	P
Cobalt	2500.0	2593.90	103.8	2500.0	2540.76	101.6	2524.16	101.0	P
Copper	1250.0	1346.06	107.7	1250.0	1281.87	102.5	1273.91	101.9	P
Iron	5000.0	5130.97	102.6	5000.0	5071.44	101.4	5086.82	101.7	P
Lead	500.0	500.12	100.0	500.0	497.49	99.5	498.06	99.6	P
Magnesium	25000.0	25536.42	102.1	25000.0	25298.25	101.2	25450.73	101.8	P
Manganese	2500.0	2567.11	102.7	2500.0	2510.36	100.4	2496.45	99.9	P
Mercury	5.0	4.91	98.2	5.0	4.88	97.6	4.90	98.0	CV
Nickel	2500.0	2569.22	102.8	2500.0	2570.88	102.8	2599.12	104.0	P
Potassium	25000.0	26352.56	105.4	25000.0	25382.32	101.5	26099.11	104.4	P
Selenium	500.0	489.18	97.8	500.0	480.50	96.1	480.13	96.0	P
Silver	1250.0	1301.30	104.1	1250.0	1266.51	101.3	1252.55	100.2	P
Sodium	25000.0	25614.17	102.5	25000.0	25277.27	101.1	25723.96	102.9	P
Thallium	500.0	494.07	98.8	500.0	491.75	98.4	481.10	96.2	P
Vanadium	2500.0	2525.42	101.0	2500.0	2497.48	99.9	2508.19	100.3	P
Zinc	2500.0	2582.78	103.3	2500.0	2543.81	101.8	2546.97	101.9	P
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Initial Calibration Source: _____

Continuing Calibration Source: INORG_VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum				10000.0	9892.26	98.9	9794.07	97.9	P
Antimony				500.0	456.46	91.3	455.94	91.2	P
Arsenic				500.0	498.06	99.6	496.74	99.3	P
Barium				10000.0	10400.86	104.0	10311.85	103.1	P
Beryllium				250.0	245.82	98.3	247.47	99.0	P
Cadmium				250.0	242.83	97.1	240.18	96.1	P
Calcium				25000.0	23620.64	94.5	23682.70	94.7	P
Chromium				1000.0	983.83	98.4	974.69	97.5	P
Cobalt				2500.0	2512.77	100.5	2489.71	99.6	P
Copper				1250.0	1272.63	101.8	1260.41	100.8	P
Iron				5000.0	5041.96	100.8	4987.40	99.7	P
Lead				500.0	486.04	97.2	485.29	97.1	P
Magnesium				25000.0	25108.00	100.4	24900.21	99.6	P
Manganese				2500.0	2485.98	99.4	2465.60	98.6	P
Mercury				5.0	4.90	98.0			CV
Nickel				2500.0	2537.85	101.5	2524.56	101.0	P
Potassium				25000.0	26433.24	105.7	26694.13	106.8	P
Selenium				500.0	468.74	93.7	461.89	92.4	P
Silver				1250.0	1256.25	100.5	1241.79	99.3	P
Sodium				25000.0	23843.64	95.4	24537.65	98.2	P
Thallium				500.0	473.75	94.8	482.73	96.5	P
Vanadium				2500.0	2480.58	99.2	2463.86	98.6	P
Zinc				2500.0	2511.95	100.5	2485.70	99.4	P
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Initial Calibration Source: _____

Continuing Calibration Source: INORG_VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				10000.0	9747.05	97.5	9824.68	98.2	P
Antimony				500.0	456.95	91.4	464.33	92.9	P
Arsenic				500.0	498.55	99.7	502.70	100.5	P
Barium				10000.0	10233.69	102.3	10341.74	103.4	P
Beryllium				250.0	246.41	98.6	245.25	98.1	P
Cadmium				250.0	238.25	95.3	239.87	95.9	P
Calcium				25000.0	23815.22	95.3	23897.69	95.6	P
Chromium				1000.0	967.68	96.8	976.64	97.7	P
Cobalt				2500.0	2481.57	99.3	2494.53	99.8	P
Copper				1250.0	1254.31	100.3	1262.52	101.0	P
Iron				5000.0	4976.79	99.5	5009.49	100.2	P
Lead				500.0	485.72	97.1	489.86	98.0	P
Magnesium				25000.0	24769.05	99.1	25013.59	100.1	P
Manganese				2500.0	2453.99	98.2	2468.20	98.7	P
Mercury									
Nickel				2500.0	2509.37	100.4	2537.70	101.5	P
Potassium				25000.0	26463.62	105.9	26140.89	104.6	P
Selenium				500.0	464.27	92.9	472.27	94.5	P
Silver				1250.0	1231.90	98.6	1240.71	99.3	P
Sodium				25000.0	23690.35	94.8			P
Thallium				500.0	472.98	94.6	479.59	95.9	P
Vanadium				2500.0	2446.14	97.8	2469.98	98.8	P
Zinc				2500.0	2469.07	98.8	2488.75	99.6	P
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Initial Calibration Source: _____

Continuing Calibration Source: INORG_VENTURES

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				10000.0	9800.83	98.0			P
Antimony				500.0	461.43	92.3			P
Arsenic				500.0	488.64	97.7			P
Barium				10000.0	10293.12	102.9			P
Beryllium				250.0	244.76	97.9			P
Cadmium				250.0	238.44	95.4			P
Calcium				25000.0	23505.43	94.0			P
Chromium				1000.0	972.70	97.3			P
Cobalt				2500.0	2484.60	99.4			P
Copper				1250.0	1256.71	100.5			P
Iron				5000.0	5009.46	100.2			P
Lead				500.0	482.18	96.4			P
Magnesium				25000.0	24982.96	99.9			P
Manganese				2500.0	2458.82	98.4			P
Mercury									
Nickel				2500.0	2528.02	101.1			P
Potassium									
Selenium				500.0	454.93	91.0			P
Silver				1250.0	1233.43	98.7			P
Sodium									
Thallium				500.0	469.39	93.9			P
Vanadium				2500.0	2461.40	98.5			P
Zinc				2500.0	2478.84	99.2			P
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

3
BLANKS

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	12.0	U	12.0	U	12.0	U	12.0	U	12.000	U	P
Antimony	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Arsenic	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Barium	3.0	U	3.0	U	3.0	U	3.0	U	6.222	B	P
Beryllium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Cadmium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Calcium	76.0	U	76.0	U	76.0	U	76.0	U	76.000	U	P
Chromium	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Cobalt	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Copper	3.0	B	2.0	U	2.0	U	2.0	U	2.000	U	P
Iron	35.0	U	35.0	U	35.0	U	35.0	U	35.000	U	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Magnesium	23.0	U	23.0	U	23.0	U	23.0	U	23.000	U	P
Manganese	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Mercury	0.1	U	0.1	U	0.1	U			0.138	U	CV
Nickel	0.5	U	0.5	U	0.5	U	0.5	U	0.500	U	P
Potassium	180.4	B	110.7	B	113.8	B			89.000	U	P
Selenium	8.0	U	8.0	U	8.0	U	8.0	U	8.000	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Sodium	905.4	B	488.2	B	507.5	B			580.556	B	P
Thallium	4.0	U	4.0	U	4.0	U	4.0	U	4.000	U	P
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Zinc	8.0	U	8.0	U	8.0	U	8.0	U	8.000	U	P
Cyanide											

3
BLANKS

Lab Name: MITKEM_CORPORATION Contract: ____

Lab Code: MITKEM Case No.: ____ SAS No.: ____ SDG No.: A1244

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	12.0	U	12.0	U	12.0	U	12.0	U	39.566	B	P
Antimony	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Arsenic	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Barium	3.0	U	3.0	U	3.0	U	3.0	U	5.092	B	P
Beryllium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Cadmium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Calcium	76.0	U	76.0	U	76.0	U	76.0	U	76.000	U	P
Chromium	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Cobalt	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Copper	17.1	B	2.7	B	2.0	U	2.5	B	5.608	B	P
Iron	35.0	U	35.0	U	35.0	U	35.0	U	35.000	U	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Magnesium	23.0	U	23.0	U	23.0	U	23.0	U	43.700	B	P
Manganese	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV
Nickel	0.5	U	0.5	U	0.5	U	0.5	U	0.500	U	P
Potassium	309.3	B	146.8	B	249.4	B	299.0	B	166.120	B	P
Selenium	8.0	U	8.0	U	8.0	U	8.0	U	8.000	U	P
Silver	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Sodium	350.2	B	-158.3	B	118.0	U	-225.3	B	-273.974	B	P
Thallium	4.0	U	4.0	U	4.0	U	4.0	U	4.000	U	P
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Zinc	8.0	U	8.0	U	8.0	U	8.0	U	8.000	U	P
Cyanide											

3
BLANKS

Lab Name: MITKEM_CORPORATION_____ Contract: ____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244___

Preparation Blank Matrix (soil/water): ____

Preparation Blank Concentration Units (ug/L or mg/kg): ___

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			12.0	U	12.0	U	12.0	U			P
Antimony			3.0	U	3.0	U	3.0	U			P
Arsenic			3.0	U	3.0	U	3.0	U			P
Barium			3.0	U	3.0	U	3.0	U			P
Beryllium			2.0	U	2.0	U	2.0	U			P
Cadmium			2.0	U	2.0	U	2.0	U			P
Calcium			76.0	U	76.0	U	76.0	U			P
Chromium			3.0	U	3.0	U	3.0	U			P
Cobalt			3.0	U	3.0	U	3.0	U			P
Copper			2.0	U	2.4	B	2.0	U			P
Iron			35.0	U	35.0	U	35.0	U			P
Lead			1.0	U	1.0	U	1.0	U			P
Magnesium			23.0	U	23.0	U	23.0	U			P
Manganese			2.0	U	2.0	U	2.0	U			P
Mercury											
Nickel			0.5	U	0.5	U	0.5	U			P
Potassium			499.1	B	235.5	B	433.8	B			P
Selenium			8.0	U	8.0	U	8.0	U			P
Silver			2.0	U	2.0	U	2.0	U			P
Sodium			181.5	B	118.0	U					P
Thallium			4.0	U	4.0	U	4.0	U			P
Vanadium			3.0	U	3.0	U	3.0	U			P
Zinc			8.0	U	8.0	U	8.0	U			P
Cyanide											

U.S. EPA - CLP

3
BLANKS

Lab Name: MITKEM_CORPORATION_____ Contract: ___

Lab Code: MITKEM Case No.: ____ SAS No.: _____ SDG No.: A1244___

Preparation Blank Matrix (soil/water): ___

Preparation Blank Concentration Units (ug/L or mg/kg): ___

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			12.0	U							P
Antimony			3.0	U							P
Arsenic			3.0	U							P
Barium			3.0	U							P
Beryllium			2.0	U							P
Cadmium			2.0	U							P
Calcium			76.0	U							P
Chromium			3.0	U							P
Cobalt			3.0	U							P
Copper			2.0	U							P
Iron			35.0	U							P
Lead			1.0	U							P
Magnesium			23.0	U							P
Manganese			2.0	U							P
Mercury											
Nickel			0.5	U							P
Potassium											
Selenium			8.0	U							P
Silver			2.0	U							P
Sodium											
Thallium			4.0	U							P
Vanadium			3.0	U							P
Zinc			8.0	U							P
Cyanide											

4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_1A ICS Source: HIGH_PURITY

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium		25000		25774.0	103.1		26613.5	106.5
Selenium								
Silver								
Sodium		50000		55821.5	111.6		56290.0	112.6
Thallium								
Vanadium								
Zinc								

4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_2A ICS Source: HIGH_PURITY

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	485656	477193.1	95.4	492564	484897.9	97.0
Antimony		600		587.8	98.0		587.5	97.9
Arsenic		100		94.9	94.9		102.3	102.3
Barium		500		508.1	101.6		514.8	103.0
Beryllium		500		497.1	99.4		503.6	100.7
Cadmium		1000		889.6	89.0		896.6	89.7
Calcium	500000	500000	499173	490917.0	98.2	505589	496659.1	99.3
Chromium		500		476.3	95.3		481.4	96.3
Cobalt		500		455.2	91.0		458.1	91.6
Copper		500		508.8	101.8		507.8	101.6
Iron	200000	200000	173340	170127.4	85.1	175654	172680.5	86.3
Lead		500		433.6	86.7		442.6	88.5
Magnesium	500000	500000	467332	457720.9	91.5	473483	464202.0	92.8
Manganese		500		481.2	96.2		482.7	96.5
Mercury								
Nickel		1000		907.1	90.7		927.3	92.7
Potassium								
Selenium		500		471.0	94.2		468.6	93.7
Silver		200		171.8	85.9		170.7	85.4
Sodium								
Thallium		100		84.0	84.0		94.3	94.3
Vanadium		500		484.2	96.8		490.8	98.2
Zinc		1000		902.8	90.3		907.9	90.8

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4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244_

ICP ID Number: OPTIMA_1A___ ICS Source: HIGH_PURITY_

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium		25000		26162.9	104.7		27948.1	111.8
Selenium								
Silver								
Sodium		50000		57308.4	114.6		52735.8	105.5
Thallium								
Vanadium								
Zinc								

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_2A ICS Source: HIGH_PURITY

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000				487464	482753.8	96.6
Antimony		600					590.3	98.4
Arsenic		100					101.8	101.8
Barium		500					510.8	102.2
Beryllium		500					500.6	100.1
Cadmium		1000					897.8	89.8
Calcium	500000	500000				502867	497342.5	99.5
Chromium		500					481.1	96.2
Cobalt		500					466.9	93.4
Copper		500					509.4	101.9
Iron	200000	200000				173937	171660.2	85.8
Lead		500					442.2	88.4
Magnesium	500000	500000				468855	461438.1	92.3
Manganese		500					487.7	97.5
Mercury								
Nickel		1000					908.9	90.9
Potassium								
Selenium		500					471.8	94.4
Silver		200					173.5	86.8
Sodium								
Thallium		100					91.5	91.5
Vanadium		500					488.5	97.7
Zinc		1000					905.6	90.6

25SA

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244_

ICP ID Number: OPTIMA_2A___ ICS Source: HIGH_PURITY_

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	485628	486053.7	97.2	475053	473661.8	94.7
Antimony		600		549.7	91.6		531.9	88.6
Arsenic		100		99.4	99.4		87.9	87.9
Barium		500		506.3	101.3		490.7	98.1
Beryllium		500		499.8	100.0		483.2	96.6
Cadmium		1000		893.7	89.4		863.3	86.3
Calcium	500000	500000	489124	486012.2	97.2	474806	474121.9	94.8
Chromium		500		486.7	97.3		473.8	94.8
Cobalt		500		456.8	91.4		441.1	88.2
Copper		500		565.2	113.0		548.4	109.7
Iron	200000	200000	174187	173566.6	86.8	169891	168892.1	84.4
Lead		500		441.4	88.3		426.5	85.3
Magnesium	500000	500000	469813	466796.4	93.4	457865	453341.9	90.7
Manganese		500		476.6	95.3		465.9	93.2
Mercury								
Nickel		1000		924.7	92.5		898.3	89.8
Potassium								
Selenium		500		446.5	89.3		413.4	82.7
Silver		200		159.5	79.8		165.8	82.9
Sodium								
Thallium		100		82.9	82.9		84.4	84.4
Vanadium		500		496.7	99.3		485.7	97.1
Zinc		1000		903.0	90.3		873.4	87.3

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

OFF-GW-MW4SS

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix (soil/water): WATER Level (low/med): MED

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	9395.5745		23.8910	B	9100.00	103.0		P
Antimony	75-125	538.6330		3.0000	U	455.00	118.4		P
Arsenic	75-125	495.3805		5.3870	B	455.00	107.7		P
Barium	75-125	9579.2480		11.7690	B	9100.00	105.1		P
Beryllium	75-125	238.2000		2.0000	U	227.00	104.9		P
Cadmium	75-125	232.0745		2.0000	U	227.00	102.2		P
Calcium									NR
Chromium	75-125	924.9280		3.0000	U	910.00	101.6		P
Cobalt	75-125	2329.9385		7.7595	B	2270.00	102.3		P
Copper	75-125	1154.5425		2.0000	U	1130.00	102.2		P
Iron	75-125	5238.1195		622.0595		4550.00	101.5		P
Lead	75-125	465.9890		1.0000	U	455.00	102.4		P
Magnesium									NR
Manganese	75-125	7616.1100		5425.6060		2270.00	96.5		P
Mercury	75-125	4.7949		0.1360	U	4.55 ~~5.18~~ 09/05/02	105.4 ~~92.6~~ 09/11/02		CV
Nickel	75-125	2353.1080		1.8125	B	2270.00	103.6 ~~103.6~~		P
Potassium									NR
Selenium	75-125	456.0500		8.0000	U	455.00	100.2		P
Silver	75-125	1200.1255		2.0000	U	1130.00	106.2		P
Sodium									NR
Thallium	75-125	459.7630		4.0000	U	455.00	101.0		P
Vanadium	75-125	2318.3535		3.0000	U	2270.00	102.1		P
Zinc	75-125	2333.7530		8.0000	U	2270.00	102.8		P
Cyanide									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

GWMW115S

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1244

Matrix (soil/water): WATER Level (low/med): MED

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	8582.3455		20.5625	B	9100.00	94.1		P
Antimony	75-125	398.2830		3.0000	U	455.00	87.5		P
Arsenic	75-125	401.1965		3.0000	U	455.00	88.2		P
Barium	75-125	7645.0120		114.4955	B	9100.00	82.8		P
Beryllium	75-125	191.7240		2.0000	U	227.00	84.5		P
Cadmium	75-125	175.5490		2.0000	U	227.00	77.3		P
Calcium									NR
Chromium	75-125	758.0175		3.0000	U	910.00	83.3		P
Cobalt	75-125	1833.0090		3.0000	U	2270.00	80.7		P
Copper	75-125	1097.4900		2.0000	U	1130.00	97.1		P
Iron	75-125	3826.7250		115.0390	B	4550.00	81.6		P
Lead	75-125	347.2350		1.0000	U	455.00	76.3		P
Magnesium									NR
Manganese	75-125	2574.2525		741.5905		2270.00	80.7		P
Mercury									NR
Nickel	75-125	1866.7265		2.9065	B	2270.00	82.1		P
Potassium									NR
Selenium	75-125	361.3880		8.0000	U	455.00	79.4		P
Silver	75-125	1084.0800		2.0000	U	1130.00	95.9		P
Sodium									NR
Thallium	75-125	320.8215		4.0000	U	455.00	70.5	N	P
Vanadium	75-125	1951.7015		3.0000	U	2270.00	86.0		P
Zinc	75-125	1815.8575		8.0000	U	2270.00	80.0		P
Cyanide									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

OFF-GW-MW8RS

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Matrix (soil/water): WATER Level (low/med): MED

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	75-125	4.5770		0.1360	U	4.55 ~~4.29~~ 07/12/02	~~106.7~~ 101.0 07/13/02		CV
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

GWMW115A

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Matrix (soil/water): WATER Level (low/med): MED

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium		357.35		4.00	U	455.0	78.5		P
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

OFF-GW-MW4SD

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix (soil/water): WATER Level (low/med): MED

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		23.8910	B	29.4980	B	21.0		P
Antimony		3.0000	U	3.0000	U			P
Arsenic		5.3870	B	5.9800	B	10.4		P
Barium		11.7690	B	6.8720	B	52.5		P
Beryllium		2.0000	U	2.0000	U			P
Cadmium		2.0000	U	2.0000	U			P
Calcium		12018.7730		11950.3120		0.6		P
Chromium		3.0000	U	3.0000	U			P
Cobalt		7.7595	B	7.7205	B	0.5		P
Copper		2.0000	U	2.0000	U			P
Iron	200.0	622.0595		610.3490		1.9		P
Lead		1.0000	U	1.0000	U			P
Magnesium		9928.4515		9512.2930		4.3		P
Manganese		5425.6060		5407.7225		0.3		P
Mercury		0.1360	U	0.1460	U			CV
Nickel		1.8125	B	1.7650	B	2.7		P
Potassium		7091.3990		7253.4560		2.3		P
Selenium		8.0000	U	8.0000	U			P
Silver		2.0000	U	2.0000	U			P
Sodium		77386.8310		78803.8905		1.8		P
Thallium		4.0000	U	4.0000	U			P
Vanadium		3.0000	U	3.0000	U			P
Zinc		8.0000	U	8.0000	U			P
Cyanide								NR

09/05/02

09/05/02

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6
DUPLICATES

EPA SAMPLE NO.

GWMW115D

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244____

Matrix (soil/water): WATER_ Level (low/med): MED_____

% Solids for Sample: 0.0_____ % Solids for Duplicate: 0.0_____

Concentration Units (ug/L or mg/kg dry weight): UG/L__

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		20.5625	B	20.7095	B	0.7		P
Antimony		3.0000	U	3.0000	U			P
Arsenic		3.0000	U	3.0000	U			P
Barium		114.4955	B	112.4495	B	1.8		P
Beryllium		2.0000	U	2.0000	U			P
Cadmium		2.0000	U	2.0000	U			P
Calcium		220464.5180		214804.5750		2.6		P
Chromium		3.0000	U	3.0000	U			P
Cobalt		3.0000	U	3.0000	U			P
Copper		2.0000	U	2.0000	U			P
Iron		115.0390	B	109.6910	B	4.8		P
Lead		1.0000	U	1.0000	U			P
Magnesium		350953.9020		342896.5960		2.3		P
Manganese		741.5905		722.9390		2.5		P
Mercury								NR
Nickel		2.9065	B	2.6695	B	8.5		P
Potassium		217541.9050		213649.9020		1.8		P
Selenium		8.0000	U	8.0000	U			P
Silver		2.0000	U	2.0000	U			P
Sodium		3253533.0250		3219502.0000		1.1		P
Thallium		4.0000	U	4.0000	U			P
Vanadium		3.0000	U	3.0000	U			P
Zinc		8.0000	U	8.0000	U			P
Cyanide								NR

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

OFF-GW-MW8RD

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244____

Matrix (soil/water): WATER_ Level (low/med): MED_____

% Solids for Sample: 0.0_____ % Solids for Duplicate: 0.0_____

Concentration Units (ug/L or mg/kg dry weight): UG/L__

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead								NR
Magnesium								NR
Manganese								NR
Mercury		0.1360	U	0.1340	U			CV
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

7

LABORATORY CONTROL SAMPLE

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Solid LCS Source:

Aqueous LCS Source: HIGH_PURITY

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	9100.0	9307.0	102.3						
Antimony	455.0	522.8	114.9						
Arsenic	455.0	484.4	106.5						
Barium	9100.0	9660.2	106.2						
Beryllium	227.0	236.5	104.2						
Cadmium	227.0	236.4	104.1						
Calcium	22700.0	22949.9	101.1						
Chromium	910.0	934.3	102.7						
Cobalt	2270.0	2336.3	102.9						
Copper	1130.0	1144.8	101.3						
Iron	4550.0	4694.2	103.2						
Lead	455.0	474.3	104.2						
Magnesium	22700.0	23360.7	102.9						
Manganese	2270.0	2352.4	103.6						
Mercury	4.6	4.5	97.8						
Nickel	2270.0	2373.9	104.6						
Potassium	22700.0	22316.0	98.3						
Selenium	455.0	459.4	101.0						
Silver	1130.0	1203.2	106.5						
Sodium	22700.0	22763.1	100.3						
Thallium	455.0	472.0	103.7						
Vanadium	2270.0	2314.5	102.0						
Zinc	2270.0	2363.6	104.1						
Cyanide									

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7

LABORATORY CONTROL SAMPLE

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Solid LCS Source: _____

Aqueous LCS Source: HIGH_PURITY_

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	9100.0	9420.4	103.5						
Antimony	455.0	473.2	104.0						
Arsenic	455.0	476.3	104.7						
Barium	9100.0	9843.9	108.2						
Beryllium	227.0	240.6	106.0						
Cadmium	227.0	231.1	101.8						
Calcium	22700.0	22973.1	101.2						
Chromium	910.0	942.9	103.6						
Cobalt	2270.0	2372.2	104.5						
Copper	1130.0	1172.7	103.8						
Iron	4550.0	4767.1	104.8						
Lead	455.0	469.7	103.2						
Magnesium	22700.0	23761.0	104.7						
Manganese	2270.0	2378.0	104.8						
Mercury	4.6	4.2	91.3						
Nickel	2270.0	2426.6	106.9						
Potassium	22700.0	24238.2	106.8						
Selenium	455.0	451.9	99.3						
Silver	1130.0	1188.6	105.2						
Sodium	22700.0	23684.0	104.3						
Thallium	455.0	460.3	101.2						
Vanadium	2270.0	2355.1	103.7						
Zinc	2270.0	2409.4	106.1						
Cyanide									

9
ICP SERIAL DILUTIONS

EPA SAMPLE NO.

OFF-GW-MW4SL

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Matrix (soil/water): WATER_ Level (low/med): MED

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Aluminum	23.89	B	60.96	B	155.2		P
Antimony	3.00	U	15.00	U			P
Arsenic	5.39	B	15.00	U	100.0		P
Barium	11.77	B	15.00	U	100.0		P
Beryllium	2.00	U	10.00	U			P
Cadmium	2.00	U	10.00	U			P
Calcium	12018.77		11844.79		1.4		P
Chromium	3.00	U	15.00	U			P
Cobalt	7.76	B	15.00	U	100.0		P
Copper	2.00	U	10.00	U			P
Iron	622.06		630.35	B	1.3		P
Lead	1.00	U	5.00	U			P
Magnesium	9928.45		9979.77		0.5		P
Manganese	5425.61		5703.24		5.1		P
Mercury							NR
Nickel	1.81	B	2.50	U	100.0		P
Potassium	7091.40		7432.19		4.8		P
Selenium	8.00	U	40.00	U			P
Silver	2.00	U	10.00	U			P
Sodium	77386.83		82839.36		7.0		P
Thallium	4.00	U	20.00	U			P
Vanadium	3.00	U	15.00	U			P
Zinc	8.00	U	40.00	U			P

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9

ICP SERIAL DILUTIONS

EPA SAMPLE NO.

GWMW115L

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

Matrix (soil/water): WATER Level (low/med): MED

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	20.56	B	60.00	U	100.0		P
Antimony	3.00	U	15.00	U			P
Arsenic	3.00	U	15.00	U			P
Barium	114.50	B	129.47	B	13.1		P
Beryllium	2.00	U	10.00	U			P
Cadmium	2.00	U	10.00	U			P
Calcium	220464.52		227435.60		3.2		P
Chromium	3.00	U	15.00	U			P
Cobalt	3.00	U	15.00	U			P
Copper	2.00	U	10.00	U			P
Iron	115.04	B	175.00	U	100.0		P
Lead	1.00	U	5.00	U			P
Magnesium	350953.90		399657.25		13.9	E	P
Manganese	741.59		841.03		13.4	E	P
Mercury							NR
Nickel	2.91	B	2.56	B	12.0		P
Potassium	217541.91		172294.38		20.8	E	P
Selenium	8.00	U	40.00	U			P
Silver	2.00	U	10.00	U			P
Sodium	3253533.02		3340529.12		2.7		P
Thallium	4.00	U	20.00	U			P
Vanadium	3.00	U	15.00	U			P
Zinc	8.00	U	40.00	U			P

FORM IX - IN SW846

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_2A Date: 02/01/02

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.21		200	12.0	P
Antimony	206.83		20	3.0	P
Arsenic	188.98		20	3.0	P
Barium	233.53		200	3.0	P
Beryllium	313.11		6	2.0	P
Cadmium	226.50		6	2.0	P
Calcium	227.55		800	76.0	P
Chromium	267.72		20	3.0	P
Cobalt	228.62		50	3.0	P
Copper	324.75		30	2.0	P
Iron	273.96		200	35.0	P
Lead	220.35		10	1.0	P
Magnesium	279.08		500	23.0	P
Manganese	257.61		50	2.0	P
Mercury			1.0		NR
Nickel	231.60		50	0.5	P
Potassium			1000		NR
Selenium	196.03		30	8.0	P
Silver	328.07		30	2.0	P
Sodium			1000		NR
Thallium	190.80		20	4.0	P
Vanadium	292.40		50	3.0	P
Zinc	206.20		50	8.0	P
Cyanide			20		NR

Comments:

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_1A Date: 02/01/02

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.21		200	12.0	P
Antimony	206.83		20	3.0	P
Arsenic	188.98		20	3.0	P
Barium	233.53		200	3.0	P
Beryllium	313.11		6	2.0	P
Cadmium	226.50		6	2.0	P
Calcium			800		NR
Chromium	267.72		20	3.0	P
Cobalt	228.62		50	3.0	P
Copper	324.75		30	2.0	P
Iron	273.96		200	35.0	P
Lead	220.35		10	1.0	P
Magnesium	279.08		500	23.0	P
Manganese	257.61		50	2.0	P
Mercury			1.0		NR
Nickel	231.60		50	0.5	P
Potassium	766.49		1000	89.0	P
Selenium			30		NR
Silver			30		NR
Sodium	589.59		1000	118.0	P
Thallium			20		NR
Vanadium			50		NR
Zinc			50		NR
Cyanide			20		NR

Comments:

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: Date: 02/01/02

Flame AA ID Number: COMM_FIMS

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			20		NR
Arsenic			20		NR
Barium			200		NR
Beryllium			6		NR
Cadmium			6		NR
Calcium			800		NR
Chromium			20		NR
Cobalt			50		NR
Copper			30		NR
Iron			200		NR
Lead			10		NR
Magnesium			500		NR
Manganese			50		NR
Mercury	253.70		1.0	0.1	CV
Nickel			50		NR
Potassium			1000		NR
Selenium			30		NR
Silver			30		NR
Sodium			1000		NR
Thallium			20		NR
Vanadium			50		NR
Zinc			50		NR
Cyanide			20		NR

Comments:

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10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

ICP ID Number: OPTIMA_2A Date: 02/01/02

Flame AA ID Number: _____

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.21		200	12.0	P
Antimony	206.83		20	3.0	P
Arsenic	188.98		20	3.0	P
Barium	233.53		200	3.0	P
Beryllium	313.11		6	2.0	P
Cadmium	226.50		6	2.0	P
Calcium	227.55		800	76.0	P
Chromium	267.72		20	3.0	P
Cobalt	228.62		50	3.0	P
Copper	324.75		30	2.0	P
Iron	273.96		200	35.0	P
Lead	220.35		10	1.0	P
Magnesium	279.08		500	23.0	P
Manganese	257.61		50	2.0	P
Mercury			0.2		NR
Nickel	231.60		50	0.5	P
Potassium			1000		NR
Selenium	196.03		30	8.0	P
Silver	328.07		30	2.0	P
Sodium			1000		NR
Thallium	190.80		20	4.0	P
Vanadium	292.40		50	3.0	P
Zinc	206.20		50	8.0	P
Cyanide			20		NR

Comments:

U.S. EPA - CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

ICP ID Number: OPTIMA_1A Date: 02/01/02

Flame AA ID Number: _____

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.21		200	12.0	P
Antimony	206.83		20	3.0	P
Arsenic	188.98		20	3.0	P
Barium	233.53		200	3.0	P
Beryllium	313.11		6	2.0	P
Cadmium	226.50		6	2.0	P
Calcium			800		NR
Chromium	267.72		20	3.0	P
Cobalt	228.62		50	3.0	P
Copper	324.75		30	2.0	P
Iron	273.96		200	35.0	P
Lead	220.35		10	1.0	P
Magnesium	279.08		500	23.0	P
Manganese	257.61		50	2.0	P
Mercury			0.2		NR
Nickel	231.60		50	0.5	P
Potassium	766.49		1000	89.0	P
Selenium			30		NR
Silver			30		NR
Sodium	589.59		1000	118.0	P
Thallium			20		NR
Vanadium			50		NR
Zinc			50		NR
Cyanide			20		NR

Comments:

10
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

ICP ID Number: _____ Date: 02/01/02___

Flame AA ID Number: COMM_FIMS___

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			20		NR
Arsenic			20		NR
Barium			200		NR
Beryllium			6		NR
Cadmium			6		NR
Calcium			800		NR
Chromium			20		NR
Cobalt			50		NR
Copper			30		NR
Iron			200		NR
Lead			10		NR
Magnesium			500		NR
Manganese			50		NR
Mercury	253.70		0.2	0.1	CV
Nickel			50		NR
Potassium			1000		NR
Selenium			30		NR
Silver			30		NR
Sodium			1000		NR
Thallium			20		NR
Vanadium			50		NR
Zinc			50		NR
Cyanide			20		NR

Comments:

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11A

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_1A Date: 06/04/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	CR
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000135	0.0000038	0.0000521	-0.0000045	0.0034519
Arsenic	188.98	0.0000243	-0.0000023	-0.0000559	0.0000019	-0.0035919
Barium	233.53	0.0000000	0.0000025	-0.0000199	0.0000022	0.0000648
Beryllium	313.11	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	-0.0000059	0.0000000	0.0000554	0.0000000	0.0000000
Calcium						
Chromium	267.72	0.0000000	0.0000000	-0.0000102	-0.0000042	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.0000273	0.0000000	-0.0001458
Copper	324.75	0.0000040	0.0000000	-0.0001164	0.0000000	-0.0000630
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0005094	0.0000000	0.0000225	0.0000024	-0.0000951
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	-0.0000186	0.0000152	-0.0000819
Mercury						
Nickel	231.60	0.0000076	0.0000020	-0.0004903	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium						
Silver						
Sodium	589.59	0.0000000	-0.0009289	-0.0032485	-0.0006351	0.0054687
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11A

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_2A Date: 05/08/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	AS
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	-0.0000034	-0.0000316	0.0003760	0.0000273	-0.0002236
Arsenic	188.98	0.0000170	0.0000000	-0.0010476	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000291	0.0004462	0.0000000	0.0000000
Beryllium	313.11	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0004203	0.0000000	0.0000000
Calcium	227.55	-0.0004572	0.0000000	0.0866899	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	-0.0001255	0.0000000	0.0000000
Cobalt	228.62	-0.0000029	0.0000000	0.0001335	0.0000000	0.0000000
Copper	324.75	0.0000081	0.0000283	-0.0014020	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.0000778	-0.0000820	0.0001989	0.0000220	0.0000000
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	-0.0000082	0.0000000	-0.0005196	0.0001687	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium						
Selenium	196.03	0.0000156	0.0000000	-0.0028380	-0.0000401	0.0000000
Silver	328.07	0.0000000	0.0002155	-0.0023821	0.0000000	0.0000000
Sodium						
Thallium	190.80	0.0000416	0.0000350	-0.0002012	-0.0000956	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000830	0.0000000	0.0000000
Zinc	206.20	-0.0000032	-0.0000397	-0.0001879	0.0006536	0.0000000

Comments:

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11A

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

ICP ID Number: OPTIMA_2A Date: 05/08/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	CR
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	188.98	0.0000170	0.0000000	-0.0010476	0.0000000	-0.0966949
Barium	233.53	0.0000000	0.0000291	0.0004462	0.0000000	0.0004554
Beryllium	313.11	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	0.0000000	0.0000000	0.0004203	0.0000000	0.0000000
Calcium	227.55	-0.0004572	0.0000000	0.0866899	0.0000000	0.0563810
Chromium	267.72	0.0000000	0.0000000	-0.0001255	0.0000000	0.0000000
Cobalt	228.62	-0.0000029	0.0000000	0.0001335	0.0000000	-0.0013519
Copper	324.75	0.0000081	0.0000283	-0.0014020	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.0000778	-0.0000820	0.0001989	0.0000220	-0.0004088
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	-0.0000082	0.0000000	-0.0005196	0.0001687	-0.0014682
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium						
Selenium	196.03	0.0000156	0.0000000	-0.0028380	-0.0000401	-0.0006459
Silver	328.07	0.0000000	0.0002155	-0.0023821	0.0000000	0.0002076
Sodium						
Thallium	190.80	0.0000416	0.0000350	-0.0002012	-0.0000956	0.0023091
Vanadium	292.40	0.0000000	0.0000000	0.0000830	0.0000000	-0.0206993
Zinc	206.20	-0.0000032	-0.0000397	-0.0001879	0.0006536	-0.0163199

Comments:

U.S. EPA - CLP

11B

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_1A Date: 06/04/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : CU	MN	NI	TI	TL
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	-0.0000322	0.0001669	0.0000000	-0.0003275	0.0000514
Arsenic	188.98	0.0000221	0.0001084	0.0000220	0.0015338	0.0000000
Barium	233.53	0.0000000	0.0001565	0.0000000	0.0000000	0.0000000
Beryllium	313.11	0.0000000	0.0000000	0.0000000	-0.0012987	0.0000000
Cadmium	226.50	0.0000000	0.0000000	-0.0004310	0.0000000	0.0000000
Calcium						
Chromium	267.72	0.0000229	0.0000856	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0001893	0.0013141	0.0000000
Copper	324.75	0.0000000	0.0004389	0.0002380	0.0010343	0.0001845
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.0001374	0.0001494	-0.0000197	0.0002327	0.0000000
Magnesium	279.08	0.0000000	-0.0027817	0.0000000	0.0000000	0.0000000
Manganese	257.61	-0.0000389	0.0000000	0.0000000	0.0000000	-0.0000556
Mercury						
Nickel	231.60	0.0000000	0.0002592	0.0000000	0.0009038	0.0005405
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium						
Silver						
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0261074	-0.0084032
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11A

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

ICP ID Number: OPTIMA_1A Date: 06/04/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	CR
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000135	0.0000038	0.0000521	-0.0000045	0.0034519
Arsenic	188.98	0.0000243	-0.0000023	-0.0000559	0.0000019	-0.0035919
Barium	233.53	0.0000000	0.0000025	-0.0000199	0.0000022	0.0000648
Beryllium	313.11	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.50	-0.0000059	0.0000000	0.0000554	0.0000000	0.0000000
Calcium						
Chromium	267.72	0.0000000	0.0000000	-0.0000102	-0.0000042	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.0000273	0.0000000	-0.0001458
Copper	324.75	0.0000040	0.0000000	-0.0001164	0.0000000	-0.0000630
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0005094	0.0000000	0.0000225	0.0000024	-0.0000951
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	-0.0000186	0.0000152	-0.0000819
Mercury						
Nickel	231.60	0.0000076	0.0000020	-0.0004903	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium						
Silver						
Sodium	589.59	0.0000000	-0.0009289	-0.0032485	-0.0006351	0.0054687
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11B

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_1A Date: 06/04/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : V				
Aluminum	308.21	0.0000000				
Antimony	206.83	-0.0015072				
Arsenic	188.98	0.0000558				
Barium	233.53	-0.0014090				
Beryllium	313.11	0.0000000				
Cadmium	226.50	0.0000000				
Calcium						
Chromium	267.72	-0.0001214				
Cobalt	228.62	0.0000000				
Copper	324.75	0.0000000				
Iron	273.96	0.0064408				
Lead	220.35	-0.0001705				
Magnesium	279.08	0.0000000				
Manganese	257.61	-0.0000442				
Mercury						
Nickel	231.60	0.0000468				
Potassium	766.49	0.0000000				
Selenium						
Silver						
Sodium	589.59	0.0154548				
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

11B

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_2A Date: 05/08/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : CR	CU	MN	NI	TI
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0093652	0.0004552	0.0013682	-0.0001954	-0.0074396
Arsenic	188.98	-0.0966949	0.0000000	0.0007572	0.0000000	-0.0042750
Barium	233.53	0.0004554	0.0000000	0.0007443	-0.0011126	0.0000000
Beryllium	313.11	0.0000000	0.0000000	0.0000000	0.0000000	-0.0103101
Cadmium	226.50	0.0000000	0.0000000	0.0000000	-0.0022742	0.0000000
Calcium	227.55	0.0563810	0.1520070	0.0000000	0.1590650	0.0000000
Chromium	267.72	0.0000000	0.0002839	0.0018905	0.0000000	0.0000000
Cobalt	228.62	-0.0013519	0.0000000	0.0000000	0.0018545	0.0138986
Copper	324.75	0.0000000	0.0000000	0.0124565	0.0018525	0.0083539
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.0004088	-0.0002076	0.0016126	-0.0029336	-0.0058528
Magnesium	279.08	0.0000000	0.0000000	-0.0513180	0.0000000	0.0000000
Manganese	257.61	-0.0014682	0.0003732	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0000000	0.0008908	0.0000000	0.0028847
Potassium						
Selenium	196.03	-0.0006459	0.0002297	0.0082140	0.0006306	0.0016016
Silver	328.07	0.0002076	0.0005243	0.0000000	0.0000000	0.0000000
Sodium						
Thallium	190.80	0.0023091	0.0000000	-0.0427067	0.0000000	-0.0159770
Vanadium	292.40	-0.0206993	0.0000000	-0.0006762	0.0000000	0.0056904
Zinc	206.20	-0.0163199	0.0000000	0.0017978	-0.0005897	0.0094826

Comments:

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ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_2A Date: 05/08/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : TL	V			
Aluminum	308.21	0.0000000	0.0000000			
Antimony	206.83	0.0008753	-0.0189173			
Arsenic	188.98	0.0000000	0.0007689			
Barium	233.53	0.0000000	-0.0231888			
Beryllium	313.11	0.0000000	0.0000000			
Cadmium	226.50	0.0000000	0.0000000			
Calcium	227.55	0.0000000	0.2915730			
Chromium	267.72	0.0000000	-0.0022175			
Cobalt	228.62	0.0000000	0.0002444			
Copper	324.75	0.0024871	0.0000000			
Iron	273.96	0.0000000	0.0000000			
Lead	220.35	0.0000000	-0.0003234			
Magnesium	279.08	0.0000000	0.0000000			
Manganese	257.61	0.0000000	0.0002729			
Mercury						
Nickel	231.60	0.0010379	0.0002315			
Potassium						
Selenium	196.03	0.0008558	0.0020383			
Silver	328.07	0.0000000	-0.0047937			
Sodium						
Thallium	190.80	0.0000000	0.0256151			
Vanadium	292.40	0.0000000	0.0000000			
Zinc	206.20	-0.0013734	0.0003146			

Comments:

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ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

ICP ID Number: OPTIMA_1A Date: 06/04/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : CU	MN	NI	TI	TL
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	-0.0000322	0.0001669	0.0000000	-0.0003275	0.0000514
Arsenic	188.98	0.0000221	0.0001084	0.0000220	0.0015338	0.0000000
Barium	233.53	0.0000000	0.0001565	0.0000000	0.0000000	0.0000000
Beryllium	313.11	0.0000000	0.0000000	0.0000000	-0.0012987	0.0000000
Cadmium	226.50	0.0000000	0.0000000	-0.0004310	0.0000000	0.0000000
Calcium						
Chromium	267.72	0.0000229	0.0000856	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0001893	0.0013141	0.0000000
Copper	324.75	0.0000000	0.0004389	0.0002380	0.0010343	0.0001845
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.0001374	0.0001494	-0.0000197	0.0002327	0.0000000
Magnesium	279.08	0.0000000	-0.0027817	0.0000000	0.0000000	0.0000000
Manganese	257.61	-0.0000389	0.0000000	0.0000000	0.0000000	-0.0000556
Mercury						
Nickel	231.60	0.0000000	0.0002592	0.0000000	0.0009038	0.0005405
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium						
Silver						
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0261074	-0.0084032
Thallium						
Vanadium						
Zinc						

Comments:

U.S. EPA - CLP

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ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

ICP ID Number: OPTIMA_1A____ Date: 06/04/02___

Analyte	Wave-length (nm)	Interelement Correction Factors for : V_	__	__	__	__
Aluminum	308.21	0.0000000				
Antimony	206.83	-0.0015072				
Arsenic	188.98	0.0000558				
Barium	233.53	-0.0014090				
Beryllium	313.11	0.0000000				
Cadmium	226.50	0.0000000				
Calcium						
Chromium	267.72	-0.0001214				
Cobalt	228.62	0.0000000				
Copper	324.75	0.0000000				
Iron	273.96	0.0064408				
Lead	220.35	-0.0001705				
Magnesium	279.08	0.0000000				
Manganese	257.61	-0.0000442				
Mercury						
Nickel	231.60	0.0000468				
Potassium	766.49	0.0000000				
Selenium						
Silver						
Sodium	589.59	0.0154548				
Thallium						
Vanadium						
Zinc						

Comments:

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ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

ICP ID Number: OPTIMA_2A Date: 05/08/02

Analyte	Wave-length (nm)	Interelement Correction Factors for : CU	MN	NI	TI	TL
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.83	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0007572	0.0000000	-0.0042750	0.0000000
Barium	233.53	0.0000000	0.0007443	-0.0011126	0.0000000	0.0000000
Beryllium	313.11	0.0000000	0.0000000	0.0000000	-0.0103101	0.0000000
Cadmium	226.50	0.0000000	0.0000000	-0.0022742	0.0000000	0.0000000
Calcium	227.55	0.1520070	0.0000000	0.1590650	0.0000000	0.0000000
Chromium	267.72	0.0002839	0.0018905	0.0000000	0.0000000	0.0000000
Cobalt	228.62	0.0000000	0.0000000	0.0018545	0.0138986	0.0000000
Copper	324.75	0.0000000	0.0124565	0.0018525	0.0083539	0.0024871
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.0002076	0.0016126	-0.0029336	-0.0058528	0.0000000
Magnesium	279.08	0.0000000	-0.0513180	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0003732	0.0000000	0.0000000	0.0000000	0.0000000
Mercury						
Nickel	231.60	0.0000000	0.0008908	0.0000000	0.0028847	0.0010379
Potassium						
Selenium	196.03	0.0002297	0.0082140	0.0006306	0.0016016	0.0008558
Silver	328.07	0.0005243	0.0000000	0.0000000	0.0000000	0.0000000
Sodium						
Thallium	190.80	0.0000000	-0.0427067	0.0000000	-0.0159770	0.0000000
Vanadium	292.40	0.0000000	-0.0006762	0.0000000	0.0056904	0.0000000
Zinc	206.20	0.0000000	0.0017978	-0.0005897	0.0094826	-0.0013734

Comments:

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ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244

ICP ID Number: OPTIMA_2A____ Date: 05/08/02___

Analyte	Wave-length (nm)	Interelement Correction Factors for : V_	___	___	___	___
Aluminum	308.21	0.0000000				
Antimony	206.83	0.0000000				
Arsenic	188.98	0.0007689				
Barium	233.53	-0.0231888				
Beryllium	313.11	0.0000000				
Cadmium	226.50	0.0000000				
Calcium	227.55	0.2915730				
Chromium	267.72	-0.0022175				
Cobalt	228.62	0.0002444				
Copper	324.75	0.0000000				
Iron	273.96	0.0000000				
Lead	220.35	-0.0003234				
Magnesium	279.08	0.0000000				
Manganese	257.61	0.0002729				
Mercury						
Nickel	231.60	0.0002315				
Potassium						
Selenium	196.03	0.0020383				
Silver	328.07	-0.0047937				
Sodium						
Thallium	190.80	0.0256151				
Vanadium	292.40	0.0000000				
Zinc	206.20	0.0003146				

Comments:

12
ICP LINEAR RANGES (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_2A Date: 07/01/02

Analyte	Integ. Time (sec.)	Concentration (ug/L)	M
Aluminum	0.20	500000	P
Antimony	0.20	25000	P
Arsenic	0.20	25000	P
Barium	0.20	50000	P
Beryllium	0.20	1000	P
Cadmium	0.20	10000	P
Calcium	0.50	500000	P
Chromium	0.20	50000	P
Cobalt	0.20	50000	P
Copper	0.20	25000	P
Iron	0.20	300000	P
Lead	0.20	100000	P
Magnesium	0.20	500000	P
Manganese	0.20	25000	P
Mercury			NR
Nickel	0.20	100000	P
Potassium			NR
Selenium	0.20	25000	P
Silver	0.20	2500	P
Sodium			NR
Thallium	0.20	25000	P
Vanadium	0.20	50000	P
Zinc	0.20	25000	P

Comments:

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12
ICP LINEAR RANGES (QUARTERLY)

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

ICP ID Number: OPTIMA_1A Date: 07/01/02

Analyte	Integ. Time (sec.)	Concentration (ug/L)	M
Aluminum			NR
Antimony			NR
Arsenic			NR
Barium			NR
Beryllium			NR
Cadmium			NR
Calcium			NR
Chromium			NR
Cobalt			NR
Copper			NR
Iron			NR
Lead			NR
Magnesium			NR
Manganese			NR
Mercury			NR
Nickel			NR
Potassium	0.20	500000	P
Selenium			NR
Silver			NR
Sodium	0.20	500000	P
Thallium			NR
Vanadium			NR
Zinc			NR

Comments:

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13
PREPARATION LOG

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Method: P

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSW	08/19/02		50
OFF-GW-MW3S	08/19/02		50
OFF-GW-MW4S	08/19/02		50
OFF-GW-MW4SD	08/19/02		50
OFF-GW-MW4SS	08/19/02		50
OFF-GW-RB01	08/19/02		50
PBW	08/19/02		50

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PREPARATION LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM__ Case No.: _____ SAS No.: _____ SDG No.: A1231____

Method: CV_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSW	08/19/02		100
OFF-GW-MW3S	08/19/02		144
OFF-GW-MW4S	08/19/02		136
OFF-GW-MW4SD	08/19/02		146
OFF-GW-MW4SS	08/19/02		144
OFF-GW-RB01	08/19/02		148
PBW	08/19/02		138

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13
PREPARATION LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM_ Case No.: _____ SAS No.: _____ SDG No.: A1244____

Method: P___

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
GWDP01	08/22/02		50
GWDP02	08/22/02		50
GWMW101	08/22/02		50
GWMW102	08/22/02		50
GWMW105	08/22/02		50
GWMW115	08/22/02		50
GWMW115D	08/22/02		50
GWMW115S	08/22/02		50
GWMW11R	08/22/02		50
GWMW1R	08/22/02		50
GWMW2D	08/22/02		50
GWMW25	08/22/02		50
LCSW	08/22/02		50
OFF-GW-MW5S	08/22/02		50
OFF-GW-MW6R	08/22/02		50
OFF-GW-MW8R	08/22/02		50
OFF-GW-MW9R	08/22/02		50
PBW	08/22/02		50

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PREPARATION LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM_ Case No.: _____ SAS No.: _____ SDG No.: A1244____

Method: CV_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
GWDP01	08/26/02		146
GWDP02	08/26/02		142
GWMW101	08/26/02		134
GWMW102	08/26/02		146
GWMW105	08/26/02		138
GWMW115	08/26/02		140
GWMW11R	08/26/02		140
GWMW1R	08/26/02		132
GWMW2D	08/26/02		136
GWMW25	08/26/02		148
LCSW	08/26/02		100
OFF-GW-MW5S	08/26/02		144
OFF-GW-MW6R	08/26/02		134
OFF-GW-MW8R	08/26/02		136
OFF-GW-MW8RD	08/26/02		134
OFF-GW-MW8RS	08/26/02		132
OFF-GW-MW9R	08/26/02		140
PBW	08/26/02		100

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231 _

Instrument ID Number: OPTIMA_1A_____ Method: P _

Start Date: 08/20/02___ End Date: 08/20/02 __

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1241																					X				
S1	1.00	1244																					X				
S2	1.00	1246																					X				
S3	1.00	1248																					X				
ZZZZZZ	1.00	1250																									
ZZZZZZ	1.00	1254																									
ICV	1.00	1256																					X				
ICB	1.00	1259																					X				
ICSA	1.00	1301																									
ICSAB	1.00	1303																					X				
PBW	1.00	1306																					X				
LCSW	1.00	1308																					X				
OFF-GW-MW4S	1.00	1310																					X				
OFF-GW-MW4SD	1.00	1313																					X				
OFF-GW-MW4SL	1.00	1315																					X				
CCV	1.00	1317																					X				
CCB	1.00	1320																					X				
OFF-GW-RB01	1.00	1322																					X				
ZZZZZZ	1.00	1324																									
OFF-GW-MW3S	2.00	1326																					X				
ICSA	1.00	1336																									
ICSAB	1.00	1338																					X				
CCV	1.00	1341																					X				
CCB	1.00	1343																					X				

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID Number: OPTIMA_1A Method: P

Start Date: 08/20/02 End Date: 08/20/02

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1348																		X							
S1	1.00	1351																		X							
S2	1.00	1353																		X							
S3	1.00	1355																		X							
ZZZZZZ	1.00	1357																									
ICV	1.00	1400																		X							
ICB	1.00	1402																		X							
ICSA	1.00	1404																									
ICSAB	1.00	1407																		X							
PBW	1.00	1409																		X							
LCSW	1.00	1411																		X							
OFF-GW-MW4S	1.00	1414																		X							
OFF-GW-MW4SD	1.00	1416																		X							
OFF-GW-MW4SL	1.00	1418																		X							
CCV	1.00	1421																		X							
CCB	1.00	1423																		X							
OFF-GW-RB01	1.00	1425																		X							
OFF-GW-MW3S	1.00	1427																		X							
ICSA	1.00	1430																									
ICSAB	1.00	1432																		X							
CCV	1.00	1434																		X							
CCB	1.00	1437																		X							

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID Number: OPTIMA_2A Method: P

Start Date: 08/21/02 End Date: 08/21/02

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
OFF-GW-MW4SS	1.00	1556		X	X	X	X	X	X		X	X	X	X	X		X		X		X	X		X	X	X	
OFF-GW-MW4SL	1.00	1558		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1602																									
OFF-GW-RB01	1.00	1605		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
OFF-GW-MW3S	1.00	1609		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ICSA	1.00	1613		X						X				X		X											
ICSAB	1.00	1616		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCV	1.00	1618		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1621		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1231__

Instrument ID Number: OPTIMA_2A_____ Method: P___

Start Date: 08/21/02___ End Date: 08/21/02___

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1402		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
S1	1.00	1406		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
S2	1.00	1409		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
S3	1.00	1411		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1415																									
ICV	1.00	1418		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ICB	1.00	1420		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ICSA	1.00	1425		X						X				X		X											
ICSAB	1.00	1427		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1430																									
ZZZZZZ	1.00	1434																									
ZZZZZZ	1.00	1436																									
PBW	1.00	1441		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
LCSW	1.00	1445		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1447																									
ZZZZZZ	1.00	1451																									
CCV	1.00	1456		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1458		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1502																									
ZZZZZZ	1.00	1507																									
ZZZZZZ	1.00	1511																									
ZZZZZZ	1.00	1515																									
ZZZZZZ	1.00	1519																									
ZZZZZZ	1.00	1523																									
ZZZZZZ	1.00	1527																									
ZZZZZZ	1.00	1531																									
ICSA	1.00	1535		X						X				X		X											
ICSAB	1.00	1538		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCV	1.00	1541		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1543		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
OFF-GW-MW4S	1.00	1547		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
OFF-GW-MW4SD	1.00	1551		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1231

Instrument ID Number: COMM_FIMS Method: CV

Start Date: 08/21/02 End Date: 08/21/02

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1248																X									
S0.2	1.00	1249																X									
S1	1.00	1250																X									
S2	1.00	1252																X									
S5	1.00	1253																X									
S10	1.00	1254																X									
ICV	1.00	1256																X									
ICB	1.00	1257																X									
ZZZZZZ	1.00	1258																									
ZZZZZZ	1.00	1300																									
ZZZZZZ	1.00	1301																									
PBW	1.00	1302																X									
LCSW	1.00	1304																X									
ZZZZZZ	1.00	1305																									
OFF-GW-MW4S	1.00	1306																X									
OFF-GW-MW4SD	1.00	1308																X									
CCV	1.00	1309																X									
CCB	1.00	1310																X									
OFF-GW-MW4SS	1.00	1312																X									
OFF-GW-RB01	1.00	1313																X									
OFF-GW-MW3S	1.00	1314																X									
ZZZZZZ	1.00	1316																									
ZZZZZZ	1.00	1317																									
CCV	1.00	1318																X									
CCB	1.00	1320																X									

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_2A_____ Method: P__

Start Date: 08/23/02___ End Date: 08/23/02___

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1058		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
S1	1.00	1102		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
S2	1.00	1104		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
S3	1.00	1107		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1111																									
ZZZZZZ	1.00	1114																									
ZZZZZZ	1.00	1117																									
ZZZZZZ	1.00	1119																									
ZZZZZZ	1.00	1123																									
ICV	1.00	1127		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ICB	1.00	1130		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1134																									
ZZZZZZ	1.00	1137																									
ZZZZZZ	1.00	1139																									
ZZZZZZ	1.00	1143																									
ZZZZZZ	1.00	1146																									
ZZZZZZ	1.00	1150																									
ZZZZZZ	1.00	1154																									
ZZZZZZ	1.00	1158																									
CCV	1.00	1214		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1217		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ICSA	1.00	1223		X						X				X		X											
ICSAB	1.00	1226		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
PBW	1.00	1229		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
LCSW	1.00	1233		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1235																									
ZZZZZZ	1.00	1239																									
ZZZZZZ	1.00	1244																									
ZZZZZZ	1.00	1248																									
CCV	1.00	1252		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1254		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1258																									

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_2A_____ Method: P__

Start Date: 08/23/02___ End Date: 08/23/02___

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1303																									
ZZZZZZ	1.00	1305																									
ZZZZZZ	1.00	1309																									
ZZZZZZ	1.00	1313																									
ZZZZZZ	1.00	1317																									
ZZZZZZ	1.00	1321																									
ZZZZZZ	1.00	1324																									
CCV	1.00	1327		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1329		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1333																									
ZZZZZZ	1.00	1337																									
ZZZZZZ	1.00	1341																									
ZZZZZZ	1.00	1345																									
ZZZZZZ	1.00	1349																									
ZZZZZZ	1.00	1352																									
ZZZZZZ	1.00	1354																									
ZZZZZZ	1.00	1358																									
CCV	1.00	1403		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1405		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW115	1.00	1409		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW115D	1.00	1414		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW115S	1.00	1418		X	X	X	X	X	X		X	X	X	X	X		X		X		X	X		X	X	X	
GWMW115L	1.00	1421		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW115A	1.00	1425							X						X						X			X			
GWMW101	1.00	1427		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ZZZZZZ	1.00	1431																									
ZZZZZZ	1.00	1434																									
CCV	1.00	1437		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1439		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWDP01	1.00	1443		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW11R	1.00	1447		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW2D	1.00	1451		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_2A_____ Method: P___

Start Date: 08/23/02___ End Date: 08/23/02___

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
GWMW102	1.00	1455		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWDP02	1.00	1500		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW25	1.00	1504		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW1R	1.00	1508		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCV	1.00	1512		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1514		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
GWMW105	1.00	1519		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
OFF-GW-MW5S	1.00	1523		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
OFF-GW-MW6R	1.00	1527		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
OFF-GW-MW9R	1.00	1531		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
OFF-GW-MW8R	1.00	1535		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
ICSA	1.00	1539		X						X				X		X											
ICSAB	1.00	1542		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCV	1.00	1545		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	
CCB	1.00	1547		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X		X	X	X	

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_1A_____ Method: P___

Start Date: 08/24/02___ End Date: 08/24/02___

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0843																		X							
S1	1.00	0845																		X							
S2	1.00	0847																		X							
S3	1.00	0849																		X							
ZZZZZZ	1.00	0852																									
ZZZZZZ	1.00	0854																									
ZZZZZZ	1.00	0855																									
ICV	1.00	0859																		X							
ICB	1.00	0901																		X							
ICSA	1.00	0903																									
ICSAB	1.00	0905																		X							
ZZZZZZ	1.00	0908																									
ZZZZZZ	1.00	0910																									
ZZZZZZ	1.00	0912																									
ZZZZZZ	1.00	0915																									
ZZZZZZ	1.00	0917																									
CCV	1.00	0919																		X							
CCB	1.00	0922																		X							
ZZZZZZ	1.00	0924																									
ZZZZZZ	1.00	0926																									
ZZZZZZ	1.00	0929																									
ZZZZZZ	1.00	0931																									
ZZZZZZ	1.00	0933																									
ZZZZZZ	1.00	0936																									
ZZZZZZ	1.00	0938																									
CCV	1.00	0940																		X							
CCB	1.00	0942																		X							
PBW	1.00	0945																		X							
LCSW	1.00	0947																		X							
ZZZZZZ	1.00	0949																									
ZZZZZZ	1.00	0950																									
ZZZZZZ	1.00	0953																									

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ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_1A_____ Method: P___

Start Date: 08/24/02___ End Date: 08/24/02___

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
GWMW101	1.00	0956																		X							
GWDP01	1.00	0959																		X							
ZZZZZZ	1.00	1001																									
ZZZZZZ	1.00	1002																									
GWMW11R	1.00	1005																		X							
CCV	1.00	1015																		X							
CCB	1.00	1017																		X							
GWMW2D	1.00	1019																		X							
GWMW102	1.00	1021																		X							
GWDP02	1.00	1024																		X							
ZZZZZZ	1.00	1026																									
GWMW1R	1.00	1028																		X							
ZZZZZZ	1.00	1031																									
CCV	1.00	1044																		X							
CCB	1.00	1047																		X							
OFF-GW-MW5S	1.00	1049																		X							
OFF-GW-MW6R	1.00	1051																		X							
OFF-GW-MW9R	1.00	1054																		X							
OFF-GW-MW8R	1.00	1056																		X							
ZZZZZZ	1.00	1058																									
ZZZZZZ	1.00	1059																									
CCV	1.00	1103																		X							
CCB	1.00	1105																		X							
ZZZZZZ	1.00	1110																									
GWMW115	2.00	1115																		X							
GWMW115D	2.00	1117																		X							
GWMW115L	2.00	1119																		X							
GWMW25	5.00	1122																		X							
GWMW105	5.00	1124																		X							
ICSA	1.00	1126																									
ICSAB	1.00	1129																		X							
CCV	1.00	1131																		X							

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14
ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_1A_____ Method: P___

Start Date: 08/24/02___ End Date: 08/24/02___

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCB	1.00	1133																		X							

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14
ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_1A_____ Method: P__

Start Date: 08/24/02___ End Date: 08/24/02___

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1229																					X				
S1	1.00	1232																					X				
S2	1.00	1234																					X				
S3	1.00	1236																					X				
ZZZZZZ	1.00	1239																									
ZZZZZZ	1.00	1241																									
ZZZZZZ	1.00	1243																									
ICV	1.00	1246																					X				
ICB	1.00	1248																					X				
ICSA	1.00	1250																									
ICSAB	1.00	1253																					X				
ZZZZZZ	1.00	1255																									
ZZZZZZ	1.00	1257																									
ZZZZZZ	1.00	1259																									
ZZZZZZ	1.00	1302																									
ZZZZZZ	1.00	1304																									
CCV	1.00	1306																					X				
CCB	1.00	1309																					X				
ZZZZZZ	1.00	1311																									
ZZZZZZ	1.00	1314																									
ZZZZZZ	1.00	1316																									
ZZZZZZ	1.00	1318																									
ZZZZZZ	1.00	1320																									
ZZZZZZ	1.00	1322																									
ZZZZZZ	1.00	1329																									
ZZZZZZ	1.00	1331																									
CCV	1.00	1334																					X				
CCB	1.00	1336																					X				
PBW	1.00	1338																					X				
LCSW	1.00	1341																					X				
GWMW115	50.00	1343																					X				
GWMW115D	50.00	1345																					X				

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: OPTIMA_1A_____ Method: P___

Start Date: 08/24/02___ End Date: 08/24/02___

EPA Sample No.	D/F	Time	% R	Analytes																						
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
GWMW115L	50.00	1348																					X				
GWMW101	1.00	1350																					X				
GWDP01	1.00	1352																					X				
ZZZZZZ	1.00	1353																									
CCV	1.00	1551																					X				
CCB	1.00	1554																					X				
GWMW11R	10.00	1557																					X				
GWMW2D	2.00	1559																					X				
GWMW102	10.00	1601																					X				
GWDP02	10.00	1604																					X				
GWMW25	50.00	1606																					X				
GWMW1R	1.00	1608																					X				
GWMW105	50.00	1611																					X				
CCV	1.00	1613																					X				
CCB	1.00	1615																					X				
OFF-GW-MW5S	1.00	1617																					X				
OFF-GW-MW6R	1.00	1620																					X				
OFF-GW-MW9R	1.00	1622																					X				
OFF-GW-MW8R	1.00	1624																					X				
ICSA	1.00	1627																									
ICSAB	1.00	1629																					X				
CCV	1.00	1631																					X				
CCB	1.00	1634																					X				

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: COMM_FIMS_____ Method: CV_

Start Date: 08/26/02___ End Date: 08/26/02___

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
_CCV_____	_____1.00_____	1709__																X									
_CCB_____	_____1.00_____	1710__																X									

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U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: MITKEM_CORPORATION_____ Contract: _____

Lab Code: MITKEM Case No.: _____ SAS No.: _____ SDG No.: A1244__

Instrument ID Number: COMM_FIMS_____ Method: CV_

Start Date: 08/26/02___ End Date: 08/26/02___

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1626																X									
S0.2	1.00	1628																X									
S1	1.00	1629																X									
S2	1.00	1630																X									
S5	1.00	1632																X									
S10	1.00	1633																X									
ICV	1.00	1634																X									
ICB	1.00	1636																X									
PBW	1.00	1637																X									
LCSW	1.00	1638																X									
GWMW115	1.00	1640																X									
GWMW101	1.00	1641																X									
GWDP01	1.00	1642																X									
GWMW11R	1.00	1644																X									
GWMW2D	1.00	1645																X									
GWMW102	1.00	1646																X									
CCV	1.00	1648																X									
CCB	1.00	1649																X									
GWDP02	1.00	1650																X									
GWMW25	1.00	1652																X									
GWMW1R	1.00	1653																X									
GWMW105	1.00	1654																X									
OFF-GW-MW5S	1.00	1656																X									
OFF-GW-MW6R	1.00	1657																X									
OFF-GW-MW9R	1.00	1658																X									
OFF-GW-MW8R	1.00	1700																X									
CCV	1.00	1701																X									
CCB	1.00	1702																X									
OFF-GW-MW8RD	1.00	1704																X									
OFF-GW-MW8RS	1.00	1705																X									
ZZZZZZ	1.00	1706																									
ZZZZZZ	1.00	1708																									

Last Page of Data Report

MITKEM CORPORATION

"Environmental Testing For The New Millennium"

August 1, 2002

Tetra Tech NUS, Inc.
55 Jonspin Road
Wilmington, MA 01887
Attn: Mr. Steve Parker

RECEIVED
AUG - 5 2002
TETRA TECH NUS, INC.
WILMINGTON, MA 01887-1020

RE: Client Project: CTO 833 Newport
Mitkem Lab Project # A1031

Dear Mr. Parker:

Enclosed please find the data report of the required analyses for the samples associated with the above referenced project.

If you have any questions regarding this report, please call me.

We appreciate your business

Sincerely,

Kin Chin for EAL

Edward A. Lawler
Laboratory Operations Manager

175 Metro Center Boulevard • Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499 • www.mitkem.com

MITKEM CORPORATION

Client: Tetra Tech NUS, Inc.

Client Project: CTO 833 Newport

Lab Project: A1031

Date samples received: 7/3/02

Project Narrative

This data report includes the analysis results for one (1) aqueous and thirteen (13) soil samples that were received from Tetra Tech NUS, Inc. on July 3, 2002. Analyses were performed per specification in the Chain of Custody form. For reference, a copy of the Mitkem Sample Log-In form is included for cross-referencing the client sample ID and laboratory sample ID.

The aqueous sample and its associated QC samples were prepared as full scan analyses. The extracts were analyzed using the selected ion monitoring (SIMS) approach. As such, the LCS compounds were spiked at high concentrations that exceeded the instrument calibration range and qualified with 'E' flag in Form 1. All of the soil samples were prepared and analyzed using the SIMS approach. PAHs were determined at high concentrations in two of the sample extracts (SD4710006 and SD475006). The two extracts were re-analyzed at dilution using the full scan approach. Due to the high concentration of PAH, one of the surrogates was recovered high in the SIMS analysis for SD475006. The recoveries were all within the QC limits when the extract was re-analyzed at dilution.

For the soil samples, carbazole was not recovered in the LCS. The compound was also poorly recovered in the duplicate matrix spikes for SD476006. Two other compounds were recovered out of the QC limits in the matrix spike duplicate due to the relatively high PAH concentration in the native sample (versus the spiked amount).

All of the analyses were performed according to method specifications. No other unusual occurrences were noted during sample analysis.

The pages in this report have been numbered consecutively, starting from this narrative and ending with a page saying only "Last Page of Data Report".

MITKEM CORPORATION

This data report has been reviewed and is authorized for release as evidenced by the signature below.

Kin Chui for EAL

Edward A. Lawler
Laboratory Operations Manager

Sample Transmittal Documentation

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Project No. 4152-0511

Laboratory Name: Mitkem Corp.

Container Type: 4 oz

Sampler Signatures: Christ Machey

Date Shipped: 7-3-02

Carrier: Delivered by Sampler

Airbill No.

No. of Coolers: 1

Analysis: PAH's, SW-846 8270C SIM

A103

	Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative: Ice
01	OFF-SD-474-1824	SD	7-3/10:15				1
02	OFF-SD-476-0006	SD	7-2/11:45			MS/MSD	1
03	OFF-SD-DUP1-0006	SD	7-2/11:35				1
04	OFF-SD-475-0006	SD	7-2/13:15				1
05	OFF-SD-472-0006	SD	7-2/12:55				1
06	OFF-SD-470-0006	SD	7-2/12:50				1
07	OFF-SD-410-1824	SD	7-2/11:40				1
08	OFF-SD-473-0006	SD	7-2/13:25				1
09	OFF-SD-410-0006	SD	7-2/11:30			Dup	1
10	OFF-SD-474-0006	SD	7-2/13:05				1
11	OFF-SD-471-0006	SD	7-2/13:00				1
12	OFF-SD-SPCD3-0006	SD	7-2/15:00				1

CM 7-3-02

CM 7-3-02

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Christ Machey	7-3-02 1300		YES NO	3°C
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	
		[illegible]	7-3-02 1300	

Tt NUS Form 0022

02151

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Project No. 4152-0511

Laboratory Name: Mitkem Corp.

Sampler Signatures: Christ Machey

Date Shipped: 7-3-02

Carrier: Delivered by Sampler

Airbill No.

No. of Coolers: 1

Container Type	Container Type	Container Type	Container Type	Container Type
1L Amber	4oz			

Analysis	Analysis	Analysis	Analysis	Analysis
8270C	PAHs, SW-846 8270C SIM			

Preservative	Preservative	Preservative	Preservative	Preservative
Ice	Ice			

	Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative: Ice	Preservative: Ice	Preservative	Preservative	Preservative
13	OFF-RB01	Aq	7-2/1500			Rinsate	2				
14	OFF-SD-~~143~~-1820	SD	7-3/11:30					1			
	473		9/13/02								

CW 7-3-02

CW 7-3-02

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Christ Machey	7-3-02 1300		YES NO	3°C
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	
		[signature]	7-3-02 1300	

Tt NUS Form 0022

02149

*Mitkem and Client Sample ID Summary Report**

Mitkem Workorder: A1031

Client Name: Tetra Tech NUS, Inc.

Mitkem Sample ID	*Reported Client Sample ID*	*Full Client Sample ID*
A1031-01A	SD4741824	OFF-SD-474-1824
A1031-02A	SD4760006	OFF-SD-476-0006
A1031-03A	SDDUP10006	OFF-SD-DUP1-0006
A1031-04A	SD4750006	OFF-SD-475-0006
A1031-05A	SD4720006	OFF-SD-472-0006
A1031-06A	SD4700006	OFF-SD-470-0006
A1031-07A	SD4101824	OFF-SD-410-1824
A1031-08A	SD4730006	OFF-SD-473-0006
A1031-09A	SD4100006	OFF-SD-410-0006
A1031-10A	SD4740006	OFF-SD-474-0006
A1031-11A	SD4710006	OFF-SD-471-0006
A1031-12A	SDJPC030006	OFF-SD-JPC03-0006
A1031-13A	OFF-RB01	
A1031-14A	SD7431820	OFF-SD-~~743~~-1820 473 RHP 9/13/02

06

** If client sample ID has not been truncated, the full client sample ID is listed in the column labeled "Reported Client Sample ID"*

MITKEM CORPORATION

* Semivolatile Organics *

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4741824

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2C8510

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 27 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	9.0	U
91-57-6	2-Methylnaphthalene	9.0	U
208-96-8	Acenaphthylene	9.0	U
83-32-9	Acenaphthene	9.0	U
86-73-7	Fluorene	9.0	U
85-01-8	Phenanthrene	68	
120-12-7	Anthracene	14	
206-44-0	Fluoranthene	110	
129-00-0	Pyrene	110	
56-55-3	Benzo(a)anthracene	41	
218-01-9	Chrysene	49	
205-99-2	Benzo(b)fluoranthene	62	
207-08-9	Benzo(k)fluoranthene	30	
50-32-8	Benzo(a)pyrene	47	
193-39-5	Indeno(1,2,3-cd)pyrene	21	
53-70-3	Dibenzo(a,h)anthracene	9.0	U
191-24-2	Benzo(g,h,i)perylene	26	
86-74-8	Carbazole	9.0	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4760006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-02A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2C8515

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 25 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	8.8	U
91-57-6	2-Methylnaphthalene	8.8	U
208-96-8	Acenaphthylene	8.8	U
83-32-9	Acenaphthene	8.8	U
86-73-7	Fluorene	8.8	U
85-01-8	Phenanthrene	62	
120-12-7	Anthracene	14	
206-44-0	Fluoranthene	130	
129-00-0	Pyrene	130	
56-55-3	Benzo(a)anthracene	59	
218-01-9	Chrysene	64	
205-99-2	Benzo(b)fluoranthene	96	
207-08-9	Benzo(k)fluoranthene	46	
50-32-8	Benzo(a)pyrene	70	
193-39-5	Indeno(1,2,3-cd)pyrene	28	
53-70-3	Dibenzo(a,h)anthracene	8.8	U
191-24-2	Benzo(g,h,i)perylene	33	
86-74-8	Carbazole	8.8	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4760006MS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-02AMS

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2C8516

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 25 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	69	
91-57-6	2-Methylnaphthalene	73	
208-96-8	Acenaphthylene	84	
83-32-9	Acenaphthene	78	
86-73-7	Fluorene	82	
85-01-8	Phenanthrene	150	
120-12-7	Anthracene	100	
206-44-0	Fluoranthene	240	E
129-00-0	Pyrene	260	E
56-55-3	Benzo(a)anthracene	160	
218-01-9	Chrysene	150	
205-99-2	Benzo(b)fluoranthene	210	
207-08-9	Benzo(k)fluoranthene	150	
50-32-8	Benzo(a)pyrene	190	
193-39-5	Indeno(1,2,3-cd)pyrene	100	
53-70-3	Dibenzo(a,h)anthracene	69	
191-24-2	Benzo(g,h,i)perylene	100	
86-74-8	Carbazole	8.4	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4760006MSD

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-02AMSD

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2C8517

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 25 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	69	
91-57-6	2-Methylnaphthalene	73	
208-96-8	Acenaphthylene	82	
83-32-9	Acenaphthene	79	
86-73-7	Fluorene	82	
85-01-8	Phenanthrene	170	
120-12-7	Anthracene	100	
206-44-0	Fluoranthene	260	E
129-00-0	Pyrene	280	E
56-55-3	Benzo(a)anthracene	160	
218-01-9	Chrysene	160	
205-99-2	Benzo(b)fluoranthene	230	E
207-08-9	Benzo(k)fluoranthene	160	
50-32-8	Benzo(a)pyrene	200	
193-39-5	Indeno(1,2,3-cd)pyrene	100	
53-70-3	Dibenzo(a,h)anthracene	66	
191-24-2	Benzo(g,h,i)perylene	110	
86-74-8	Carbazole	12	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDDUP10006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-03A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2C8514

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 24 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	8.5	U
91-57-6	2-Methylnaphthalene	8.5	U
208-96-8	Acenaphthylene	11	
83-32-9	Acenaphthene	17	
86-73-7	Fluorene	17	
85-01-8	Phenanthrene	280	E
120-12-7	Anthracene	55	
206-44-0	Fluoranthene	410	E
129-00-0	Pyrene	400	E
56-55-3	Benzo(a)anthracene	160	
218-01-9	Chrysene	170	
205-99-2	Benzo(b)fluoranthene	250	E
207-08-9	Benzo(k)fluoranthene	95	
50-32-8	Benzo(a)pyrene	200	
193-39-5	Indeno(1,2,3-cd)pyrene	71	
53-70-3	Dibenzo(a,h)anthracene	17	
191-24-2	Benzo(g,h,i)perylene	83	
86-74-8	Carbazole	26	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4750006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-04A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2C8522

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 30 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	11	
91-57-6	2-Methylnaphthalene	11	
208-96-8	Acenaphthylene	44	
83-32-9	Acenaphthene	97	
86-73-7	Fluorene	150	
85-01-8	Phenanthrene	1400	E
120-12-7	Anthracene	500	E
206-44-0	Fluoranthene	1500	E
129-00-0	Pyrene	1700	E
56-55-3	Benzo(a)anthracene	720	E
218-01-9	Chrysene	620	E
205-99-2	Benzo(b)fluoranthene	890	E
207-08-9	Benzo(k)fluoranthene	330	E
50-32-8	Benzo(a)pyrene	770	E
193-39-5	Indeno(1,2,3-cd)pyrene	280	E
53-70-3	Dibenzo(a,h)anthracene	86	
191-24-2	Benzo(g,h,i)perylene	300	E
86-74-8	Carbazole	130	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4720006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-05A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2C8523

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 37 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	66	
120-12-7	Anthracene	17	
206-44-0	Fluoranthene	120	
129-00-0	Pyrene	130	
56-55-3	Benzo(a)anthracene	53	
218-01-9	Chrysene	58	
205-99-2	Benzo(b)fluoranthene	100	
207-08-9	Benzo(k)fluoranthene	35	
50-32-8	Benzo(a)pyrene	68	
193-39-5	Indeno(1,2,3-cd)pyrene	29	
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	33	
86-74-8	Carbazole	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4700006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-06A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2C8511

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 21 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	8.2	U
91-57-6	2-Methylnaphthalene	8.2	U
208-96-8	Acenaphthylene	8.2	U
83-32-9	Acenaphthene	8.2	U
86-73-7	Fluorene	8.2	U
85-01-8	Phenanthrene	27	
120-12-7	Anthracene	8.2	U
206-44-0	Fluoranthene	58	
129-00-0	Pyrene	50	
56-55-3	Benzo(a)anthracene	24	
218-01-9	Chrysene	25	
205-99-2	Benzo(b)fluoranthene	39	
207-08-9	Benzo(k)fluoranthene	18	
50-32-8	Benzo(a)pyrene	26	
193-39-5	Indeno(1,2,3-cd)pyrene	13	
53-70-3	Dibenzo(a,h)anthracene	8.2	U
191-24-2	Benzo(g,h,i)perylene	15	
86-74-8	Carbazole	8.2	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4101824

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-07A

Sample wt/vol: 30.8 (g/mL) G Lab File ID: S2C8512

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 18 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	7.8	U
91-57-6	2-Methylnaphthalene	7.8	U
208-96-8	Acenaphthylene	7.8	U
83-32-9	Acenaphthene	7.8	U
86-73-7	Fluorene	7.8	U
85-01-8	Phenanthrene	72	
120-12-7	Anthracene	15	
206-44-0	Fluoranthene	140	
129-00-0	Pyrene	120	
56-55-3	Benzo(a)anthracene	54	
218-01-9	Chrysene	58	
205-99-2	Benzo(b)fluoranthene	83	
207-08-9	Benzo(k)fluoranthene	36	
50-32-8	Benzo(a)pyrene	60	
193-39-5	Indeno(1,2,3-cd)pyrene	26	
53-70-3	Dibenzo(a,h)anthracene	7.8	U
191-24-2	Benzo(g,h,i)perylene	32	
86-74-8	Carbazole	9.7	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4730006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-08A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2C8513

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 22 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	8.4	U
91-57-6	2-Methylnaphthalene	8.4	U
208-96-8	Acenaphthylene	8.4	U
83-32-9	Acenaphthene	14	
86-73-7	Fluorene	19	
85-01-8	Phenanthrene	150	
120-12-7	Anthracene	49	
206-44-0	Fluoranthene	220	E
129-00-0	Pyrene	180	
56-55-3	Benzo(a)anthracene	100	
218-01-9	Chrysene	88	
205-99-2	Benzo(b)fluoranthene	140	
207-08-9	Benzo(k)fluoranthene	56	
50-32-8	Benzo(a)pyrene	100	
193-39-5	Indeno(1,2,3-cd)pyrene	39	
53-70-3	Dibenzo(a,h)anthracene	11	
191-24-2	Benzo(g,h,i)perylene	45	
86-74-8	Carbazole	36	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4100006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-09A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2C8519

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 31 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	9.5	U
91-57-6	2-Methylnaphthalene	9.5	U
208-96-8	Acenaphthylene	13	
83-32-9	Acenaphthene	9.5	U
86-73-7	Fluorene	12	
85-01-8	Phenanthrene	210	
120-12-7	Anthracene	38	
206-44-0	Fluoranthene	450	E
129-00-0	Pyrene	440	E
56-55-3	Benzo(a)anthracene	180	
218-01-9	Chrysene	200	
205-99-2	Benzo(b)fluoranthene	300	E
207-08-9	Benzo(k)fluoranthene	120	
50-32-8	Benzo(a)pyrene	220	
193-39-5	Indeno(1,2,3-cd)pyrene	92	
53-70-3	Dibenzo(a,h)anthracene	24	
191-24-2	Benzo(g,h,i)perylene	100	
86-74-8	Carbazole	25	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4740006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-10A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2C8520

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 42 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	11	U
91-57-6	2-Methylnaphthalene	11	U
208-96-8	Acenaphthylene	11	U
83-32-9	Acenaphthene	11	U
86-73-7	Fluorene	11	U
85-01-8	Phenanthrene	50	
120-12-7	Anthracene	13	
206-44-0	Fluoranthene	110	
129-00-0	Pyrene	110	
56-55-3	Benzo(a)anthracene	51	
218-01-9	Chrysene	59	
205-99-2	Benzo(b)fluoranthene	100	
207-08-9	Benzo(k)fluoranthene	34	
50-32-8	Benzo(a)pyrene	65	
193-39-5	Indeno(1,2,3-cd)pyrene	27	
53-70-3	Dibenzo(a,h)anthracene	11	U
191-24-2	Benzo(g,h,i)perylene	32	
86-74-8	Carbazole	11	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4710006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-11A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2C8521

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 26 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	28	
91-57-6	2-Methylnaphthalene	12	
208-96-8	Acenaphthylene	140	
83-32-9	Acenaphthene	22	
86-73-7	Fluorene	81	
85-01-8	Phenanthrene	1100	E
120-12-7	Anthracene	290	E
206-44-0	Fluoranthene	1600	E
129-00-0	Pyrene	2000	E
56-55-3	Benzo(a)anthracene	860	E
218-01-9	Chrysene	730	E
205-99-2	Benzo(b)fluoranthene	1200	E
207-08-9	Benzo(k)fluoranthene	430	E
50-32-8	Benzo(a)pyrene	950	E
193-39-5	Indeno(1,2,3-cd)pyrene	320	E
53-70-3	Dibenzo(a,h)anthracene	87	
191-24-2	Benzo(g,h,i)perylene	320	E
86-74-8	Carbazole	60	

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD4710006DL

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-11ADL

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2C8530

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 26 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	440	U
91-57-6	2-Methylnaphthalene	130	U
208-96-8	Acenaphthylene	140	D
83-32-9	Acenaphthene	440	U
132-64-9	Dibenzofuran	440	U
86-73-7	Fluorene	76	DJ
85-01-8	Phenanthrene	1000	D
120-12-7	Anthracene	240	DJ
86-74-8	Carbazole	71	DJ
206-44-0	Fluoranthene	1600	D
129-00-0	Pyrene	1900	D
56-55-3	Benzo(a)anthracene	720	D
218-01-9	Chrysene	720	D
205-99-2	Benzo(b)fluoranthene	710	D
207-08-9	Benzo(k)fluoranthene	380	DJ
50-32-8	Benzo(a)pyrene	630	D
193-39-5	Indeno(1,2,3-cd)pyrene	250	D
53-70-3	Dibenzo(a,h)anthracene	85	DJ
191-24-2	Benzo(g,h,i)perylene	330	D

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDJPC030006

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-12A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2C8509

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 24 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	8.6	U
91-57-6	2-Methylnaphthalene	8.6	U
208-96-8	Acenaphthylene	8.6	U
83-32-9	Acenaphthene	8.6	U
86-73-7	Fluorene	8.6	U
85-01-8	Phenanthrene	14	
120-12-7	Anthracene	8.6	U
206-44-0	Fluoranthene	37	
129-00-0	Pyrene	30	
56-55-3	Benzo(a)anthracene	8.6	U
218-01-9	Chrysene	8.6	U
205-99-2	Benzo(b)fluoranthene	8.6	U
207-08-9	Benzo(k)fluoranthene	8.6	U
50-32-8	Benzo(a)pyrene	8.6	U
193-39-5	Indeno(1,2,3-cd)pyrene	8.6	U
53-70-3	Dibenzo(a,h)anthracene	8.6	U
191-24-2	Benzo(g,h,i)perylene	8.6	U
86-74-8	Carbazole	8.6	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OFF-RB01

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) WATER Lab Sample ID: A1031-13A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2C8505

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/08/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	0.10	U
91-57-6	2-Methylnaphthalene	0.10	U
208-96-8	Acenaphthylene	0.10	U
83-32-9	Acenaphthene	0.10	U
86-73-7	Fluorene	0.10	U
85-01-8	Phenanthrene	0.10	U
120-12-7	Anthracene	0.10	U
206-44-0	Fluoranthene	0.10	U
129-00-0	Pyrene	0.10	U
56-55-3	Benzo(a)anthracene	0.10	U
218-01-9	Chrysene	0.10	U
205-99-2	Benzo(b)fluoranthene	0.10	U
207-08-9	Benzo(k)fluoranthene	0.10	U
50-32-8	Benzo(a)pyrene	0.10	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	U
53-70-3	Dibenzo(a,h)anthracene	0.10	U
191-24-2	Benzo(g,h,i)perylene	0.10	U
86-74-8	Carbazole	0.10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SD~~7431~~820
473

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: A1031-14A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2C8518

Level: (low/med) LOW Date Received: 07/03/02

% Moisture: 23 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	8.5	U
91-57-6	2-Methylnaphthalene	8.5	U
208-96-8	Acenaphthylene	8.5	U
83-32-9	Acenaphthene	8.5	U
86-73-7	Fluorene	8.5	U
85-01-8	Phenanthrene	51	
120-12-7	Anthracene	13	
206-44-0	Fluoranthene	98	
129-00-0	Pyrene	89	
56-55-3	Benzo(a)anthracene	40	
218-01-9	Chrysene	43	
205-99-2	Benzo(b)fluoranthene	74	
207-08-9	Benzo(k)fluoranthene	27	
50-32-8	Benzo(a)pyrene	49	
193-39-5	Indeno(1,2,3-cd)pyrene	21	
53-70-3	Dibenzo(a,h)anthracene	8.5	U
191-24-2	Benzo(g,h,i)perylene	24	
86-74-8	Carbazole	8.5	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK2D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) WATER Lab Sample ID: S0708-BW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2C8501

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/08/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	0.10	U
91-57-6	2-Methylnaphthalene	0.10	U
208-96-8	Acenaphthylene	0.10	U
83-32-9	Acenaphthene	0.10	U
86-73-7	Fluorene	0.10	U
85-01-8	Phenanthrene	0.10	U
120-12-7	Anthracene	0.10	U
206-44-0	Fluoranthene	0.10	U
129-00-0	Pyrene	0.10	U
56-55-3	Benzo(a)anthracene	0.10	U
218-01-9	Chrysene	0.10	U
205-99-2	Benzo(b)fluoranthene	0.10	U
207-08-9	Benzo(k)fluoranthene	0.10	U
50-32-8	Benzo(a)pyrene	0.10	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	U
53-70-3	Dibenzo(a,h)anthracene	0.10	U
191-24-2	Benzo(g,h,i)perylene	0.10	U
86-74-8	Carbazole	0.10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK2E

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: S0712-BS1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2C8508

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/25/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	6.6	U
91-57-6	2-Methylnaphthalene	6.6	U
208-96-8	Acenaphthylene	6.6	U
83-32-9	Acenaphthene	6.6	U
86-73-7	Fluorene	6.6	U
85-01-8	Phenanthrene	6.6	U
120-12-7	Anthracene	6.6	U
206-44-0	Fluoranthene	6.6	U
129-00-0	Pyrene	6.6	U
56-55-3	Benzo(a)anthracene	6.6	U
218-01-9	Chrysene	6.6	U
205-99-2	Benzo(b)fluoranthene	6.6	U
207-08-9	Benzo(k)fluoranthene	6.6	U
50-32-8	Benzo(a)pyrene	6.6	U
193-39-5	Indeno(1,2,3-cd)pyrene	6.6	U
53-70-3	Dibenzo(a,h)anthracene	6.6	U
191-24-2	Benzo(g,h,i)perylene	6.6	U
86-74-8	Carbazole	6.6	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S2ELCS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) SOIL Lab Sample ID: S0712-LS1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2C8504

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 07/12/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	Naphthalene	48	
91-57-6	2-Methylnaphthalene	49	
208-96-8	Acenaphthylene	50	
83-32-9	Acenaphthene	50	
86-73-7	Fluorene	52	
85-01-8	Phenanthrene	54	
120-12-7	Anthracene	44	
206-44-0	Fluoranthene	59	
129-00-0	Pyrene	58	
56-55-3	Benzo(a)anthracene	58	
218-01-9	Chrysene	57	
205-99-2	Benzo(b)fluoranthene	45	
207-08-9	Benzo(k)fluoranthene	41	
50-32-8	Benzo(a)pyrene	52	
193-39-5	Indeno(1,2,3-cd)pyrene	64	
53-70-3	Dibenzo(a,h)anthracene	62	
191-24-2	Benzo(g,h,i)perylene	64	
86-74-8	Carbazole	6.6	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S2DLCS

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) WATER Lab Sample ID: S0708-LW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2C8502

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/08/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	34	E
91-57-6	2-Methylnaphthalene	39	E
208-96-8	Acenaphthylene	41	E
83-32-9	Acenaphthene	38	E
86-73-7	Fluorene	39	E
85-01-8	Phenanthrene	41	E
120-12-7	Anthracene	47	E
206-44-0	Fluoranthene	47	E
129-00-0	Pyrene	40	E
56-55-3	Benzo(a)anthracene	46	E
218-01-9	Chrysene	41	E
205-99-2	Benzo(b)fluoranthene	56	E
207-08-9	Benzo(k)fluoranthene	55	E
50-32-8	Benzo(a)pyrene	62	E
193-39-5	Indeno(1,2,3-cd)pyrene	56	E
53-70-3	Dibenzo(a,h)anthracene	56	E
191-24-2	Benzo(g,h,i)perylene	52	E
86-74-8	Carbazole	48	E

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S2DLCSD

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix: (soil/water) WATER Lab Sample ID: S0708-LW1D

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2C8503

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/08/02

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/24/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	32	E
91-57-6	2-Methylnaphthalene	37	E
208-96-8	Acenaphthylene	40	E
83-32-9	Acenaphthene	37	E
86-73-7	Fluorene	39	E
85-01-8	Phenanthrene	40	E
120-12-7	Anthracene	46	E
206-44-0	Fluoranthene	44	E
129-00-0	Pyrene	38	E
56-55-3	Benzo(a)anthracene	43	E
218-01-9	Chrysene	38	E
205-99-2	Benzo(b)fluoranthene	52	E
207-08-9	Benzo(k)fluoranthene	50	E
50-32-8	Benzo(a)pyrene	57	E
193-39-5	Indeno(1,2,3-cd)pyrene	51	E
53-70-3	Dibenzo(a,h)anthracene	52	E
191-24-2	Benzo(g,h,i)perylene	47	E
86-74-8	Carbazole	49	E

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (DCB) #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	SBLK2D	87	83	109	72					0
02	S2DLCS	81	74	82	69					0
03	S2DLCSD	80	75	78	66					0
04	OFF-RB01	86	81	64	76					0
05										
06										
07										
08										
09										
10										
11										
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29										
30										

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(35-114)	
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)	
S3 (TPH)	= Terphenyl-d14	(33-141)	
S4 (DCB)	= 1,2-Dichlorobenzene-d4	(16-110)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (DCB) #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	S2ELCS	75	74	91	68					0
02	SBLK2E	78	76	87	71					0
03	SDJPC030006	73	70	78	66					0
04	SD4741824	79	79	95	69					0
05	SD4700006	79	77	91	70					0
06	SD4101824	84	80	95	73					0
07	SD4730006	75	74	92	65					0
08	SDDUP10006	78	76	94	69					0
09	SD4760006	71	71	91	61					0
10	SD4760006MS	79	81	104	69					0
11	SD4760006MSD	80	81	105	67					0
12	SD7431820	74	73	99	64					0
13	SD4100006	75	76	104	65					0
14	SD4740006	79	78	107	69					0
15	SD4710006	82	80	121	73					0
16	SD4750006	63	65	142*	52					1
17	SD4720006	76	77	108	70					0
18										
19										
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		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (DCB) #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	SD4710006DL	60	71	81	72					0
02	SD4750006DL	49	59	95	57					0
03										
04										
05										
06										
07										
08										
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		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(46-102)	
S2 (FBP)	= 2-Fluorobiphenyl	(52-107)	
S3 (TPH)	= Terphenyl-d14	(61-113)	
S4 (DCB)	= 1,2-Dichlorobenzene-d4	(44-100)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix Spike - EPA Sample No.: SD4760006 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Naphthalene	88	0.00	69	78	50-150
2-Methylnaphthalene	88	0.00	73	83	50-150
Acenaphthylene	88	0.00	84	95	50-150
Acenaphthene	88	0.00	78	89	50-150
Fluorene	88	0.00	82	93	50-150
Phenanthrene	88	62	150	100	50-150
Anthracene	88	14	100	98	50-150
Fluoranthene	88	130	240	125	50-150
Pyrene	88	130	260	148	50-150
Benzo(a)anthracene	88	59	160	115	50-150
Chrysene	88	64	150	98	50-150
Benzo(b)fluoranthene	88	96	210	130	50-150
Benzo(k)fluoranthene	88	46	150	118	50-150
Benzo(a)pyrene	88	70	190	136	50-150
Indeno(1,2,3-cd)pyrene	88	28	100	82	50-150
Dibenzo(a,h)anthracene	88	0.00	69	78	50-150
Benzo(g,h,i)perylene	88	33	100	76	50-150
Carbazole	88	0.00	8.4	10*	50-150

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

COMMENTS: _____

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix Spike - EPA Sample No.: SD4760006 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	88	69	78	0	50	50-150
2-Methylnaphthalene	88	73	83	0	50	50-150
Acenaphthylene	88	82	93	2	50	50-150
Acenaphthene	88	79	90	1	50	50-150
Fluorene	88	82	93	0	50	50-150
Phenanthrene	88	170	123	21	50	50-150
Anthracene	88	100	98	0	50	50-150
Fluoranthene	88	260	148	17	50	50-150
Pyrene	88	280	170*	14	50	50-150
Benzo(a)anthracene	88	160	115	0	50	50-150
Chrysene	88	160	109	11	50	50-150
Benzo(b)fluoranthene	88	230	152*	16	50	50-150
Benzo(k)fluoranthene	88	160	130	10	50	50-150
Benzo(a)pyrene	88	200	148	8	50	50-150
Indeno(1,2,3-cd)pyrene	88	100	82	0	50	50-150
Dibenzo(a,h)anthracene	88	66	75	4	50	50-150
Benzo(g,h,i)perylene	88	110	88	15	50	50-150
Carbazole	88	12	14*	33	50	50-150

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

RPD: 0 out of 18 outside limits
Spike Recovery: 4 out of 36 outside limits

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix Spike - Sample No.: S2DLCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Naphthalene	50		34	68	50-150
2-Methylnaphthalene	50		39	78	50-150
Acenaphthylene	50		41	82	50-150
Acenaphthene	50		38	76	50-150
Fluorene	50		39	78	50-150
Phenanthrene	50		41	82	50-150
Anthracene	50		47	94	50-150
Fluoranthene	50		47	94	50-150
Pyrene	50		40	80	50-150
Benzo(a)anthracene	50		46	92	50-150
Chrysene	50		41	82	50-150
Benzo(b)fluoranthene	50		56	112	50-150
Benzo(k)fluoranthene	50		55	110	50-150
Benzo(a)pyrene	50		62	124	50-150
Indeno(1,2,3-cd)pyrene	50		56	112	50-150
Dibenzo(a,h)anthracene	50		56	112	50-150
Benzo(g,h,i)perylene	50		52	104	50-150
Carbazole	50		48	96	50-150

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

COMMENTS: _____

FORM 3
WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix Spike - Sample No.: S2DLCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Naphthalene	50	32	64	6	50	50-150
2-Methylnaphthalene	50	37	74	5	50	50-150
Acenaphthylene	50	40	80	2	50	50-150
Acenaphthene	50	37	74	3	50	50-150
Fluorene	50	39	78	0	50	50-150
Phenanthrene	50	40	80	2	50	50-150
Anthracene	50	46	92	2	50	50-150
Fluoranthene	50	44	88	6	50	50-150
Pyrene	50	38	76	5	50	50-150
Benzo(a)anthracene	50	43	86	7	50	50-150
Chrysene	50	38	76	8	50	50-150
Benzo(b)fluoranthene	50	52	104	7	50	50-150
Benzo(k)fluoranthene	50	50	100	10	50	50-150
Benzo(a)pyrene	50	57	114	8	50	50-150
Indeno(1,2,3-cd)pyrene	50	51	102	9	50	50-150
Dibenzo(a,h)anthracene	50	52	104	7	50	50-150
Benzo(g,h,i)perylene	50	47	94	10	50	50-150
Carbazole	50	49	98	2	50	50-150

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

RPD: 0 out of 18 outside limits
Spike Recovery: 0 out of 36 outside limits

COMMENTS: _____

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK2D

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Lab File ID: S2C8501 Lab Sample ID: S0708-BW1

Instrument ID: S2 Date Extracted: 07/08/02

Matrix: (soil/water) WATER Date Analyzed: 07/24/02

Level:(low/med) LOW Time Analyzed: 2150

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	S2DLCS	S0708-LW1	S2C8502	07/24/02
02	S2DLCSD	S0708-LW1D	S2C8503	07/24/02
03	OFF-RB01	A1031-13A	S2C8505	07/25/02
04				
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COMMENTS:

FORM 3
SOIL SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Matrix Spike - Sample No.: S2ELCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Naphthalene	67		48	72	50-150
2-Methylnaphthalene	67		49	73	50-150
Acenaphthylene	67		50	75	50-150
Acenaphthene	67		50	75	50-150
Fluorene	67		52	78	50-150
Phenanthrene	67		54	80	50-150
Anthracene	67		44	66	50-150
Fluoranthene	67		59	88	50-150
Pyrene	67		58	86	50-150
Benzo(a)anthracene	67		58	86	50-150
Chrysene	67		57	85	50-150
Benzo(b)fluoranthene	67		45	67	50-150
Benzo(k)fluoranthene	67		41	61	50-150
Benzo(a)pyrene	67		52	78	50-150
Indeno(1,2,3-cd)pyrene	67		64	96	50-150
Dibenzo(a,h)anthracene	67		62	92	50-150
Benzo(g,h,i)perylene	67		64	96	50-150
Carbazole	67			0*	50-150

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

RPD: 0 out of 0 outside limits
Spike Recovery: 1 out of 18 outside limits

COMMENTS: _____

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK2E

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: A1031

Lab File ID: S2C8508 Lab Sample ID: S0712-BS1

Instrument ID: S2 Date Extracted: 07/12/02

Matrix: (soil/water) SOIL Date Analyzed: 07/25/02

Level:(low/med) LOW Time Analyzed: 0136

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	S2ELCS	S0712-LS1	S2C8504	07/24/02
02	SDJPC030006	A1031-12A	S2C8509	07/25/02
03	SD4741824	A1031-01A	S2C8510	07/25/02
04	SD4700006	A1031-06A	S2C8511	07/25/02
05	SD4101824	A1031-07A	S2C8512	07/25/02
06	SD4730006	A1031-08A	S2C8513	07/25/02
07	SDDUP10006	A1031-03A	S2C8514	07/25/02
08	SD4760006	A1031-02A	S2C8515	07/25/02
09	SD4760006MS	A1031-02AMS	S2C8516	07/25/02
10	SD4760006MSD	A1031-02AMSD	S2C8517	07/25/02
11	SD7431820	A1031-14A	S2C8518	07/25/02
12	SD4100006	A1031-09A	S2C8519	07/25/02
13	SD4740006	A1031-10A	S2C8520	07/25/02
14	SD4710006	A1031-11A	S2C8521	07/25/02
15	SD4750006	A1031-04A	S2C8522	07/25/02
16	SD4720006	A1031-05A	S2C8523	07/25/02
17				
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28				
29				
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COMMENTS:

Mitkem Corporation — *03/Jul/02 13:09* — WorkOrder: A1031

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: 4152-0511
Comments: N/A

Case:
SDG:
PO: 105141529701

Report Level: LEVEL 2
EDD:
HC Due: 07/24/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1031-01A	SD4741824	07/03/02 10:15	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-02A	SD4760006	07/02/02 11:45	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-03A	SDDUP10006	07/02/02 11:35	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-04A	SD4750006	07/02/02 13:15	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-05A	SD4720006	07/02/02 12:55	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-06A	SD4700006	07/02/02 12:50	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-07A	SD4101824	07/02/02 11:40	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4

Client Rep: Benjamin F Dodge

40A

Mitkem Corporation — *03/Jul/02 13:09* — WorkOrder: A1031

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: 4152-0511
Comments: N/A

Case:
SDG:
PO: 105141529701

Report Level: LEVEL 2
EDD:
HC Due: 07/24/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1031-07A	SD4101824	07/02/02 11:40	07/03/02	Soil	PMoist		☐	☐	☐	I4
A1031-08A	SD4730006	07/02/02 13:25	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-09A	SD4100006	07/02/02 11:30	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-10A	SD4740006	07/02/02 13:05	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-11A	SD4710006	07/02/02 13:00	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-12A	SDJPC030006	07/02/02 15:00	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4
A1031-13A	OFF-RB01	07/02/02 15:00	07/03/02	Aqueous	PAH_SIM_W		☐	☐	☐	I4

Client Rep: Benjamin F Dodge

408

Mitkem Corporation

03/Jul/02 13:09

WorkOrder: A1031

Client ID: TETRA_NAVY
Project: CTO 833 Newport
Location: 4152-0511
Comments: N/A

Case:
SDG:
PO: 105141529701

Report Level: LEVEL 2
EDD:
HC Due: 07/24/02
Fax Due:

Sample ID	Client Sample ID	Collection Date	Date Received	Matrix	Test Code	Test Code Comments	Hold	MS	SEL	Storage
A1031-14A	SD7431820	07/03/02 11:30	07/03/02	Soil	PAH_SIM_S		☐	☐	☐	I4
					PMoist		☐	☐	☐	I4

Client Rep: Benjamin F Dodge

30/1

MITKEM CORPORATION

Sample Condition Form

Page 1 of 1

Received By: M	Reviewed By: SK	Date: 7-3-02	MITKEM Project: A1031

Client Project: 4152-0511 Client: TETRA TECH

Condition:

1)Custody Seal(s) Present / Absent
Coolers / Bottles
Intact / Broken

Custody Seal Numbers

3)Chain -of- Custody Present / Absent

4)Airbill(s) Present / Absent

Airbill Number(s) DROP OFF

5)Cooler Temperature 3°C

Coolant Condition ICE

6)Sample Bottles Intact/Broken/Leaking

7)Date Received 7-3-02

8)Time Received 1300

Lab Sample ID	Preservation (pH) HNO3	H2SO4	HCl	NaO	VOA Matrix
A1031 01					
A1031 02					
A1031 03					
A1031 04					
A1031 05					
A1031 06					
A1031 07					
A1031 08					
A1031 09					
A1031 10					
A1031 11					
A1031 12					
A1031 13					
A1031 14					

VOA Matrix Key:
US = Unpreserved Soil
UA = Unpreserved Aqueous
M/N = MeOH& NaHSO4
N = NaHSO4 M = MeOH
A = Air
H = HCl
E=Encore

See Sample Condition Notification / Corrective Action Form yes / no

Comments / Remarks

Rad Ok yes / no

HOD

Last Page of Data Report

APPENDIX E

SEDIMENT AND SOIL FORENSIC ANALYSIS, BATTELLE

ENVIRONMENTAL FORENSIC INVESTIGATION OF HYDROCARBON SOURCES AT THE OLD FIRE FIGHTING TRAINING AREA: NAVAL STATION NEWPORT, RHODE ISLAND

- FINAL REPORT -

Submitted to:

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September 18, 2002

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Battelle
. . . Putting Technology To Work

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Attachment 3. High Resolution Hydrocarbon Fingerprints
Attachment 4. Quantitative PAH and Alkylated PAH by GC/MS
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Attachment 8. Chain of Custody

2.0 OBJECTIVE

Elevated levels of PAH were detected in sediments proximal to the Old Fire Fighting Training Area at the Naval Station in Newport, Rhode Island (site). The purpose of this investigation was to determine the likely sources of the PAH in sediment with a specific focus on three source candidates: the fire fighting training area, storm water runoff, or on-site sediment migration.

Battelle employed special published methods developed for the identification of hydrocarbon sources in order to satisfy the objectives of this project. The data generated from this report included: high resolution hydrocarbon fingerprints, polycyclic aromatic hydrocarbons (PAH), and mass spectral fingerprints of normal alkanes, isoprenoid hydrocarbons, alkylcyclohexanes, triterpanes, and steranes.

3.0 METHODS

A summary of the methods for sample preservation and analysis performed by Battelle are presented in this section. Complete documentation of the chemical analysis described in this report, including a Quality Management Plan, a Quality Assurance Project Plan (QAPP), Standard Operating Procedures, chain-of-custody records, and raw and reduced data logs are archived at Battelle Memorial Institute in Duxbury, MA.

3.1 Sample Collection and Shipping

Representatives of Tetra Tech NUS collected and shipped eleven field samples and one quality control (QC) duplicate in two shipments on July 2 and 11, 2002. The field sample matrices included 9 sediments, 2 soils and 1 groundwater. Two additional samples were generated at Battelle from sample OFF-SD5-0006 due to the wide range of particle sizes and types found therein. The samples were shipped overnight to Battelle in sample containers fitted with Teflon-lined caps. The two sample deliveries were received at Battelle at a temperature of 1.3°C. The samples were received and stored according to the Battelle chain-of-custody procedures. The field chain of custody and sample receipt information is provided in Attachment 8.

The field sample identifications, locations, collection dates, and matrices for the samples studied are summarized in Table 1. The field sample ID's were abbreviated to simplify the tables and figures used for data presentation. A site map with the sample locations is presented in Figure 1.

3.2 Reference Samples

Reference samples of kerosene and diesel were prepared and analyzed by Battelle as part of a previous forensic investigation of the former fire training area in Cutler, ME (Emsbo-Mattingly, 2002). In addition to the dispensed reference samples, each petroleum distillate was independently evaporated and combusted to better identify the compositional changes attributed to fire training activities and environmental weathering. Additional reference samples from the National Institute for Standards and Technology (NIST) and the Battelle Reference Material Library were added for comparison to samples collected from the site.

3.3 Chemical Analysis

The samples were prepared and analyzed in accordance with published methods (Emsbo-Mattingly, et al., 2001; Stout et al., 2002) and as described in the QAPP. A summary of the sample identification codes and analytical parameters is presented in Table 1.

3.3.1 Sample Extraction

An aliquot of each solid sample (30 g wet weight) was fortified with surrogates[1], dried with sodium sulfate and serially shake extracted with dichloromethane (DCM). An aliquot of each water sample (1 L) was fortified with surrogates and serially extracted by separatory funnel using DCM. Less sample was used when high concentrations of extractable organic matter was present. The sample extracts were concentrated by Kuderna-Danish and nitrogen blow down techniques. The kerosene and diesel reference samples (Table 1) were diluted to approximately 5 mg/ml in DCM. The sample extracts and diluents were split prior to analysis. The extracts were fortified with internal standards and submitted for GC/FID and GC/MS/SIM analyses (described below).

3.3.2 High Resolution Hydrocarbon Fingerprint (GC/FID)

The sample extracts were analyzed using a high-resolution gas chromatograph equipped with a flame ionization detector (GC/FID). High resolution GC/FID fingerprints were generated over a broad carbon range (C_9-C_{36}) that provided an overall assessment of the non-volatile hydrocarbons present in each sample. These fingerprints provided information on the overall nature of the extractable hydrocarbons that were present, including the general PAH composition, variability, and degree of weathering. The GC/FID fingerprints for each field and QC sample are found in Attachment 3.

3.3.3 Diagnostic PAH and Alkylated PAH (GC/MS/SIM)

The sample extracts were also analyzed using a high-resolution gas chromatograph equipped with a mass spectrometer operated in the selected ion monitoring mode (GC/MS/SIM). The instrument was calibrated to allow for quantification of a broad range of 2- through 6-ring PAH, selected alkylated PAH homologues, selected sulfur-containing compounds (dibenzothiophenes[2]), and other compounds useful for the identification of hydrocarbon sources in the environment. An inventory of the target compounds is found in Table 2, along with abbreviations used in selected figures in this report. The concentration of target compounds in the field samples are presented in Attachment 4. Collectively, the concentrations of these target compounds are useful for qualitatively and quantitatively comparing the samples and reference materials. PAH histograms were constructed to summarize these compositional features (Attachment 5).

3.3.4 Biomarker Fingerprints (GC/MS/SIM)

Environmental forensic investigators have demonstrated that the presence and/or pattern of biomarkers can reveal information about the specific source(s) of petrogenic residues in the environment; e.g., petroleum or coal (Stout *et al.*, 2002). For this project, selected biomarker fingerprints were qualitatively generated using GC/MS/SIM that monitored the diagnostic fragment ions (Attachments 6 and 7). These analyses were conducted on the same sample extracts prepared for the measurement of PAH. While the GC/MS was not calibrated for the full suite of biomarkers, several quality control measures for tuning, linearity and mass discrimination ensured that the acquired biomarker patterns were suitable for a qualitative comparison among the samples.

4.0 RESULTS

The high-resolution GC/FID fingerprints, quantitative PAH data, PAH histograms, and biomarker fingerprints are presented in Attachments 3 through 7. In the following sections, the data are described in terms of the project's primary objectives: the determination of chemical nature of the hydrocarbons present and chemical relationships among the field samples.

[1] The surrogates naphthalene-d8, phenanthrene-d10, and chrysene-d12 were used to monitor sample specific extraction efficiency for the PAH analysis.
[2] benzo(b)thiophenes were not measured for the field samples in this project

4.1 General Hydrocarbon Patterns

Four types of organic material were observed in the field samples. First, a middle distillate (No. 2 Fuel Oil or Diesel) was detected in SO11 and AQ11 (Figure 2a). The middle distillate hydrocarbons eluted between 7.1 minutes (decane, nC10) and 38 minutes (hexacosane, nC26). The distribution of the unresolved complex mixture (UCM or hump) with its maximum at about 21 minutes (pentadecane, nC15) strongly supported the middle distillate identification. The material in these two samples was very similar and likely originated from the same source. The overall fingerprint exhibited many features of the diesel reference samples; e.g., hydrocarbon range, UCM maximum, and recalcitrant fraction (Attachment 3). However, the absence of normal alkanes and the dominant presence of isoprenoid hydrocarbons indicated advanced biodegradation. In short, the composition of these two samples was consistent with fire training residuals (diesel and kerosene residuals) and dissimilar from all other field samples collected as part of this investigation.

Second, residual petroleum hydrocarbons constituted the dominant feature of SO15 (Figure 2b). These hydrocarbons eluted between 26 (octadecane, nC18) and 62 minutes (greater than tetracontane, nC40). The unresolved complex mixture (UCM, or hump) exhibited a maximum at about 53 minutes (tetracontane, nC40). The relative absence of resolved peaks was consistent with weathering processes. The features of diesel range hydrocarbons were absent from this sample.

Third, pyrogenic[3] PAH were observed in samples from the catch basins, hot spot, and other sediment locations (Figures 2c, 2d, and 2e). For example, 3- to 6-ring parent PAH (25 to 45 minutes, respectively) dominated samples 5 and 471 with fluoranthene (30 minutes) consistently expressing the highest single abundance. In the vicinity of 471, samples like 410 revealed pyrogenic PAH with variable levels of naturally occurring organic matter. None of these samples contained the diesel residuals measured in the fire training area represented by samples SO11 an AQ11.

Fourth, naturally occurring organic material dominated the fingerprint in 470 and JPC03 (Attachment 3). These hydrocarbons largely eluted between 40 and 47 minutes and contained variable levels of odd alkanes. While pyrogenic PAH were measured clearly by other techniques, the relatively high abundance of natural material effectively masked the presence of PAH in these fingerprints. However, it is clear that none of these samples contained the diesel residuals measured in the fire training area represented by samples SO11 and AQ11.

4.2 Polycyclic Aromatic Hydrocarbons

The quantitative PAH data supported the types of hydrocarbons identified previously. First, samples SO11 and AQ11 contained largely 2- and 3-ring petrogenic PAH (Figure 3a). The PAH histogram of these samples most closely matched the diesel reference standards as opposed to the kerosene standards that contained dramatically lower levels of petrogenic 3-ring PAH. While the PAH concentrations of SO11 and AQ11 varied (777 mg/kg dry and 16.7 mg/L, respectively), the ratio of light to heavy PAH (LPAH/HPAH) was nearly identical (Table 3). Low level 5- and 6-ring PAH suggested the presence of low-level combustion products evidenced in the combusted diesel and kerosene reference standards (Appendix 5). The evaporative weathering of PAH was minimal relative to the reference standards. The high relative abundances of 2-ring PAH after a protracted period in the subsurface soil suggested that water washing was not likely a primary mechanism of degradation. These PAH patterns were not observed in any other field samples.

[3] The term, "pyrogenic," refers to the formation of PAH during the partial combustion or pyrolysis of organic matter. A pyrogenic PAH pattern exhibits high parent abundance relative to the alkylated PAH; e.g., C0 > C1. By contrast, the term, "petrogenic," refers to the formation of PAH during petroleum or coal generation (Stout et al., 2002). A petrogenic PAH pattern exhibits low parent abundance relative to the alkylated PAH; e.g., C0 < C1. See Figure 4 for examples.

Second, a mixed PAH pattern was evident in SO15 (Figure 3b). The overall profile of 2- to 6-ring PAH was pyrogenic; e.g., the parent PAH exhibited a greater abundance than the alkylated homologues. The pyrogenic influence was also evident in the high amounts of 5- and 6-ring PAH. However, a petrogenic influence was evident in the dibenzothiophene patterns; e.g., dibenzothiophene had a lower abundance than its alkylated homologues. This petrogenic pattern was also evident in the higher abundances of alkyl 3- to 4-ring PAH relative to the more pyrogenic patterns in the sediment samples. This mixed signature may indicate the presence of a partially combusted crude oil or residual petroleum product, like No. 6 fuel oil formerly used as part of the fire training exercises. The diesel residuals from SO11 sampling location were not present in this sample.

Third, pyrogenic PAH patterns were observed in all of the sediment samples (Figures 3c, 3d, and 3e). The pyrogenic pattern in the catch basins (Figure 3c) contained relatively high concentrations of TPAH (OF075 = 18.9 mg/kg dry and OF093 = 45.5 mg/kg dry) and ratios of LPAH/HPAH were similar (0.327 and 0.211, respectively). The PAH histogram from these samples most closely resembled the sediment from 410 and the fine sediment particles from 5 due to the higher ratio of parent to alkylated PAH for the 3- and 4-ring PAH. However, this difference was subtle and could not be distinguished from weathering processes with the limited number of samples and analytical measurements. Indeed, the pattern of pyrogenic PAH among all of the catch basin and sediment samples was very similar (compare Figure 3c verses 3d and 3e). Consequently, the differences among the sediment samples were largely based on absolute concentration. For example, the pyrogenic PAH composition from the catch basins, hot spot area, and regional background was similar, but the TPAH concentration decreased steadily from 45 mg/kg dry to 0.2 mg/kg dry. This large difference in concentration dictated that JSC03 was not a likely source of PAH for the sediments located more closely to the old fire training area. Rather, this concentration gradient was consistent with the dilution of pyrogenic PAH from the catch basins to a regional background levels. The diesel signature from SO11 and AQ11 was not present in any field sediments.

Principal components analysis (PCA) was used to more quantitatively explore the trends within the PAH data[4]. This analysis clearly differentiated the PAH in the upland soils from the PAH in all of the sediment samples included in this study (Figure 5). Indeed, the PCA mathematically illustrated a) the similar composition among all sediments (tight clustering) and b) the likely mixing gradient from the catch basin sediments, through the storm sewer discharge sediments, and out to the most distant sediment sampling location represented by JPC03 (Figure 5a). The compositional changes that defined this gradient were largely governed by the loss of more labile parent PAH. This loss was consistent with environmental weathering. In addition, PCA clearly differentiated the sediments from the SO15 sample based on its higher level of alkylated PAH and partial petrogenic character. Finally, the SO11 and AQ11 were clearly distinct from the other field samples as dictated by the high level of 2- and 3-ring PAH. Sample AQ11 clustered more closely with the diesel reference samples (Figure 5b). Although compositionally similar, the rarity and resulting elevated importance of 2-ring PAH in this PCA positioned SO11 to the left of AQ11 indicating a slight enrichment of C0- to C2-naphthalenes. The separation between SO11 and AQ11 was attributed to slightly higher weathering in AQ11. The greater 2-ring and lesser 3-ring PAH in SO11 relative to the diesel reference material likely reveals that SO11 was a lighter middle distillate blend than the reference material used in the previous fire training study (Emsbo-Mattingly, 2002). This compositional difference was more consistent with a winter diesel than a kerosene product.

[4] Principal Component Analysis (PCA; Pirouette, Version 3.02, Infometrix, Seattle, WA) is a factor analysis method that generates new independent variables (i.e. factors) that are linear combinations of the original input variables (e.g., PAH concentrations). This method reduces the dimensionality of the data to a few important "principal components" (axes) that best describe variations in the data. The first axis (1st PC) demonstrates the most prominent trend and successive axes (2nd PC, 3rd PC, etc.) demonstrate additional trends in decreasing order of importance. Prior to PCA, the PAH concentration input data are log-transformed to reduce the effect of widely varying concentrations between samples and between individual analytes. The primary objective of the PCA conducted for this study was to aid in the classification of field samples based on their chemical similarities or differences, without any pre-classification as to their nature/source(s). In this report, the results of a PCA are presented using 2-dimensional factor score and loading plots.

4.3 Alkane Distributions

Four types of aliphatic material were evident in the alkane fingerprints generated by mass spectrometer. First, the hydrocarbon profile confirmed the middle distillate pattern in samples SO11 and AQ11 (Figure 6a). The low level normal alkanes and high-level isoprenoid hydrocarbons verified the presence of biodegradation. The nearly identical patterns in these two samples suggested a common origin. These middle distillate patterns were not repeated in any other sample described in this investigation.

Second, a heavy molecular weight petroleum product (possibly residual crude oil or No. 6 fuel oil) was evident in SO15 (Figure 6b). This material was identified by gradually increasing normal alkanes eluting from approximately tridecane (nC13) past pentatriacontane (nC35). In addition, this material exhibited a heavy molecular weight UCM. The enrichment of high molecular weight, odd carbon number alkanes further suggested that SO15 was distinct from other field samples.

Third, low level, heavy molecular weight petroleum (possibly asphalt) was evident in OF75, OF93 (Figure 6c), 5, 410-18, 470, 471 (Figure 6d), DUP1, and JPC03 (Figure 6e). This material was identified by gradually increasing normal alkanes eluting from approximately tridecane (nC13) to heptatriacontane (nC37) with a maximum around octacosane (nC28). In addition, this material exhibited a heavy molecular weight UCM. In many samples, the normal alkane pattern had a heavier starting point possibly due to weathering.

Fourth, naturally occurring hydrocarbons were measured in all of the sediment samples plus OF75 (Attachment 6). This material was identified by the enrichment of odd numbered normal alkanes eluting between nonacosane (nC29) and tritriacontane (nC33).

4.4 Biomarker Patterns

The triterpane biomarkers helped refine the classification of several hydrocarbon sources discussed previously. First, the biomarker fingerprint of the diesel containing samples (SO11 and AQ11) revealed an initially descending baseline and attenuating homohopane series that marked the end of the distillation range for the middle distillate product (Figure 7a). While the triterpane compounds were very similar in these two samples, they were distinct from all the other samples as indicated by the relatively high abundance of Ts and NH.

Second, the petrogenic material in SO15 was distinct from other samples in terms of its low abundances of NH to H (Figure 7b). These traits suggested that the petrogenic material in SO15 was likely distinct from the petrogenic material in the sediment samples.

Third, the catch basin (OF75 and OF93; Figure 7c) and many hot spot samples (5, 410, 471, DUP1; Figure 7d) exhibited higher homohopanes and norhopane relative to hopane than the other sediment samples. Consequently, the petrogenic material in these samples may share a common origin.

Fourth, the high relative abundance of Ts to Tm in samples 410-18, 470, and JPC03 (Figure 7e) suggested that the heavier petroleum in these samples may have shared a different origin from the other sediment samples.

5.0 CONCLUSION

Advanced chemical analyses were performed on each site sample. The results of these analyses generated the following conclusions:

- The petroleum hydrocarbons from SO11 and AQ11 likely originated from the same middle distillate (e.g., diesel or No. 2 fuel oil) based on the similar high-resolution hydrocarbon fingerprints, PAH profiles and biomarker patterns. Biodegradation depleted the normal alkanes. The migration potential for this material was minimal as evidenced by the presence of abundant 2-ring PAH (susceptible to water washing) and the absence of diesel signatures at down gradient sampling locations (e.g., SO15). The kerosene and diesel reference material further revealed that SO11 and AQ11 contained diesel. The low level 5- and 6-ring PAH indicated that this material was previously combusted as part of the fire training activities at the site.
- Sample SO15 contained a heavy petroleum product as evidenced by the late eluting UCM and gradually increasing concentrations of normal alkanes in the FID and MS alkane fingerprints. The relatively unique biomarker pattern suggested that this material was different from other petroleum-containing material in this project. Its pyrogenic PAH profile suggested that this material was a previously combusted crude oil or No. 6 fuel oil.
- The PAH composition of OF75 and OF93 was dominated by pyrogenic PAH most similar to the fine particles in sample 5. Lesser amounts of residual petroleum or asphalt were also observed in these catch basin samples.
- The dominant pyrogenic signatures observed in the hot spot sediments exhibited a composition intermediate in nature between the high and low PAH containing samples in the catch basin and JPC03 locations. The lower levels of residual petroleum observed in the alkane and biomarker fingerprints were consistent with the presence of asphalt, degraded crude oil or petroleum residuals from one or more origins.
- Naturally occurring hydrocarbons, like plant waxes, were observed with varying concentrations in the sediment samples.

6.0 SUMMARY

Based on the conclusions stated in Section 5.0, this section proposes a conceptual site model that could account for the analyte distributions recorded in this report.

- One or more middle distillates (e.g., diesel or No. 2 fuel oil) were combusted as part of the fire training activities at the site proximate to the SO11 sampling location. The residual fuel was left in the pit after the training exercises were complete. Eventually, this material mixed and degraded as it seeped into the local soil. However, the migration of the material was not rapid enough to move this middle distillate to the shoreline or sediment locations.
- A crude or heavy fuel oil may also have been used for fire training purposes near the SO15 sampling location. The uncombusted residuals eventually sank into the soil and potentially mixed with the residuals of previous heavy petroleum burns. However, sediment samples near the SO15 location exhibited different patterns of PAH, alkanes and biomarkers. Therefore, the off-shore migration of this material was likely localized and not widely expressed in the sediments.
- The dominant signature and concentration gradients of pyrogenic PAH clearly favored the catch basins over the fire training activities as a source of PAH in the sediments around the site. The similar PAH and biomarker patterns in the catch basins (OF75 and OF93) and open water sediments (5, 471, 410, and DUP1) offered further evidence that the catch basin material was diluted with regional sediments, like that from JPC03, as it migrated away from the site.
- The variable presence of naturally occurring organic material, like plant waxes, are common in areas where the leaves of high plants migrate into the sediments. The distribution of naturally occurring organic matter can be unpredictable in dynamic sediment systems.

7.0 REFERENCES

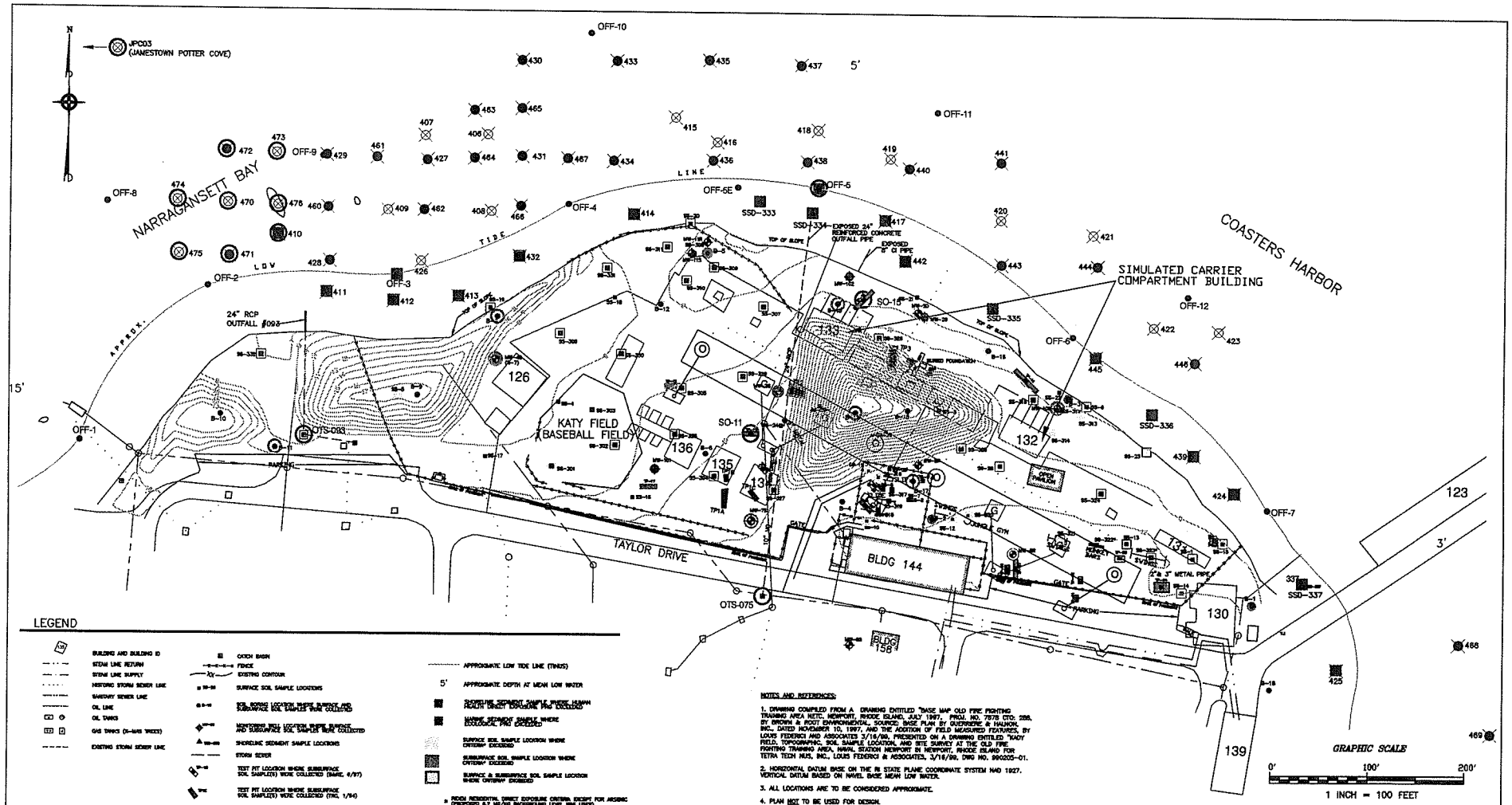
Emsbo-Mattingly, S.D., Uhler, A.D., Stout, S.A., McCarthy, K.J., Douglas, G.S., Brown, J.S., and Boehm, P.D. (2002). Polycyclic Aromatic Hydrocarbon (PAH) Chemistry of MGP Tar and Source Identification in Sediment. In, Sediments Guidance Compendium, Report No. 1005216, Electric Power Research Institute, Palo Alto California, pp. 1-1 to 1-41.

Emsbo-Mattingly, S.D. (2002) Environmental Forensic Investigation of Petroleum Types and Sources from the Former Fire Training Area at the Naval Computer and Telecommunications Station in Cutler, ME. Northern Division, Lester, PA.

Stout, S.A., Uhler, A.D, McCarthy, K.J. and Emsbo-Mattingly, S.D. (2002) Chemical Fingerprinting of Hydrocarbons. In: Introduction to Environmental Forensics, B. Murphy and R. Morrison, Eds. Academic Press.

Attachment 1.
Figures

Figure 1.
Sample Location Map



LEGEND

- BUILDING AND BUILDING ID
- STEAM LINE RETURN
- STEAM LINE SUPPLY
- HISTORIC STORM SEWER LINE
- SANITARY SEWER LINE
- OIL LINE
- OIL TANKS
- GAS TANKS (N-MAS TRICES)
- EXISTING STORM SEWER LINE
- CATCH BASIN
- FENCE
- EXISTING CONTOUR
- SURFACE SOIL SAMPLE LOCATIONS
- SOIL BORING LOCATION WHERE SURFACE AND SUBSURFACE SOIL SAMPLES WERE COLLECTED
- MONITORING WELL LOCATION WHERE SURFACE AND SUBSURFACE SOIL SAMPLES WERE COLLECTED
- SHORELINE SEDIMENT SAMPLE LOCATIONS
- STORM SEWER
- TEST PIT LOCATION WHERE SUBSURFACE SOIL SAMPLE(S) WERE COLLECTED (BARR, 6/97)
- TEST PIT LOCATION WHERE SUBSURFACE SOIL SAMPLE(S) WERE COLLECTED (TTNUS, 1/94)
- 464 SEDIMENT SAMPLE LOCATION
- 426 SEDIMENT SAMPLE LOCATION
- OFF-3 SEDIMENT SAMPLE LOCATION
- APPROXIMATE LOW TIDE LINE (TTNUS)
- 5' APPROXIMATE DEPTH AT MEAN LOW WATER
- SUBSURFACE SEDIMENT SAMPLE WHERE HUMAN HEALTH DIRECT EXPOSURE PRG EXCEEDED
- MARINE SEDIMENT SAMPLE WHERE ECOLOGICAL PRG EXCEEDED
- SURFACE SOIL SAMPLE LOCATION WHERE CRITERIA* EXCEEDED
- SUBSURFACE SOIL SAMPLE LOCATION WHERE CRITERIA* EXCEEDED
- SURFACE & SUBSURFACE SOIL SAMPLE LOCATION WHERE CRITERIA* EXCEEDED

* RIDEM RESIDENTIAL DIRECT EXPOSURE CRITERIA (EXCEPT FOR ARSENIC (PROPOSED 8.2 MG/KG BACKGROUND LEVEL WAS USED)

SELECT CONTAMINANTS INCLUDE ARSENIC, LEAD, BENZO(A)PYRENE, AND TPH SEE TABLES 2-11 AND 2-12 FOR A COMPLETE LIST OF CONTAMINANTS EXCEEDING CRITERIA.

- PHASE 2 PREDESIGN SAMPLE STATION

NOTES AND REFERENCES:

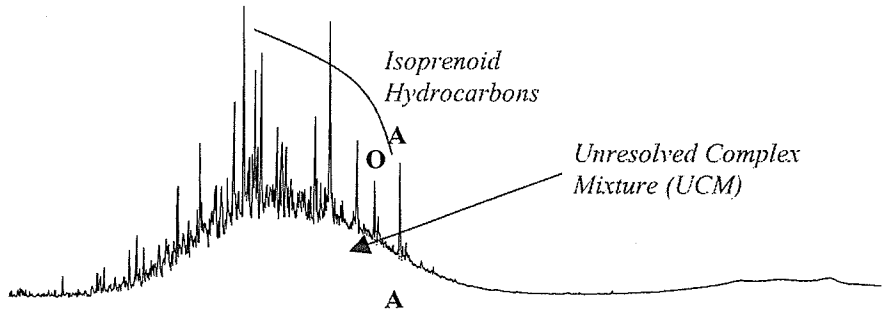
1. DRAWING COMPILED FROM A DRAWING ENTITLED "BASE MAP OLD FIRE FIGHTING TRAINING AREA NETC, NEWPORT, RHODE ISLAND, JULY 1997, PROJ. NO. 7878 CTO: 256, BY BROWN & ROOT ENVIRONMENTAL, SOURCE: BASE PLAN BY QUENDRINE & HAUNON, INC., DATED NOVEMBER 10, 1997, AND THE ADDITION OF FIELD MEASURED FEATURES, BY LOUIS FEDERICI AND ASSOCIATES 3/18/99, PRESENTED ON A DRAWING ENTITLED "NAOY FIELD, TOPOGRAPHIC, SOIL SAMPLE LOCATION, AND SITE SURVEY AT THE OLD FIRE FIGHTING TRAINING AREA, NAVAL STATION NEWPORT IN NEWPORT, RHODE ISLAND FOR TETRA TECH NUS, INC., LOUIS FEDERICI & ASSOCIATES, 3/19/99, DWG NO. 990205-01.
2. HORIZONTAL DATUM BASE ON THE RI STATE PLANE COORDINATE SYSTEM NAD 1927. VERTICAL DATUM BASED ON NAVEL BASE MEAN LOW WATER.
3. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
4. PLAN NOT TO BE USED FOR DESIGN.

PHASE 2 PREDESIGN SAMPLING			FIGURE 1
OLD FIRE FIGHTING TRAINING AREA			TETRA TECH NUS, INC.
NAVAL STATION NEWPORT, RHODE ISLAND			
DRAWN BY:	D.W. MACDOUGALL	REV.: 0	
CHECKED BY:	S. PARKER	DATE: JUNE 24, 2002	
SCALE:	1" = 100'	FILE NO.: DWG\4152\0441\FIG_1.DWG	

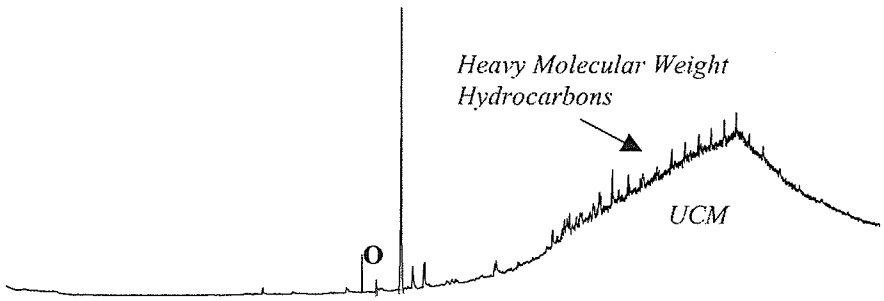
55 Jonspin Road Wilmington, MA 01887
(978)658-7899

Figure 2.
Selected High Resolution Hydrocarbon Fingerprints

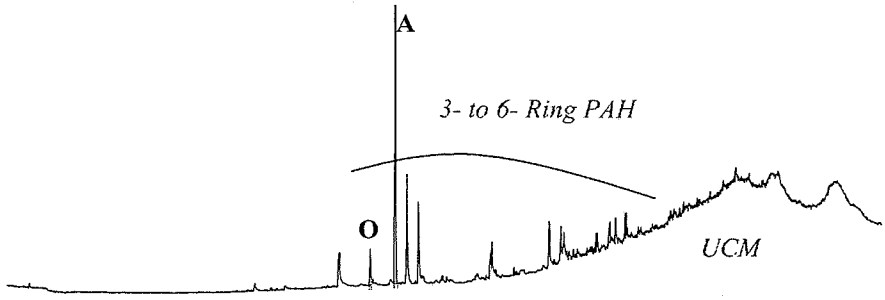
2a. SO11
Middle Distillate
Presence of isoprenoids and absence of normal alkanes indicates biodegradation.



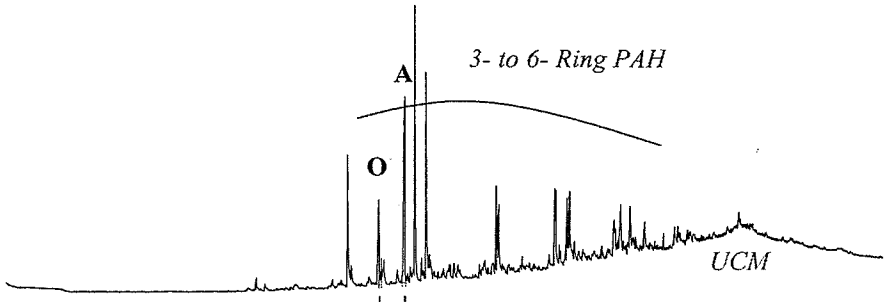
2b. S015
Residual Petroleum
Heavy molecular weight compounds are consistent with asphalt or other residual petroleum.



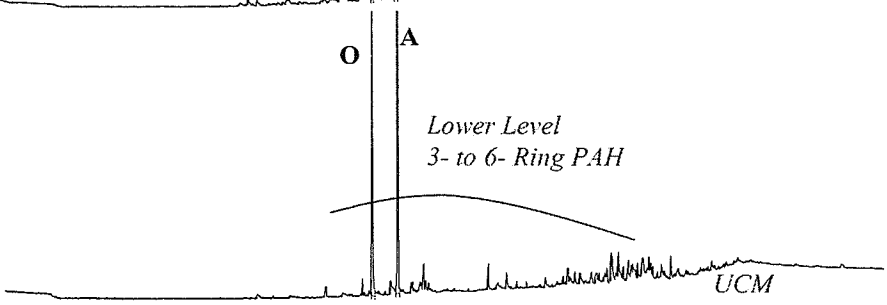
2c. OF93
Parking Lot Runoff
Pyrogenic PAH and late eluting UCM is a typical signature of urban runoff.



2d. 471
Urban Sediment
Enriched pyrogenic PAH and late eluting UCM is a typical signature of urban runoff.



2e. JPC03
Sediment
Lower level pyrogenic PAH and late eluting UCM is typical of runoff from less urban area and offshore locations.



O-terphenyl (**O**) and 5a-Androstane (**A**) are QC compounds that should otherwise be ignored for fingerprinting purposes

Figure 3.
PAH Analyte Patterns

3a. SO11
Middle Distillate
Enriched in 2- and 3-ring PAH with a petrogenic profile.

3b. S015
Residual Petroleum
Wide PAH range (2- to 6-rings) with mixed petrogenic and pyrogenic profiles. This pattern is consistent with a partially combusted crude or heavy fuel oil.

3c. OF93
Parking Lot Runoff
Pyrogenic 3- and 4- ring PAH with strong 5- and 6- ring PAH presence. This pattern is consistent with atmospheric fallout (see Fig 4e) that accumulates in the sediment matrix.

3d. 471
Urban Sediment
Similar to Fig 3c with slightly lower parent relative to alkylated PAH. This slight reduction in parent PAH is consistent with environmental weathering.

3e. JPC03
Sediment
Similar to Fig 3d with more pronounced reduction in parent PAH indicative of more advanced weathering.

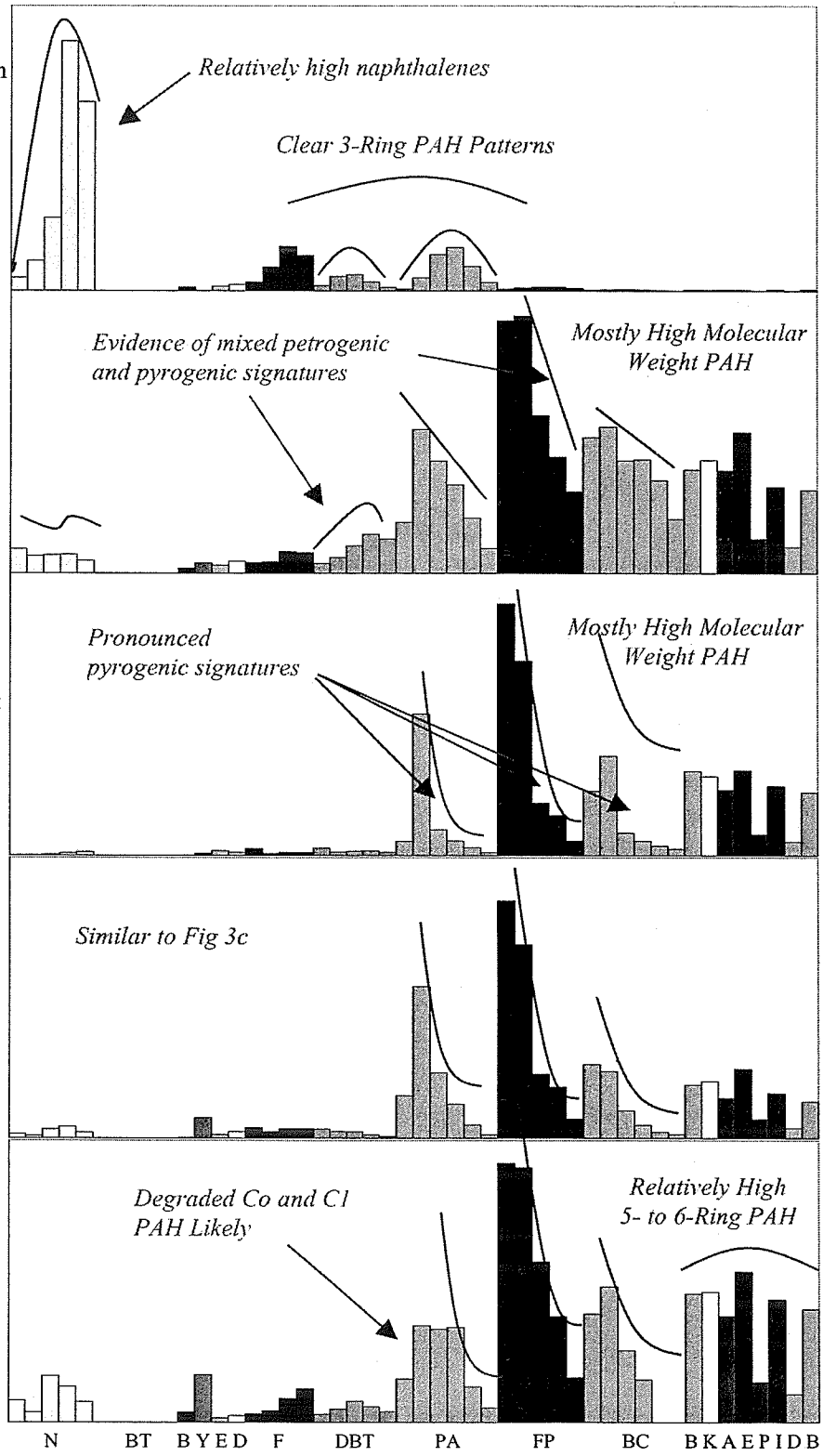


Figure 4.
Reference Histograms Demonstrate Petrogenic and Pyrogenic Patterns

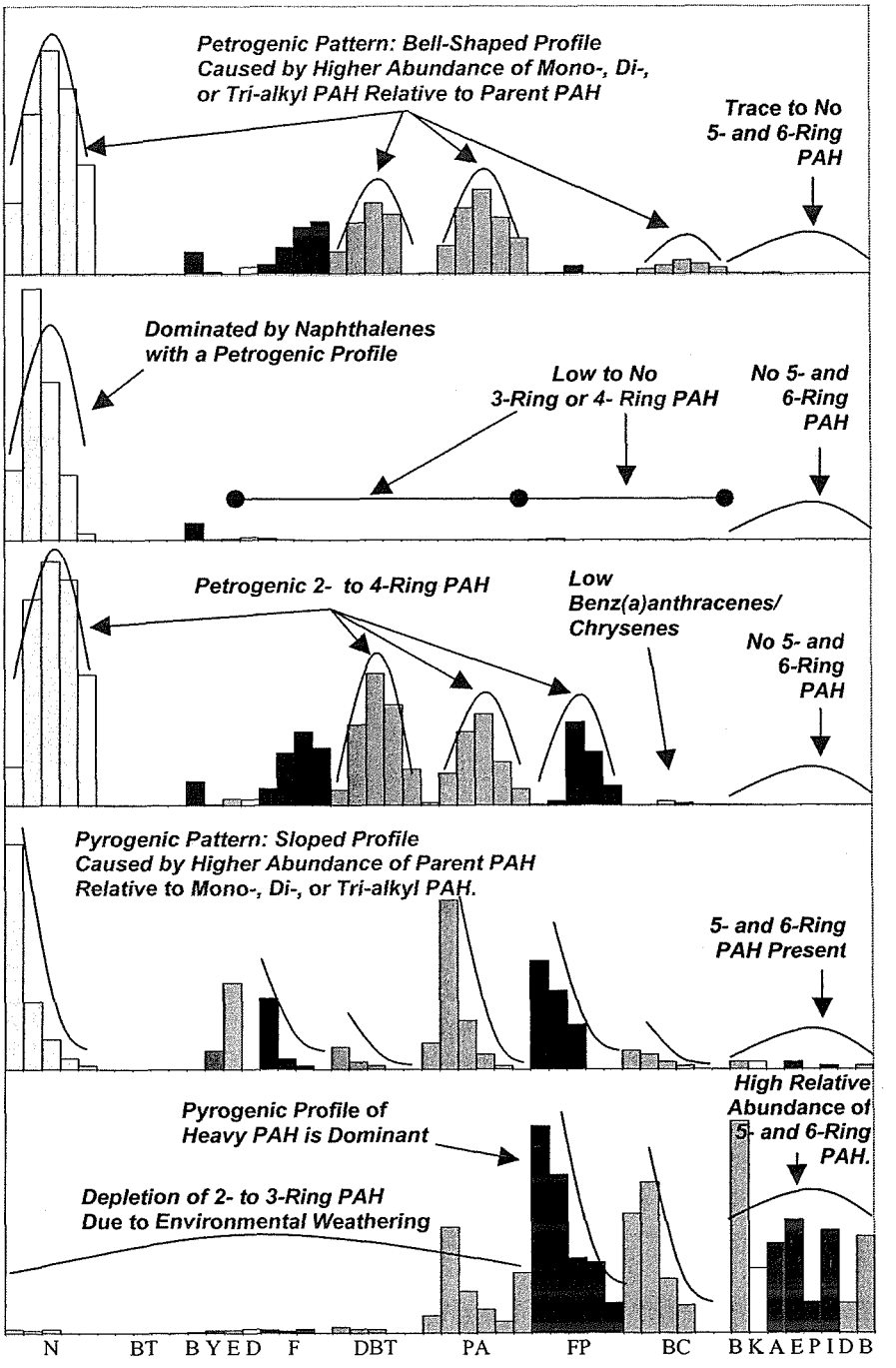
4a. Crude Oil
Wide PAH Range
Petrogenic pattern in each alkylated PAH group.
Relative abundance decreases from 2- to 4-ring PAH.
(TPAH = 15,500,000 ppb)

4b. Kerosene
Narrow PAH Range
Distillation of crude oil preferentially recovers 2-ring over 3- and 4-ring PAH.
Petrogenic pattern in 2-ring PAH.
(TPAH = 9,830 ppb)

4c. Diesel
Intermediate PAH Range
Distillation of crude oil preferentially recovers 2- to 3-ring PAH over 4-ring PAH.
(TPAH = 49,500 ppb)

4d. Soot
Wide PAH Range
Pyrogenic pattern in each alkylated PAH group.
(TPAH = 302,000 ppb)

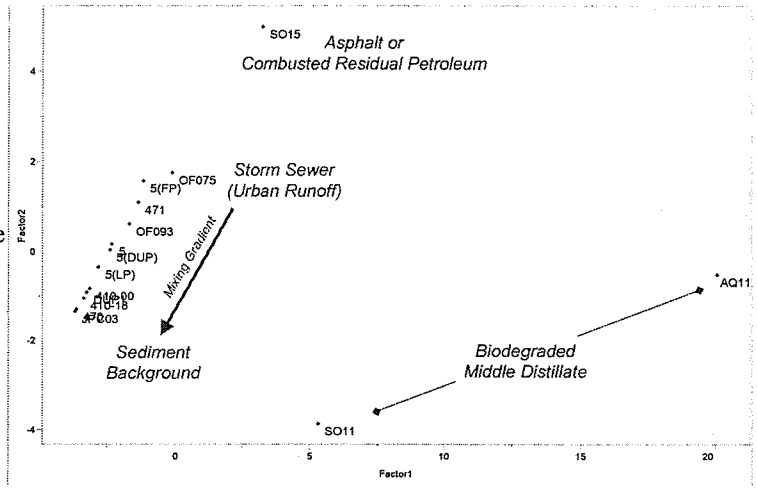
4e. Atmospheric Fallout
Heavy PAH Composition
Pyrogenic pattern dominated by 4- to 6-ring PAH.
(TPAH = 1,840,000 ppb)



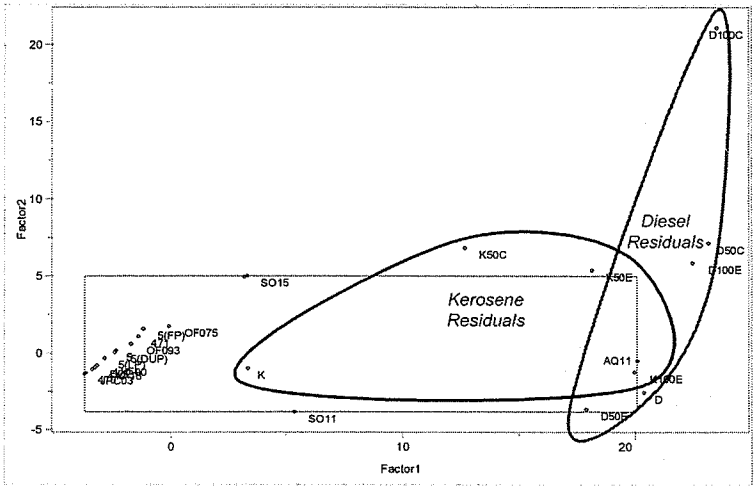
Related parent and alkylated PAH analytes grouped by color. See Table 2 and Attachment 4 for more detailed analyte identification.

Figure 5.
Principal Components Analysis of PAH Analyte Ratios In Field and Reference Samples

5a. Sample Groupings (PCA Scores Plot).
The middle distillates were located in the lower right due to petrogenic 2- and 3-ring PAH. The residual petroleum exhibited a mixed petro- and pyrogenic PAH pattern with a bias towards 4- to 6-ring PAH. The sediments were fairly similar differing mostly in the relative abundances of 4- through 6-ring PAH.



5b. Sample Grouping (PCA Scores Plot Modified)
Plot 5a shown with selected kerosene and diesel reference materials. Sample AQ11 clustered with the diesel samples while SO-11 plotted to the lower left due to the enriched 2-ring PAH – indicating a light diesel source material with slight evaporation effects in AQ-11. Like SO-11 and AQ-11, the reference materials were distinct from the sediment samples.



5c. Analyte Groupings (PCA Loadings Plot).
Principal components 1 (x-axis) and 2 (y-axis) contain 87% and 9% of the variability, respectively. The PAH concentration data illustrate three primary types of field samples: pyrogenic urban runoff, residual petroleum, and middle distillate.

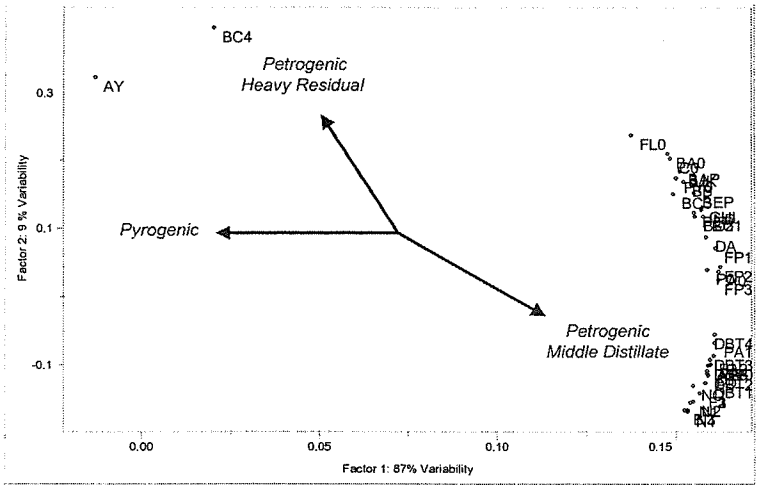
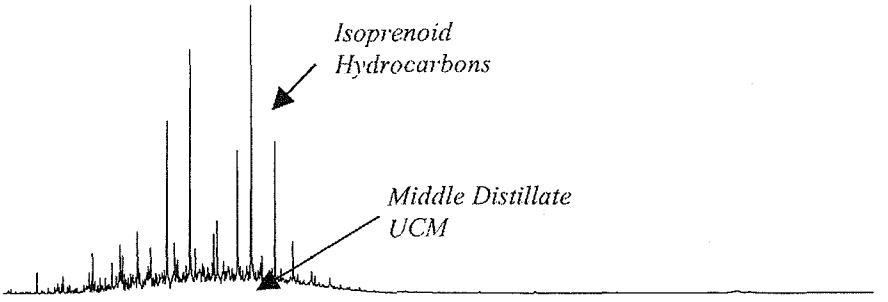
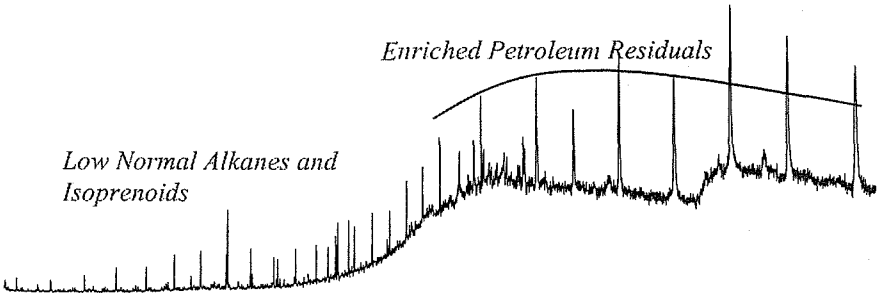


Figure 6.
Normal Alkane Fingerprints (GC/MS m/z 85)

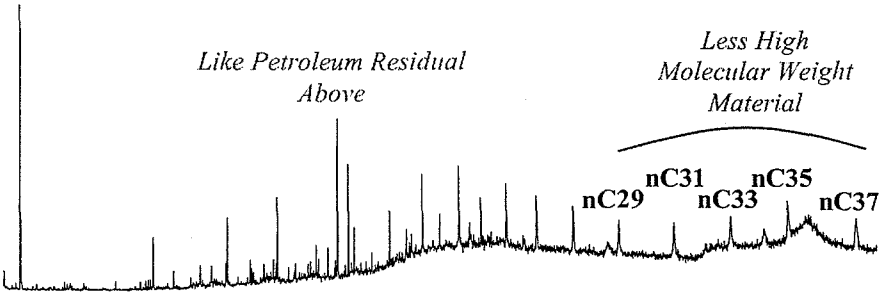
6a. SO11
Middle Distillate
Presence of isoprenoids and absence of normal alkanes indicates biodegradation.



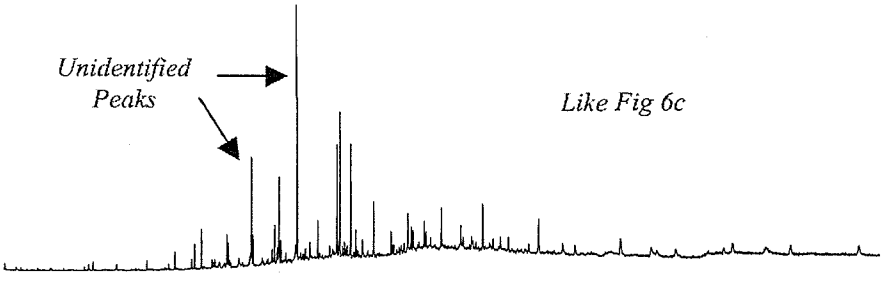
6b. S015
Residual Petroleum
Heavy molecular weight compounds are consistent with asphalt or other residual petroleum.



6c. OF93
Parking Lot Runoff
Wide range normal alkanes and late eluting UCM is a typical signature of urban runoff. This petroleum pattern is very low relative to the pyrogenic PAH pattern described in Fig 3c. Heavy odd carbon number preference observed.



6d. 471
Urban Sediment
When the unidentified peaks are removed from the pattern, similarities with Fig 6c are evident; i.e., wide range normal alkanes with a late eluting UCM. This petroleum pattern is low relative to the pyrogenic pattern in Fig 3d.



6e. JPC03
Sediment
Residual petroleum pattern is low relative to the pyrogenic PAH patterns described in Fig 3e. The lower level of light hydrocarbons could indicate greater weathering than Fig 6d. Pattern without sulfur peaks is in Attachment 6.

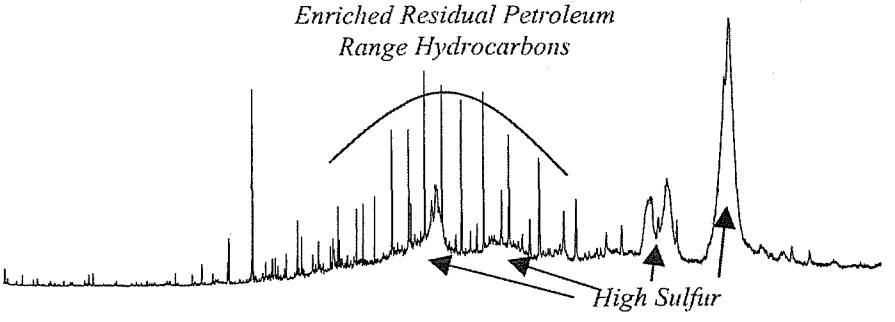
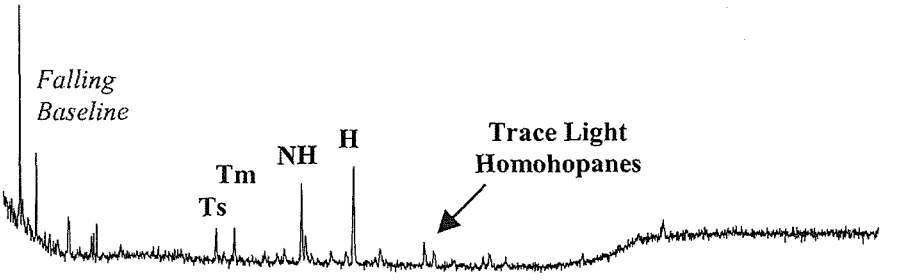
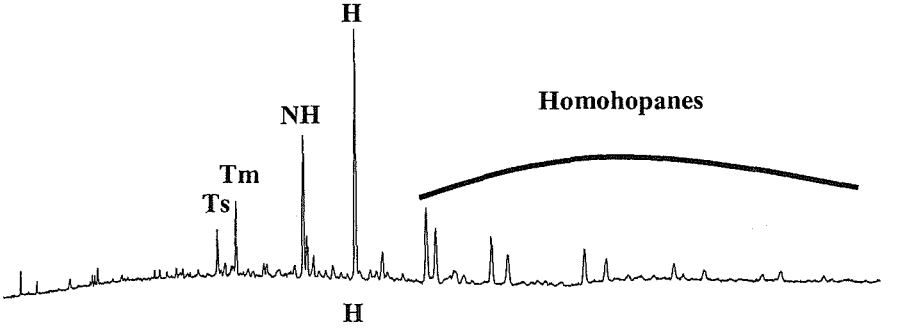


Figure 7.
Terpane Biomarker Fingerprints

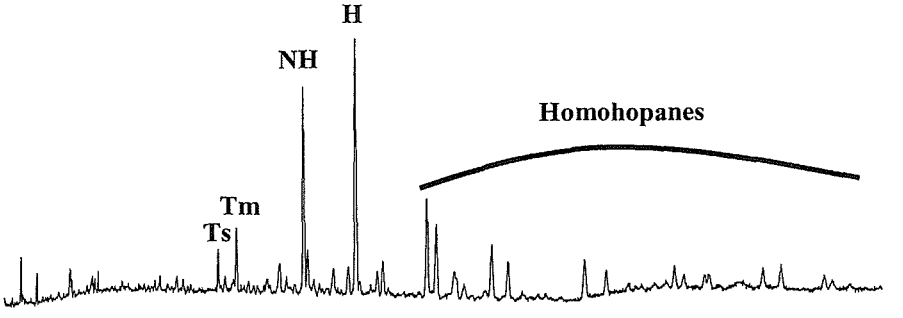
7a. SO11
Middle Distillate
The end of the distillation run is revealed by the falling baseline and trace, light homohopanes. The relative abundances of Ts to Tm and NH to H appear unique among these samples and indicate a unique petroleum origin.



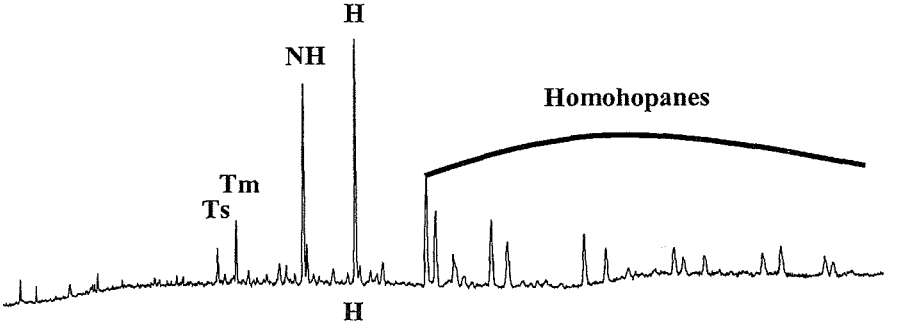
7b. S015
Residual Petroleum
Heavy molecular weight petroleum revealed by a full range of triterpanes. The low relative abundance of NH to H may indicate a unique petroleum source among the field samples.



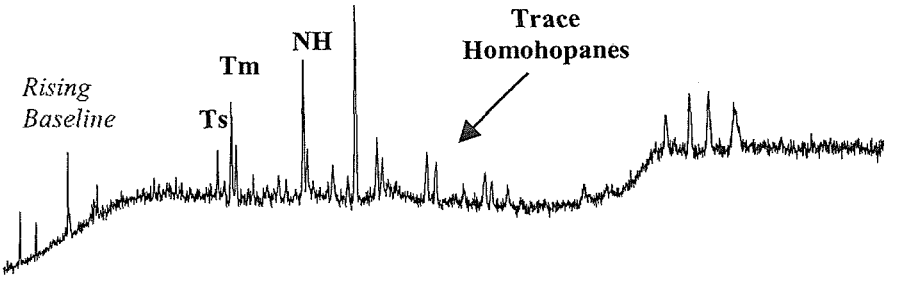
7c. OF93
Parking Lot Runoff
Similar to Fig 6b, except the higher relative abundance of NH to H differentiated this petroleum material from that in SO15.



7d. 471
Urban Sediment
Similar to Fig 6c.



7e. JPC03
Sediment
Similar to Fig 6c, except the relative abundance of Ts to Tm may be low. The triterpanes are present at trace concentrations as evidenced by the rising initial baseline and homohopanes below the detection limit.



Ts = 18α(*H*),21β(*H*)-22,29,30-trisnorhopane Tm = 17α(*H*),21β(*H*)-22,29,30-trisnorhopane
NH = 17α(*H*),21β(*H*)-30-norhopane H = 17α(*H*),21β(*H*)-hopane

Attachment 2.
Tables

Table 1.
Sample Identification, Collection, and Analysis Summary

Client ID	Location	Date Collected	Abbreviation	Quantitative PAH	High Resolution Hydrocarbon Fingerprint	Alkane MS Fingerprint	Biomarker MS Fingerprint
Sediment							
OFF-SD-5-0006 (Fine Particles)	Sediment from Terminus of Parking Lot Drain OFF-OTS-OF75	7/2/2002	5(FP)	V5870	V5870	V5870	V5870
OFF-SD-5-0006 (Large Particles)		7/2/2002	5(LP)	V5870	V5870	V5870	V5870
OFF-SD-5-0006 (Mixed)		7/2/2002	5	V5870	V5870	V5870	V5870
OFF-SD-5-0006 (Mixed DUP)		7/2/2002	5(DUP)	V5870	V5870	V5870	V5870
OFF-SD-JPC03-0006	Background	7/2/2002	JPC03	V5871	V5871	V5871	V5871
OFF-SD-471-0006	Around Hot Spot: Sediment from Terminus of Drain OFF-OTS-OF93	7/2/2002	471	V5872	V5872	V5872	V5872
OFF-SD-470-0006	Around Hot Spot Sediment from Terminus of Drain OFF-OTS-OF93	7/2/2002	470	V5873	V5873	V5873	V5873
OFF-SD-410-0006	Hot Spot Sediment from Terminus of Drain OFF-OTS-OF93	7/2/2002	410-00	V5874	V5874	V5874	V5874
OFF-SD-410-1824	Hot Spot Sediment from Terminus of Drain OFF-OTS-OF93	7/2/2002	410-18	V5875	V5875	V5875	V5875
OFF-SD-DUP1-0006	Field Duplicate of SD-410-0006	7/2/2002	DUP1	V5876	V5876	V5876	V5876
OFF-OTS-OF75	Parking Lot Drain Catch Basin	7/11/2002	OF75	V6976	V6976	V6976	V6976
OFF-OTS-OF93	Storm Drain Catch Basin	7/11/2002	OF93	V6977	V6977	V6977	V6977
Soil							
OFF-SO-11-0607	Land Side Test Pit	7/11/2002	SO11	V6979	V6979	V6979	V6979
OFF-SO-15-0607	Shore Side Test Pit	7/11/2002	SO15	V6978	V6978	V6978	V6978
Water							
OFF-AQ-11-0607	Land Side Test Pit	7/11/2002	AQ11	V6980	V6980	V6980	V6980
Reference Standards							
Diesel Unaltered	Reference Standard	10/9/2001	D	W7747	W7747	W7747	W7747
Diesel 50% Combusted	Reference Standard	10/9/2001	D50C	W7747	W7747	W7747	W7747
Diesel 100% Combusted	Reference Standard	10/9/2001	D100C	W7747	W7747	W7747	W7747
Diesel 50% Evaporated	Reference Standard	10/9/2001	D50E	W7747	W7747	W7747	W7747
Diesel 100% Evaporated	Reference Standard	10/9/2001	D100E	W7747	W7747	W7747	W7747
Kerosene Unaltered	Reference Standard	10/9/2001	K	W7748	W7748	W7748	W7748
Kerosene 50% Combusted	Reference Standard	10/9/2001	K50C	W7748	W7748	W7748	W7748
Kerosene 100% Combusted	Reference Standard	10/9/2001	K100C	W7748	W7748	W7748	W7748
Kerosene 50% Evaporated	Reference Standard	10/9/2001	K50E	W7748	W7748	W7748	W7748
Kerosene 100% Evaporated	Reference Standard	10/9/2001	K100E	W7748	W7748	W7748	W7748

Table 2.
Primary PAH Analytes

Target Analyte	Number of Rings	Abbreviation Individual (Large Histogram)	Abbreviation Group (Small Histogram)
Naphthalene	2	NO	N
C1-Naphthalenes	2	N1	
C2-Naphthalenes	2	N2	
C3-Naphthalenes	2	N3	
C4-Naphthalenes	2	N4	
Benzo(b)thiophene	2	BT0	BT
C1-Benzo(b)thiophenes	2	BT1	
C2-Benzo(b)thiophenes	2	BT2	
C3-Benzo(b)thiophenes	2	BT3	
C4-Benzo(b)thiophenes	2	BT4	
Biphenyl	2	B	B
Acenaphthylene	3	AY	Y
Acenaphthene	3	AE	E
Dibenzofuran	3	DF	D
Fluorene	3	FO	F
C1-Fluorenes	3	F1	
C2-Fluorenes	3	F2	
C3-Fluorenes	3	F3	
Dibenzothiophene	3	DBT0	DBT
C1-Dibenzothiophenes	3	DBT1	
C2-Dibenzothiophenes	3	DBT2	
C3-Dibenzothiophenes	3	DBT3	
C4-Dibenzothiophenes	3	DBT4	
Anthracene	3	A0	PA
Phenanthrene	3	P0	
C1-Phenanthrenes/Anthracenes	3	PA1	
C2-Phenanthrenes/Anthracenes	3	PA2	
C3-Phenanthrenes/Anthracenes	3	PA3	
C4-Phenanthrenes/Anthracenes	3	PA4	
Fluoranthene	4	FL0	FP
Pyrene	4	PY0	
C1-Fluoranthenes/Pyrenes	4	FP1	
C2-Fluoranthenes/Pyrenes	4	FP2	
C3-Fluoranthenes/Pyrenes	4	FP3	
Benz[a]anthracene	4	BA0	BC
Chrysene	4	C0	
C1-Chrysenes	4	BC1	
C2-Chrysenes	4	BC2	
C3-Chrysenes	4	BC3	
Benzo[b]fluoranthene	5	BB	B
Benzo[j/k]fluoranthene	5	BJK	K
Benzo[e]pyrene	5	BEP	E
Benzo[a]pyrene	5	BAP	A
Perylene	5	PER	P
Indeno[1,2,3-c,d]pyrene	6	IND	I
Dibenz[a,h]anthracene	5	DA	D
Benzo[g,h,i]perylene	6	GHI	B

Note: Benzo(b)thiophenes were not quantitated for this project.

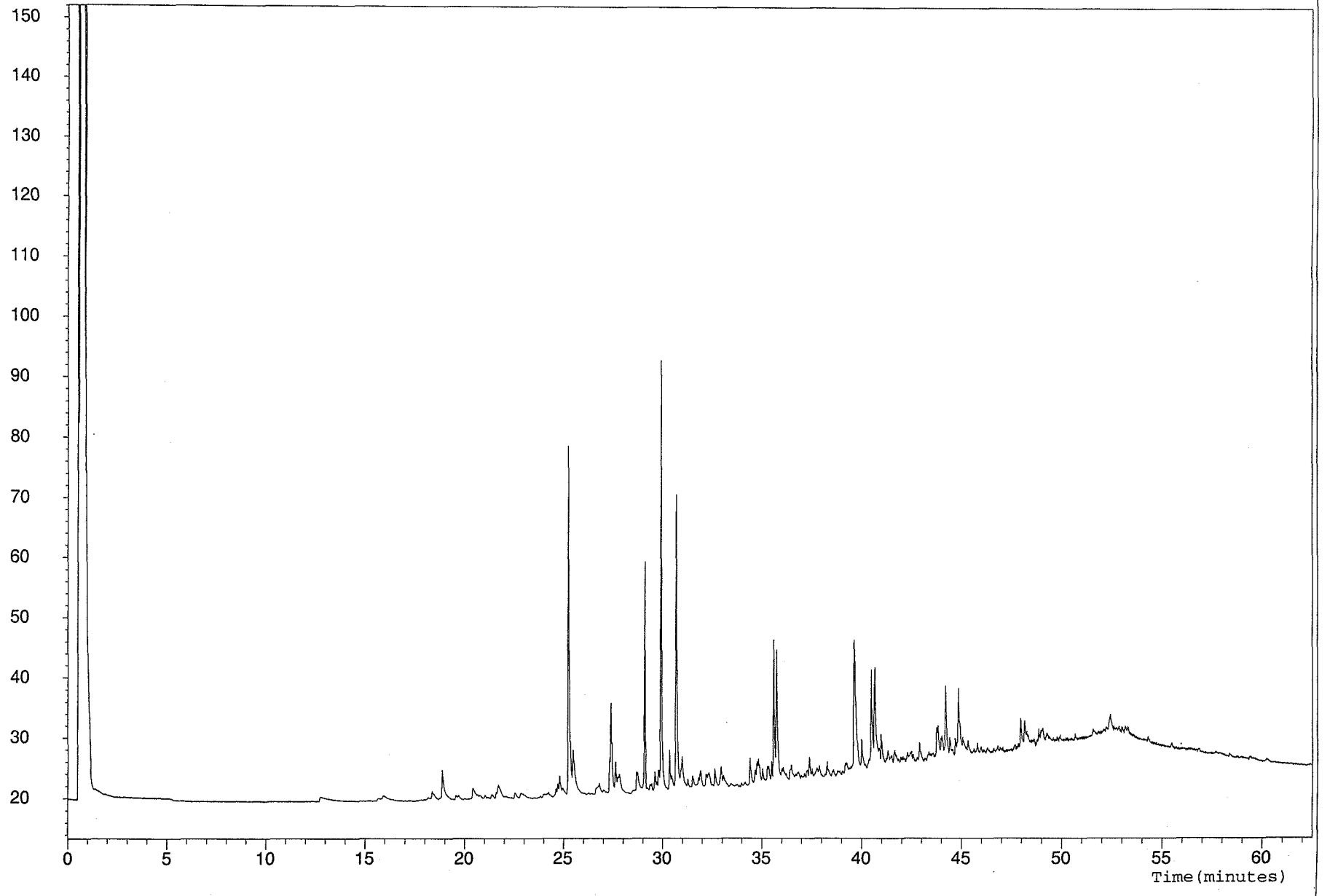
Table 3.
Summary of Selected PAH Calculations

Client ID	TPAH (ppm)	LPAH (ppm)	HPAH (ppm)	LPAH/HPAH Ratio
Sediment				
OFF-SD-5-0006 (Fine Particles)	24.7	8.35	16.4	0.510
OFF-SD-5-0006 (Large Particles)	6.95	1.69	5.26	0.321
OFF-SD-5-0006 (Mixed)	11.5	2.69	8.82	0.305
OFF-SD-5-0006 (Mixed DUP)	10.8	2.38	8.39	0.283
OFF-SD-JPC03-0006	0.194	0.052	0.142	0.365
OFF-SD-471-0006	24.5	7.04	17.4	0.404
OFF-SD-470-0006	0.643	0.178	0.465	0.384
OFF-SD-410-0006	4.09	0.967	3.12	0.309
OFF-SD-410-1824	2.54	0.75	1.79	0.419
OFF-SD-DUP1-0006	3.35	0.779	2.57	0.303
OFF-OTS-OF075	45.5	11.2	34.3	0.327
OFF-OTS-OF093	18.9	3.28	15.6	0.211
Soil				
OFF-SO-11-0607	777	753	24.9	30.3
OFF-SO-15-0607	107	28.2	78.5	0.359
Water				
OFF-AQ-11-0607	16.7	16.2	0.538	30.0
Reference Standards				
Diesel Unaltered	49600	45100	4430	10.2
Diesel 50% Combusted	44900	35300	9600	3.68
Diesel 100% Combusted	9150	3920	5230	0.749
Diesel 50% Evaporated	22600	19200	3360	5.71
Diesel 100% Evaporated	41600	27500	14100	1.95
Kerosene Unaltered	9830	9800	27.1	362
Kerosene 50% Combusted	13000	12800	169	75.5
Kerosene 100% Combusted	154	12.8	141	0.0908
Kerosene 50% Evaporated	79600	79000	609	130
Kerosene 100% Evaporated	165000	162000	2800	57.8

TPAH = Sum of all parent and alkylated PAH analytes measured by Battelle (Table 2).
LPAH = Sum of all 2- and 3-ring PAH analytes measured by Battelle (Table 2).
HPAH = Sum of all 4- to 6-ring PAH analytes measured by Battelle (Table 2).

Attachment 3.
High Resolution Hydrocarbon Fingerprints

Analysis: sd0782,16,1 V5870-D OFF-SD-5-006 (Fine Particles) Project: hydrocarbons
Instrument: chanl_07 Method: md0713andro

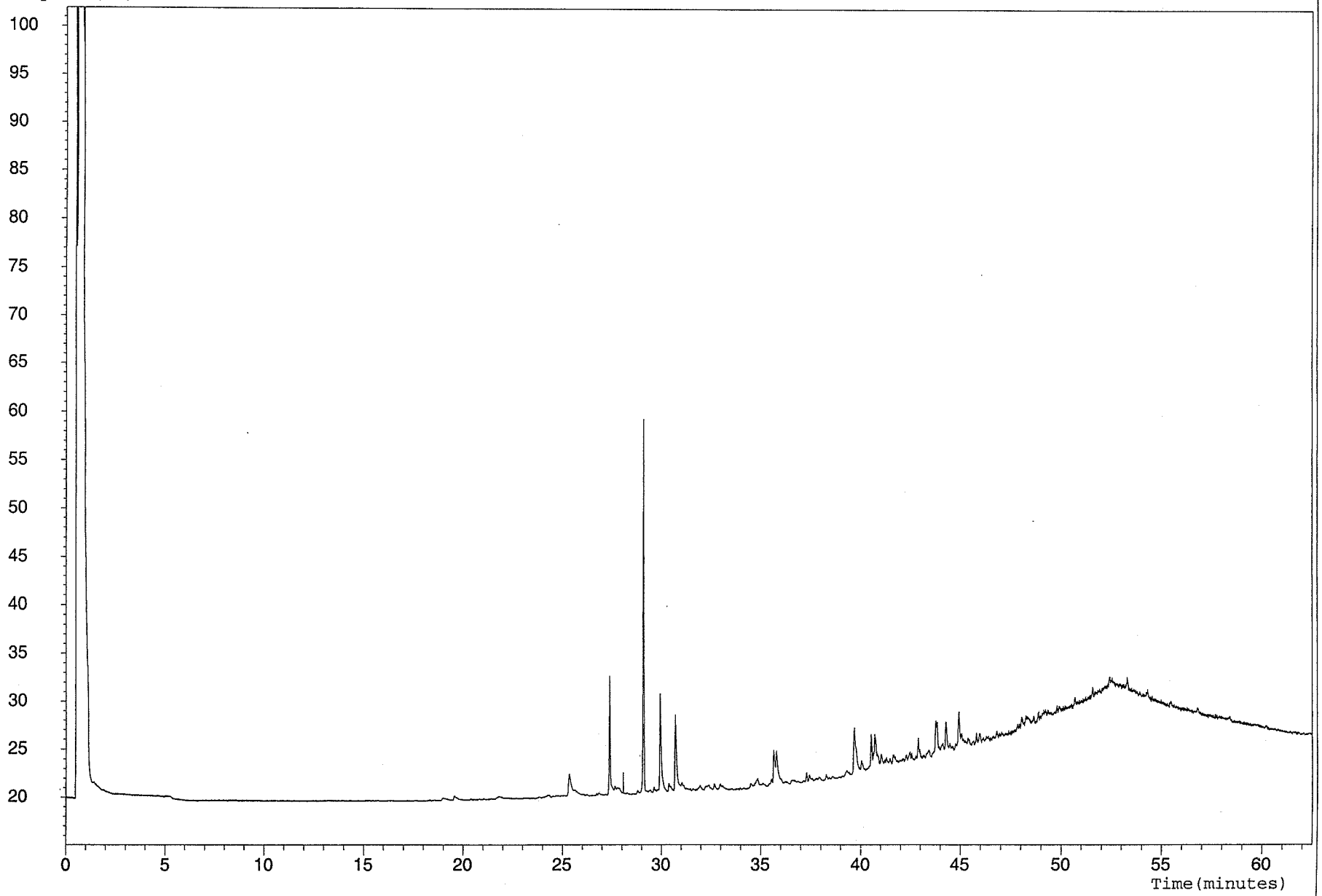


Acquisition Time: 23 Jul 2002 at 06:51.45

Analysis: sd0782,17,1
Instrument: chanl_07
Response(mV)

V5870DUP-D OFF-SD-5-006 (large Particles)

Project: hydrocarbons
Method: md0713andro

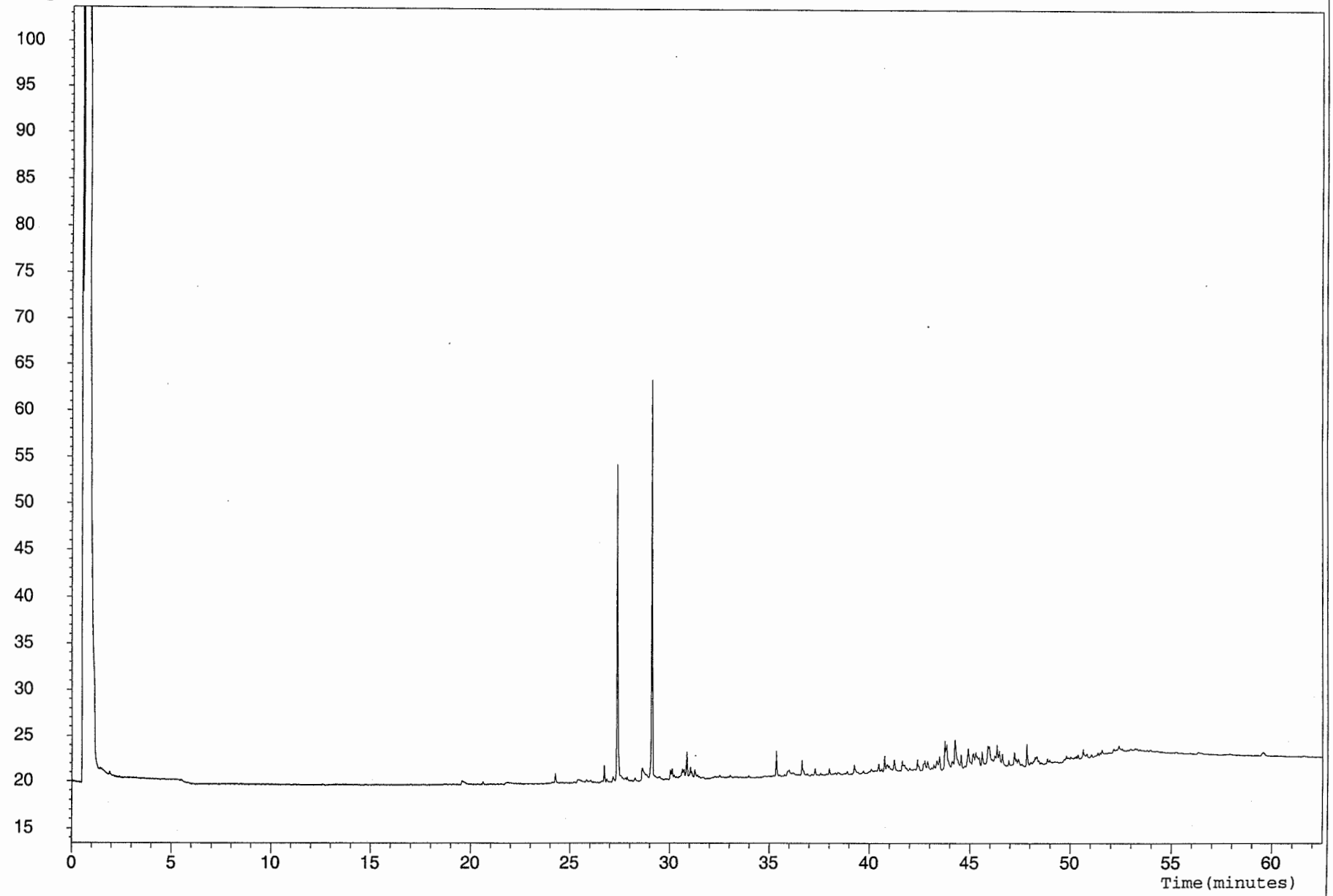


Acquisition Time: 23 Jul 2002 at 08:06.02

Analysis: sd0782,21,1
Instrument: chanl_07
Response(mV)

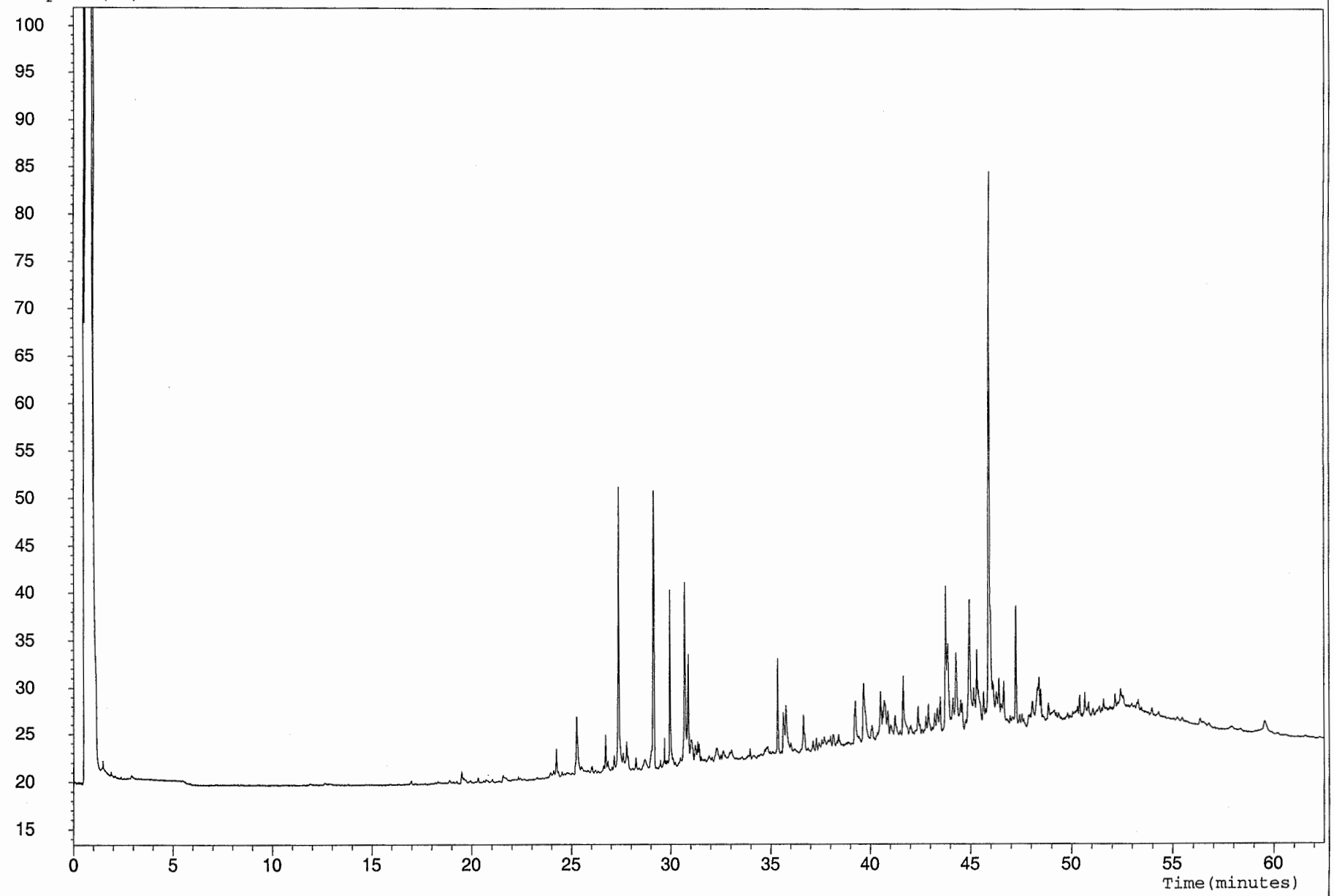
V5871 OFF-SD-JPC03-0006

Project: hydrocarbons
Method: md0713andro



Acquisition Time: 23 Jul 2002 at 13:09.13

Analysis: sd0782,24,1 V5874-D OFF-SD-410-0006 Project: hydrocarbons
Instrument: chanl_07 Method: md0713andro

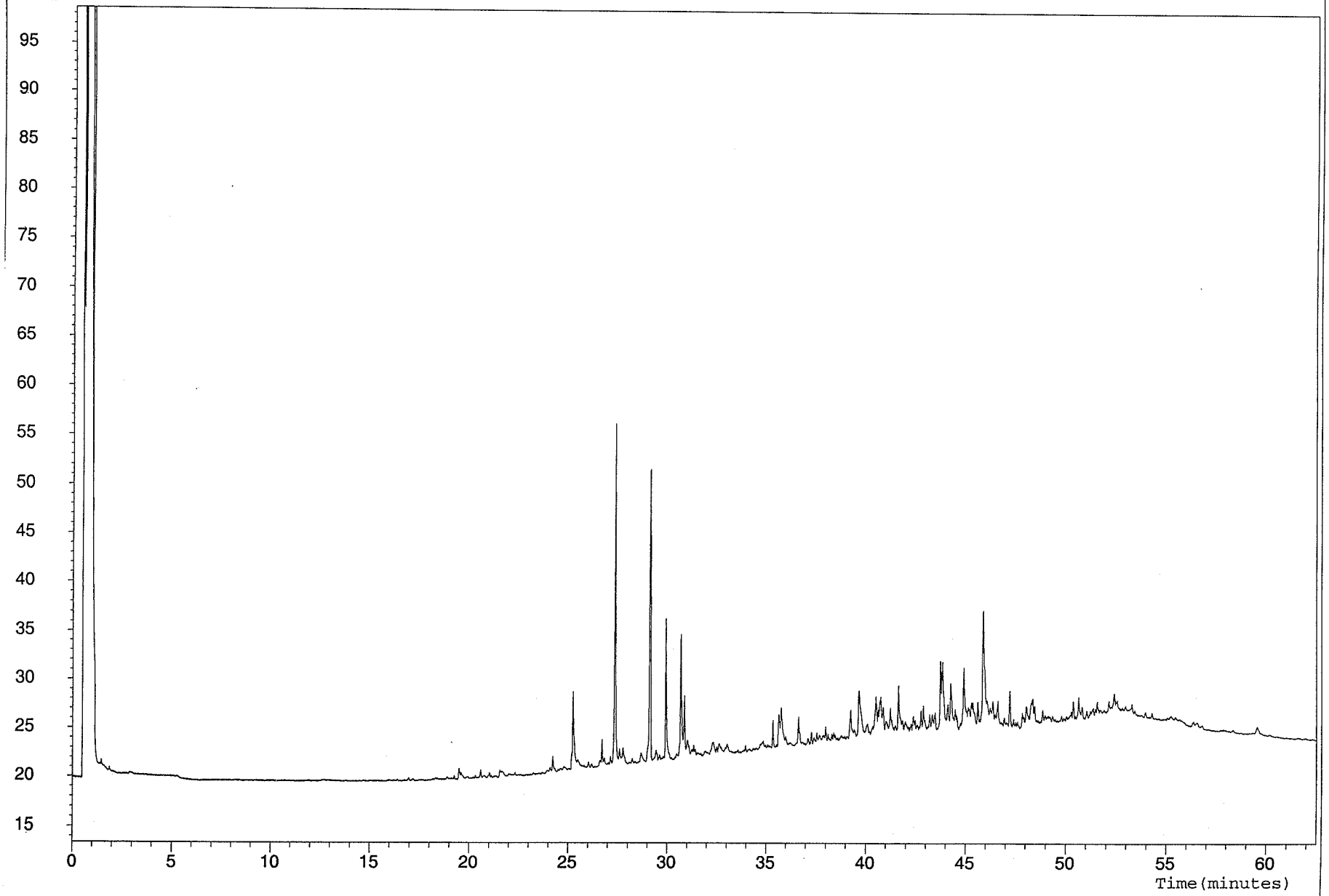


Acquisition Time: 23 Jul 2002 at 17:01.39

Analysis: sd0782,25,1
Instrument: chanl_07
Response(mV)

V5875 OFF-SD-410-1824

Project: hydrocarbons
Method: md0713andro

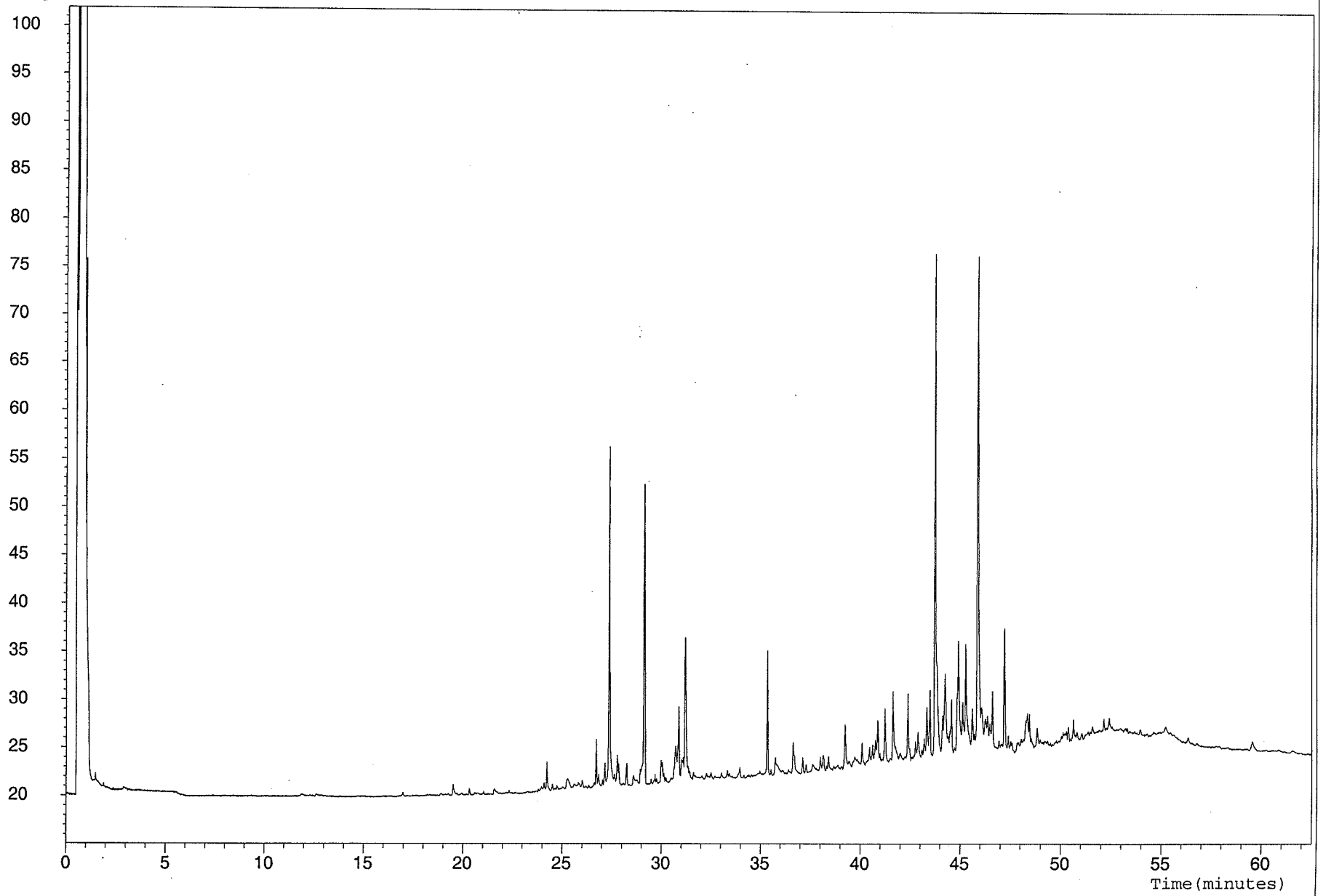


Acquisition Time: 23 Jul 2002 at 18:16.52

Analysis: sd0782,23,1
Instrument: chanl_07
Response(mV)

V5873 OFF-SD-470-0006

Project: hydrocarbons
Method: md0713andro

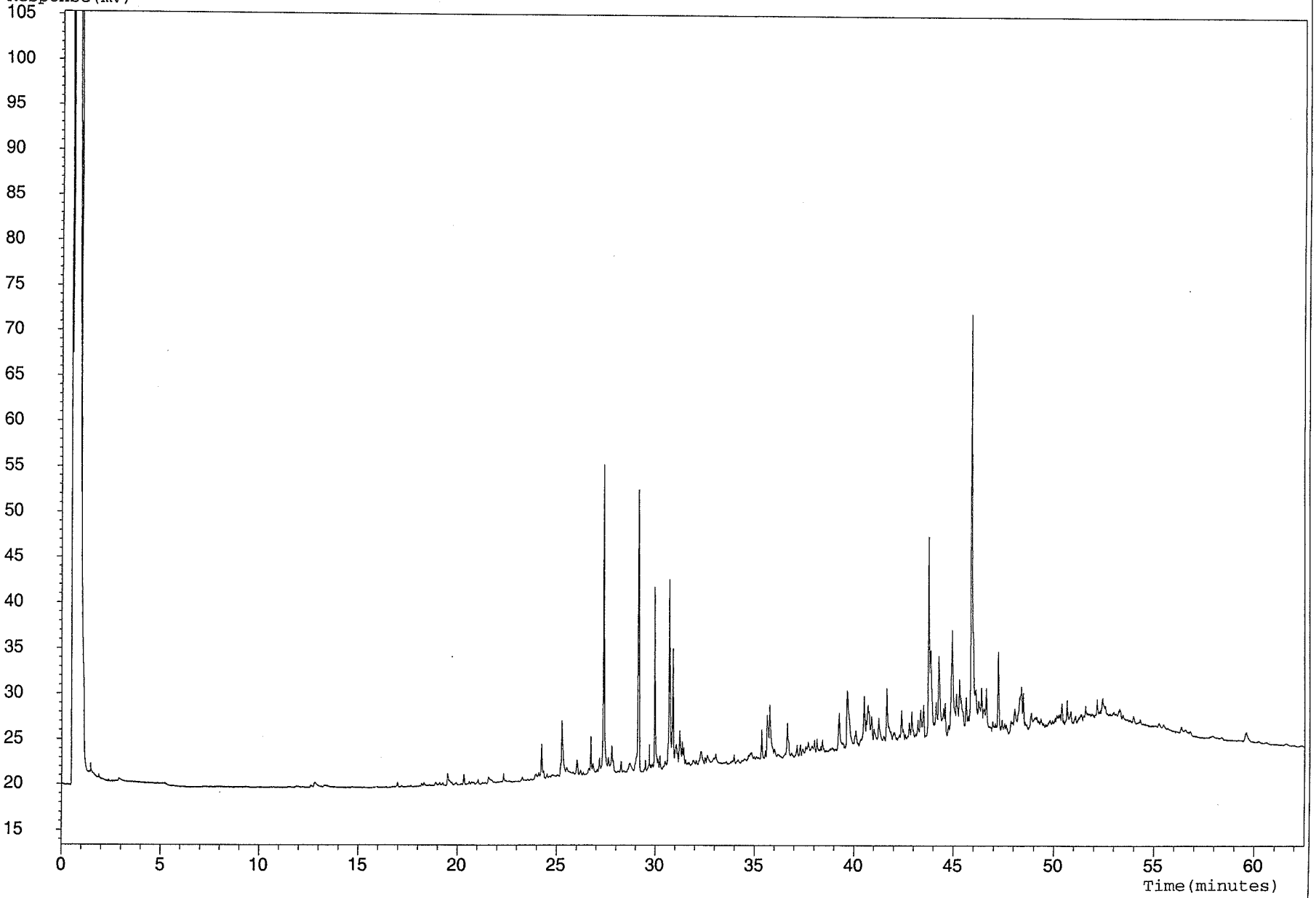


Acquisition Time: 23 Jul 2002 at 15:44.15

Analysis: sd0782,26,1
Instrument: chanl_07
Response(mV)

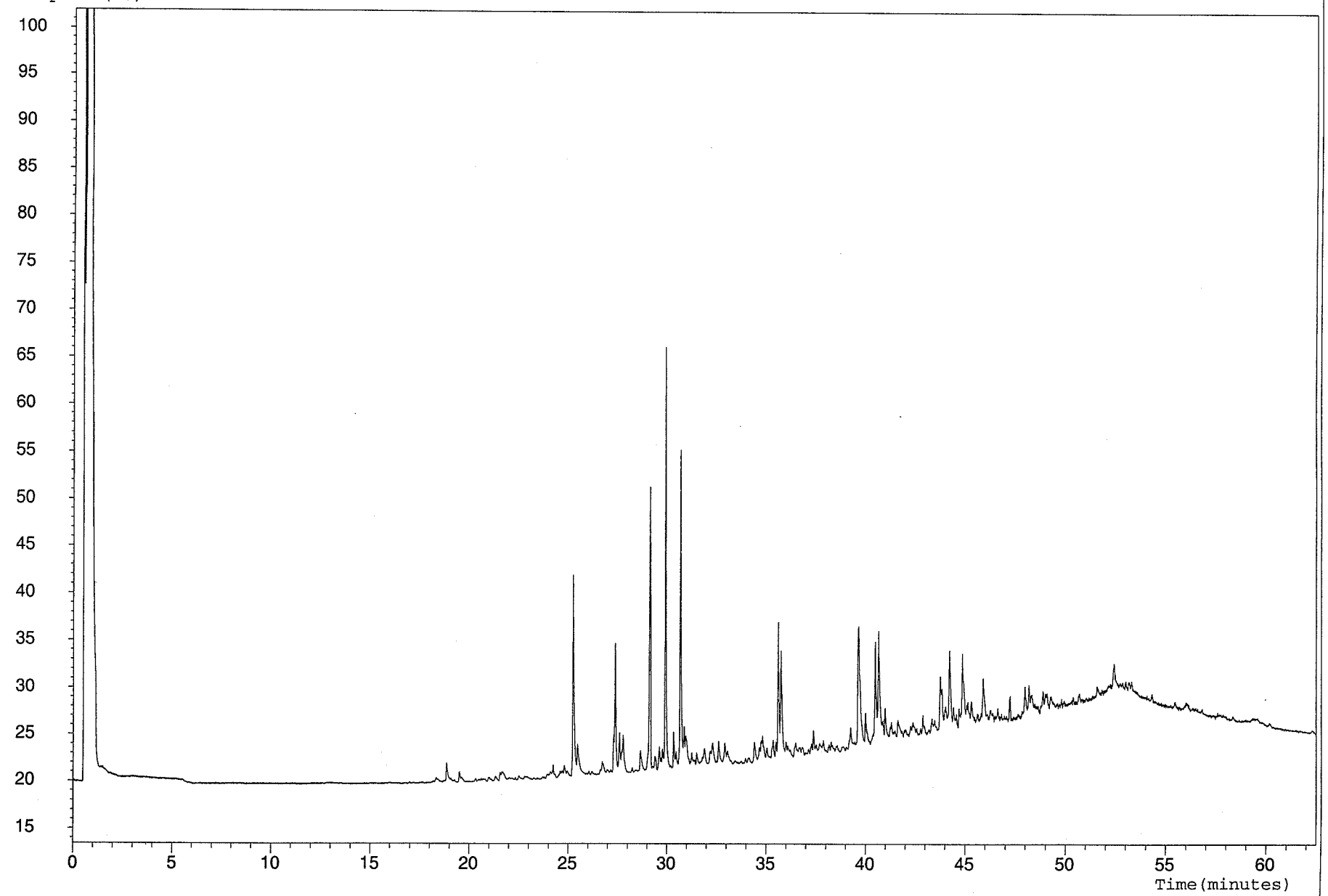
V5876 OFF-SD-DUP1-0006

Project: hydrocarbons
Method: md0713andro



Acquisition Time: 23 Jul 2002 at 19:31.03

Analysis: sd0782,22,1 V5872-D OFF-SD-471-0006 Project: hydrocarbons
Instrument: chanl_07 Method: md0713andro

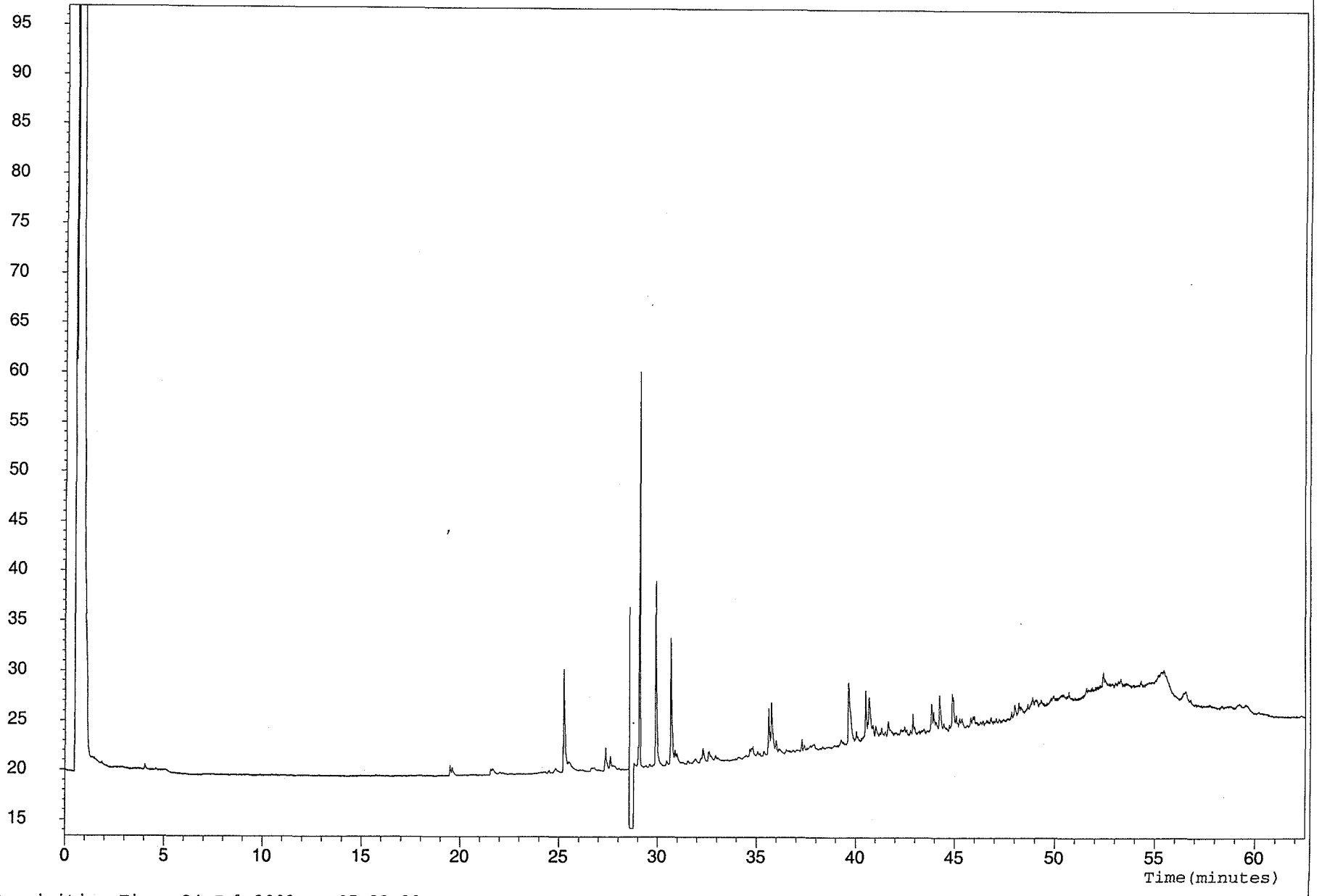


Acquisition Time: 23 Jul 2002 at 14:26.48

Analysis: sd0782,34,1
Instrument: chanl_07
Response(mV)

V6976-D OFF-OTS-OF075

Project: hydrocarbons
Method: md0713andro

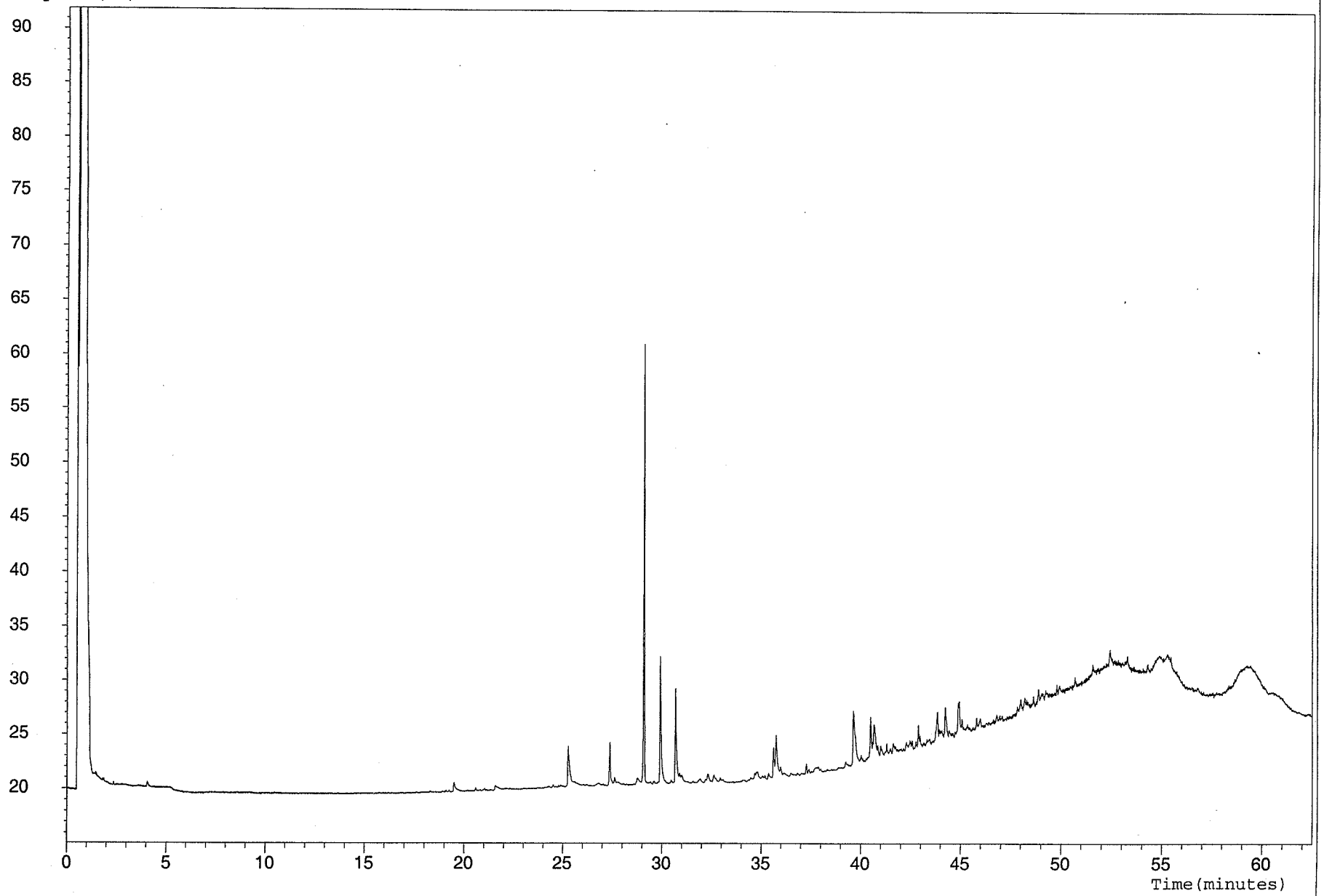


Acquisition Time: 24 Jul 2002 at 05:23.29

Analysis: sd0782,35,1
Instrument: chanl_07
Response(mV)

V6977-D OFF-OTS-OF093

Project: hydrocarbons
Method: md0713andro

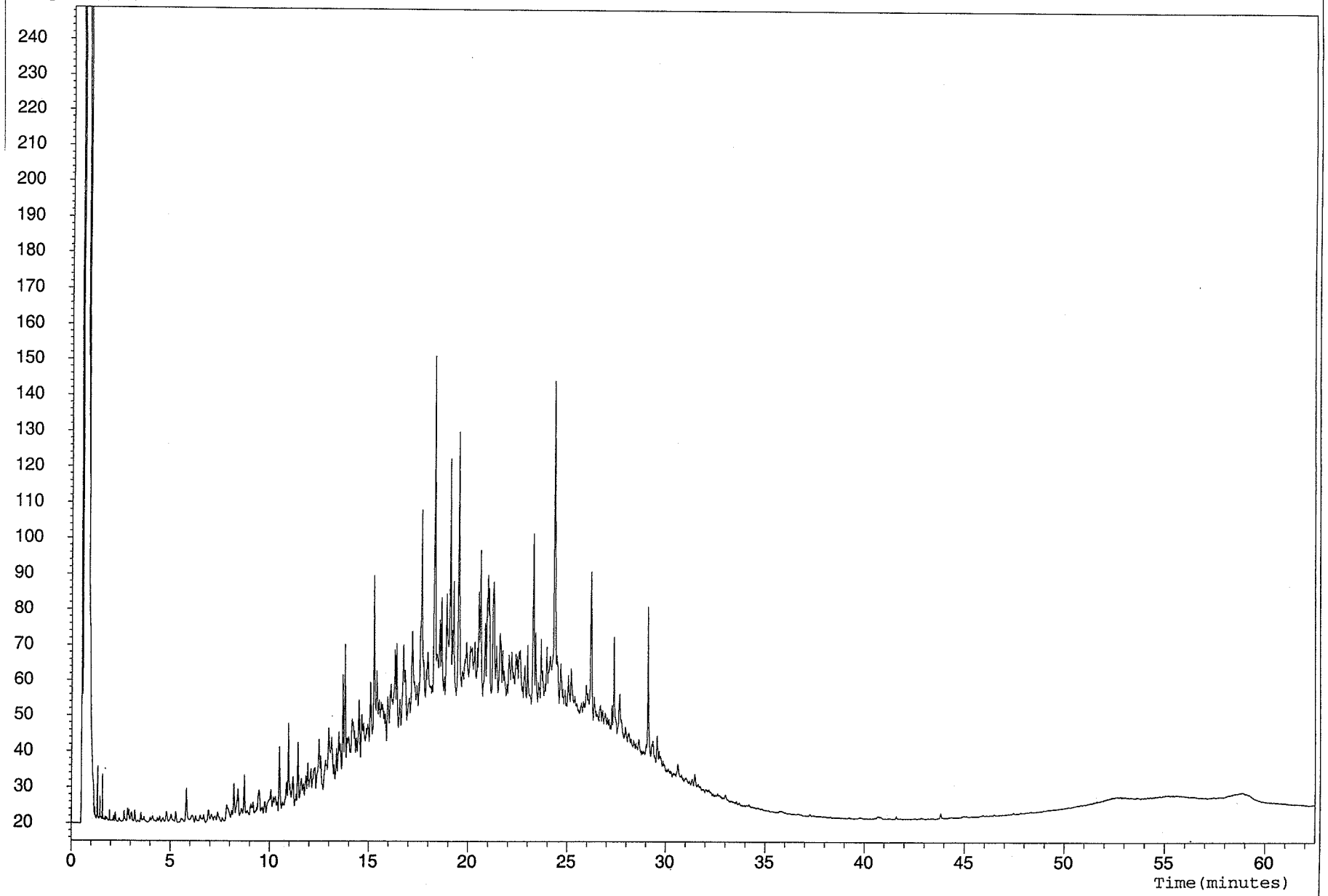


Acquisition Time: 24 Jul 2002 at 06:37.50

Analysis: sd0782,37,1
Instrument: chan1_07
Response(mV)

V6979-D OFF-SO-11-0607

Project: hydrocarbons
Method: md0713andro

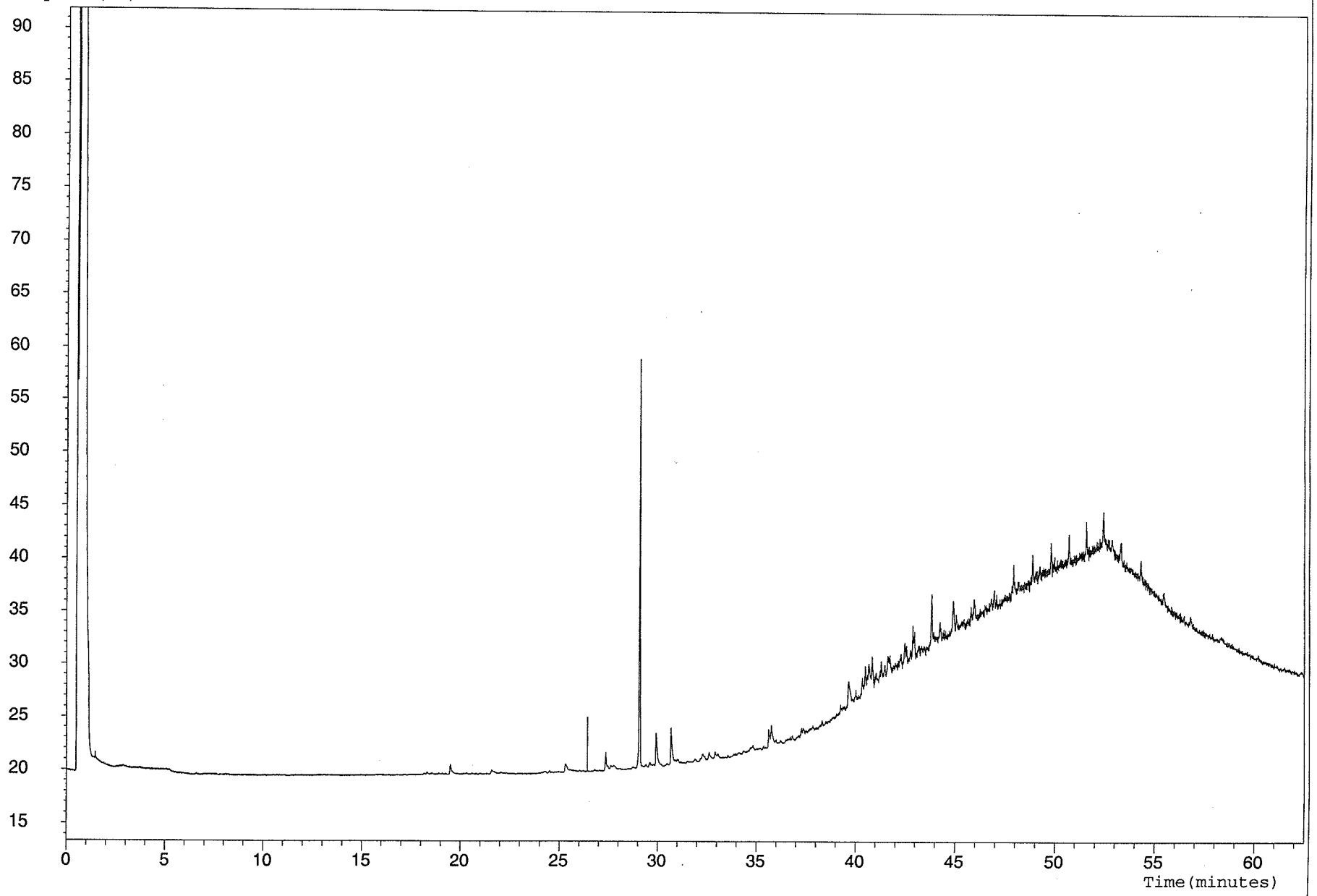


Acquisition Time: 24 Jul 2002 at 09:06.09

Analysis: sd0782,36,1
Instrument: chanl_07
Response(mV)

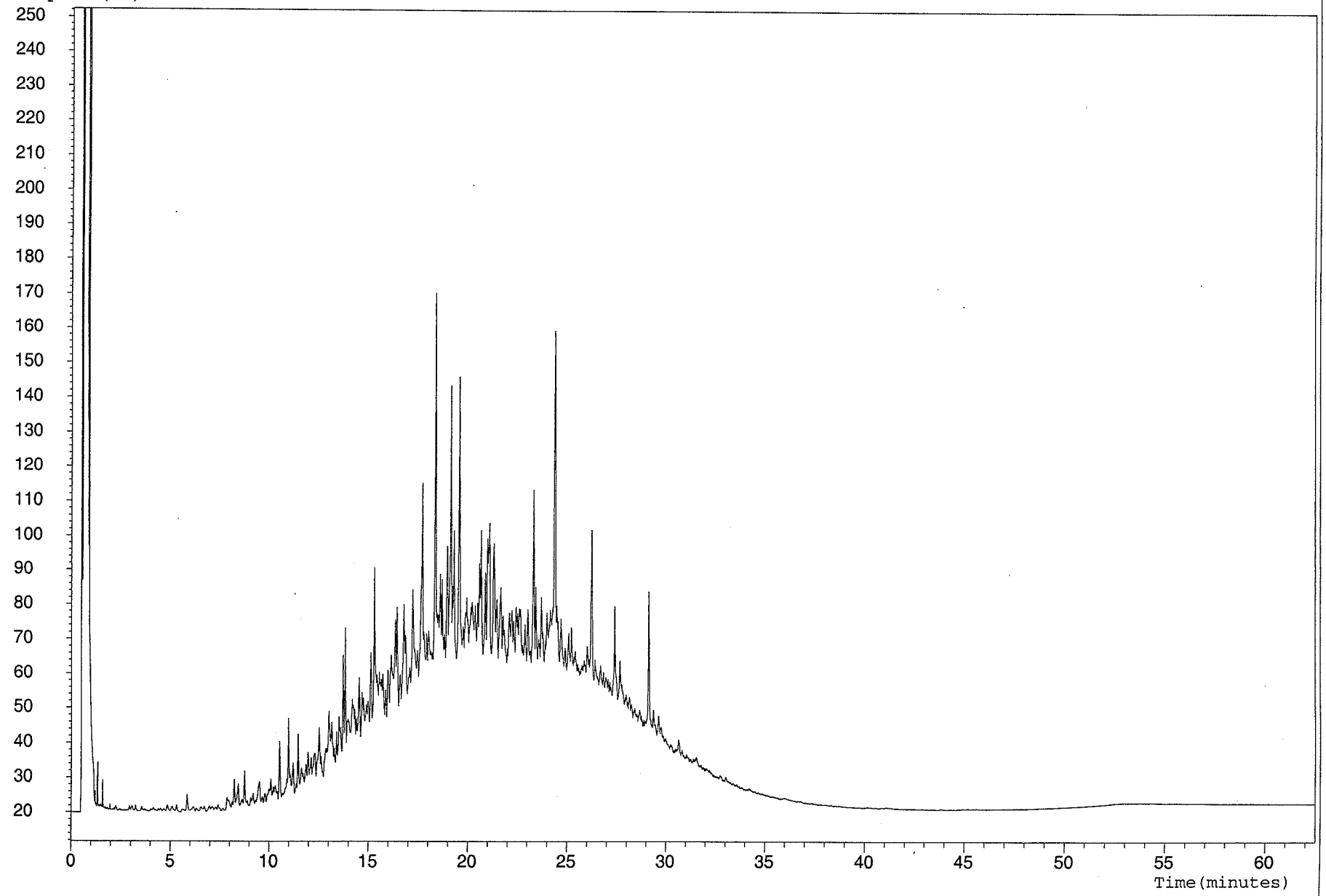
V6978-D OFF-SO-15-0607

Project: hydrocarbons
Method: md0713andro



Acquisition Time: 24 Jul 2002 at 07:52.04

Analysis: sd0782,12,1 V6980-D OFF-AQ-0607 Project: hydrocarbons
Instrument: chanl_07 Method: md0713andro

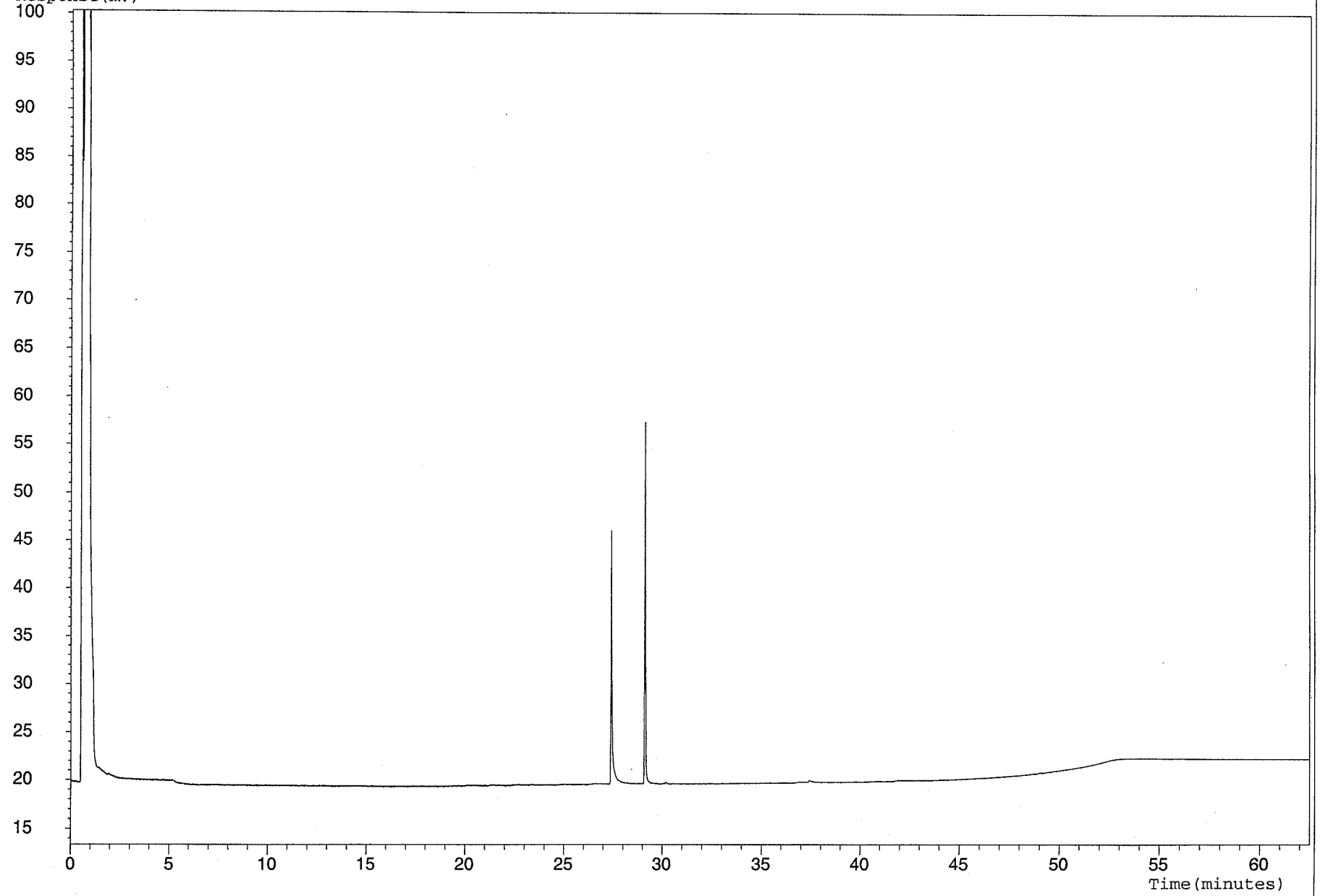


Acquisition Time: 23 Jul 2002 at 01:56.27

Analysis: sd0782,14,1
Instrument: chanl_07

AA699PB

Project: hydrocarbons
Method: md0713andro

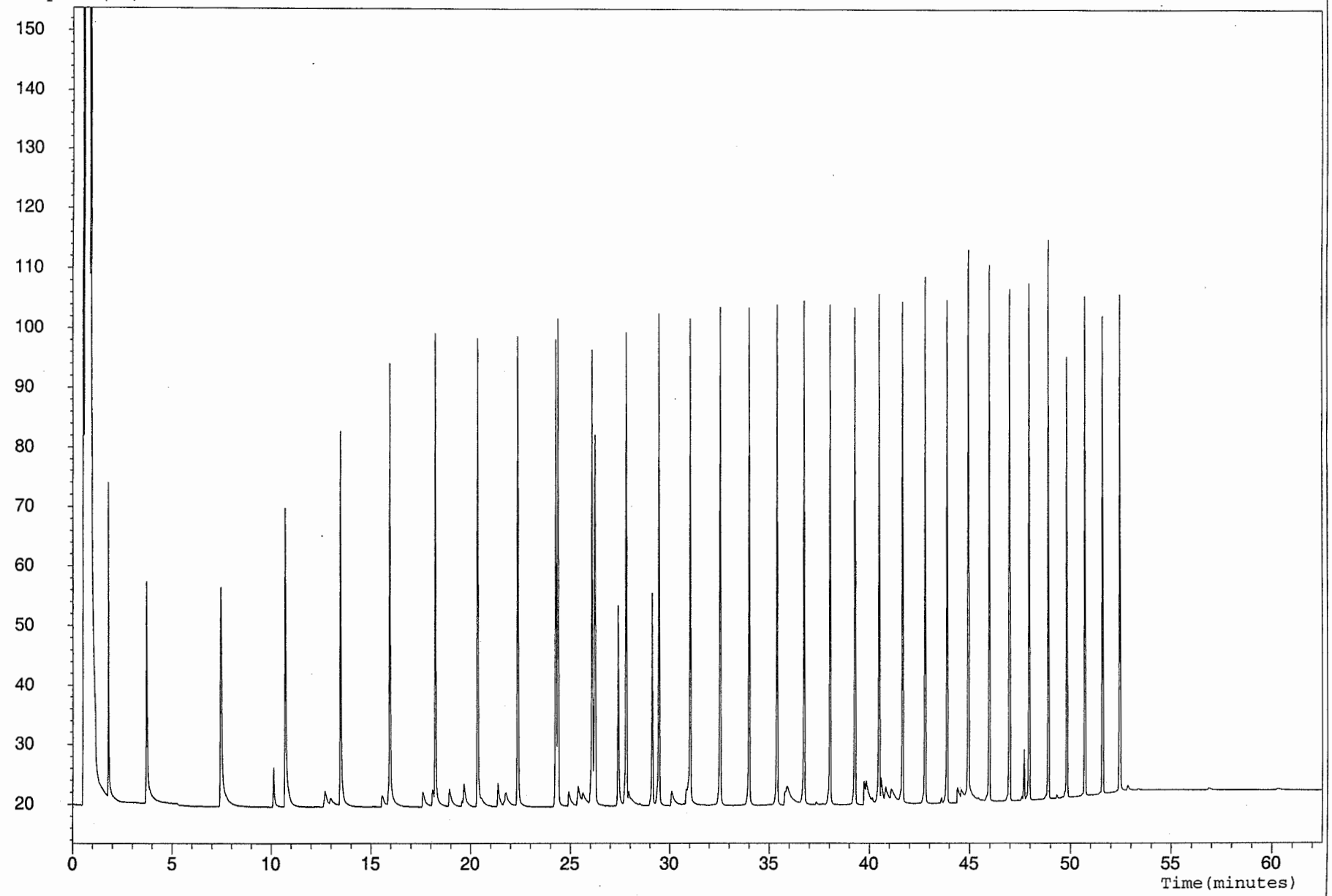


Acquisition Time: 23 Jul 2002 at 04:23.56

Analysis: sd0782,15,1
Instrument: chanl_07
Response(mV)

AA700LCS

Project: hydrocarbons
Method: md0713andro

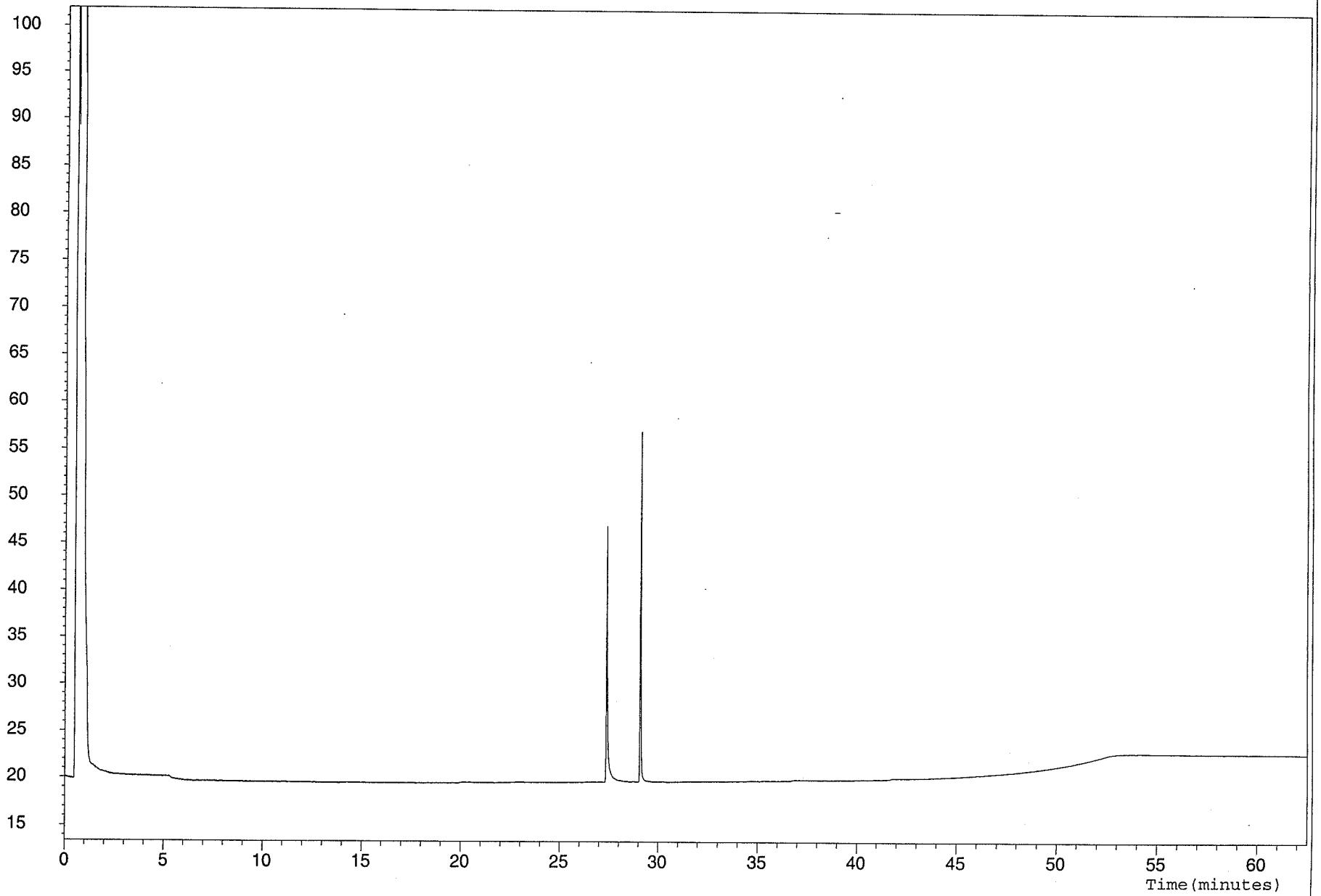


Acquisition Time: 23 Jul 2002 at 05:37.54

Analysis: sd0782,10,1
Instrument: chan1_07
Response(mV)

AA701PB

Project: hydrocarbons
Method: md0713andro

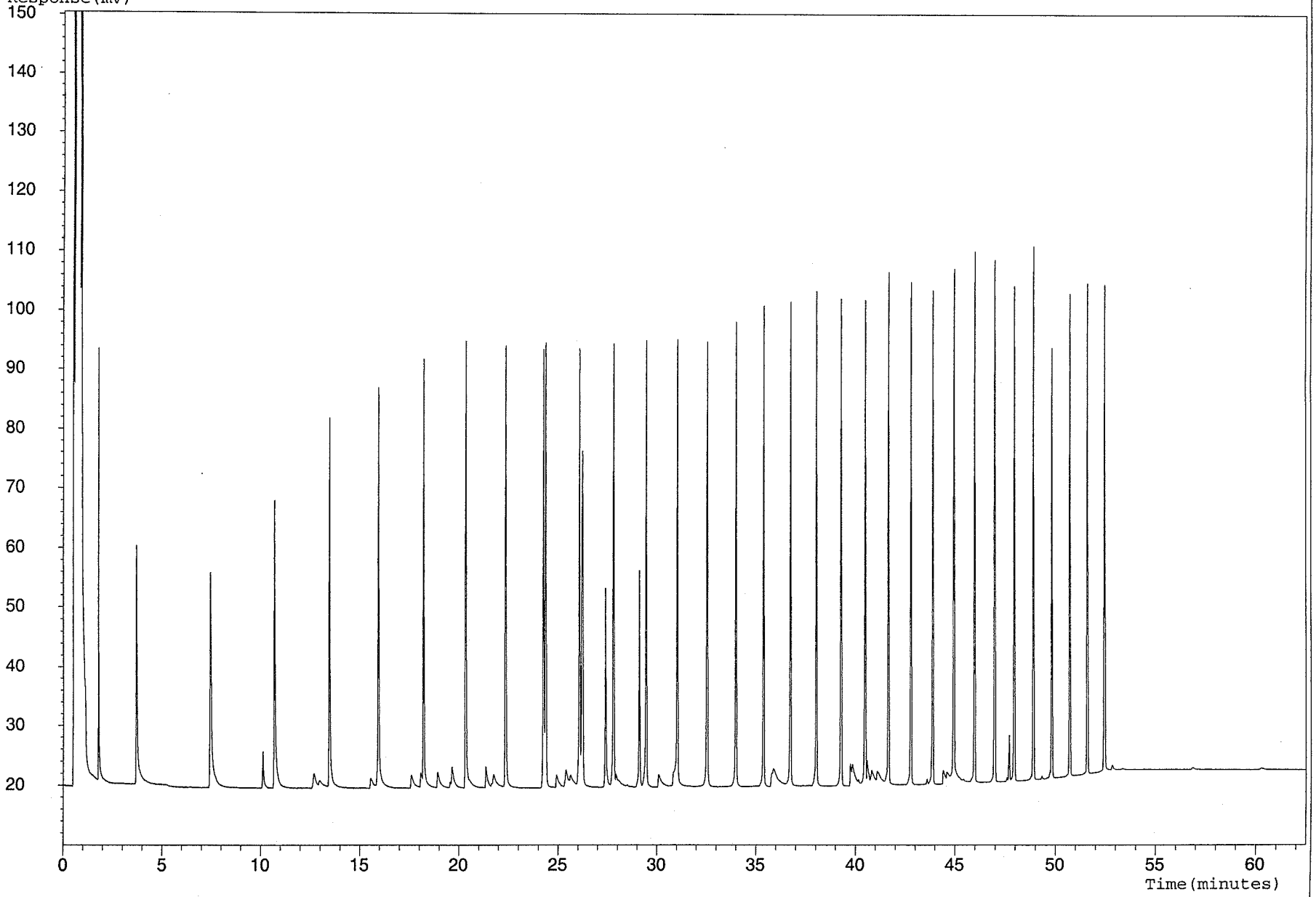


Acquisition Time: 22 Jul 2002 at 23:29.12

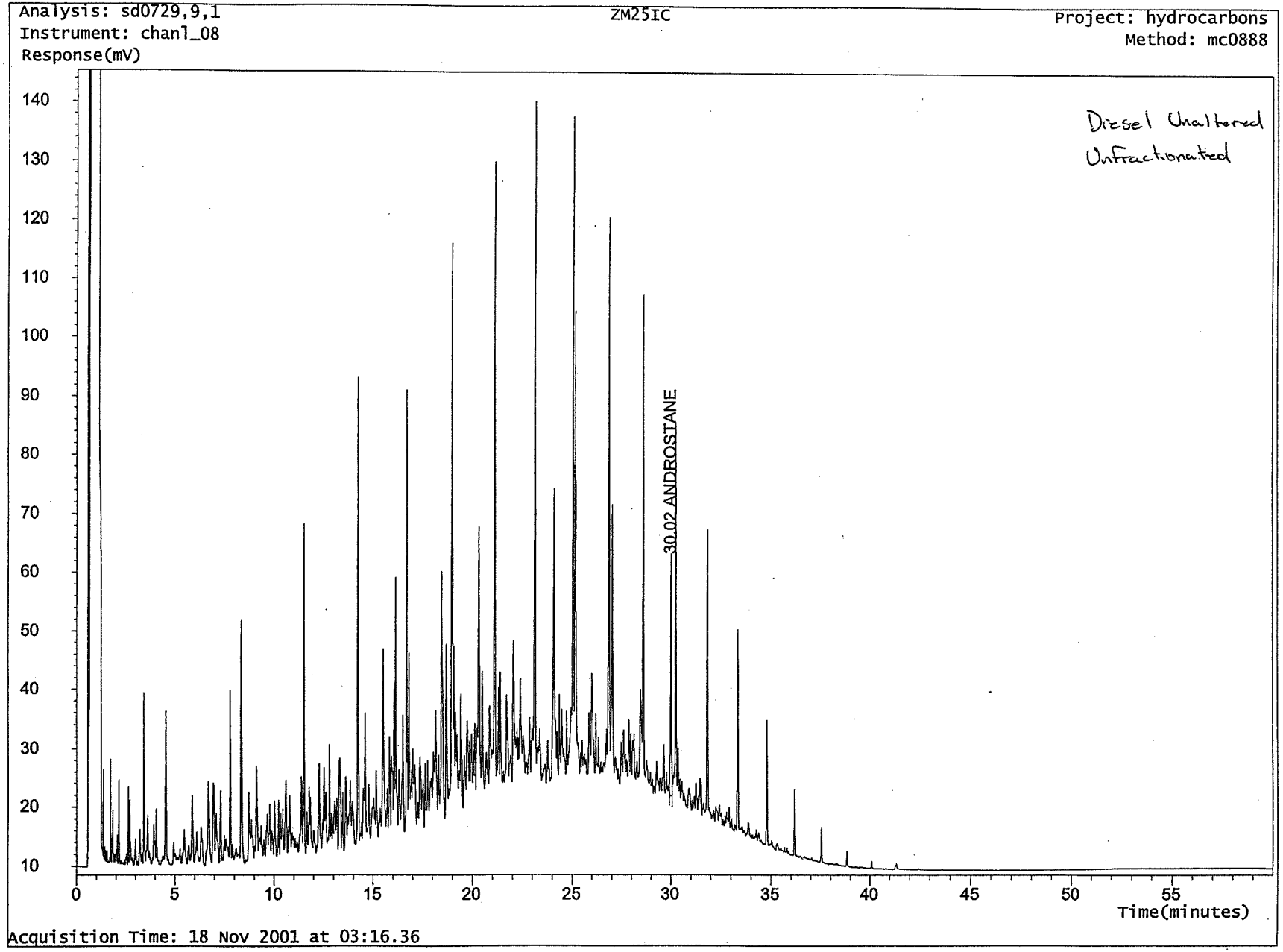
Analysis: sd0782,11,1
Instrument: chanl_07

AA702LCS

Project: hydrocarbons
Method: md0713andro



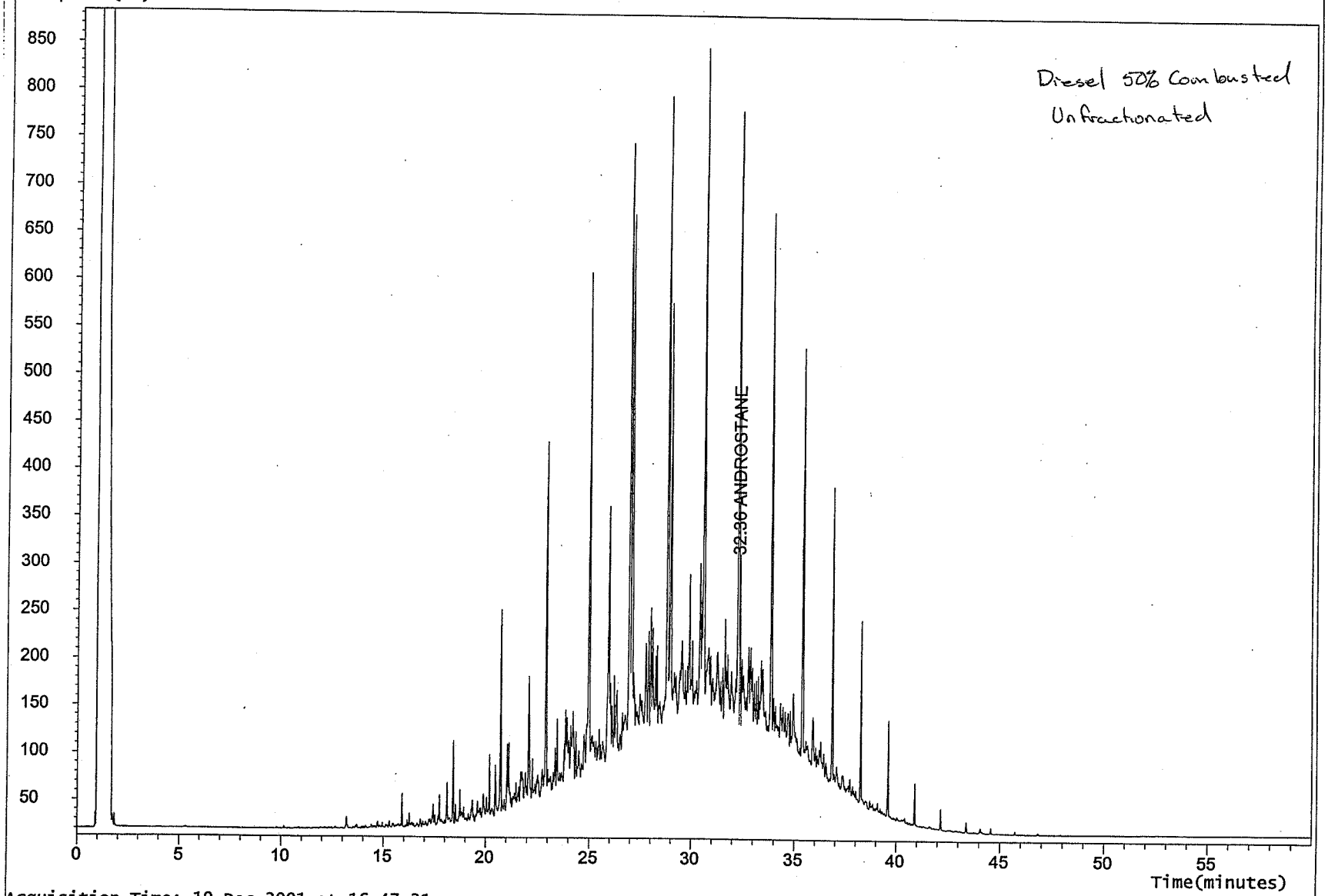
Acquisition Time: 23 Jul 2002 at 00:42.55


Analysis: sd0729,9,1
Instrument: chanl_08
Response(mV)
ZM25IC
Project: hydrocarbons
Method: mc0888
Diesel Unaltered
Unfractionated
30.02 ANDROSTANE
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
5
10
15
20
25
30
35
40
45
50
55
Time(minutes)
Acquisition Time: 18 Nov 2001 at 03:16.36

Analysis: sc1487,26,1
Instrument: chanl_14
Response(mV)

W7747-C50-D DIESEL 50% COMB

Project: hydrocarbons
Method: mc1421

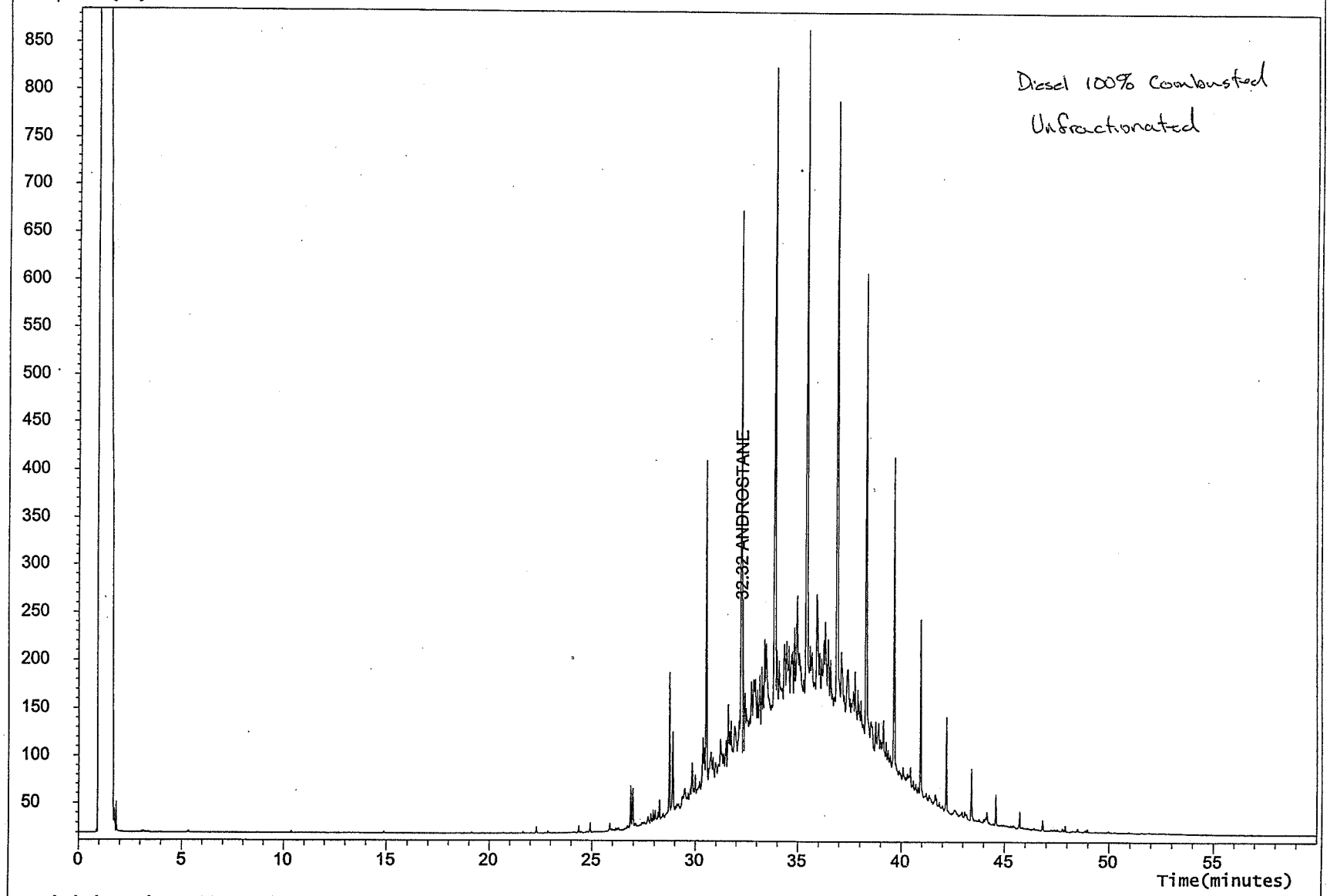


Acquisition Time: 19 Dec 2001 at 16:47.31

Analysis: sc1487,27,1
Instrument: chanl_14
Response(mV)

W7747-C100-D DIESEL 100% CO

Project: hydrocarbons
Method: mc1421

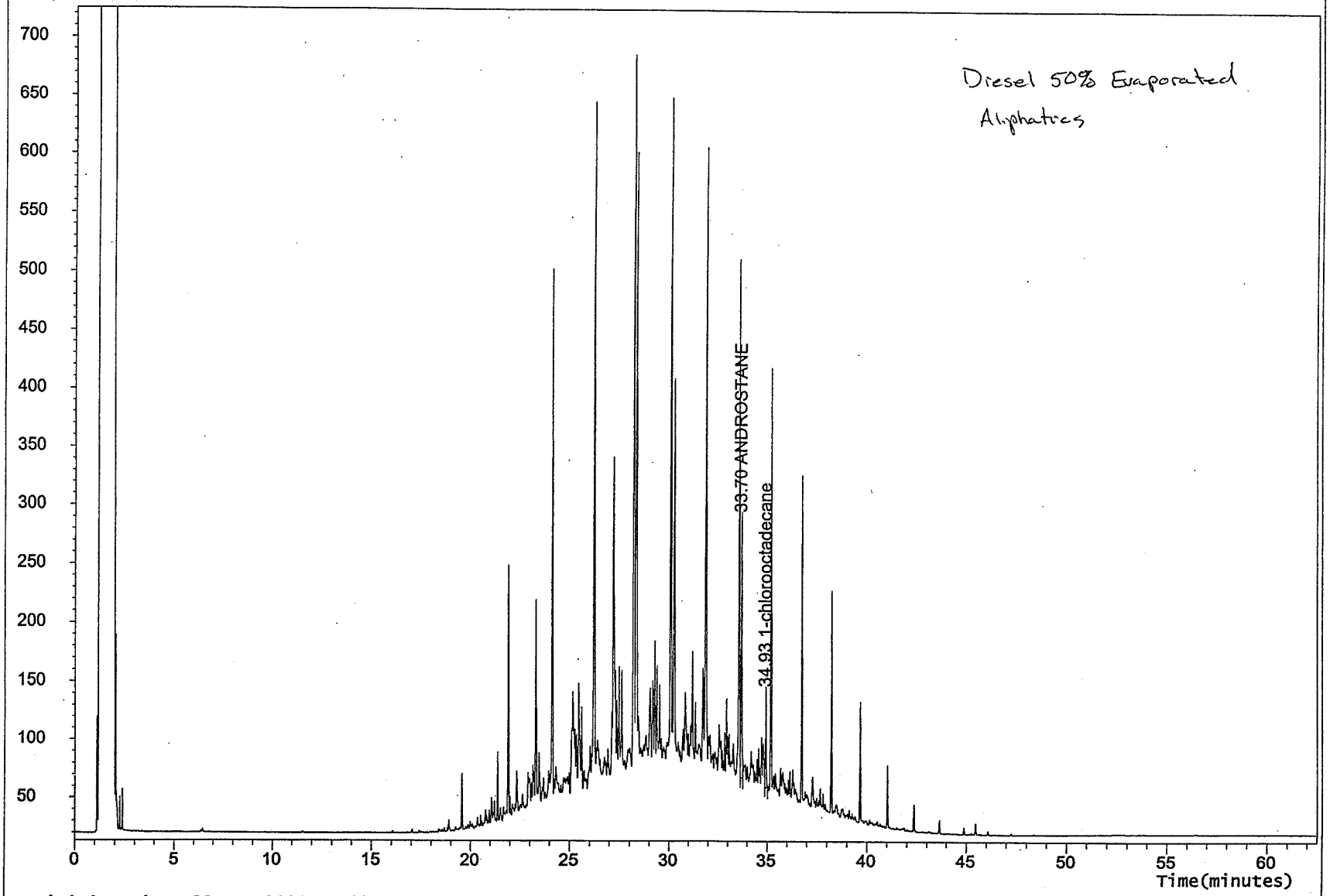


Acquisition Time: 19 Dec 2001 at 18:02.30

Analysis: sd1314,25,1
Instrument: chanl_13
Response(mV)

W7747-E50-DF1 DIESEL 50% EVA

Project: hydrocarbons
Method: mc1352

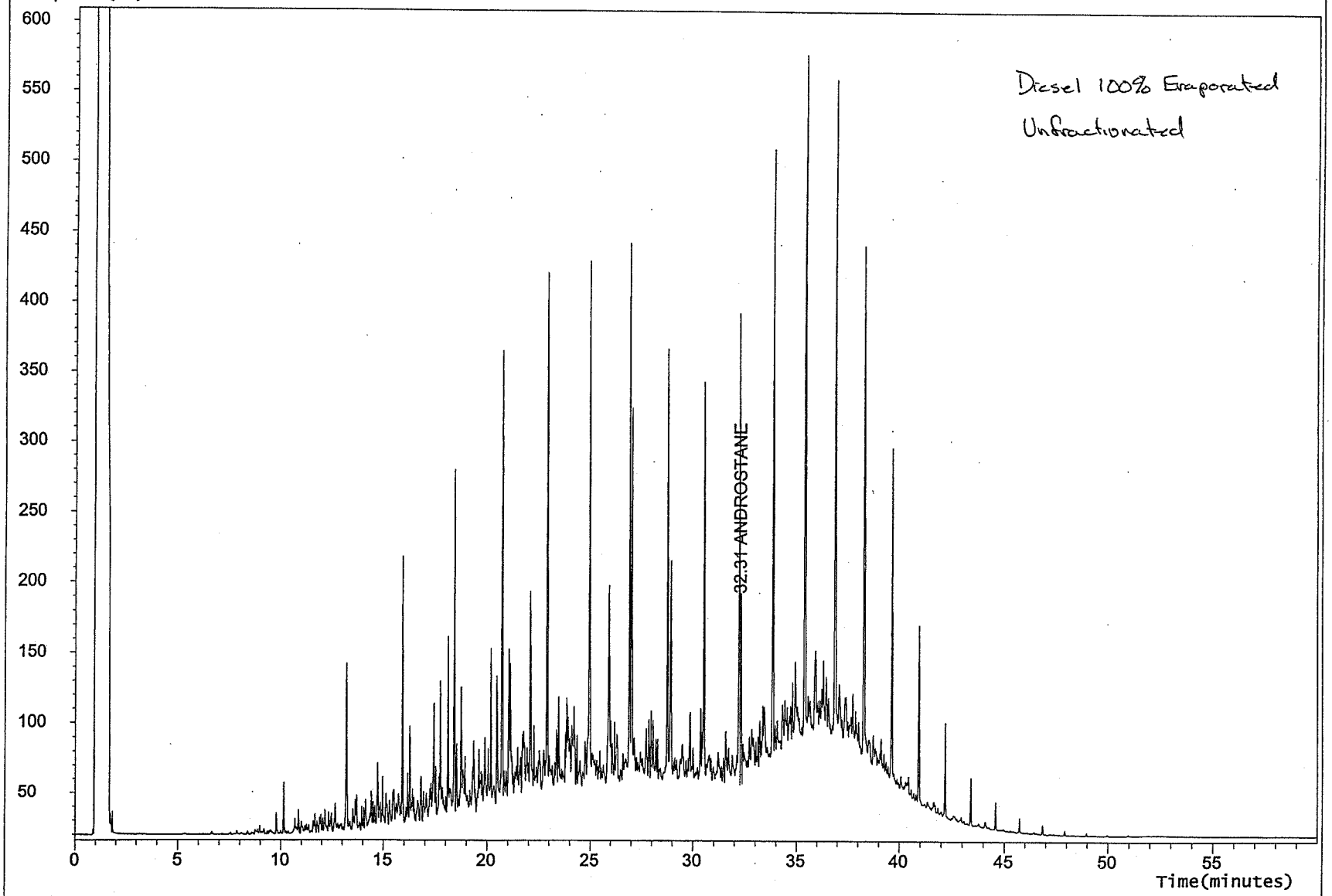


Acquisition Time: 29 Nov 2001 at 09:44.28

Analysis: sc1487,25,1
Instrument: chanl_14
Response(mV)

W7747-E100-D DIESEL 100% EV

Project: hydrocarbons
Method: mc1421

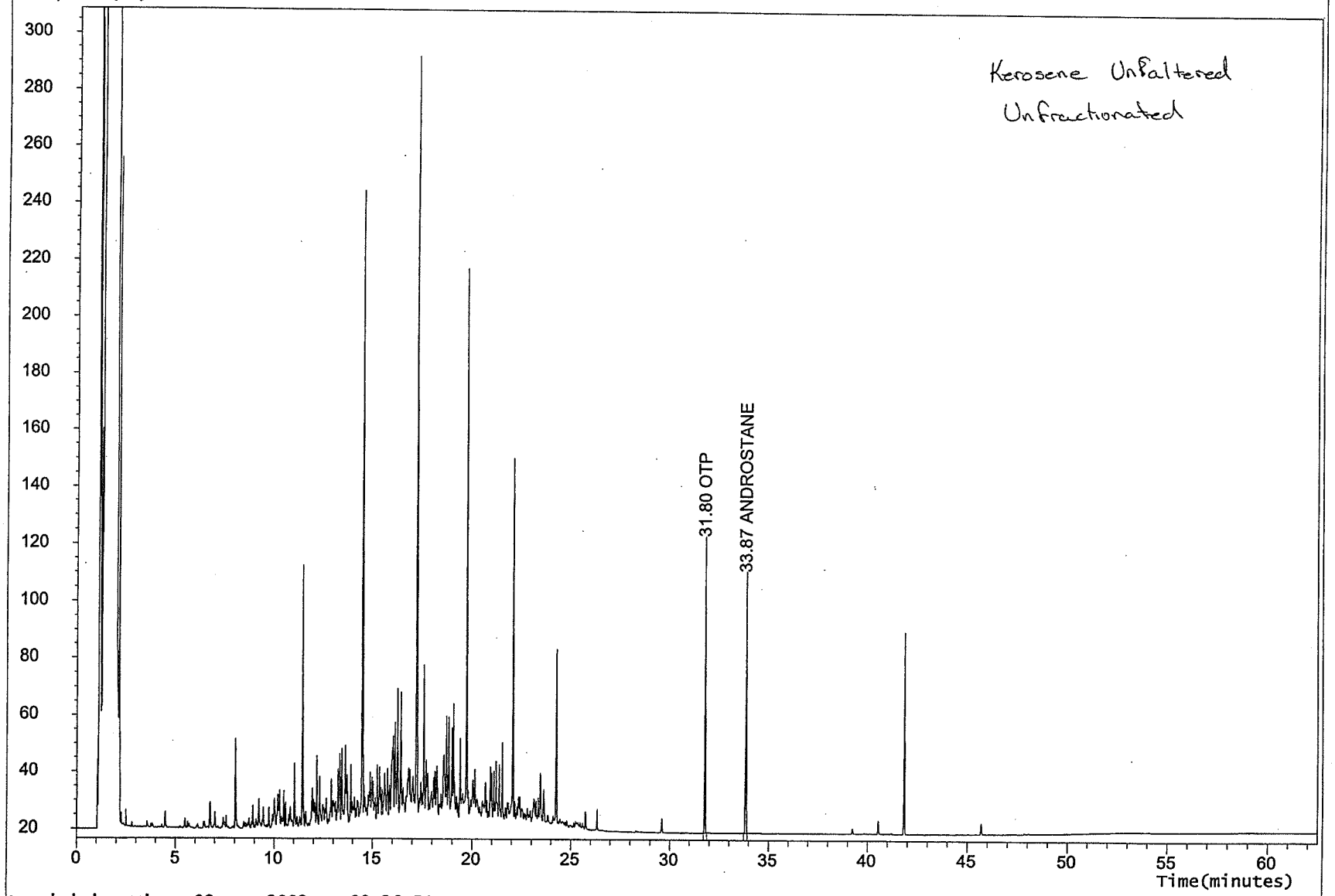


Acquisition Time: 19 Dec 2001 at 15:31.56

Analysis: sd1323,16,1
Instrument: chanl_13
Response(mV)

ZR36IC

Project: hydrocarbons
Method: md1322

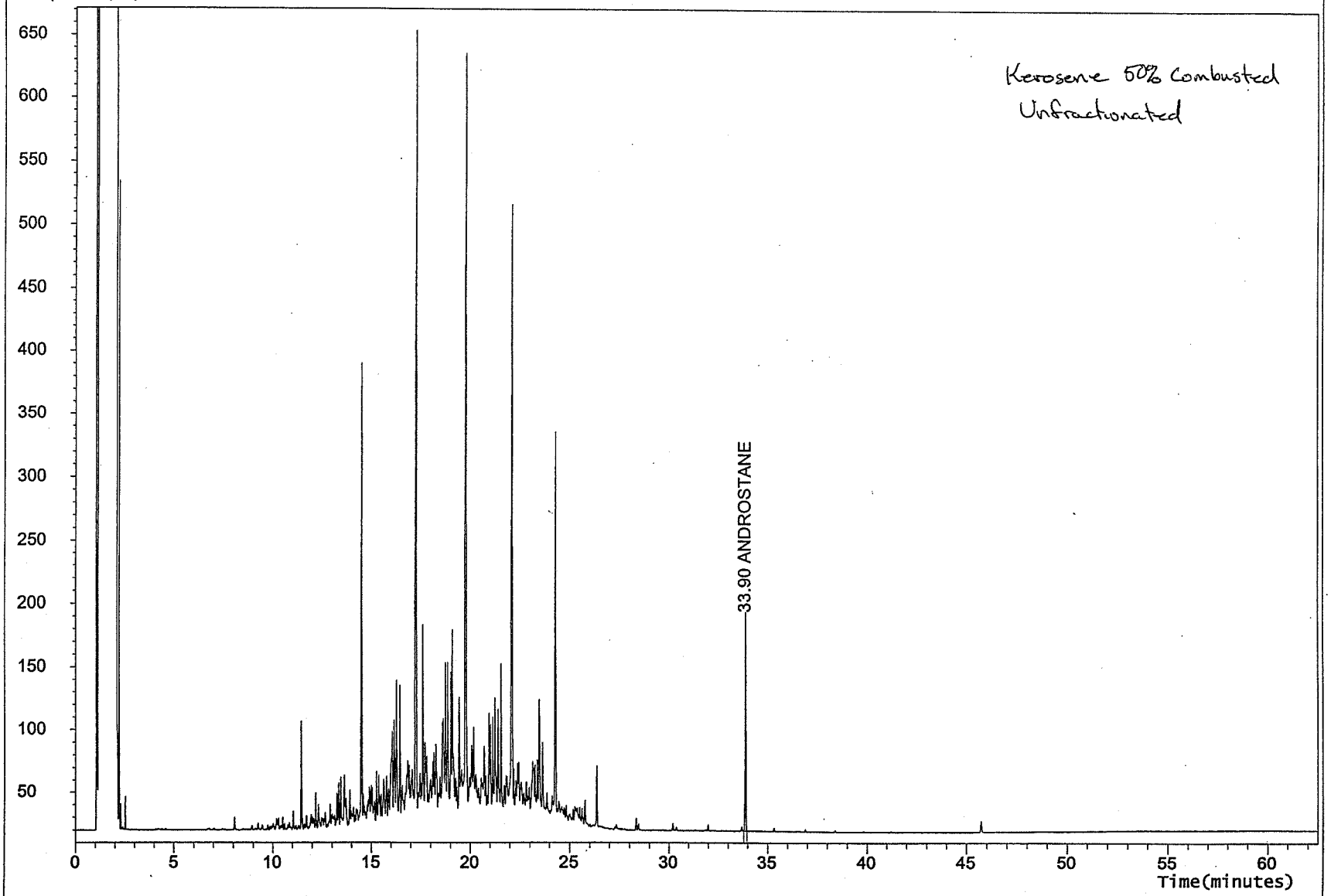


Acquisition Time: 08 Jan 2002 at 09:26.51

Analysis: sd1322cont,11,1
Instrument: chanl_13
Response(mV)

W7748-C50-D2

Project: hydrocarbons
Method: md1322

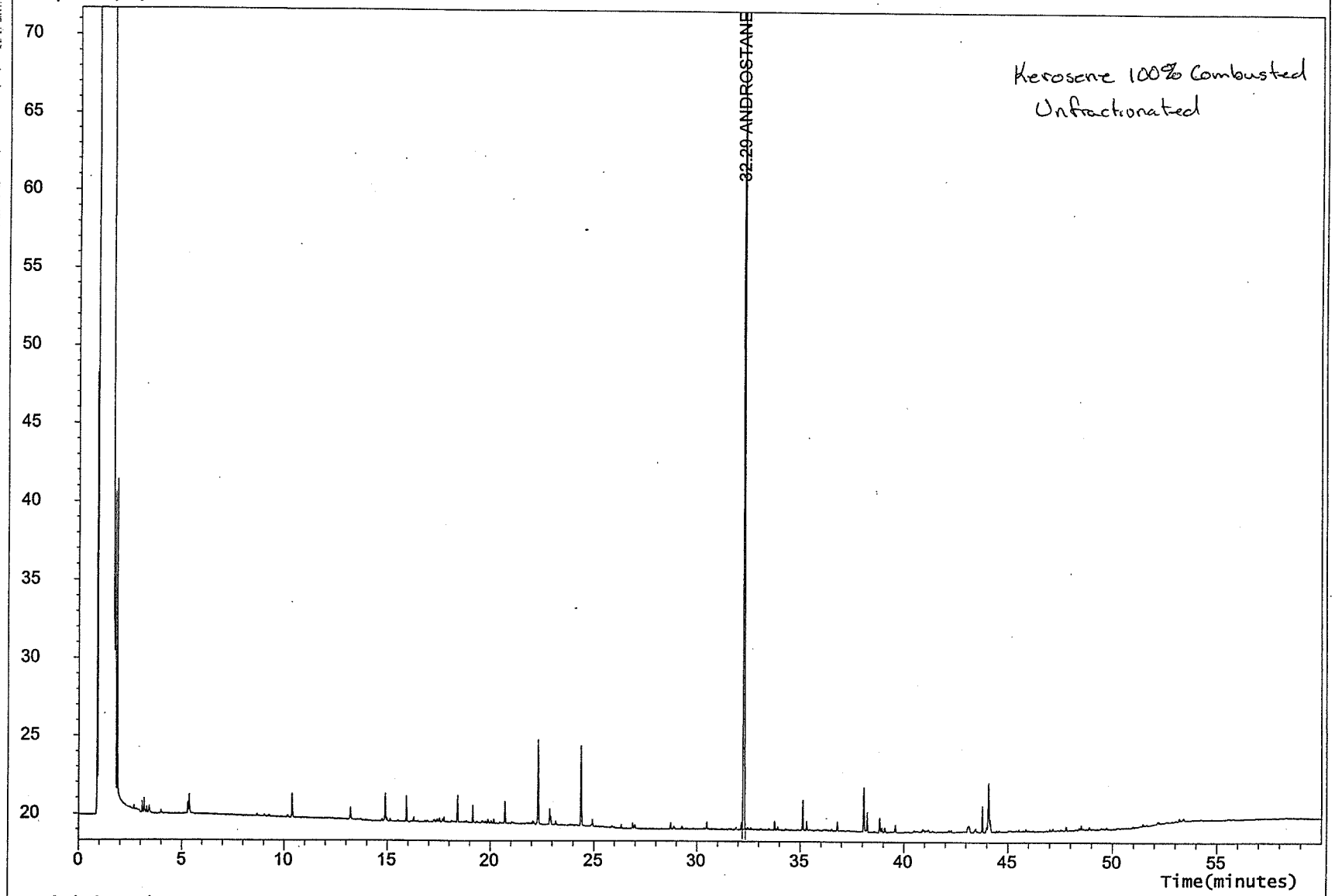


Acquisition Time: 04 Jan 2002 at 23:32.33

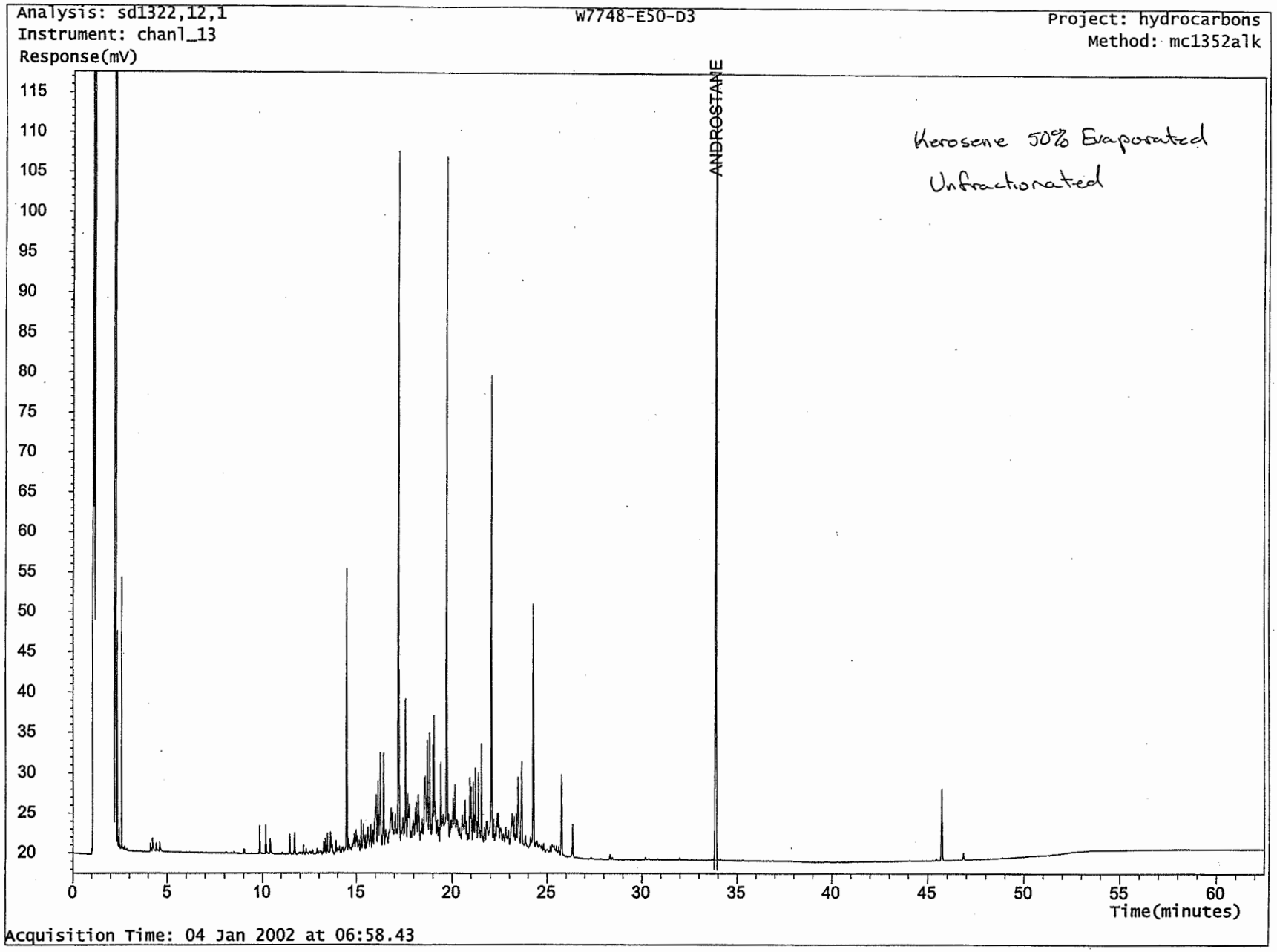
Analysis: sc1487,31,1
Instrument: chanl_14
Response(mV)

W7748-C100-D KEROSENE 100%

Project: hydrocarbons
Method: mc1421



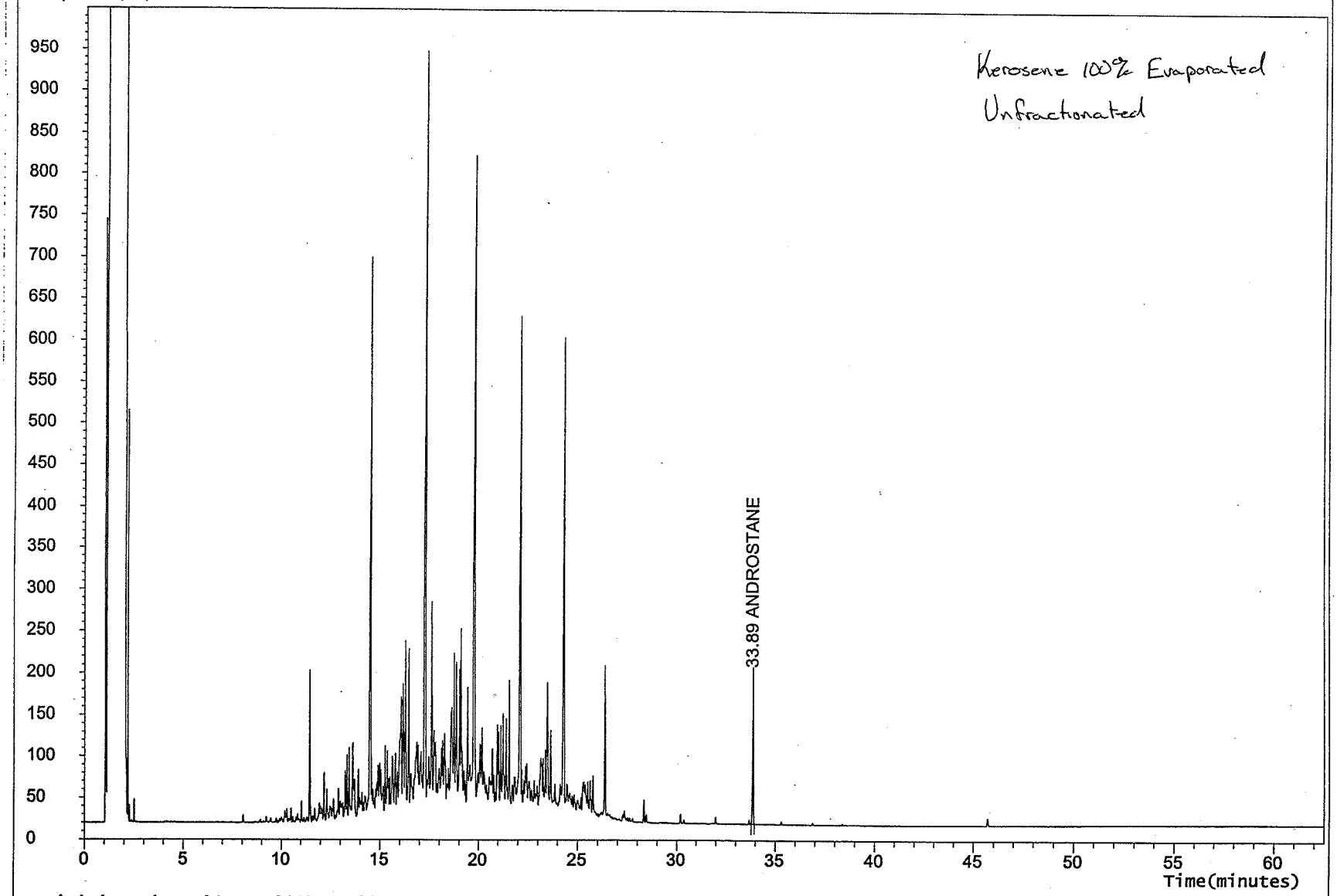
Acquisition Time: 19 Dec 2001 at 23:02.51


Analysis: sd1322,12,1
Instrument: chanl_13
Response(mV)
W7748-E50-D3
Project: hydrocarbons
Method: mc1352alk
ANDROSTANE
Kerosene 50% Evaporated
Unfractionated
115
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
0
5
10
15
20
25
30
35
40
45
50
55
60
Time(minutes)
Acquisition Time: 04 Jan 2002 at 06:58.43

Analysis: sd1322cont,10,1
Instrument: chanl_13
Response(mV)

W7748-E100-D2

Project: hydrocarbons
Method: md1322



Acquisition Time: 04 Jan 2002 at 22:17.57

Attachment 4.
Quantitative PAH and Alkylated PAH by GC/MS

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	OFF-SD-5-0006	OFF-SD-JPC03-0006	OFF-SD-410-0006	OFF-SD-410-1824
Battelle Sample ID	V5870-D	V5871	V5874-D	V5875
Matrix	SOIL	SOIL	SOIL	SOIL
Battelle Batch ID	02-405	02-405	02-405	02-405
Associated Blank	AA699PB	AA699PB	AA699PB	AA699PB
QC Type	N	N	N	N
Analytical Method	8270M	8270M	8270M	8270M
Sequence	SQC561.S	SQC561.S	SQC561.S	SQC561.S
Data File	C6203.D	C6194.D	C6198.D	C6197.D
Sample Collection Date	07/02/02	07/02/02	07/02/02	07/02/02
Sample Receipt Date	07/03/02	07/03/02	07/03/02	07/03/02
Sample Preparation Date	07/15/02	07/15/02	07/15/02	07/15/02
Sample Analysis Date	07/24/02	07/23/02	07/24/02	07/23/02
Sample Size	26.04 g	25.02 g	21.08 g	24.86 g
Percent Solids	80.78 %	78.26 %	67.37 %	80.43 %
Weight Basis	DRY	DRY	DRY	DRY
Lowest Dilution Factor	2.92	1.06	1.31	1.06
Highest Dilution Factor	5	NA	NA	NA
PIV (mL)	1.1	1.1	1.1	1.1
Min Reporting Limit (mg/kg)	0.00123	0.000466	0.000684	0.000469
2nd Reporting Limit (mg/kg)	0.00617	NA	NA	NA
Analyte Concentration Units	mg/kg	mg/kg	mg/kg	mg/kg
Naphthalene	0.538	0.00156 B	0.0121	0.00746
C1-Naphthalenes	0.372	0.000725 B	0.00903	0.00737
C2-Naphthalenes	0.375	0.0033	0.0184	0.013
C3-Naphthalenes	0.248	0.00254	0.018	0.0106
C4-Naphthalenes	0.0932	0.00147	0.0148	0.00685
Acenaphthylene	0.72	0.00338	0.0184	0.0112
Acenaphthene	0.105	0.000323 J	0.0225	0.0216
Biphenyl	0.108	0.000722	0.00276	0.00257
Dibenzofuran	0.616	0.000478	0.0131	0.0175
Fluorene	0.418	0.000618	0.026	0.0352
C1-Fluorenes	0.12	0.00084	0.012	0.00972
C2-Fluorenes	0.133	0.00171	0.0192	0.0122
C3-Fluorenes	0.0899	0.0024	0.0419	0.0292
Anthracene	0.533 D	0.00309	0.0673	0.055
Phenanthrene	2.2 D	0.00689	0.359	0.318
C1-Phenanthrenes/Anthracenes	0.582 D	0.00663	0.122	0.0826
C2-Phenanthrenes/Anthracenes	0.276 D	0.00676	0.0804	0.0457
C3-Phenanthrenes/Anthracenes	0.113 D	0.00255	0.0355	0.0176
C4-Phenanthrenes/Anthracenes	0.17 D	0.00103	0.0135	0.00653
Dibenzothiophene	0.273	0.000583	0.019	0.017
C1-Dibenzothiophenes	0.113	0.000943	0.0118	0.00702
C2-Dibenzothiophenes	0.0828	0.00153	0.014	0.00753
C3-Dibenzothiophenes	0.0434	0.00113	0.00989	0.00525
C4-Dibenzothiophenes	0.0242	0.000752	0.00607	0.00335
Fluoranthene	2.24 D	0.0184	0.622	0.387
Pyrene	1.82 D	0.0181	0.495	0.295
Benzo(b)fluorene	0.0248	0.00103	0.0204	0.0203
C1-Fluoranthenes/Pyrenes	0.483 D	0.0114	0.174	0.118
C2-Fluoranthenes/Pyrenes	0.5 D	0.00754	0.111	0.0581
C3-Fluoranthenes/Pyrenes	0.16 D	0.0032	0.0431	0.0261
Benzo(a)anthracene	1.54	0.00772	0.179	0.105
Chrysene	1.72	0.00964	0.217	0.124
C1-Chrysenes	0.517	0.00511	0.0737	0.042
C2-Chrysenes	0.229	0.00302	0.046	0.0224
C3-Chrysenes	0.102	0.000466 ND	0.0246	0.0139
C4-Chrysenes	0.0568	0.000466 ND	0.0122	0.00694
Benzo(b)fluoranthene	1.18	0.00914	0.182	0.1
Benzo(j/k)fluoranthene	1.24	0.00925	0.177	0.101
Benzo(a)fluoranthene	0.356	0.00281	0.0399	0.0236
Benzo(e)pyrene	0.844	0.00757	0.147	0.0748
Benzo(a)pyrene	1.43	0.0107	0.212	0.114
Perylene	0.384	0.00286	0.0554	0.0282
Indeno(1,2,3-c,d)pyrene	0.972	0.00873	0.167	0.0836
Dibenz(a,h)anthracene	0.2	0.00199	0.0358	0.0186
Benzo(g,h,i)perylene	0.746	0.00804	0.151	0.073
Surrogate Recoveries (%)				
Naphthalene-d8	70	63	61	49
Phenanthrene-d10	90	88	103	95
Chrysene-d12	76	69	68	65

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
D= Values reported using secondary dilution factor.

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Project Name Hydrocarbon Characterization of the
Project Number G004581-0001

Client Sample ID	OFF-SD-470-0006	OFF-SD-471-0006	OFF-SD-DUP1-0006
Battelle Sample ID	V5873	V5872-D	V5876
Matrix	SOIL	SOIL	SOIL
Battelle Batch ID	02-405	02-405	02-405
Associated Blank	AA699PB	AA699PB	AA699PB
QC Type	N	N	N
Analytical Method	8270M	8270M	8270M
Sequence	SQC561.S	SQC561.S	SQC561.S
Data File	C6196.D	C6205.D	C6199.D
Sample Collection Date	07/02/02	07/02/02	07/02/02
Sample Receipt Date	07/03/02	07/03/02	07/03/02
Sample Preparation Date	07/15/02	07/15/02	07/15/02
Sample Analysis Date	07/23/02	07/24/02	07/24/02
Sample Size	23.11 g	23.35 g	20.79 g
Percent Solids	70.14 %	77.01 %	67.73 %
Weight Basis	DRY	DRY	DRY
Lowest Dilution Factor	1.06	3.29	1.06
Highest Dilution Factor	NA	1	NA
PIV (mL)	1.1	1.1	1.1
Min Reporting Limit (mg/kg)	0.000504	0.00155	0.000561
2nd Reporting Limit (mg/kg)	NA	0.00155	NA
Analyte Concentration Units	mg/kg	mg/kg	mg/kg
Naphthalene	0.0031	0.0689	0.00814
C1-Naphthalenes	0.00203	0.0392	0.00518
C2-Naphthalenes	0.00592	0.145	0.0119
C3-Naphthalenes	0.0057	0.186	0.0122
C4-Naphthalenes	0.00463	0.0947	0.00939
Acenaphthylene	0.00412	0.327	0.0152
Acenaphthene	0.00243	0.0548	0.0184
Biphenyl	0.00154	0.00791	0.00219
Dibenzofuran	0.00219	0.106	0.0107
Fluorene	0.0035	0.173	0.02
C1-Fluorenes	0.00301	0.104	0.00948
C2-Fluorenes	0.0058	0.155	0.0157
C3-Fluorenes	0.00782	0.155	0.0338
Anthracene	0.0115	0.683 D	0.064
Phenanthrene	0.0449	2.43 D	0.296
C1-Phenanthrenes/Anthracenes	0.0226	1.05	0.0969
C2-Phenanthrenes/Anthracenes	0.0194	0.549	0.0639
C3-Phenanthrenes/Anthracenes	0.00839	0.212	0.0275
C4-Phenanthrenes/Anthracenes	0.00383	0.0568	0.00885
Dibenzothiophene	0.00296	0.149	0.016
C1-Dibenzothiophenes	0.0031	0.107	0.00869
C2-Dibenzothiophenes	0.00435	0.104	0.0111
C3-Dibenzothiophenes	0.00297	0.0566	0.00884
C4-Dibenzothiophenes	0.00252	0.026	0.00495
Fluoranthene	0.0773	3.81 D	0.524
Pyrene	0.0675	3.11 D	0.418
Benzo(b)fluorene	0.00334	0.0401	0.0178
C1-Fluoranthenes/Pyrenes	0.0315	1.03 D	0.146
C2-Fluoranthenes/Pyrenes	0.0212	0.82 D	0.0895
C3-Fluoranthenes/Pyrenes	0.0115	0.308 D	0.0369
Benzo(a)anthracene	0.0257	1.18	0.152
Chrysene	0.032	1.07	0.182
C1-Chrysenes	0.0145	0.445	0.0597
C2-Chrysenes	0.00946	0.209	0.0326
C3-Chrysenes	0.00625	0.101	0.0207
C4-Chrysenes	0.000504 ND	0.0631	0.00936
Benzo(b)fluoranthene	0.028	0.853	0.147
Benzo(j/k)fluoranthene	0.027	0.912	0.144
Benzo(a)fluoranthene	0.00617	0.276	0.0328
Benzo(e)pyrene	0.0228	0.644	0.116
Benzo(a)pyrene	0.0307	1.11	0.175
Perylene	0.00805	0.304	0.0455
Indeno(1,2,3-c,d)pyrene	0.0237	0.718	0.131
Dibenz(a,h)anthracene	0.00541	0.16	0.0286
Benzo(g,h,i)perylene	0.022	0.586	0.117
Surrogate Recoveries (%)			
Naphthalene-d8	50	68	47
Phenanthrene-d10	97	100	93
Chrysene-d12	64	70	62

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit repc
D= Values reported using secondary dilution factor.

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Project Name Hydrocarbon Characterization of the
Project Number G004581-0001

Client Sample ID	OFF-OTS-OF075	OFF-OTS-OF093	OFF-SO-11-0607	OFF-SO-15-0607
Battelle Sample ID	V6976-D	V6977-D	V6979-D	V6978-D
Matrix	SOIL	SOIL	SOIL	SOIL
Battelle Batch ID	02-405	02-405	02-405	02-405
Associated Blank	AA699PB	AA699PB	AA699PB	AA699PB
QC Type	N	N	N	N
Analytical Method	8270M	8270M	8270M	8270M
Sequence	SQC561.S	SQC561.S	SQC561.S	SQC561.S
Data File	C6201.D	C6202.D	C6195.D	C6206.D
Sample Collection Date	07/11/02	07/11/02	07/11/02	07/11/02
Sample Receipt Date	07/12/02	07/12/02	07/12/02	07/12/02
Sample Preparation Date	07/15/02	07/15/02	07/15/02	07/15/02
Sample Analysis Date	07/24/02	07/24/02	07/23/02	07/24/02
Sample Size	28.79 g	28.45 g	3.01 g	15.62 g
Percent Solids	92.47 %	88.29 %	56.29 %	75.38 %
Weight Basis	DRY	DRY	DRY	DRY
Lowest Dilution Factor	17.5	10.5	10.64	52.5
Highest Dilution Factor	NA	NA	NA	NA
PIV (mL)	1.1	1.1	1.1	1.1
Min Reporting Limit (mg/kg)	0.00668	0.00406	0.0389	0.037
2nd Reporting Limit (mg/kg)	NA	NA	NA	NA
Analyte Concentration Units	mg/kg	mg/kg	mg/kg	mg/kg
Naphthalene	0.0426	0.00597	11.4	0.856
C1-Naphthalenes	0.0493	0.0053	26.4	0.616
C2-Naphthalenes	0.0628	0.0132	64.4	0.645
C3-Naphthalenes	0.0639	0.0301	219	0.668
C4-Naphthalenes	0.0377	0.0436	166	0.443
Acenaphthylene	0.0401	0.0236	0.0389 ND	0.357
Acenaphthene	0.436	0.0587	3.89	0.289
Biphenyl	0.0151	0.0024 J	3.13	0.18
Dibenzofuran	0.242	0.0385	5.57	0.426
Fluorene	0.533	0.085	7.73	0.378
C1-Fluorenes	0.117	0.0253	20.8	0.413
C2-Fluorenes	0.0903	0.0411	39.1	0.772
C3-Fluorenes	0.058	0.0386	31.3	0.728
Anthracene	0.798	0.178	1.6	1.81
Phenanthrene	6.17	1.76	11.4	5.11
C1-Phenanthrenes/Anthracenes	1	0.323	31.8	3.98
C2-Phenanthrenes/Anthracenes	0.43	0.181	38.1	3.14
C3-Phenanthrenes/Anthracenes	0.187	0.101	21.3	1.96
C4-Phenanthrenes/Anthracenes	0.0639	0.0356	7.52	0.89
Dibenzothiophene	0.37	0.0932	4.42	0.35
C1-Dibenzothiophenes	0.139	0.0441	12.6	0.56
C2-Dibenzothiophenes	0.127	0.0558	14.2	0.97
C3-Dibenzothiophenes	0.0982	0.0596	7.96	1.39
C4-Dibenzothiophenes	0.0562	0.0408	2.91	1.22
Fluoranthene	7.66	3.13	1.44	8.96
Pyrene	5.84	2.42	2.74	9.13
Benzo(b)fluorene	0.29	0.101	0.23	0.506
C1-Fluoranthenes/Pyrenes	1.66	0.658	3.46	5.59
C2-Fluoranthenes/Pyrenes	0.961	0.499	3.56	4.13
C3-Fluoranthenes/Pyrenes	0.385	0.181	2.31	2.89
Benzo(a)anthracene	2.07	0.804	0.71	4.82
Chrysene	2.58	1.24	1.04	5.19
C1-Chrysenes	0.622	0.282	1.31	4
C2-Chrysenes	0.347	0.182	1.1	4.04
C3-Chrysenes	0.196	0.118	0.537	3.29
C4-Chrysenes	0.128	0.0794	0.0389 ND	1.92
Benzo(b)fluoranthene	1.98	1.05	0.978	3.68
Benzo(j/k)fluoranthene	1.82	0.985	0.801	4.02
Benzo(a)fluoranthene	0.362	0.144	0.306	1.08
Benzo(e)pyrene	1.56	0.821	0.945	3.64
Benzo(a)pyrene	2.26	1.06	0.95	5
Perylene	0.609	0.264	0.242	1.22
Indeno(1,2,3-c,d)pyrene	1.72	0.867	1.24	3.06
Dibenz(a,h)anthracene	0.356	0.17	0.322	0.937
Benzo(g,h,i)perylene	1.54	0.787	1.18	2.96
Surrogate Recoveries (%)				
Naphthalene-d8	67	78	109	89
Phenanthrene-d10	73	85	85	82
Chrysene-d12	66	75	73	69

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit repc
D= Values reported using secondary dilution factor.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	Procedural Blank
Battelle Sample ID	AA699PB
Matrix	SOIL
Battelle Batch ID	02-405
Associated Blank	NA
QC Type	PB
Analytical Method	8270M
Sequence	SQC561.S
Data File	C6187.D
Sample Collection Date	NA
Sample Receipt Date	NA
Sample Preparation Date	07/15/02
Sample Analysis Date	07/23/02
Sample Size	22.00 g
Percent Solids	NA
Weight Basis	DRY
Lowest Dilution Factor	1
Highest Dilution Factor	NA
PIV (mL)	1.1
Min Reporting Limit (mg/kg)	0.0005
2nd Reporting Limit (mg/kg)	NA
Analyte Concentration Units	mg/kg
Naphthalene	*0.000352 J*
C1-Naphthalenes	0.000301 J
C2-Naphthalenes	0.0005 ND
C3-Naphthalenes	0.0005 ND
C4-Naphthalenes	0.0005 ND
Acenaphthylene	0.0005 ND
Acenaphthene	0.0005 ND
Biphenyl	0.0005 ND
Dibenzofuran	0.0005 ND
Fluorene	0.0005 ND
C1-Fluorenes	0.0005 ND
C2-Fluorenes	0.0005 ND
C3-Fluorenes	0.0005 ND
Anthracene	0.0005 ND
Phenanthrene	0.0005 ND
C1-Phenanthrenes/Anthracenes	0.0005 ND
C2-Phenanthrenes/Anthracenes	0.0005 ND
C3-Phenanthrenes/Anthracenes	0.0005 ND
C4-Phenanthrenes/Anthracenes	0.0005 ND
Dibenzothiophene	*0.0005 ND*
C1-Dibenzothiophenes	0.0005 ND
C2-Dibenzothiophenes	0.0005 ND
C3-Dibenzothiophenes	0.0005 ND
C4-Dibenzothiophenes	0.0005 ND
Fluoranthene	0.0005 ND
Pyrene	0.0005 ND
Benzo(b)fluorene	0.0005 ND
C1-Fluoranthenes/Pyrenes	0.0005 ND
C2-Fluoranthenes/Pyrenes	0.0005 ND
C3-Fluoranthenes/Pyrenes	0.0005 ND
Benzo(a)anthracene	0.0005 ND
Chrysene	0.0005 ND
C1-Chrysenes	0.0005 ND
C2-Chrysenes	0.0005 ND
C3-Chrysenes	0.0005 ND
C4-Chrysenes	0.0005 ND
Benzo(b)fluoranthene	0.0005 ND
Benzo(j/k)fluoranthene	0.0005 ND
Benzo(a)fluoranthene	*0.0005 ND*
Benzo(e)pyrene	0.0005 ND
Benzo(a)pyrene	0.0005 ND
Perylene	0.0005 ND
Indeno(1,2,3-c,d)pyrene	0.0005 ND
Dibenz(a,h)anthracene	0.0005 ND
Benzo(g,h,i)perylene	0.0005 ND

Surrogate Recoveries (%)	
Naphthalene-d8	75
Phenanthrene-d10	82
Chrysene-d12	96

J=Result < Sample RL.
NA= Not Applicable.
ND= Not Detected, sample specific reporting limit reported.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID		Laboratory Control Sample	
Battelle Sample ID		AA700LCS	
Matrix		SOIL	
Battelle Batch ID		02-405	
Associated Blank		AA699PB	
QC Type		LCS	
Analytical Method		8270M	
Sequence		SQC561.S	
Data File		C6188.D	
Sample Collection Date		NA	
Sample Receipt Date		NA	
Sample Preparation Date		07/15/02	
Sample Analysis Date		07/23/02	
Sample Size		NA	
Percent Solids		NA	
Weight Basis		DRY	
Lowest Dilution Factor		1.00	
Highest Dilution Factor		NA	
PIV (mL)		1.1	
Min Reporting Limit (mg/kg)		0.011	
2nd Reporting Limit (mg/kg)		NA	
Analyte Concentration Units	FU22	ng	% Recovery Q
Naphthalene	5010.0	4790	96
C1-Naphthalenes		0.011 ND	
C2-Naphthalenes		0.011 ND	
C3-Naphthalenes		0.011 ND	
C4-Naphthalenes		0.011 ND	
Acenaphthylene	5000.0	4860	97
Acenaphthene	5005.0	4820	96
Biphenyl	5015.0	4900	98
Dibenzofuran	5000.0	5070	101
Fluorene	5000.0	5000	100
C1-Fluorenes		0.011 ND	
C2-Fluorenes		0.011 ND	
C3-Fluorenes		0.011 ND	
Anthracene	5002.5	4420	88
Phenanthrene	5037.5	4980	99
C1-Phenanthrenes/Anthracenes		0.011 ND	
C2-Phenanthrenes/Anthracenes		0.011 ND	
C3-Phenanthrenes/Anthracenes		0.011 ND	
C4-Phenanthrenes/Anthracenes		0.011 ND	
Dibenzothiophene	5006.0	4520	90
C1-Dibenzothiophenes		0.011 ND	
C2-Dibenzothiophenes		0.011 ND	
C3-Dibenzothiophenes		0.011 ND	
C4-Dibenzothiophenes		0.011 ND	
Fluoranthene	5117.5	4430	87
Pyrene	5002.5	4800	96
Benzo(b)fluorene		0.011 ND	
C1-Fluoranthenes/Pyrenes		0.011 ND	
C2-Fluoranthenes/Pyrenes		0.011 ND	
C3-Fluoranthenes/Pyrenes		0.011 ND	
Benzo(a)anthracene	5010.0	4610	92
Chrysene	5020.0	4660	93
C1-Chrysenes		0.011 ND	
C2-Chrysenes		0.011 ND	
C3-Chrysenes		0.011 ND	
C4-Chrysenes		0.011 ND	
Benzo(b)fluoranthene	5010.0	4690	94
Benzo(j/k)fluoranthene	5007.5	5200	104
Benzo(a)fluoranthene		0.011 ND	
Benzo(e)pyrene	4944.0	4490	91
Benzo(a)pyrene	5007.5	5040	101
Perylene	5001.0	5220	104
Indeno(1,2,3-c,d)pyrene	5005.0	5310	106
Dibenz(a,h)anthracene	5002.5	5380	108
Benzo(g,h,i)perylene	5010.0	5410	108

Surrogate Recoveries (%)

Naphthalene-d8	101
Phenanthrene-d10	82
Chrysene-d12	89

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID		ICC		ICC	
Battelle Sample ID		FV94		FV94	
Matrix		SOIL		SOIL	
Battelle Batch ID		02-405		02-405	
Associated Blank		AA699PB		AA699PB	
QC Type		ICC		ICC	
Sample Analysis Date		07/23/02		08/08/02	
Sequence		SQC561.S		SQF105.S	
Data File		C6186.D		F4104.D	
Sample Collection Date		NA		NA	
Sample Receipt Date		NA		NA	
Sample Preparation Date		NA		NA	
Analytical Method		8270M		8270M	
Sample Size		NA		NA	
Percent Solids		NA		NA	
Weight Basis		NA		NA	
Lowest Dilution Factor		1.00		1.00	
Highest Dilution Factor		NA		NA	
PIV (mL)		NA		NA	
Min Reporting Limit (mg/kg)		0.010		0.010	
2nd Reporting Limit (mg/kg)		NA		NA	
Analyte Concentration Units	FV94	ng/uL	% Difference Q	ng/uL	% Difference Q
Naphthalene	1.002	1.01	0.80	1.03	2.79
C1-Naphthalenes		0.01 ND		0.01 ND	
C2-Naphthalenes		0.01 ND		0.01 ND	
C3-Naphthalenes		0.01 ND		0.01 ND	
C4-Naphthalenes		0.01 ND		0.01 ND	
Acenaphthylene	1.004	0.99	1.39	1.05	4.58
Acenaphthene	1.004	1.05	4.58	1.03	2.59
Biphenyl	1.003	1.02	1.69	0.983	1.99
Dibenzofuran		0.01 ND		0.00292 J	
Fluorene	1.005	1.08	7.46	1.03	2.49
C1-Fluorenes		0.01 ND		0.01 ND	
C2-Fluorenes		0.01 ND		0.01 ND	
C3-Fluorenes		0.01 ND		0.01 ND	
Anthracene	1.005	1.12	11.44	1.07	6.47
Phenanthrene	1.007	1.06	5.26	1.02	1.29
C1-Phenanthrenes/Anthracenes		0.01 ND		0.01 ND	
C2-Phenanthrenes/Anthracenes		0.01 ND		0.01 ND	
C3-Phenanthrenes/Anthracenes		0.01 ND		0.01 ND	
C4-Phenanthrenes/Anthracenes		0.01 ND		0.01 ND	
Dibenzothiophene		0.0128		0.0128	
C1-Dibenzothiophenes		0.01 ND		0.01 ND	
C2-Dibenzothiophenes		0.01 ND		0.01 ND	
C3-Dibenzothiophenes		0.01 ND		0.01 ND	
C4-Dibenzothiophenes		0.01 ND		0.01 ND	
Fluoranthene	1.004	1.06	5.58	1.05	4.58
Pyrene	1.003	1.06	5.68	1.04	3.69
Benzo(b)fluorene		0.01 ND		0.01 ND	
C1-Fluoranthenes/Pyrenes		0.01 ND		0.01 ND	
C2-Fluoranthenes/Pyrenes		0.01 ND		0.01 ND	
C3-Fluoranthenes/Pyrenes		0.01 ND		0.01 ND	
Benzo(a)anthracene	1.005	1.07	6.47	0.986	1.89
Chrysene	1.005	1.09	8.46	1.06	5.47
C1-Chrysenes		0.01 ND		0.01 ND	
C2-Chrysenes		0.01 ND		0.01 ND	
C3-Chrysenes		0.01 ND		0.01 ND	
C4-Chrysenes		0.01 ND		0.01 ND	
Benzo(b)fluoranthene	1.004	1.01	0.60	1.02	1.59
Benzo(j/k)fluoranthene	1.003	1.14	13.66	1.05	4.69
Benzo(a)fluoranthene		0.01 ND		0.01 ND	
Benzo(e)pyrene	1.005	1.03	2.49	0.975	2.99
Benzo(a)pyrene	1.006	1.06	5.37	1.04	3.38
Perylene	1.000	1.05	5.00	1.02	2.00
Indeno(1,2,3-c,d)pyrene	1.003	1.04	3.69	1	0.30
Dibenz(a,h)anthracene	1.003	1.07	6.68	1.03	2.69
Benzo(g,h,i)perylene	1.004	1.01	0.60	0.99	1.39
Surrogate Recoveries (%)					
Naphthalene-d8		105		104	
Phenanthrene-d10		99		90	
Chrysene-d12		101		98	

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO criteria.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	OFF-SD-5-0006	OFF-SD-5-0006		
Battelle Sample ID	V5870-D	V5870DUP-D		
Matrix	SOIL	SOIL		
Battelle Batch ID	02-405	02-405		
Associated Blank	AA699PB	AA699PB		
QC Type	N	DUP		
Analytical Method	8270M	8270M		
Sequence	SQC561.S	SQC561.S		
Data File	C6203.D	C6204.D		
Sample Collection Date	07/02/02	07/02/02		
Sample Receipt Date	07/03/02	07/03/02		
Sample Preparation Date	07/15/02	07/15/02		
Sample Analysis Date	07/24/02	07/24/02		
Sample Size	26.04 g	25.23 g		
Percent Solids	80.78 %	80.78 %		
Weight Basis	DRY	DRY		
Lowest Dilution Factor	2.92	2.92		
Highest Dilution Factor	5.00	NA		
PIV (mL)	1.10	1.10		
Min Reporting Limit (mg/kg)	0.00	0.00		
2nd Reporting Limit (mg/kg)	0.01	NA		
Analyte Concentration Units	mg/kg	mg/kg	RPD(%)	Q
Naphthalene	0.538	0.0212	185	&
C1-Naphthalenes	0.372	0.00901	191	~
C2-Naphthalenes	0.375	0.0275	173	&
C3-Naphthalenes	0.248	0.0425	141	&
C4-Naphthalenes	0.0932	0.027	110	&
Acenaphthylene	0.72	0.104	150	&
Acenaphthene	0.105	0.00954	167	~
Biphenyl	0.108	0.0023	192	~
Dibenzofuran	0.616	0.0227	186	&
Fluorene	0.418	0.0294	174	&
C1-Fluorenes	0.12	0.0223	137	&
C2-Fluorenes	0.133	0.0295	127	&
C3-Fluorenes	0.0899	0.021	124	&
Anthracene	0.533 D	0.159	108	&
Phenanthrene	2.2 D	0.554	120	&
C1-Phenanthrenes/Anthracenes	0.582 D	0.26	76	&
C2-Phenanthrenes/Anthracenes	0.276 D	0.151	59	&
C3-Phenanthrenes/Anthracenes	0.113 D	0.0643	55	&
C4-Phenanthrenes/Anthracenes	0.17 D	0.0218	155	&
Dibenzothiophene	0.273	0.0303	160	&
C1-Dibenzothiophenes	0.113	0.0263	124	&
C2-Dibenzothiophenes	0.0828	0.0229	113	&
C3-Dibenzothiophenes	0.0434	0.0161	92	&
C4-Dibenzothiophenes	0.0242	0.0133	58	&
Fluoranthene	2.24 D	0.965	80	&
Pyrene	1.82 D	0.813	76	&
Benzo(b)fluorene	0.0248	0.00989	86	~
C1-Fluoranthenes/Pyrenes	0.483 D	0.262	59	&
C2-Fluoranthenes/Pyrenes	0.5 D	0.248	67	&
C3-Fluoranthenes/Pyrenes	0.16 D	0.0987	47	&
Benzo(a)anthracene	1.54	0.39	119	&
Chrysene	1.72	0.357	131	&
C1-Chrysenes	0.517	0.147	111	&
C2-Chrysenes	0.229	0.0784	98	&
C3-Chrysenes	0.102	0.0421	83	&
C4-Chrysenes	0.0568	0.0285	66	&
Benzo(b)fluoranthene	1.18	0.279	124	&
Benzo(j/k)fluoranthene	1.24	0.329	116	&
Benzo(a)fluoranthene	0.356	0.102	111	&
Benzo(e)pyrene	0.844	0.227	115	&
Benzo(a)pyrene	1.43	0.377	117	&
Perylene	0.384	0.105	114	&
Indeno(1,2,3-c,d)pyrene	0.972	0.252	118	&
Dibenz(a,h)anthracene	0.2	0.0548	114	&
Benzo(g,h,i)perylene	0.746	0.209	112	&
Surrogate Recoveries (%)				
Naphthalene-d8	70	67	5	
Phenanthrene-d10	90	88	2	
Chrysene-d12	76	73	5	

J=Result < Sample RL.
B=Result < 5 x PB concentration.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO.
D= Values reported using secondary dilution factor.
~ = RPD >35% but analyte concentration <10 x RL in one or more samples.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	OFF-SD-5-006
Battelle Sample ID	V5870-D
Matrix	SOIL
Battelle Batch ID	02-477
Associated Blank	AA952PB
QC Type	N
Analytical Method	8270M
Sequence	SQF110.S
Data File	F4345.D
Sample Collection Date	07/02/02
Sample Receipt Date	07/03/02
Sample Preparation Date	08/20/02
Sample Analysis Date	08/23/02
Sample Size	23.70 g
Percent Solids	78.63 %
Weight Basis	DRY
Lowest Dilution Factor	2.92
Highest Dilution Factor	NA
PIV (mL)	1.1
Min Reporting Limit (mg/kg)	0.00136
2nd Reporting Limit (mg/kg)	NA
Analyte Concentration Units	mg/kg
Naphthalene	0.0414
C1-Naphthalenes	0.0283
C2-Naphthalenes	0.0475
C3-Naphthalenes	0.054
C4-Naphthalenes	0.0236
Acenaphthylene	0.147
Acenaphthene	0.0173
Biphenyl	0.00539
Dibenzofuran	0.0794
Fluorene	0.0666
C1-Fluorenes	0.0286
C2-Fluorenes	0.0441
C3-Fluorenes	0.0765
Anthracene	0.218
Phenanthrene	1.03
C1-Phenanthrenes/Anthracenes	0.36
C2-Phenanthrenes/Anthracenes	0.177
C3-Phenanthrenes/Anthracenes	0.0751
C4-Phenanthrenes/Anthracenes	0.0222
Dibenzothiophene	0.06
C1-Dibenzothiophenes	0.0241
C2-Dibenzothiophenes	0.0264
C3-Dibenzothiophenes	0.019
C4-Dibenzothiophenes	0.0154
Fluoranthene	1.56
Pyrene	1.28
Benzo(b)fluorene	0.0334
C1-Fluoranthenes/Pyrenes	0.361
C2-Fluoranthenes/Pyrenes	0.43
C3-Fluoranthenes/Pyrenes	0.137
Benzo(a)anthracene	0.675
Chrysene	0.63
C1-Chrysenes	0.234
C2-Chrysenes	0.139
C3-Chrysenes	0.094
C4-Chrysenes	0.0502
Benzo(b)fluoranthene	0.813
Benzo(j/k)fluoranthene	0.298
Benzo(a)fluoranthene	0.154
Benzo(e)pyrene	0.417
Benzo(a)pyrene	0.571
Perylene	0.187
Indeno(1,2,3-c,d)pyrene	0.467
Dibenz(a,h)anthracene	0.08
Benzo(g,h,i)perylene	0.397

Surrogate Recoveries (%)	
Naphthalene-d8	77
Phenanthrene-d10	94
Chrysene-d12	109

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
D= Values reported using secondary dilution factor.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	Procedural Blank
Battelle Sample ID	AA952PB
Matrix	SOIL
Battelle Batch ID	02-477
Associated Blank	NA
QC Type	PB
Analytical Method	8270M
Sequence	SQF110.S
Data File	F4344.D
Sample Collection Date	NA
Sample Receipt Date	NA
Sample Preparation Date	08/20/02
Sample Analysis Date	08/23/02
Sample Size	24.00 g
Percent Solids	NA
Weight Basis	DRY
Lowest Dilution Factor	1
Highest Dilution Factor	NA
PIV (mL)	1.1
Min Reporting Limit (mg/kg)	0.000458
2nd Reporting Limit (mg/kg)	NA
Analyte Concentration Units	mg/kg
Naphthalene	0.000236 J
C1-Naphthalenes	0.0000807 J
C2-Naphthalenes	0.000458 ND
C3-Naphthalenes	0.000458 ND
C4-Naphthalenes	0.000458 ND
Acenaphthylene	0.000458 ND
Acenaphthene	0.000458 ND
Biphenyl	0.000458 ND
Dibenzofuran	0.000458 ND
Fluorene	0.000458 ND
C1-Fluorenes	0.000458 ND
C2-Fluorenes	0.000458 ND
C3-Fluorenes	0.000458 ND
Anthracene	0.000458 ND
Phenanthrene	0.0000833 J
C1-Phenanthrenes/Anthracenes	0.000458 ND
C2-Phenanthrenes/Anthracenes	0.000458 ND
C3-Phenanthrenes/Anthracenes	0.000458 ND
C4-Phenanthrenes/Anthracenes	0.000458 ND
Dibenzothiophene	0.000458 ND
C1-Dibenzothiophenes	0.000458 ND
C2-Dibenzothiophenes	0.000458 ND
C3-Dibenzothiophenes	0.000458 ND
C4-Dibenzothiophenes	0.000458 ND
Fluoranthene	0.0000195 J
Pyrene	0.000034 J
Benzo(b)fluorene	0.000458 ND
C1-Fluoranthenes/Pyrenes	0.000458 ND
C2-Fluoranthenes/Pyrenes	0.000458 ND
C3-Fluoranthenes/Pyrenes	0.000458 ND
Benzo(a)anthracene	0.000458 ND
Chrysene	0.000458 ND
C1-Chrysenes	0.000458 ND
C2-Chrysenes	0.000458 ND
C3-Chrysenes	0.000458 ND
C4-Chrysenes	0.000458 ND
Benzo(b)fluoranthene	0.000458 ND
Benzo(j/k)fluoranthene	0.000458 ND
Benzo(a)fluoranthene	0.000458 ND
Benzo(e)pyrene	0.000458 ND
Benzo(a)pyrene	0.000458 ND
Perylene	0.000458 ND
Indeno(1,2,3-c,d)pyrene	0.000458 ND
Dibenz(a,h)anthracene	0.000458 ND
Benzo(g,h,i)perylene	0.000458 ND

Surrogate Recoveries (%)	
Naphthalene-d8	93
Phenanthrene-d10	80
Chrysene-d12	85

J=Result < Sample RL.
NA= Not Applicable.
ND= Not Detected, sample specific reporting limit reported.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	OFF-SD-5-006	OFF-SD-5-006		
Battelle Sample ID	V5870-D	V5870DUP-D		
Matrix	SOIL	SOIL		
Battelle Batch ID	02-477	02-477		
Associated Blank	AA952PB	AA952PB		
QC Type	N	DUP		
Analytical Method	8270M	8270M		
Sequence	SQF110.S	SQF110.S		
Data File	F4345.D	F4346.D		
Sample Collection Date	07/02/02	07/02/02		
Sample Receipt Date	07/03/02	07/03/02		
Sample Preparation Date	08/20/02	08/20/02		
Sample Analysis Date	08/23/02	08/23/02		
Sample Size	23.70 g	24.09 g		
Percent Solids	78.63 %	78.63 %		
Weight Basis	DRY	DRY		
Lowest Dilution Factor	2.92	2.92		
Highest Dilution Factor	NA	NA		
PIV (mL)	1.10	1.10		
Min Reporting Limit (mg/kg)	0.00136	0.00133		
2nd Reporting Limit (mg/kg)	NA	NA		
Analyte Concentration Units	mg/kg	mg/kg	RPD(%)	Q
Naphthalene	0.0414	0.0318	26.2	
C1-Naphthalenes	0.0283	0.0168	51	&
C2-Naphthalenes	0.0475	0.0456	4.08	
C3-Naphthalenes	0.054	0.0528	2.25	
C4-Naphthalenes	0.0236	0.0264	11.2	
Acenaphthylene	0.147	0.104	34.3	
Acenaphthene	0.0173	0.0138	22.5	
Biphenyl	0.00539	0.00335	46.7	~
Dibenzofuran	0.0794	0.0367	73.6	&
Fluorene	0.0666	0.0502	28.1	
C1-Fluorenes	0.0286	0.0369	25.3	
C2-Fluorenes	0.0441	0.0521	16.6	
C3-Fluorenes	0.0765	0.072	6.06	
Anthracene	0.218	0.168	25.9	
Phenanthrene	1.03	0.741	32.6	
C1-Phenanthrenes/Anthracenes	0.36	0.396	9.52	
C2-Phenanthrenes/Anthracenes	0.177	0.23	26	
C3-Phenanthrenes/Anthracenes	0.0751	0.0917	19.9	
C4-Phenanthrenes/Anthracenes	0.0222	0.0238	6.96	
Dibenzothiophene	0.06	0.0452	28.1	
C1-Dibenzothiophenes	0.0241	0.0355	38.2	&
C2-Dibenzothiophenes	0.0264	0.0493	60.5	&
C3-Dibenzothiophenes	0.019	0.0303	45.8	&
C4-Dibenzothiophenes	0.0154	0.0244	45.2	&
Fluoranthene	1.56	1.33	15.9	
Pyrene	1.28	1.15	10.7	
Benzo(b)fluorene	0.0334	0.0362	8.04	
C1-Fluoranthenes/Pyrenes	0.361	0.44	19.7	
C2-Fluoranthenes/Pyrenes	0.43	0.4	7.23	
C3-Fluoranthenes/Pyrenes	0.137	0.161	16.1	
Benzo(a)anthracene	0.675	0.654	3.16	
Chrysene	0.63	0.613	2.74	
C1-Chrysenes	0.234	0.281	18.2	
C2-Chrysenes	0.139	0.162	15.3	
C3-Chrysenes	0.094	0.1	6.18	
C4-Chrysenes	0.0502	0.0532	5.8	
Benzo(b)fluoranthene	0.813	0.797	1.99	
Benzo(j/k)fluoranthene	0.298	0.279	6.58	
Benzo(a)fluoranthene	0.154	0.145	6.02	
Benzo(e)pyrene	0.417	0.39	6.69	
Benzo(a)pyrene	0.571	0.544	4.84	
Perylene	0.187	0.162	14.3	
Indeno(1,2,3-c,d)pyrene	0.467	0.428	8.72	
Dibenz(a,h)anthracene	0.08	0.0841	5	
Benzo(g,h,i)perylene	0.397	0.363	8.95	
Surrogate Recoveries (%)				
Naphthalene-d8	77	73	4.7	
Phenanthrene-d10	94	91	2.35	
Chrysene-d12	109	108	1.02	

J=Result < Sample RL.
B=Result < 5 x PB concentration.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO.
D= Values reported using secondary dilution factor.
~ = RPD >35% but analyte concentration <10 x RL in one or more samples.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	OFF-SD-410-0006	OFF-SD-DUP1-0006		
Battelle Sample ID	V5874-D	V5876		
Matrix	SOIL	SOIL		
Battelle Batch ID	02-405	02-405		
Associated Blank	AA699PB	AA699PB		
QC Type	N	N		
Analytical Method	8270M	8270M		
Sequence	SQC561.S	SQC561.S		
Data File	C6198.D	C6199.D		
Sample Collection Date	07/02/02	07/02/02		
Sample Receipt Date	07/03/02	07/03/02		
Sample Preparation Date	07/15/02	07/15/02		
Sample Analysis Date	07/24/02	07/24/02		
Sample Size	21.08 g	20.79 g		
Percent Solids	67.37 %	67.73 %		
Weight Basis	DRY	DRY		
Lowest Dilution Factor	1.31	1.06		
Highest Dilution Factor	NA	NA		
PIV (mL)	1.1	1.10		
Min Reporting Limit (mg/kg)	0.000684	0.00		
2nd Reporting Limit (mg/kg)	NA	NA		
Analyte Concentration Units	mg/kg	mg/kg	RPD(%)	Q
Naphthalene	0.0121	0.00814	39	&
C1-Naphthalenes	0.00903	0.00518	54	~
C2-Naphthalenes	0.0184	0.0119	43	&
C3-Naphthalenes	0.018	0.0122	38	&
C4-Naphthalenes	0.0148	0.00939	45	&
Acenaphthylene	0.0184	0.0152	19	
Acenaphthene	0.0225	0.0184	20	
Biphenyl	0.00276	0.00219	23	
Dibenzofuran	0.0131	0.0107	20	
Fluorene	0.026	0.02	26	
C1-Fluorenes	0.012	0.00948	23	
C2-Fluorenes	0.0192	0.0157	20	
C3-Fluorenes	0.0419	0.0338	21	
Anthracene	0.0673	0.064	5	
Phenanthrene	0.359	0.296	19	
C1-Phenanthrenes/Anthracenes	0.122	0.0969	23	
C2-Phenanthrenes/Anthracenes	0.0804	0.0639	23	
C3-Phenanthrenes/Anthracenes	0.0355	0.0275	25	
C4-Phenanthrenes/Anthracenes	0.0135	0.00885	42	&
Dibenzothiophene	0.019	0.016	17	
C1-Dibenzothiophenes	0.0118	0.00869	30	
C2-Dibenzothiophenes	0.014	0.0111	23	
C3-Dibenzothiophenes	0.00989	0.00884	11	
C4-Dibenzothiophenes	0.00607	0.00495	20	
Fluoranthene	0.622	0.524	17	
Pyrene	0.495	0.418	17	
Benzo(b)fluorene	0.0204	0.0178	14	
C1-Fluoranthenes/Pyrenes	0.174	0.146	18	
C2-Fluoranthenes/Pyrenes	0.111	0.0895	21	
C3-Fluoranthenes/Pyrenes	0.0431	0.0369	16	
Benzo(a)anthracene	0.179	0.152	16	
Chrysene	0.217	0.182	18	
C1-Chrysenes	0.0737	0.0597	21	
C2-Chrysenes	0.046	0.0326	34	
C3-Chrysenes	0.0246	0.0207	17	
C4-Chrysenes	0.0122	0.00936	26	
Benzo(b)fluoranthene	0.182	0.147	21	
Benzo(j/k)fluoranthene	0.177	0.144	21	
Benzo(a)fluoranthene	0.0399	0.0328	20	
Benzo(e)pyrene	0.147	0.116	24	
Benzo(a)pyrene	0.212	0.175	19	
Perylene	0.0554	0.0455	20	
Indeno(1,2,3-c,d)pyrene	0.167	0.131	24	
Dibenz(a,h)anthracene	0.0358	0.0286	22	
Benzo(g,h,i)perylene	0.151	0.117	25	
Surrogate Recoveries (%)				
Naphthalene-d8	61	47	26	
Phenanthrene-d10	103	93	10	
Chrysene-d12	68	62	10	

J=Result < Sample RL.
B=Result < 5 x PB concentration.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO.
D= Values reported using secondary dilution factor.
~ = RPD >35% but analyte concentration <10 x RL in one or more samples.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID		ICC	
Battelle Sample ID		FV94	
Matrix		SOIL	
Battelle Batch ID		02-477	
Associated Blank		AA952PB	
QC Type		ICC	
Sample Analysis Date		8270M	
Sequence		SQF110.S	
Data File		F4343.D	
Sample Collection Date		NA	
Sample Receipt Date		NA	
Sample Preparation Date		NA	
Analytical Method		08/22/02	
Sample Size		NA	
Percent Solids		NA	
Weight Basis		NA	
Lowest Dilution Factor		1.00	
Highest Dilution Factor		NA	
PIV (mL)		NA	
Min Reporting Limit (mg/kg)		0.010	
2nd Reporting Limit (mg/kg)		NA	
Analyte Concentration Units	FV94	ng/uL	% Difference Q
Naphthalene	1.002	1.02	1.8
C1-Naphthalenes		0.01 ND	
C2-Naphthalenes		0.01 ND	
C3-Naphthalenes		0.01 ND	
C4-Naphthalenes		0.01 ND	
Acenaphthylene	1.004	1.02	1.59
Acenaphthene	1.004	1	0.398
Biphenyl	1.003	0.972	3.09
Dibenzofuran		0.01 ND	
Fluorene	1.005	1.02	1.49
C1-Fluorenes		0.01 ND	
C2-Fluorenes		0.01 ND	
C3-Fluorenes		0.01 ND	
Anthracene	1.005	1.01	0.498
Phenanthrene	1.007	1	0.695
C1-Phenanthrenes/Anthracenes		0.01 ND	
C2-Phenanthrenes/Anthracenes		0.01 ND	
C3-Phenanthrenes/Anthracenes		0.01 ND	
C4-Phenanthrenes/Anthracenes		0.01 ND	
Dibenzothiophene		0.0119	
C1-Dibenzothiophenes		0.01 ND	
C2-Dibenzothiophenes		0.01 ND	
C3-Dibenzothiophenes		0.01 ND	
C4-Dibenzothiophenes		0.01 ND	
Fluoranthene	1.004	0.999	0.498
Pyrene	1.003	0.971	3.19
Benzo(b)fluorene		0.01 ND	
C1-Fluoranthenes/Pyrenes		0.01 ND	
C2-Fluoranthenes/Pyrenes		0.01 ND	
C3-Fluoranthenes/Pyrenes		0.01 ND	
Benzo(a)anthracene	1.005	0.948	5.67
Chrysene	1.005	0.996	0.896
C1-Chrysenes		0.01 ND	
C2-Chrysenes		0.01 ND	
C3-Chrysenes		0.01 ND	
C4-Chrysenes		0.01 ND	
Benzo(b)fluoranthene	1.004	0.931	7.27
Benzo(j/k)fluoranthene	1.003	0.988	1.5
Benzo(a)fluoranthene		0.01 ND	
Benzo(e)pyrene	1.005	0.908	9.65
Benzo(a)pyrene	1.006	0.947	5.86
Perylene	1.000	0.95	5
Indeno(1,2,3-c,d)pyrene	1.003	0.873	13
Dibenz(a,h)anthracene	1.003	0.926	7.68
Benzo(g,h,i)perylene	1.004	0.927	7.67

Surrogate Recoveries (%)

Naphthalene-d8	105
Phenanthrene-d10	90
Chrysene-d12	96

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO criteria.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	OFF-AQ-11-0607
Battelle Sample ID	V6980-D
Matrix	WATER
Battelle Batch ID	02-406
Associated Blank	AA701PB
QC Type	N
Analytical Method	8270M
Sequence	SQC561.S
Data File	C6210.D
Sample Collection Date	07/11/02
Sample Receipt Date	07/12/02
Sample Preparation Date	07/16/02
Sample Analysis Date	07/24/02
Sample Size	0.13 L
Percent Solids	NA
Weight Basis	NA
Lowest Dilution Factor	10
Highest Dilution Factor	NA
PIV	1.1
Min Reporting Limit	0.846
2nd Reporting Limit	NA
Analyte Concentration Units	ug/L
Naphthalene	44
C1-Naphthalenes	172
C2-Naphthalenes	1120
C3-Naphthalenes	4990
C4-Naphthalenes	4180
Acenaphthylene	0.846 ND
Acenaphthene	90.5
Biphenyl	7.14
Dibenzofuran	59.1
Fluorene	131
C1-Fluorenes	464
C2-Fluorenes	942
C3-Fluorenes	697
Anthracene	33.2
Phenanthrene	196
C1-Phenanthrenes/Anthracenes	637
C2-Phenanthrenes/Anthracenes	820
C3-Phenanthrenes/Anthracenes	491
C4-Phenanthrenes/Anthracenes	176
Dibenzothiophene	78.3
C1-Dibenzothiophenes	262
C2-Dibenzothiophenes	314
C3-Dibenzothiophenes	190
C4-Dibenzothiophenes	79.6
Fluoranthene	45.6
Pyrene	75.7
Benzo(b)fluorene	4.68
C1-Fluoranthenes/Pyrenes	75
C2-Fluoranthenes/Pyrenes	65.5
C3-Fluoranthenes/Pyrenes	38.7
Benzo(a)anthracene	22.2
Chrysene	24.1
C1-Chrysenes	19.1
C2-Chrysenes	14.4
C3-Chrysenes	7.54
C4-Chrysenes	0.846 ND
Benzo(b)fluoranthene	22.4
Benzo(j/k)fluoranthene	20.7
Benzo(a)fluoranthene	7.14
Benzo(e)pyrene	22.2
Benzo(a)pyrene	28.9
Perylene	7.8
Indeno(1,2,3-c,d)pyrene	24.4
Dibenz(a,h)anthracene	5.42
Benzo(g,h,i)perylene	18.6

Surrogate Recoveries (%)

Naphthalene-d8	120 &
Phenanthrene-d10	100
Chrysene-d12	81

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
D= Values reported using secondary dilution factor.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID	Procedural Blank
Battelle Sample ID	AA701PB
Matrix	WATER
Battelle Batch ID	02-406
Associated Blank	NA
QC Type	PB
Analytical Method	8270M
Sequence	SQC561.S
Data File	C6208.D
Sample Collection Date	NA
Sample Receipt Date	NA
Sample Preparation Date	07/16/02
Sample Analysis Date	07/24/02
Sample Size	1.00 L
Percent Solids	NA
Weight Basis	NA
Lowest Dilution Factor	1
Highest Dilution Factor	NA
PIV	1.1
Min Reporting Limit	0.011
2nd Reporting Limit	NA
Analyte Concentration Units	ug/L
Naphthalene	0.00462 J
C1-Naphthalenes	0.00546 J
C2-Naphthalenes	0.011 ND
C3-Naphthalenes	0.011 ND
C4-Naphthalenes	0.011 ND
Acenaphthylene	0.011 ND
Acenaphthene	0.011 ND
Biphenyl	0.011 ND
Dibenzofuran	0.011 ND
Fluorene	0.011 ND
C1-Fluorenes	0.011 ND
C2-Fluorenes	0.011 ND
C3-Fluorenes	0.011 ND
Anthracene	0.011 ND
Phenanthrene	0.011 ND
C1-Phenanthrenes/Anthracenes	0.011 ND
C2-Phenanthrenes/Anthracenes	0.011 ND
C3-Phenanthrenes/Anthracenes	0.011 ND
C4-Phenanthrenes/Anthracenes	0.011 ND
Dibenzothiophene	0.011 ND
C1-Dibenzothiophenes	0.011 ND
C2-Dibenzothiophenes	0.011 ND
C3-Dibenzothiophenes	0.011 ND
C4-Dibenzothiophenes	0.011 ND
Fluoranthene	0.011 ND
Pyrene	0.011 ND
Benzo(b)fluorene	0.011 ND
C1-Fluoranthenes/Pyrenes	0.011 ND
C2-Fluoranthenes/Pyrenes	0.011 ND
C3-Fluoranthenes/Pyrenes	0.011 ND
Benzo(a)anthracene	0.011 ND
Chrysene	0.011 ND
C1-Chrysenes	0.011 ND
C2-Chrysenes	0.011 ND
C3-Chrysenes	0.011 ND
C4-Chrysenes	0.011 ND
Benzo(b)fluoranthene	0.011 ND
Benzo(j/k)fluoranthene	0.011 ND
Benzo(a)fluoranthene	0.011 ND
Benzo(e)pyrene	0.011 ND
Benzo(a)pyrene	0.011 ND
Perylene	0.011 ND
Indeno(1,2,3-c,d)pyrene	0.011 ND
Dibenz(a,h)anthracene	0.011 ND
Benzo(g,h,i)perylene	0.011 ND

Surrogate Recoveries (%)	
Naphthalene-d8	86
Phenanthrene-d10	91
Chrysene-d12	82

J=Result < Sample RL.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID		Laboratory Control Sample		
Battelle Sample ID		AA702LCS		
Matrix		WATER		
Battelle Batch ID		02-406		
Associated Blank		AA701PB		
QC Type		LCS		
Analytical Method		8270M		
Sequence		SQC561.S		
Data File		C6209.D		
Sample Collection Date		NA		
Sample Receipt Date		NA		
Sample Preparation Date		07/16/02		
Sample Analysis Date		07/24/02		
Sample Size		1 L		
Percent Solids		NA		
Weight Basis		NA		
Lowest Dilution Factor		1.00		
Highest Dilution Factor		NA		
PIV		1.1		
Min Reporting Limit		11		
2nd Reporting Limit		NA		
Analyte Concentration Units	FU22	ng		% Recovery Q
Naphthalene	5010.0	4480		89
C1-Naphthalenes		11	ND	
C2-Naphthalenes		11	ND	
C3-Naphthalenes		11	ND	
C4-Naphthalenes		11	ND	
Acenaphthylene	5000.0	4620		92
Acenaphthene	5005.0	4550		91
Biphenyl	5015.0	4600		92
Dibenzofuran	5000.0	4670		93
Fluorene	5000.0	4660		93
C1-Fluorenes		11	ND	
C2-Fluorenes		11	ND	
C3-Fluorenes		11	ND	
Anthracene	5002.5	4290		86
Phenanthrene	5037.5	4270		85
C1-Phenanthrenes/Anthracenes		11	ND	
C2-Phenanthrenes/Anthracenes		11	ND	
C3-Phenanthrenes/Anthracenes		11	ND	
C4-Phenanthrenes/Anthracenes		11	ND	
Dibenzothiophene	5006.0	4120		82
C1-Dibenzothiophenes		11	ND	
C2-Dibenzothiophenes		11	ND	
C3-Dibenzothiophenes		11	ND	
C4-Dibenzothiophenes		11	ND	
Fluoranthene	5117.5	3810		74
Pyrene	5002.5	4020		80
Benzo(b)fluorene		11	ND	
C1-Fluoranthenes/Pyrenes		11	ND	
C2-Fluoranthenes/Pyrenes		11	ND	
C3-Fluoranthenes/Pyrenes		11	ND	
Benzo(a)anthracene	5010.0	3920		78
Chrysene	5020.0	3960		79
C1-Chrysenes		11	ND	
C2-Chrysenes		11	ND	
C3-Chrysenes		11	ND	
C4-Chrysenes		11	ND	
Benzo(b)fluoranthene	5010.0	4140		83
Benzo(j/k)fluoranthene	5007.5	4510		90
Benzo(a)fluoranthene		11	ND	
Benzo(e)pyrene	4944.0	3980		81
Benzo(a)pyrene	5007.5	4450		89
Perylene	5001.0	4550		91
Indeno(1,2,3-c,d)pyrene	5005.0	4540		91
Dibenz(a,h)anthracene	5002.5	4500		90
Benzo(g,h,i)perylene	5010.0	4190		84

Surrogate Recoveries (%)

Naphthalene-d8	100
Phenanthrene-d10	88
Chrysene-d12	78

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO.

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Project Name Hydrocarbon Characterization of the U.S. Navy's Old Fire Fighting Training Area in Newport, Rhode Island
Project Number G004581-0001

Client Sample ID		ICC	
Battelle Sample ID		FV94	
Matrix		WATER	
Battelle Batch ID		02-406	
Associated Blank		AA701PB	
QC Type		ICC	
Analytical Method		8270M	
Sequence		SQC561.S	
Data File		C6186.D	
Sample Collection Date		NA	
Sample Receipt Date		NA	
Sample Preparation Date		NA	
Sample Analysis Date		07/23/02	
Sample Size		NA	
Percent Solids		NA	
Weight Basis		NA	
Lowest Dilution Factor		1.00	
Highest Dilution Factor		NA	
PIV		NA	
Min Reporting Limit		0.010	
2nd Reporting Limit		NA	
Analyte Concentration Units	FV94	ng/uL	% Difference Q
Naphthalene	1.002	1.01	0.798
C1-Naphthalenes		0.01 ND	
C2-Naphthalenes		0.01 ND	
C3-Naphthalenes		0.01 ND	
C4-Naphthalenes		0.01 ND	
Acenaphthylene	1.004	0.99	1.39
Acenaphthene	1.004	1.05	4.58
Biphenyl	1.003	1.02	1.69
Dibenzofuran		0.01 ND	
Fluorene	1.005	1.08	7.46
C1-Fluorenes		0.01 ND	
C2-Fluorenes		0.01 ND	
C3-Fluorenes		0.01 ND	
Anthracene	1.005	1.12	11.4
Phenanthrene	1.007	1.06	5.26
C1-Phenanthrenes/Anthracenes		0.01 ND	
C2-Phenanthrenes/Anthracenes		0.01 ND	
C3-Phenanthrenes/Anthracenes		0.01 ND	
C4-Phenanthrenes/Anthracenes		0.01 ND	
Dibenzothiophene		0.0128	
C1-Dibenzothiophenes		0.01 ND	
C2-Dibenzothiophenes		0.01 ND	
C3-Dibenzothiophenes		0.01 ND	
C4-Dibenzothiophenes		0.01 ND	
Fluoranthene	1.004	1.06	5.58
Pyrene	1.003	1.06	5.68
Benzo(b)fluorene		0.01 ND	
C1-Fluoranthenes/Pyrenes		0.01 ND	
C2-Fluoranthenes/Pyrenes		0.01 ND	
C3-Fluoranthenes/Pyrenes		0.01 ND	
Benzo(a)anthracene	1.005	1.07	6.47
Chrysene	1.005	1.09	8.46
C1-Chrysenes		0.01 ND	
C2-Chrysenes		0.01 ND	
C3-Chrysenes		0.01 ND	
C4-Chrysenes		0.01 ND	
Benzo(b)fluoranthene	1.004	1.01	0.598
Benzo(j/k)fluoranthene	1.003	1.14	13.6
Benzo(a)fluoranthene		0.01 ND	
Benzo(e)pyrene	1.005	1.03	2.49
Benzo(a)pyrene	1.006	1.06	5.37
Perylene	1.000	1.05	5
Indeno(1,2,3-c,d)pyrene	1.003	1.04	3.69
Dibenz(a,h)anthracene	1.003	1.07	6.68
Benzo(g,h,i)perylene	1.004	1.01	0.598
Surrogate Recoveries (%)			
Naphthalene-d8		105	
Phenanthrene-d10		99	
Chrysene-d12		101	

J=Result < Sample RL.
B=Result < 5 x PB.
ND= Not Detected, sample specific reporting limit reported.
NA= Not Applicable.
&= Outside of DQO criteria.

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Concentrations of Semivolatile Organic Compounds

Project Name: Cutler Fire Training Area
Project Number: G469125-41

Client ID:	Diesel Unaltered	Diesel 50% Combusted	Diesel 100% Combusted
Battelle ID:	ZM25IC3	W7747-C50-D	W7747-C100-D
Matrix:	NA	Product	Product
Batch ID:	01-562	01-562	01-562
Analytical Method:	8270M	8270M	8270M
Data File:	D0949.D	D1014.D	D1015.D
Sample Collection Date:	10/9/01	10/9/01	10/9/01
Sample Receipt Date:	10/9/01	10/9/01	10/9/01
Sample Extraction Date:	10/12/01	10/18/01	10/18/01
Sample Analysis Date:	11/9/01	11/13/01	11/13/01
Sample Size (g dry weight or L):	50.60 mg	1478.28 mg	164.56 mg
Percent Solids:	100	NA	NA
Dilution Factor:	10	200	27
Secondary Dilution Factor:	2	1	1
Units:	mg/kg	mg/kg	mg/kg
Naphthalene	1020	103	4.16
C1-Naphthalenes	5450	732	11.3
C2-Naphthalenes	6450	1610	18.6
C3-Naphthalenes	5970	2510	4.07
C4-Naphthalenes	3460	2310	106
Biphenyl	634	113	1.43
Acenaphthylene	21.8	139	41.4
Acenaphthene	171	63.3	2.52
Dibenzofuran	155	61.4	2.95
Fluorene	452	289	26.9
C1-Fluorenes	1390	1100	12.2
C2-Fluorenes	1950	2110	56.3
C3-Fluorenes	1520	2120	128
Dibenzothiophene	406	438	12.7
C1-Dibenzothiophenes	2130	2270	85.7
C2-Dibenzothiophenes	3480	4520	370
C3-Dibenzothiophenes	2660	3210	582
C4-Dibenzothiophenes	960	1580	388
Anthracene	65.8	0.676 U	119
Phenanthrene	844	900	411
C1-Phenanthrenes/Anthracenes	1950	2530	433
C2-Phenanthrenes/Anthracenes	2410	3570	422
C3-Phenanthrenes/Anthracenes	1140	2240	440
C4-Phenanthrenes/Anthracenes	429	815	239
Fluoranthene	22.8	106	405
Pyrene	121	327	883
C1-Fluoranthenes/Pyrenes	2200	4800	980
C2-Fluoranthenes/Pyrenes	1410	3010	681
C3-Fluoranthenes/Pyrenes	512	1180	307
Benzo(a)anthracene	1.59	22.5	254
Chrysene	8.22	32.8	267
C1-Chrysenes	109	31	256
C2-Chrysenes	47.9	14.7	116
C3-Chrysenes	0.988 U	6.36	50.3
C4-Chrysenes	0.988 U	0.676 U	16.7
Benzo(b)fluoranthene	0.988 U	8.58	120
Benzo(j/k)fluoranthene	0.988 U	13.6	181
Benzo(e)pyrene	1.98 U	6.92	106
Benzo(a)pyrene	0.988 U	17.6	248
Perylene	1.98 U	3.52	46.3
Indeno(1,2,3-c,d)pyrene	1.98 U	9.66	147
Dibenz(a,h)anthracene	1.98 U	1.03	17.8
Benzo(g,h,i)perylene	1.98 U	9.09	150
Total PAH	49500	44900	9150
Project-Specific PAH Isomers			
2-Methylnaphthalene	3440	441	5.65
1-Methylnaphthalene	2000	290	5.68
2,6-Dimethylnaphthalene	3560	820	4.83
2,3,5-Trimethylnaphthalene	1420	672	8.78
1-Methylphenanthrene	430	615	371
Surrogate Recoveries (%R)			
d8-Naphthalene	NA	NA	NA
d10-Phenanthrene	NA	NA	NA
d12-Chrysene	NA	NA	NA

Data Qualifiers
& - Exceeds QC criteria
B - Analyte detected < 5x PB.
D - Result from higher dilution.
DO - Surrogates diluted out.
E - Result above calibration curve.
J - Result less than reporting limit.
ME - Matrix effect.
NA - Not applicable.
U - Undetected.

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Concentrations of Semivolatile Organic Compounds

Project Name: Cutler Fire Training Area
Project Number: G469125-41

Client ID:	Diesel Unaltered	Diesel 50% Evaporated	Diesel 100% Evaporated
Battelle ID:	ZM25IC3	W7747-E50-D	W7747-E100-D
Matrix:	NA	Product	Product
Batch ID:	01-562	01-562	01-562
Analytical Method:	8270M	8270M	8270M
Data File:	D0949.D	D0987.D	D1013.D
Sample Collection Date:	10/9/01	10/9/01	10/9/01
Sample Receipt Date:	10/9/01	10/9/01	10/9/01
Sample Extraction Date:	10/12/01	10/18/01	10/18/01
Sample Analysis Date:	*11/9/01*	*11/13/01*	*11/13/01*
Sample Size (g dry weight or L):	50.60 mg	6841.80 mg	319.92 mg
Percent Solids:	100	NA	NA
Dilution Factor:	10	1000	50
Secondary Dilution Factor:	2	1	1
Units:	mg/kg	mg/kg	mg/kg
Naphthalene	1020	1.13	336
C1-Naphthalenes	5450	177	2370
C2-Naphthalenes	6450	1060	3170
C3-Naphthalenes	5970	2140	2960
C4-Naphthalenes	3460	1820	1840
Biphenyl	634	58.5	298
Acenaphthylene	21.8	2.01	8.49
Acenaphthene	171	45.8	85.1
Dibenzofuran	155	53.8	75.5
Fluorene	452	232	235
C1-Fluorenes	1390	688	733
C2-Fluorenes	1950	1100	1010
C3-Fluorenes	1520	949	886
Dibenzothiophene	406	266	272
C1-Dibenzothiophenes	2130	1440	1130
C2-Dibenzothiophenes	3480	2420	1880
C3-Dibenzothiophenes	2660	1430	2380
C4-Dibenzothiophenes	960	631	1650
Anthracene	65.8	60	0.781 U
Phenanthrene	844	547	434
C1-Phenanthrenes/Anthracenes	1950	1310	1240
C2-Phenanthrenes/Anthracenes	2410	1600	1710
C3-Phenanthrenes/Anthracenes	1140	879	1750
C4-Phenanthrenes/Anthracenes	429	307	1020
Fluoranthene	22.8	19	16.9
Pyrene	121	112	116
C1-Fluoranthenes/Pyrenes	*2200*	*1710*	*4550*
C2-Fluoranthenes/Pyrenes	1410	1000	5080
C3-Fluoranthenes/Pyrenes	512	374	2890
Benzo(a)anthracene	1.59	1.29	7
Chrysene	8.22	8.57	38.6
C1-Chrysenes	109	82.9	657
C2-Chrysenes	47.9	41.1	447
C3-Chrysenes	0.988 U	13.9	213
C4-Chrysenes	0.988 U	0.731 U	71.6
Benzo(b)fluoranthene	0.988 U	0.731 U	1.48
Benzo(j/k)fluoranthene	0.988 U	0.731 U	0.811
Benzo(e)pyrene	1.98 U	0.731 U	2.16
Benzo(a)pyrene	0.988 U	0.731 U	0.781 U
Perylene	1.98 U	1.46 U	1.56 U
Indeno(1,2,3-c,d)pyrene	1.98 U	1.46 U	1.56 U
Dibenz(a,h)anthracene	1.98 U	1.46 U	1.56 U
Benzo(g,h,i)perylene	1.98 U	1.46 U	1.56 U
Total PAH	49500	22600	41600
Project-Specific PAH Isomers			
2-Methylnaphthalene	3440	100	1490
1-Methylnaphthalene	2000	76.6	877
2,6-Dimethylnaphthalene	3560	575	1710
2,3,5-Trimethylnaphthalene	1420	643	735
1-Methylphenanthrene	430	339	240
Surrogate Recoveries (%R)			
d8-Naphthalene	NA	NA	NA
d10-Phenanthrene	NA	NA	NA
d12-Chrysene	NA	NA	NA

Data Qualifiers
& - Exceeds QC criteria
B - Analyte detected < 5x PB.
D - Result from higher dilution.
DO - Surrogates diluted out.
E - Result above calibration curve.
J - Result less than reporting limit.
ME - Matrix effect.
NA - Not applicable.
U - Undetected.

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Concentrations of Semivolatile Organic Compounds

Project Name: Cutler Fire Training Area
Project Number: G469125-41

Client ID:	Kerosene Unaltered	Kerosene 50% Combusted	Kerosene 100% Combusted
Battelle ID:	ZR36IC	W7748-C50-D	W7748-C100-D
Matrix:	Product	Product	Product
Batch ID:	02-004	01-562	01-562
Analytical Method:	8270M	8270M	8270M
Data File:	B7877.D	D1018.D	D1019.D
Sample Collection Date:	10/9/01	10/9/01	10/9/01
Sample Receipt Date:	10/9/01	10/9/01	10/9/01
Sample Extraction Date:	1/7/02	10/18/01	10/18/01
Sample Analysis Date:	1/8/02	11/14/01	11/14/01
Sample Size (g dry weight or L):	10.12 mg	718.40 mg	1791.00 mg
Percent Solids:	NA	NA	NA
Dilution Factor:	1	100	250
Secondary Dilution Factor:	1	5000	1
Units:	mg/kg	mg/kg	mg/kg
Naphthalene	1200	836 D	0.514
C1-Naphthalenes	4280	4670	2.41
C2-Naphthalenes	2690	2280	3.78
C3-Naphthalenes	1110	1890	3.42
C4-Naphthalenes	114	314	1.56
Biphenyl	292	1140	0.0014 U
Acenaphthylene	9.12	314	0.386
Acenaphthene	22	225	0.0014 U
Dibenzofuran	43.7	232	0.0014 U
Fluorene	32.1	234	0.153
C1-Fluorenes	8.72	0.696 U	0.698 U
C2-Fluorenes	0.494 U	0.696 U	0.698 U
C3-Fluorenes	0.494 U	0.696 U	0.698 U
Dibenzothiophene	0.494 U	34.1	0.698 U
C1-Dibenzothiophenes	0.494 U	87.6	0.698 U
C2-Dibenzothiophenes	0.494 U	117	0.698 U
C3-Dibenzothiophenes	0.494 U	93.7	0.698 U
C4-Dibenzothiophenes	0.494 U	41.3	0.698 U
Anthracene	0.0141 U	10.7	0.0014 U
Phenanthrene	2.53	41.8	0.612
C1-Phenanthrenes/Anthracenes	0.494 U	91.9	0.698 U
C2-Phenanthrenes/Anthracenes	0.494 U	93.1	0.698 U
C3-Phenanthrenes/Anthracenes	0.494 U	46.7	0.698 U
C4-Phenanthrenes/Anthracenes	0.494 U	1.93	0.698 U
Fluoranthene	4.24	2.14	2.16
Pyrene	20.3	64.3	4.5
C1-Fluoranthenes/Pyrenes	0.494 U	34.6	6.07
C2-Fluoranthenes/Pyrenes	0.494 U	14.6	3.12
C3-Fluoranthenes/Pyrenes	0.494 U	4.59	1.7
Benzo(a)anthracene	1.41	8.72	9.52
Chrysene	1.17	8.66	8.9
C1-Chrysenes	0.494 U	3.14	6.44
C2-Chrysenes	0.494 U	0.817	4.66
C3-Chrysenes	0.494 U	0.696 U	0.698 U
C4-Chrysenes	0.494 U	0.696 U	0.698 U
Benzo(b)fluoranthene	0.494 U	3.03	9.87
Benzo(j/k)fluoranthene	0.494 U	6.03	17.2
Benzo(e)pyrene	0.988 U	6.96	8.91
Benzo(a)pyrene	0.494 U	6.94	24.2
Perylene	0.988 U	1.18	4.2
Indeno(1,2,3-c,d)pyrene	0.988 U	3.35	13.4
Dibenz(a,h)anthracene	0.988 U	0.0508	0.882
Benzo(g,h,i)perylene	0.988 U	0.327	15.6
Total PAH	9830	13000	154
Project-Specific PAH Isomers			
2-Methylnaphthalene	2350	2560 D	1.21
1-Methylnaphthalene	1920	2110 D	1.19
2,6-Dimethylnaphthalene	1190	1790 D	1.14
2,3,5-Trimethylnaphthalene	178	925	0.0014 U
1-Methylphenanthrene	0.0141 U	60.4	0.451
Surrogate Recoveries (%R)			
d8-Naphthalene	NA	NA	NA
d10-Phenanthrene	NA	NA	NA
d12-Chrysene	NA	NA	NA

Data Qualifiers
& - Excedes QC criteria
B - Analyte detected < 5x PB.
D - Result from higher dilution.
DO - Surrogates diluted out.
E - Result above calibration curve.
J - Result less than reporting limit.
ME - Matrix effect.
NA - Not applicable.
U - Undetected.

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Concentrations of Semivolatile Organic Compounds

Project Name: Cutler Fire Training Area
Project Number: G469125-41

Client ID:	Kerosene Unaltered	Kerosene 50% Evaporated	Kerosene 100% Evaporated
Battelle ID:	ZR36IC	W7748-E50-D	W7748-E100-D
Matrix:	Product	Product	Product
Batch ID:	02-004	01-562	01-562
Analytical Method:	8270M	8270M	8270M
Data File:	B7877.D	D1017.D	D0993.D
Sample Collection Date:	10/9/01	10/9/01	10/9/01
Sample Receipt Date:	10/9/01	10/9/01	10/9/01
Sample Extraction Date:	1/7/02	10/18/01	10/18/01
Sample Analysis Date:	1/8/02	11/14/01	11/14/01
Sample Size (g dry weight or L):	10.12 mg	132.00 mg	3.56 mg
Percent Solids:	NA	NA	NA
Dilution Factor:	1	20	2
Secondary Dilution Factor:	1	2000	2000
Units:	mg/kg	mg/kg	mg/kg
Naphthalene	1200	1110 D	11400 D
C1-Naphthalenes	4280	9680	49900
C2-Naphthalenes	2690	6600	46900
C3-Naphthalenes	1110	3090	30900
C4-Naphthalenes	114	523	7080
Biphenyl	292	37300	366
Acenaphthylene	9.12	379	55.4
Acenaphthene	22	5210	1520
Dibenzofuran	43.7	6940	1340
Fluorene	32.1	5270	992
C1-Fluorenes	8.72	65.3	702
C2-Fluorenes	0.494 U	75	936
C3-Fluorenes	0.494 U	57.7	864
Dibenzothiophene	0.494 U	47.2	932
C1-Dibenzothiophenes	0.494 U	10.1	18.1
C2-Dibenzothiophenes	0.494 U	140	2810
C3-Dibenzothiophenes	0.494 U	96.7	1930
C4-Dibenzothiophenes	0.494 U	40.6	885
Anthracene	0.0141 U	178	35.4
Phenanthrene	2.53	1900	34.3
C1-Phenanthrenes/Anthracenes	0.494 U	91.9	96
C2-Phenanthrenes/Anthracenes	0.494 U	95.6	1140
C3-Phenanthrenes/Anthracenes	0.494 U	53	782
C4-Phenanthrenes/Anthracenes	0.494 U	16.6	259
Fluoranthene	4.24	49.3	3.09
Pyrene	20.3	313	29.3
C1-Fluoranthenes/Pyrenes	0.494 U	94.5	1370
C2-Fluoranthenes/Pyrenes	0.494 U	55.3	878
C3-Fluoranthenes/Pyrenes	0.494 U	23	334
Benzo(a)anthracene	1.41	23.1	6.54
Chrysene	1.17	23.1	74.1
C1-Chrysenes	0.494 U	3.99	66.4
C2-Chrysenes	0.494 U	4.68	38
C3-Chrysenes	0.494 U	0.758 U	2.81 U
C4-Chrysenes	0.494 U	0.758 U	2.81 U
Benzo(b)fluoranthene	0.494 U	2.12	2.81 U
Benzo(j/k)fluoranthene	0.494 U	1.97	2.81 U
Benzo(e)pyrene	0.988 U	7.3	5.62 U
Benzo(a)pyrene	0.494 U	7.38	2.81 U
Perylene	0.988 U	1.52 U	5.62 U
Indeno(1,2,3-c,d)pyrene	0.988 U	1.52 U	5.62 U
Dibenz(a,h)anthracene	0.988 U	1.52 U	5.62 U
Benzo(g,h,i)perylene	0.988 U	1.52 U	5.62 U
Total PAH	9830	79600	165000
Project-Specific PAH Isomers			
2-Methylnaphthalene	2350	5310 D	26800 D
1-Methylnaphthalene	1920	4360 D	23000 D
2,6-Dimethylnaphthalene	1190	3760 D	15900 D
2,3,5-Trimethylnaphthalene	178	25900	4140
1-Methylphenanthrene	0.0141 U	1000	16.7
Surrogate Recoveries (%R)			
d8-Naphthalene	NA	NA	NA
d10-Phenanthrene	NA	NA	NA
d12-Chrysene	NA	NA	NA

Data Qualifiers
& - Excedes QC criteria
B - Analyte detected < 5x PB.
D - Result from higher dilution.
DO - Surrogates diluted out.
E - Result above calibration curve.
J - Result less than reporting limit.
ME - Matrix effect.
NA - Not applicable.
U - Undetected.

Attachment 5.
PAH Histograms

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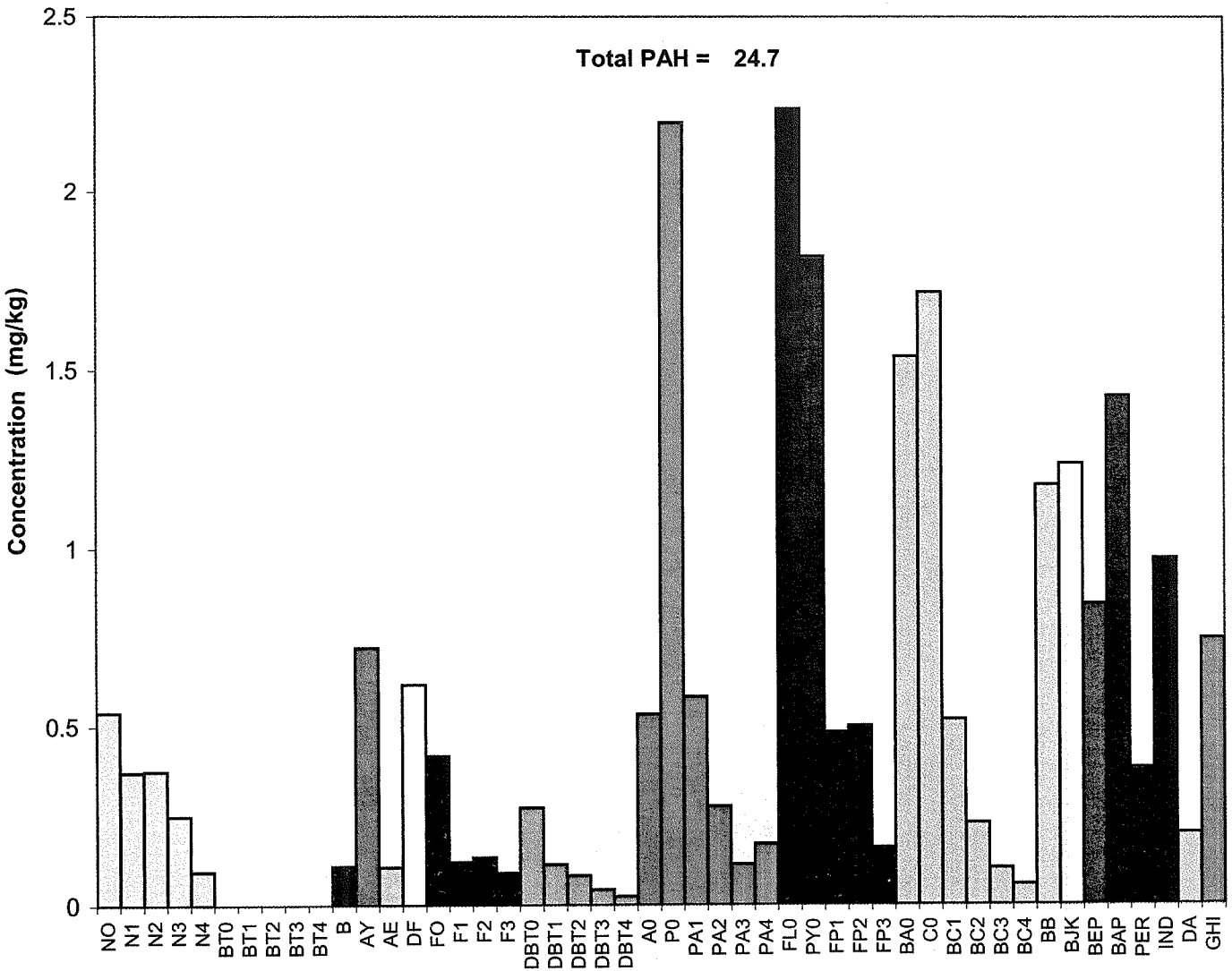
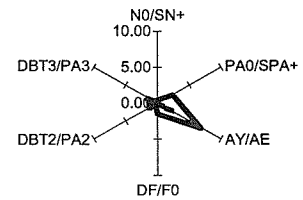
Alkylated PAH Overview

Sample ID:

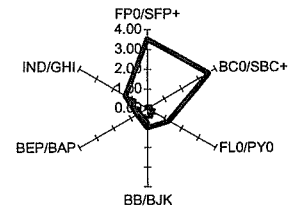
OFF-SD-5-0006 (Fine Particles)



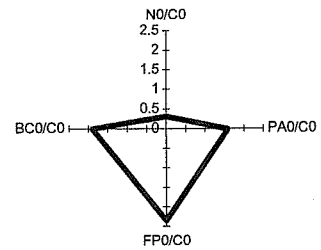
Light PAH Profile



Heavy PAH Profile



Weathering Profile



Diesel 50% Combusted

OFF-SD-5-0006

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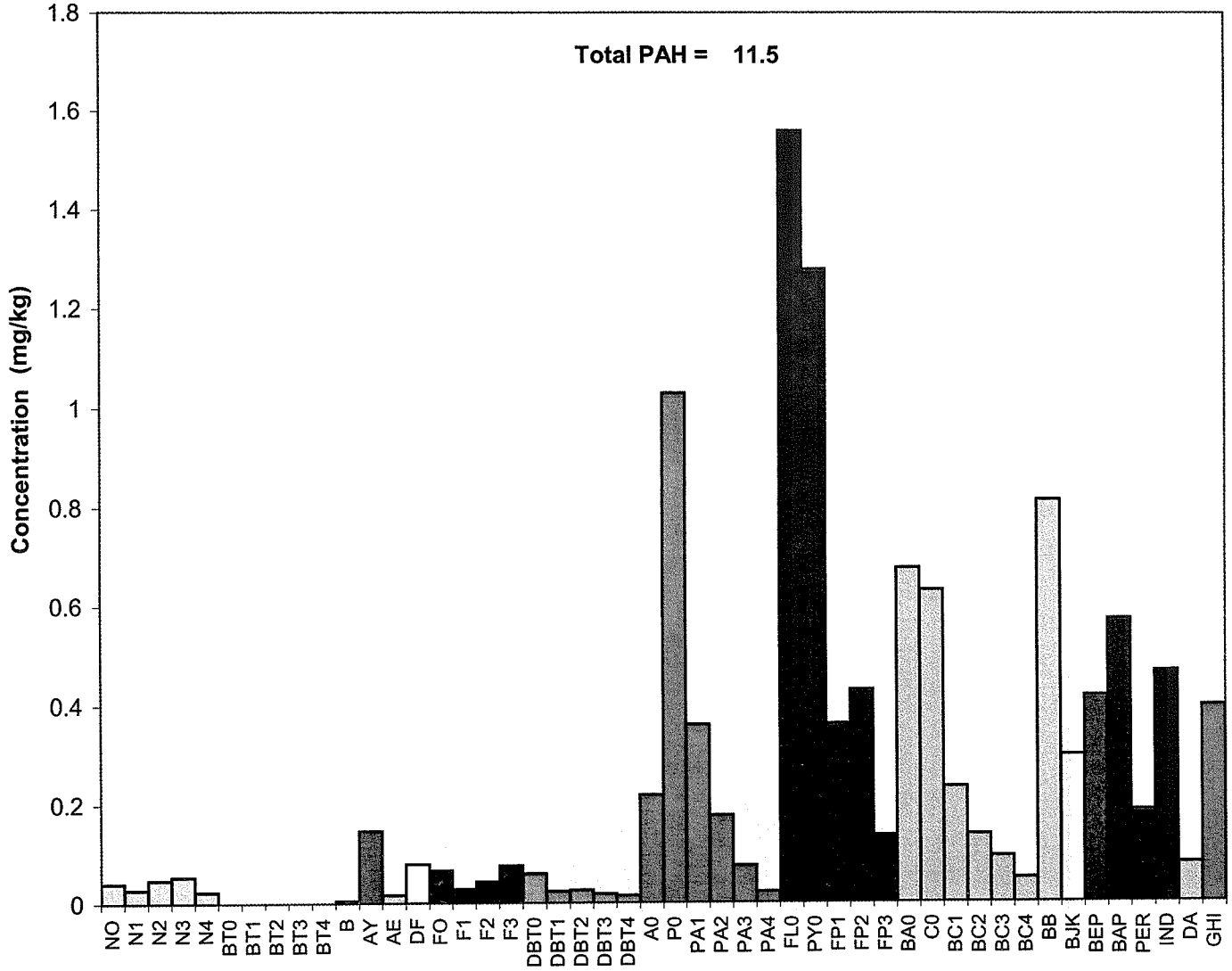
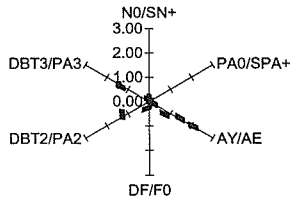
Alkylated PAH Overview

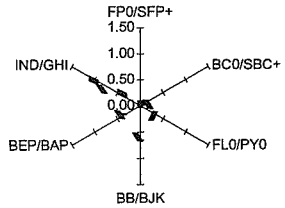
Sample ID:
OFF-SD-5-006 (mixed)



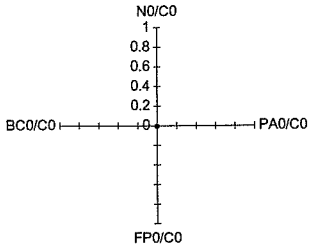
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted
▬ OFF-SD-5-006

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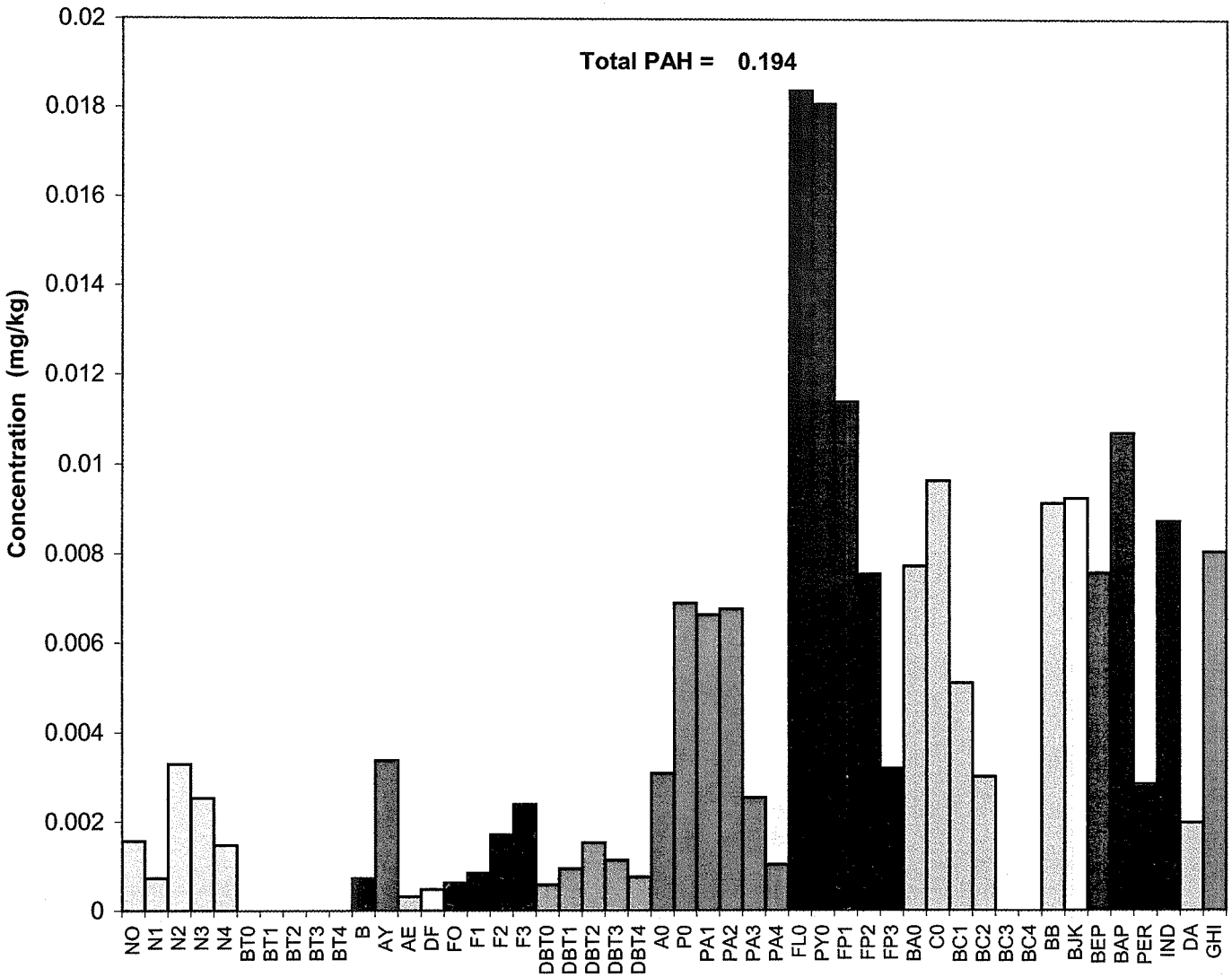
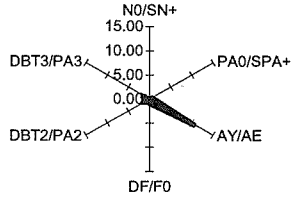
Alkylated PAH Overview

Sample ID:

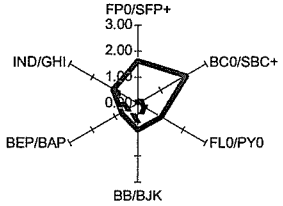
OFF-SD-JPC03-0006



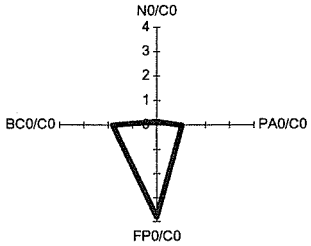
Light PAH Profile



Heavy PAH Profile



Weathering Profile



Diesel 50% Combusted

OFF-SD-JPC03-0006

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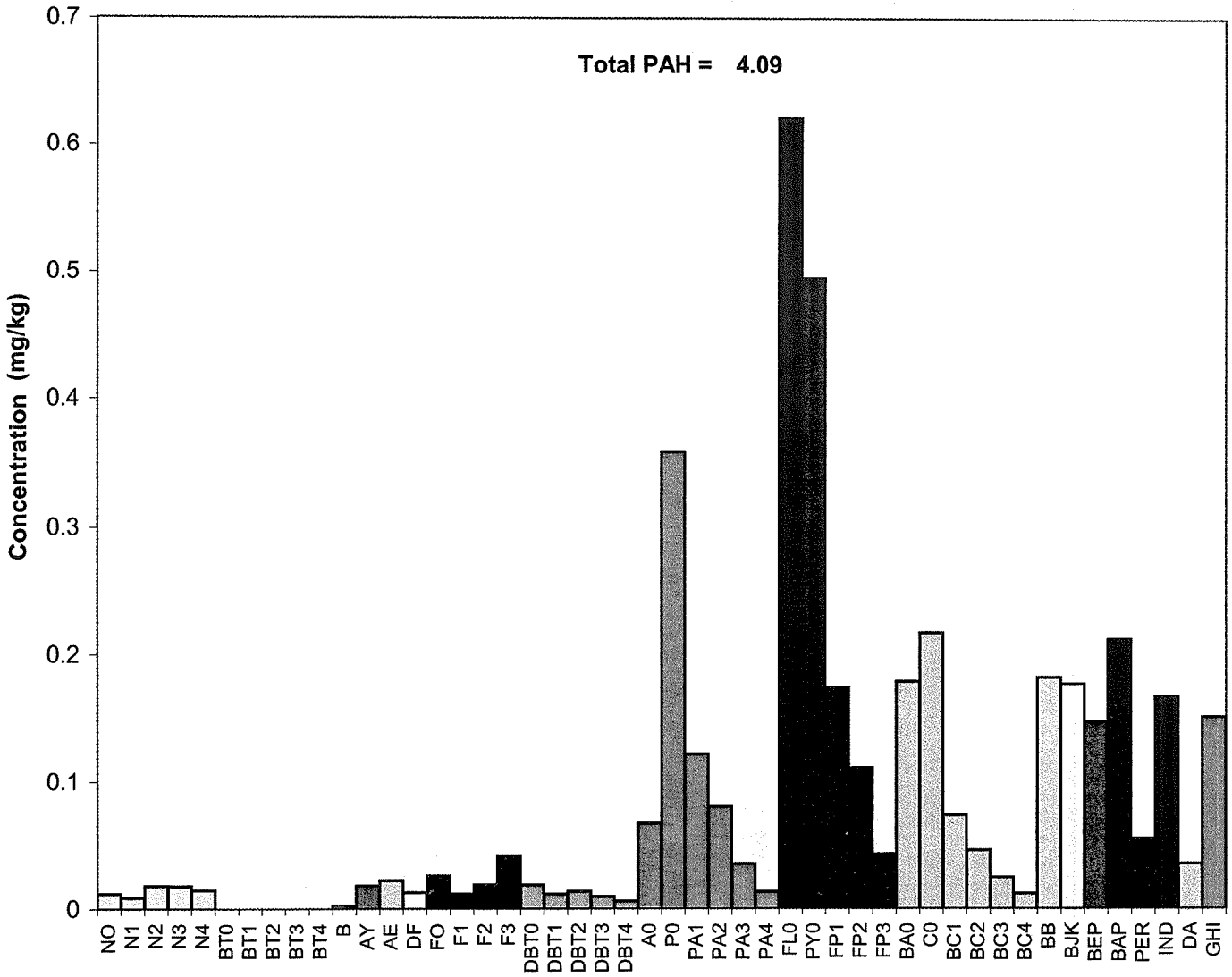
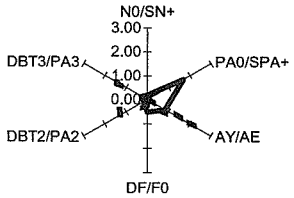
Alkylated PAH Overview

Sample ID:

OFF-SD-410-0006



Light PAH Profile



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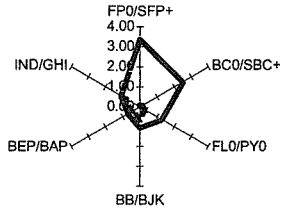
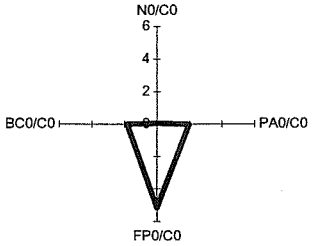


Weathering Profile



Diesel 50% Combusted

OFF-SD-410-

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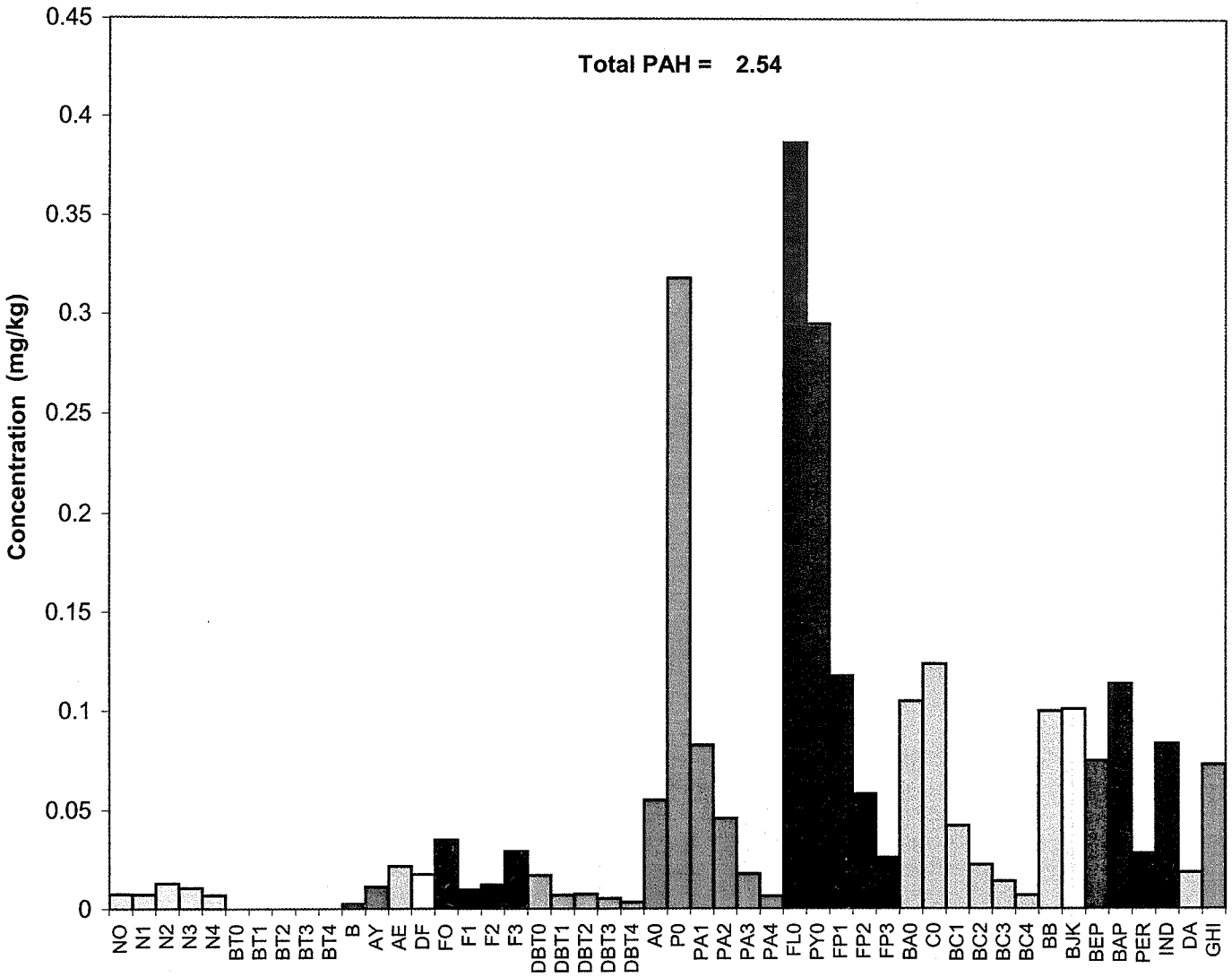
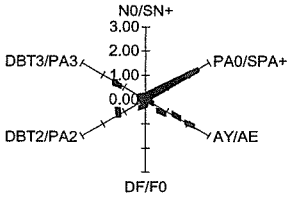
Alkylated PAH Overview

Sample ID:

OFF-SD-410-1824



Light PAH Profile



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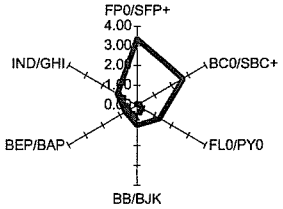

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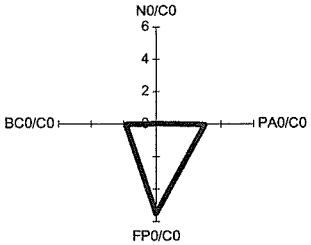

Diesel 50% Combusted

OFF-SD-410-1824

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Alkylated PAH Overview

Sample ID:
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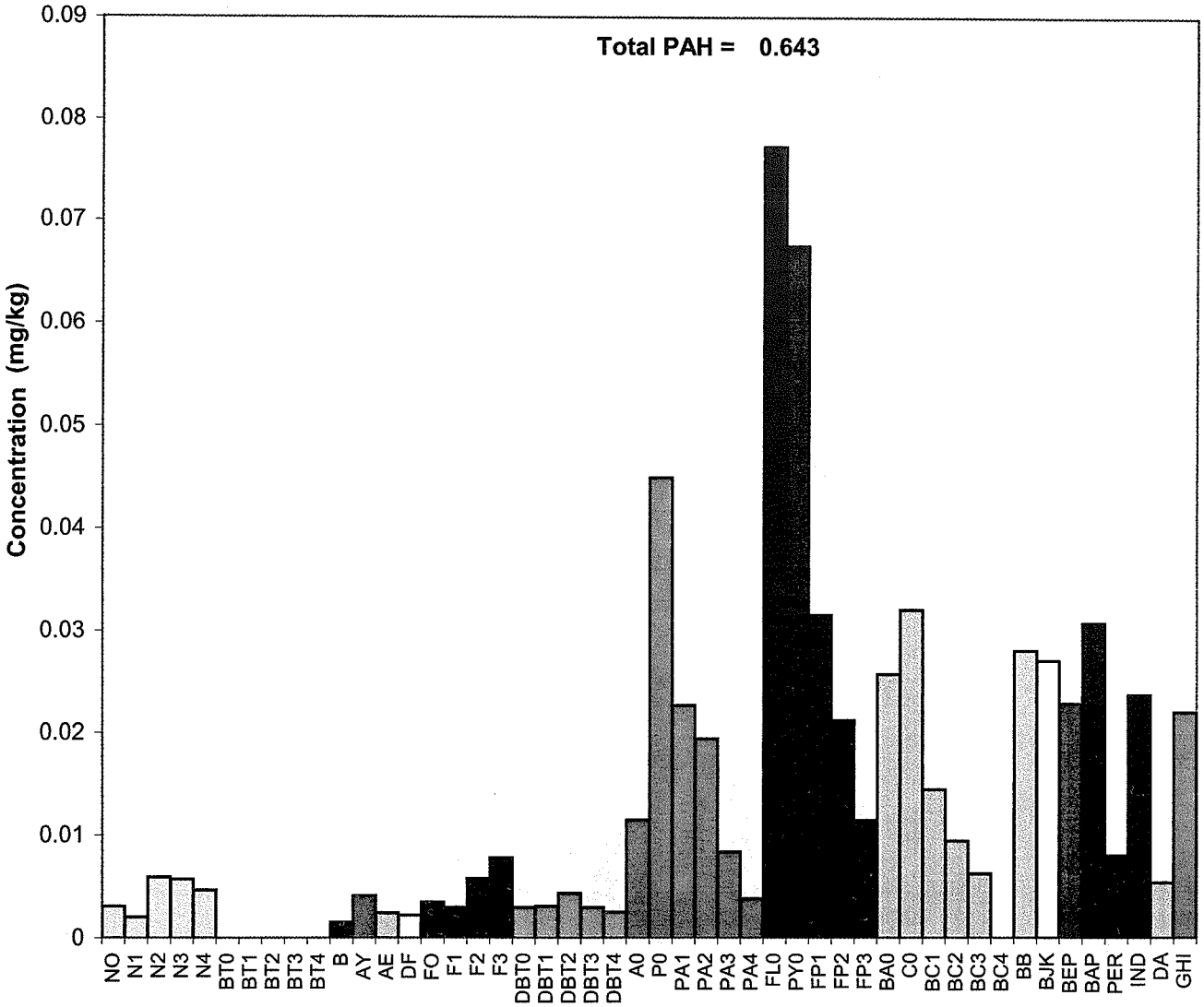

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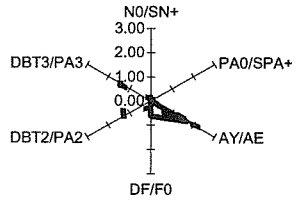

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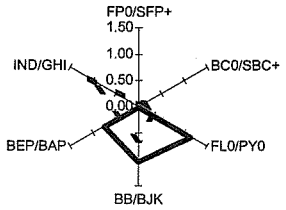

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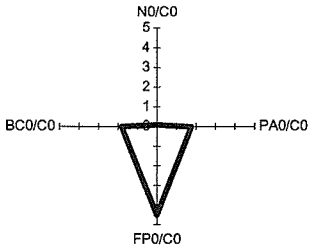

▪▪▪ Diesel 50% Combusted

▬ OFF-SD-470-0006

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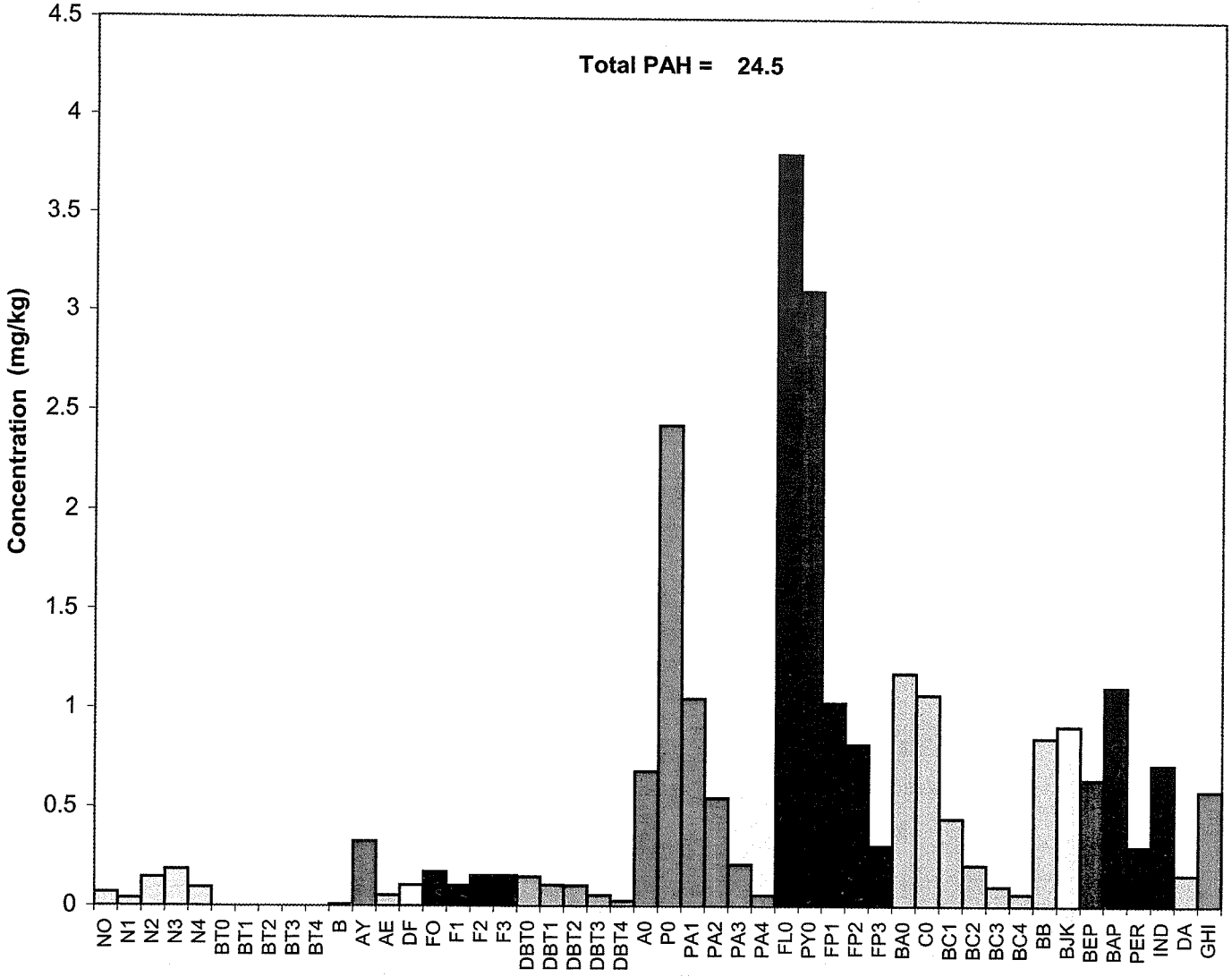
Alkylated PAH Overview

Sample ID:
OFF-SD-471-0006



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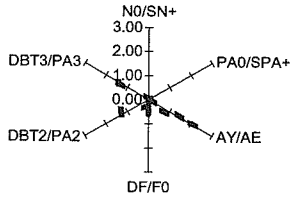

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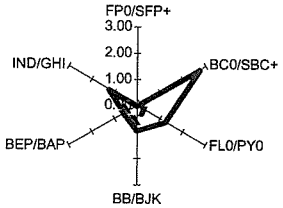
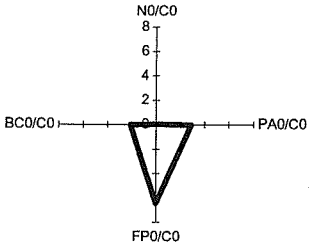


Weathering Profile



Diesel 50% Combusted

OFF-SD-471-0006

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Alkylated PAH Overview

Sample ID:
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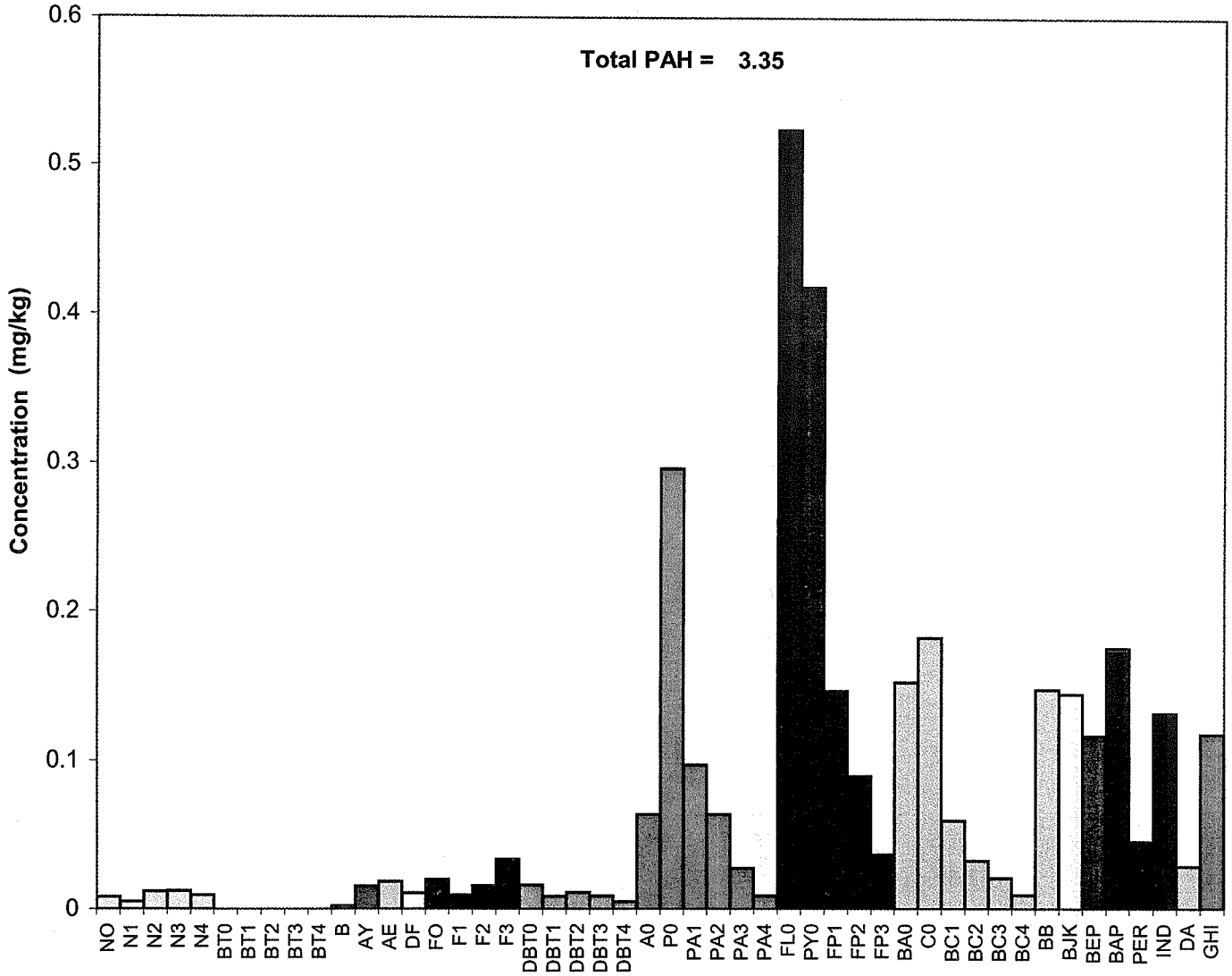

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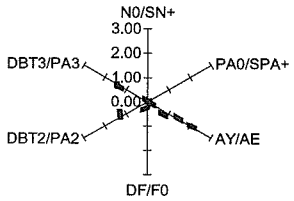

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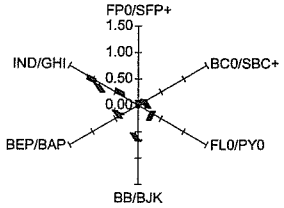
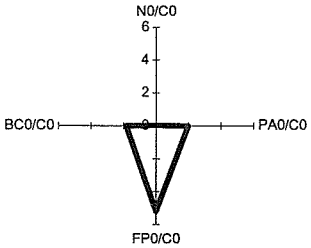


Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ OFF-SD-DUP1-0006

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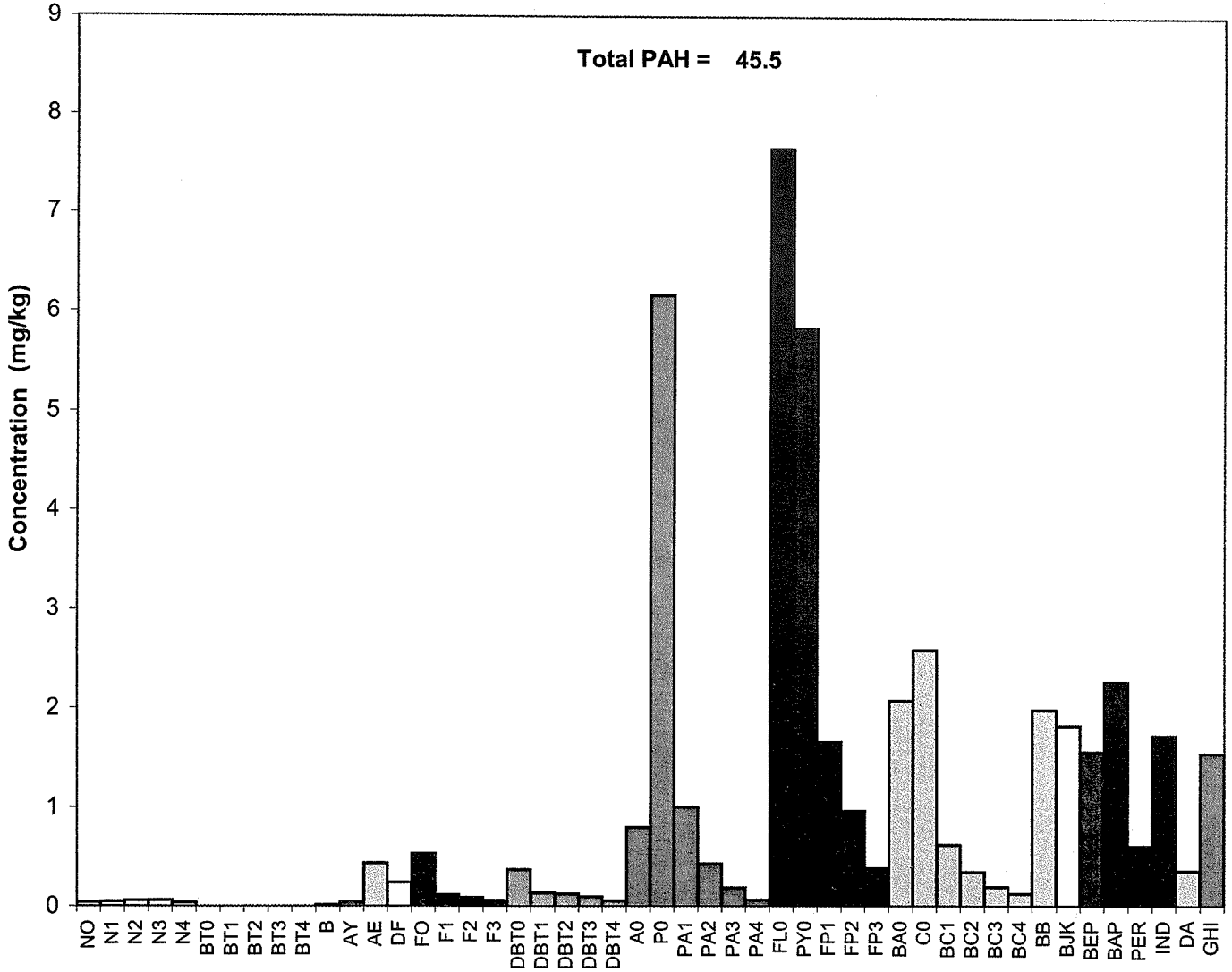
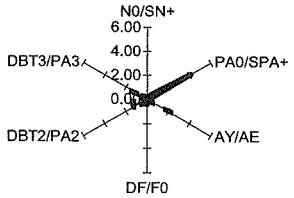
Alkylated PAH Overview

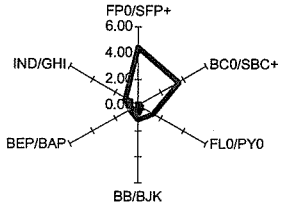
Sample ID:
OFF-OTS-OF075



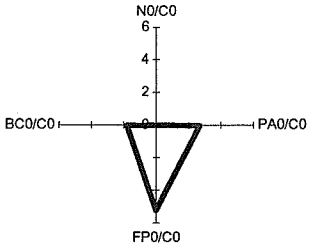
Light PAH Profile



Heavy PAH Profile



Weathering Profile



Diesel 50% Combusted
OFF-OTS-OF075

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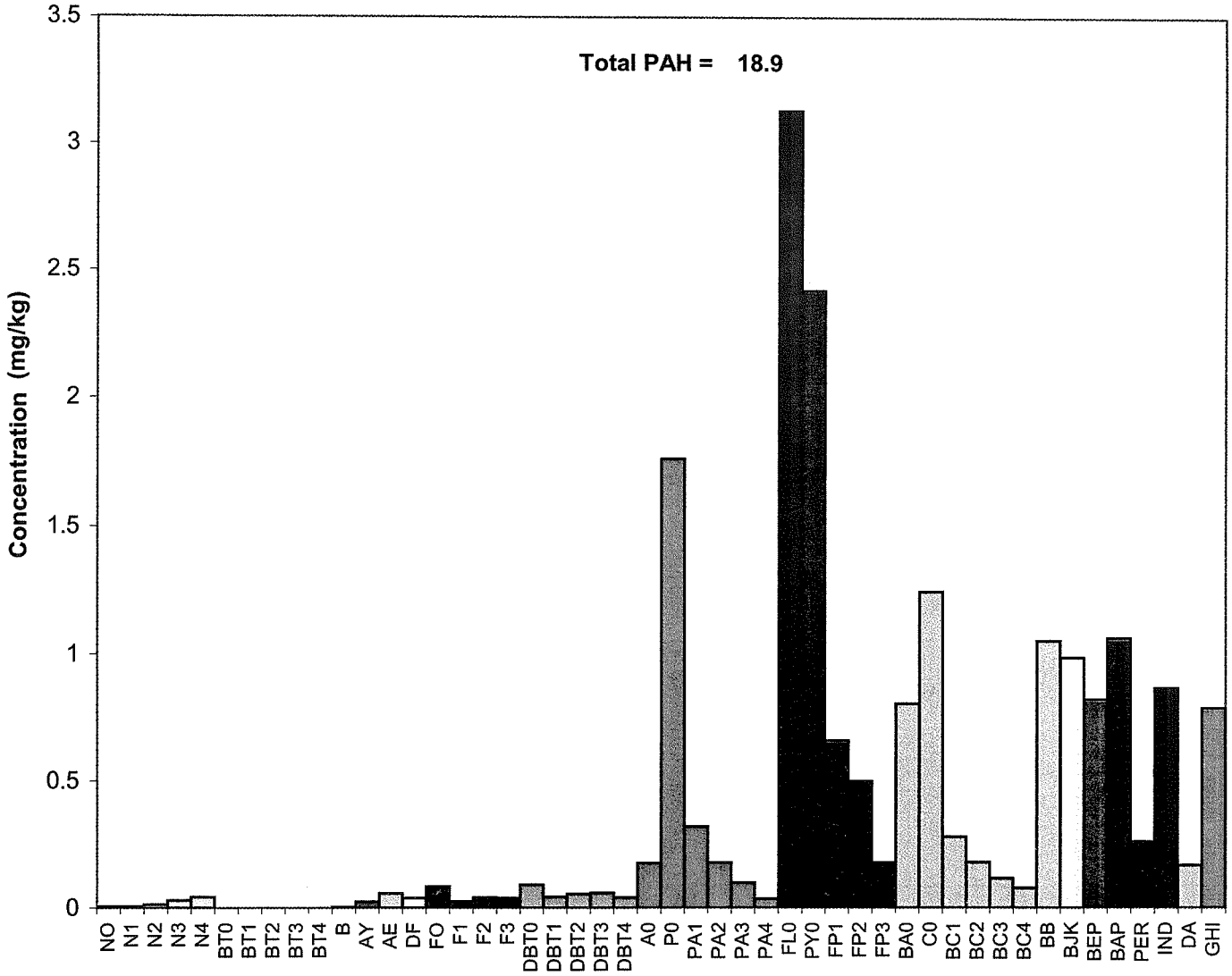
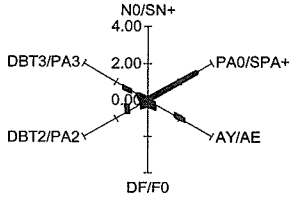
Alkylated PAH Overview

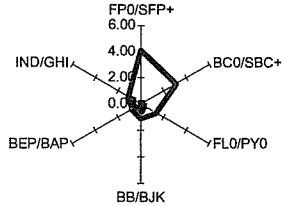
Sample ID:
OFF-OTS-OF093



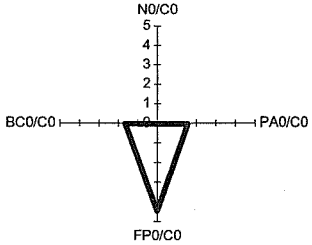
Light PAH Profile



Heavy PAH Profile



Weathering Profile



Diesel 50% Combusted
OFF-OTS-OF093

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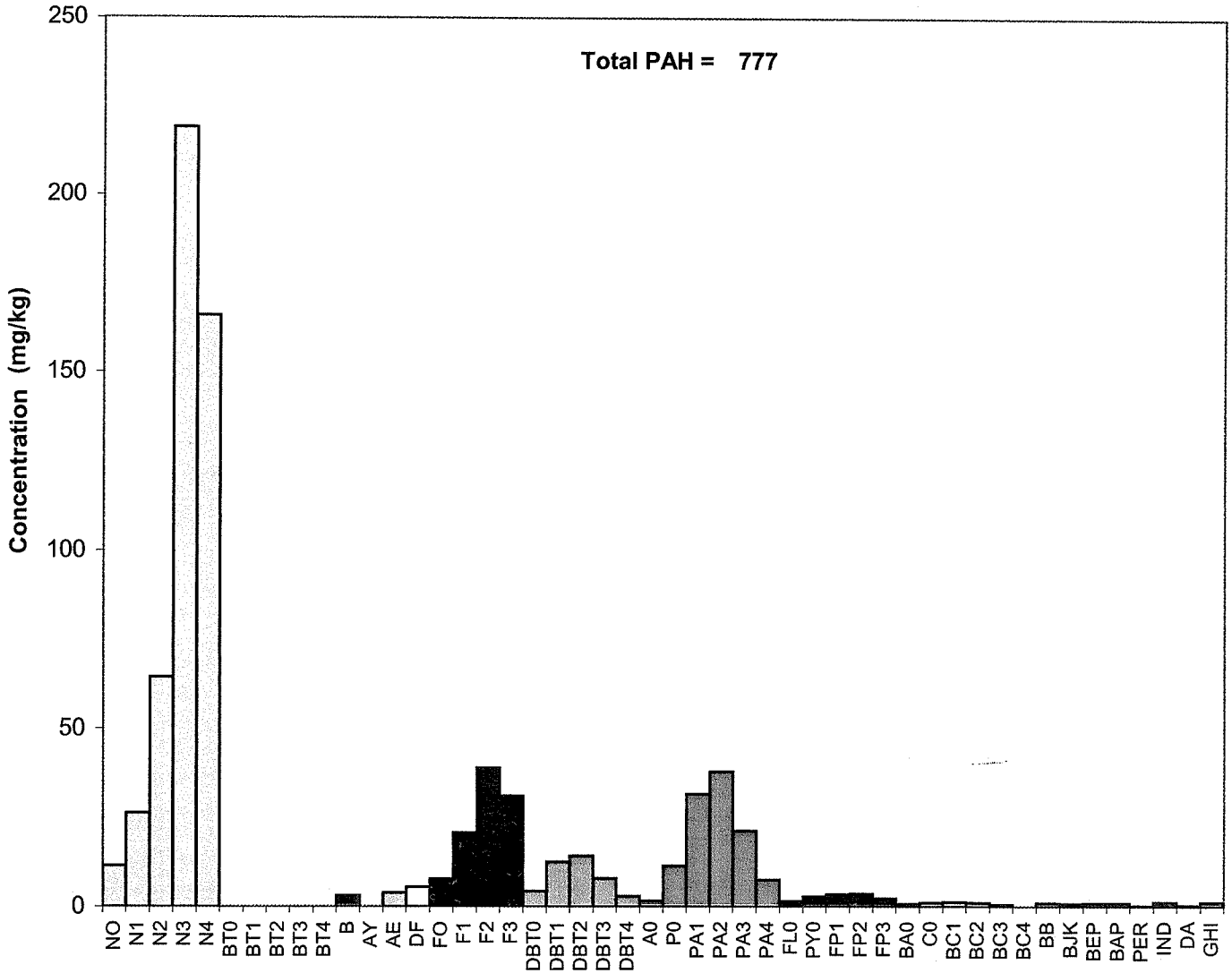
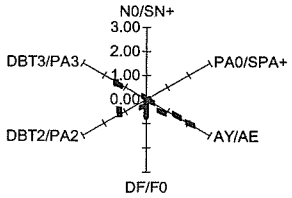
Alkylated PAH Overview

Sample ID:

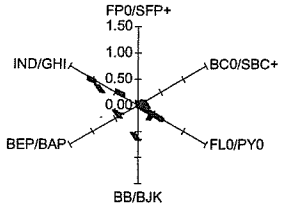
OFF-SO-11-0607



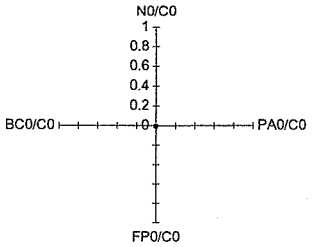
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ OFF-SO-11-0607

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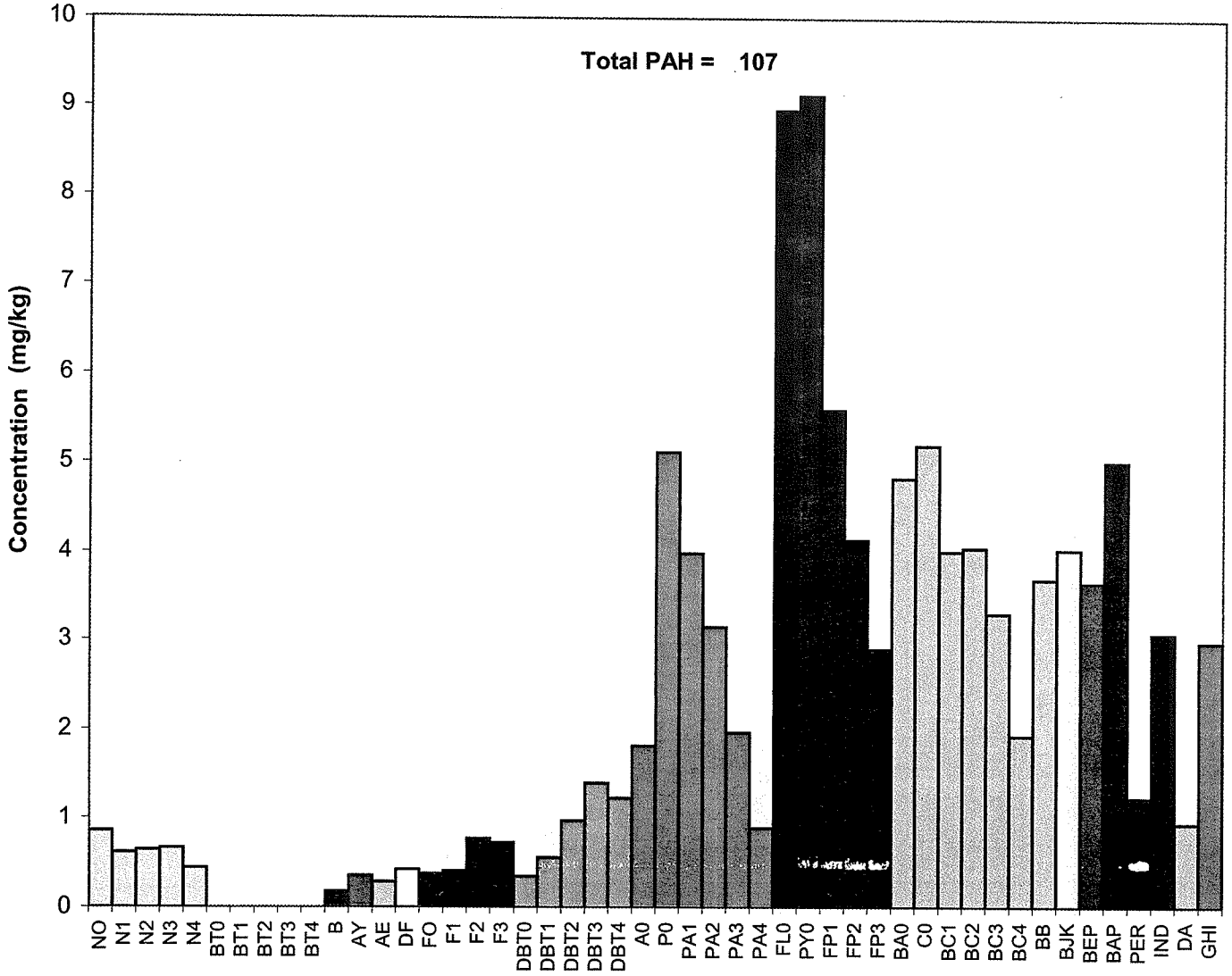
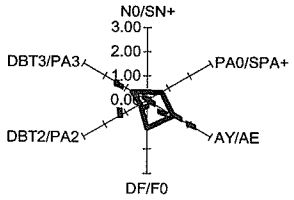
Alkylated PAH Overview

Sample ID:

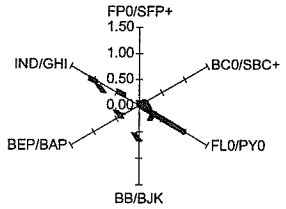
OFF-SO-15-0607



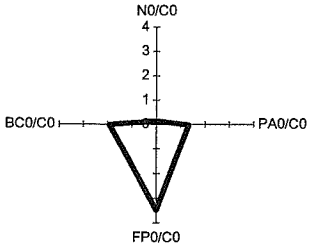
Light PAH Profile



Heavy PAH Profile



Weathering Profile



Diesel 50% Combusted

OFF-SO-15-0607

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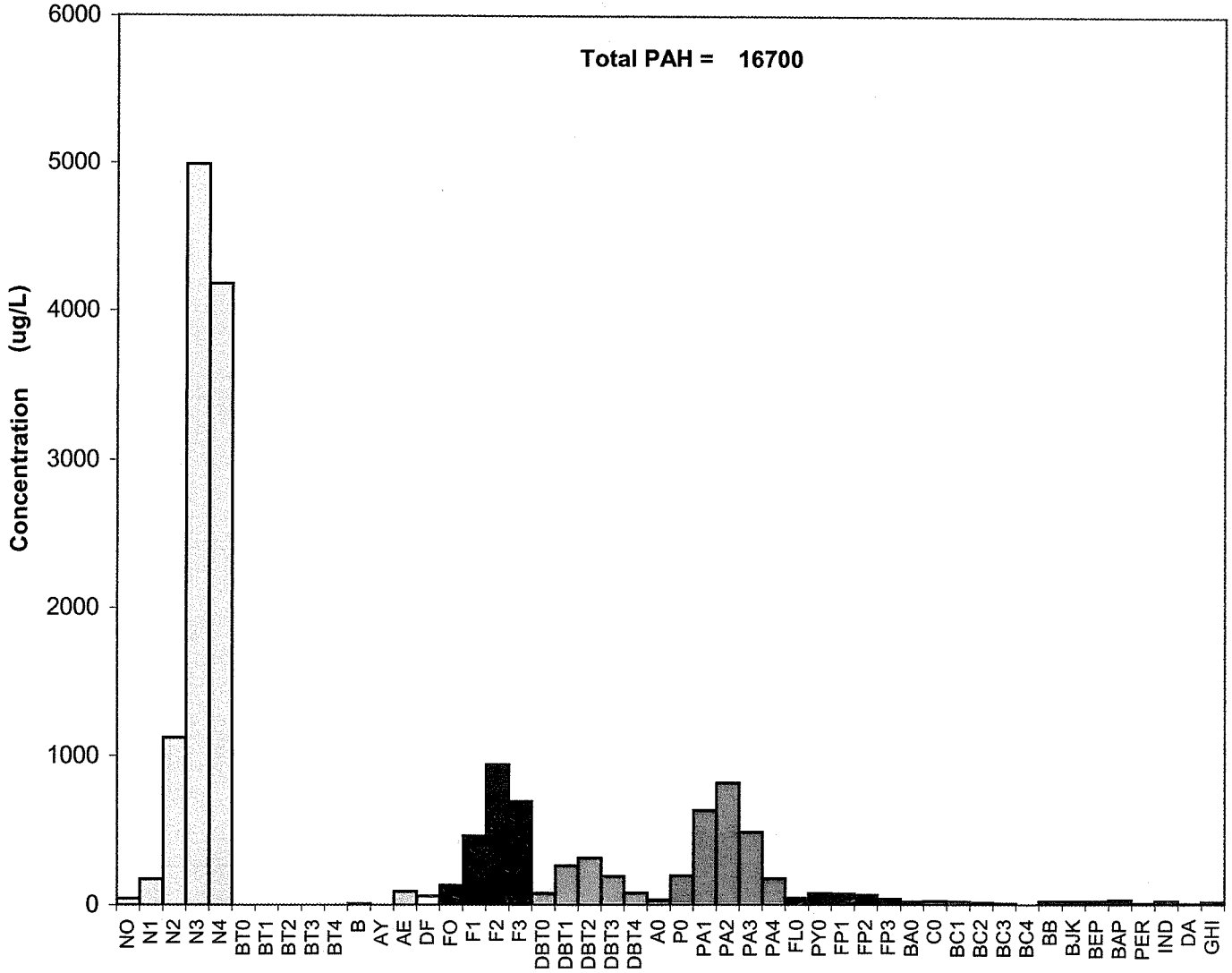
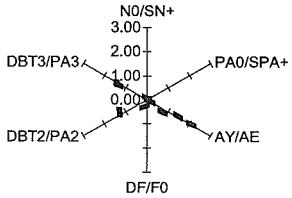
Alkylated PAH Overview

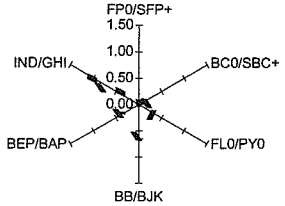
Sample ID:
OFF-AQ-11-0607



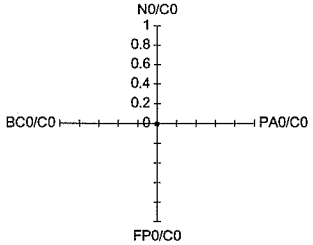
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted
▬ OFF-AQ-11-0607

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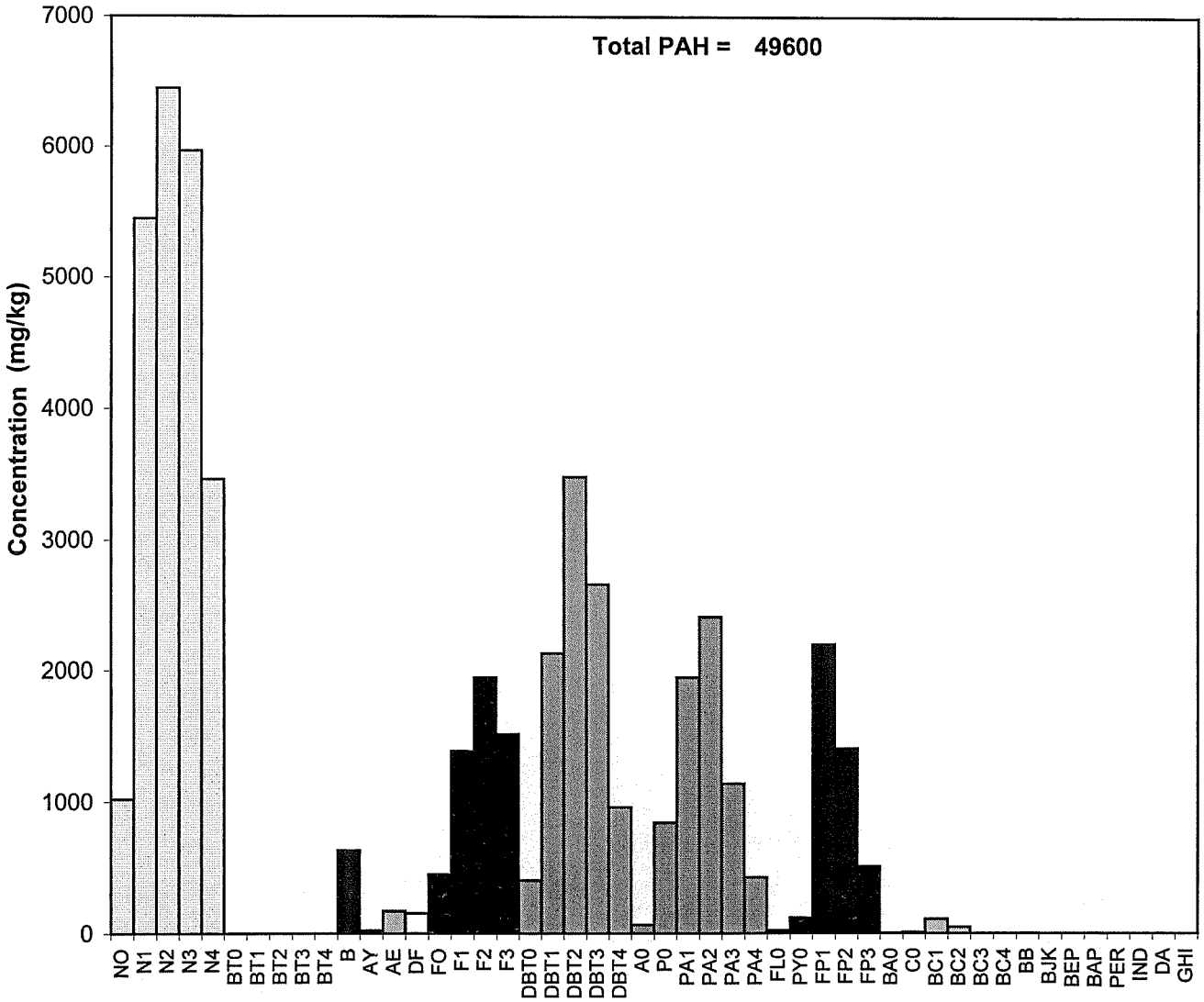
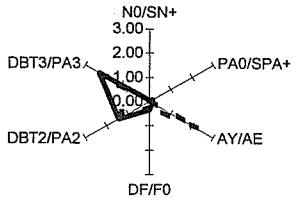
Alkylated PAH Overview

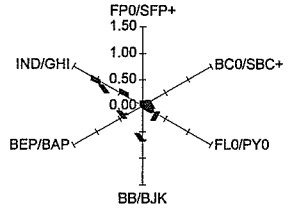
Sample ID:
Diesel Unaltered



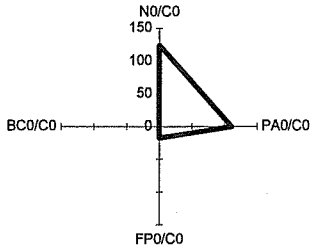
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted
▬ Diesel Unaltered

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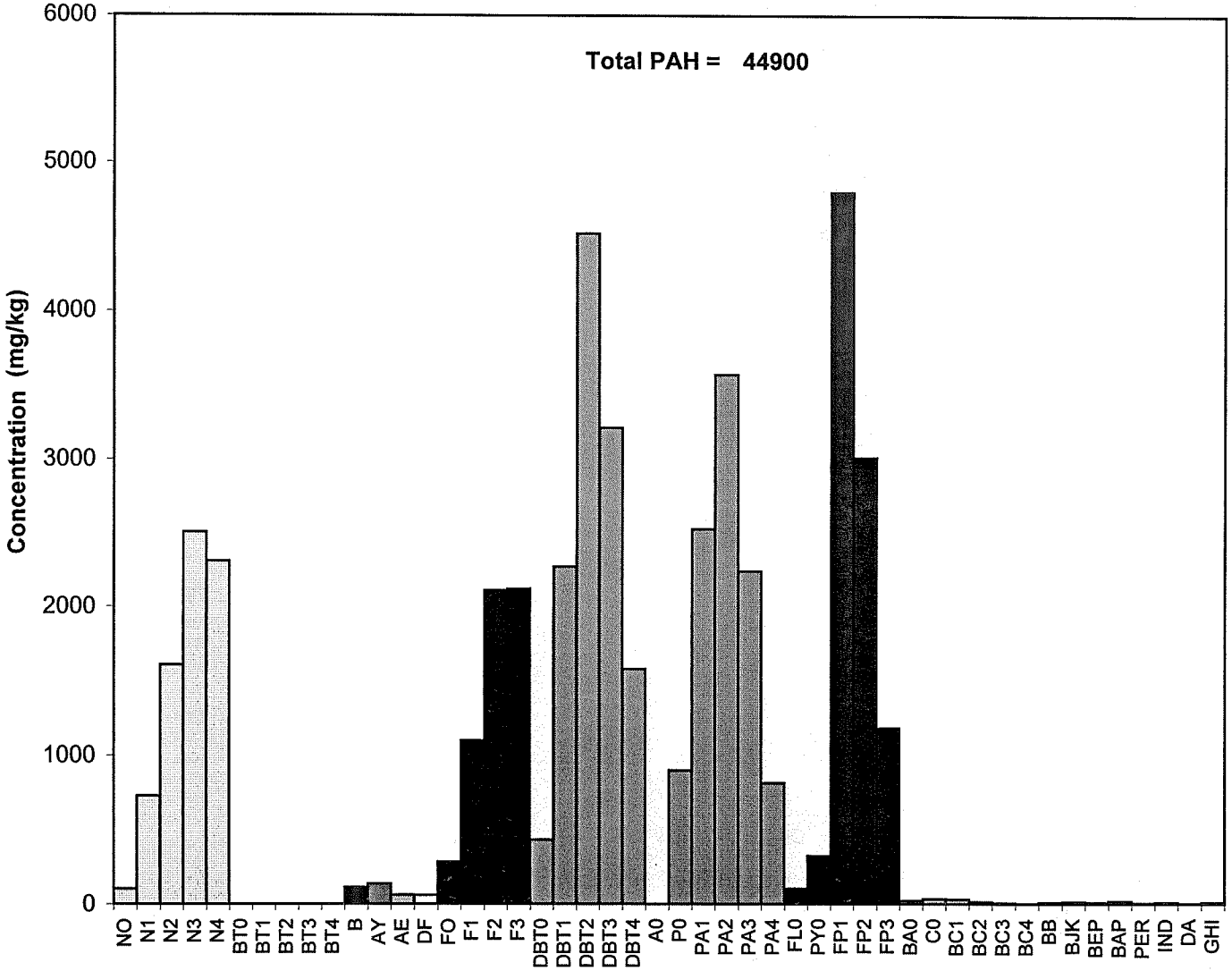
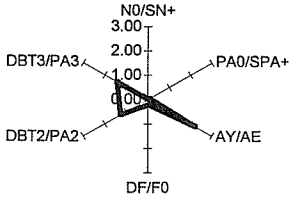
Alkylated PAH Overview

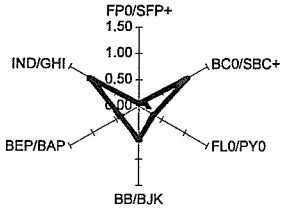
Sample ID:
Diesel 50% Combusted



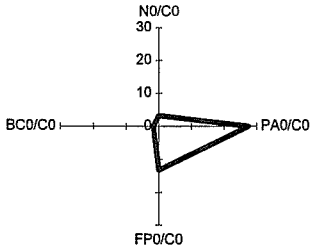
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Diesel 50% Combusted

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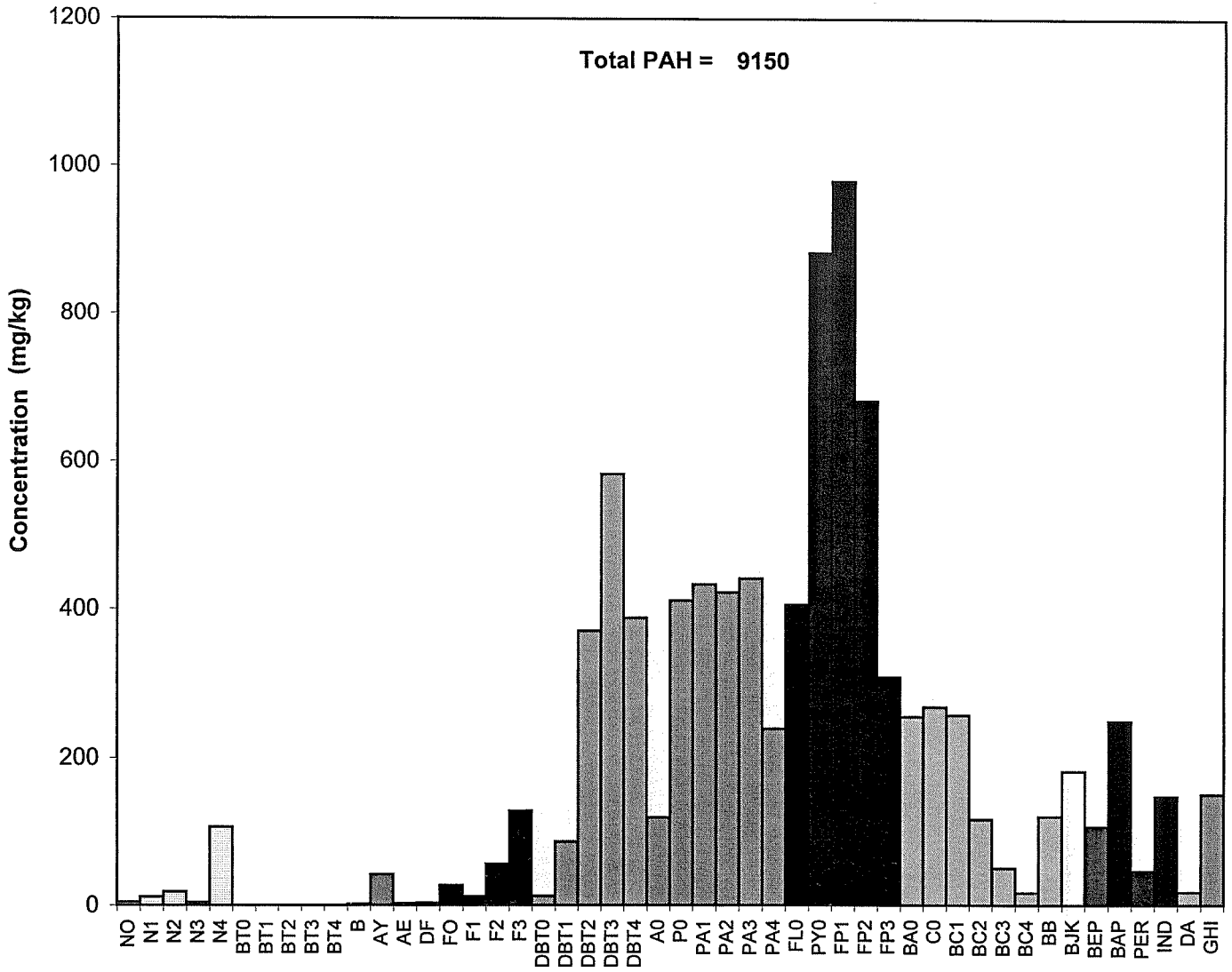
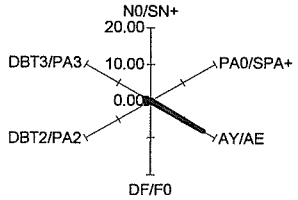
Alkylated PAH Overview

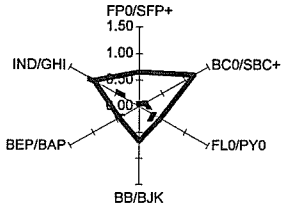
Sample ID:
Diesel 100% Combusted



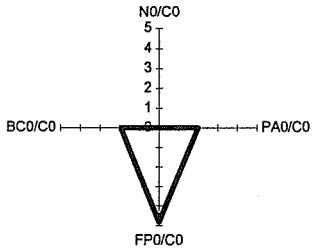
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Diesel 100% Combusted

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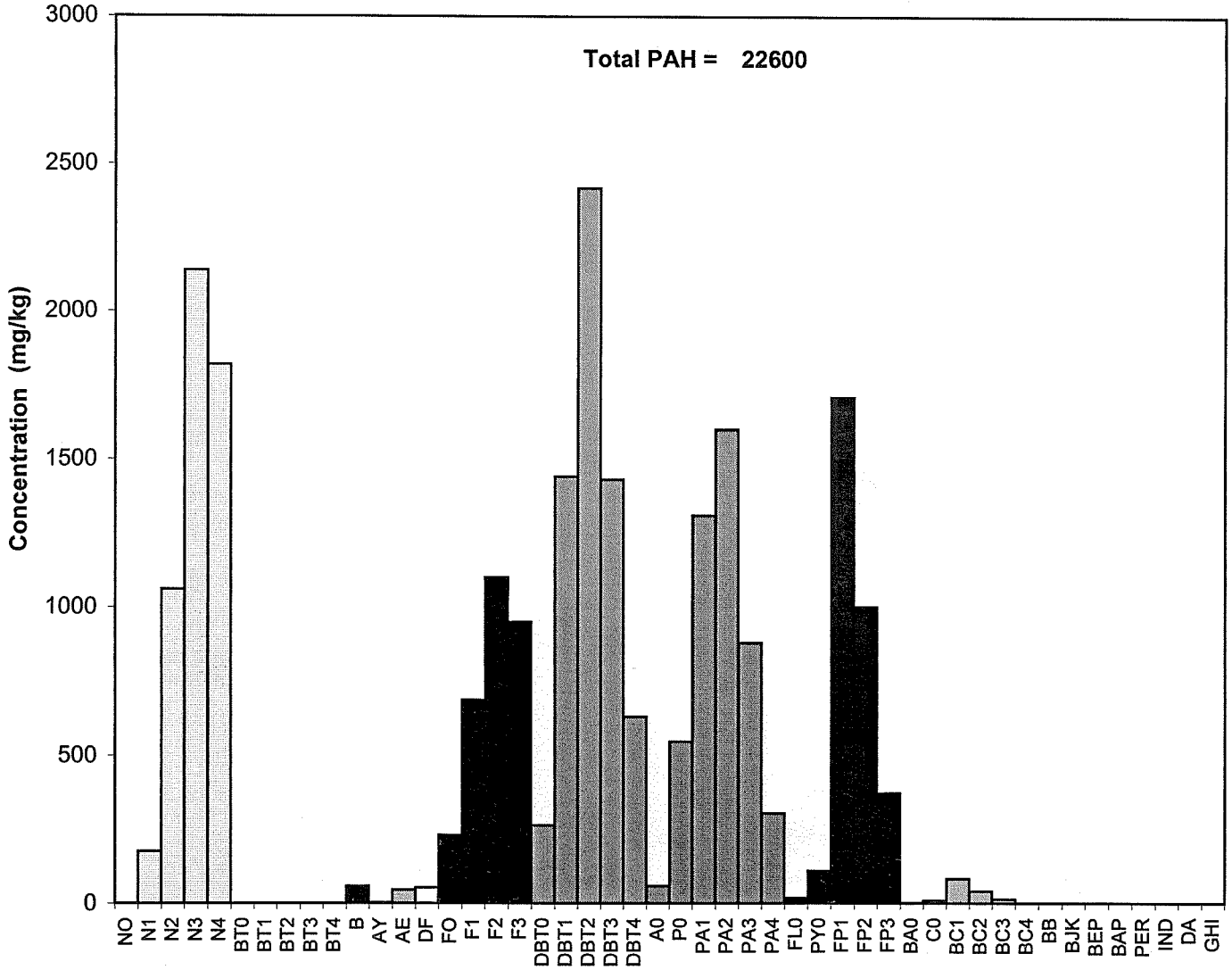
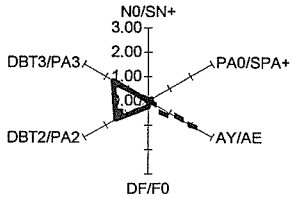
Alkylated PAH Overview

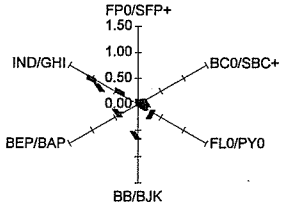
Sample ID:
Diesel 50% Evaporated



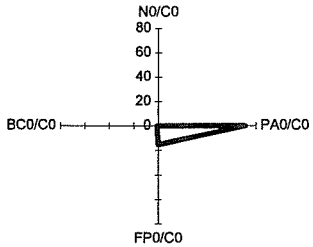
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

— Diesel 50% Evaporated

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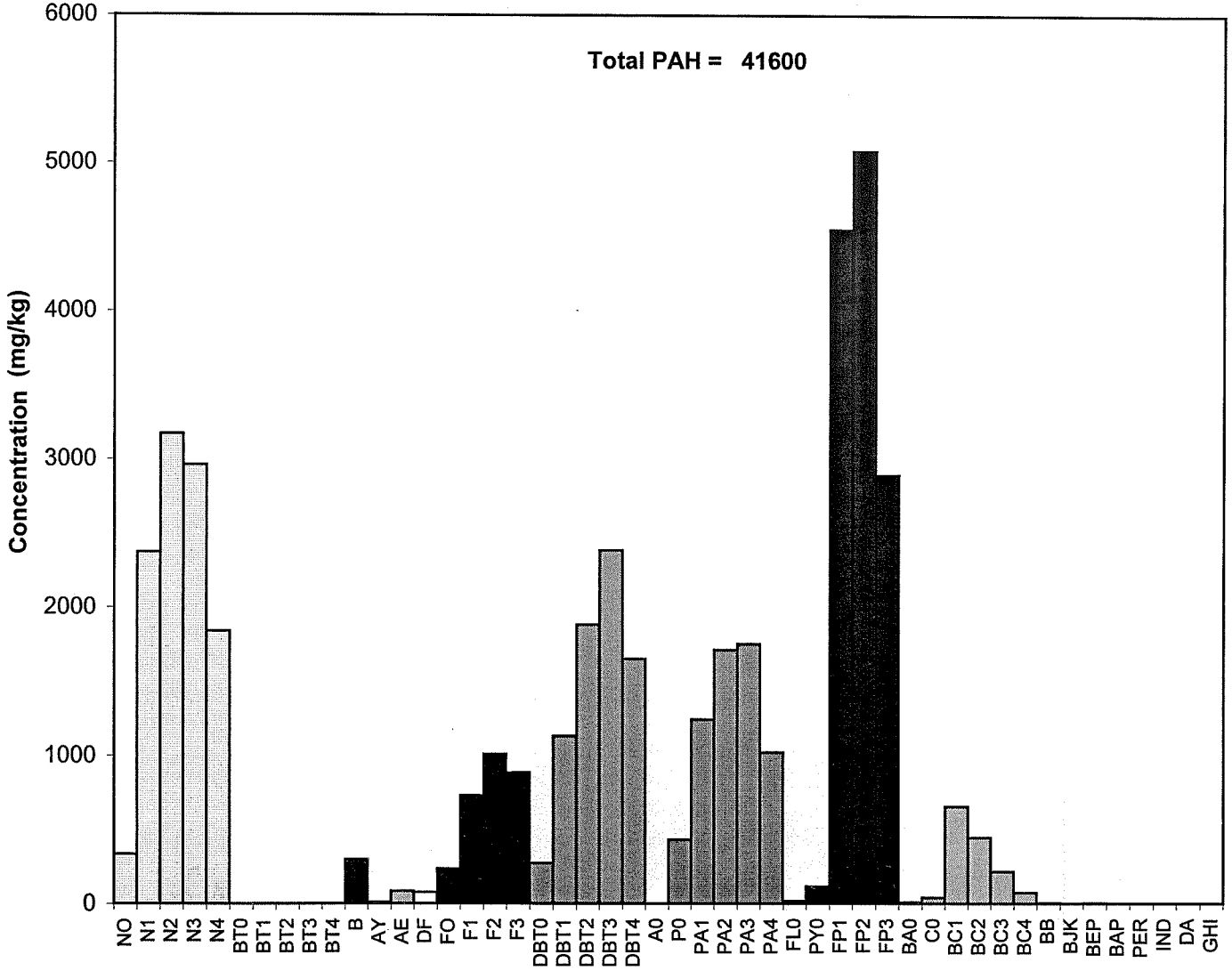
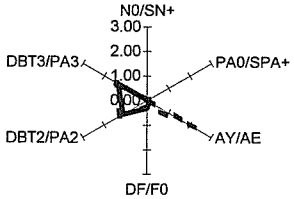
Alkylated PAH Overview

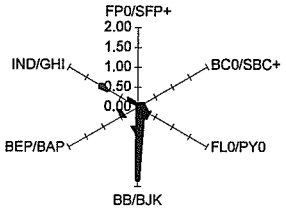
Sample ID:
Diesel 100% Evaporated



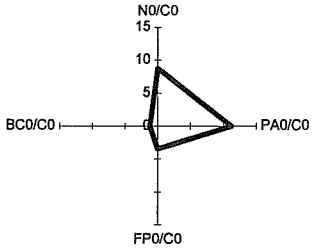
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Diesel 100% Evaporated

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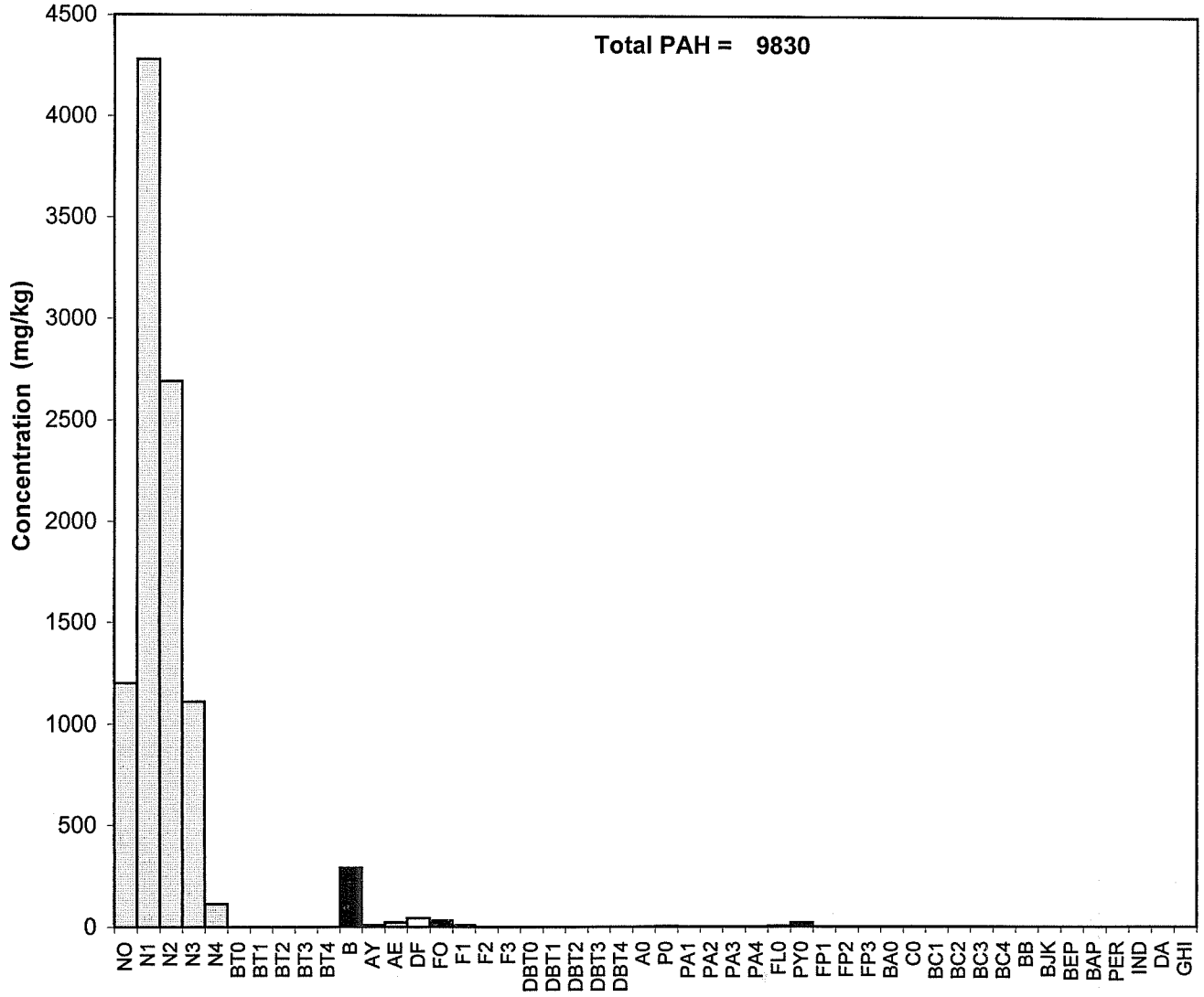
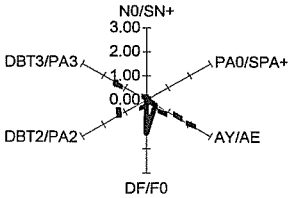
Alkylated PAH Overview

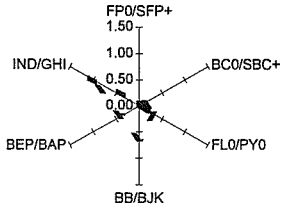
Sample ID:
Kerosene Unaltered



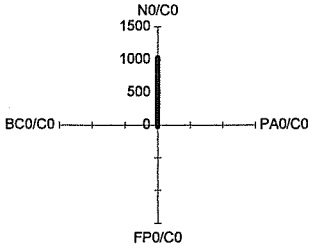
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Kerosene Unaltered

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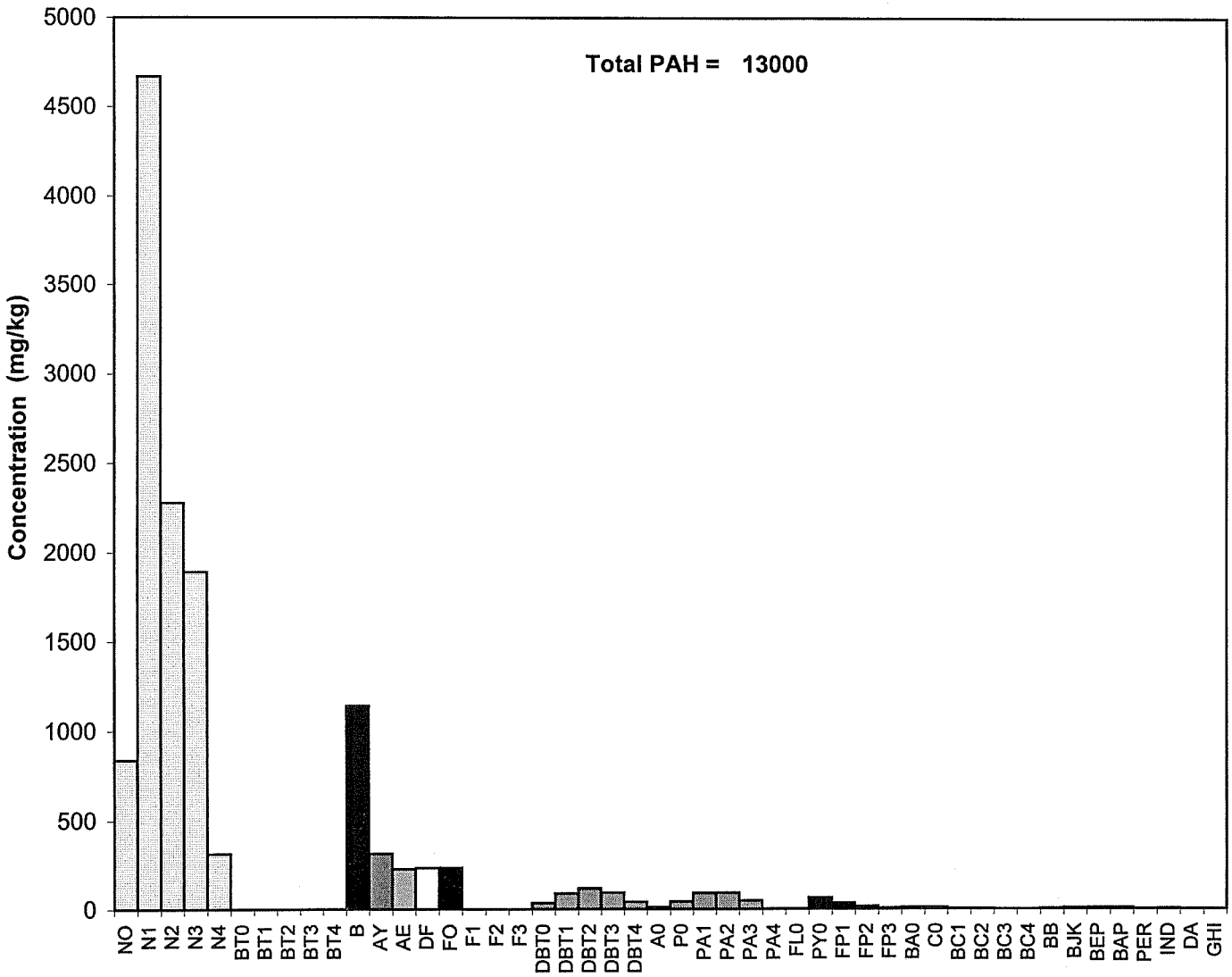
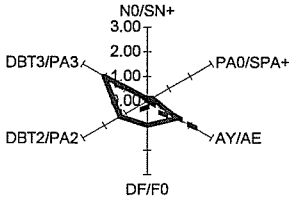
Alkylated PAH Overview

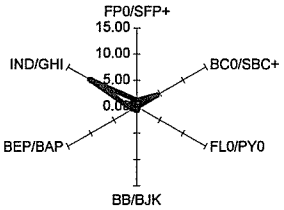
Sample ID:
Kerosene 50% Combusted



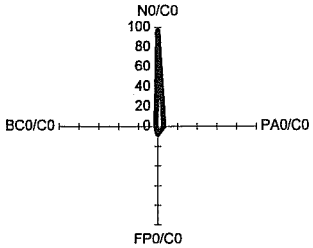
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Kerosene 50% Combusted

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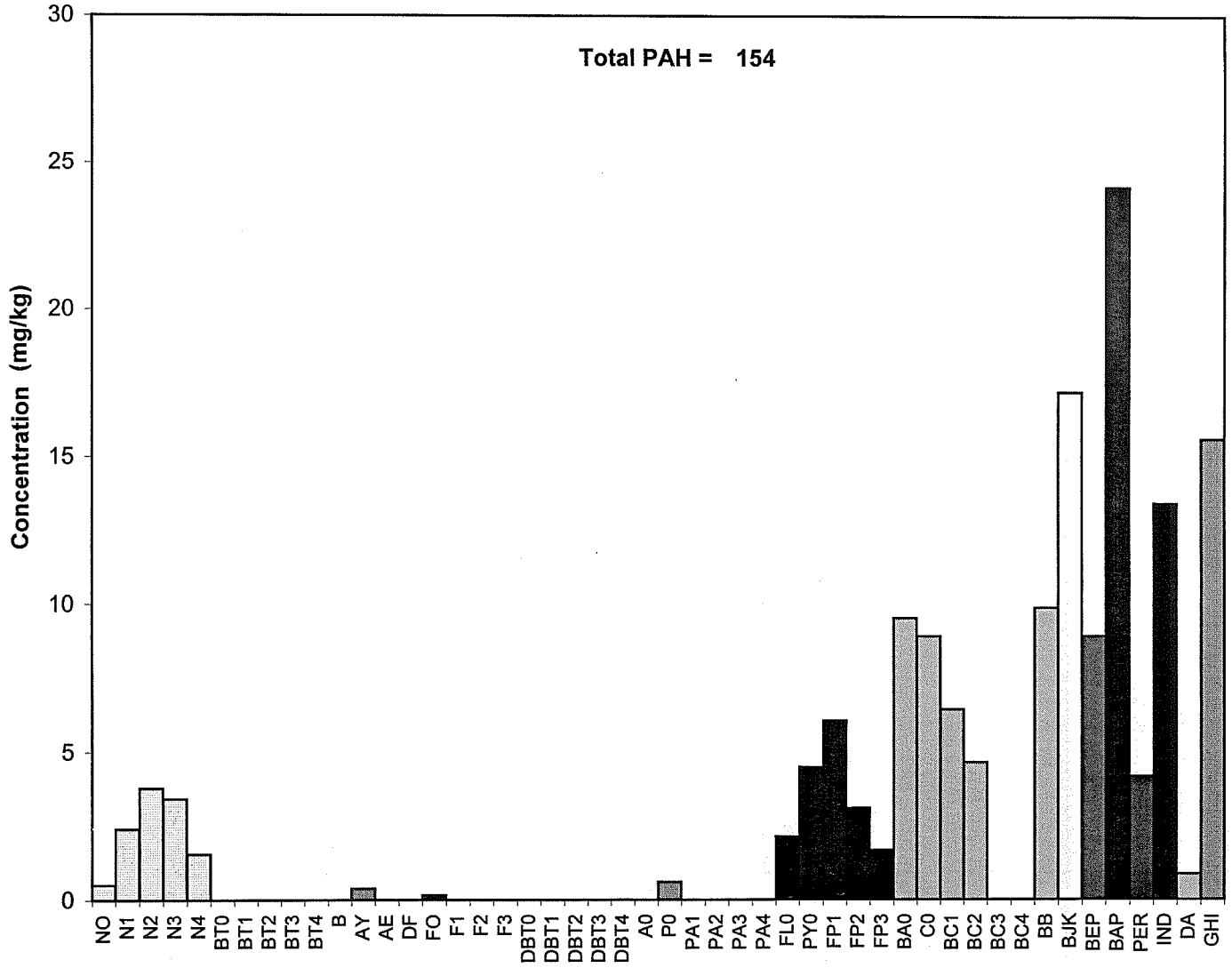
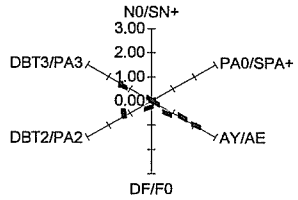
Alkylated PAH Overview

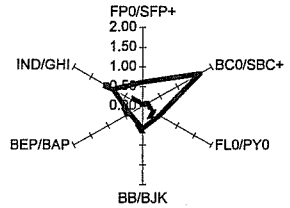
Sample ID:
Kerosene 100% Combusted



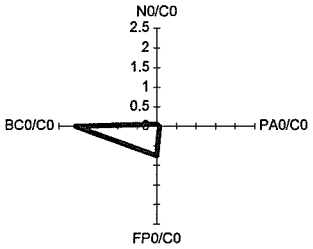
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Kerosene 100% Combusted

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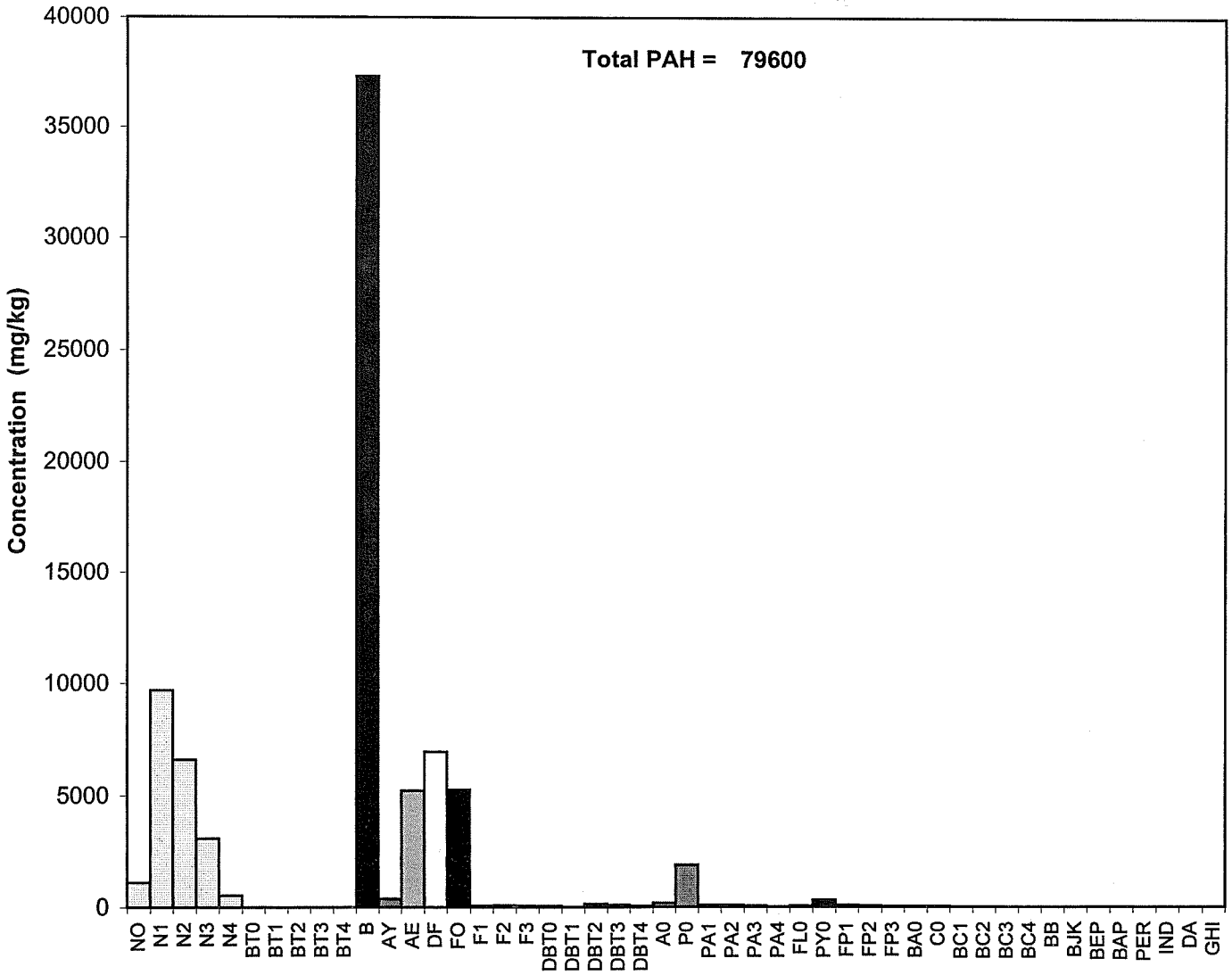
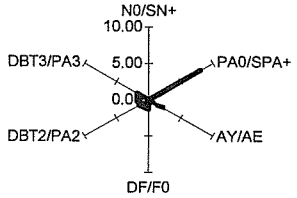
Alkylated PAH Overview

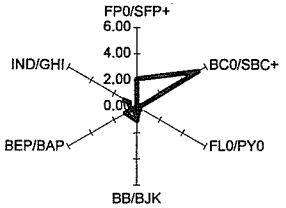
Sample ID:
Kerosene 50% Evaporated



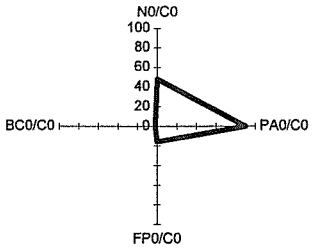
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Kerosene 50% Evaporated

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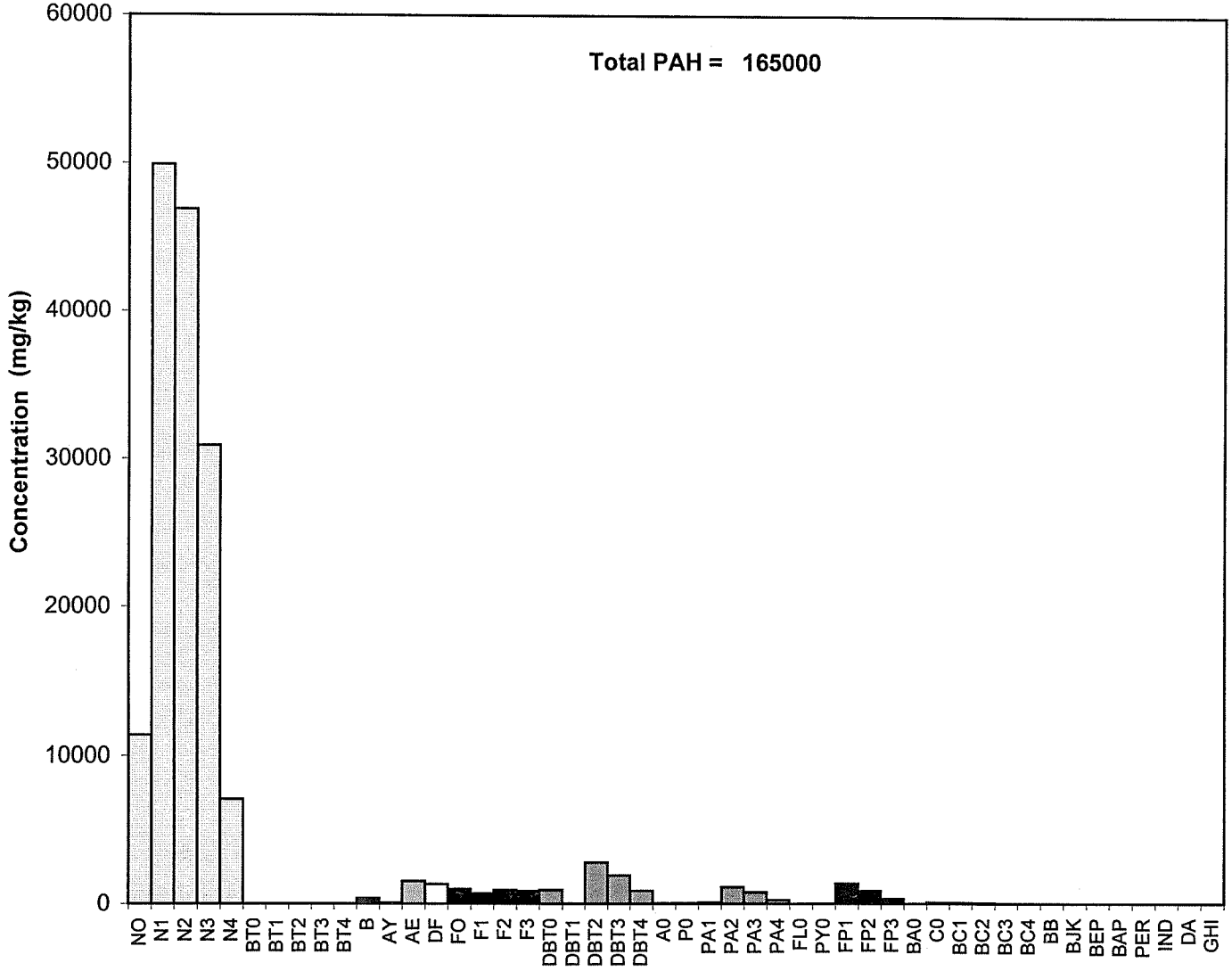
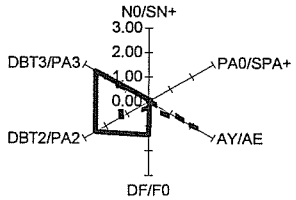
Alkylated PAH Overview

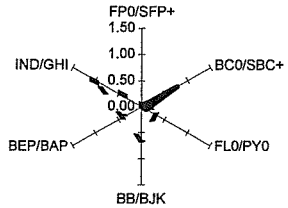
Sample ID:
Kerosene 100% Evaporated



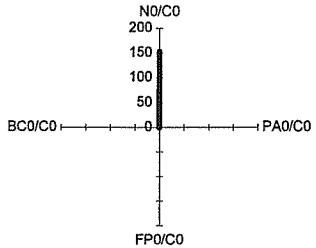
Light PAH Profile



Heavy PAH Profile



Weathering Profile



▪▪▪ Diesel 50% Combusted

▬ Kerosene 100% Evaporated

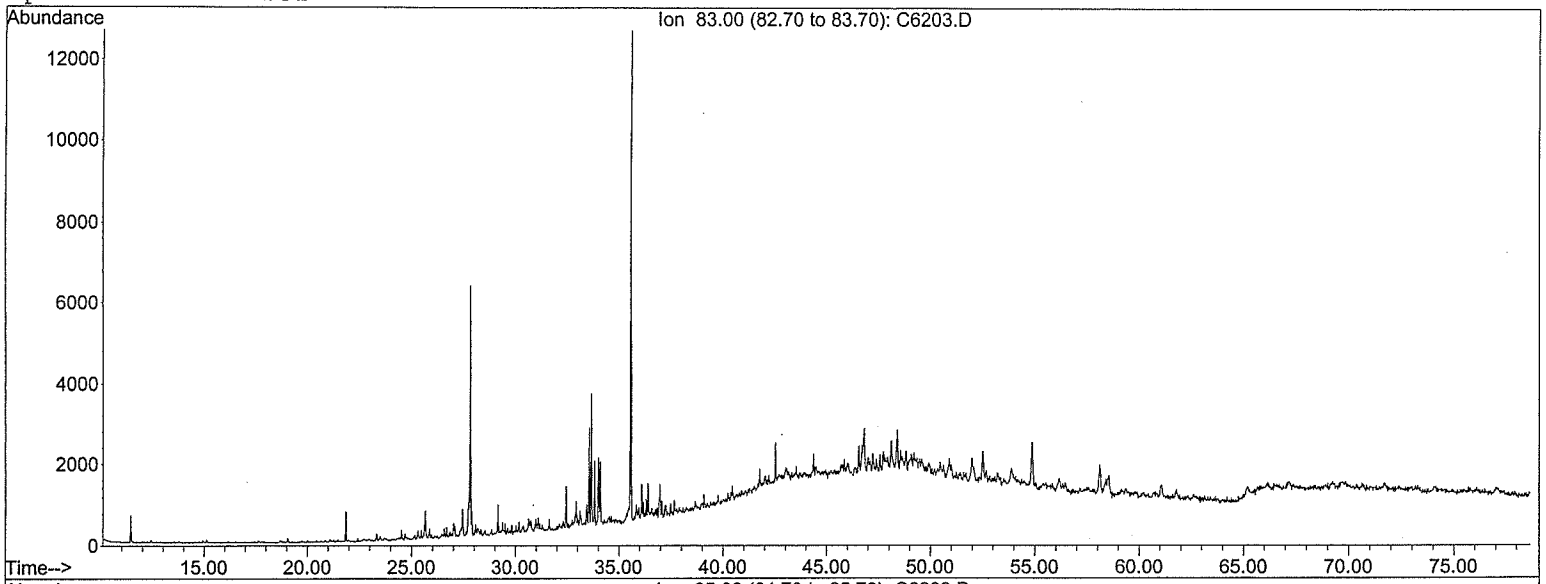
Attachment 6.
Normal Alkanes and Alkylcyclohexane Fingerprints

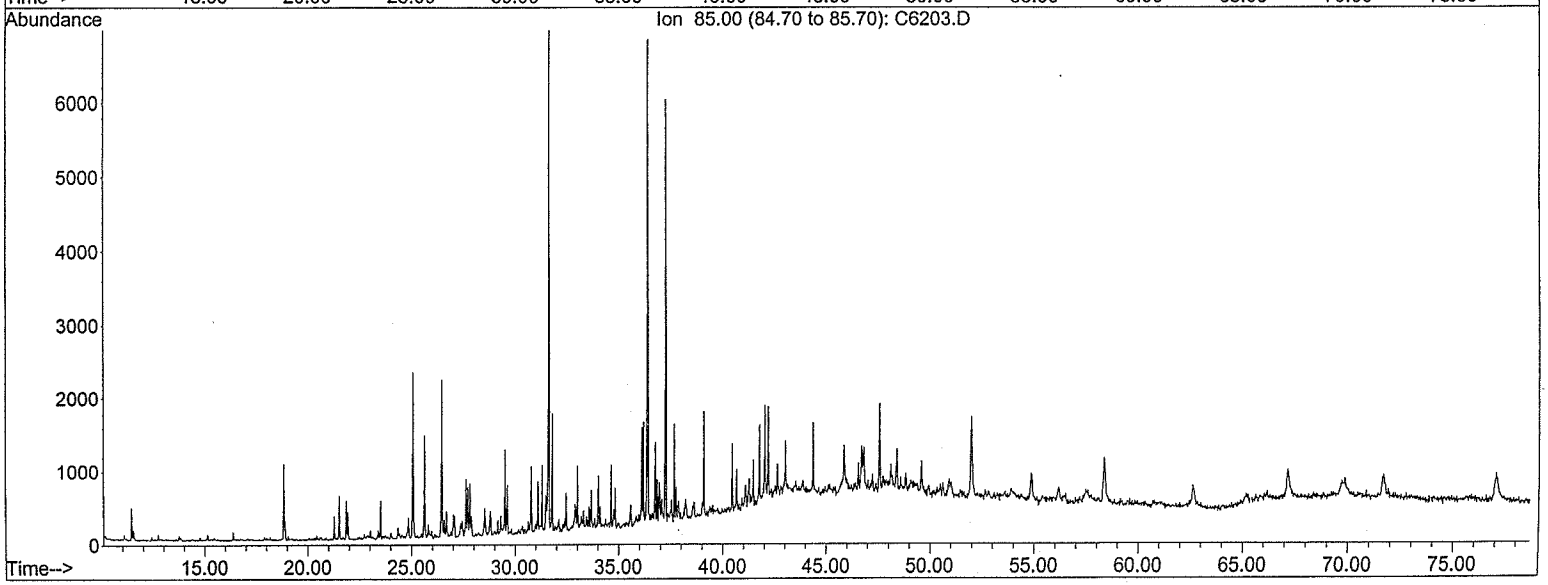
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

OFF-SD-5-0006 (Fine Particles)

File: F:\C\DATA\SQC561\C6203.D
Date Acquired: 24 Jul 2002 8:50 am
Method File: HYDRO6AC
Sample Name: V5870-D
Misc Info:
Operator: DPB

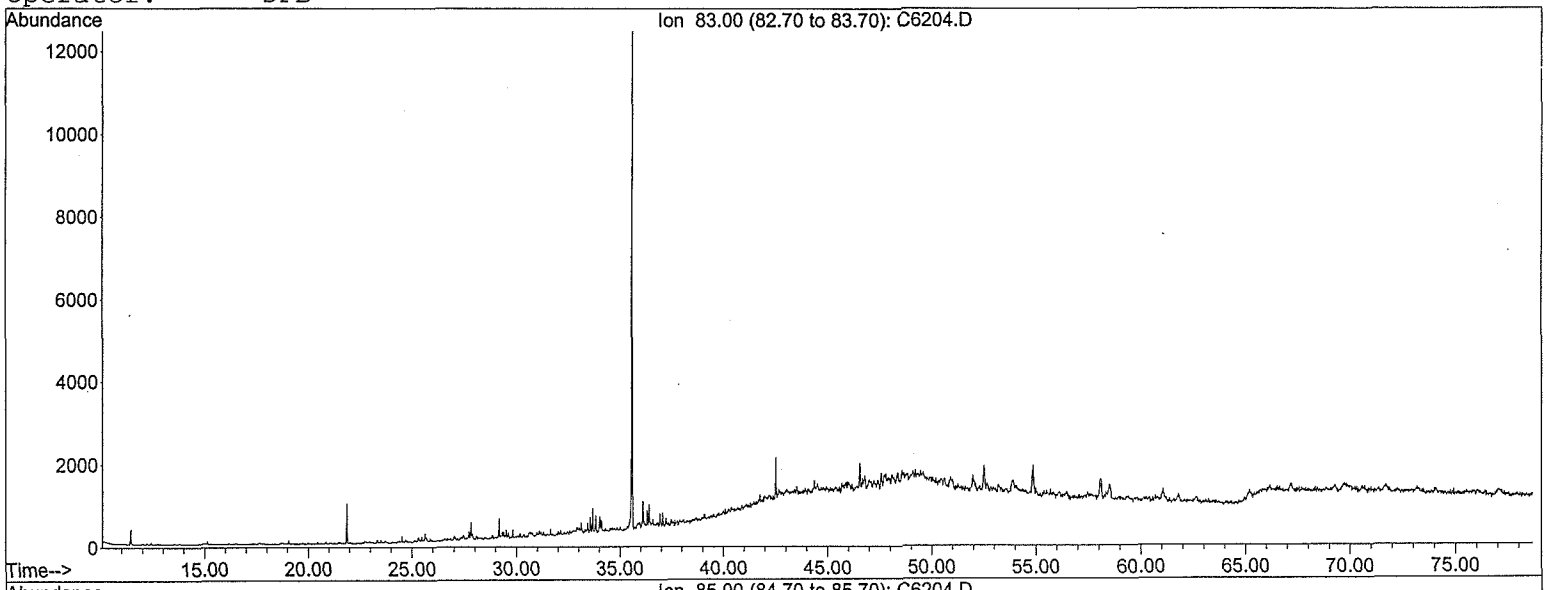


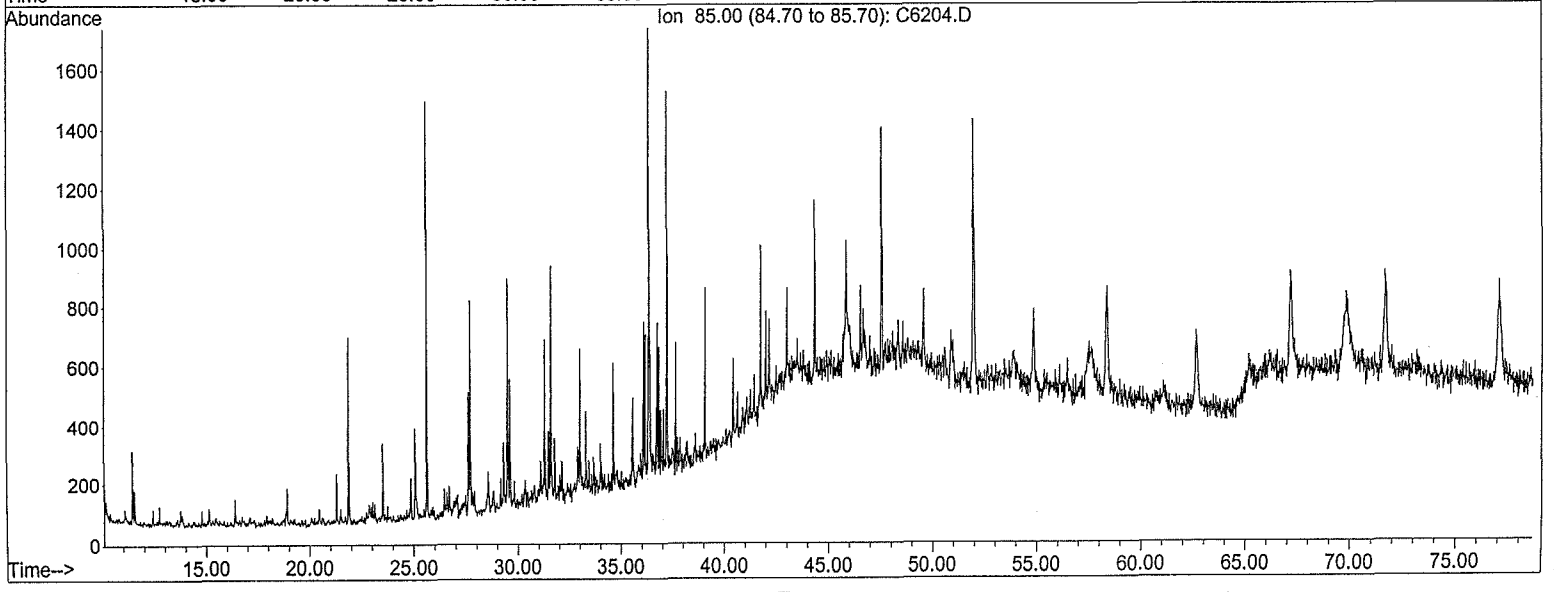


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-5-0006 (Large Particles)**

File: F:\C\DATA\SQC561\C6204.D
Date Acquired: 24 Jul 2002 10:18 am
Method File: HYDRO6AC
Sample Name: V5870DUP-D
Misc Info:
Operator: DPB



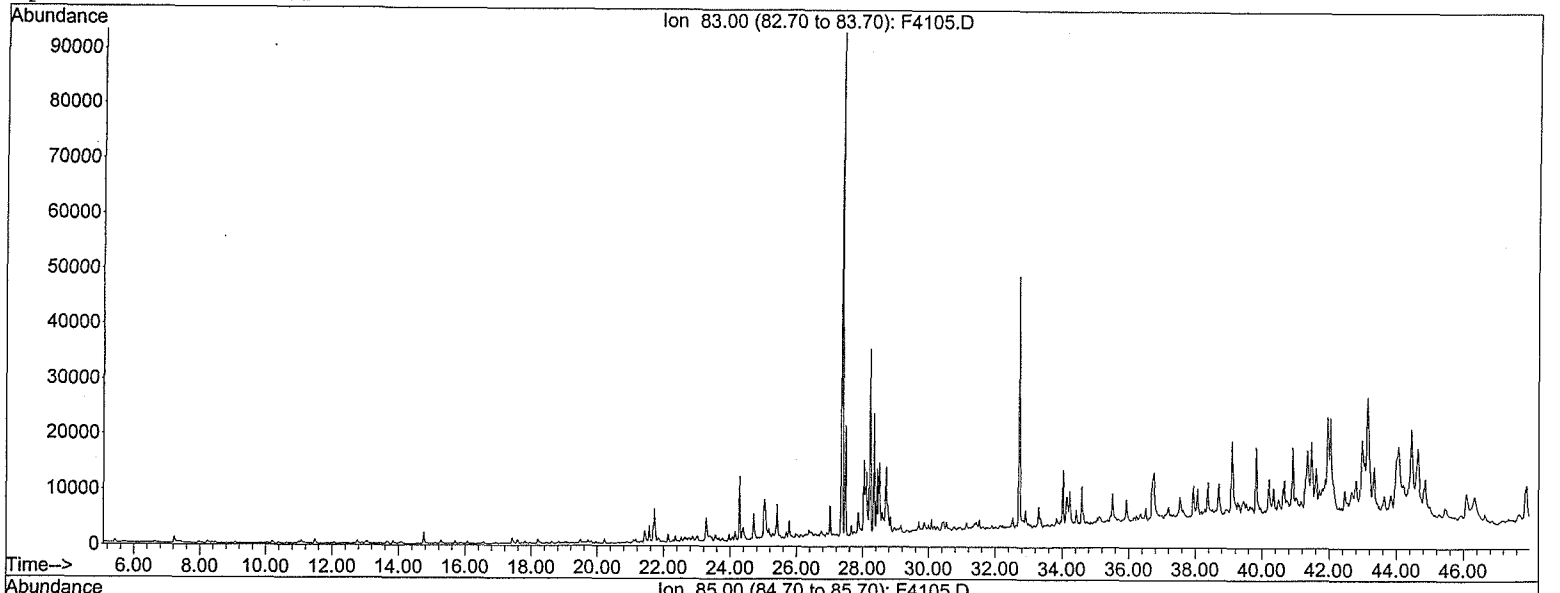


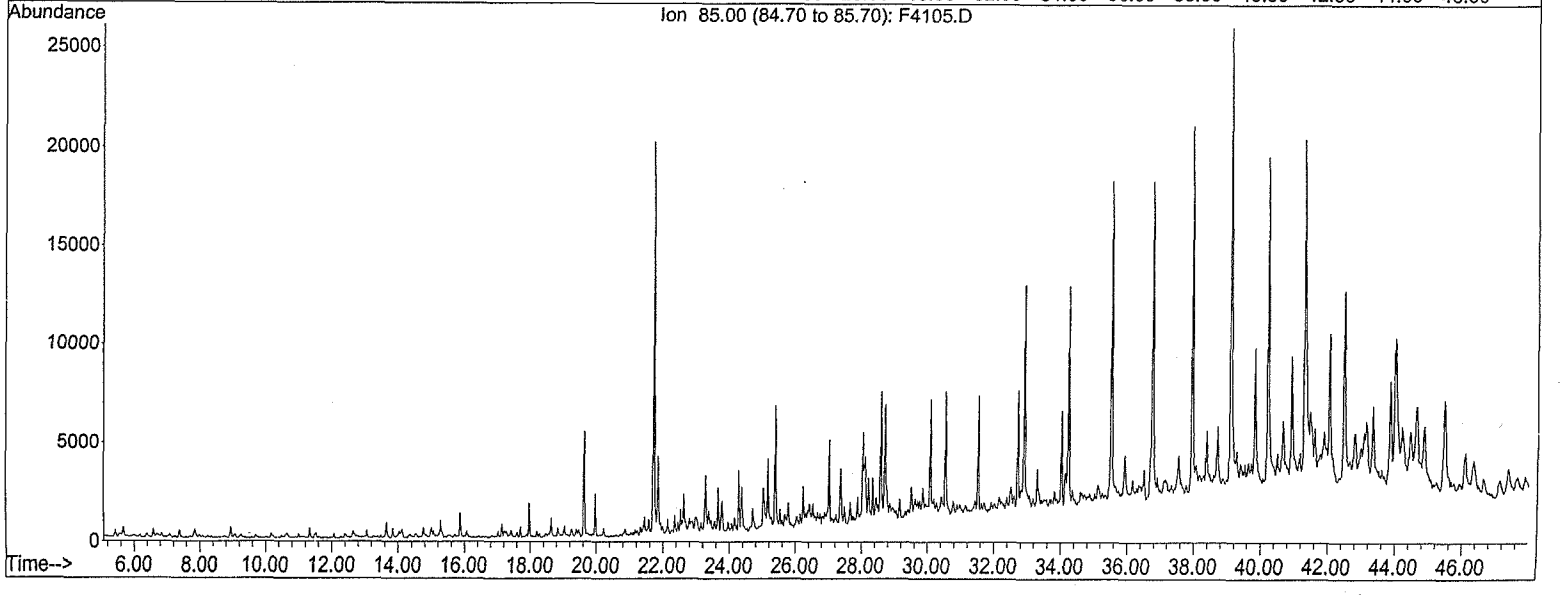
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

OFF-SD-JPC03-0006

File: F:\F\DATA\SQF105\F4105.D
Date Acquired: 8 Aug 2002 11:08 pm
Method File: PAH6QT
Sample Name: V5871
Misc Info:
Operator: DPB



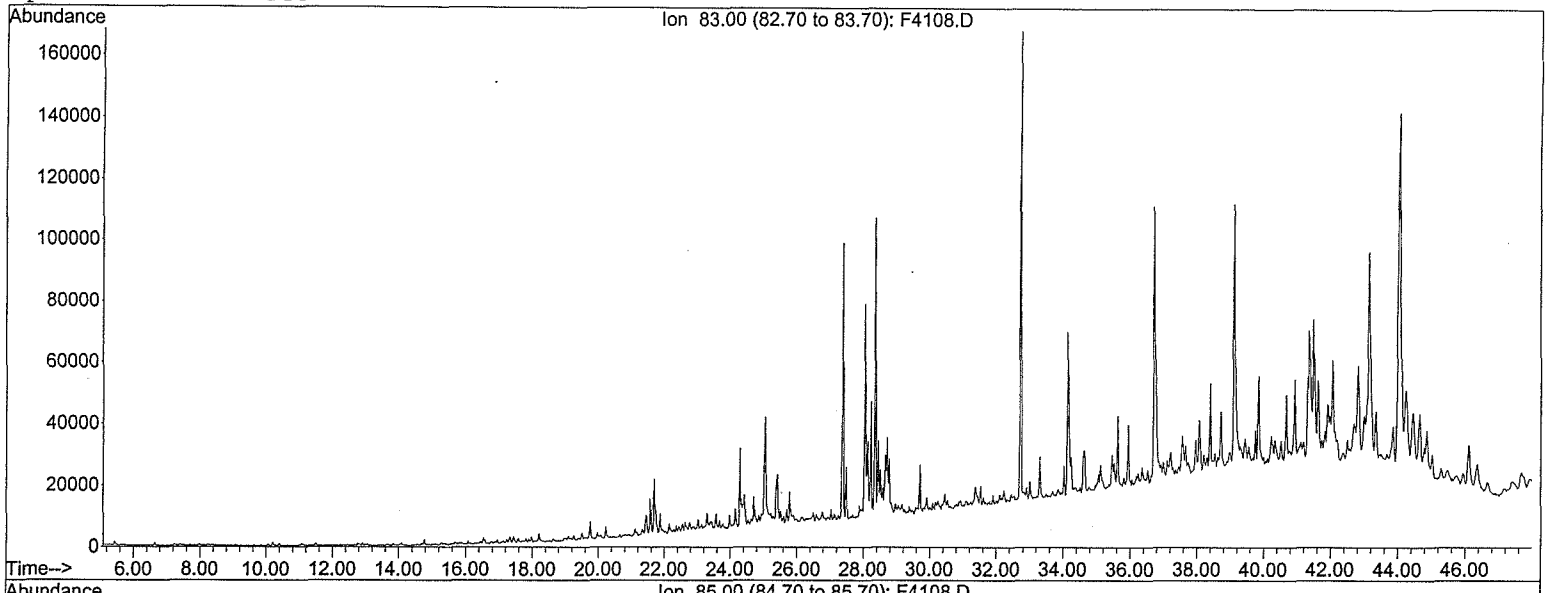


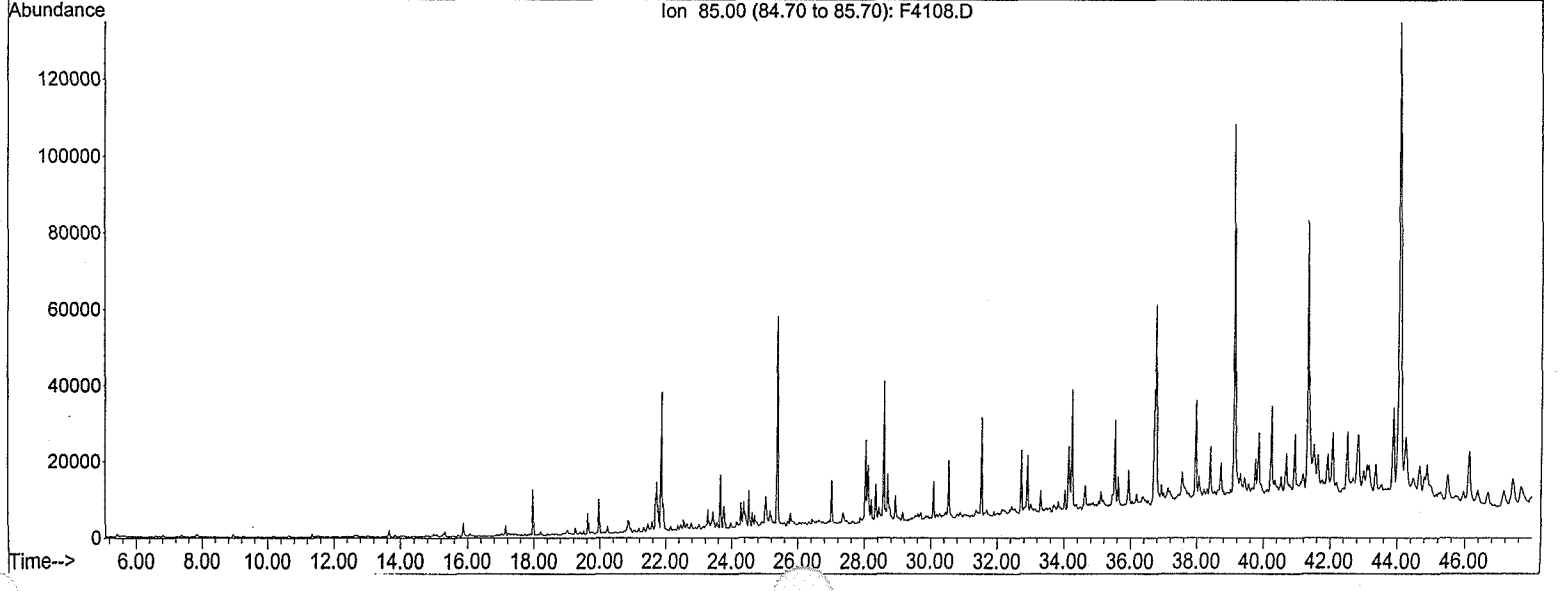
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

OFF-SD-410-0006

File: F:\F\DATA\SQF105\F4108.D
Date Acquired: 9 Aug 2002 1:53 am
Method File: PAH6QT
Sample Name: V5874-D
Misc Info:
Operator: DPB



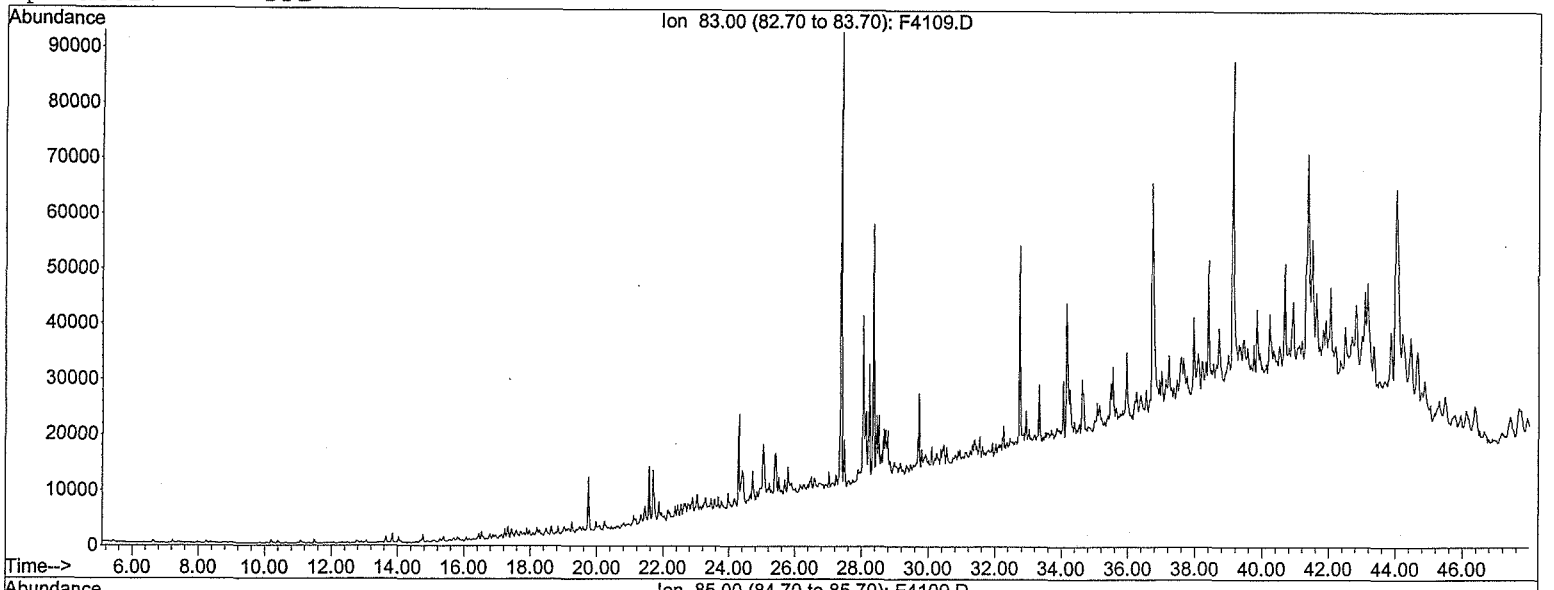


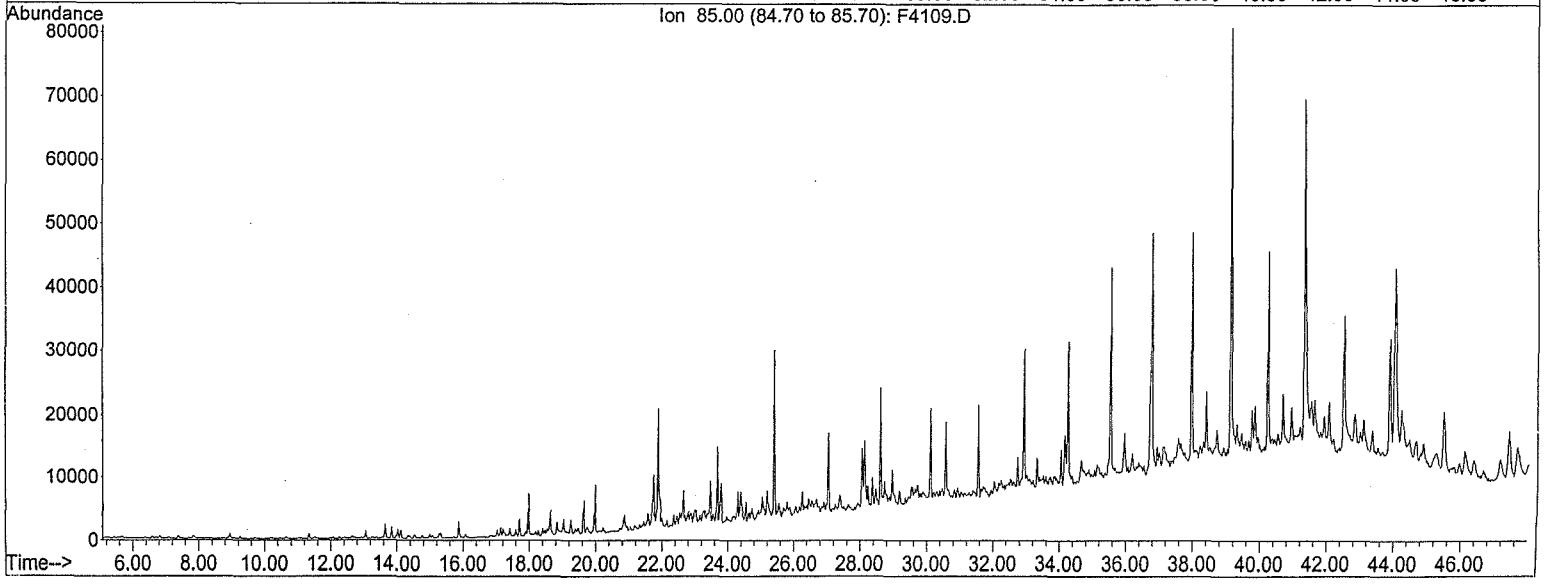
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

OFF-SD-410-1824

File: F:\F\DATA\SQF105\F4109.D
Date Acquired: 9 Aug 2002 2:48 am
Method File: PAH6QT
Sample Name: V5875
Misc Info:
Operator: DPB



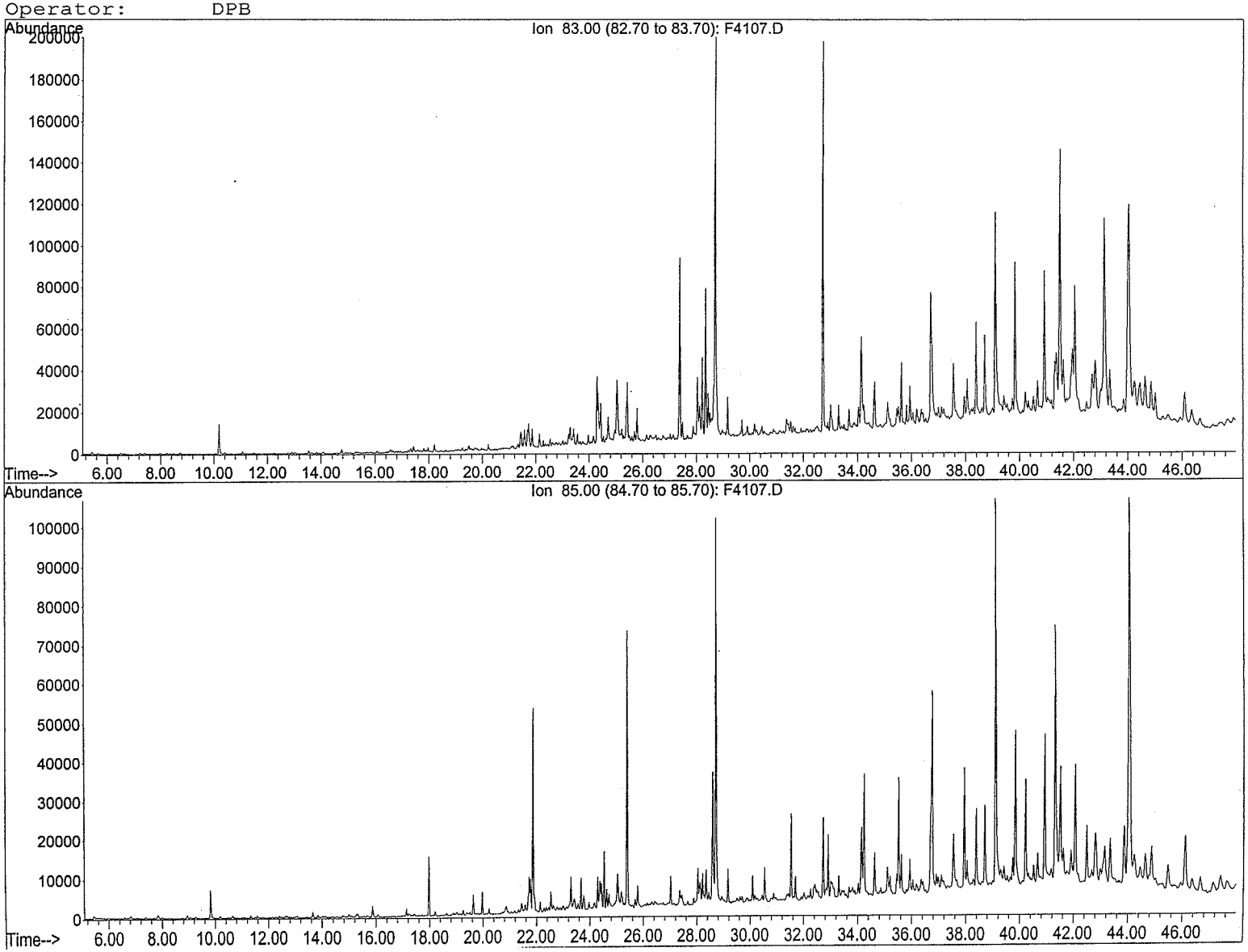


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

OFF-SD-470-0006

File: F:\F\DATA\SQF105\F4107.D
Date Acquired: 9 Aug 2002 12:58 am
Method File: PAH6QT
Sample Name: V5873
Misc Info:
Operator: DPB

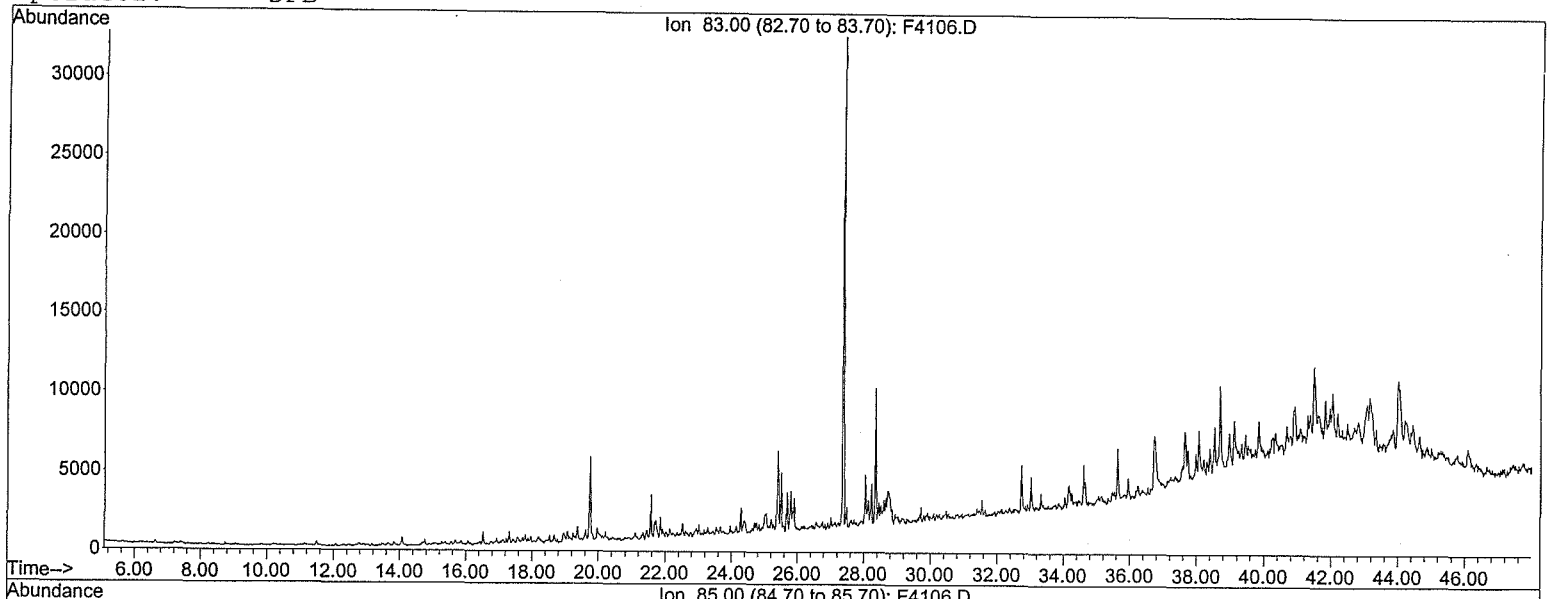


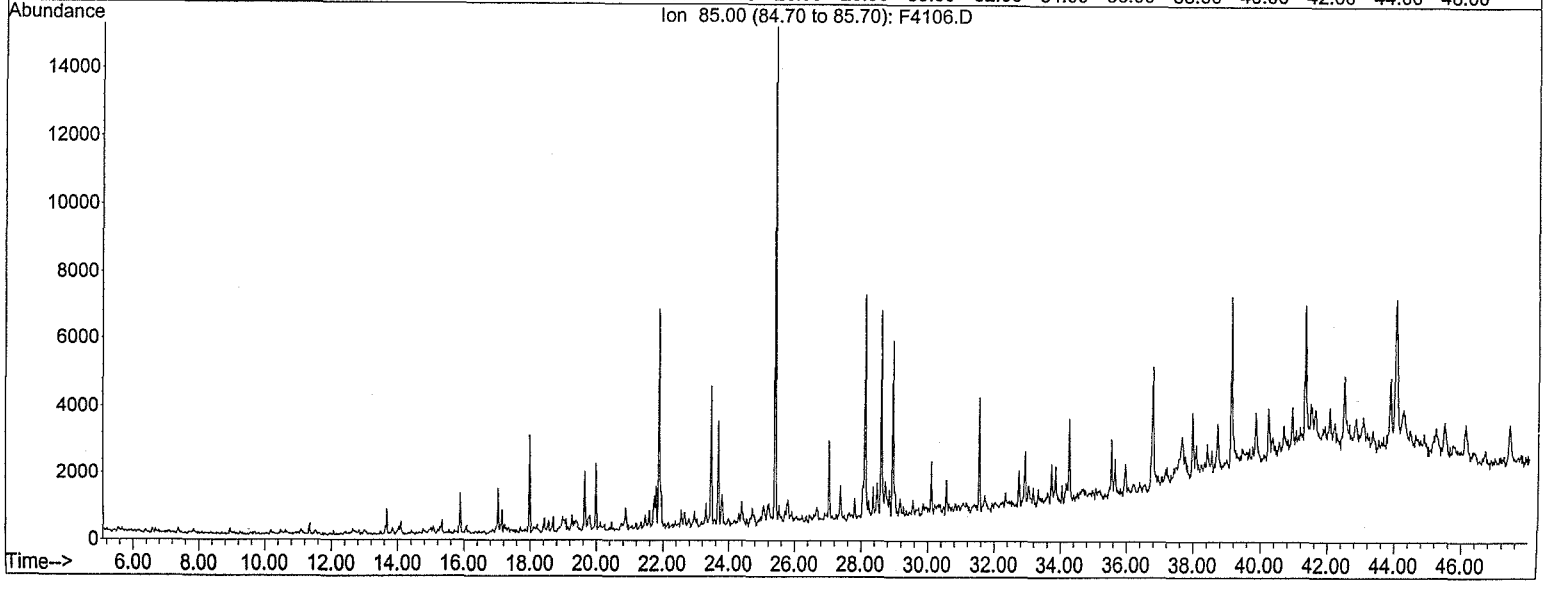
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

OFF-SD-471-0006

File: F:\F\DATA\SQF105\F4106.D
Date Acquired: 9 Aug 2002 12:03 am
Method File: PAH6QT
Sample Name: V5872-D
Misc Info:
Operator: DPB



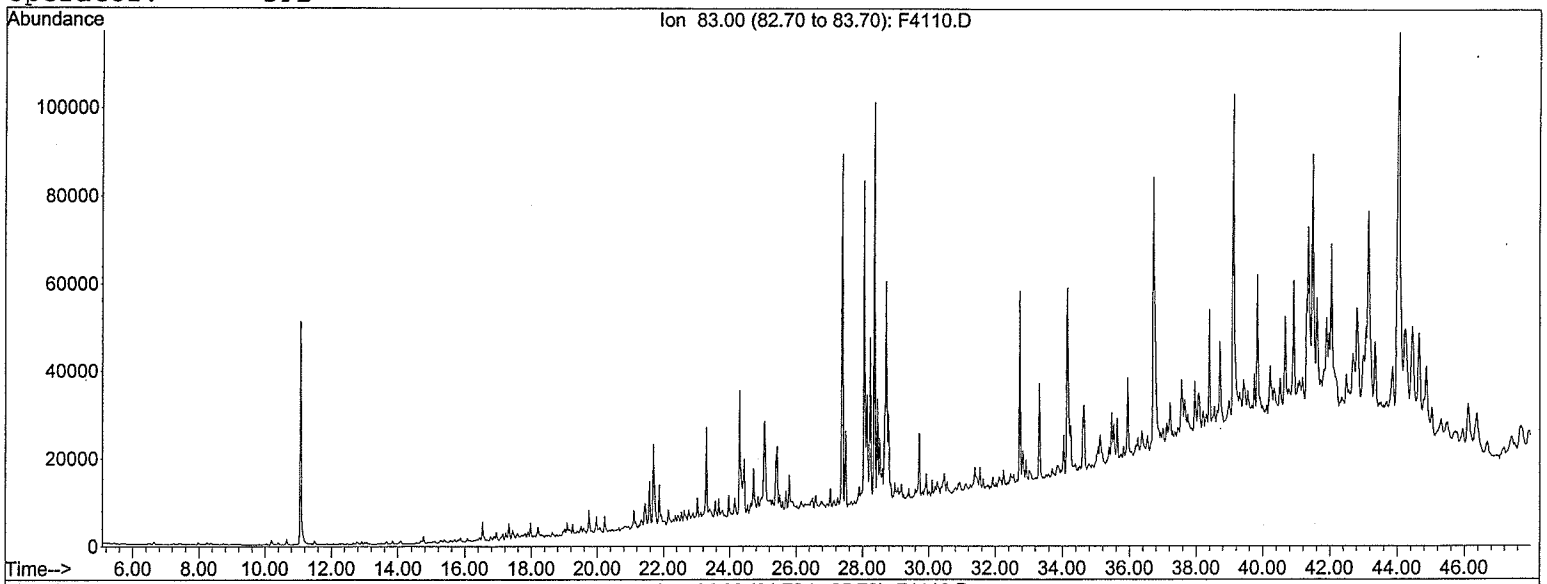


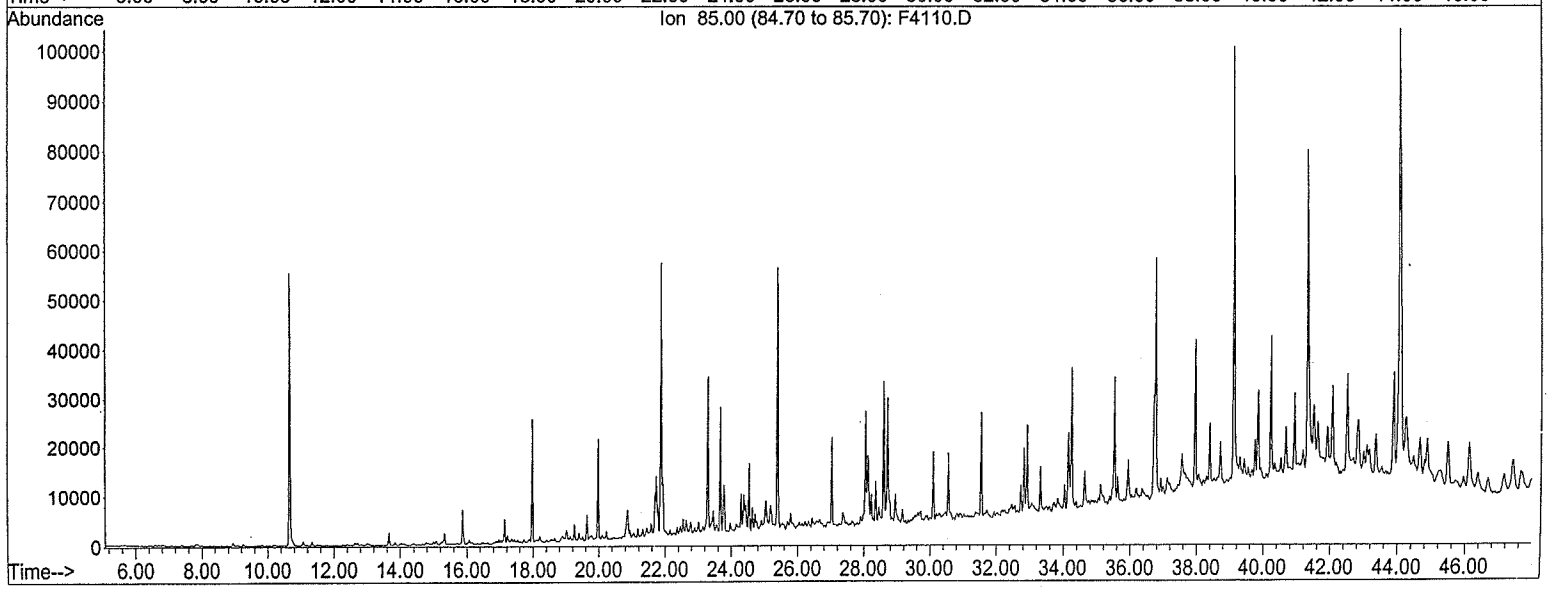
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

OFF-SD-DUP1-0006

File: F:\F\DATA\SQF105\F4110.D
Date Acquired: 9 Aug 2002 3:43 am
Method File: PAH6QT
Sample Name: V5876
Misc Info:
Operator: DPB

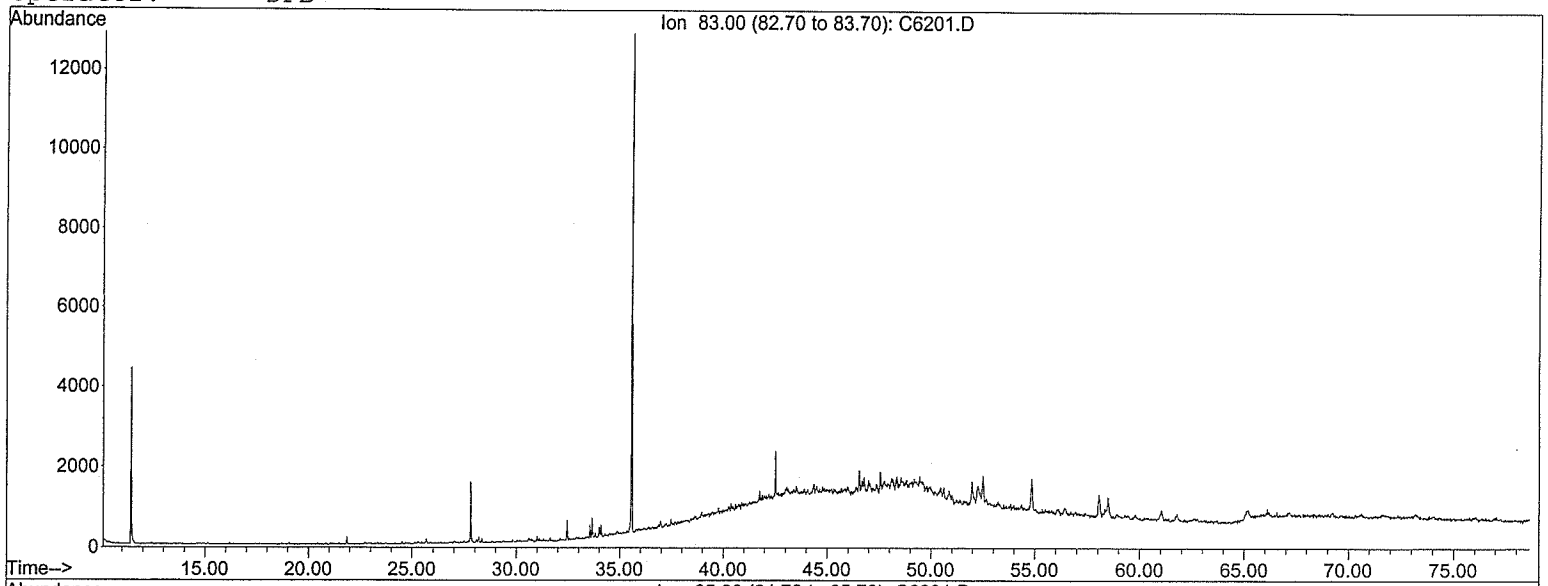


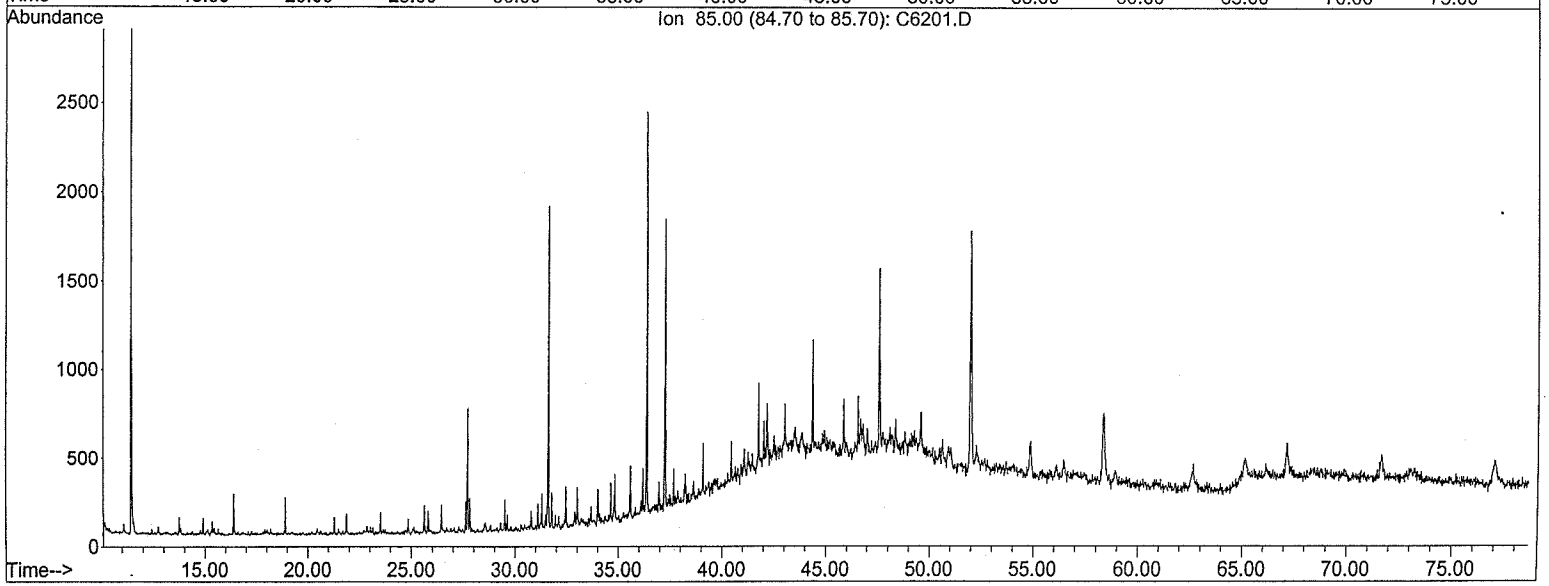


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-OTS-OF75**

File: F:\C\DATA\SQC561\C6201.D
Date Acquired: 24 Jul 2002 5:52 am
Method File: HYDRO6AC
Sample Name: V6976-D
Misc Info:
Operator: DPB

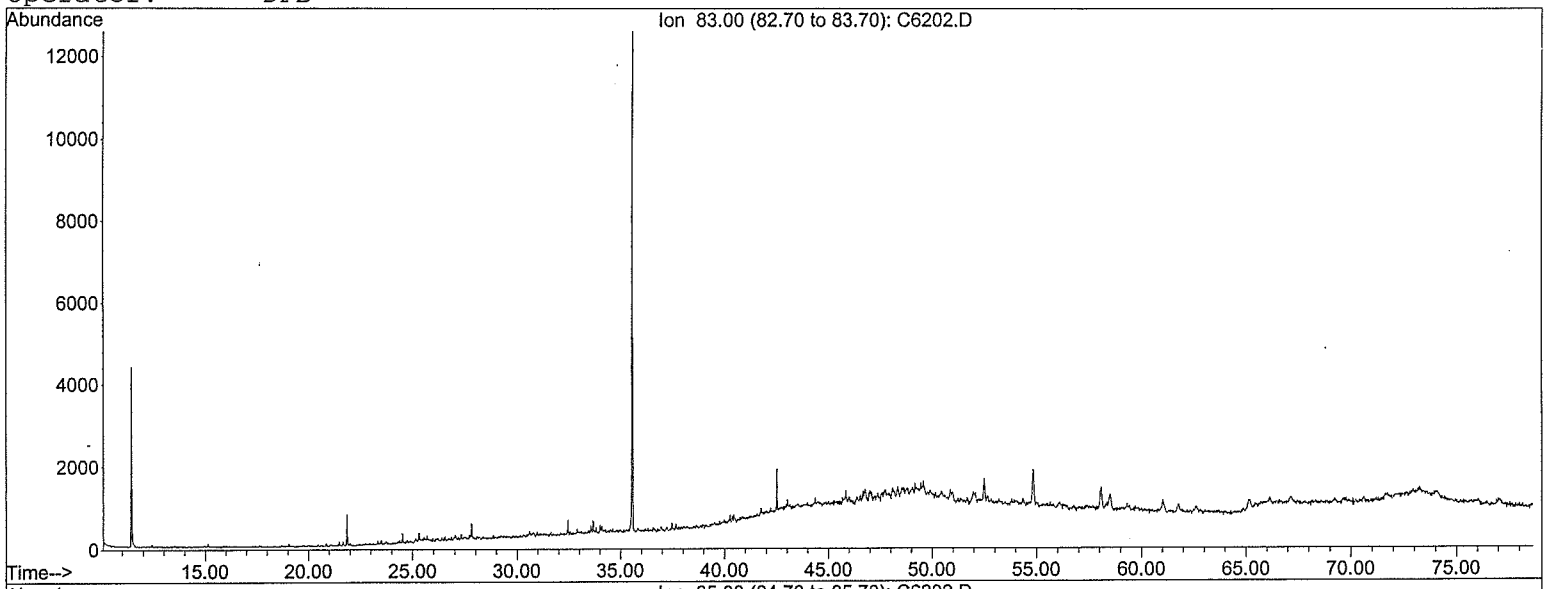


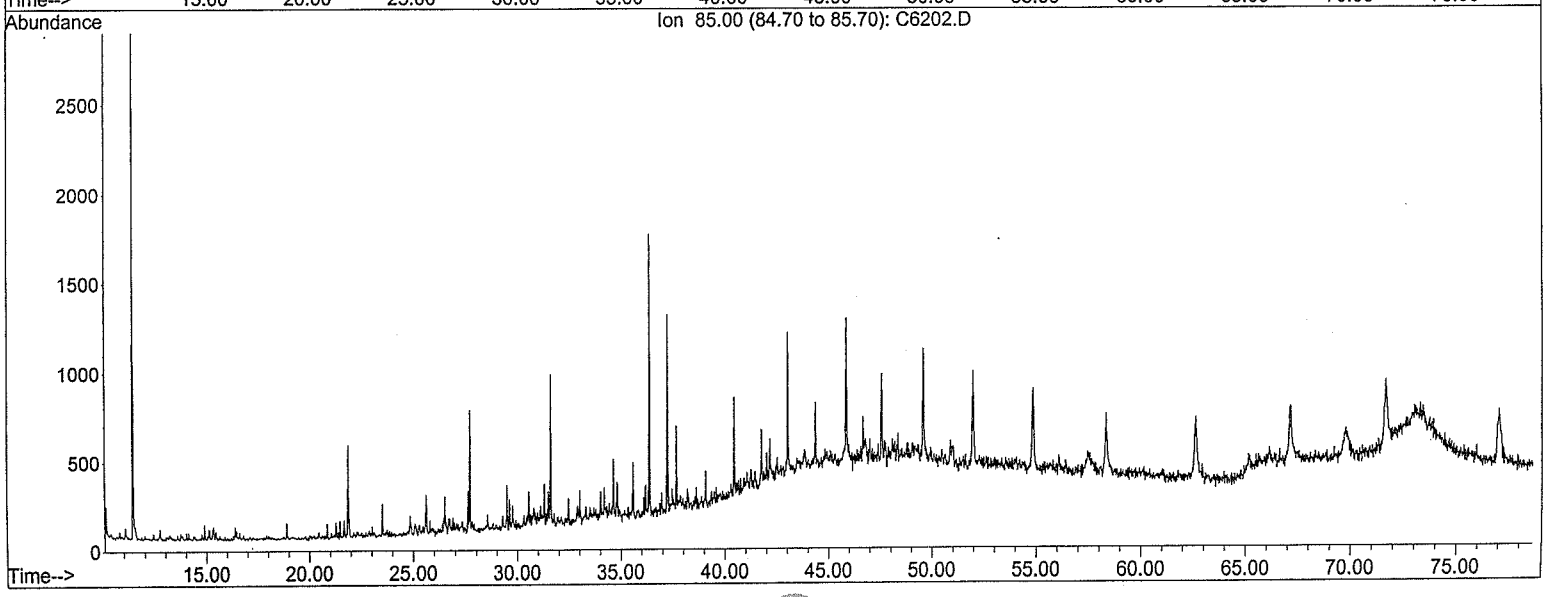


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-OTS-OF93**

File: F:\C\DATA\SQC561\C6202.D
Date Acquired: 24 Jul 2002 7:22 am
Method File: HYDRO6AC
Sample Name: V6977-D
Misc Info:
Operator: DPB

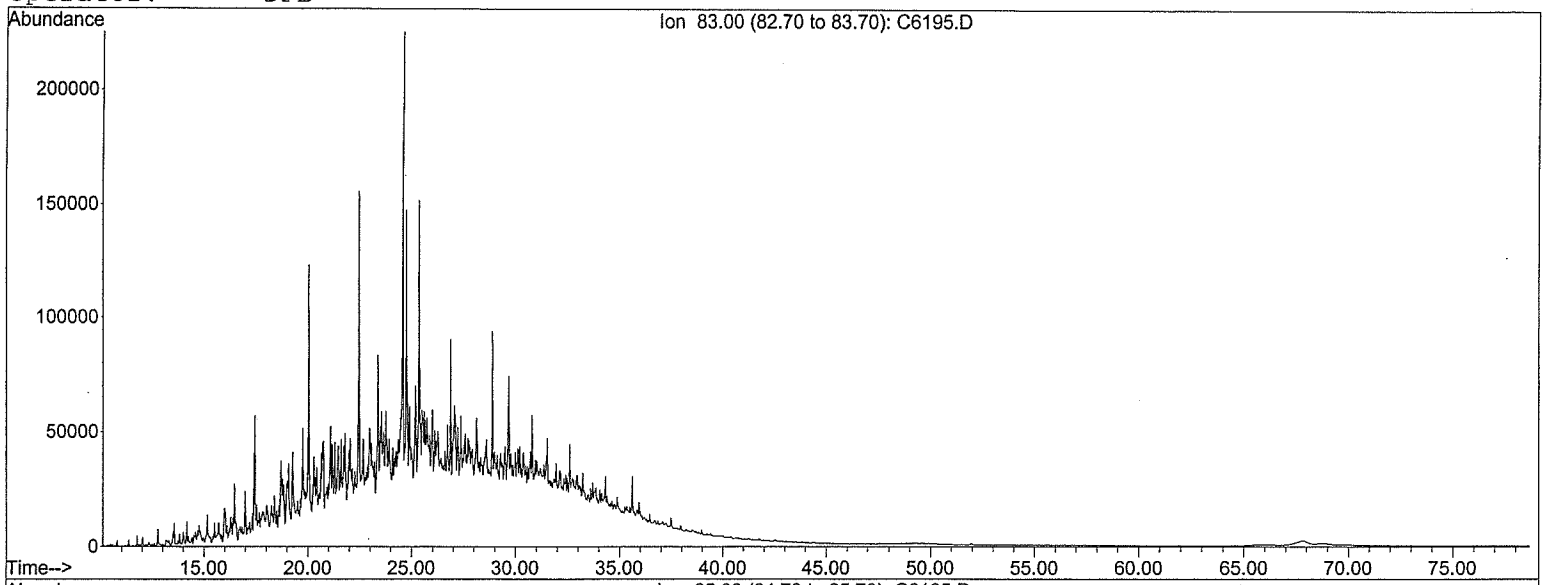


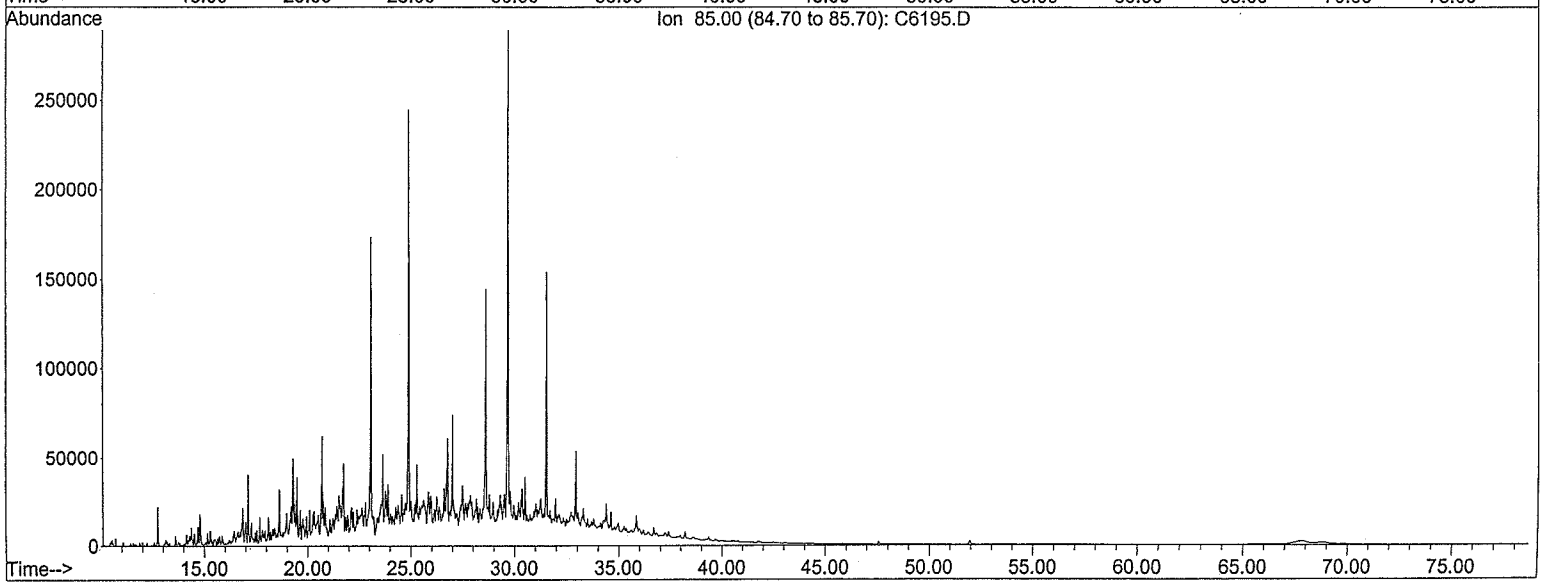


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SO-11-0607**

File: F:\C\DATA\SQC561\C6195.D
Date Acquired: 23 Jul 2002 8:54 pm
Method File: HYDRO6AC
Sample Name: V6979-D
Misc Info:
Operator: DPB

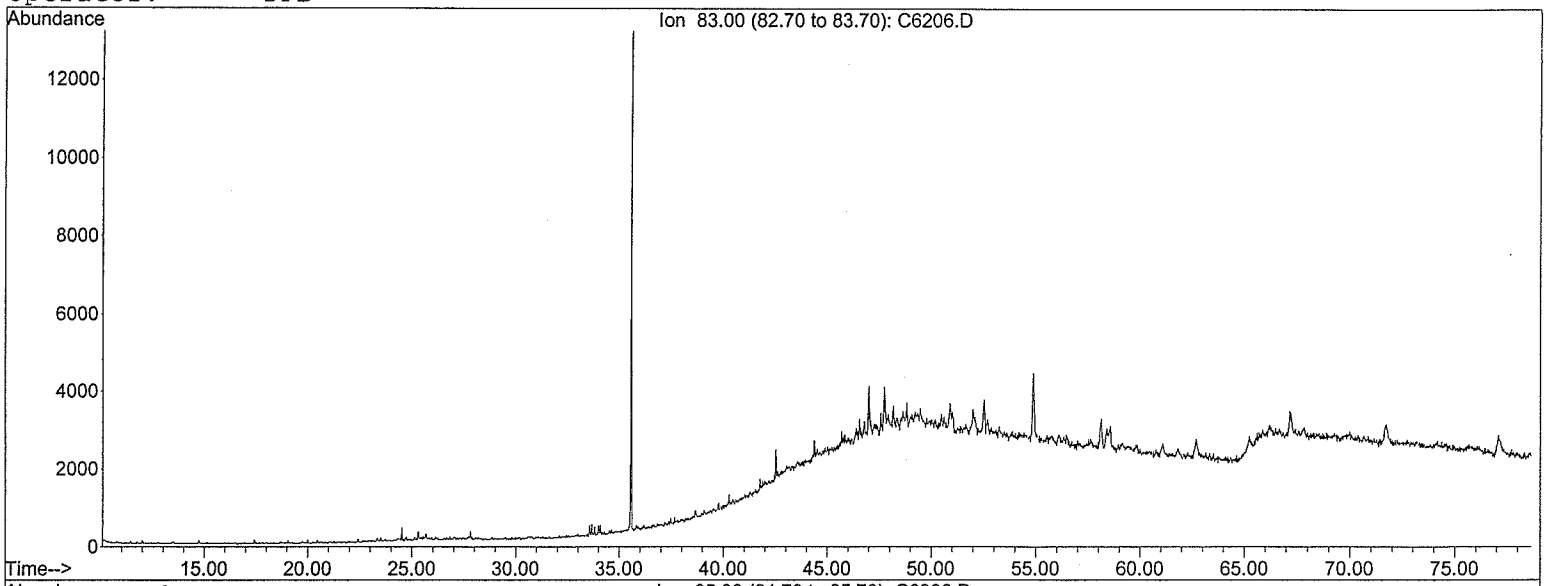


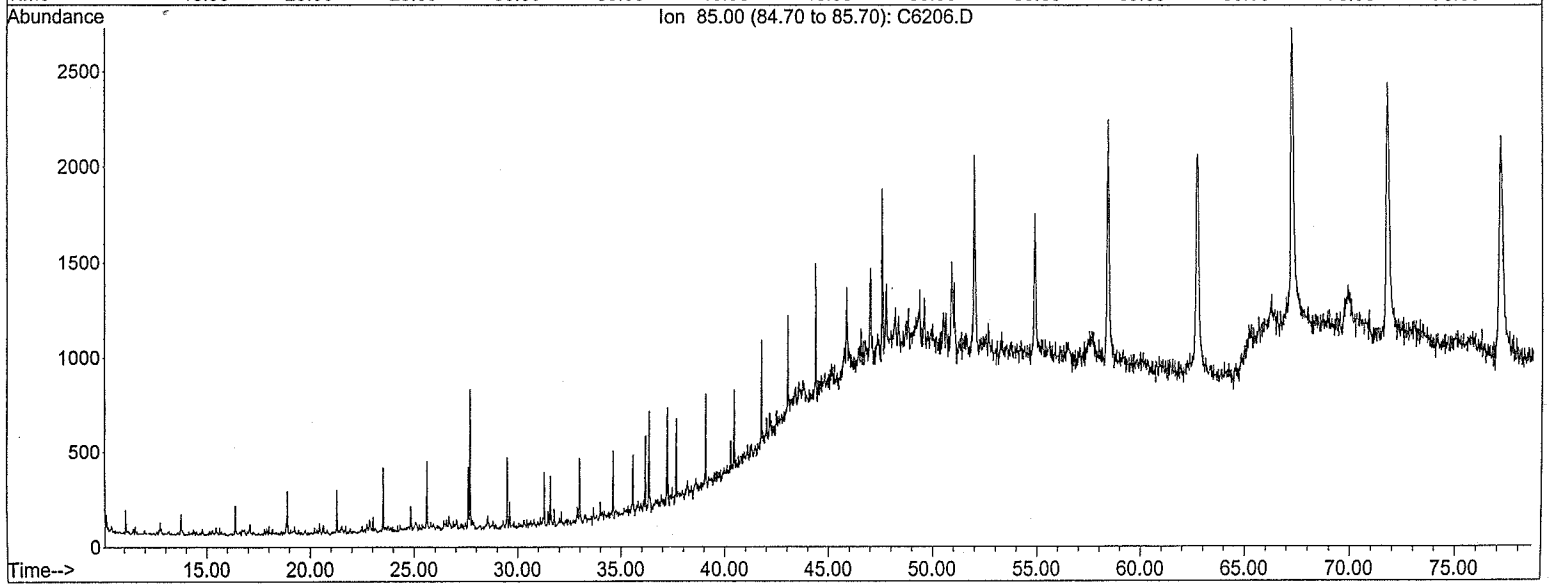


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SO-15-0607**

File: F:\C\DATA\SQC561\C6206.D
Date Acquired: 24 Jul 2002 1:16 pm
Method File: HYDRO6AC
Sample Name: V6978-D
Misc Info:
Operator: DPB

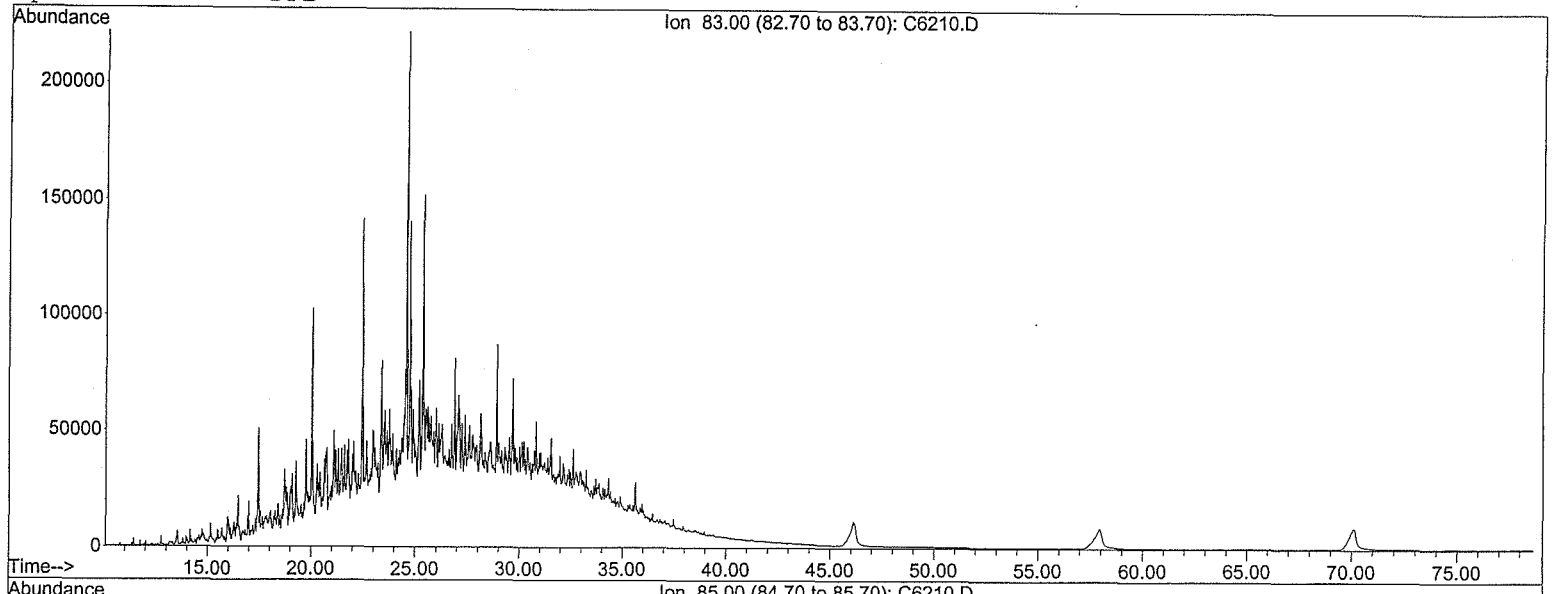


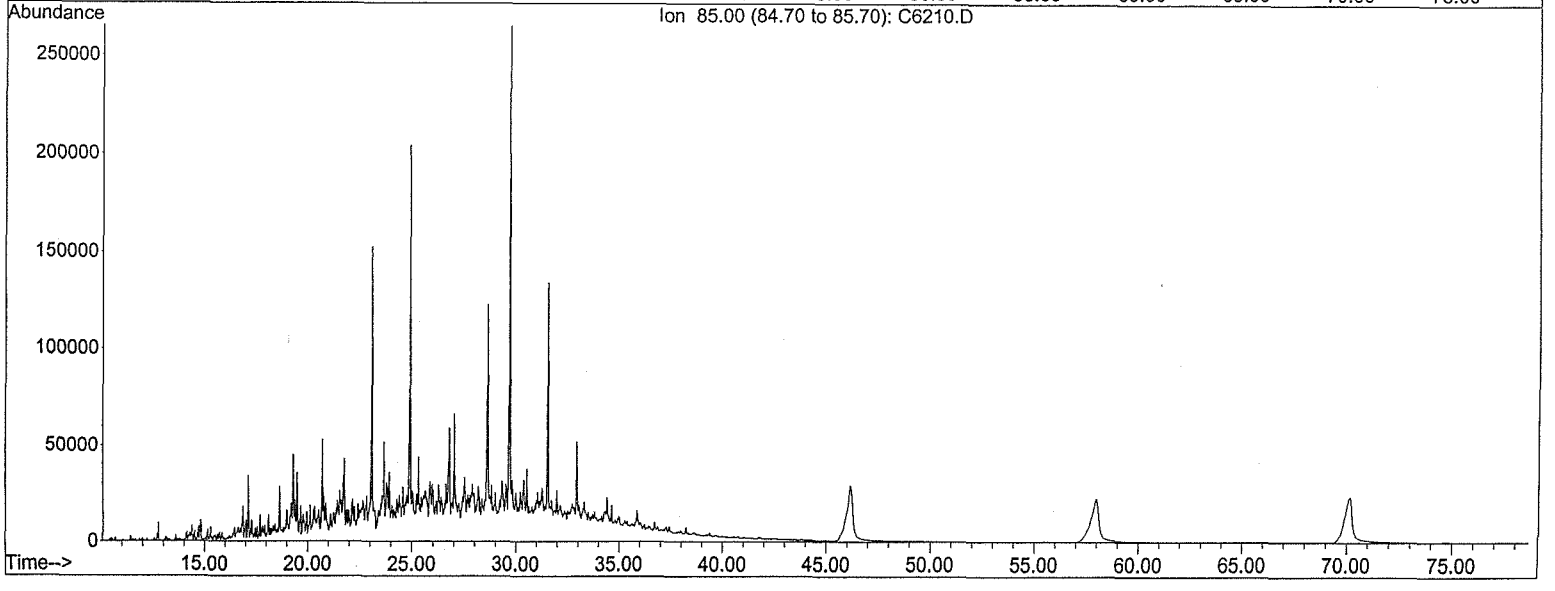


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-AQ-11-0607**

File: F:\C\DATA\SQC561\C6210.D
Date Acquired: 24 Jul 2002 7:13 pm
Method File: HYDRO6AC
Sample Name: V6980-D
Misc Info:
Operator: DPB

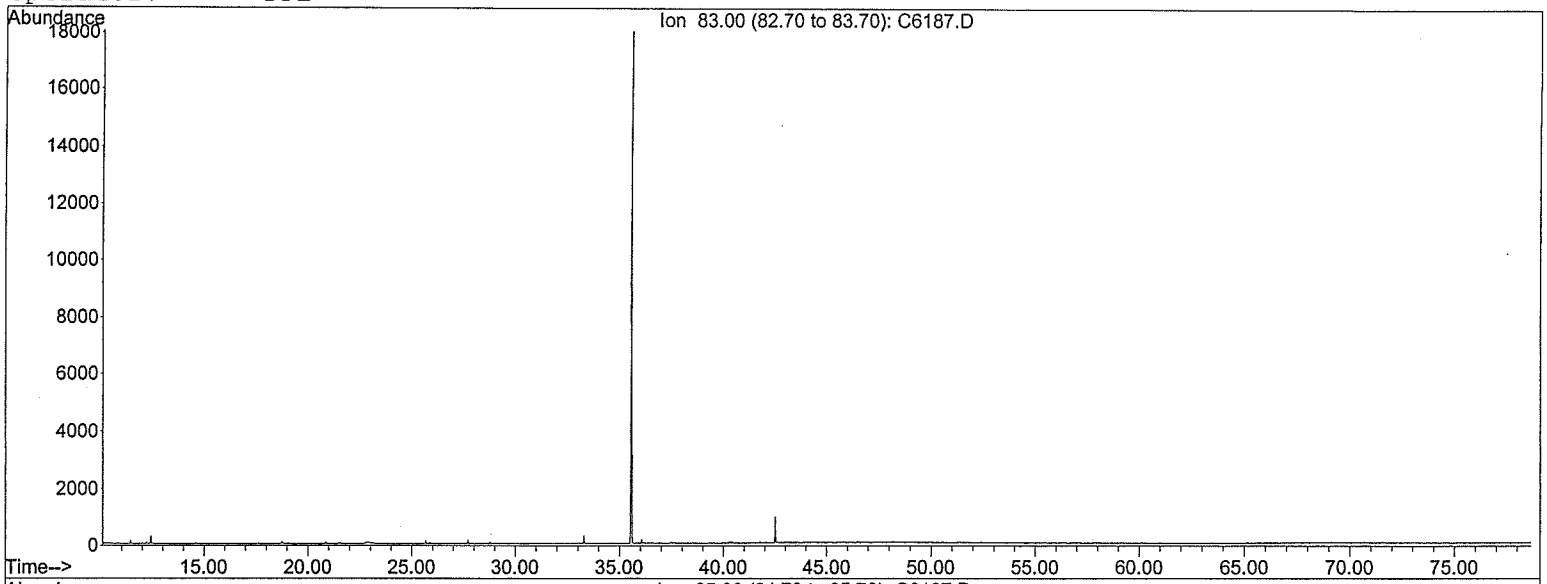


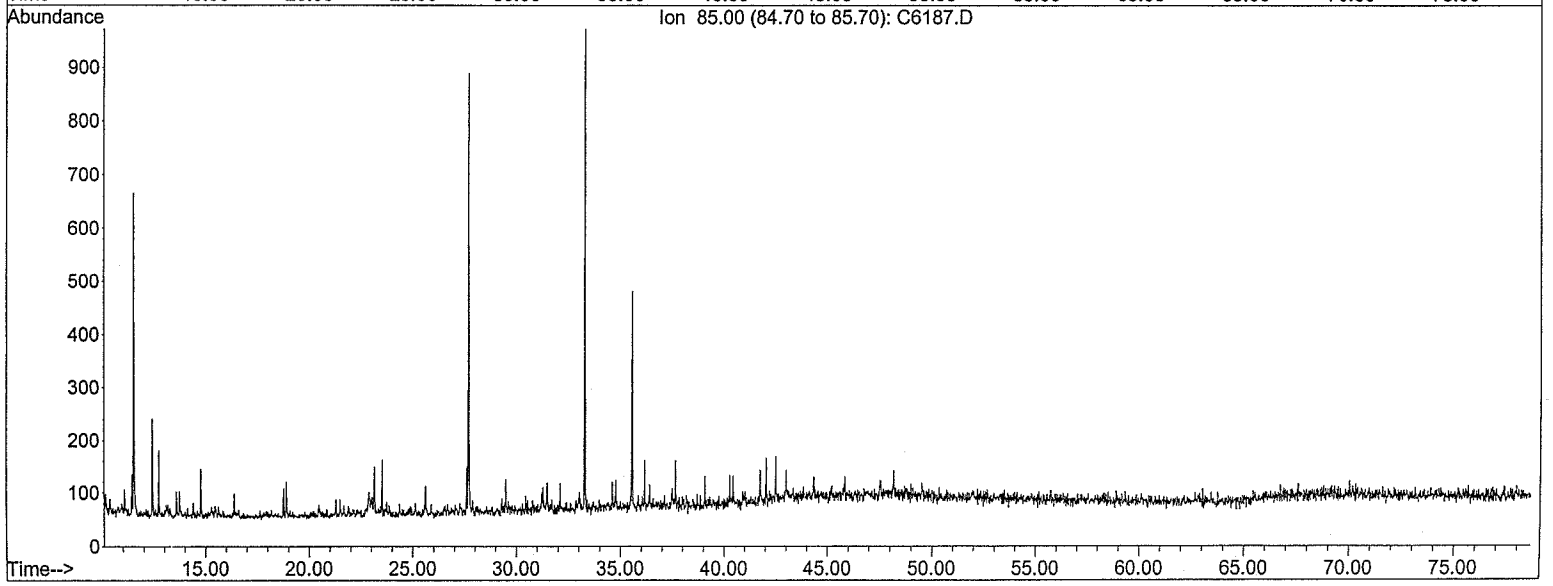


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **Procedural Blank (Solid)**

File: F:\C\DATA\SQC561\C6187.D
Date Acquired: 23 Jul 2002 8:37 am
Method File: HYDRO6AC
Sample Name: AA699PB
Misc Info:
Operator: DPB



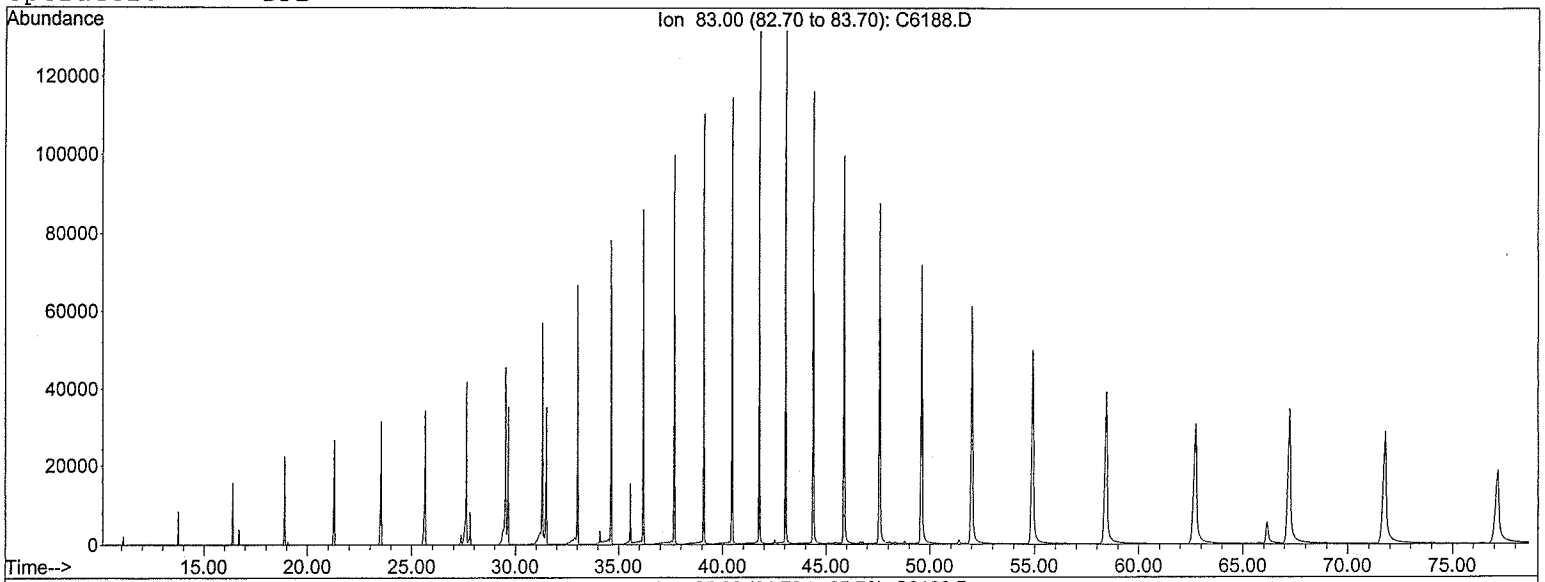


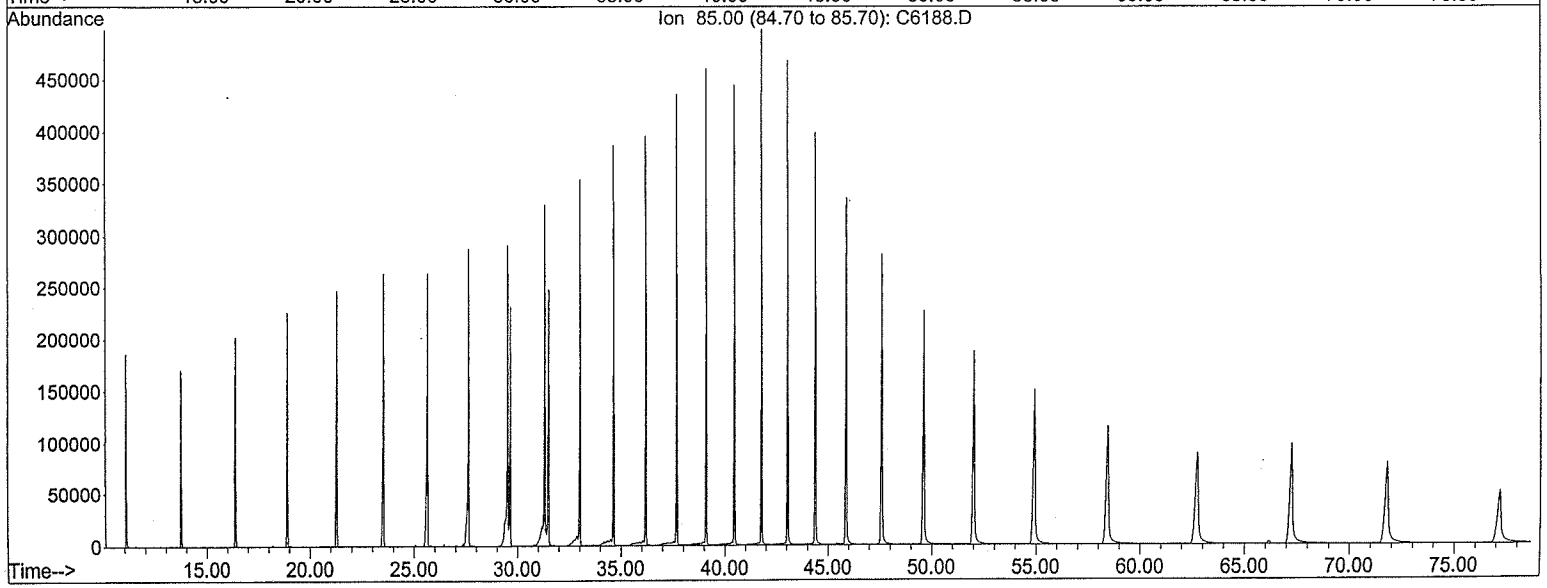
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

Laboratory Control Sample (Solid)

File: F:\C\DATA\SQC561\C6188.D
Date Acquired: 23 Jul 2002 10:10 am
Method File: HYDRO6AC
Sample Name: AA700LCS
Misc Info:
Operator: DPB

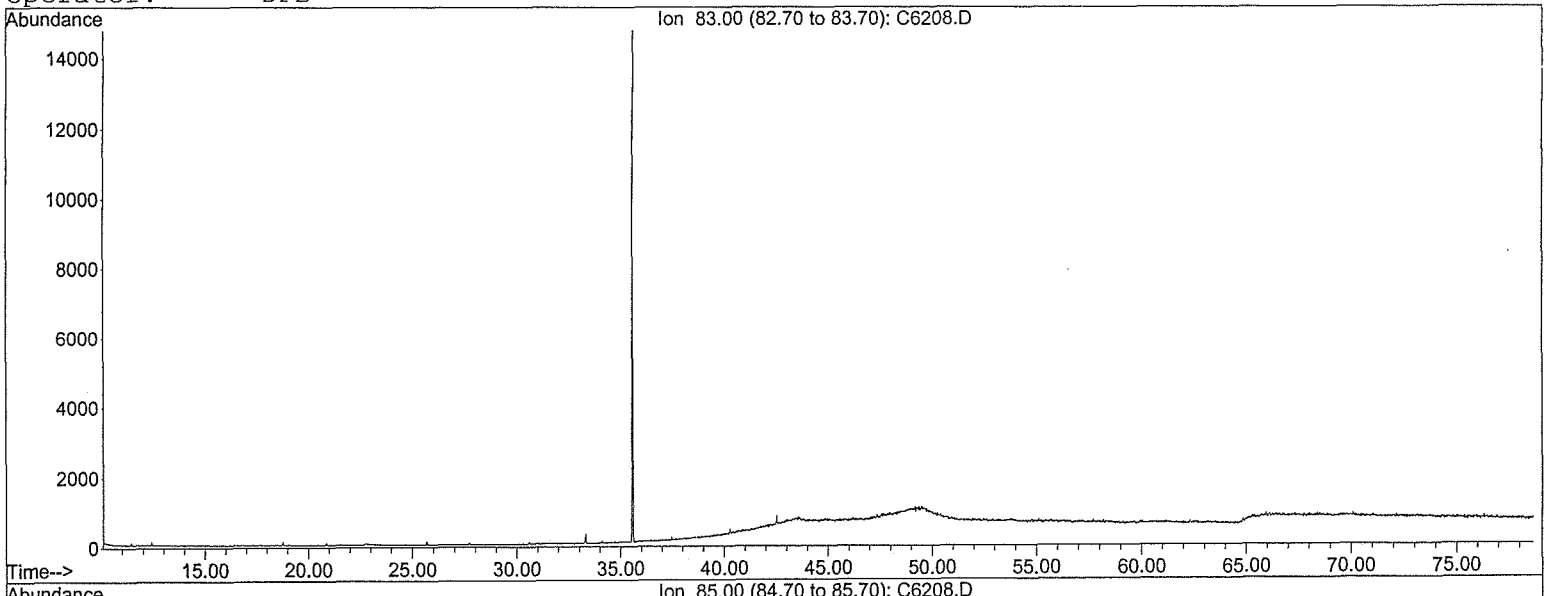


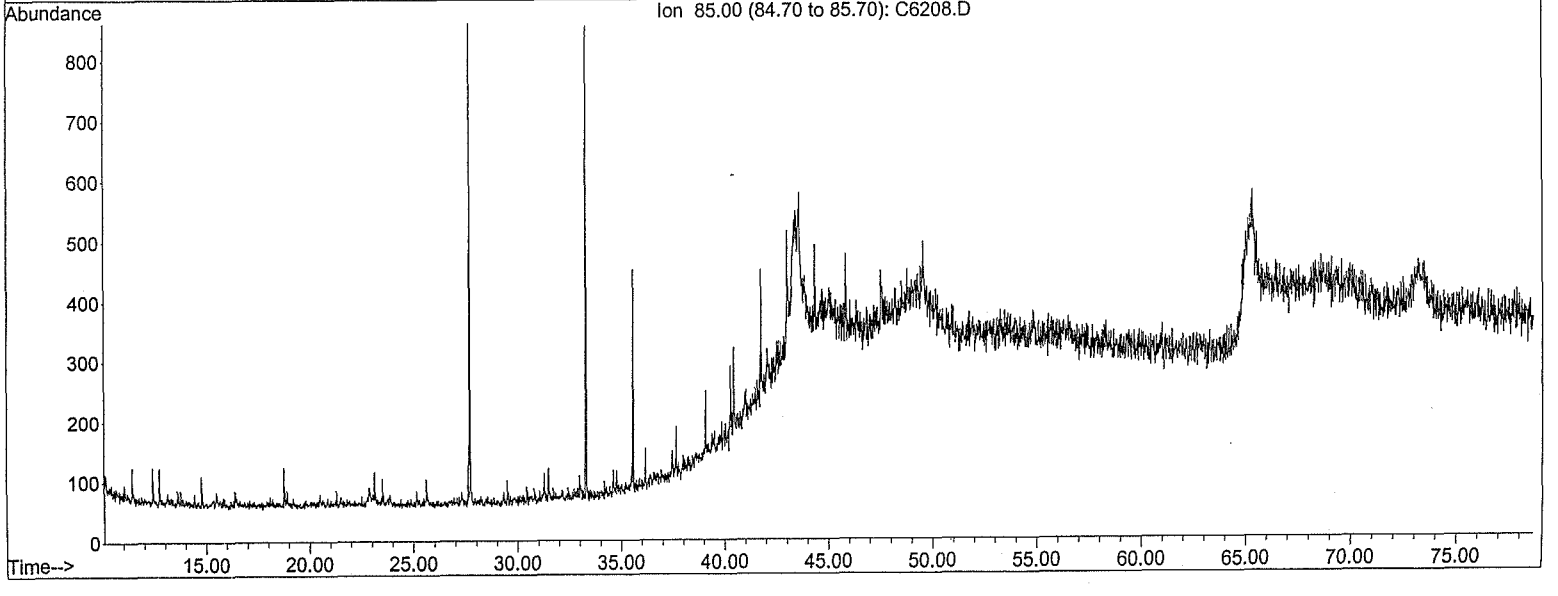


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **Procedural Blank (Water)**

File: F:\C\DATA\SQC561\C6208.D
Date Acquired: 24 Jul 2002 4:14 pm
Method File: HYDRO6AC
Sample Name: AA701PB
Misc Info:
Operator: DPB



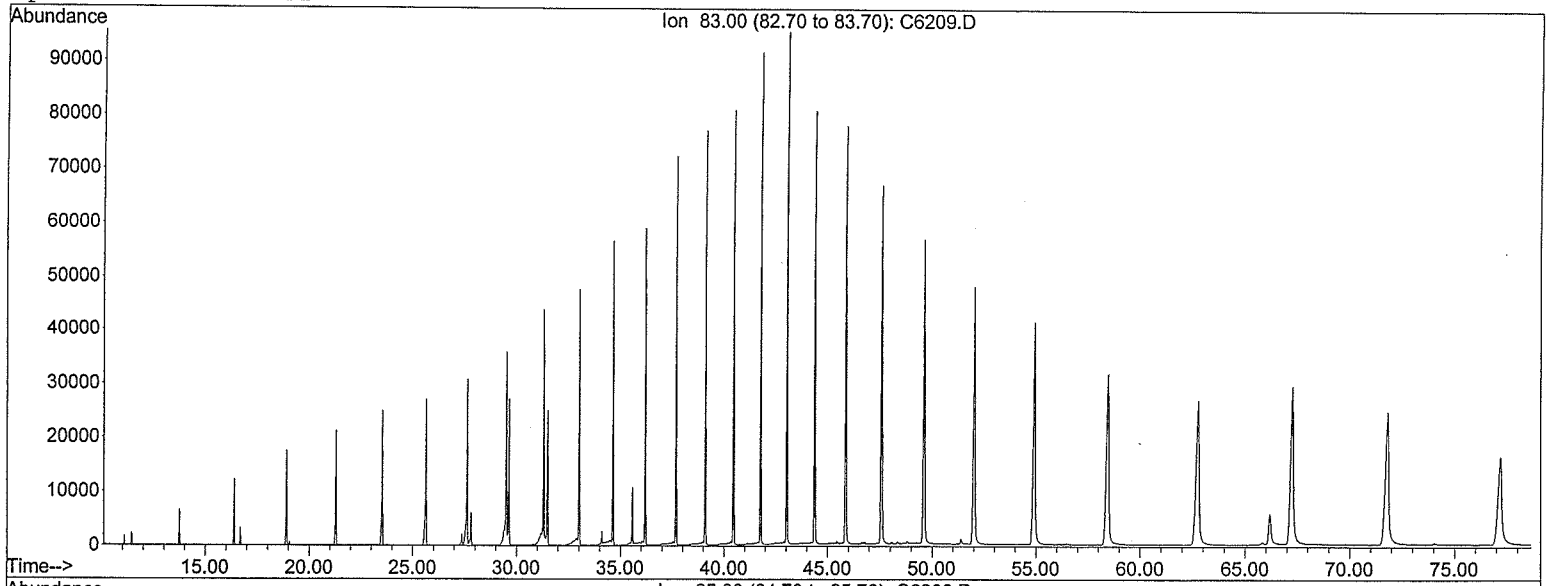


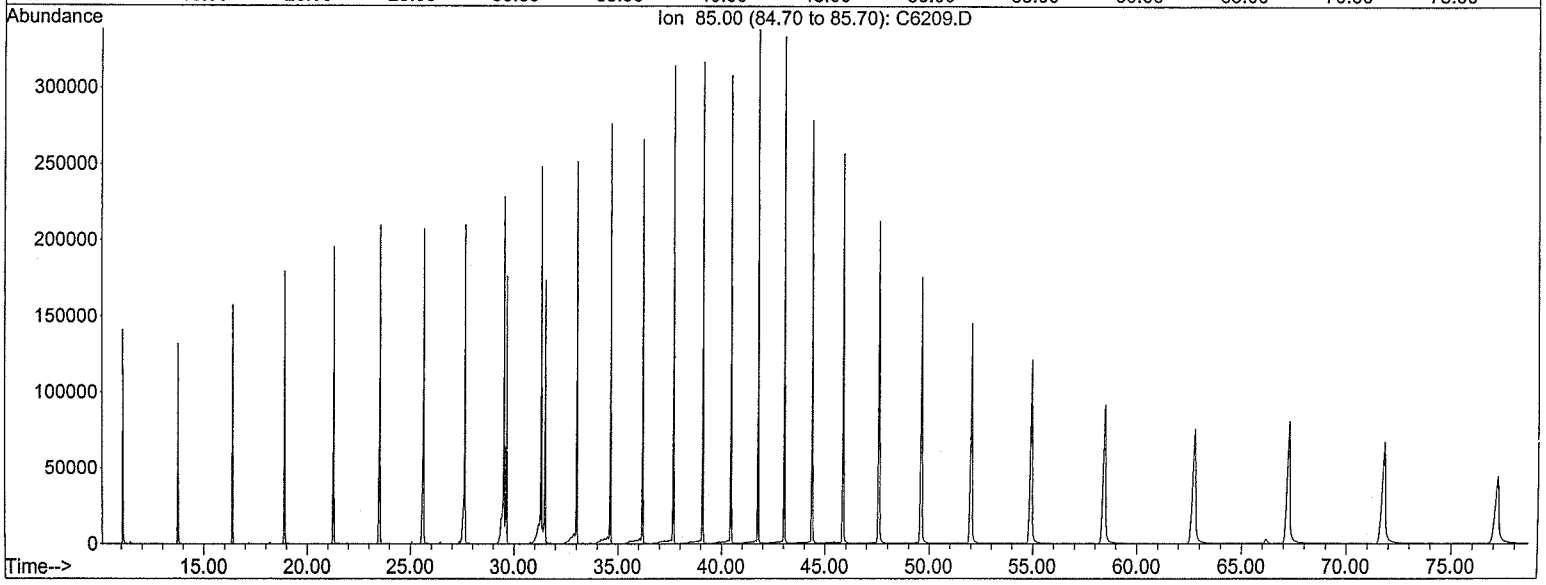
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

Laboratory Control Sample (Water)

File: F:\C\DATA\SQC561\C6209.D
Date Acquired: 24 Jul 2002 5:44 pm
Method File: HYDRO6AC
Sample Name: AA702LCS
Misc Info:
Operator: DPB

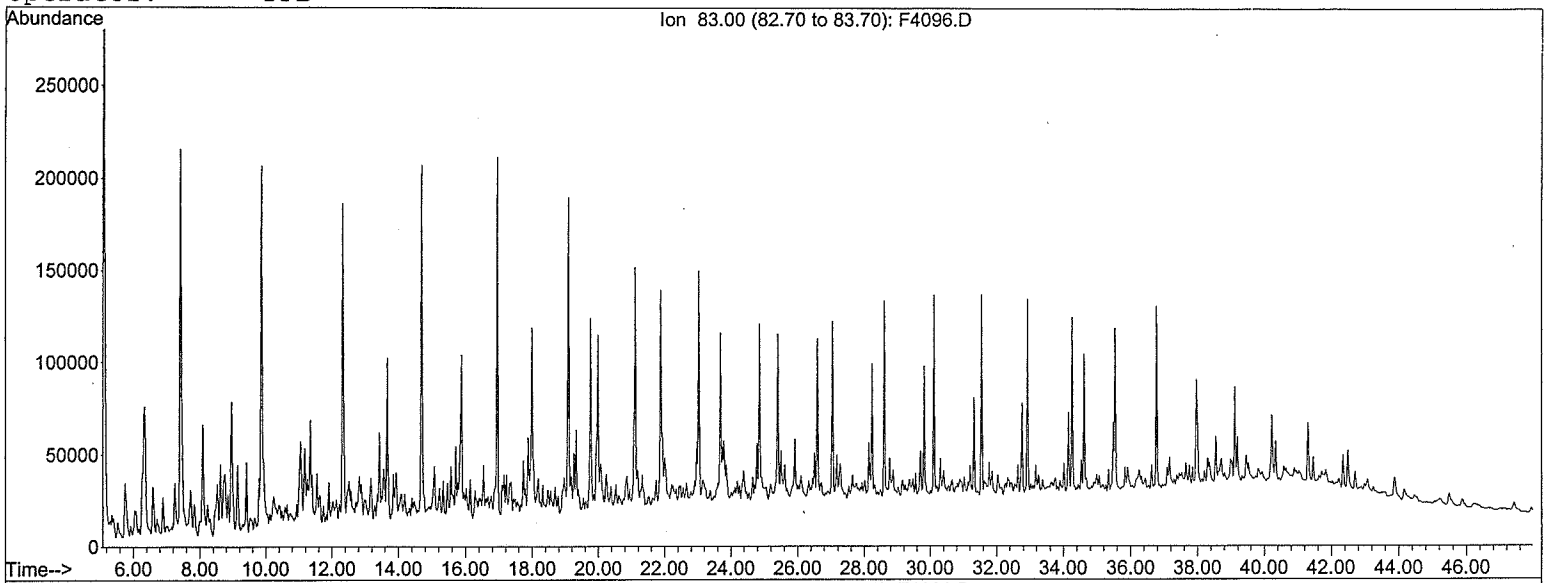


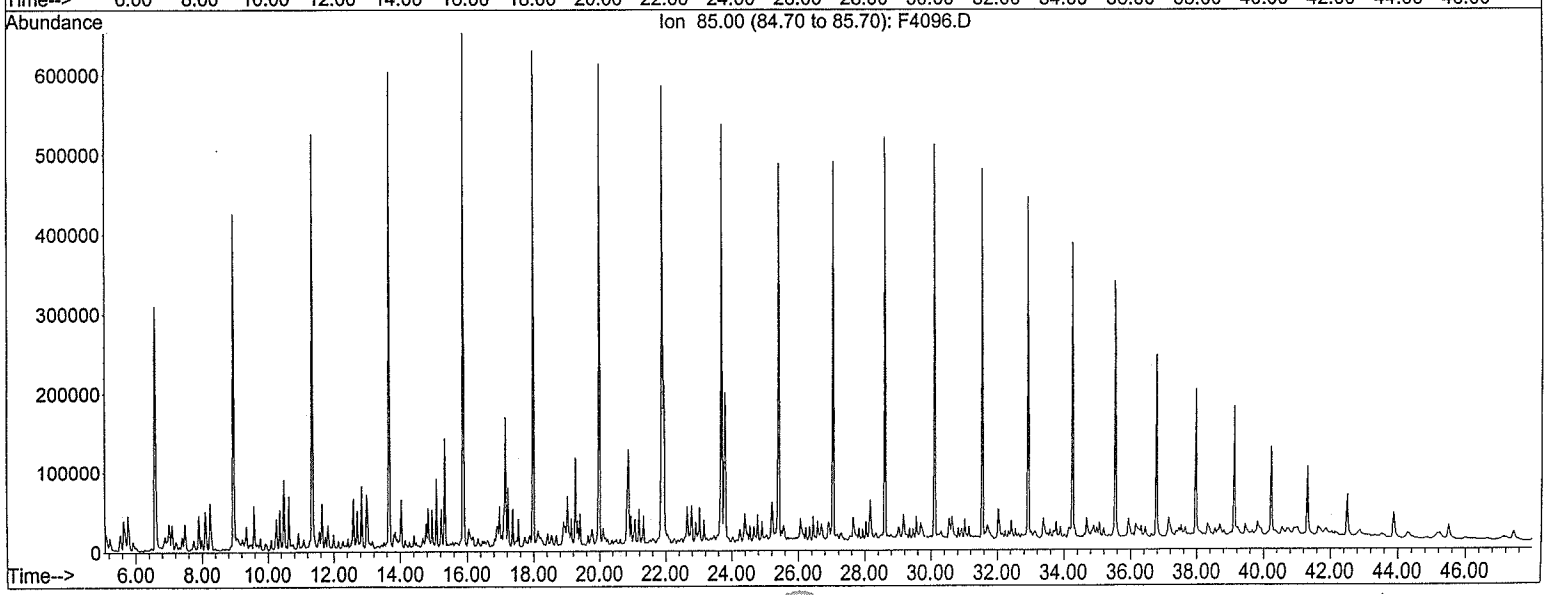


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

File: F:\F\DATA\SQF105\F4096.D
Date Acquired: 8 Aug 2002 2:53 pm
Method File: PAH6QT
Sample Name: FR37/FR35 (CONDLN)
Misc Info:
Operator: DPB

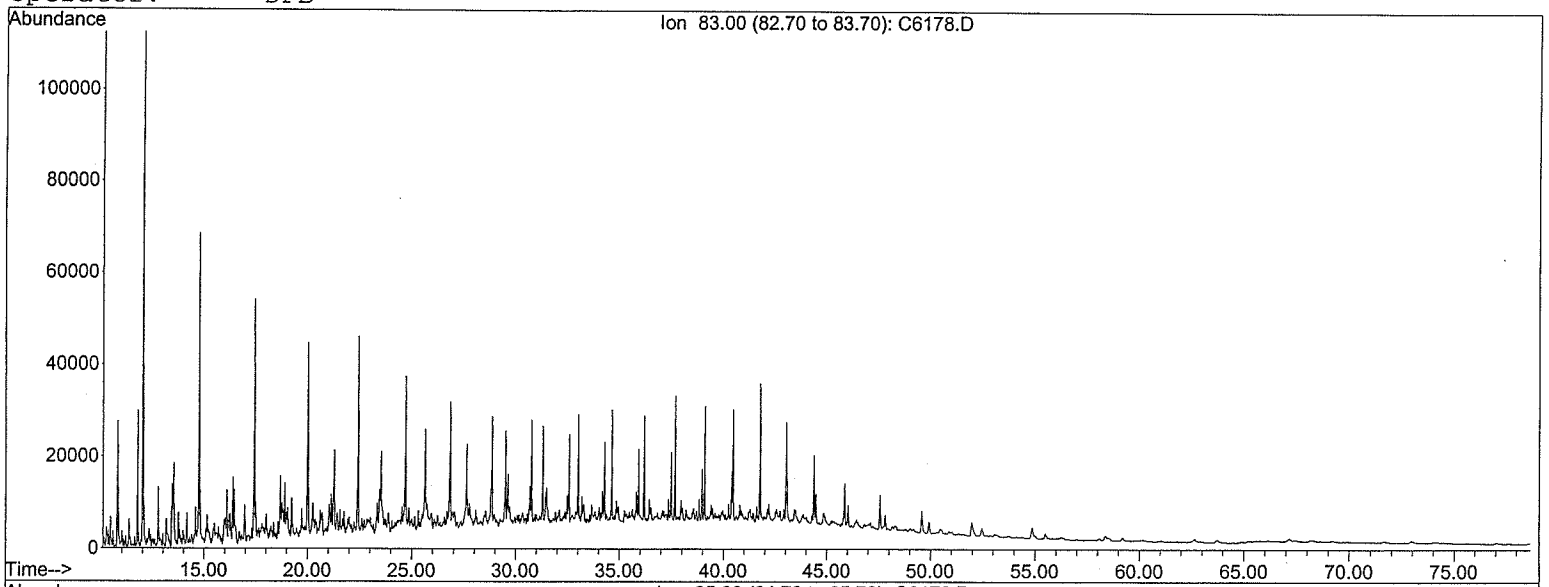


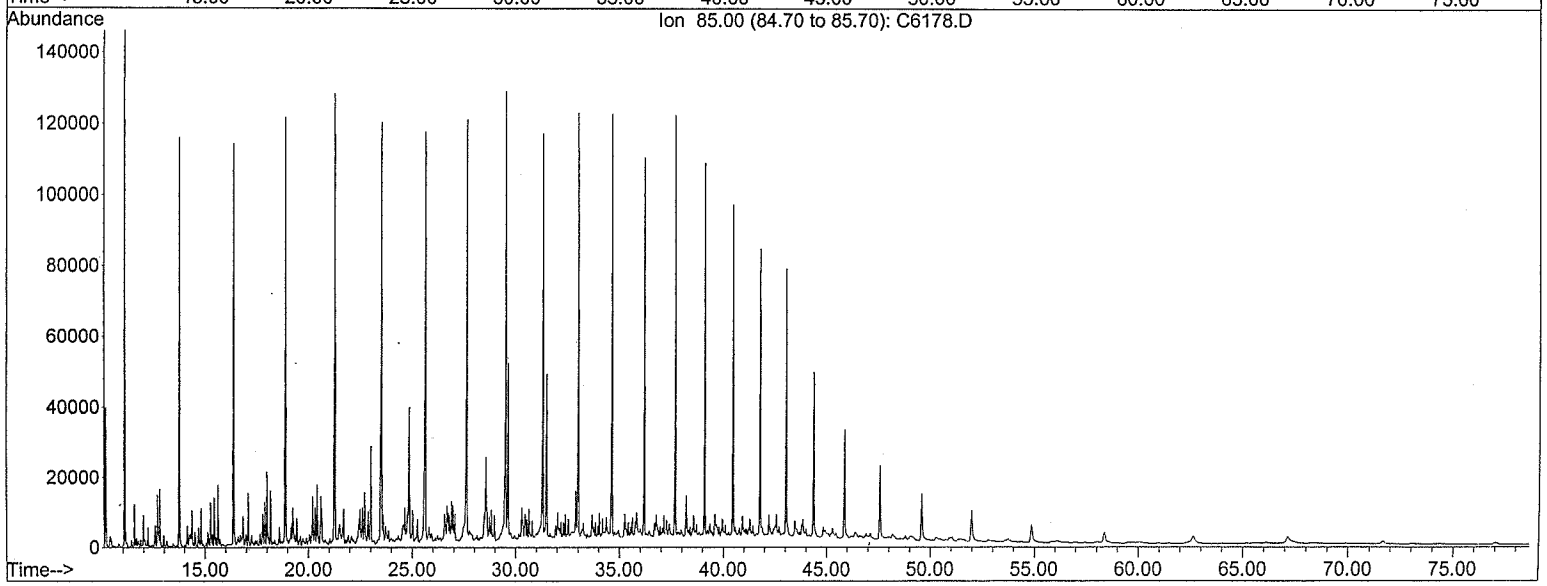


BATTELLE

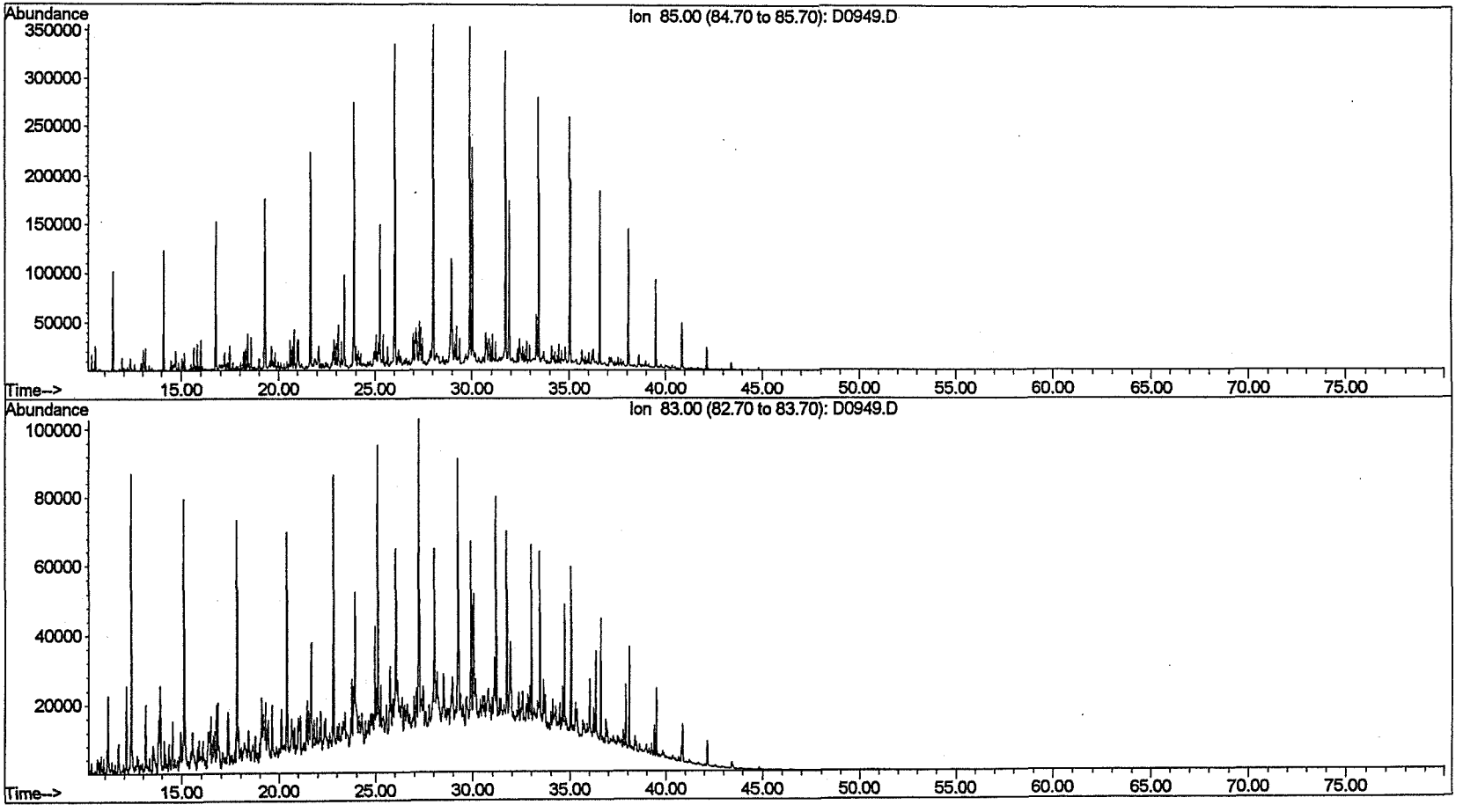
GC/MS EXTRACTED ION CHROMATOGRAM

File: F:\C\DATA\SQC561\C6178.D
Date Acquired: 22 Jul 2002 5:03 pm
Method File: HYDRO6AC
Sample Name: FR37 (COND LINER)
Misc Info:
Operator: DPB

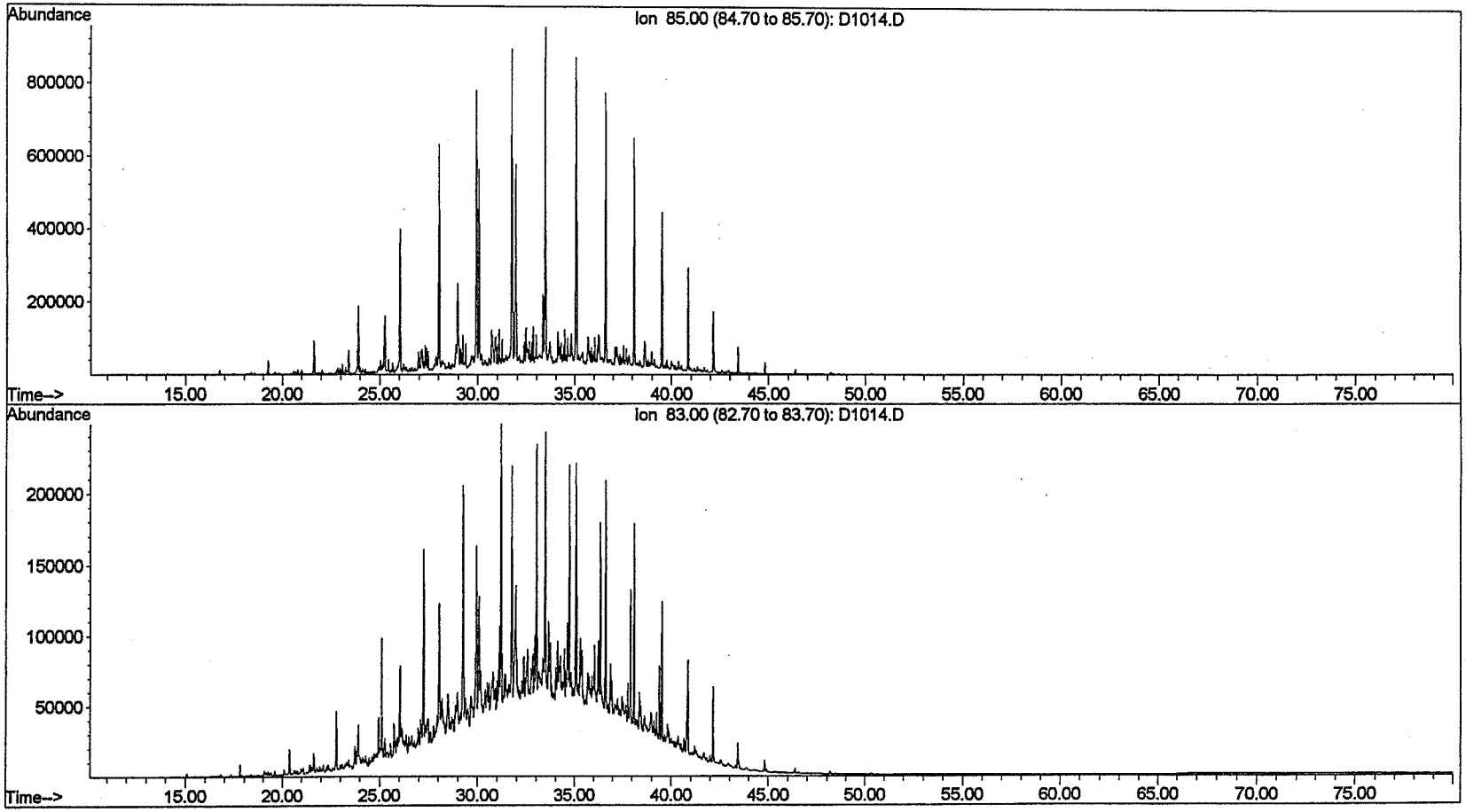




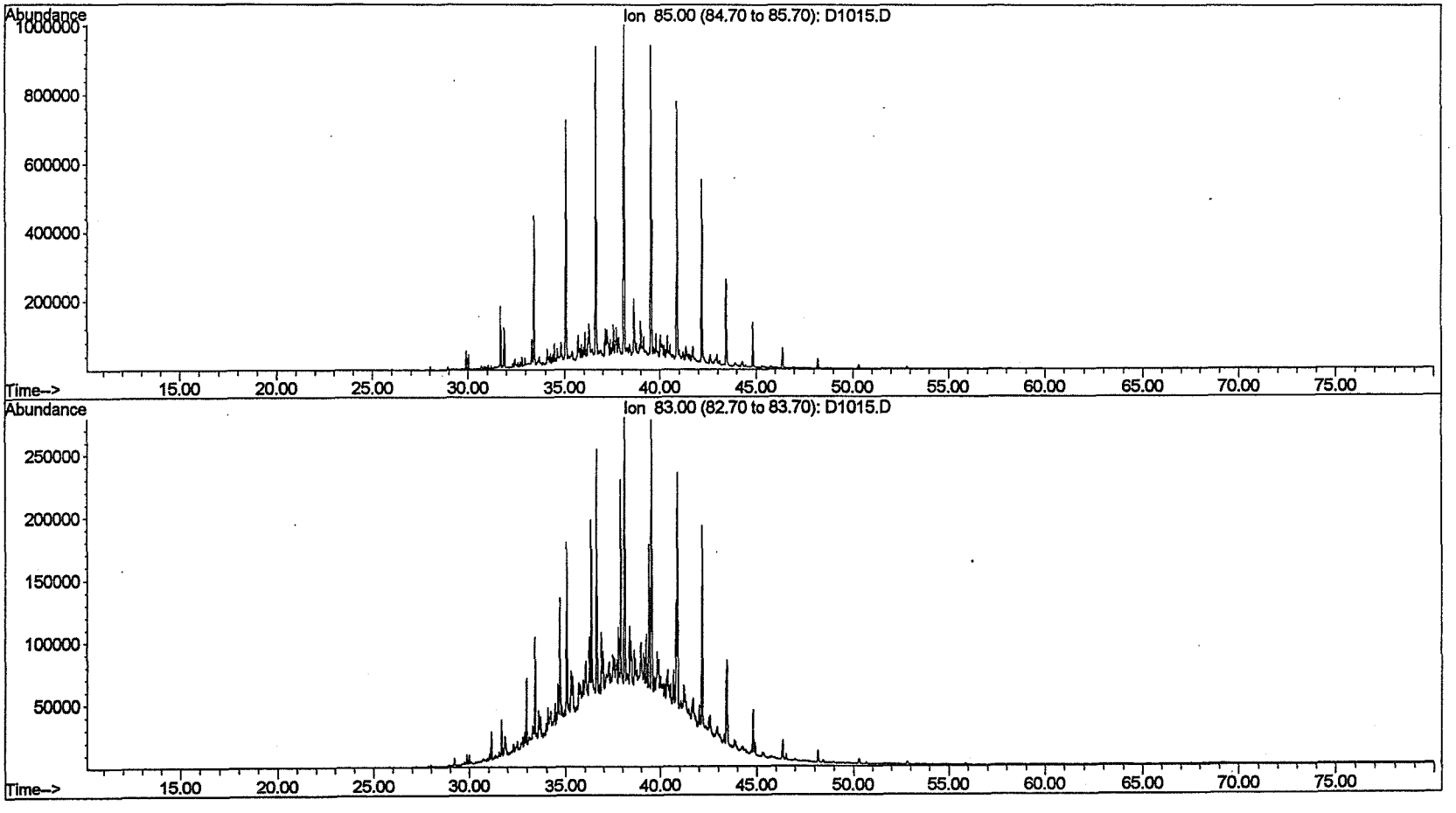
File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D0949 Diesel Unaltered
Operator : TH
Acquired : 9 Nov 2001 4:40 pm using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: ZM25IC3
Misc Info : SOP 5-157
Vial Number: 14



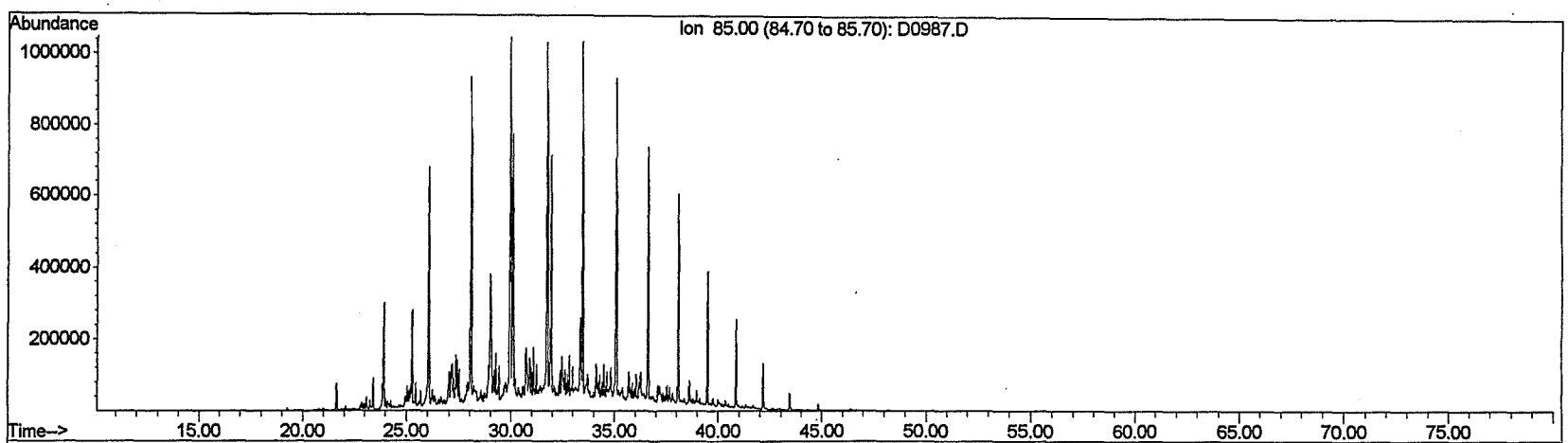
File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D1014 Diesel 50% Combusted
Operator : TH
Acquired : 13 Nov 2001 8:04 pm using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7747C50-D
Misc Info : SOP 5-157
Vial Number: 79

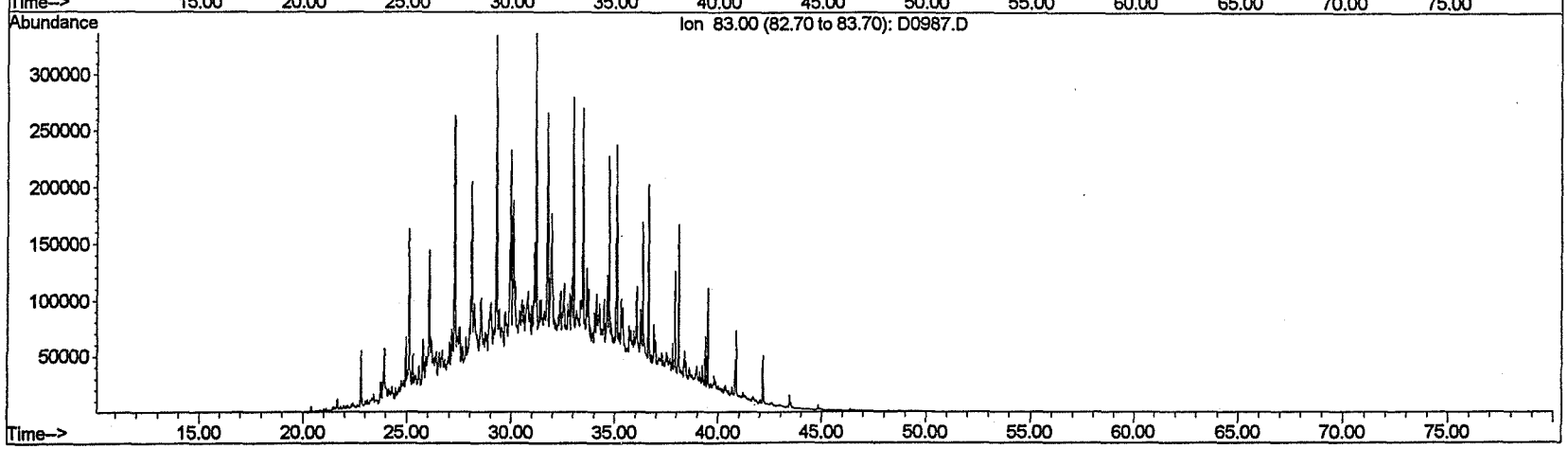


File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D1015 Diesel 100% Combusted
Operator : TH
Acquired : 13 Nov 2001 9:34 pm using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7747C100-D
Misc Info : SOP 5-157
Vial Number: 80

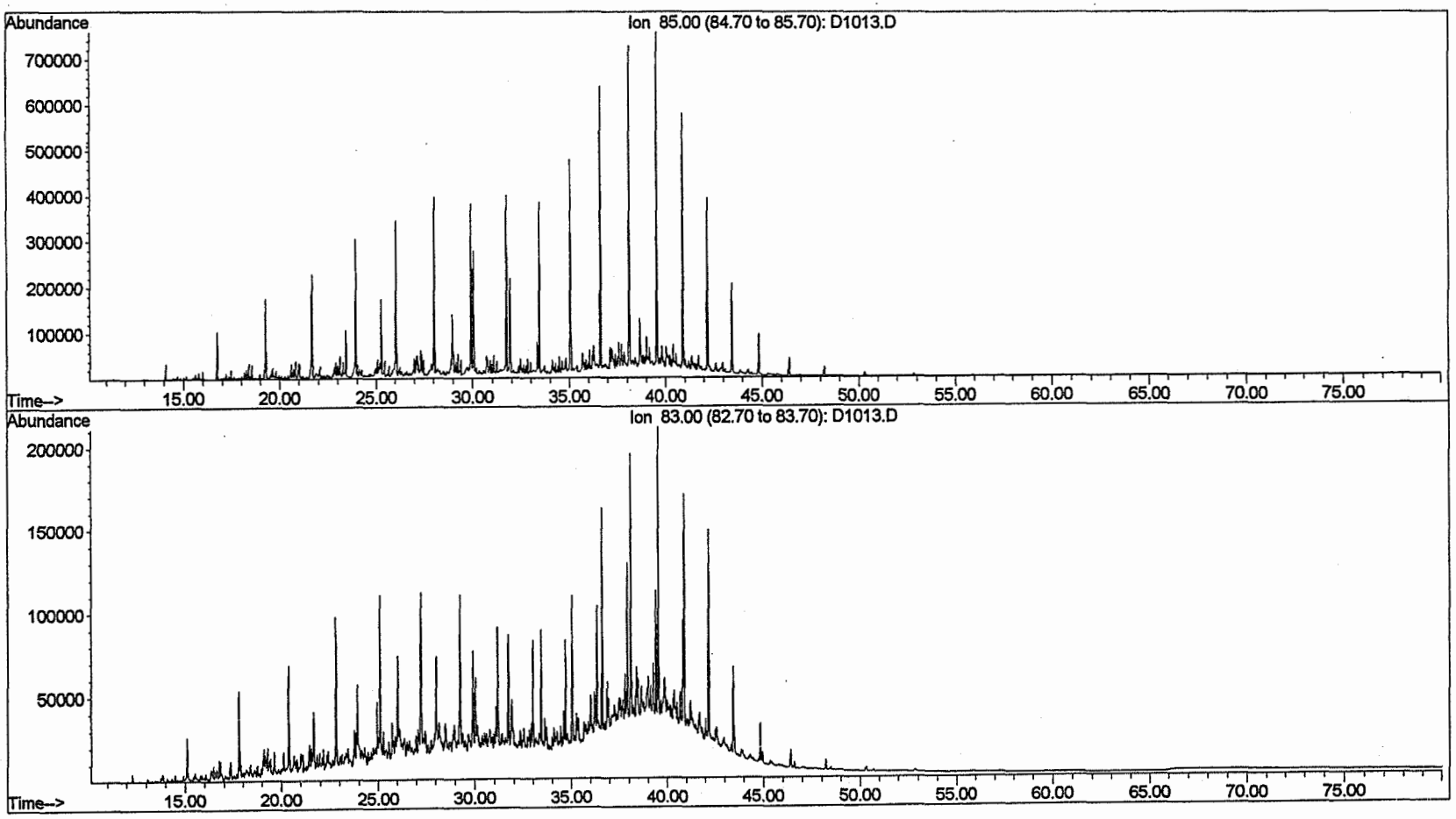


File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D0987 Diesel 50% Evaporated
Operator : TH
Acquired : 12 Nov 2001 2:44 am using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7747-E50-D
Misc Info : SOP 5-157
Vial Number: 52

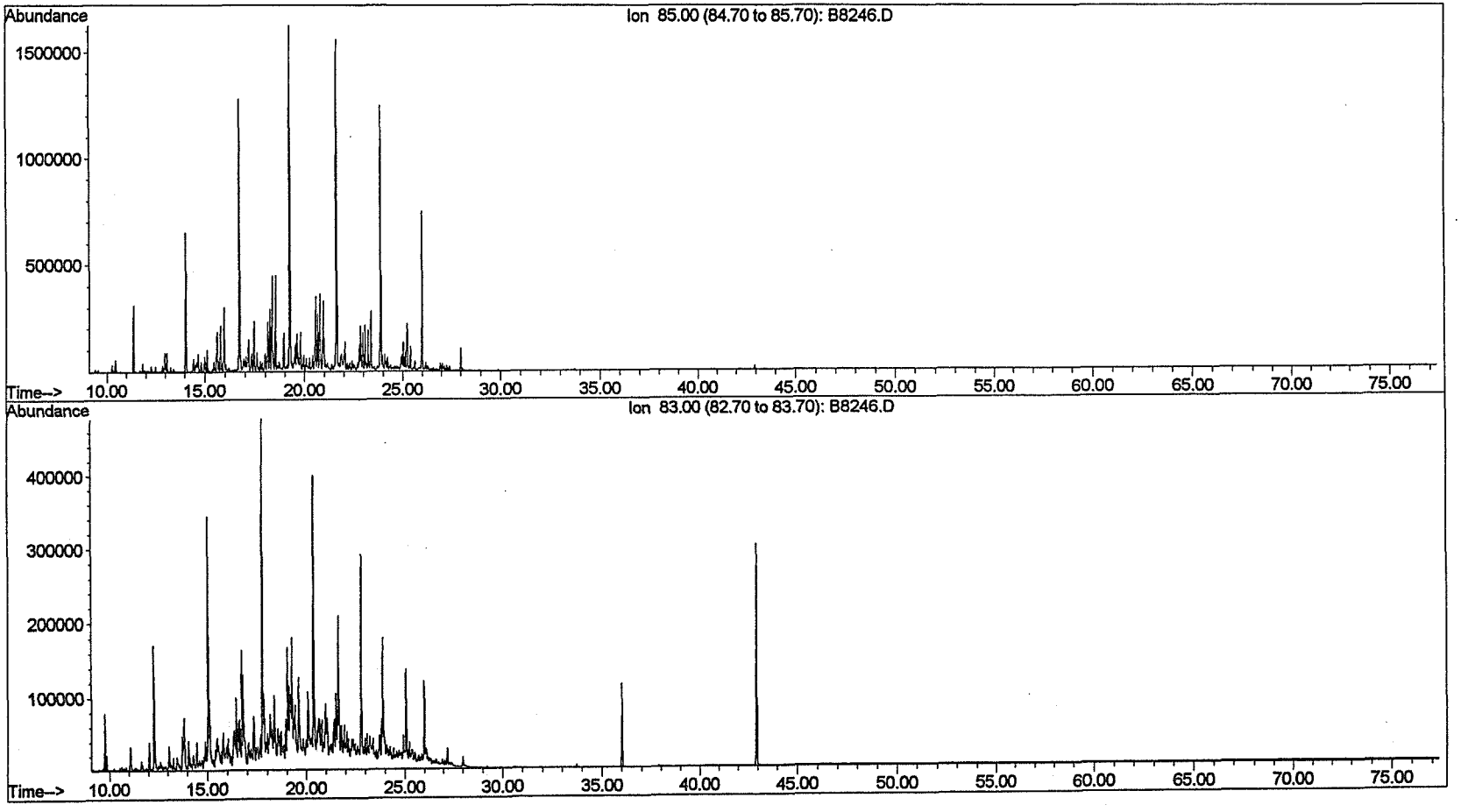




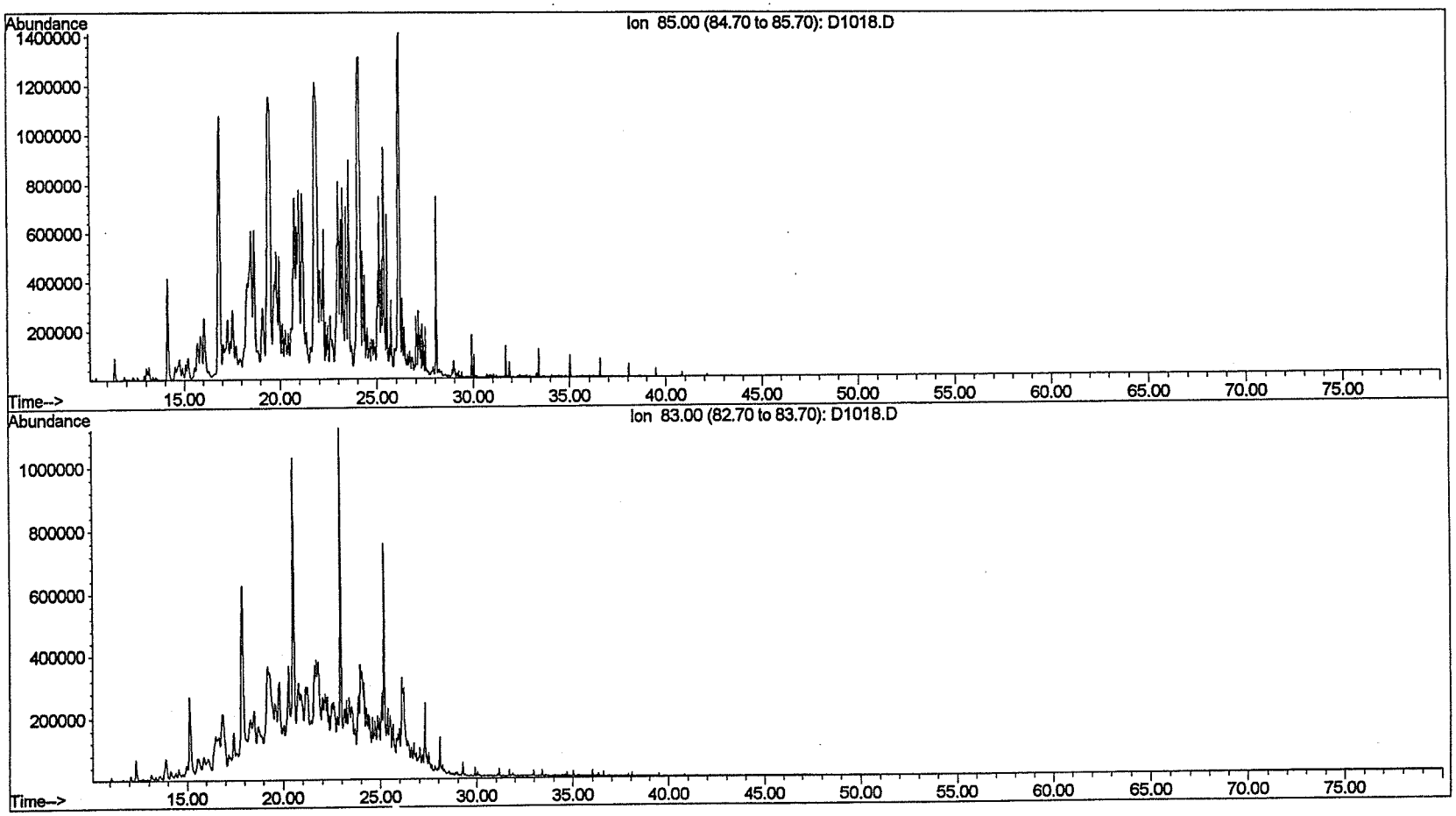
File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D1013 Diesel 100% Evaporated
Operator : TH
Acquired : 13 Nov 2001 6:33 pm using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7747E100-D
Misc Info : SOP 5-157
Vial Number: 78



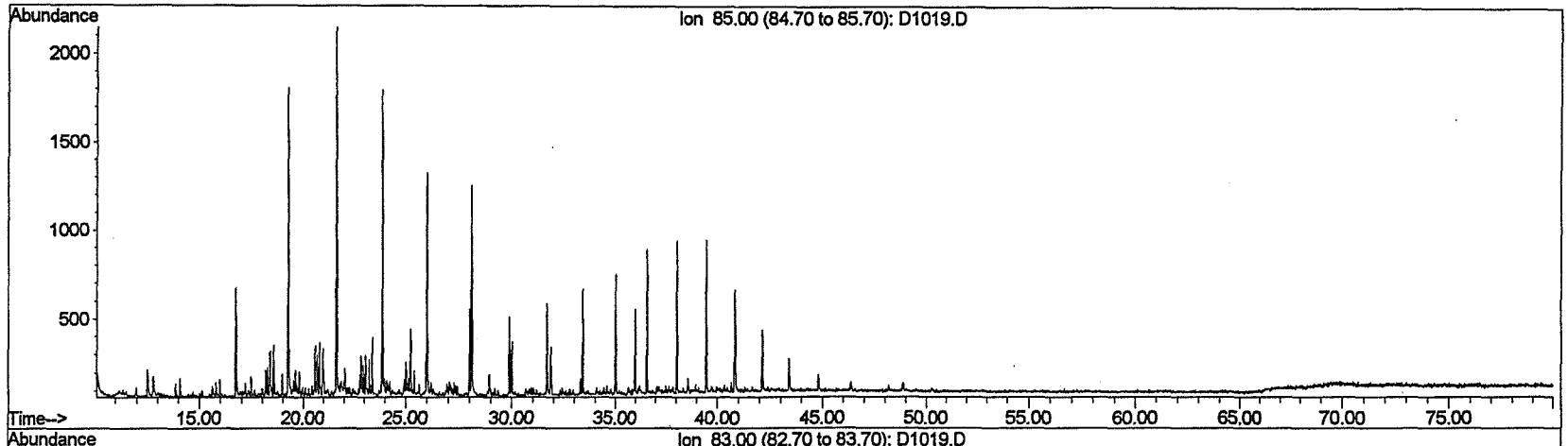
File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQB833\B8246 Kerosene Unaltered
Operator : JS
Acquired : 11 Feb 2002 12:20 pm using AcqMethod ACQ2CUTL
Instrument : GCMS2
Sample Name: ZR36IC
Misc Info : 02-040 PE
Vial Number: 13

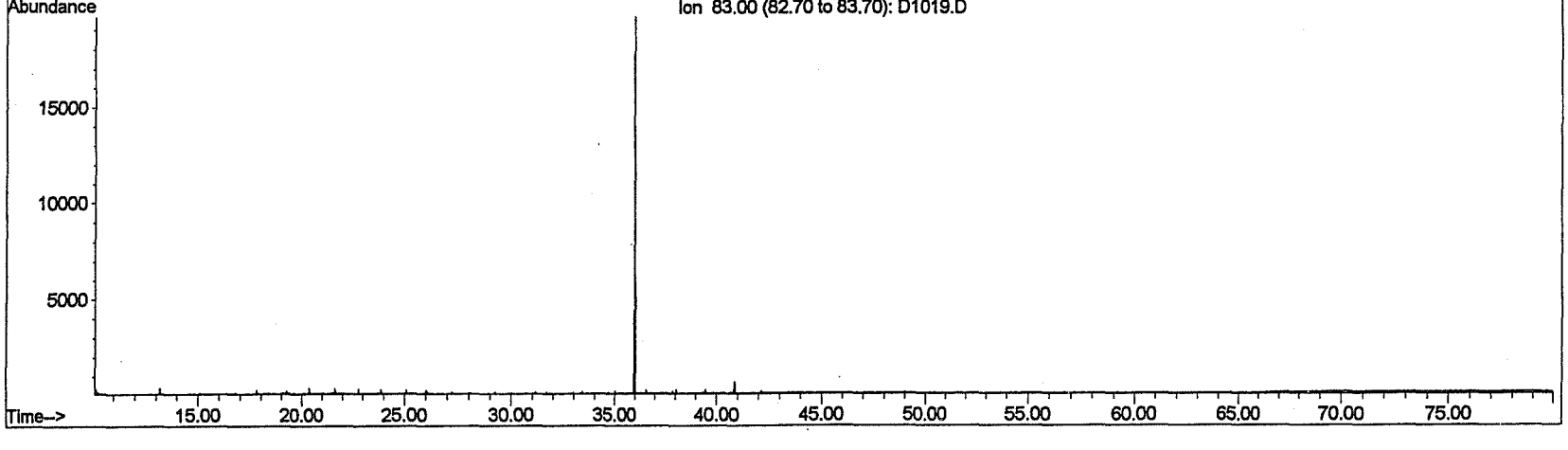


File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D1018 Kerosene 50% Combusted
Operator : TH
Acquired : 14 Nov 2001 2:09 am using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7748C50-D
Misc Info : SOP 5-157
Vial Number: 83

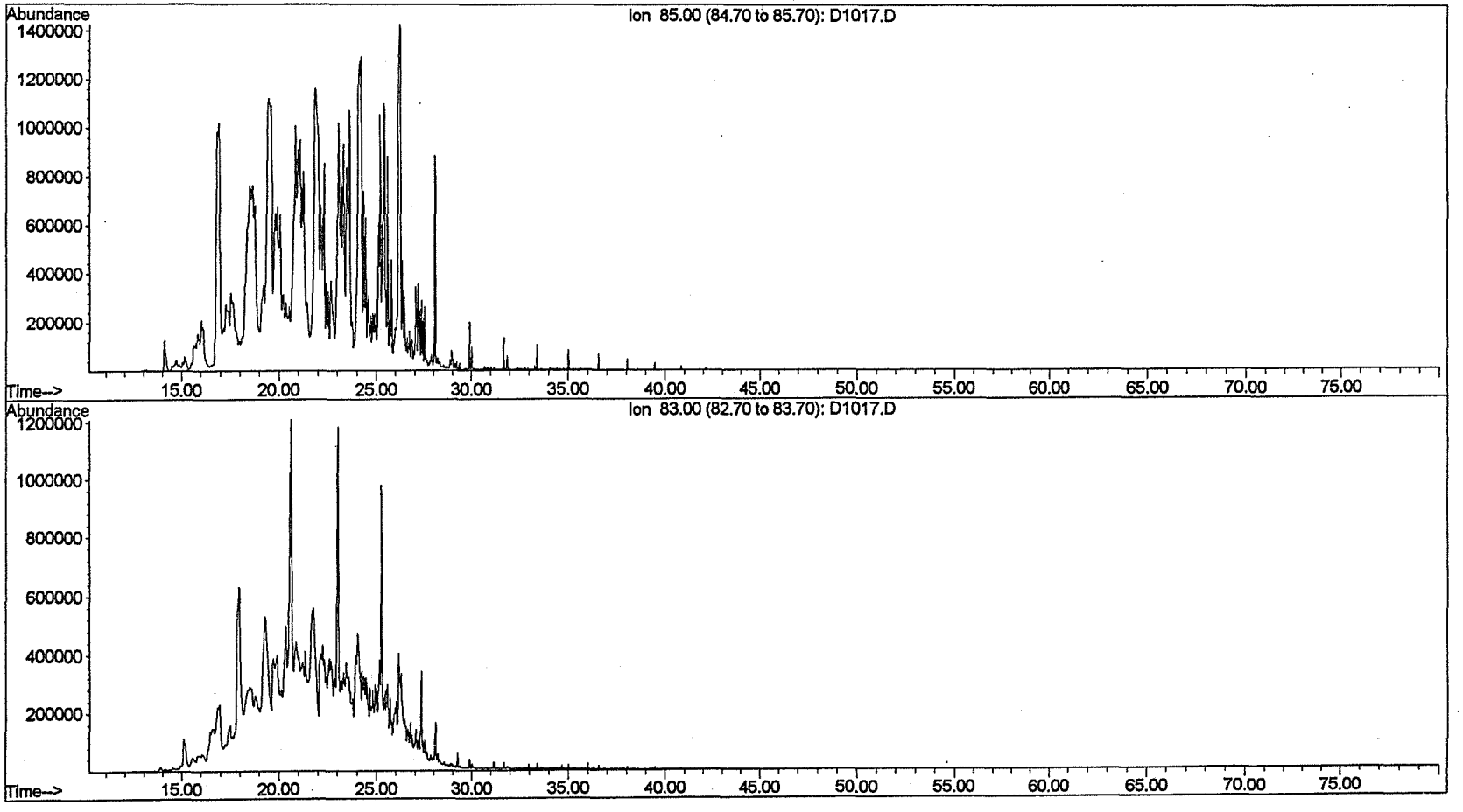


File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D1019 Kerosene 100% Combusted
Operator : TH
Acquired : 14 Nov 2001 3:41 am using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7748C100-D
Misc Info : SOP 5-157
Vial Number: 84

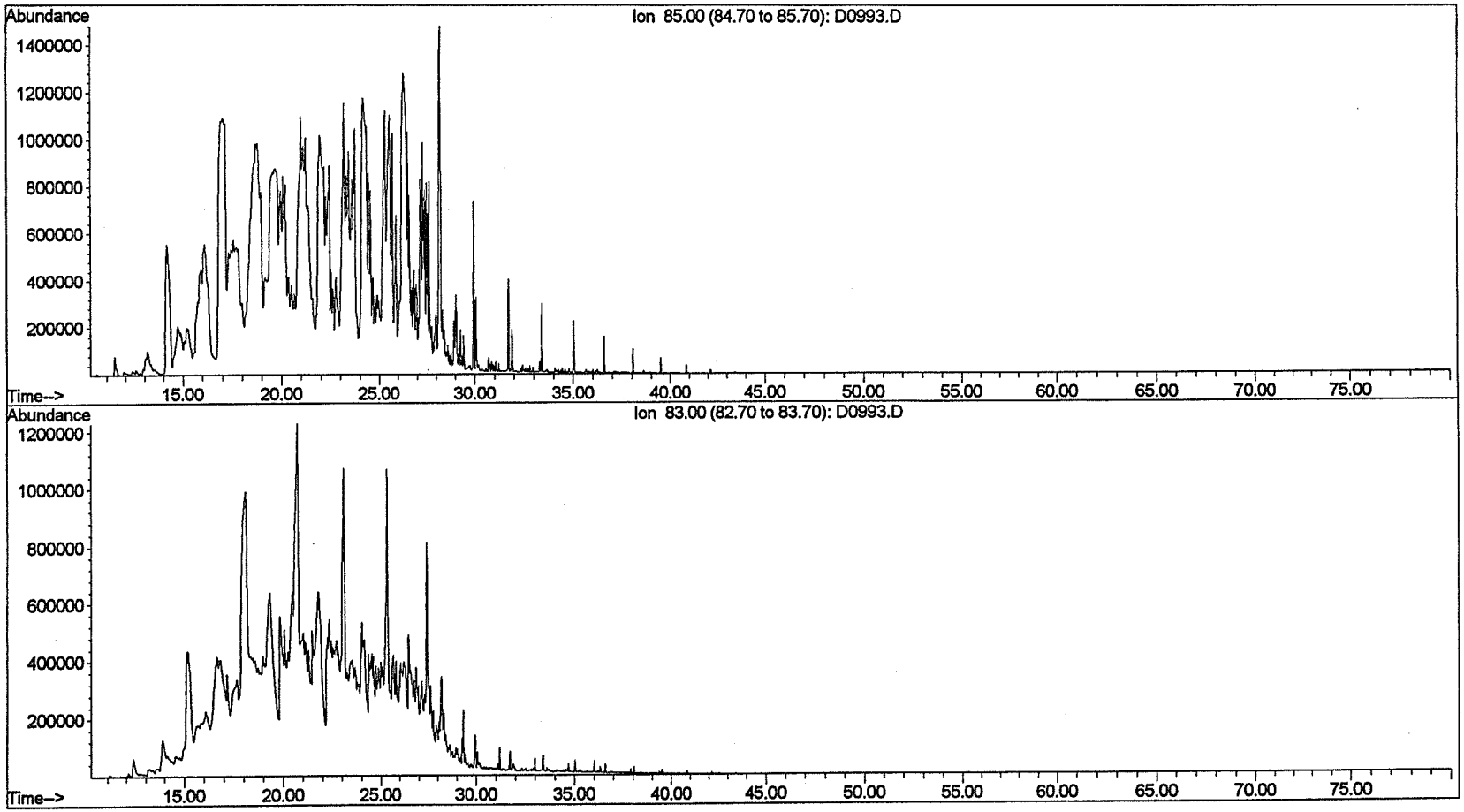




File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D1017 Kerosene 50% Evaporated
Operator : TH
Acquired : 14 Nov 2001 12:38 am using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7748E50-D
Misc Info : SOP 5-157
Vial Number: 82



File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D0993 Kerosene 100% Evaporated
Operator : TH
Acquired : 12 Nov 2001 11:49 am using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: W7748-E100-D
Misc Info : SOP 5-157
Vial Number: 58

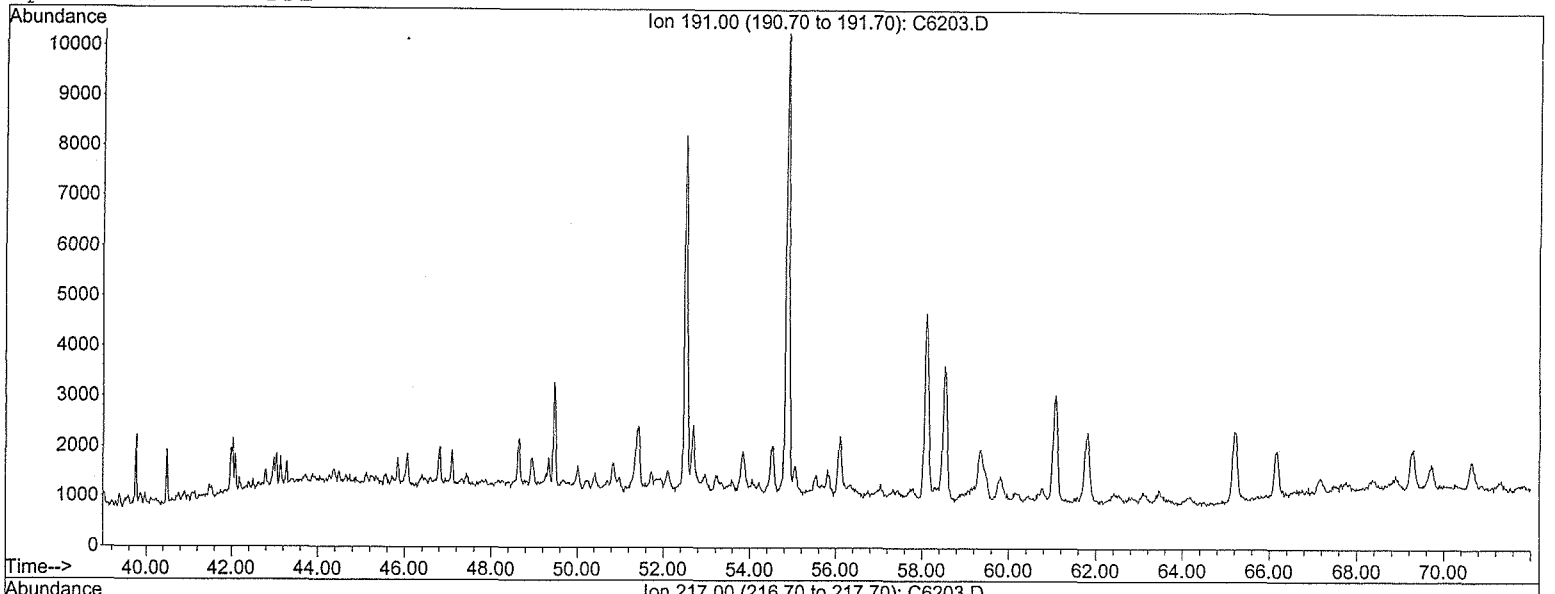


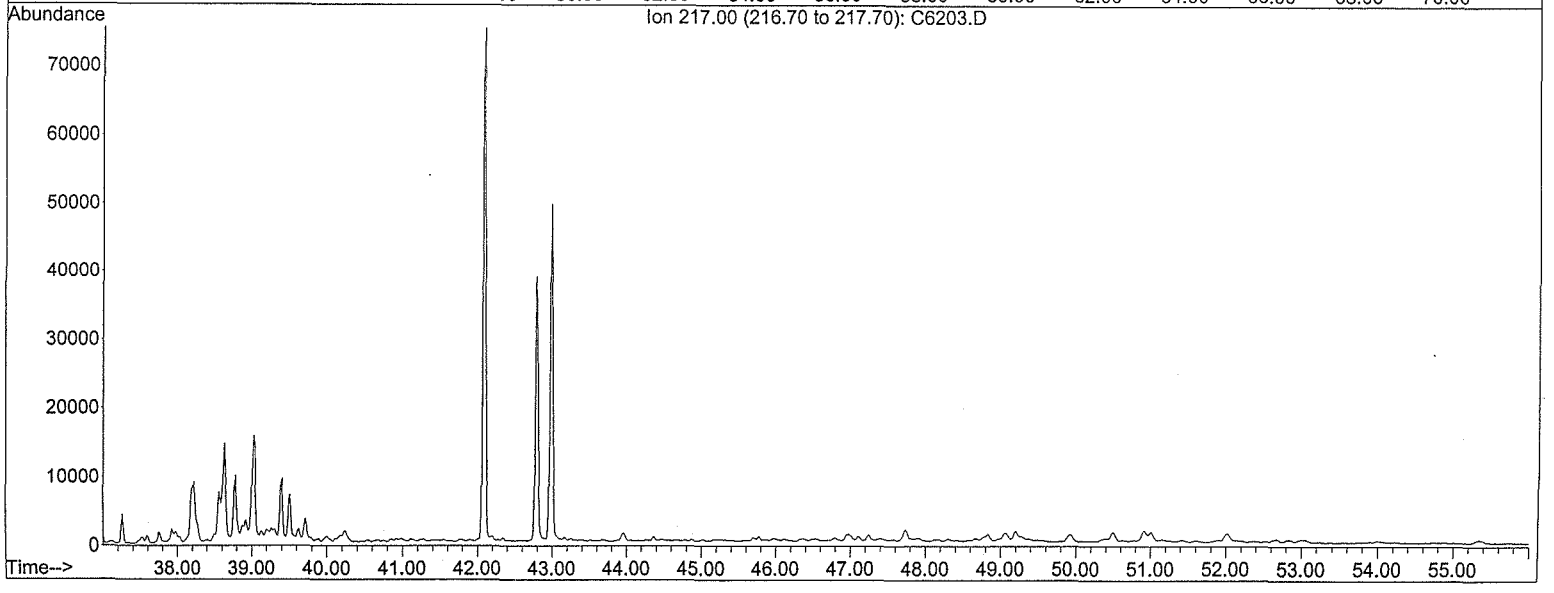
Attachment 7.
Terpane and Sterane Fingerprints

BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-5-0006 (Fine Particles)**

File: F:\C\DATA\SQC561\C6203.D
Date Acquired: 24 Jul 2002 8:50 am
Method File: HYDRO6AC
Sample Name: V5870-D
Misc Info:
Operator: DPB

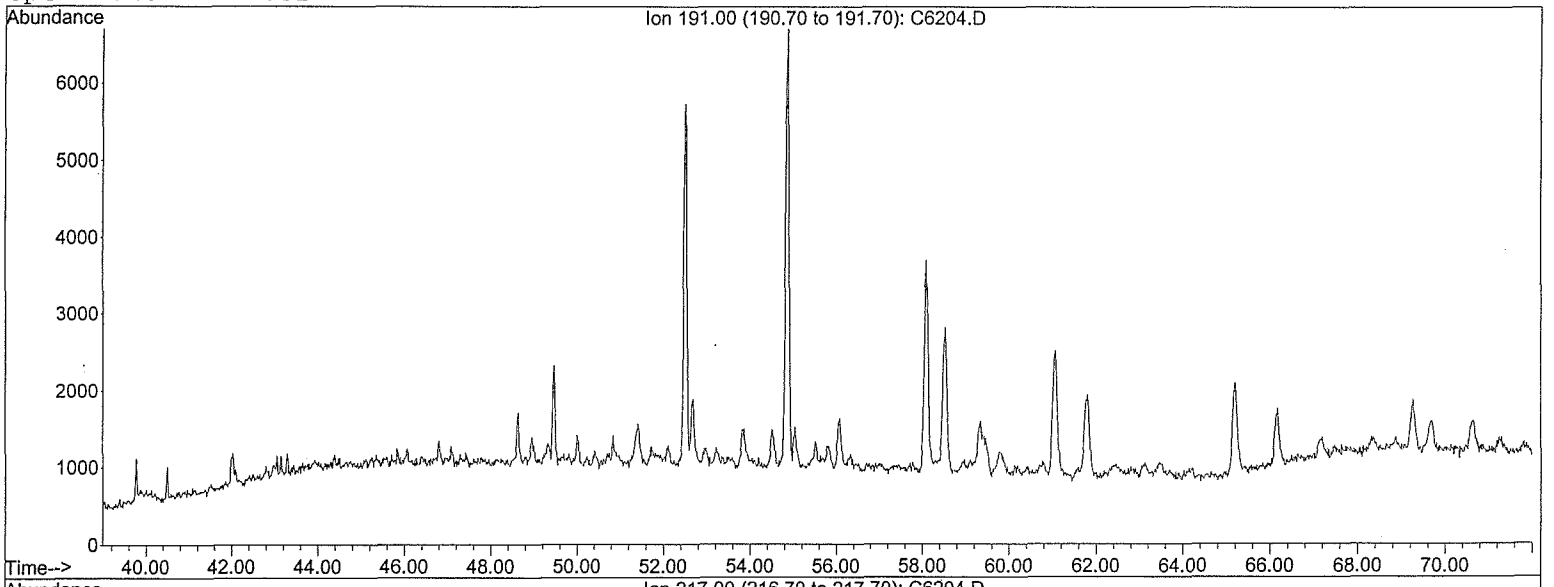


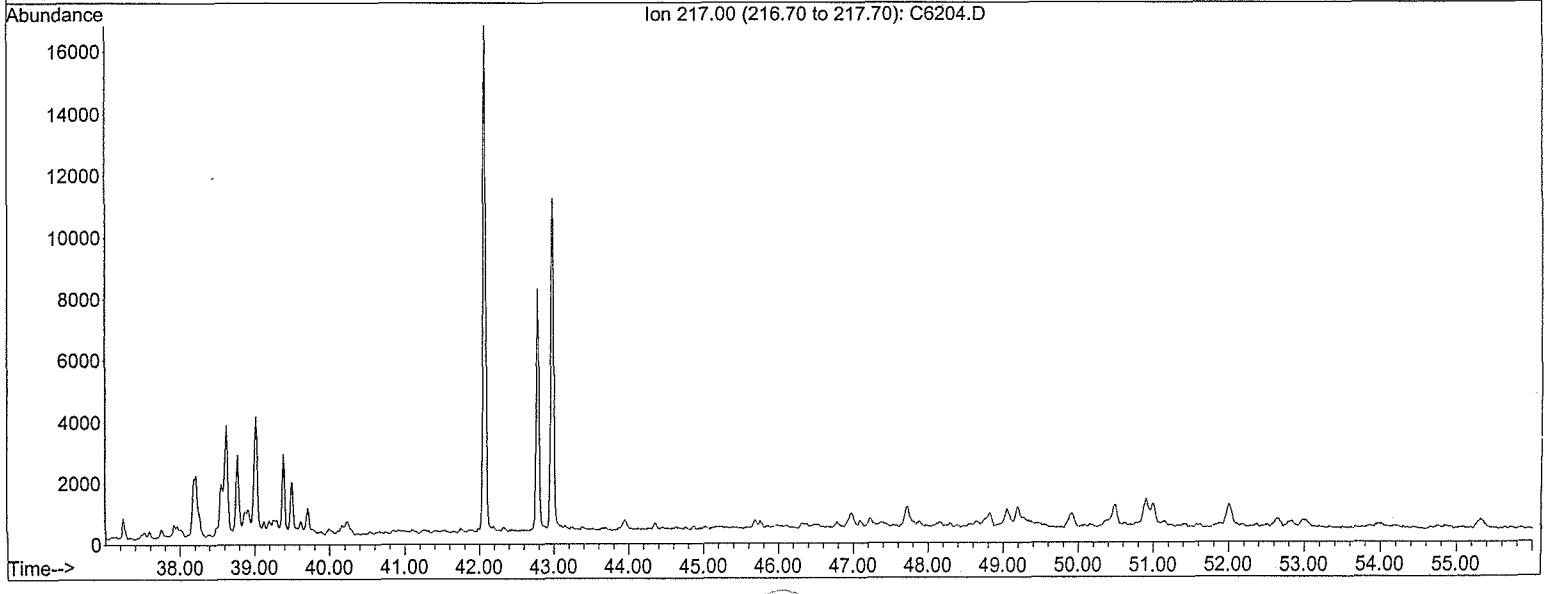


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-5-0006 (Large Particles)**

File: F:\C\DATA\SQC561\C6204.D
Date Acquired: 24 Jul 2002 10:18 am
Method File: HYDRO6AC
Sample Name: V5870DUP-D
Misc Info:
Operator: DPB

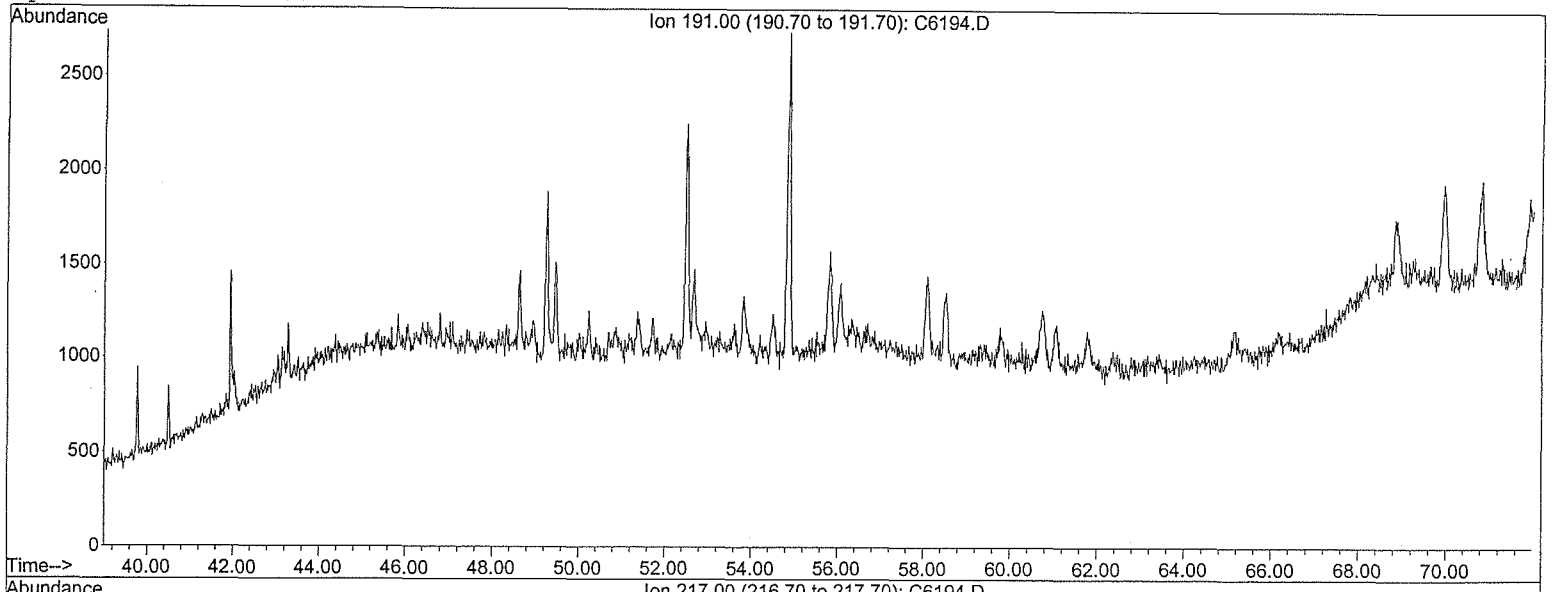


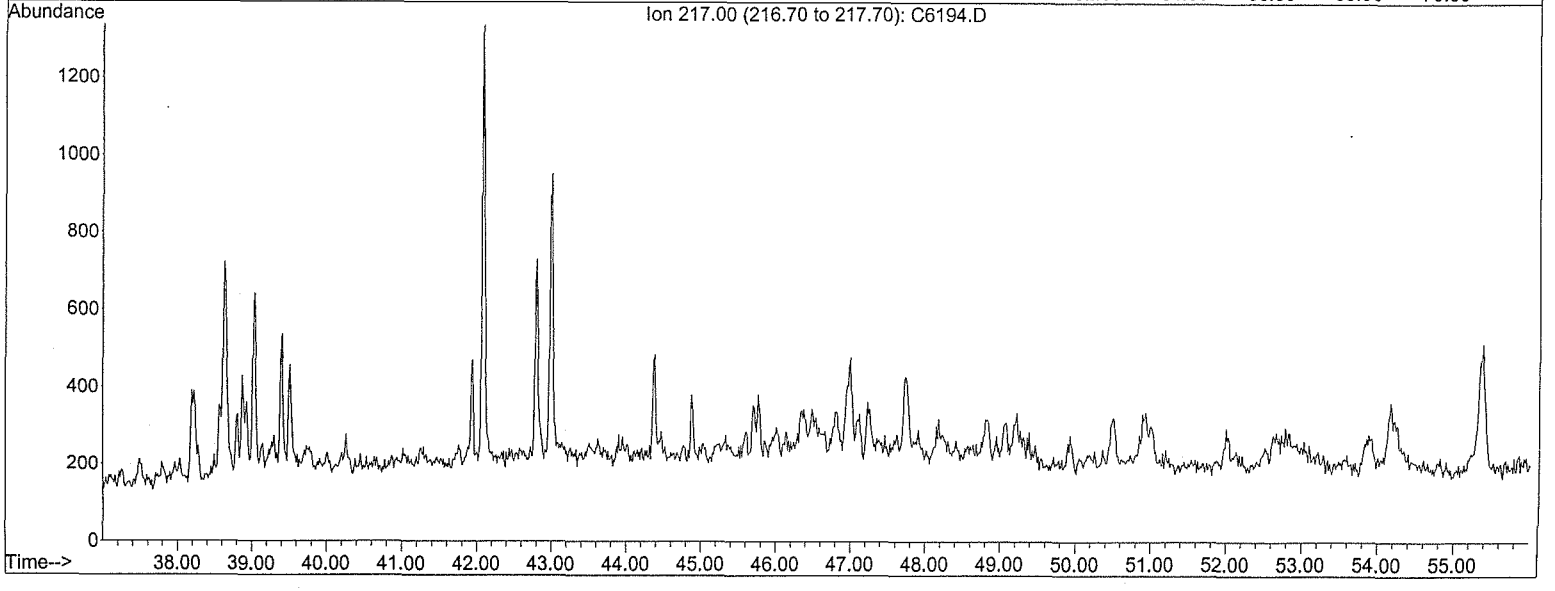


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-JPC03-0006**

File: F:\C\DATA\SQC561\C6194.D
Date Acquired: 23 Jul 2002 7:25 pm
Method File: HYDRO6AC
Sample Name: V5871
Misc Info:
Operator: DPB

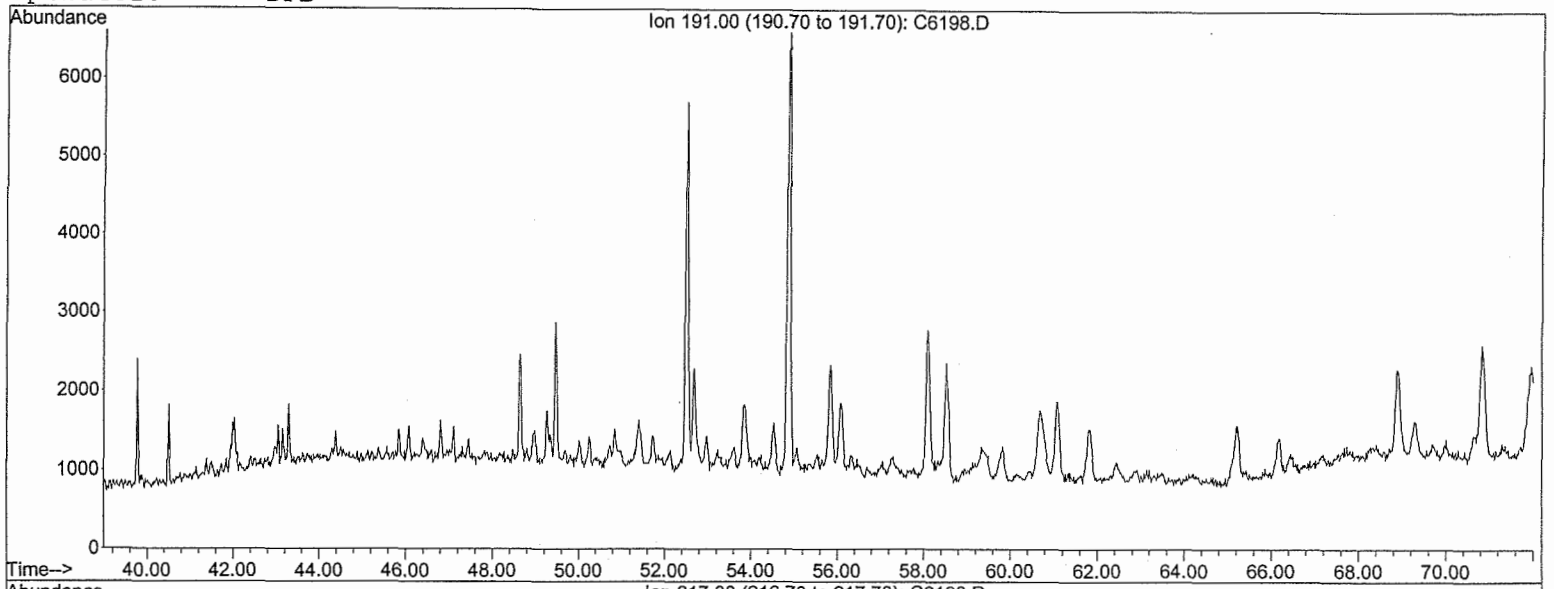


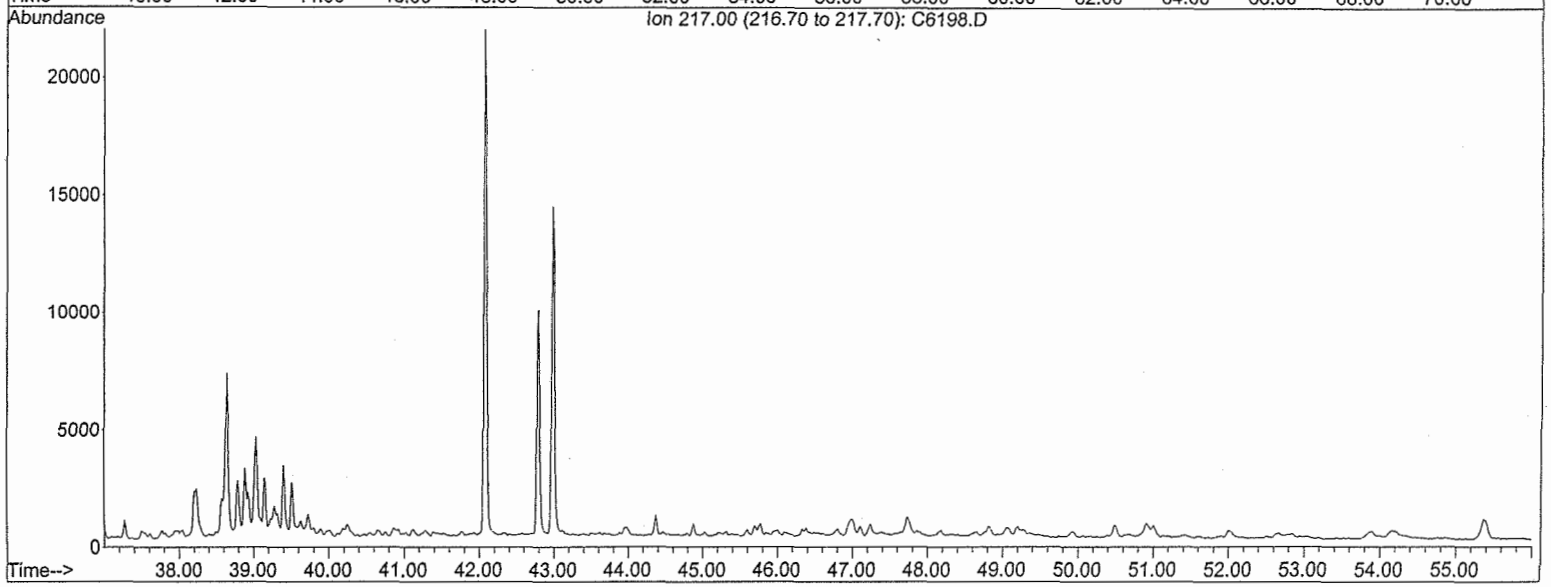


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-410-0006**

File: F:\C\DATA\SQC561\C6198.D
Date Acquired: 24 Jul 2002 1:25 am
Method File: HYDRO6AC
Sample Name: V5874-D
Misc Info:
Operator: DPB

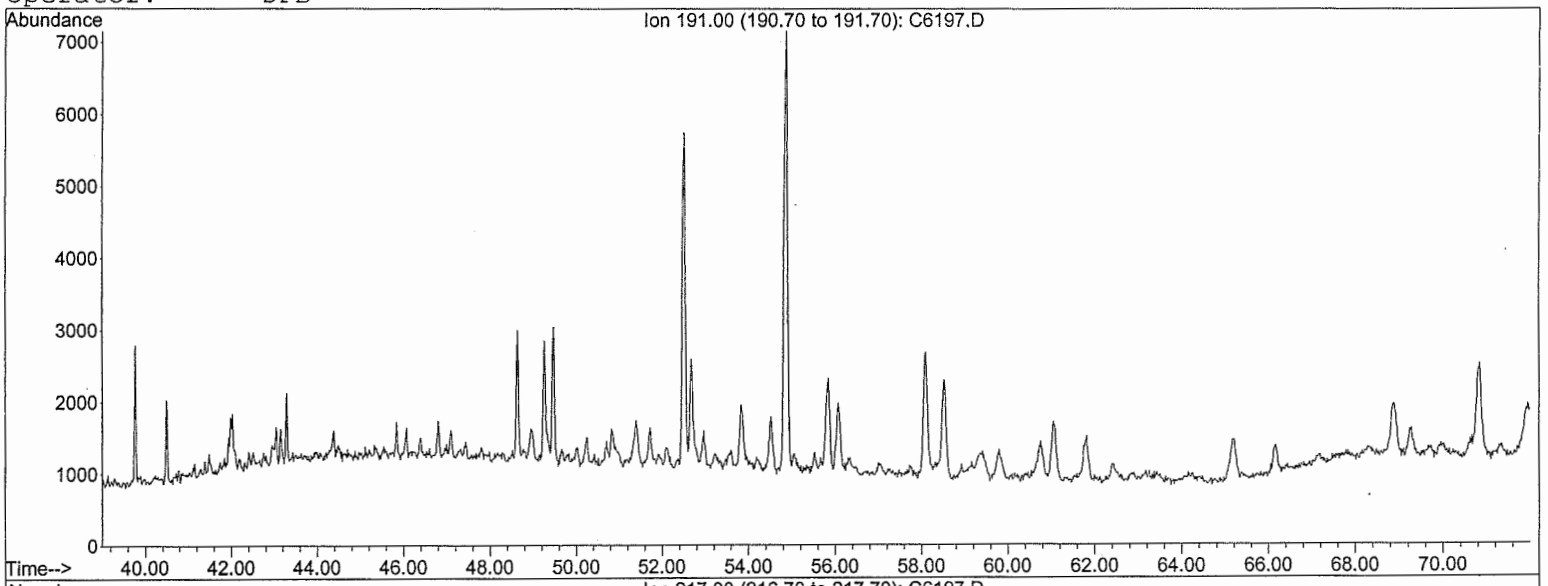


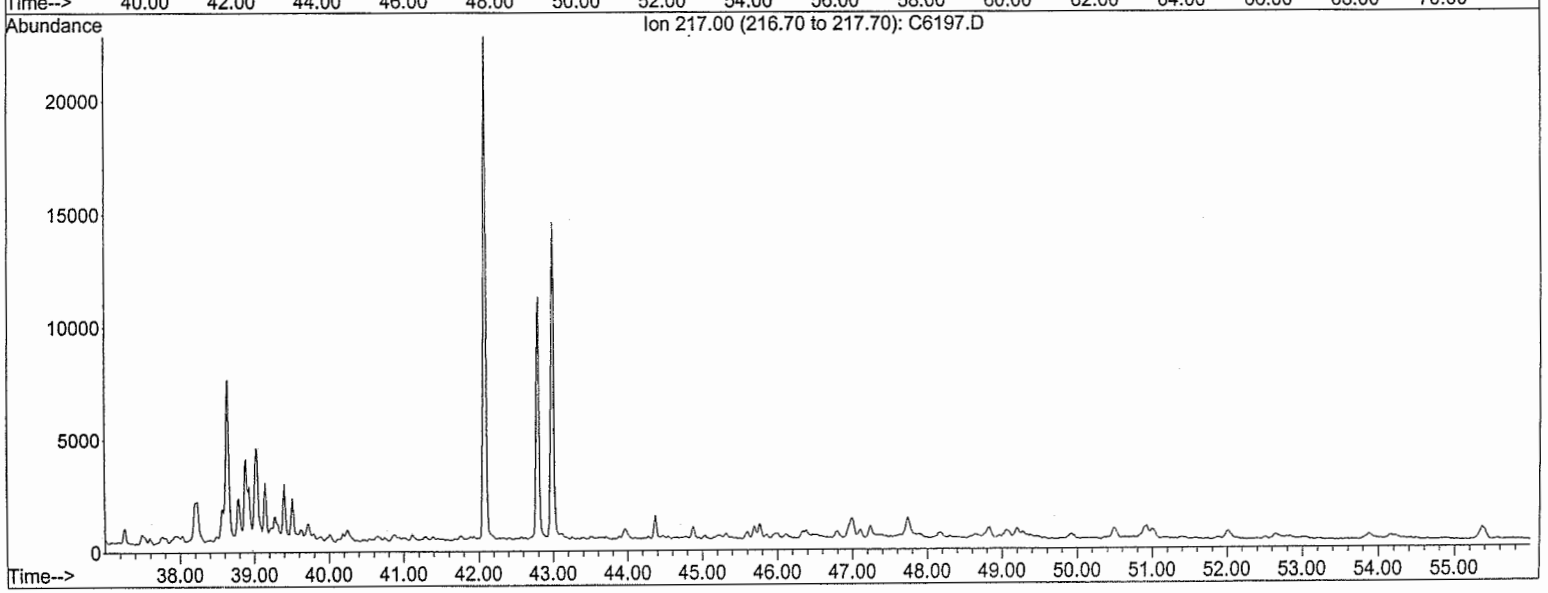


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-410-1824**

File: F:\C\DATA\SQC561\C6197.D
Date Acquired: 23 Jul 2002 11:54 pm
Method File: HYDRO6AC
Sample Name: V5875
Misc Info:
Operator: DPB

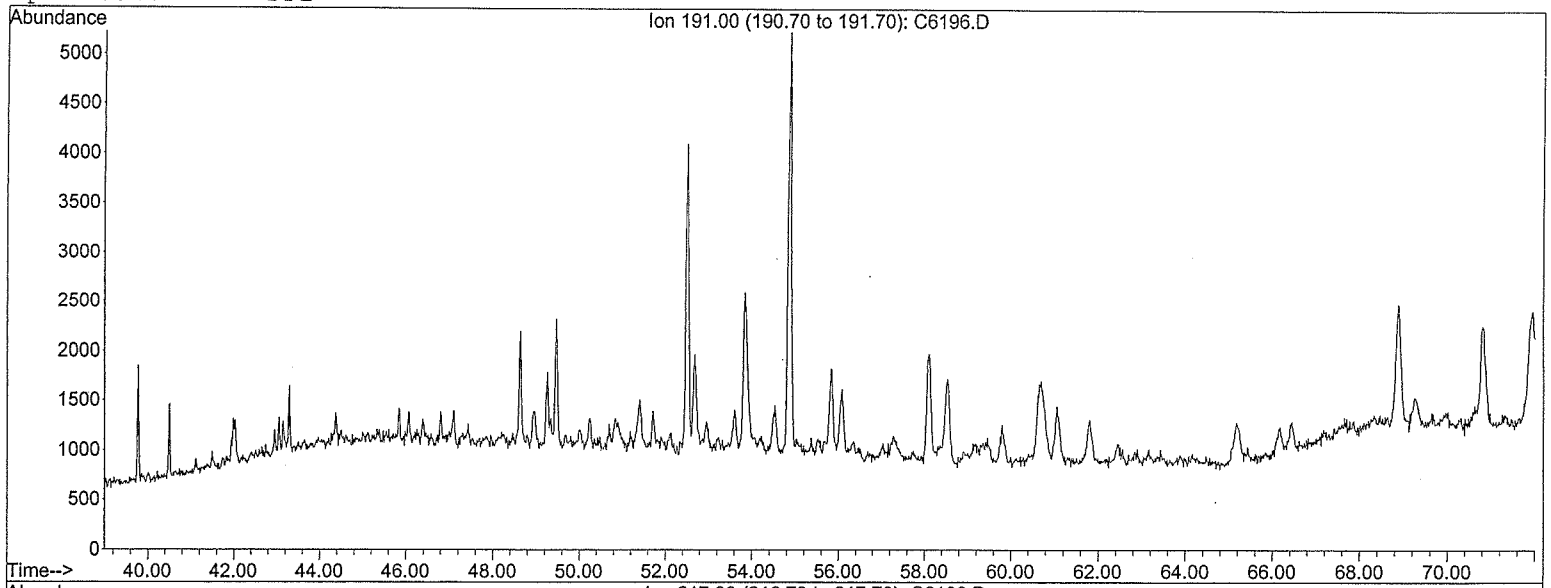


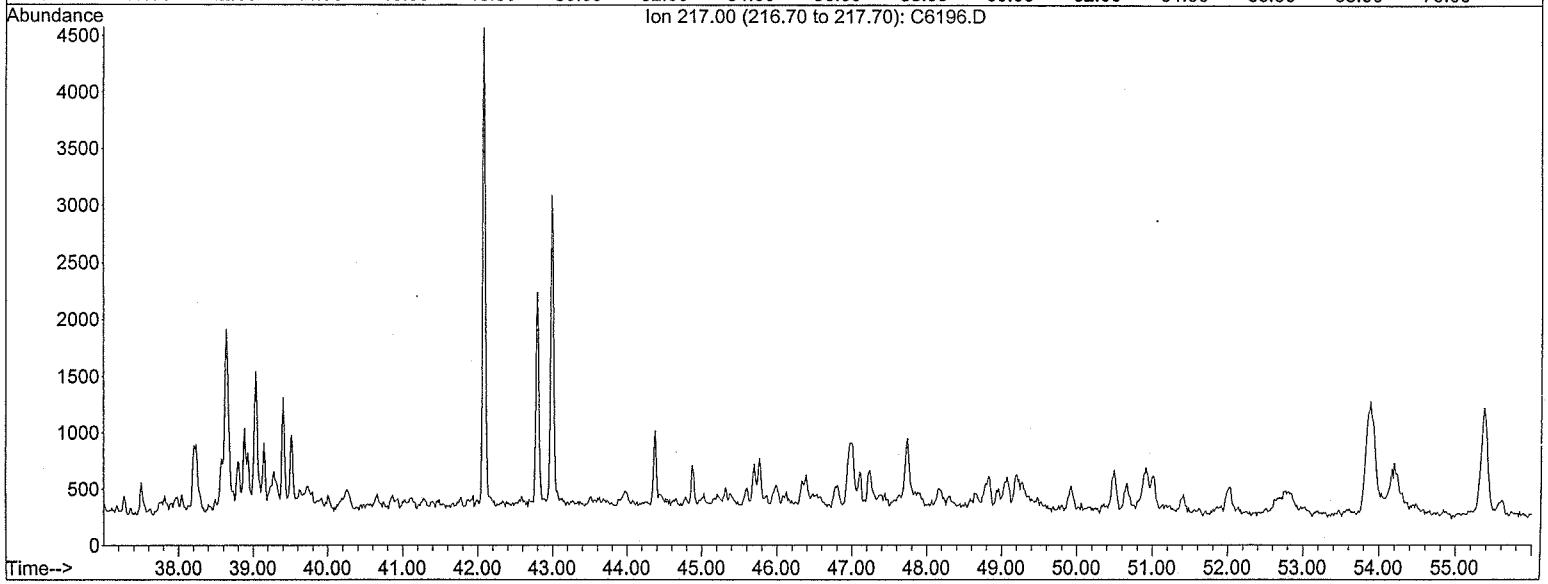


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-470-0006**

File: F:\C\DATA\SQC561\C6196.D
Date Acquired: 23 Jul 2002 10:24 pm
Method File: HYDRO6AC
Sample Name: V5873
Misc Info:
Operator: DPB

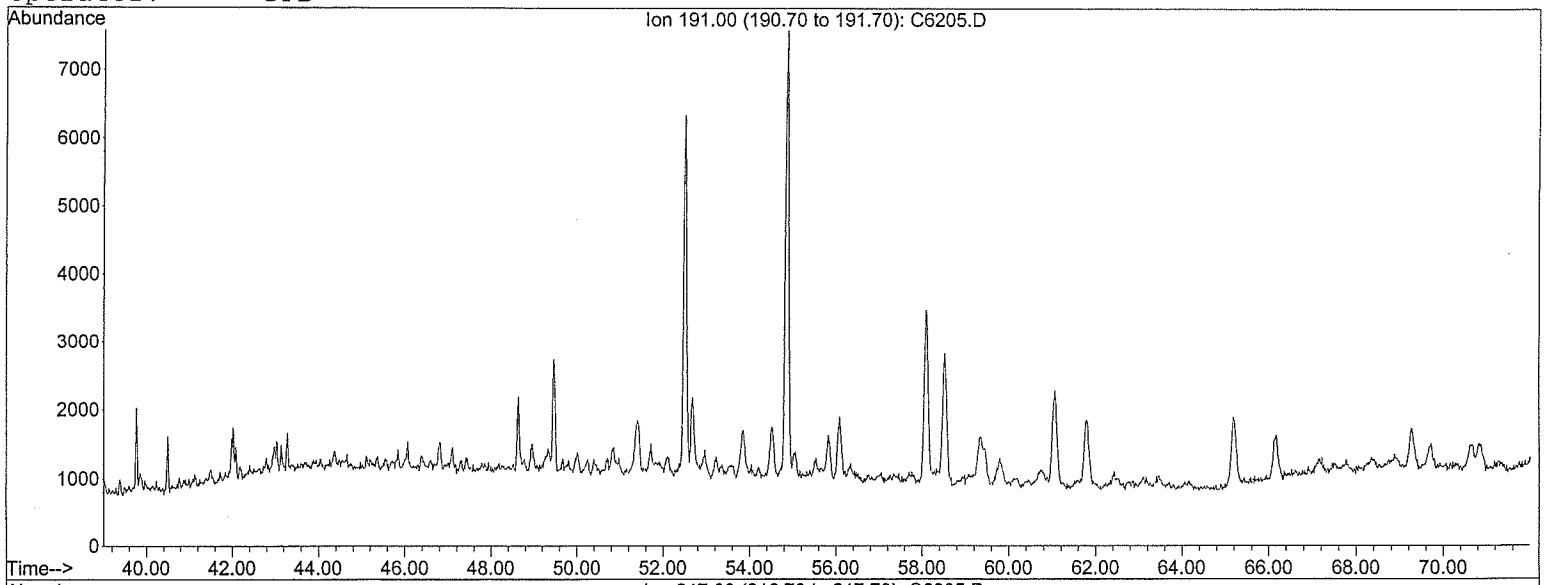


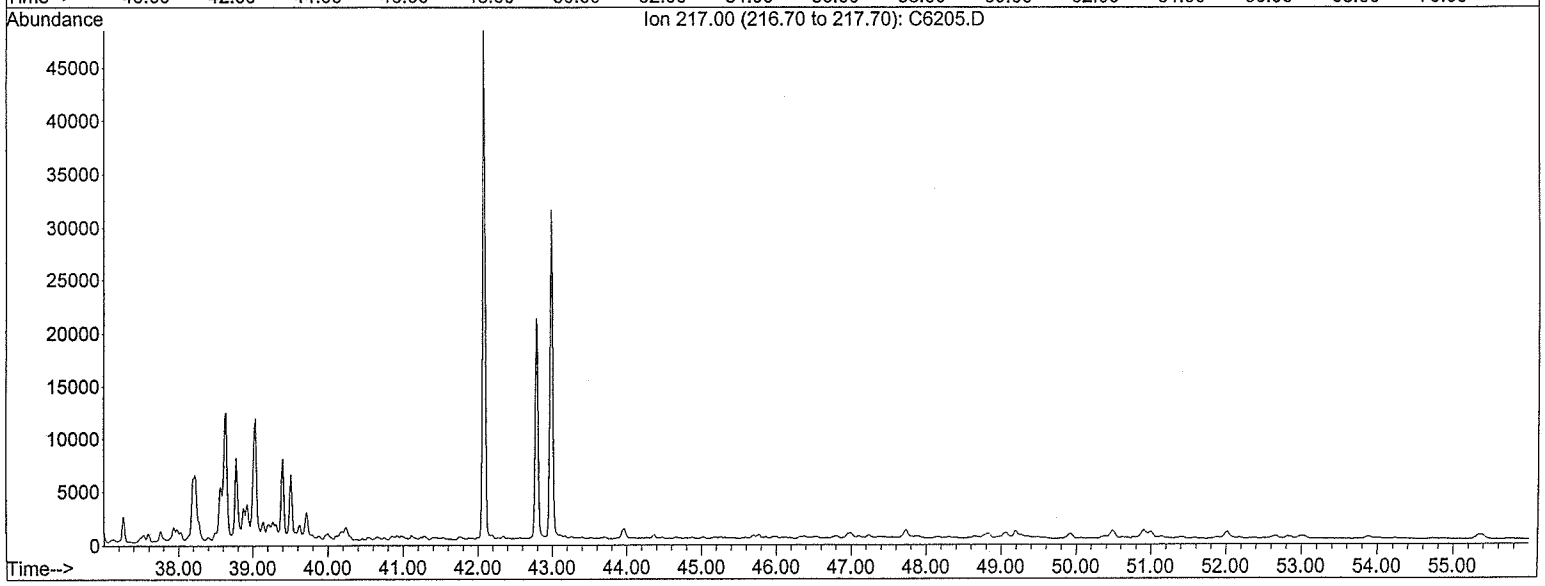


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-471-0006**

File: F:\C\DATA\SQC561\C6205.D
Date Acquired: 24 Jul 2002 11:48 am
Method File: HYDRO6AC
Sample Name: V5872-D
Misc Info:
Operator: DPB

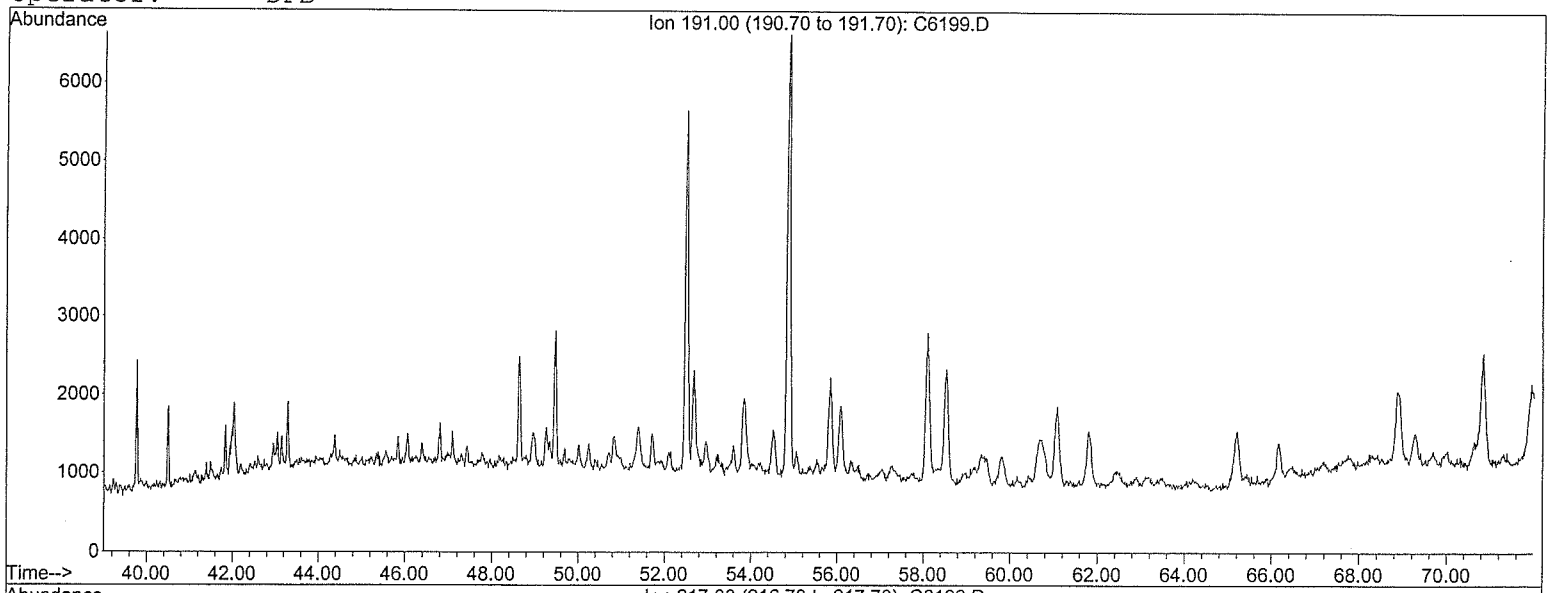


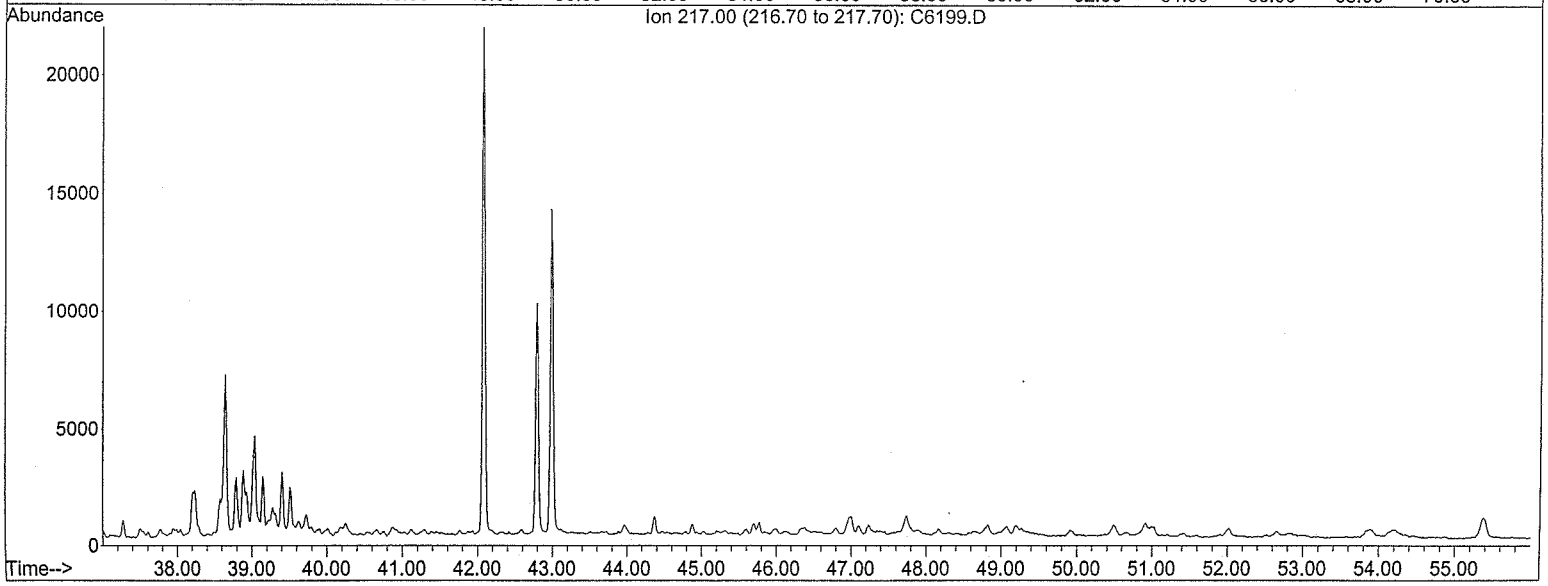


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SD-DUP1-0006**

File: F:\C\DATA\SQC561\C6199.D
Date Acquired: 24 Jul 2002 2:54 am
Method File: HYDRO6AC
Sample Name: V5876
Misc Info:
Operator: DPB

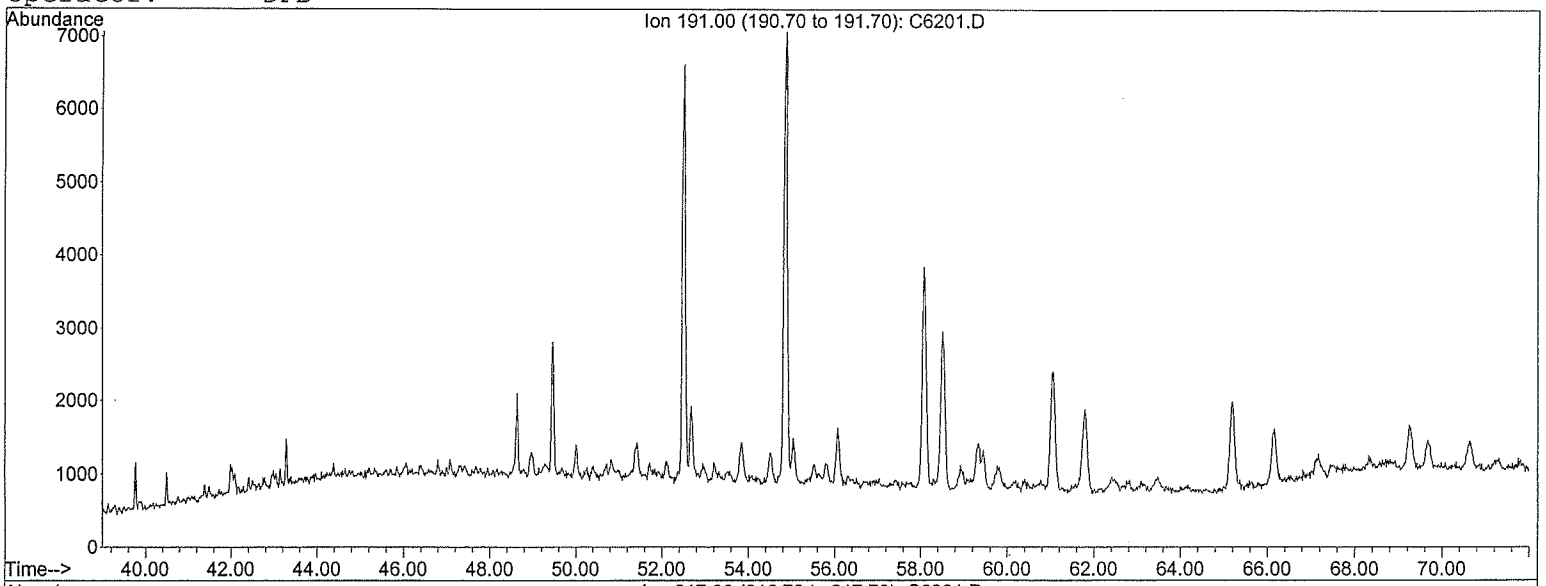


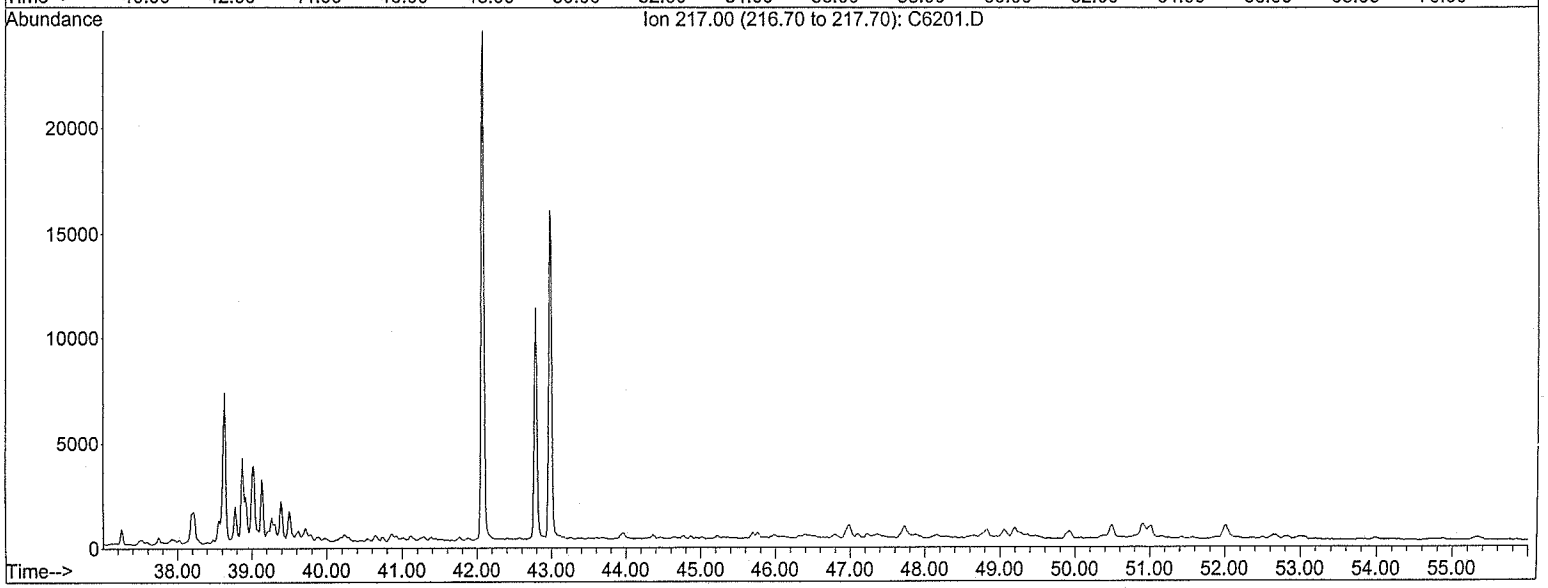


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-OTS-OF75**

File: F:\C\DATA\SQC561\C6201.D
Date Acquired: 24 Jul 2002 5:52 am
Method File: HYDRO6AC
Sample Name: V6976-D
Misc Info:
Operator: DPB

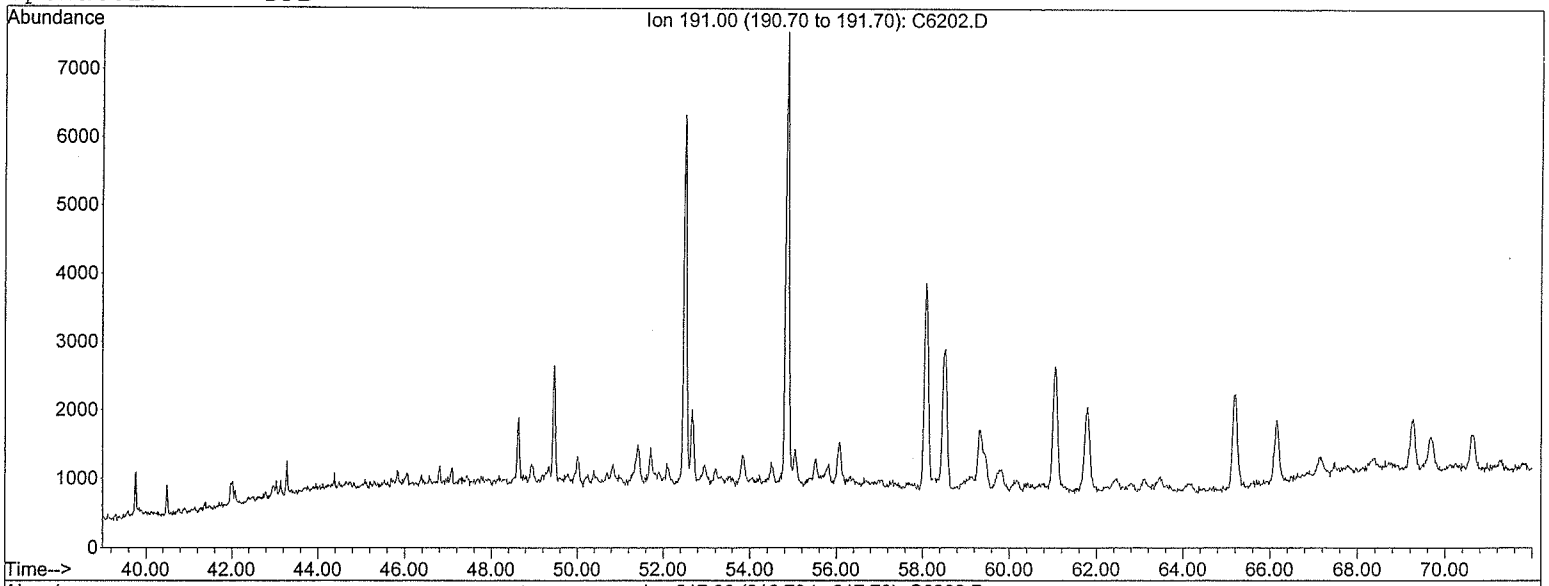


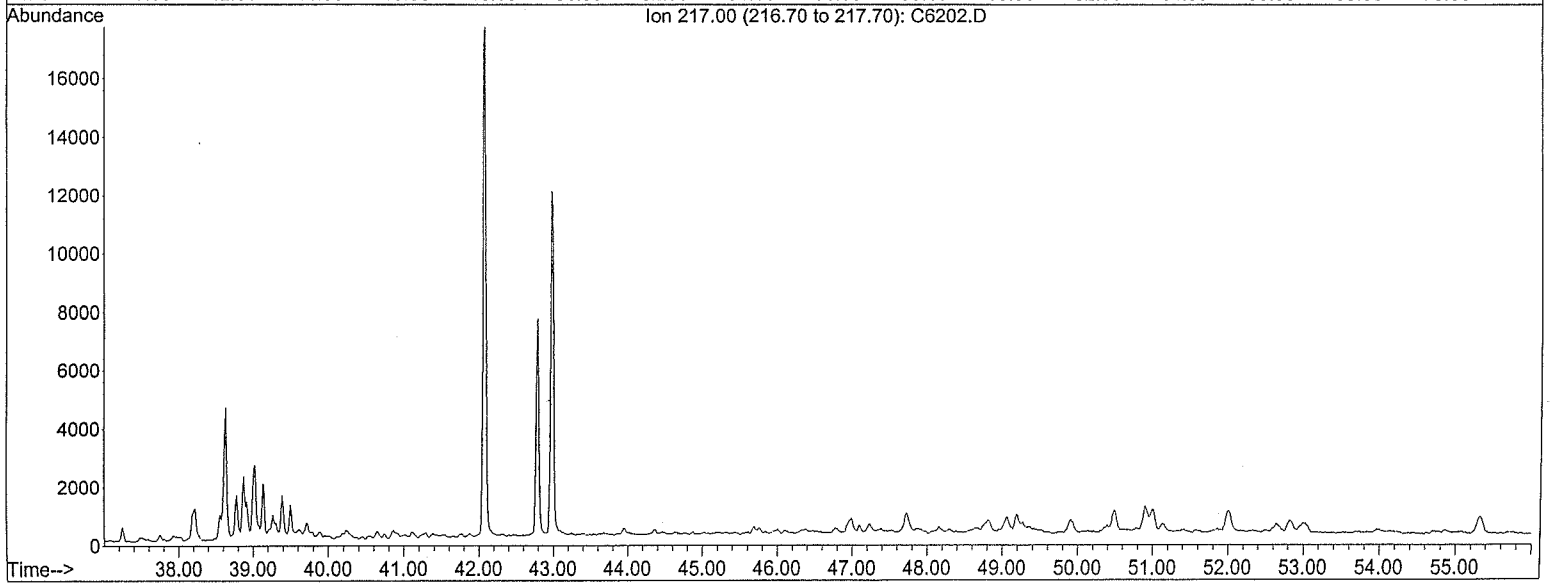


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-OTS-OF93**

File: F:\C\DATA\SQC561\C6202.D
Date Acquired: 24 Jul 2002 7:22 am
Method File: HYDRO6AC
Sample Name: V6977-D
Misc Info:
Operator: DPB

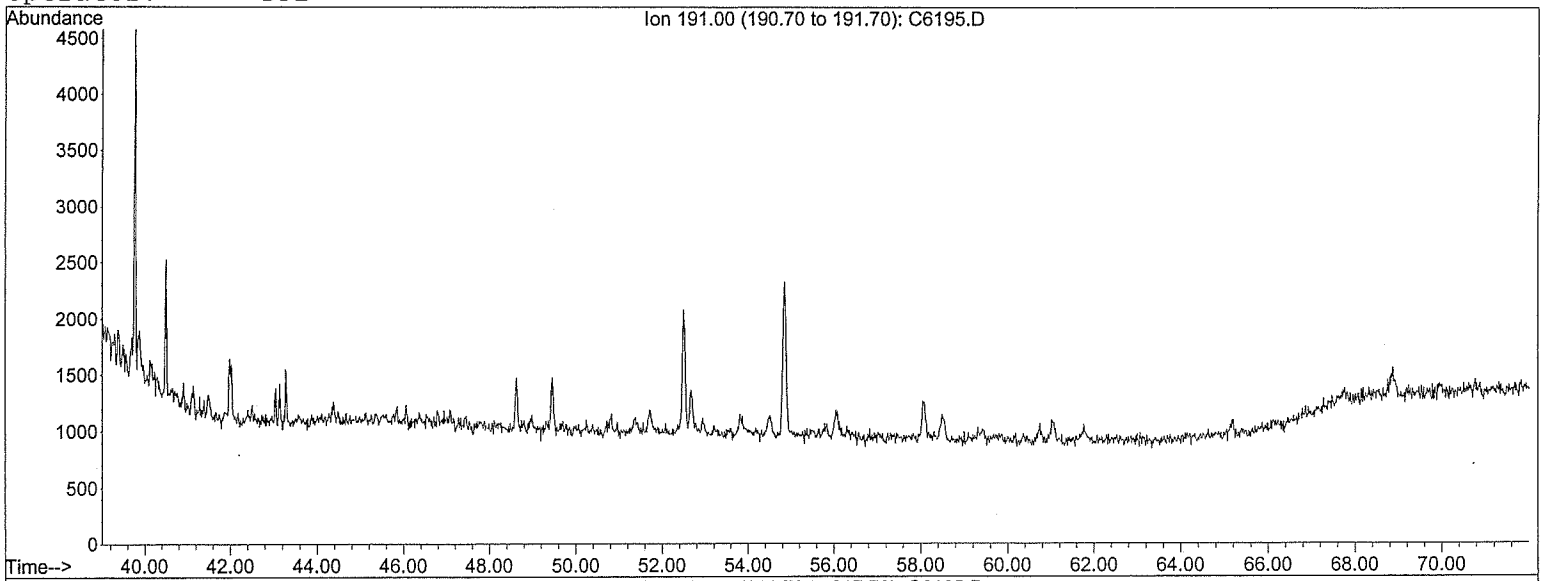


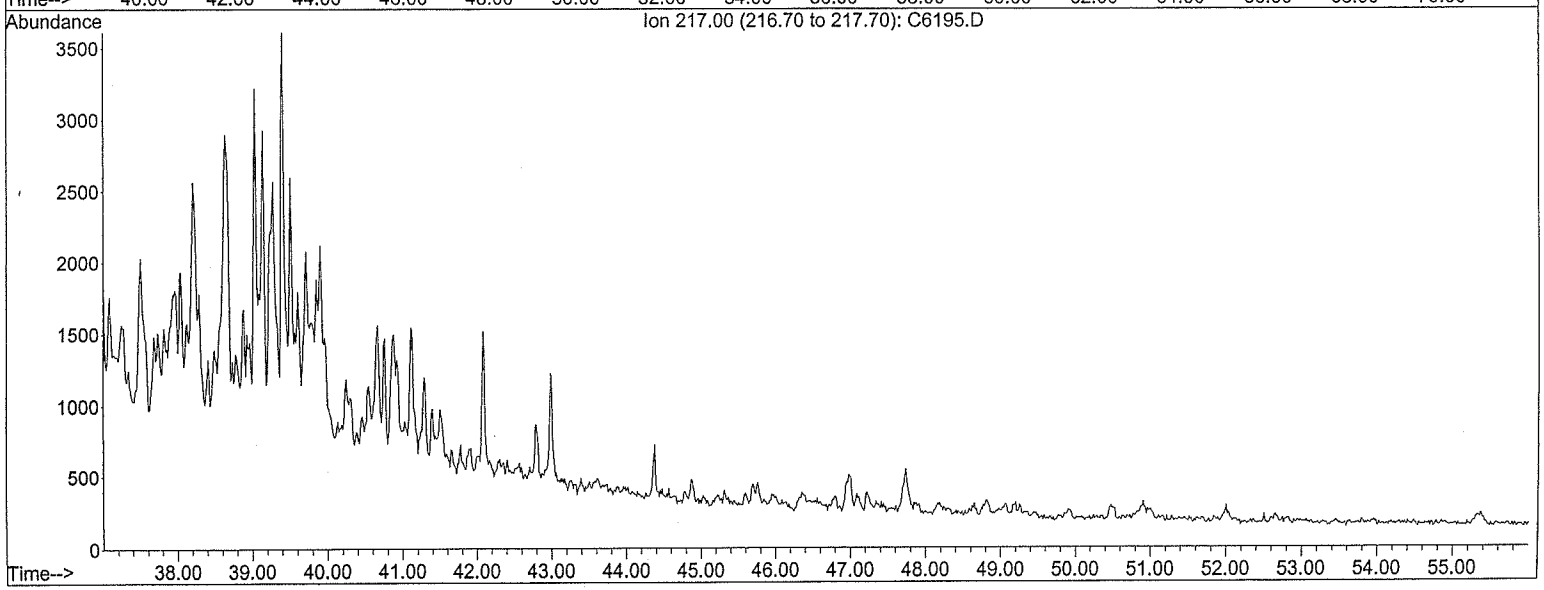


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SO-11-0607**

File: F:\C\DATA\SQC561\C6195.D
Date Acquired: 23 Jul 2002 8:54 pm
Method File: HYDRO6AC
Sample Name: V6979-D
Misc Info:
Operator: DPB

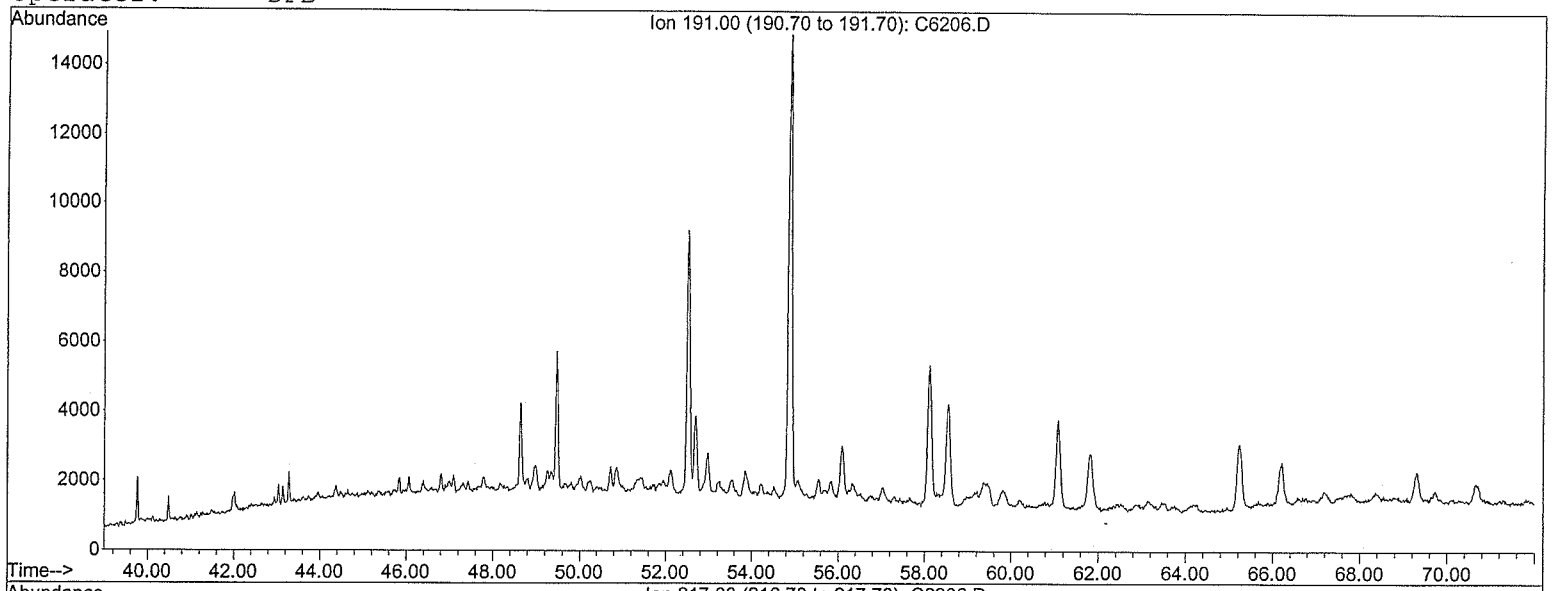


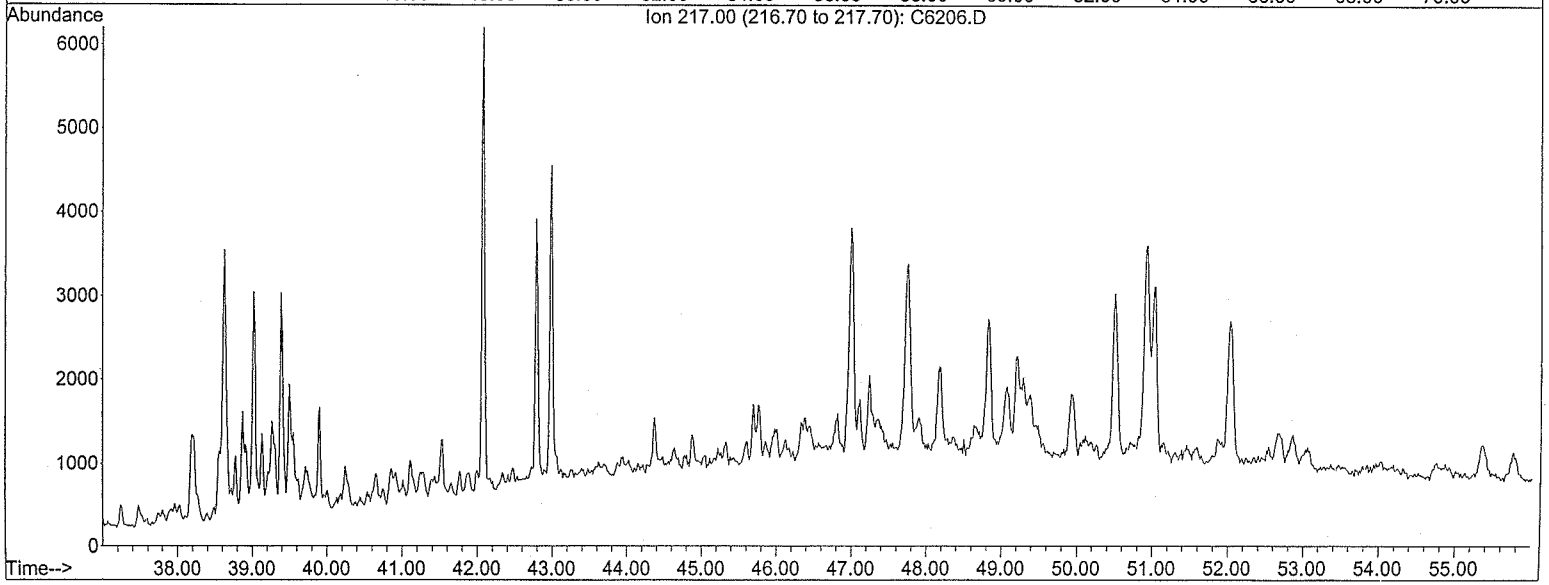


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-SO-15-0607**

File: F:\C\DATA\SQC561\C6206.D
Date Acquired: 24 Jul 2002 1:16 pm
Method File: HYDRO6AC
Sample Name: V6978-D
Misc Info:
Operator: DPB

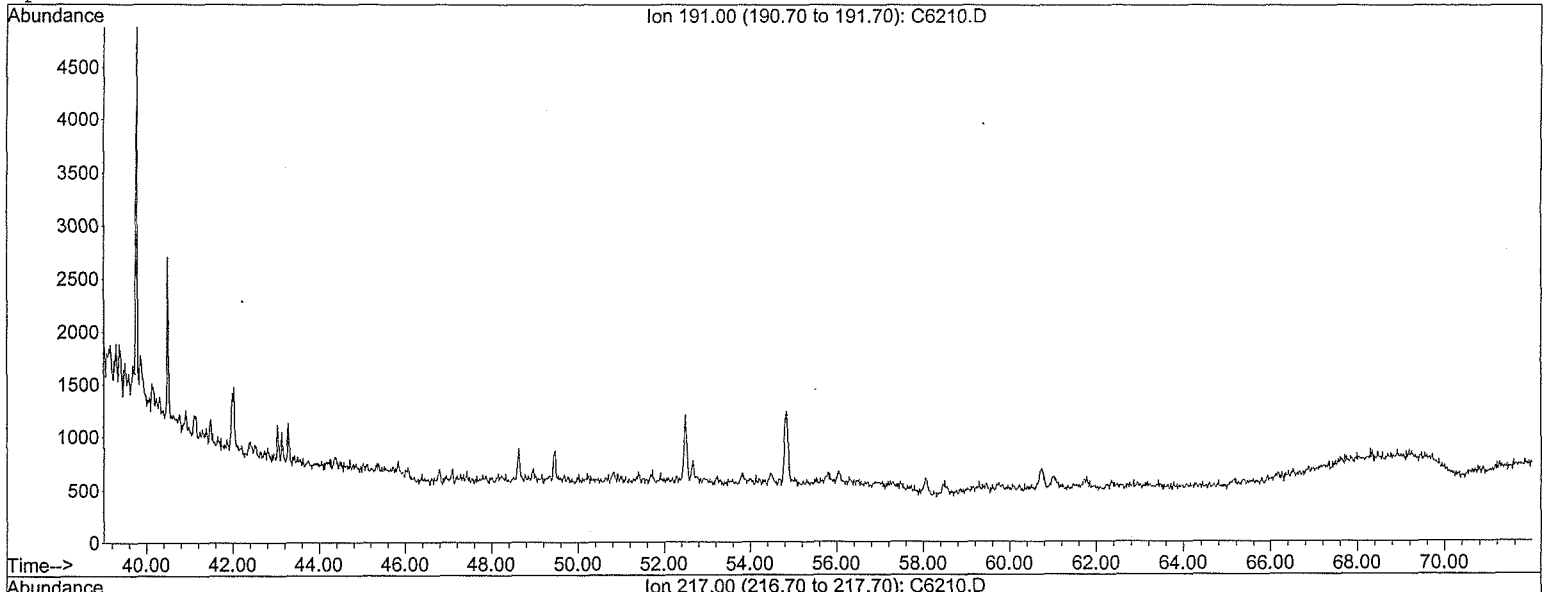


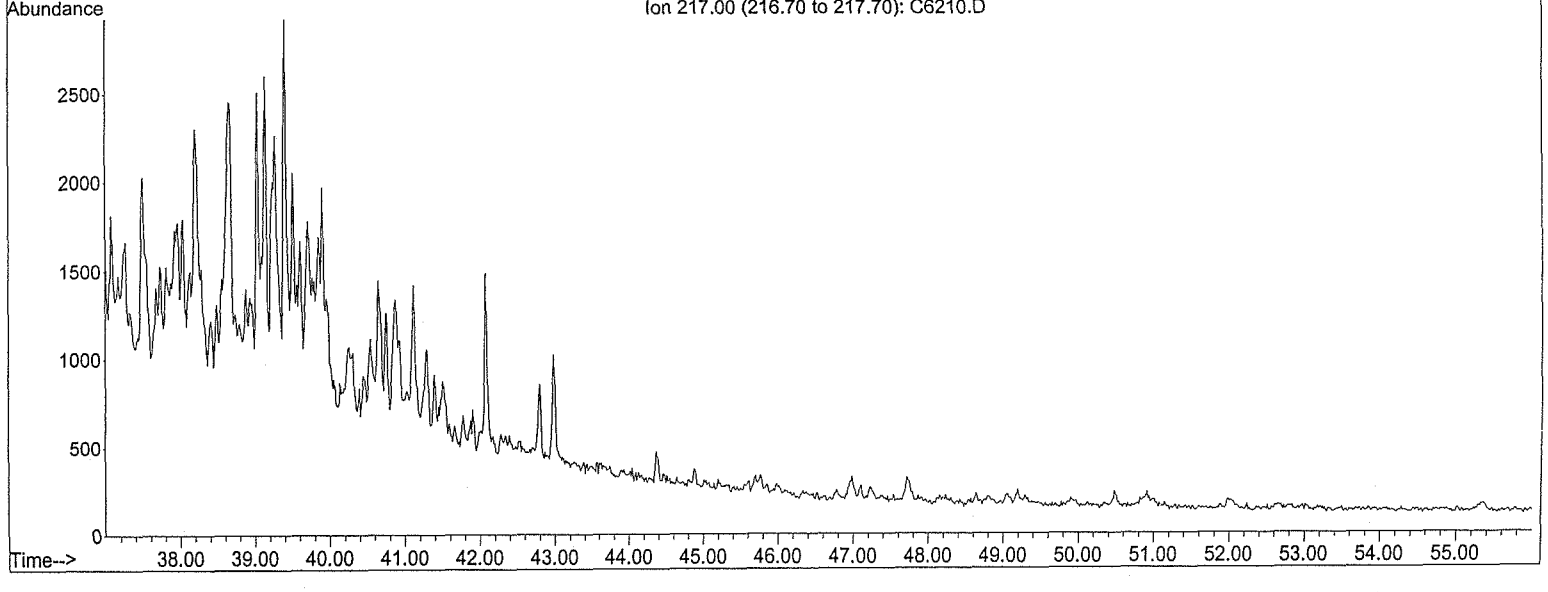


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **OFF-AQ-11-0607**

File: F:\C\DATA\SQC561\C6210.D
Date Acquired: 24 Jul 2002 7:13 pm
Method File: HYDRO6AC
Sample Name: V6980-D
Misc Info:
Operator: DPB

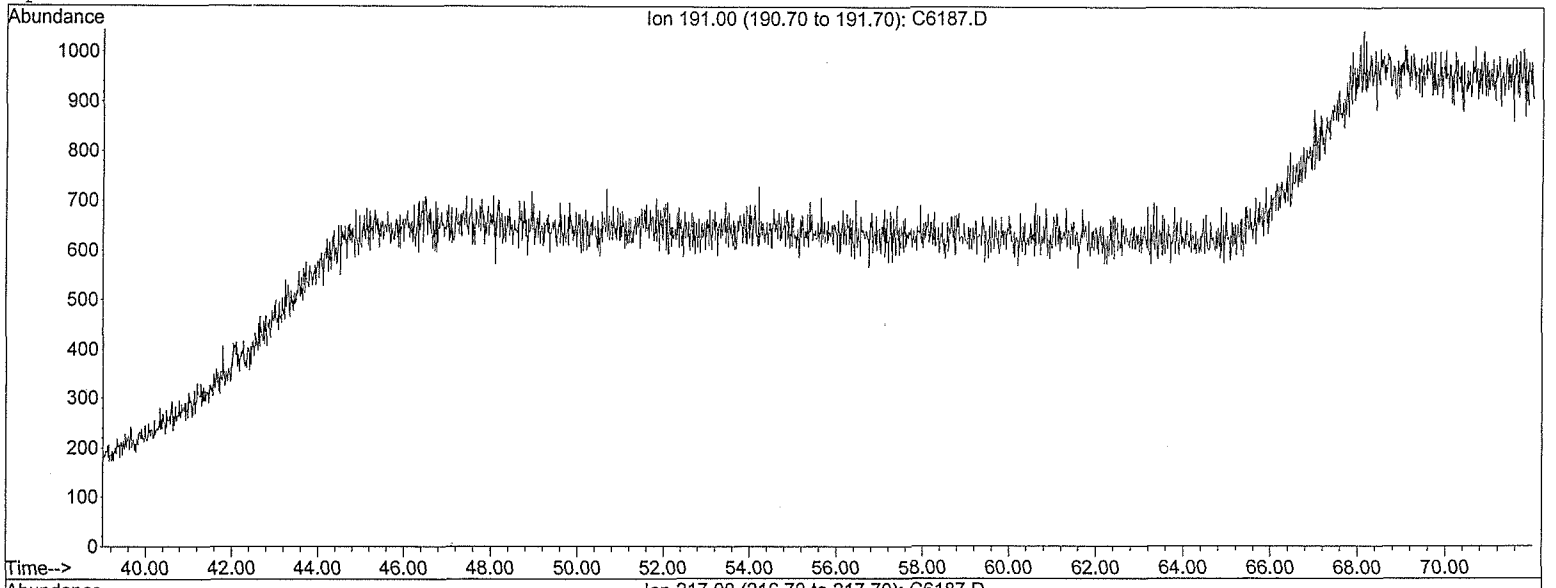


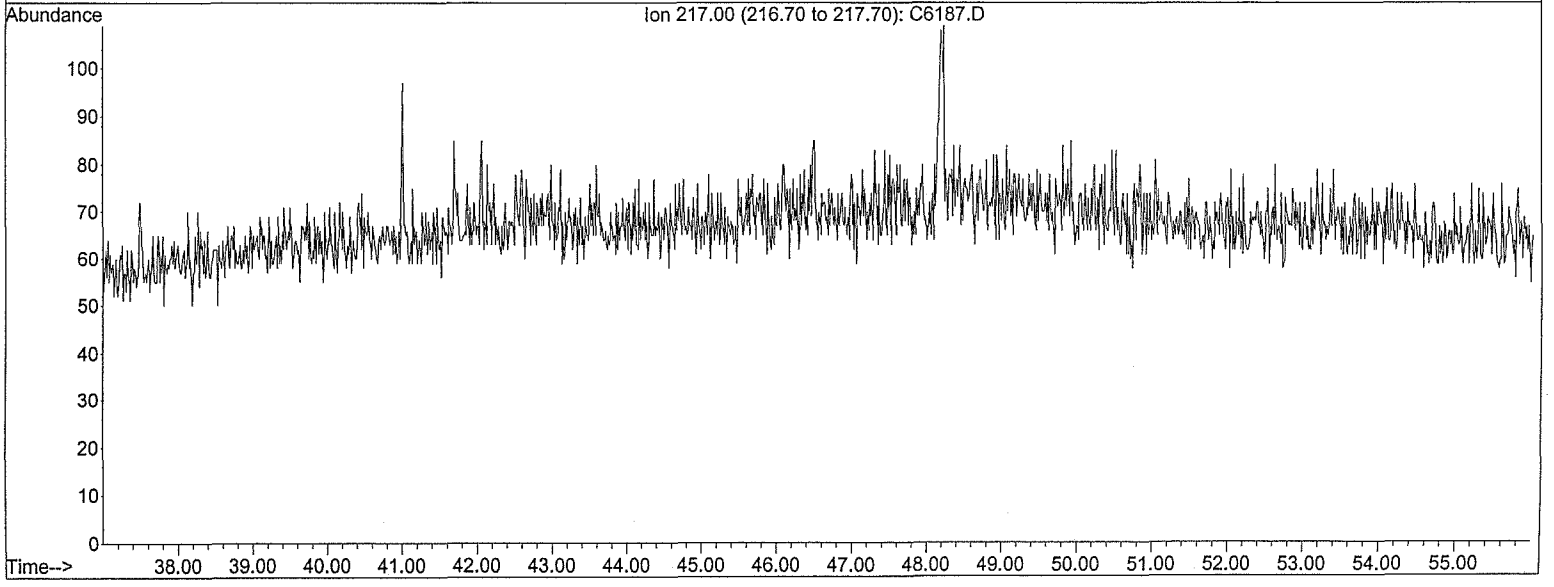


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **Procedural Blank (Solid)**

File: F:\C\DATA\SQC561\C6187.D
Date Acquired: 23 Jul 2002 8:37 am
Method File: HYDRO6AC
Sample Name: AA699PB
Misc Info:
Operator: DPB



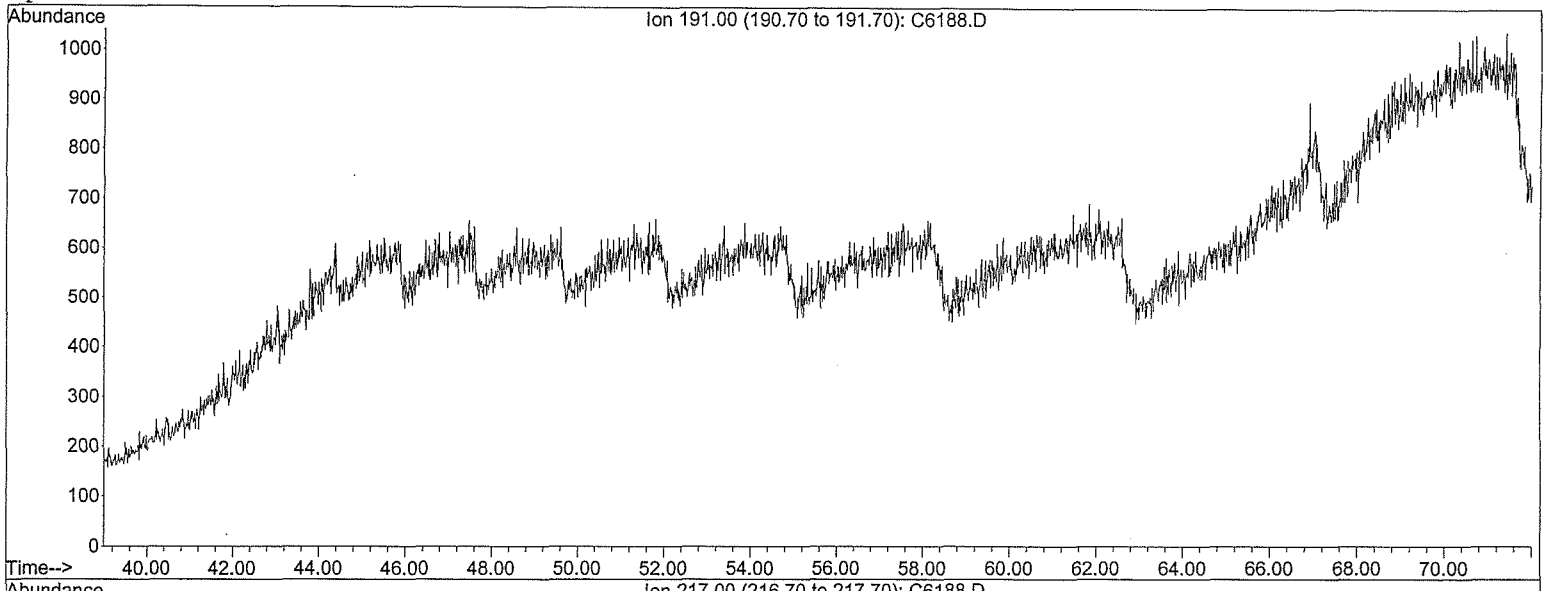


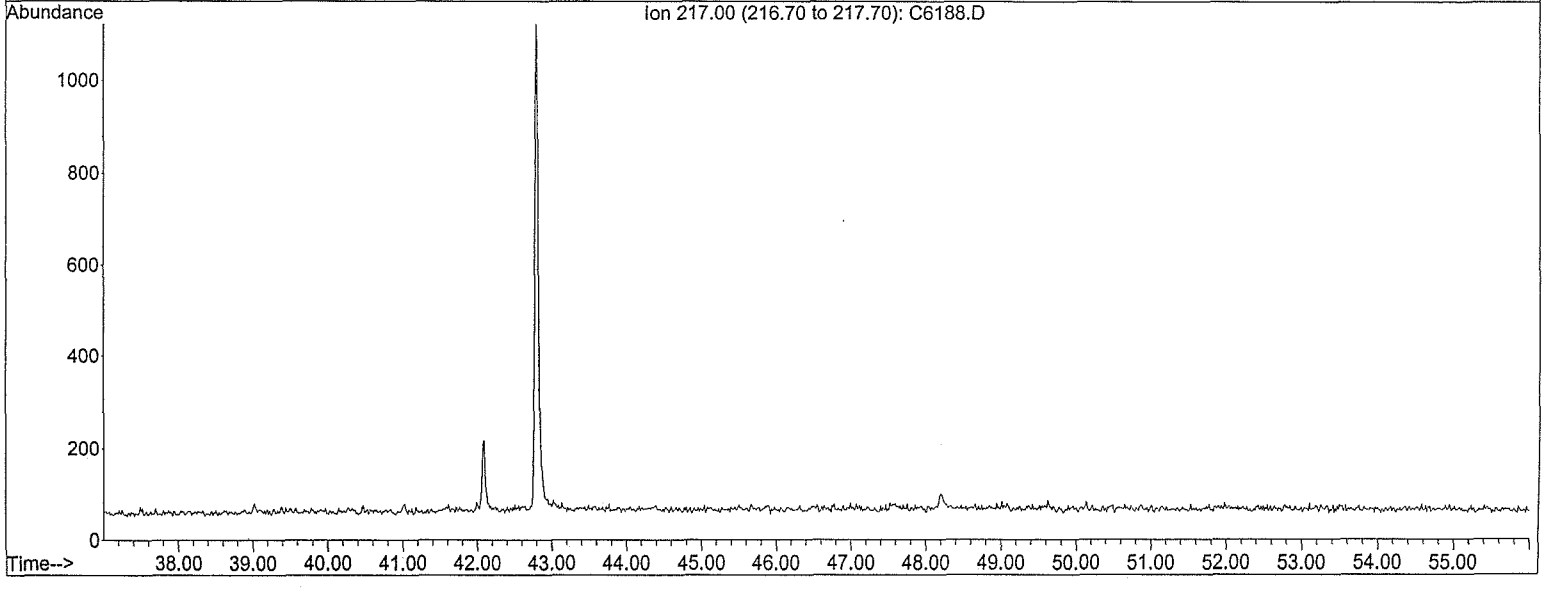
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

Laboratory Control Sample (Solid)

File: F:\C\DATA\SQC561\C6188.D
Date Acquired: 23 Jul 2002 10:10 am
Method File: HYDRO6AC
Sample Name: AA700LCS
Misc Info:
Operator: DPB

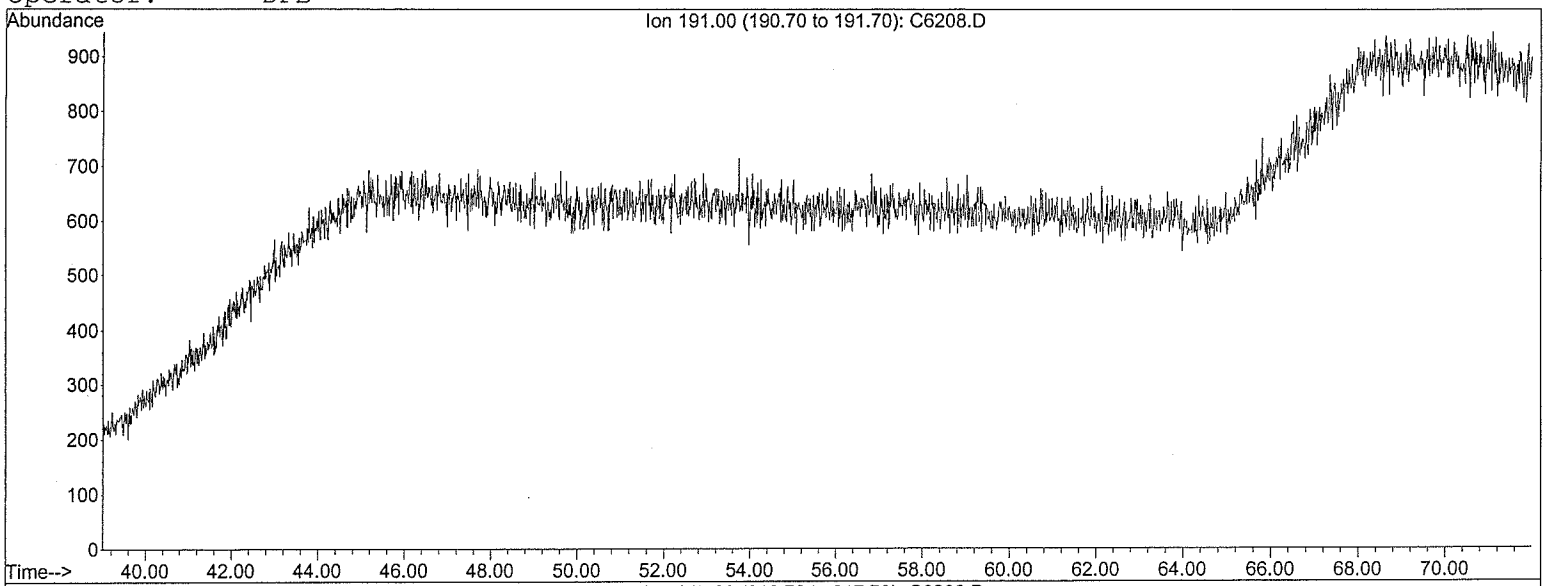


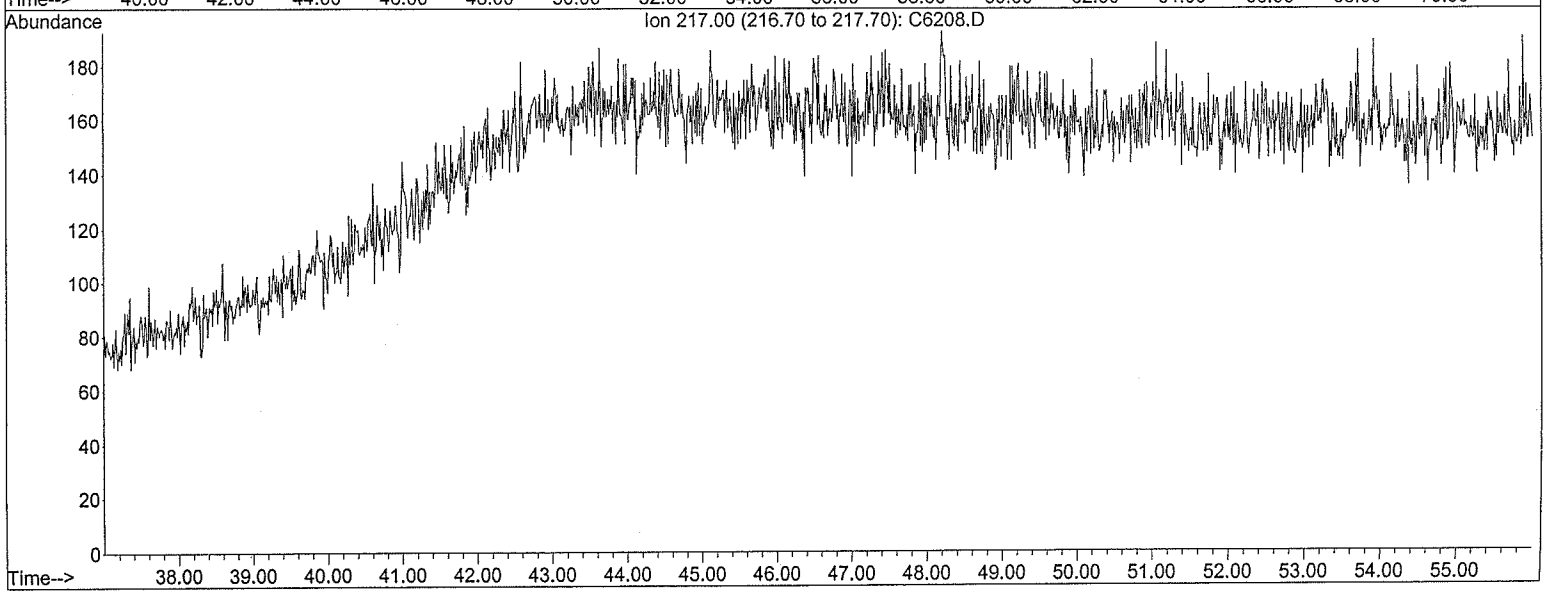


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM **Procedural Blank (Water)**

File: F:\C\DATA\SQC561\C6208.D
Date Acquired: 24 Jul 2002 4:14 pm
Method File: HYDRO6AC
Sample Name: AA701PB
Misc Info:
Operator: DPB



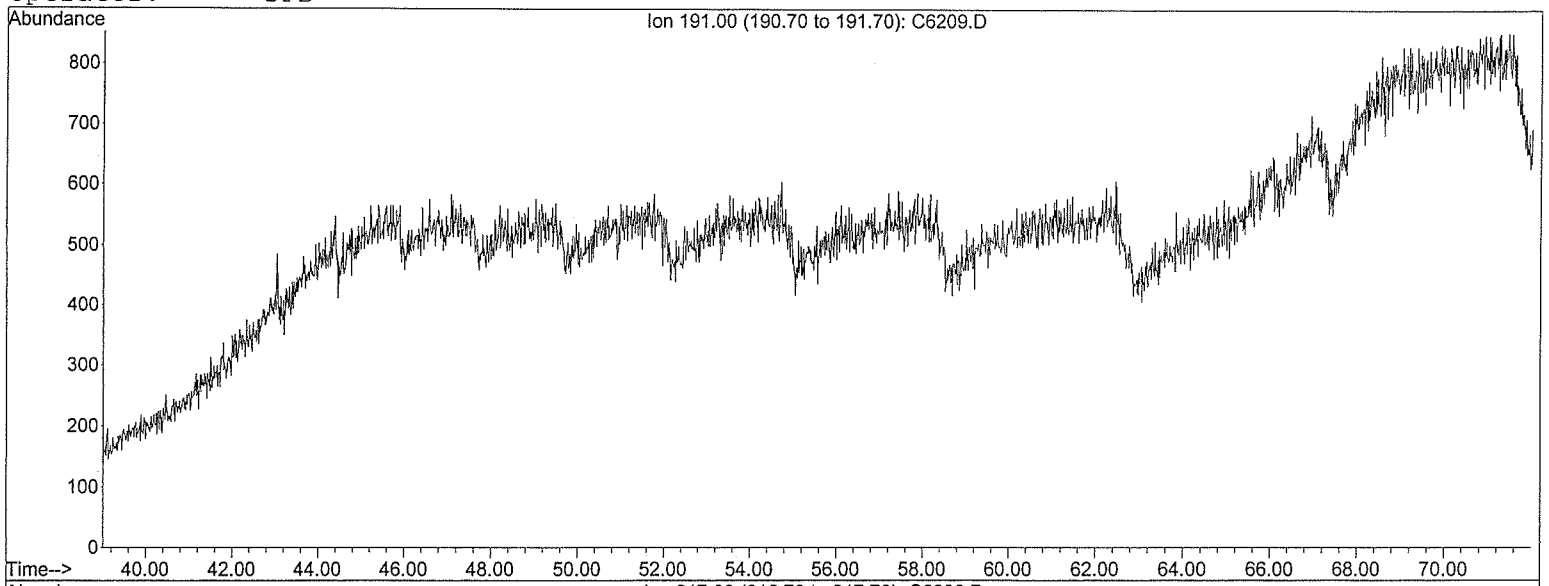


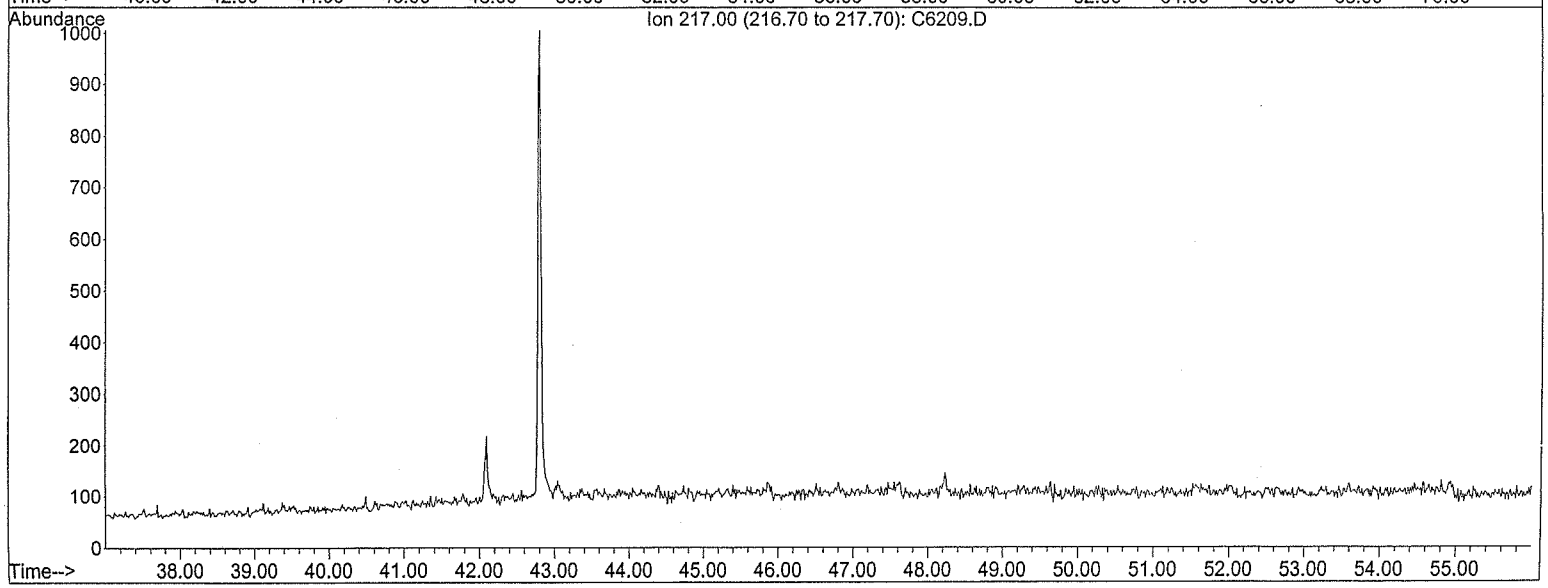
BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

Laboratory Control Sample (Water)

File: F:\C\DATA\SQC561\C6209.D
Date Acquired: 24 Jul 2002 5:44 pm
Method File: HYDRO6AC
Sample Name: AA702LCS
Misc Info:
Operator: DPB

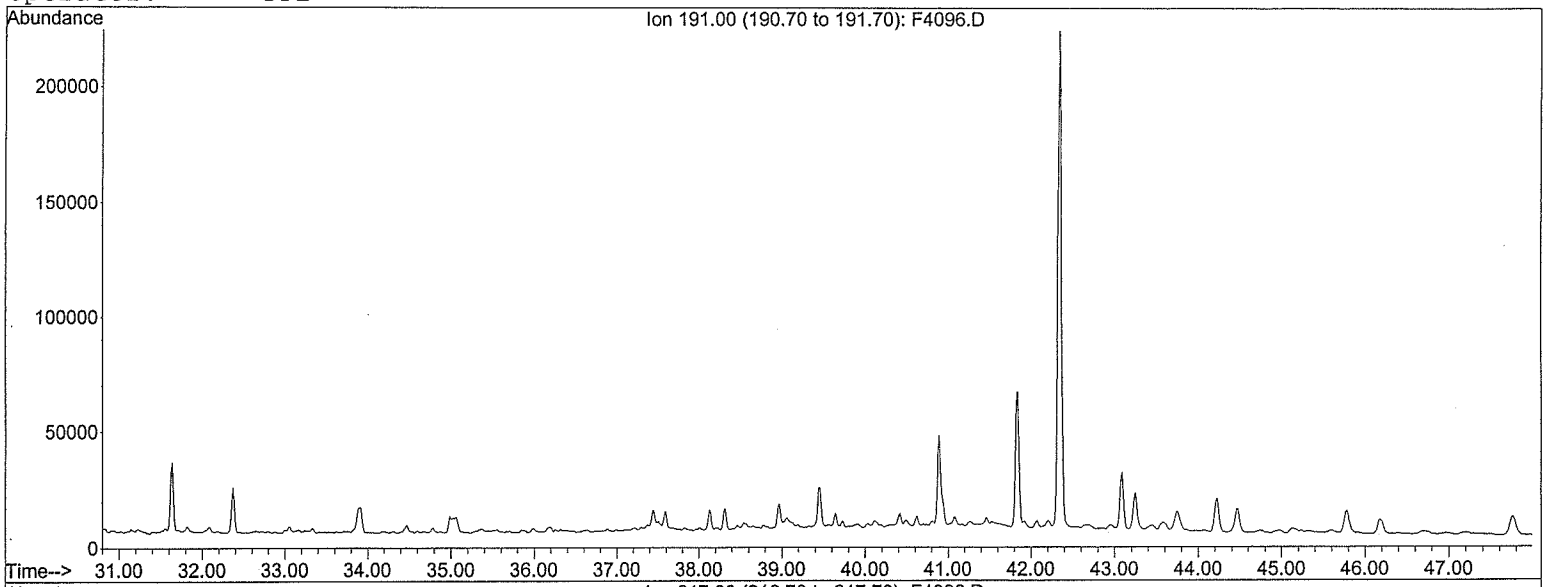


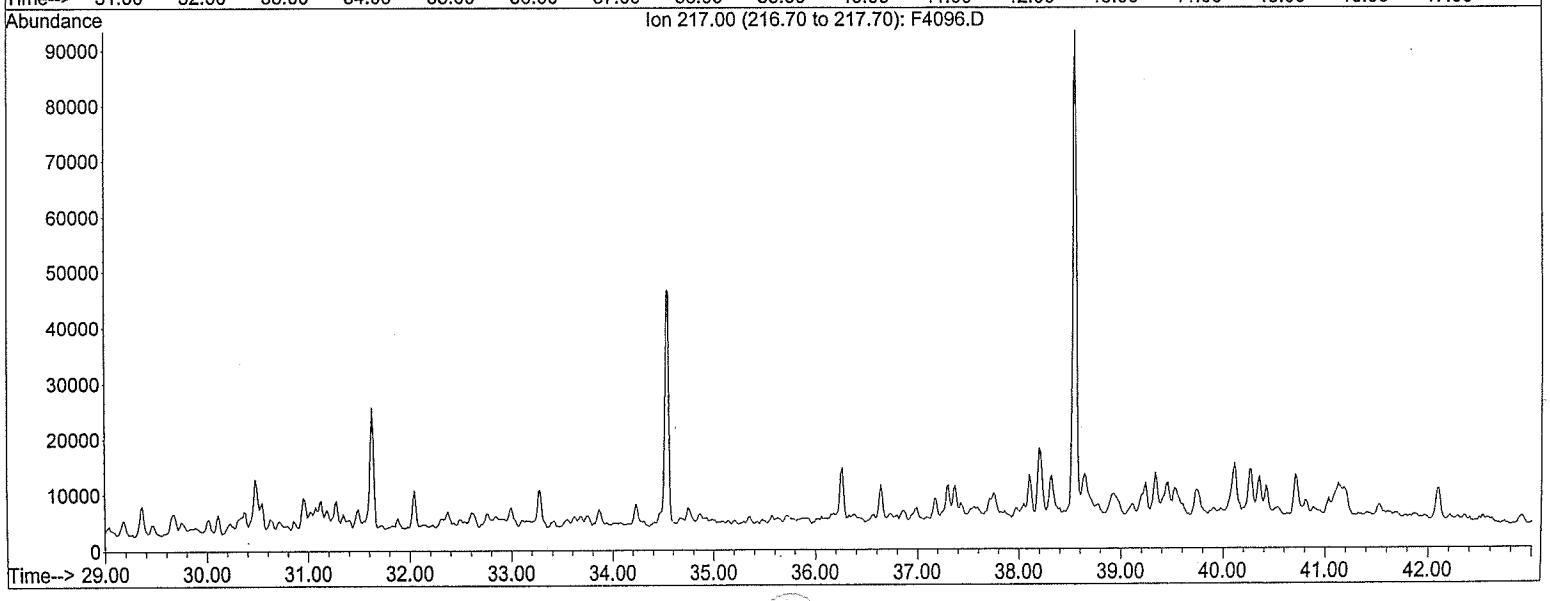


BATTELLE

GC/MS EXTRACTED ION CHROMATOGRAM

File: F:\F\DATA\SQF105\F4096.D
Date Acquired: 8 Aug 2002 2:53 pm
Method File: PAH6QT
Sample Name: FR37/FR35 (CONDLN)
Misc Info:
Operator: DPB

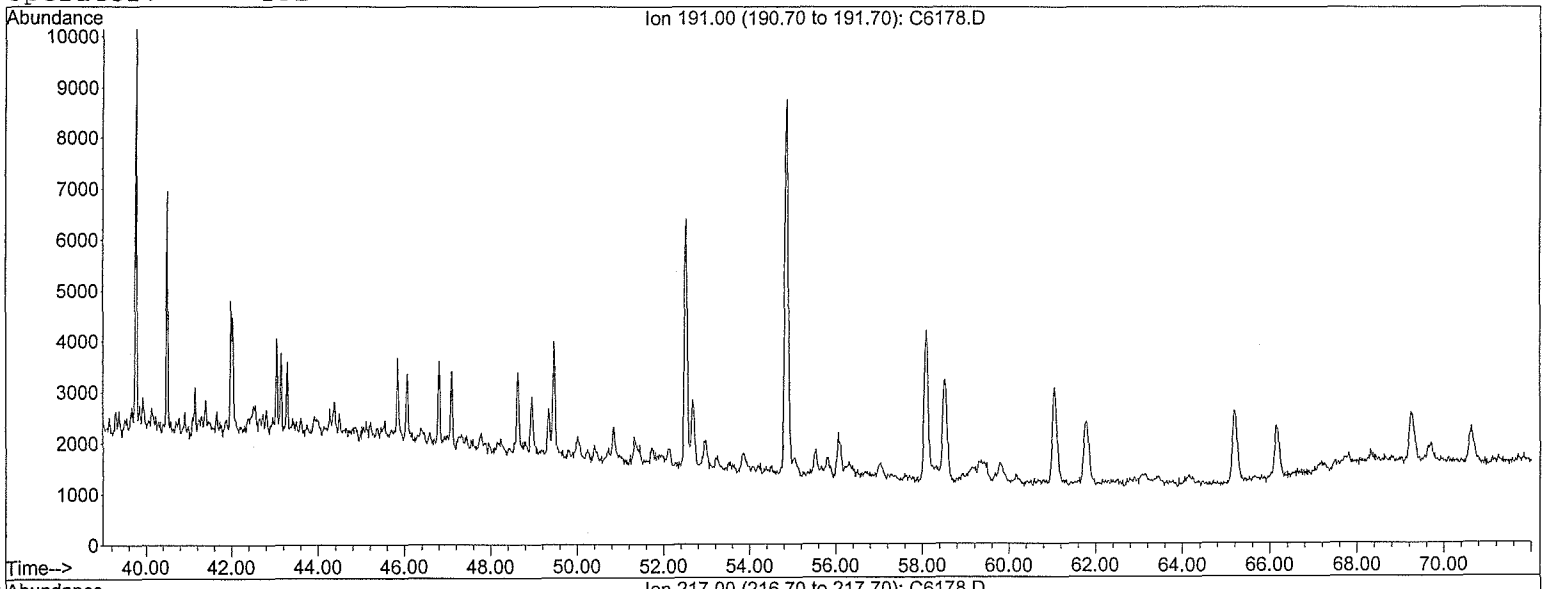


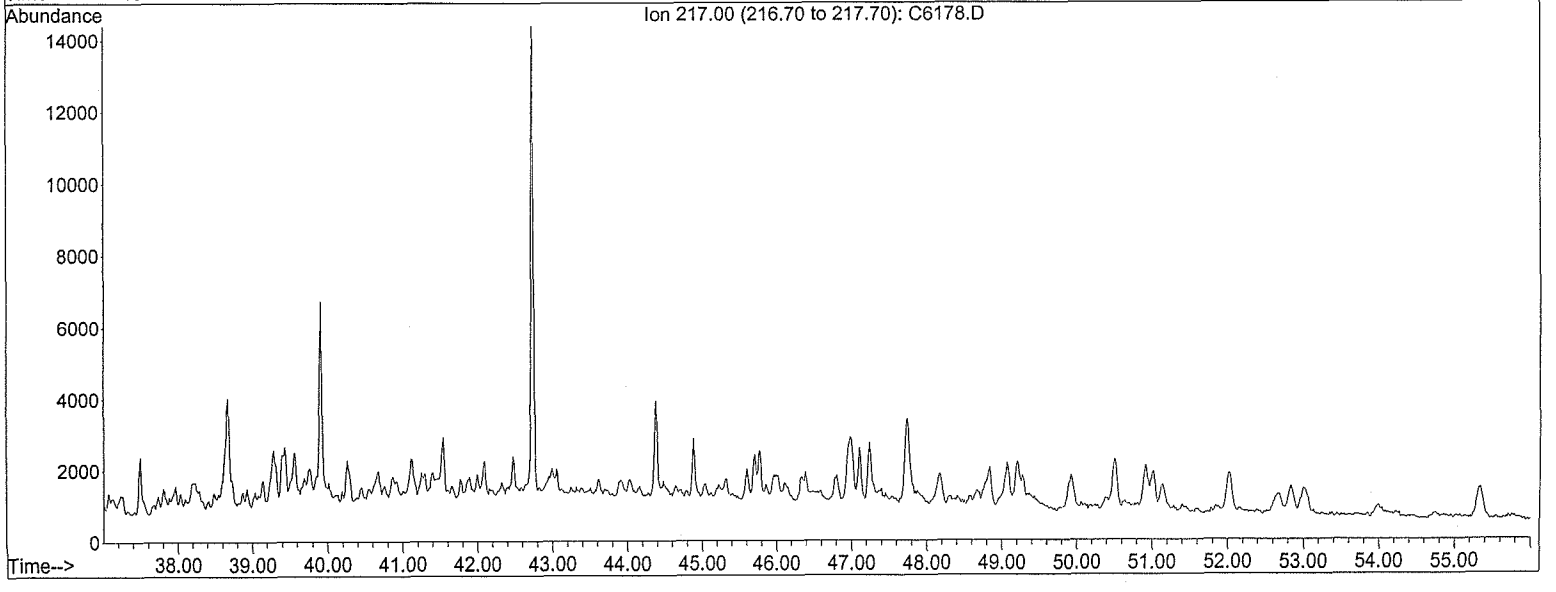


BATTELLE

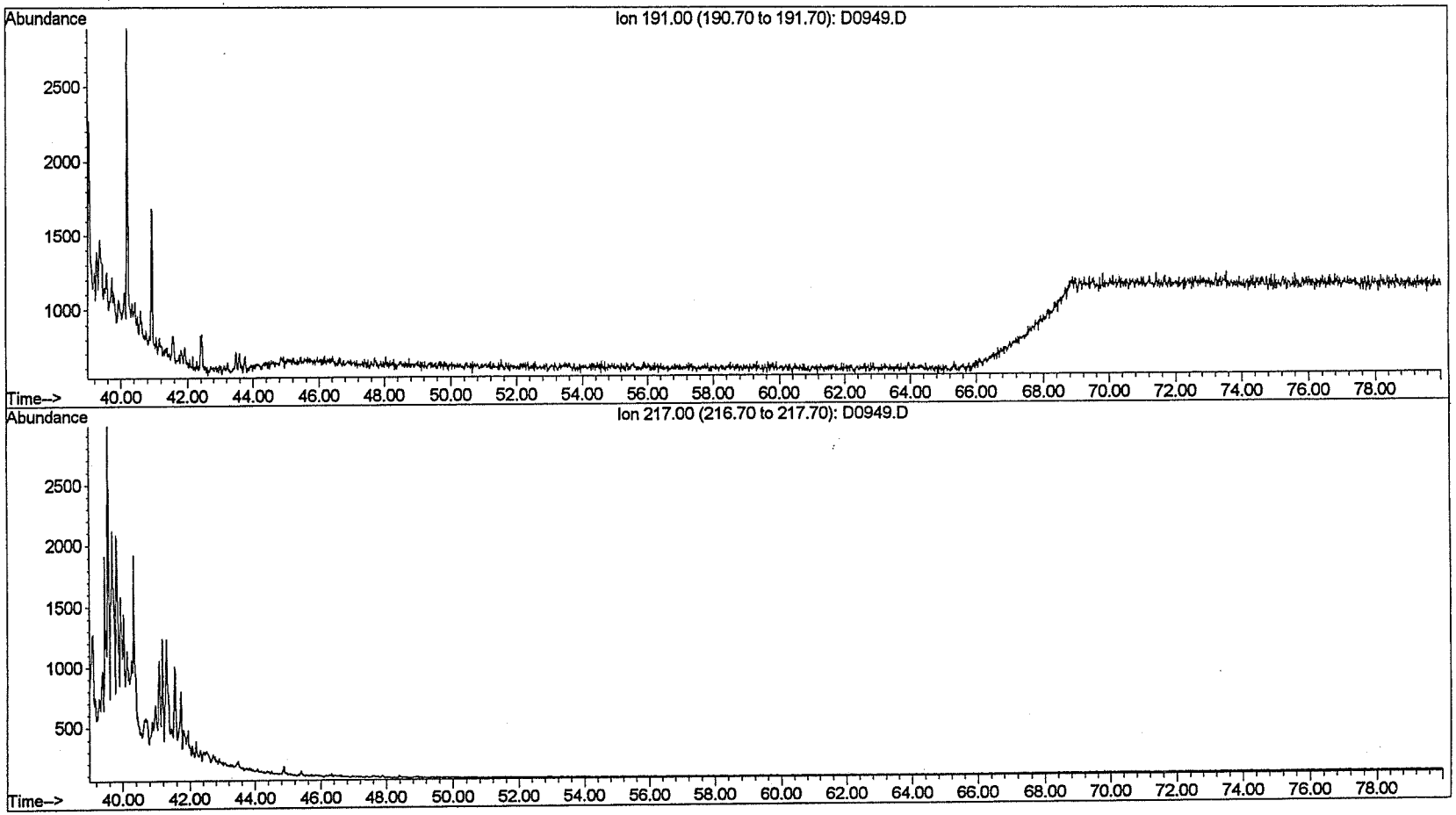
GC/MS EXTRACTED ION CHROMATOGRAM

File: F:\C\DATA\SQC561\C6178.D
Date Acquired: 22 Jul 2002 5:03 pm
Method File: HYDRO6AC
Sample Name: FR37 (COND LINER)
Misc Info:
Operator: DPB

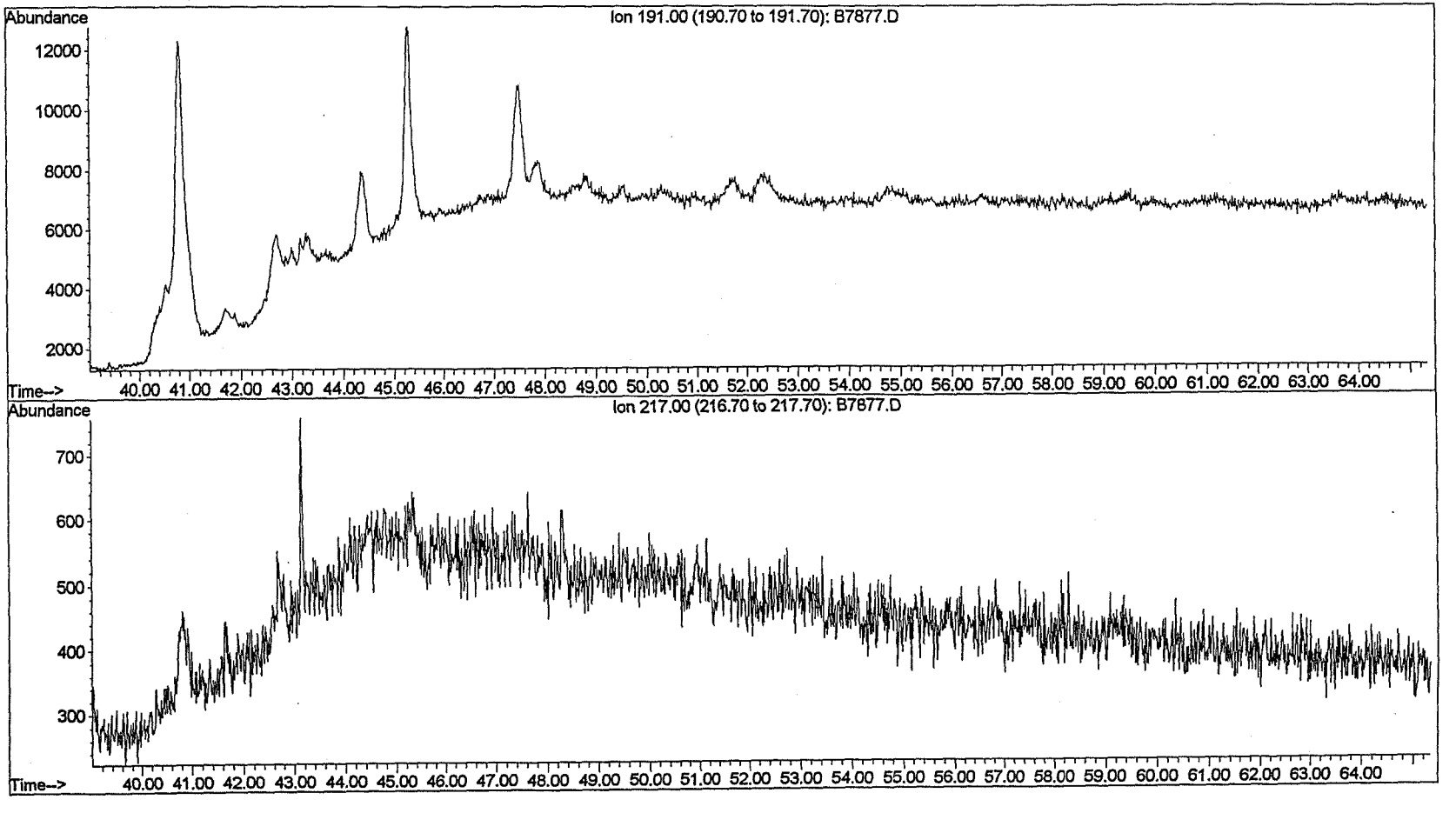




File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQD300\D0949 Diesel Unaltered
Operator : TH
Acquired : 9 Nov 2001 4:40 pm using AcqMethod SINTEF1C
Instrument : GC/MS Ins
Sample Name: ZM25IC3
Misc Info : SOP 5-157
Vial Number: 14



File : C:\ACTIVE\SM2002\PROJECTS\NAVYNC~1\RAWDAT~1\SVOC-G~1\SQB825\B7877 Kerosene Unaltered
Operator : JS
Acquired : 9 Jan 2002 9:13 am using AcqMethod ACQ4LAB
Instrument : GCMS2
Sample Name: ZR36IC
Misc Info : BHE 01-645
Vial Number: 14



Attachment 8.
Chain of Custody

Battelle
. . . Putting Technology To Work

ShpNo SHP-020708-02

Battelle Project No: _____

Sample Receipt Form

Approved: ☐ Authorized ☐

Project Number: 4152-0511 **Client:** Tetra Tech Nus, Inc

Received by: Fahey, Jessica **Date/Time Received:** Wednesday, July 03, 2002 12:00 AM

No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** _____

COC Forms: ☑ Shipped with samples ☐ No Forms

Cooler(s)/Box(es)

Container	Type	Sealed With	Seal Condition	Container Condition	Temp C	Total Samples
1 of 1	Cooler	None	Not Applicable	Intact	1.3	7

Samples

Sample Labels:
☑ Sample labels agree with COC forms
☐ Discrepancies (see Sample Custody Corrective Action Form)

Container Seals:
☐ Tape ☐ Custody Seals ☐ Other Seals (See sample Log)
☑ Seals intact for each shipping container
☐ Seals broken (See sample log for impacted samples)

Condition of Samples:
☑ Sample containers intact
☐ Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 1.3 Temperature Blank used ☐ Yes ☑ No
(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: ☐ Yes ☐ No ☑ Unknown

Initial pH 5-9?: ☐ Yes ☐ No ☑ NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: ☐ Yes ☐ No ☑ NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: ☐ Yes ☐ No ☑ NA
Individual sample deviations noted on sample log

Samples Containers:
Samples returned in PC-grade jars: ☐ Yes ☑ No ☐ Unknown /Lot No.: Unknown

Storage Location: Upper Cold Room Refrigerator **BDO IDs Assigned:** V5870 - V5876

Samples logged in by: Fahey, Jessica JMF **Date/Time:** 07/08/2002 8:31 AM

Approved By: _____ **Approved On:** _____

Authorized By: _____ **Authorized On:** _____

TETRA TECH NUS, INC.

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No.

Subcontract No.

Project No. 4152-0511

Laboratory Name: Battelle

Sampler Signatures: Christ Machy

Date Shipped: 7-3-02

Carrier: Delivered by Sampler

Airbill No.: NA

No. of Coolers: 1

Container Type	Container Type	Container Type	Container Type	Container Type
8oz				

Analysis	Analysis	Analysis	Analysis	Analysis
PAHs, 8270 BGC/MS Modified for Extended Analyte list.	TPH Fingerprint 8015 BGC/FID Modified.			

Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative: Ice	~~Preservative~~ Battelle ID	Preservative	Preservative	Preservative
OFF-SD-5-0006	SD	7-2/12:10				2	V5870			
OFF-SD-SPC03-0006	SD	7-2/15:50				1	V5871			
OFF-SD-471-0006	SD	7-2/13:00				1	V5872			
OFF-SD-470-0006	SD	7-2/12:50				1	V5873			
OFF-SD-410-0006	SD	7-2/11:30	CM 7-3-02	CM 7-3-02		1	V5874			
OFF-SD-410-1824	SD	7-2/11:40			DUP	1	V5875			
OFF-SD-Dupl-0006	SD	7-2/11:35				1	V5876			

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
Christ Machy	7-3-02 14:00	Jessica M. Lake 7/3/02 14:00	YES NO	
Relinquished By: (Signature)	**Date/Time**	**Received for Laboratory By:**	**Date/Time**	

Tt NUS Form 0022

02152

Battelle

. . . Putting Technology To Work

ShpNo SHP-020708-02

Battelle Project No: _____

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number: 4152-0511 **Client:** Tetra Tech Nus, Inc

Received by: Fahey, Jessica **Date/Time Received:** Wednesday, July 03, 2002 12:00 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
V5870	OFF-SD-5-006	07/02/02 12:10	07/08/02 9:05	2	Sediment	1.3	NA	NA	NA	Cold Room Refrig			
V5871	OFF-SD-JPC03-006	07/02/02 15:00	07/08/02 9:05	1	Sediment	1.3	NA	NA	NA	Cold Room Refrig			
V5872	OFF-SD-471-0006	07/02/02 13:00	07/08/02 9:06	1	Sediment	1.3	NA	NA	NA	Cold Room Refrig			
V5873	OFF-SD-470-0006	07/02/02 12:50	07/08/02 9:06	1	Sediment	1.3	NA	NA	NA	Cold Room Refrig			
V5874	OFF-SD-410-0006	07/02/02 11:30	07/08/02 9:07	1	Sediment	1.3	NA	NA	NA	Cold Room Refrig			
V5875	OFF-SD-410-1824	07/02/02 11:40	07/08/02 9:07	1	Sediment	1.3	NA	NA	NA	Cold Room Refrig			
V5876	OFF-SD-DUP1-0006	07/02/02 11:35	07/08/02 9:08	1	Sediment	1.3	NA	NA	NA	Cold Room Refrig			

Total Samples: 7

Battelle
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ShpNo SHP-020712-01

Battelle Project No: _____

Sample Receipt Form

Approved: ☐ Authorized ☐

Project Number: _____ **Client:** Tetra Tech

Received by: Brackett, Roxanne **Date/Time Received:** Friday, July 12, 2002 12:00 AM

No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** 8334 3552 8635

COC Forms: ☑ Shipped with samples ☐ No Forms

Cooler(s)/Box(es)

Container	Type	Sealed With	Seal Condition	Container Condition	Temp C	Total Samples
1 of 1	Cooler	Custody Seals	Intact	Intact	1.3	5

Samples

Sample Labels:
☑ Sample labels agree with COC forms
☐ Discrepancies (see Sample Custody Corrective Action Form)

Container Seals:
☐ Tape ☐ Custody Seals ☐ Other Seals (See sample Log)
☑ Seals intact for each shipping container
☐ Seals broken (See sample log for impacted samples)

Condition of Samples:
☑ Sample containers intact
☐ Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 1.3 Temperature Blank used ☑ Yes ☐ No
(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: ☐ Yes ☑ No ☐ Unknown

Initial pH 5-9?: ☐ Yes ☐ No ☑ NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: ☐ Yes ☐ No ☑ NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1 % in samples for water VOC analysis: ☐ Yes ☐ No ☑ NA
Individual sample deviations noted on sample log

Samples Containers:
Samples returned in PC-grade jars: ☐ Yes ☑ No ☐ Unknown /Lot No.: Unknown

Storage Location: Lower Cold Room Refrigerator **BDO IDs Assigned:** V6976 - V6980

Samples logged in by: Brackett, Roxanne RB **Date/Time:** 07/12/2002 3:13 PM

Approved By: _____ **Approved On:** _____

Authorized By: _____ **Authorized On:** _____

Stephen Parker

TETRA TECH NUS, INC.

~~[illegible]~~ 978-658-7899

ANALYTICAL SERVICE
Packing List/Chain-of-Custody

Case No. NA

Subcontract No.

Page 1 of 1

Project No.: Newport: 4152 (OFFTA)

Laboratory Name: Battelle

Sampler Signatures: [signature]

Date Shipped 7/11/02 Carrier Fed Ex

Airbill No. 833435528635 No. of Coolers 1

Container Type	Container Type	Container Type	Container Type	Container Type
8 oz Amber				

Analysis	Analysis	Analysis	Analysis	Analysis
TPH Fingerprint** PAHs 8270 modified				

Preservative	Preservative	Preservative	Preservative	Preservative
Ice				

LAB Sample Number	Matrix	Date/Time	Sample Location	Tag Number(s)	QC	Preservative	Preservative	Preservative	Preservative	Preservative
V6976	Sed	7/11/02 1330	OFF-OTS-~~0F02~~ 0E075	NA	NA	1				
V6977	Sed	7/11/02 1350	OFF-OTS-0F093	NA		1				
V6978	Soil	7/11/02 0940	OFF-SO-15-0607*	NA		1				
V6979	Soil	7/11/02 1050	OFF-SO-11-0607*	NA		1				
V6980	AQ	7/11/02 1100	OFF-~~AQ~~-11-0607*	NA		1				

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipment for Case Complete?	Remarks
[signature]	7-11-02 14:00	Roxanne M. Brackett	YES (circled) NO	* Only soil and water ** PAHs by 8270 B (GCMS) modified for extended analyte list TPH Fingerprint 8015B (GCFID) modified
Relinquished By: (Signature)	Date/Time	Received for Laboratory By:	Date/Time	

Tt NUS Form 0022

02153

Battelle

. . . Putting Technology To Work

ShpNo SHP-020712-01

Battelle Project No:

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number:

Client: Tetra Tech

Received by: Brackett, Roxanne

Date/Time Received: Friday, July 12, 2002 12:00 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
V6976	OFF-OTS-OF075	07/11/02 13:31	07/12/02 15:20	1	SEDIMENT	1.3	NA	NA	NA	Cold Room Refrig			
V6977	OFF-OTS-OF093	07/11/02 13:50	07/12/02 15:21	1	SEDIMENT	1.3	NA	NA	NA	Cold Room Refrig			
V6978	OFF-SO-15-0607	07/11/02 9:40	07/12/02 15:22	1	SOIL	1.3	NA	NA	NA	Cold Room Refrig			
V6979	OFF-SO-11-0607	07/11/02 10:50	07/12/02 15:23	1	SOIL	1.3	NA	NA	NA	Cold Room Refrig			
V6980	OFF-AQ-11-0607	07/11/02 11:00	07/12/02 15:23	1	AQUEOUS	1.3	NA	NA	NA	Cold Room Refrig			

Total Samples: 5